BARTEC

# AUTOMATION & ENTERPRISE MOBILITY

# AUTOMATION & ENTERPRISE MOBILITY



## AUTOMATION

- HUMAN MACHINE INTERFACE
- BUS TECHNOLOGY



## ENTERPRISE MOBILITY

- INDUSTRY TABLETS/TABLET PCS
- MOBILE CAMERA SYSTEMS/SMARTPHONES
- TOUCH COMPUTER/MOBILE COMPUTER
- DATA CAPTURE
- NETWORK TECHNOLOGY

**Reservation**

Technical data subject to change without notice. No claims for damages arising from alterations, errors or misprints shall be allowed. Attention is drawn to the applicable standards and regulations on safety components and systems together with the relevant operating and installation instructions.

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# HUMAN MACHINE INTERFACE

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| **POLARIS SMART HMI and POLARIS PROFESSIONAL** for ATEX Zone 1 and 21 | | | | |
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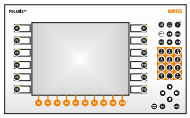
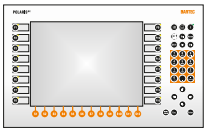
| | | |  |  |
| Size | 7" W | 12.1" W | 10.4" | 12.1" |
| Resolution | WVGA,<br>800 x 480 pixels | WXGA,<br>1280 x 800 pixels | SVGA,<br>800 x 600 pixels | XGA,<br>1024 x 768 pixels |
| Backlighting | LED | LED | LED | LED |
| Touchscreen | Yes | Yes | Yes | Yes |
| Keypad | external keypad | Front-panel keypad (optional) | Front-panel keypad | Front-panel keypad |
| Additional components | Trackball | Mouse, touchpad,<br>trackball, joystick | Mouse, touchpad,<br>trackball, joystick | Mouse, touchpad,<br>trackball, joystick |
| Interface Ex e | Ethernet, USB | Ethernet (copper),<br>PROFIBUS-DP, RS422 etc. | Ethernet (copper),<br>PROFIBUS-DP, RS422 etc. | Ex e Ethernet (copper or<br>optical fibres),<br>PROFIBUS-DP, RS422 etc. |
| Interface Ex i | USB | USB | USB | USB |
| Operating system | Windows® 7,<br>Windows® 10 IoT | Windows® 7 | Windows® 7 | Windows® 7 |
| Power supply | DC 24 V | DC 24 V | DC 24 V | DC 24 V |
| Approvals | ATEX, IECEx | ATEX, IECEx, EAC, CSA,<br>INMETRO | ATEX, IECEx, EAC, CSA,<br>INMETRO | ATEX, IECEx, EAC, CSA,<br>INMETRO |

| **POLARIS PROFESSIONAL** for ATEX Zone 1 and 21 | | | | |
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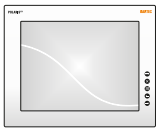
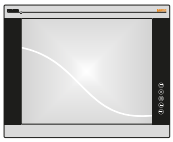
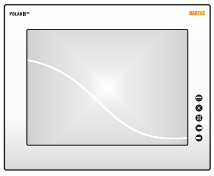
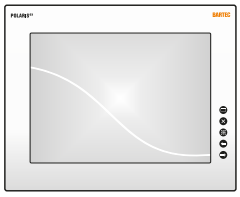
| |  |  |  |  |
| Size | 15"/15" Sunlight | 19.1" | 17.3" W | 24" W |
| Resolution | XGA,<br>1024 x 768 pixels | SXGA,<br>1280 x 1024 pixels | HD 1080,<br>1920 x 1080 pixels | HD 1080,<br>1920 x 1080 pixels |
| Backlighting | LED | LED | LED | LED |
| Touchscreen | optional | optional | optional | optional |
| Keypad | optional external keypad | optional external keypad | optional external keypad | optional external keypad |
| Additional components | Mouse, touchpad,<br>trackball, joystick | Mouse, touchpad,<br>trackball, joystick | Mouse, touchpad,<br>trackball, joystick | Mouse, touchpad,<br>trackball, joystick |
| Interface Ex e | Ethernet (copper or<br>optical fibres),<br>PROFIBUS-DP, RS422 etc. | Ethernet (copper or<br>optical fibres),<br>PROFIBUS-DP, RS422 etc. | Ethernet (copper or<br>optical fibres),<br>PROFIBUS-DP, RS422 etc. | Ethernet (copper or<br>optical fibres),<br>PROFIBUS-DP, RS422 etc. |
| Interface Ex i | USB | USB | USB | USB |
| Operating system | Windows® 7 | Windows® 7 | Windows® 7 | Windows® 7 |
| Power supply | AC 90 V to 253 V, DC 24 V | AC 90 V to 253 V, DC 24 V | AC 90 V to 253 V, DC 24 V | AC 90 V to 253 V, DC 24 V |
| Approvals | ATEX, IECEx, EAC, CSA,<br>INMETRO | ATEX, IECEx, EAC, CSA,<br>INMETRO | ATEX, IECEx, EAC, CSA,<br>INMETRO | ATEX, IECEx, EAC, CSA,<br>INMETRO |

**POLARIS PROFESSIONAL** for ATEX Zone 2 and ATEX Zone 21/22

| | | | |
|---|---|---|---|
| | | | |
| Size | 19.1" | 22" W | 24" W |
| Resolution | SXGA,<br>1280 x 1024 pixels | WSXGA+,<br>1680 x 1050 pixels | Full HD,<br>1920 x 1080 pixels |
| Backlighting | LED | LED | LED |
| Touchscreen | optional | optional | optional |
| Keypad | optional external keypad | optional external keypad | optional external keypad |
| Additional components | Touchpad, trackball | Touchpad, trackball | Touchpad, trackball |
| Interface Ex e | Ethernet (copper or optical fibres), PROFIBUS-DP, RS422 etc. | Ethernet (copper or optical fibres), PROFIBUS-DP, RS422 etc. | Ethernet (copper or optical fibres), PROFIBUS-DP, RS422 etc. |
| Data transfer | Ethernet, serial | Ethernet, serial | Ethernet, serial |
| Power supply | AC 90 V to 253 V,<br>DC 24 V | AC 90 V to 253 V,<br>DC 24 V | AC 90 V to 253 V,<br>DC 24 V |
| Approvals | ATEX, EAC | ATEX, EAC | ATEX, EAC |

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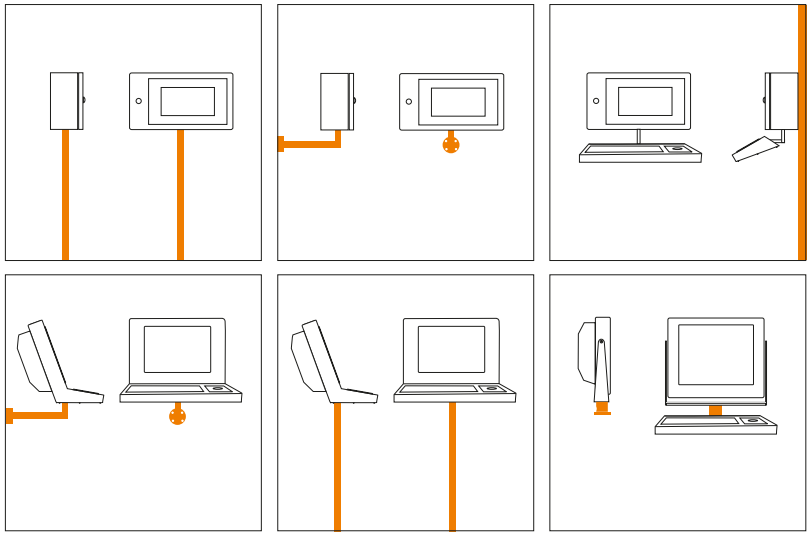
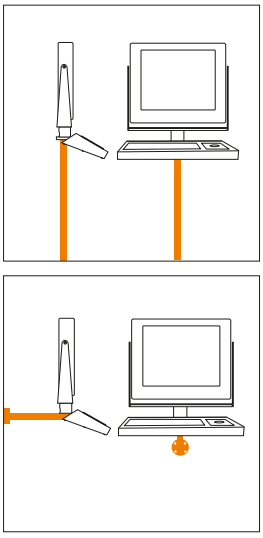
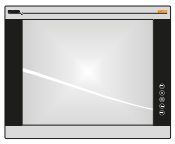
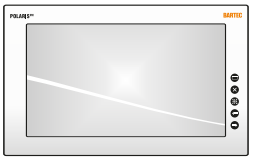
Types of fastening
for ATEX Zone 1 and 21



Types of fastening for
ATEX Zone 2,
ATEX Zone 21 and 22

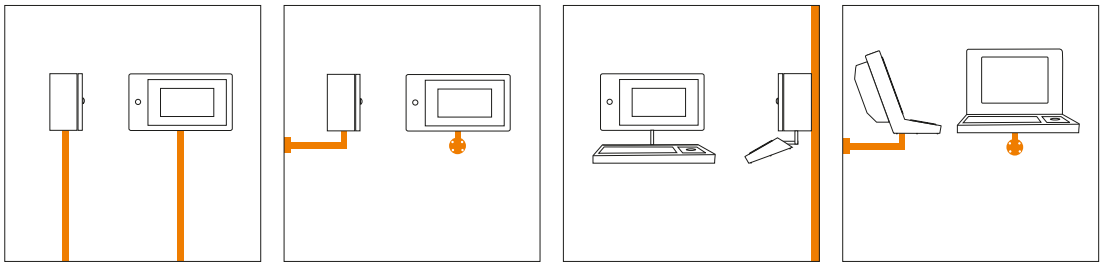


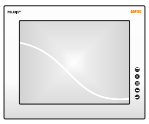
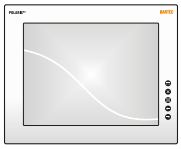
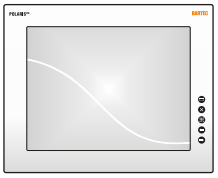
# Overview device series POLARIS REMOTE

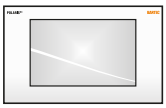
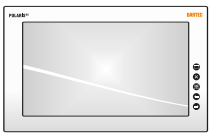
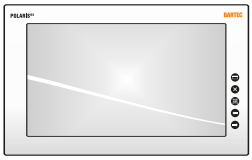
| **POLARIS REMOTE** for ATEX Zone 1 and 21 | | | |
|---|---|---|---|
| | |  |  |
| Size | 15"/15" Sunlight | 19.1" | 24" W |
| Resolution | XGA, 1024 x 768 pixels | SXGA, 1280 x 1024 pixels | Full HD 1080, 1920 x 1080 pixels |
| Backlighting | LED | LED | LED |
| Touchscreen | optional | optional | optional |
| Keypad | optional external keypad | optional external keypad | optional external keypad |
| Additional components | Mouse, touchpad, trackball, joystick | Mouse, touchpad, trackball, joystick | Mouse, touchpad, trackball, joystick |
| Interface KVM Box | VGA/PS2 or DVI/USB | VGA/PS2 or DVI/USB | DVI/USB |
| Data transfer | CAT7/Optical fibres | CAT7/Optical fibres | CAT7/Optical fibres |
| Power supply | AC 90 V to 253 V, DC 24 V | AC 90 V to 253 V, DC 24 V | AC 90 V to 253 V, DC 24 V |
| Approvals | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO |

| **POLARIS REMOTE** for ATEX Zone 2 and ATEX Zone 21/22 | | | |
|---|---|---|---|
| | | | |
| Size | 19.1" | 22" W | 24" W |
| Resolution | SXGA, 1280 x 1024 pixels | WSXGA+, 1680 x 1050 pixels | Full HD, 1920 x 1080 pixels |
| Backlighting | LED | LED | LED |
| Touchscreen | optional | optional | optional |
| Keypad | optional external keypad | optional external keypad | optional external keypad |
| Additional components | Touchpad, trackball | Touchpad, trackball | Touchpad, trackball |
| Interface KVM Box | 1 x Keyboard in, 1 x Monitor in, 1 x Monitor out | 1 x Keyboard in, 1 x Monitor in, 1 x Monitor out | 1 x Keyboard in, 1 x Monitor in, 1 x Monitor out |
| Data transfer | CAT7/Optical fibres | CAT7/Optical fibres | CAT7/Optical fibres |
| Power supply | AC 90 V to 253 V, DC 24 V | AC 90 V to 253 V, DC 24 V | AC 90 V to 253 V, DC 24 V |
| Approvals | ATEX, EAC | ATEX, EAC | ATEX, EAC |

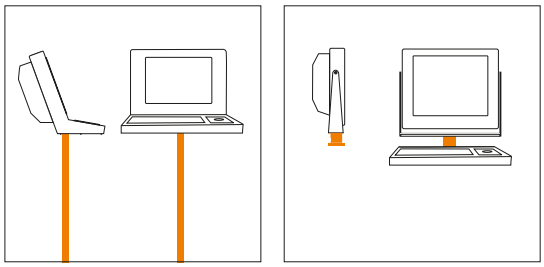
Types of fastening for ATEX Zone 1 and 21



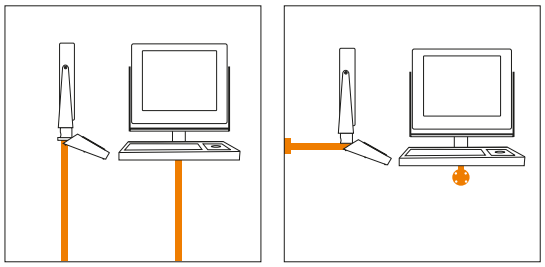
| **POLARIS REMOTE ZeroClient** for ATEX Zone 1 and 21 | | | |
|---|---|---|---|
| |  |  |  |
| Size | 15" | 15" Sunlight | 19.1" |
| Resolution | XGA, 1024 x 768 pixels | XGA, 1024 x 768 pixels | SXGA, 1280 x 1024 pixels |
| Backlighting | LED | LED | LED |
| Keypad | optional external keypad | optional external keypad | optional external keypad |
| Additional components | Mouse, touchpad, trackball, joystick, hand-held scanner on request | Mouse, touchpad, trackball, joystick, hand-held scanner on request | Mouse, touchpad, trackball, joystick, hand-held scanner on request |
| Interface KVM Box | 1 x Ex e Ethernet 100/10BaseT (optional optical fibres), 1 x Ex e USB, 1 x Exi USB, 2 x Ex i PS/2 for intrinsically safe mouse and keypad | 1 x Ex e Ethernet 100/10BaseT (optional optical fibres), 1 x Ex e USB, 1 x Exi USB, 2 x Ex i PS/2 for intrinsically safe mouse and keypad | 1 x Ex e Ethernet 100/10BaseT (optional optical fibres), 1 x Ex e USB, 1 x Exi USB, 2 x Ex i PS/2 for intrinsically safe mouse and keypad |
| Power supply | AC 90 V to 253 V or DC 24 V ± 10 % | AC 90 V to 253 V or DC 24 V ± 10 % | AC 90 V to 253 V or DC 24 V ± 10 % |
| Approvals | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO |

| **POLARIS REMOTE ZeroClient** for ATEX Zone 1 and 21 | | | |
|---|---|---|---|
| |  |  |  |
| Size | 12.1" W | 17.3" W | 24" W |
| Resolution | WXGA, 1280 x 800 pixels | Full HD, 1920 x 1080 pixels | Full HD, 1920 x 1080 pixels |
| Backlighting | LED | LED | LED |
| Keypad | optional external keypad | optional external keypad | optional external keypad |
| Additional components | Mouse, touchpad, trackball, joystick, hand-held scanner on request | Mouse, touchpad, trackball, joystick, hand-held scanner on request | Mouse, touchpad, trackball, joystick, hand-held scanner on request |
| Interface KVM Box | 1 x Ex e Ethernet 100/10BaseT, 1 x Ex e USB, 1 x Exi USB, 2 x Ex i PS/2 for intrinsically safe mouse and keypad | 1 x Ex e Ethernet 100/10BaseT (optional optical fibres), 1 x Ex e USB, 1 x Exi USB, 2 x Ex i PS/2 for intrinsically safe mouse and keypad | 1 x Ex e Ethernet 100/10BaseT (optional optical fibres), 1 x Ex e USB, 1 x Exi USB, 2 x Ex i PS/2 for intrinsically safe mouse and keypad |
| Power supply | DC 24 V ± 10 % | AC 90 V to 253 V or DC 24 V ± 10 % | AC 90 V to 253 V or DC 24 V ± 10 % |
| Approvals | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO |

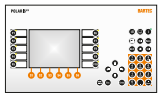
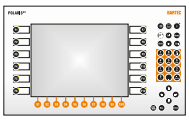
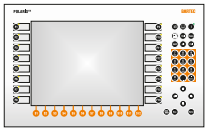
Types of fastening for ATEX Zone 1 and 21



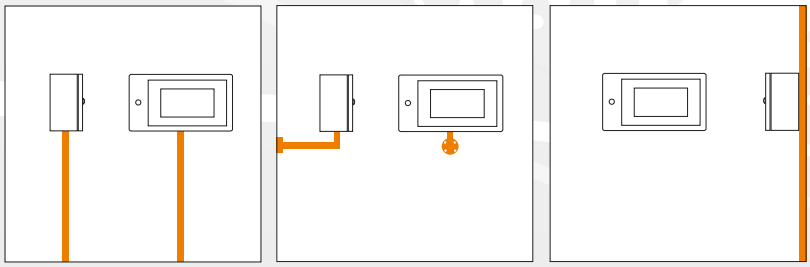
Types of fastening for ATEX Zone 2, ATEX Zone 21/22

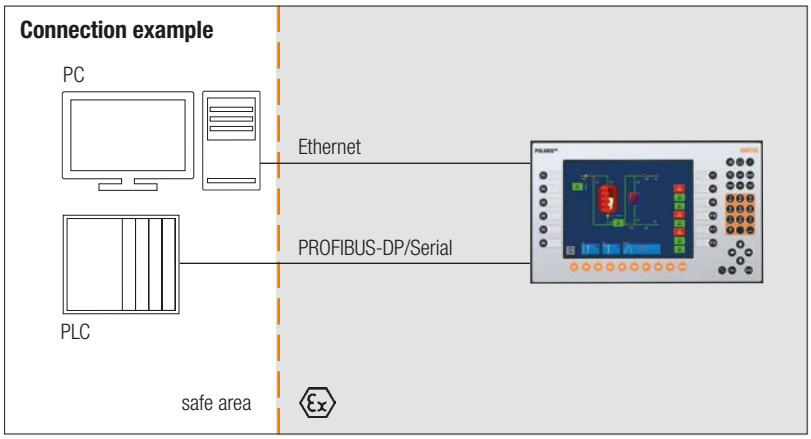


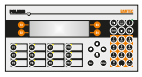
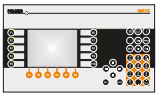
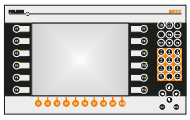
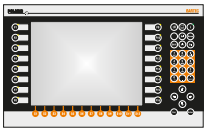
# Overview device series POLARIS COMFORT

| **POLARIS COMFORT** for ATEX Zone 1 and Zone 21 | | | |
|---|---|---|---|
| |  |  |  |
| Size | 5.7" | 10.4" | 12.1" |
| Resolution | VGA, 640 x 480 pixels | SVGA, 800 x 600 pixels | XGA, 1024 x 768 pixels |
| Backlighting | LED | LED | LED |
| Touchscreen | Yes | Yes | Yes |
| Keypad | Front-panel keypad | Front-panel keypad | Front-panel keypad |
| Interface Ex e | Ethernet,<br>PROFIBUS-DP, RS422 etc. | Ethernet (copper or optical fibres),<br>PROFIBUS-DP, RS422 etc. | Ethernet (copper or optical fibres),<br>PROFIBUS-DP, RS422 etc. |
| Interface Ex i | USB | USB, power pack hand-held scanner | USB, power pack hand-held scanner |
| Data transfer | Ethernet, PROFIBUS-DP, serial | Ethernet, PROFIBUS-DP, serial | Ethernet, PROFIBUS-DP, serial |
| Power supply | DC 24 V | DC 24 V | DC 24 V |
| Approvals | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO |

Types of fastening

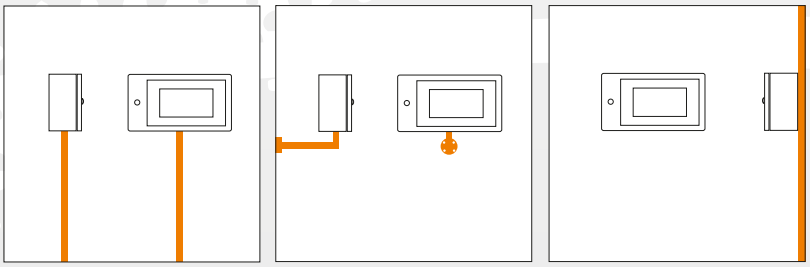


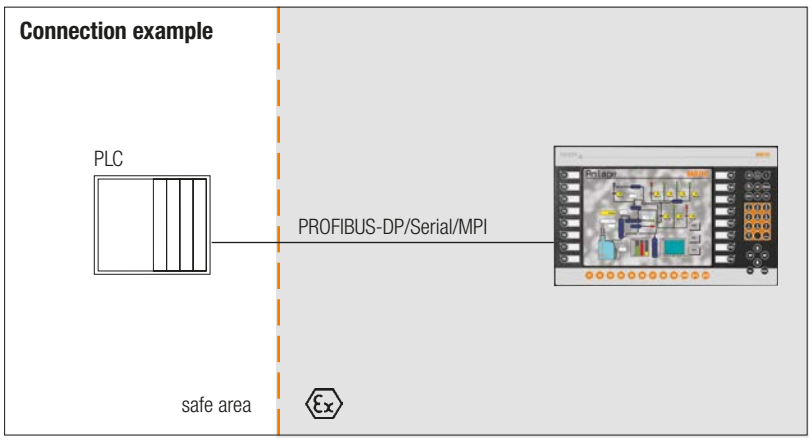


| **POLARIS BASIC** for ATEX Zone 1 and Zone 21 | | | | |
|---|---|---|---|---|
| |  |  |  |  |
| Size | Control | 5.7" | 10.4" | 12.1" |
| Resolution | 240 x 64 pixels | QVGA, 320 x 240 pixels | VGA, 640 x 480 pixels | SVGA, 800 x 600 pixels |
| Backlighting | LED | CFL | CFL | CFL |
| Keypad | Front-panel keypad | Front-panel keypad | Front-panel keypad | Front-panel keypad |
| Interface Ex e | RS422/485, PROFIBUS-DP, RS232, TTY | RS422/485, PROFIBUS-DP, RS232, TTY | RS422/485, PROFIBUS-DP, RS232, TTY | RS422/485, PROFIBUS-DP, RS232, TTY |
| Interface Ex i | USB | USB | USB, power pack hand-held scanner | USB, power pack hand-held scanner |
| Data transfer | PROFIBUS-DP serial: MPI, Modbus etc. | PROFIBUS-DP serial: MPI, Modbus etc. | PROFIBUS-DP serial: MPI, Modbus etc. | PROFIBUS-DP serial: MPI, Modbus etc. |
| Power supply | DC 24 V | DC 24 V | DC 24 V | DC 24 V |
| Approvals | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO | ATEX, IECEx, EAC, CSA, INMETRO |



Types of fastening





# POLARIS SMART HMI 7" W

The POLARIS SMART HMI 7" W is an innovative further development of the POLARIS series. The high-resolution display with LED backlighting and touchscreen allows intuitive and comfortable operation. It is optionally available in a capacitive or in a resistive version. The state-of-the-art LED display technology offers optimum contrast even with large viewing angles or in poor lighting conditions. As standard, the Panel PC is equipped with a third-generation processor, the Intel® Atom™ with 2 x 1.46 GHz. The open Windows operating system makes the device series unique on the market. It is also possible to work with the BMS-Graf-Pro. Connection to the control or to the process control system is facilitated by Ethernet. The front-panel insertion allows easy installation. On request, the devices are also available as ready-made system solutions in stainless-steel enclosures for wall or floor mounting. The intrinsically safe USB interfaces are accessible on the back. Intrinsically safe input devices are connected also.

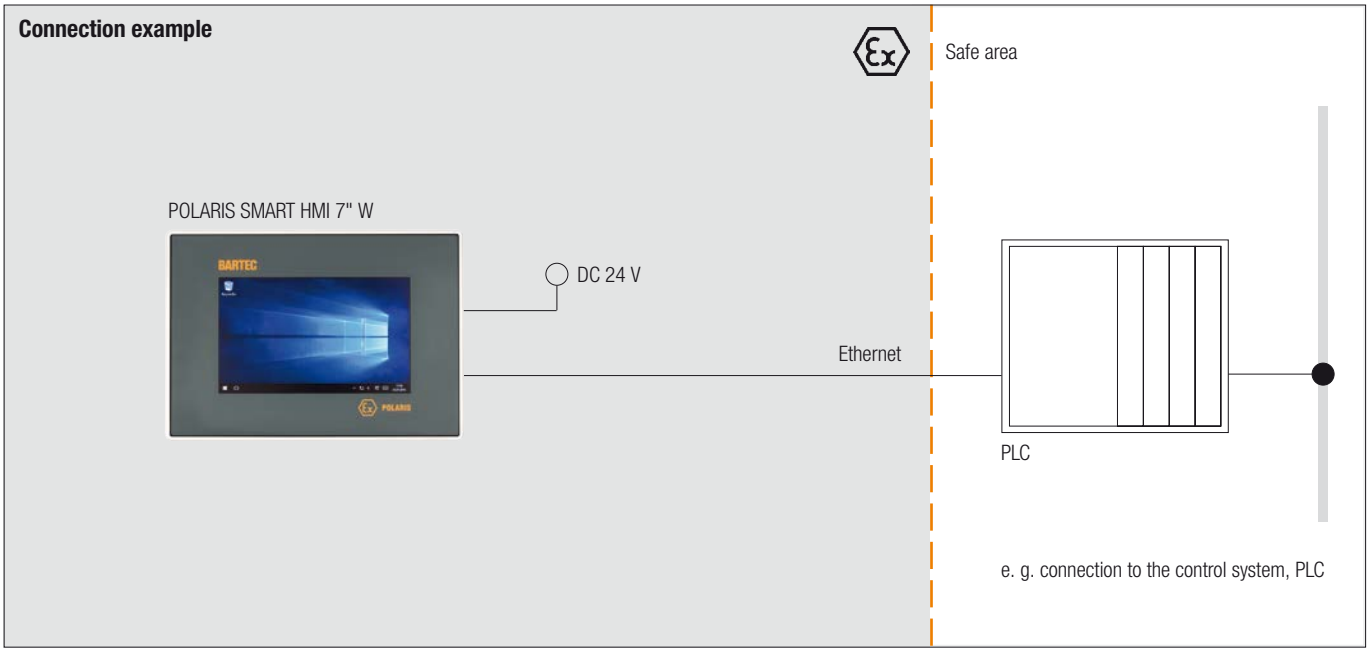
### Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007X |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | front/rear: IP 65 acc. to EN/IEC 60529<br>front: IP 6X acc. to EN/IEC 60079-0<br>rear: IP 54 acc. to EN/IEC 60079-0 |
| Display | 7" W TFT colour display<br>262,144 colours<br>WVGA resolution, 800 x 480 pixels<br>brightness 500 cd/m²<br>visible surface approx. 152 mm x 91 mm<br>contrast 600:1<br>sunlight readable display |
| Background lighting | LED technology<br>service life approx. 50,000 hours (at +25 °C) |
| Touch | capacitive, low-reflection due to optical bonding<br>resistive touch display (membrane touch)<br>on request |
| Processor | CPU Intel® Atom™ (E 3826)<br>Dual Core with 2 x 1.46 GHz<br>RAM: 2 GB (optional: 4 GB)<br>4 GB internal Flash Drive<br>hard-drive SSD with 128 GB (MLC) |
| Operating system | Windows® 10 IoT or Windows 7® Ultimate<br>or Windows 7® Embedded |
| Interfaces | 2 x Ex i USB 2.0<br>2 x Ex e USB 2.0<br>1 x Ethernet 100 BaseT |
| Dimensions (W x H x D) | 240 mm x 170 mm x 80 mm |
| Wall cut-out | 226 mm x 153 mm |
| Mounting position | any |
| Weight | approx. 4,8 kg |
| Power supply | DC 24 V (DC 20 to 30 V) |
| Supply | External supply: DC 24 V/2 A<br>Standard operation without USB: approx. 450 mA<br>Power dissipation<br>$P_{max.}$ (with USB) < 25 W<br>$P_{max.}$ (without USB) < 20 W<br>Standard operation without USB: approx. 12.5 W |
| Permissible ambient temperature | Operation 0 °C to +50 °C<br>Storage -20 °C to +60 °C |
| Temperature range | extended -20 °C to +60 °C |
| Relative air humidity | 5 % to 95 % non-condensing |
| Material | Front resistive:<br>polyester foil on anodised aluminium plate<br>(conditionally UV-resistant)<br>front capacitive:<br>hardened glass front on anodised aluminium plate<br>back: stainless steel |

**Connection example**






**Ordering information**

| Description | Code no. | Version | Code no. | Operating system | Code no. |
|---|---|---|---|---|---|
| POLARIS SMART HMI 7" W with capacitive touchscreen | **1** | 2 GB RAM | **00** | Windows® 10 IoT | **1** |
| | | | | Windows 7® Ultimate | **2** |
| POLARIS SMART HMI 7" W with resistive touchscreen | **2** | 4 GB RAM, extended temperature range | **11** | Windows 7® Embedded MUI | **3** |
| | | | | BMS-Graf-pro | **4** |

**Complete order no. 17-71V6-1 ☐☐☐/0☐00**
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

High-resolution displays with LED technology and touchscreen for intuitive as well as comfortable operation are available now in the standard variant. State-of-the-art LED display technology ensures the optimum contrast even with a large viewing angle. The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. Thanks to the integrated keyboard customisation for Windows®, Siemens WinCC flexible®, RS View® or BMS-Graf-pro, the POLARIS Touch panels can be used for all visualisation tasks. They can be connected to the control or the process control system through Ethernet, PROFIBUS-DP or various serial COM interfaces. Of course, here too the user can work with the latest BMS-Graf-Pro Version 7, allowing for example the transfer of projects through Ethernet, the use of graphics lists and the integrated user administration. Wired electrical connections are facilitated by integrated terminal compartments. The front-panel fitting design ensures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosures for wall or floor mounting. They also feature an intrinsically safe USB interface for a USB Ex i flash drive. Intrinsically safe input devices can also be connected.

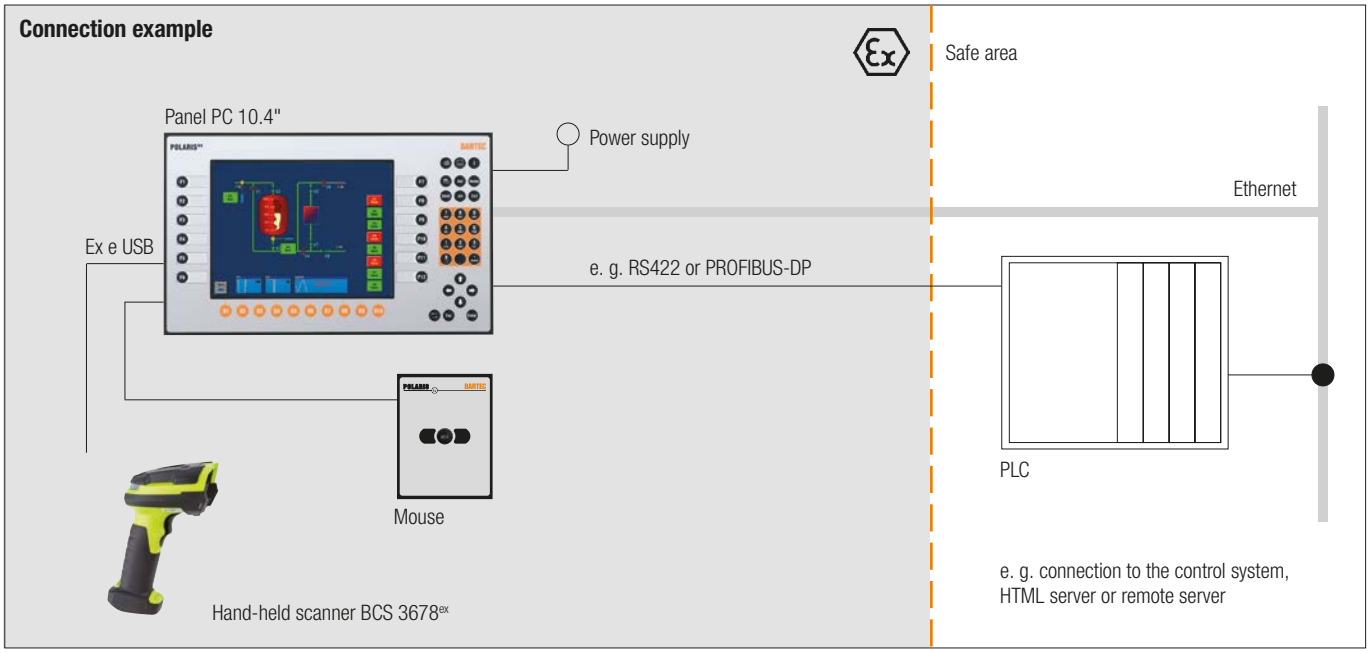
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature | -20 °C to +60 °C |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 10.4" TFT graphic display<br>16.7 million colors<br>Resolution SVGA 800 x 600 pixels<br>Brightness 400 cd/m$^2$<br>Visible surface approx. 211 x 158 mm<br>Contrast 900:1<br>Touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Keyboard<br>(short-stroke keys) | Alphanumeric key block<br>4 cursor keys<br>10 special keys<br>12 function keys able to be labelled with LEDs |
| Interfaces<br>(basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>1 x Ex i PS/2 for intrinsically safe mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 400 mm x 246 mm x approx. 130 mm |
| Wall cut-out | 386 mm x 226 mm + 0.5 mm |
| Weight | approx. 14 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 30 W |
| Permissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>Variant<br>Operation -20 °C to +50 °C<br>on request (without external heating) |
| Relative air humidity | 5 % to 95 % non-condensing |
| Vibration | 0.7 g/1 mm; 5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Interfaces | Code no. | Operating system | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|
| POLARIS Panel PC 10.4" | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | 100 GB HD | **0** |
| | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | |
| | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-90 ☐☐ / ☐ 0000 ☐ 00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessoires with order details on the accessories pages.

High-resolution displays with LED technology and touch screen for intuitive and convenient operation are now available in the standard version. State-of-the-art LED display technology ensures the optimum contrast even with a large viewing angle. The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. Thanks to the integrated keyboard customisation for Windows®, Siemens WinCC flexible®, RS View® or BMS-Graf-pro, the POLARIS Touch panels can be used for all visualisation tasks. They can be connected to the control or the process control system through Ethernet, PROFIBUS-DP or various serial COM interfaces. Of course, here too the user can work with the latest BMS-Graf-Pro Version 7, allowing for example the transfer of projects through Ethernet, the use of graphics lists and the integrated user administration. Wired electrical connections are facilitated by integrated terminal compartments. The front-panel fitting design ensures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosure for wall or floor mounting. They also feature an intrinsically safe USB interface for a USB Ex i flash drive. Intrinsically safe input devices can also be connected.

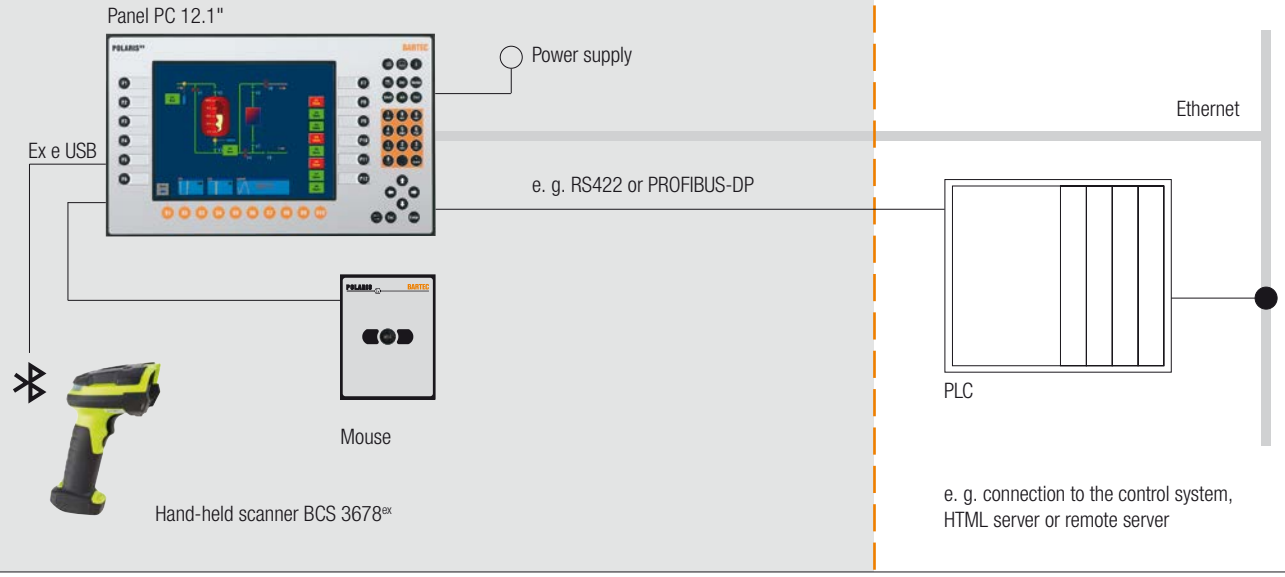
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature | -20 °C to +60 °C |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 12.1" TFT graphic display<br>16.7 million colors<br>Resolution XGA 1024 x 768 pixels<br>Brightness 500 cd/m$^2$<br>Visible surface approx. 246 x 184 mm<br>Contrast 700:1<br>Touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Keyboard<br>(short-stroke keys) | Alphanumeric key block<br>4 cursor keys<br>12 special keys<br>16 function keys able to be labelled with LEDs |
| Interfaces<br>(basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>1 x Ex i PS/2 for intrinsically safe mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 440 mm x 275 mm x approx. 130 mm |
| Wall cut-out | 425 mm x 255 mm + 0.5 mm |
| Gewicht | approx. 18 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 35 W |
| Permissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>Variant<br>Operation -20 °C to +50 °C<br>on request (without external heating) |
| Relative air humidity | 5 % to 95 % non-condensing |
| Vibration | 0.7 g/1 mm; 5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**

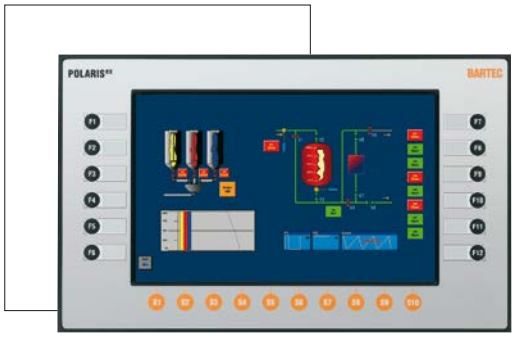


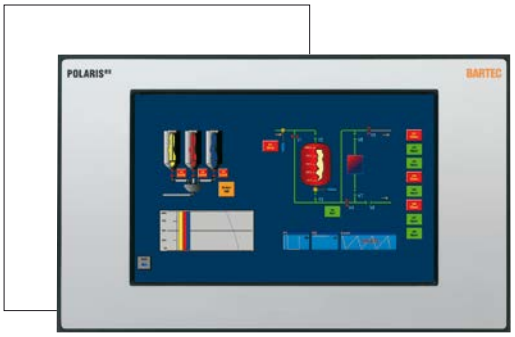

**Ordering information**

| Description | Interfaces | Code no. | Operating system | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|
| POLARIS Panel PC 12.1" | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | 100 GB HD | **0** |
| | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | |
| | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-80 ☐☐ / ☐ 0000 ☐ 00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessoires with order details on the accessories pages.





The POLARIS Panel PC 12.1" W is an innovative new development of the POLARIS PROFESSIONAL series. The high-resolution display with LED backlighting and touchscreen allow intuitive and comfortable operation. Even with wide viewing angles or when lighting is poor, the state-of-the-art LED display technology assures the optimum in contrast. The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. Thanks to the integrated keyboard customisation for Windows®, Siemens WinCC flexible®, RS View® or BMS-Graf-pro, the POLARIS Touch panels can be used for all visualisation tasks. They can be connected to the control or the process control system through Ethernet, PROFIBUS-DP or various serial COM interfaces. Of course, here too the user can work with the latest BMS-Graf-Pro Version 7, allowing for example the transfer of projects through Ethernet, the use of graphics lists and the integrated user administration. Wired electrical connections are facilitated by integrated terminal compartments. The front-panel fitting design ensures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosure for wall or floor mounting. They also feature an intrinsically safe USB interface for a USB Ex i flash drive. Intrinsically safe input devices can also be connected.

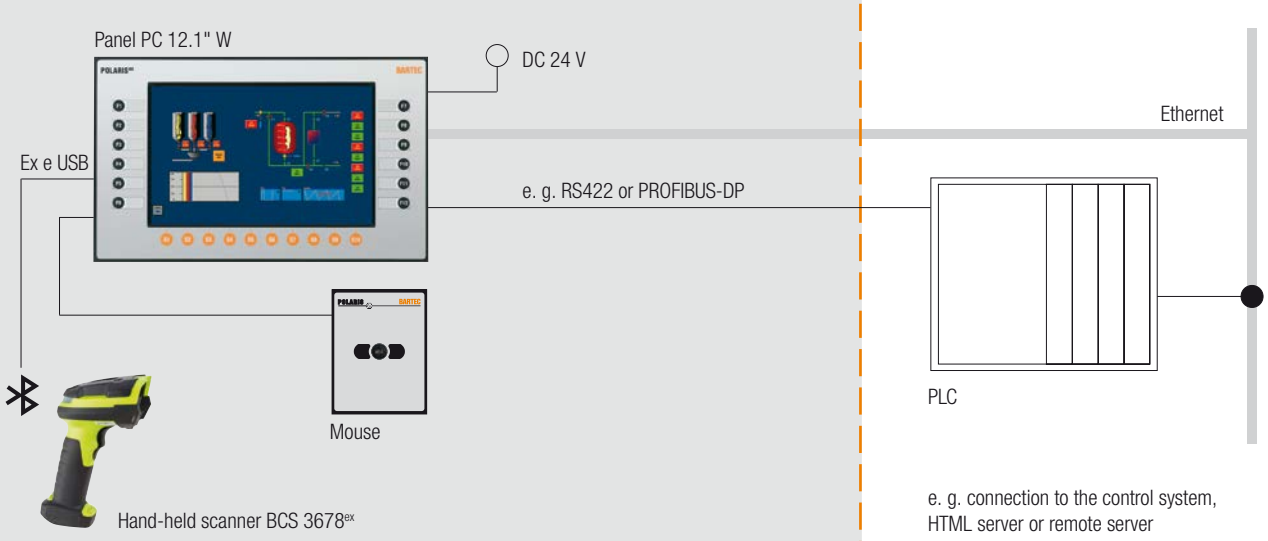
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 12.1" W graphics-capable TFT colour display<br>16.7 million colors<br>WXGA resolution, 1280 x 800 pixels<br>Brightness 400 cd/m$^2$<br>Visible surface approx. 264 x 166 mm<br>Contrast 1000:1<br>Touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Front panel | 10 special keys and<br>12 inscribable function keys with LEDs<br>Optional variant: Without front-panel keys |
| Interfaces<br>(basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>1 x Ex i PS/2 for intrinsically safe mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (B x H x T) | 400 mm x 246 mm x approx. 130 mm |
| Wall cut-out | 386 mm x 226 mm + 0.5 mm |
| Weight | approx. 14 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 35 W |
| Permissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>Variant<br>Operation -20 °C to +50 °C<br>on request (without external heating) |
| Relative air humidity | 5 % to 95 % non-condensing |
| Vibration | 0.7 g/1 mm; 5 Hz to 500 Hz pulse<br>in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate<br>(conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Operating system | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|---|
| Panel PC 12.1" W with front-panel keys | **0** | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | 100 GB HD | **0** |
| | | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | |
| Panel PC 12.1" W without front-panel keys | **4** | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-B ☐☐☐ / ☐ 0000 ☐ 00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. The Ethernet interface can be used to connect individual computers or network devices, e. g. a printer, to an existing local network (LAN) (WLAN is also a possible option) or local networks can be set up completely wirelessly. This facilitates a high-performance visualisation and operation of the processes directly on site. The wired electrical connections are realised via a terminal compartment of the "e" type of protection (increased safety). The state-of-the-art display technology guarantees an optimum contrast, even with large viewing angle. The Front-panel fitting assures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosure for wall or floor mounting. An intrinsically safe USB interface is available for a USB Ex i memory stick. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the optimum in operating comfort. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. The Panel PCs therefore support the installation of numerous software packages, such as customer-specific software or other commercially available standard visualisation software. Of course, here too the operator can also work with the BARTEC "BMS-Graf-pro" programming package (Version 7.xxx or newer). The BARTEC PROFIBUS-DP interface can only be used in connection with the BARTEC "BMS-Graf- pro" software.

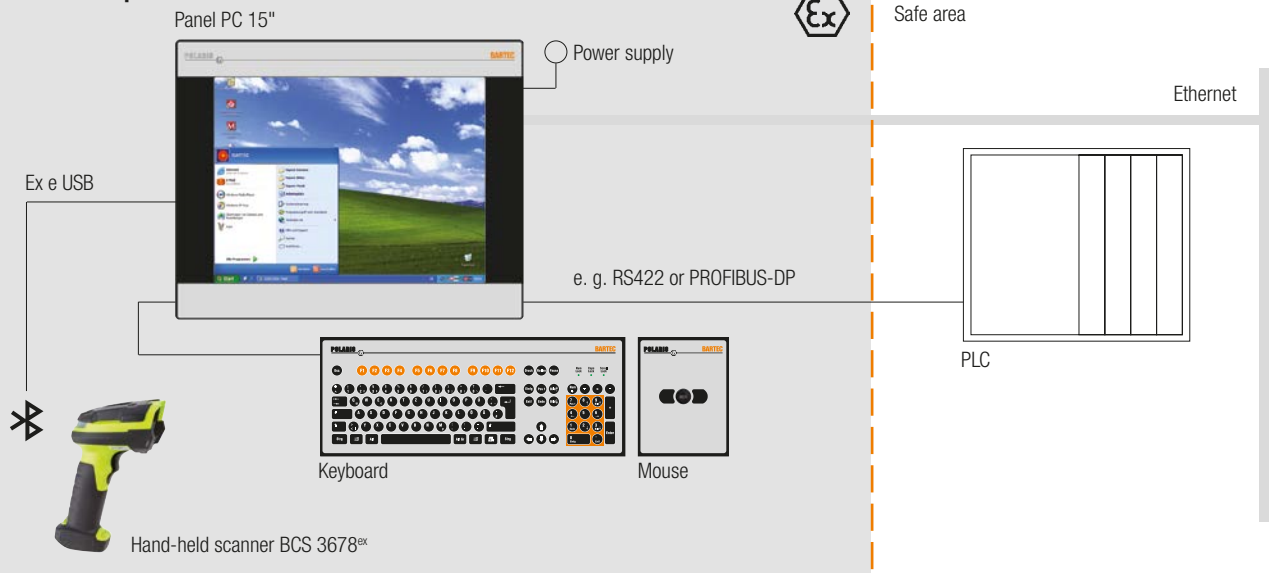
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature | -20 °C to +60 °C |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 15" graphics-capable TFT colour display<br>16.7 million colors<br>XGA resolution, 1024 x 768 pixels<br>Brightness 500 cd/m$^2$<br>Visible area approx. 304 x 228 mm<br>Contrast 800:1<br>Antireflection-coating glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Interfaces<br>(Basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>2 x Ex i PS/2 for intrinsically safe mouse and keyboard |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 411 mm x 332 mm x approx. 135 mm |
| Wall cut-out | 394.5 mm x 315.5 mm + 0.5 mm |
| Weight | approx. 23 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 70 W |
| Admissible ambient temperature | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm; 5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Operating system | Code no. | Variant | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| Panel PC 15" without touchscreen | **4** | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | AC | **0** | 100 GB HD | **0** |
| | | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | | | |
| Panel PC 15" with touchscreen | **6** | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | DC | **2** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-** ☐ **0** ☐ ☐ **/** ☐ **000** ☐ ☐ **00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS Panel PC 15" Sunlight is enhanced with industrial LED backlighting, which reaches a very high brightness of 1,000 cd/m². Combined with the special characteristics of the front polarizer, this allows excellent readability even under strong sunlight and it is therefore ideal for use outdoors. The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. The Ethernet interface can be used to connect individual computers or network devices, e. g. a printer, to an existing local network (LAN) (WLAN is also a possible option) or local networks can be set up completely wirelessly. This facilitates a high-performance visualisation and operation of the processes directly on site. The wired electrical connections are realised via a terminal compartment of the "e" type of protection (increased safety). The state-of-the-art display technology guarantees an optimum contrast, even with large viewing angle. The Front-panel fitting assures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosure for wall or floor mounting. An intrinsically safe USB interface is available for a USB Ex i memory stick.Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the optimum in operating comfort. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. The Panel PCs therefore support the installation of numerous software packages, such as customer-specific software or other commercially available standard visualisation software. Of course, here too the operator can also work with the BARTEC "BMS-Graf-pro" programming package (Version 7.xxx or newer). The BARTEC PROFIBUS-DP interface can only be used in connection with the BARTEC "BMS-Graf-pro" software.

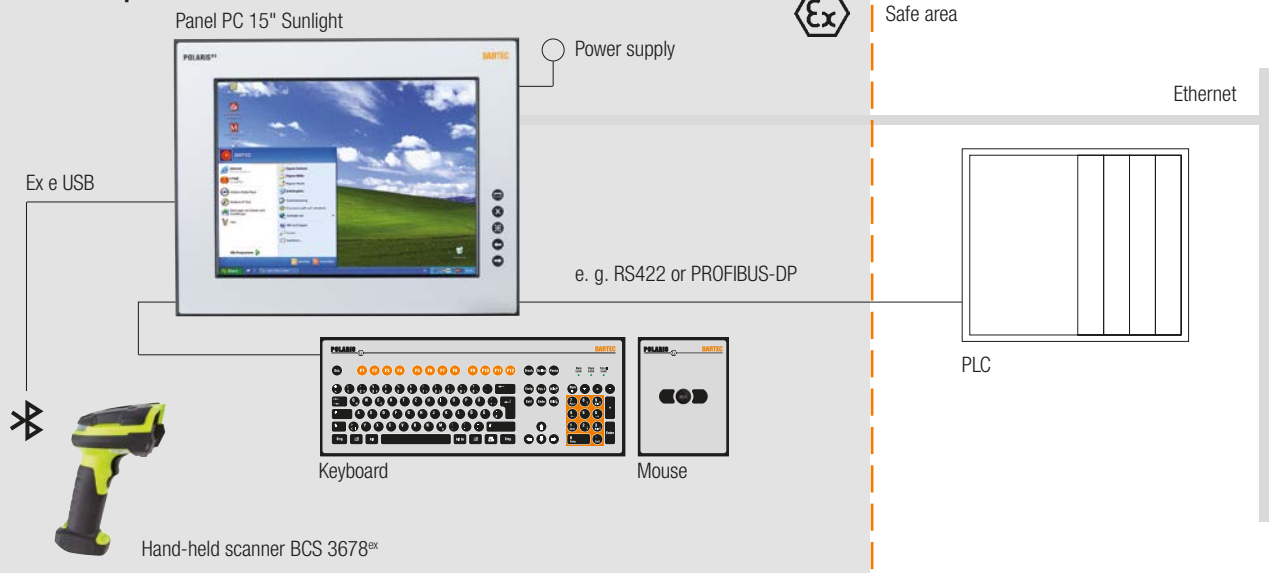
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 15" graphics-capable TFT colour display<br>16.7 million colors<br>XGA resolution, 1024 x 768 pixels<br>Brightness up to 1500 cd/m²<br>Visible area approx. 304 x 228 mm<br>Contrast 800:1<br>Antireflection-coating glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Interfaces<br>(Basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>2 x Ex i PS/2 for intrinsically safe mouse and keyboard |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 411 mm x 332 mm x approx. 135 mm |
| Wall cut-out | 394.5 mm x 315.5 mm + 0.5 mm |
| Gewicht | approx. 23 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 70 W |
| Admissible ambient temperature | Storage -20 °C to +60 °C<br>Operation 0 °C to +60 °C |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm; 5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Operating system | Code no. | Variant | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| Panel PC 15" Sunlight with touchscreen | **6** | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | AC | **0** | 100 GB HD | **0** |
| | | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | | | |
| | | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | DC | **2** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-** ☐ **2** ☐ ☐ **/** ☐ **000** ☐ ☐ **00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. The Ethernet interface can be used to connect individual computers or network devices, e. g. a printer, to an existing local network (LAN) (WLAN is also a possible option) or local networks can be set up completely wirelessly. This facilitates a high-performance visualisation and operation of the processes directly on site. The wired electrical connections are realised via a terminal compartment of the "e" type of protection (increased safety). The state-of-the-art display technology guarantees an optimum contrast, even with large viewing angle. The Front-panel fitting assures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosure for wall or floor mounting. An intrinsically safe USB interface is available for a USB Ex i memory stick. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the optimum in operating comfort. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. The Panel PCs therefore support the installation of numerous software packages, such as customer-specific software or other commercially available standard visualisation software. Of course, here too the operator can also work with the BARTEC "BMS-Graf-pro" programming package (Version 7.xxx or newer). The BARTEC PROFIBUS-DP interface can only be used in connection with the BARTEC "BMS-Graf-pro" software.

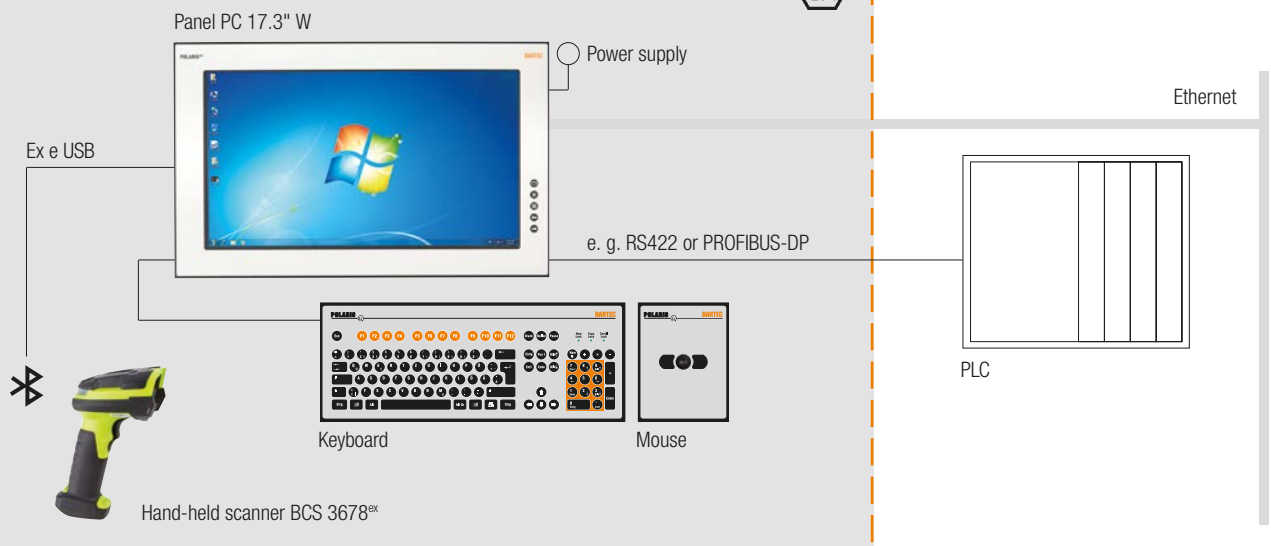
### Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

### Technical data

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 17.3" W graphics-capable TFT colour display<br>16.7 million colours<br>Full HD resolution, 1920 x 1080 pixels<br>Brightness 400 cd/m$^2$<br>Visible area approx. 382 x 215 mm<br>Contrast 600:1<br>Antireflection-coating glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Interfaces<br>(Basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>2 x Ex i PS/2 for intrinsically safe mouse and keyboard |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 503 mm x 314 mm x approx. 135 mm |
| Wall cut-out | 489 mm x 300 mm + 0.5 mm |
| Weight | approx. 33 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 100 W depending on the variant |
| Admissible ambient temperature | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm; 5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Operating system | Code no. | Variant | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| Panel PC 17.3" W without touchscreen | **E** | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | AC | **0** | 100 GB HD | **0** |
| | | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | | | |
| Panel PC 17.3" W with touchscreen | **F** | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | DC | **2** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-** ☐ **0** ☐ ☐ **/** ☐ **000** ☐ ☐ **00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. The Ethernet interface can be used to connect individual computers or network devices, e. g. a printer, to an existing local network (LAN) (WLAN is also a possible option) or local networks can be set up completely wirelessly. This facilitates a high-performance visualisation and operation of the processes directly on site. The wired electrical connections are realised via a terminal compartment of the "e" type of protection (increased safety). The state-of-the-art display technology guarantees an optimum contrast, even with large viewing angle. The Front-panel fitting assures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosure for wall or floor mounting.An intrinsically safe USB interface is available for a USB Ex i memory stick. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the optimum in operating comfort. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. This means that the PCs are open for many different software packages, for example customised software or various types of commercially available standard visualisation software. Of course, here too the operator can also work with the BARTEC "BMS-Graf-pro" programming package (Version 7.xxx or newer). The BARTEC PROFIBUS-DP interface can only be used in connection with the BARTEC "BMS-Graf-pro" software.

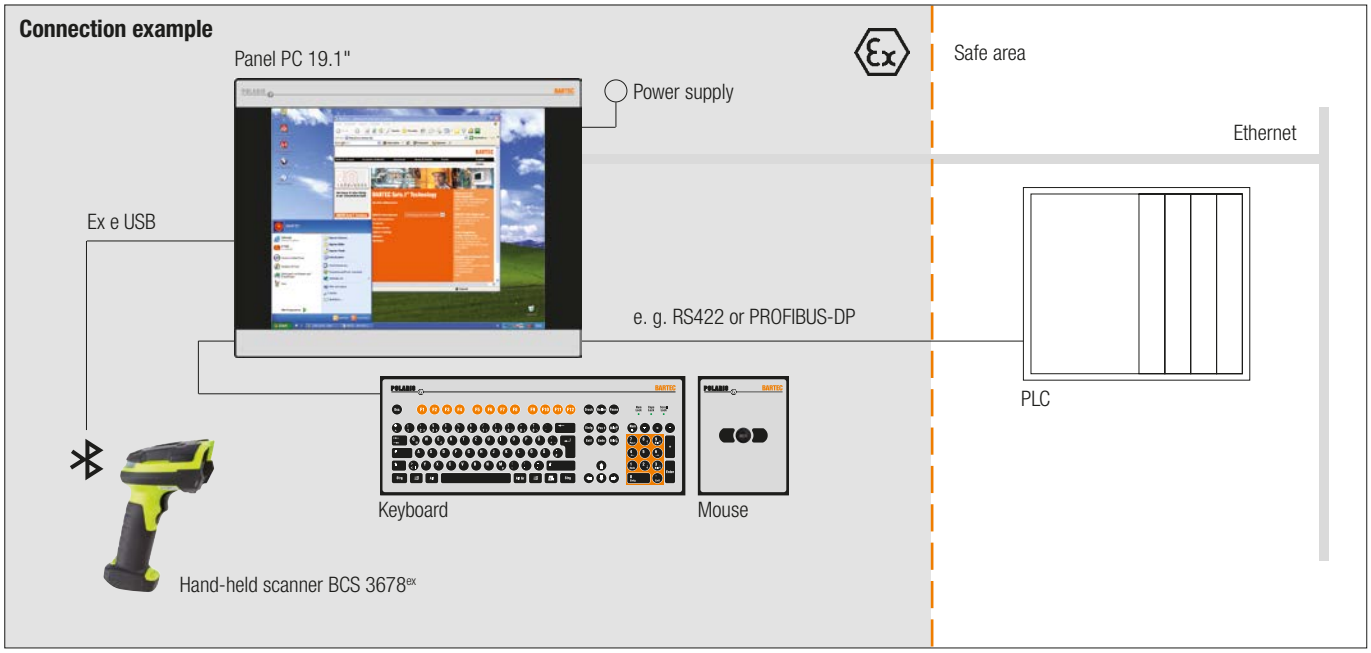
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature | -20 °C to +60 °C |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 19.1" graphics-capable TFT colour display<br>16.7 million colours<br>SXGA resolution, 1280 x 1024 pixels<br>Brightness 300 cd/m$^2$<br>Visible area approx. 380 x 305 mm<br>Contrast 1000:1<br>Antireflection-coating glass pane<br>Optional touchscreen (resistive) |
| Backlighting | CFL technology<br>Service life approx. 40,000 hours (at +25 °C) |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Interfaces<br>(Basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>2 x Ex i PS/2 for intrinsically safe mouse and keyboard |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 498 mm x 400 mm x approx. 135 mm |
| Wall cut-out | 484 mm x 386.5 mm + 0.5 mm |
| Weight | approx. 33 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 70 W |
| Admissible ambient temperature | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Operating system | Code no. | Variant | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| Panel PC 19.1" without touchscreen | **5** | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | AC | **0** | 100 GB HD | **0** |
| | | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | | | |
| Panel PC 19.1" with touchscreen | **7** | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | DC | **2** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-** ☐ **0** ☐ ☐ **/** ☐ **000** ☐ ☐ **00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The panel PC has been equipped as standard with the Intel® Atom™ SoC E3845, 1.91 GHz. The Ethernet interface can be used to connect individual computers or network devices, e. g. a printer, to an existing local network (LAN) (WLAN is also a possible option) or local networks can be set up completely wirelessly. This facilitates a high-performance visualisation and operation of the processes directly on site. The wired electrical connections are realised via a terminal compartment of the "e" type of protection (increased safety). The state-of-the-art display technology guarantees an optimum contrast, even with large viewing angle. The Front-panel fitting assures easy installation. On request, the devices are also available as ready-made system solutions in Stainless-steel enclosure for wall or floor mounting. An intrinsically safe USB interface is available for a USB Ex i memory stick. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the optimum in operating comfort. Windows 7® Ultimate or Windows 10® IoT can be used as an operating system. The Panel PCs therefore support the installation of numerous software packages, such as customer-specific software or other commercially available standard visualisation software. Of course, here too the operator can also work with the BARTEC "BMS-Graf-pro" programming package (Version 7.xxx or newer). The BARTEC PROFIBUS-DP interface can only be used in connection with the "BMS-Graf-pro" software.

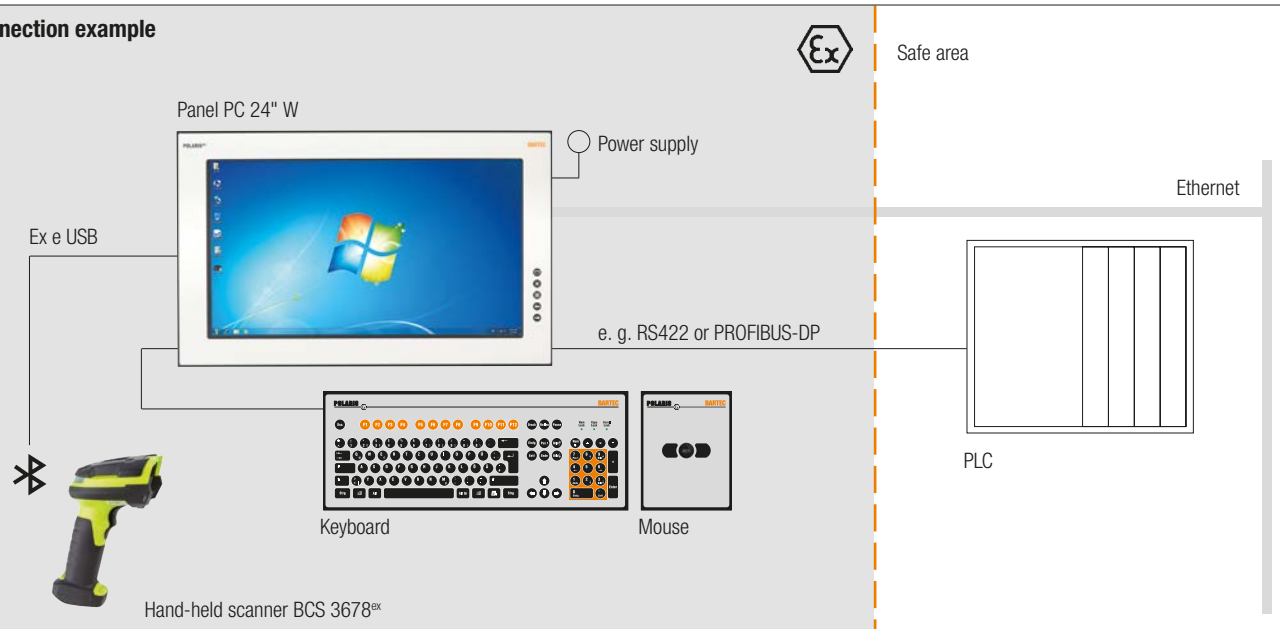
### Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

### Technical data

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 24" W graphics-capable TFT colour display<br>16.7 million colours<br>Full HD resolution, 1920 x 1080 pixels<br>Brightness 300 cd/m$^2$<br>Visible area approx. 531 x 299 mm<br>Contrast 3000:1<br>Antireflection-coating glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology |
| Computer capacity | Processor: Intel® Atom™ E3845, 4 x 1.91 GHz<br>4 or 8 GB RAM<br>100 GB HD or 128 GB SSD (MLC) |
| Operating system | Windows 7® Ultimate or<br>Windows® 10 IoT LTSB |
| Interfaces<br>(Basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>2 x Ex i PS/2 for intrinsically safe mouse and keyboard |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 644 mm x 406 mm x approx. 135 mm |
| Wall cut-out | 630 mm x 392 mm + 0.5 mm |
| Weight | approx. 40 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 100 W depending on the variant |
| Admissible ambient temperature | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm; 5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Operating system | Code no. | Variant | Code no. | Computer capacity | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| Panel PC 24" W without touchscreen | **C** | USB Ex e/RS422 (recommended version) | **37** | Windows 7 Ultimate 32bit incl. Recovery (at 4 GB RAM) | **S** | AC | **0** | 100 GB HD | **0** |
| | | | | Windows 10 IOT LTSB 32bit incl. Recovery (at 4 GB RAM) | **K** | | | | |
| Panel PC 24" W with touchscreen | **D** | Further Interface combinations on request | **XX** | Windows 10 IOT LTSB 64bit incl. Recovery (at 8 GB RAM) | **L** | DC | **2** | 128 GB SSD | **2** |

**Complete order no. 17-71V1-** ☐ **0** ☐ ☐ **/** ☐ **000** ☐ ☐ **00**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The panel PC is equipped with the Intel® Celeron® J1900 as standard. The Ethernet interface enables individual computers or network devices such as a printer to be connected to an existing local network (LAN) (WLAN is also a possible option) or local networks to be set up completely wirelessly. Allows high-performance visual display and operation of the processes directly on site. State-of-the-art display technology provides optimum contrast even with a large viewing angle. To allow the greatest ease in utilisation the devices are available for wall, floor or table mounting. A keyboard with integrated trackball or touchpad can be connected. There is also the option of a touchscreen for the ultimate in operating ease. Windows 7® Ultimate or Windows 10 Iot Enterprise are available as possible operating systems. This means that the Panel PCs are open for many different software packages, for example customised software or various types of commercially available standard visualisation software.

**Explosion protection**

| | |
|---|---|
| Marking ATEX Zone 2 | Ⓔx II 3G Ex nA ic IIC T5 Gc |
| Certification | IBExU 09 ATEX 1113 X |
| Marking ATEX Zone 21 und 22 | Ⓔx II 2D Ex ib tb IIIC T100°C Db<br>-25 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IBExU 09 ATEX 1113 X |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Construction | Stainless-steel enclosure |
| Protection class | IP 65 |
| Display | 19.1" graphics-capable TFT colour display<br>16.7 million colours<br>SXGA resolution, 1280 x of 1024 pixels<br>Brightness 300 cd/m² <br>Visible surface approx. 376 x 301 mm<br>Contrast 1300:1<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Intel® Celeron® J1900 (quad-core up to 2.42 GHz)<br>4 GB RAM with 32-bit operating system<br>8 GB RAM with 64-bit operating system<br>128 GBytes SSD (MLC Type) |
| Operating system | Windows 7® Ultimate (32 Bit)<br>Windows 10 Iot Enterprise (32 Bit)<br>in preparation:<br>Windows 10 IoT Enterprise (64 Bit) |
| Interfaces (basic version) | 2 x Ethernet 100BaseT<br>4 x USB (on version with keyboard and mouse, 1 x on terminals)<br>Optional: RS232/422/485 Serial Interface |
| Audio | internal PC cabinet speaker (optional) |
| Bluetooth | Optional via smart device<br>e. g. connection to BARTEC BCS Bluetooth hand-held scanner (also zone 1) |
| WLAN | Optional via smart device |
| Dimensions (W x H x D) | Display unit:<br>610 mm x 450 mm x approx. 100 mm<br>With mounting adapter and keyboard:<br>730 mm x 520 mm x approx. 400 mm |
| Weight | approx. 17 kg |
| Input voltage range | AC 90 to 253 V, DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 75 W |
| Permissible ambient temperatures | Storage -25 °C to +60 °C<br>Operation 0 °C to +50 °C |
| Relative air humidity | 5 to 95 % non-condensing |
| Material | Stainless steel |
| Optional accessories | Keyboard with integrated trackball 38 mm<br>Keyboard with integrated trackball 50 mm<br>Keyboard with integrated touchpad |

**Connection example**

**Ordering information**

| Description | Code no. | Input voltage | Code no. | Operating system | Code no. | Keyboard language | Code no. | Insert unit | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| POLARIS II Panel PC 19.1" without touchscreen | **6** | AC 90 to 253 V | **1** | Windows 7® Ultimate (32 Bit) | **U** | German | **1** | Trackball 50 mm | **1** |
| | | | | Windows 10 Iot Enterprise (32 Bit) | **K** | English | **2** | Trackball 38 mm | **2** |
| POLARIS II Panel PC 19.1" with touchscreen | **5** | DC 24 V | **2** | in preparation: Windows 10 Iot Enterprise (64 Bit) | **L** | French | **3** | Touchpad | **3** |

**Complete order no. 17-72V4-** ☐☐☐ **4/** ☐☐ **00**

Please insert correct code. Technical data subject to change without notice. Other versions on request.

The panel PC is equipped with the Intel® Celeron® J1900 as standard. The Ethernet interface enables individual computers or network devices such as a printer to be connected to an existing local network (LAN) (WLAN is also a possible option) or local networks to be set up completely wirelessly. Allows high-performance visual display and operation of the processes directly on site. State-of-the-art display technology provides optimum contrast even with a large viewing angle. To allow the greatest ease in utilisation the devices are available for wall, floor or table mounting. A keyboard with integrated trackball or touchpad can be connected. There is also the option of a touchscreen for the ultimate in operating ease. Windows 7® Ultimate or Windows 10 Iot Enterprise are available as possible operating systems. This means that the Panel PCs are open for many different software packages, for example customised software or various types of commercially available standard visualisation software.

**Explosion protection**

| | |
|---|---|
| Marking ATEX Zone 2 | Ⓔx II 3G Ex nA ic IIC T5 Gc |
| Certification | IBExU 09 ATEX 1113 X |
| Marking ATEX Zone 21 und 22 | Ⓔx II 2D Ex ib tb IIIC T100°C Db<br>-25 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IBExU 09 ATEX 1113 X |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Construction | Stainless-steel enclosure |
| Protection class | IP 65 |
| Display | 22" W graphics-capable TFT colour display<br>16.7 million colours<br>WSXGA+ resolution, 1680 x 1050 pixels<br>Brightness 300 cd/m²<br>Visible surface approx. 474 x 296 mm<br>Contrast 1000:1<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Intel® Celeron® J1900 (quad-core up to 2.42 GHz)<br>4 GB RAM with 32-bit operating system<br>8 GB RAM with 64-bit operating system<br>128 GBytes SSD (MLC Type) |
| Operating system | Windows 7® Ultimate (32 Bit)<br>Windows 10 Iot Enterprise (32 Bit)<br>in preparation:<br>Windows 10 IoT Enterprise (64 Bit) |
| Interfaces (basic version) | 2 x Ethernet 100BaseT<br>4 x USB (on version with keyboard and mouse, 1 x on terminals)<br>Optional: RS232/422/485 Serial Interface |
| Audio | internal PC cabinet speaker (optional) |
| Bluetooth | Optional via smart device<br>e. g. connection to BARTEC BCS Bluetooth hand-held scanner (also zone 1) |
| WLAN | Optional via smart device |
| Dimensions (W x H x D) | Display unit:<br>660 mm x 450 mm x approx. 100 mm<br>With mounting adapter and keyboard:<br>785 mm x 610 mm x approx. 400 mm |
| Weight | approx. 17 kg |
| Input voltage range | AC 90 to 253 V, DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 75 W |
| Permissible ambient temperatures | Storage -25 °C to +60 °C<br>Operation 0 °C to +50 °C |
| Relative air humidity | 5 to 95 % non-condensing |
| Material | Stainless steel |
| Optional accessories | Keyboard with integrated trackball 38 mm<br>Keyboard with integrated trackball 50 mm<br>Keyboard with integrated touchpad |

**Connection example**

**Ordering information**

| Description | Code no. | Input voltage | Code no. | Operating system | Code no. | Keyboard language | Code no. | Insert unit | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| POLARIS II Panel PC 22" W without touchscreen | **4** | AC 90 to 253 V | **1** | Windows 7® Ultimate (32 Bit) | **U** | German | **1** | Trackball 50 mm | **1** |
| | | | | Windows 10 Iot Enterprise (32 Bit) | **K** | English | **2** | Trackball 38 mm | **2** |
| POLARIS II Panel PC 22" W with touchscreen | **3** | DC 24 V | **2** | in preparation: Windows 10 Iot Enterprise (64 Bit) | **L** | French | **3** | Touchpad | **3** |

**Complete order no. 17-72V4-** ☐☐☐ **4/** ☐☐ **00**

Please insert correct code. Technical data subject to change without notice. Other versions on request.

The panel PC is equipped with the Intel® Celeron® J1900 as standard. The Ethernet interface enables individual computers or network devices such as a printer to be connected to an existing local network (LAN) (WLAN is also a possible option) or local networks to be set up completely wirelessly. Allows high-performance visual display and operation of the processes directly on site. State-of-the-art display technology provides optimum contrast even with a large viewing angle. To allow the greatest ease in utilisation the devices are available for wall, floor or table mounting. A keyboard with integrated trackball or touchpad can be connected. Windows 7® Ultimate or Windows 10 Iot Enterprise are available as possible operating systems. This means that the PCs are open for many different software packages, for example customized software or various types of commercially available standard visualisation software.

**Explosion protection**

| | |
|---|---|
| Marking ATEX Zone 2 | Ⓔx II 3G Ex nA ic IIC T5 Gc |
| Certification | IBExU 09 ATEX 1113 X |
| Marking ATEX Zone 21 und 22 | Ⓔx II 2D Ex ib tb IIIC T100°C Db<br>-25 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IBExU 09 ATEX 1113 X |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Construction | Stainless-steel enclosure |
| Protection class | IP 65 |
| Display | 24" W graphics-capable TFT colour display<br>16.7 million colours<br>Full HD resolution, 1920 x of 1080 pixels<br>Brightness 300 cd/m² <br>Visible surface approx. 531 x 299 mm<br>Contrast 5000:1 |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | Intel® Celeron® J1900 (quad-core up to 2.42 GHz)<br>4 GB RAM with 32-bit operating system<br>8 GB RAM with 64-bit operating system<br>128 GBytes SSD (MLC Type) |
| Operating system | Windows 7® Ultimate (32 Bit)<br>Windows 10 Iot Enterprise (32 Bit)<br>in preparation:<br>Windows 10 IoT Enterprise (64 Bit) |
| Interfaces (basic version) | 2 x Ethernet 100BaseT<br>4 x USB (on version with keyboard and mouse, 1 x on terminals)<br>Optional: RS232/422/485 Serial Interface |
| Audio | internal PC cabinet speaker (optional) |
| Bluetooth | Optional via smart device<br>e. g. connection to BARTEC BCS Bluetooth hand-held scanner (also zone 1) |
| WLAN | Optional via smart device |
| Dimensions (W x H x D) | Display unit:<br>660 mm x 450 mm x approx. 100 mm<br>With mounting adapter and keyboard:<br>785 mm x 610 mm x approx. 400 mm |
| Weight | approx. 19 kg |
| Input voltage range | AC 90 to 253 V, DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 75 W |
| Permissible ambient temperatures | Storage -25 °C to +60 °C<br>Operation 0 °C to +50 °C |
| Relative air humidity | 5 to 95 % non-condensing |
| Material | Stainless steel |
| Optional accessories | Keyboard with integrated trackball 38 mm<br>Keyboard with integrated trackball 50 mm<br>Keyboard with integrated touchpad |

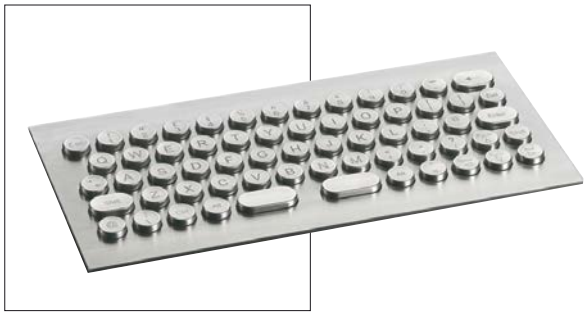
**Connection example**

**Ordering information**

| Description | Code no. | Input voltage | Code no. | Operating system | Code no. | Keyboard language | Code no. | Insert unit | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| POLARIS II Panel PC 24" W without touchscreen | **8** | AC 90 to 253 V | **1** | Windows 7® Ultimate (32 Bit) | **U** | German | **1** | Trackball 50 mm | **1** |
| | | | | Windows 10 Iot Enterprise (32 Bit) | **K** | English | **2** | Trackball 38 mm | **2** |
| POLARIS II Panel PC 24" W with touchscreen | **7** | DC 24 V | **2** | in preparation: Windows 10 Iot Enterprise (64 Bit) | **L** | French | **3** | Touchpad | **3** |

**Complete order no. 17-72V4-** ☐☐☐ **4/** ☐☐ **00**

Please insert correct code. Technical data subject to change without notice. Other versions on request.



The intrinsically safe keyboard made of stainless steel is approved for the POLARIS SMART HMI 7" W for zone 1/21 and for zone 2/22. It is connected directly to the intrinsically safe USB port. The keyboard can also be connected to the complete POLARIS series. The keyboard is completely made of stainless steel and has been developed for extreme industrial conditions (virtually insensitive to force), and its long-travel keys make it very comfortable to use. The keyboard is available in different languages.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex ib IIC T4 Gb<br>Ⓔx II 2D Ex ib IIIC T120°C Db<br>-20 °C ≤ $T_a$ ≤ +60 °C |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex ib IIC T4 Gb<br>Ex ib IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007X |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Mounting | Front panel installation |
| Material | Stainless steel |
| Protection class | IP 65 (front side) |
| Dimensions (W x H x D) | 250 mm x 135 mm x 35 mm |
| Installation depth | approx. 30 mm |
| Front panel | 3 mm |
| Installation | for recessed installation |
| Connection | USB |
| Keyboard | with 62 keys,<br>available in different languages |

### Ordering information

| | |
|---|---|
| Smart keyboard, german | **17-71VZ-C011** |
| Smart keyboard, english | **17-71VZ-C012** |

Technical data subject to change without notice.

Intrinsically safe Ex i memory stick. Approved for Agile X IS and POLARIS SMART HMI 7" W. May be replaced in explosive areas.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex ib IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ 50 °C |
| Certification | DEMKO 16 ATEX 1803 Rev. 0 |
| Marking IECEx | Ex ib IIC T4 Gb |
| Certification | IECEx UL 16.0160 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Product type | USB Flash drive |
| Memory capacity | 8 GB |
| Dimensions (L x W x H) | approx. 34 mm x 11 mm x 4 mm |
| Weight | < 15 g |
| Enclosure material | Plastic/sheet steel |
| Use | Data backup and Ex i recovery stick |

### Ordering information

| | |
|---|---|
| Ex i memory stick | **17-A1Z0-0007** |

Technical data subject to change without notice.

The Smart USB Device series is a simple and cost-efficient solution to extend the POLARIS series to include Bluetooth or WLAN functionality. The connection is made via the Ex e USB interface.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex mb IIC T4 Gb<br>Ⓔx II 2D Ex IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex mb IIC T4 Gb<br>Ex IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007X |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Ambient temperature | -20 °C to +60 °C |
| Protection class | IP 66 (thread socket) |
| Installation | suitable for 2G, 2D, 3G or 3D enclosure<br>Wall thickness: 1 to 6 mm |
| Befestigung | M30 x 1.5,<br>suitable for through-holes 30.3 mm |
| Impact resistance | 7 Nm |
| Material | Thermoplastic (enclosure) |

**Technical data**

| | |
|---|---|
| Bluetooth version | |
| e.g. to connect a Bluetooth scanner | |
| Bluetooth | 4.0, downwardly compatible 2.0/2.1/3.0 |
| Range | up to 10 m in open terrain |

| | |
|---|---|
| WLAN version | |
| for wireless network connection | |
| Wifi standard | IEEE802.11n, IEEE802.11g, IEEE802.11b |
| Transmission rate | max. 150 Mbit/s |
| Frequency | 2.4 GHz |

**Ordering information**

| | |
|---|---|
| Bluetooth | **17-71VZ-A020** |
| WLAN | **17-71VZ-A010** |

Technical data subject to change without notice.

The intrinsically safe keyboard and the mouse variants are intended for POLARIS Professional and POLARIS Remote for zone 1 and 2 and for zone 21 and 22. They are connected directly to the POLARIS Panel PC or POLARIS Remote. The chemically resistant polyester foil is easy to clean and resistant to many aggressive fluids. The keyboard is available in various languages.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex ib IIC T4 Gb<br>Ⓔx II 2D Ex ib IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex ib IIC T4 Gb<br>Ex ib IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |

Other approvals and certificates, see www.bartec.de

### Technical data

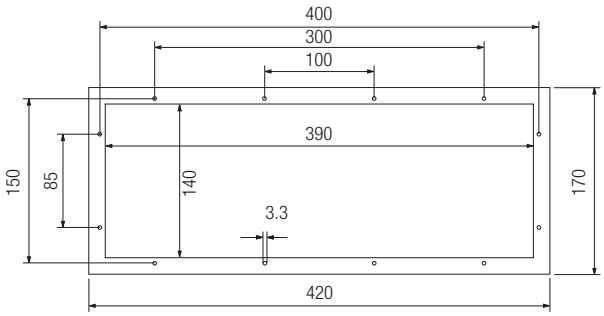
| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 420 mm x 170 mm |
| Wall cut-out | 390 mm x 140 mm |
| Installation depth | 18 mm |
| Weight | approx. 700 g |

### Ordering information

| | |
|---|---|
| German | **17-71VZ-4010** |
| English | **17-71VZ-4020** |
| French | **17-71VZ-4030** |

Other languages on request. Technical data subject to change without notice.

**Dimensions and wall cut-out for keyboard** (in mm)




all hole diameters: 3.3 mm

### Technical data

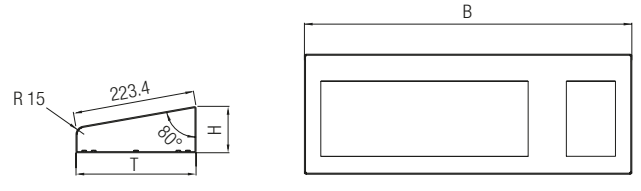
| | |
|---|---|
| Material | Stainless steel 1.4301; AISI 304 |
| Dimensions (W x H x D) | 600 mm x 85 mm x 220 mm |
| Protection class | IP 65 |

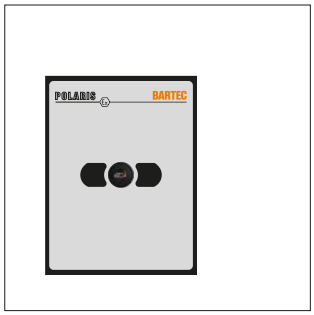
### Ordering information

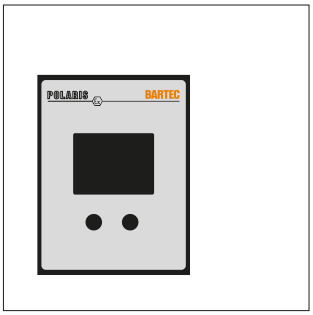
| | |
|---|---|
| Enclosure | **05-0041-0277** |

Complete solution with installed equipment on request.
Technical data subject to change without notice.

**Dimensions** (in mm)







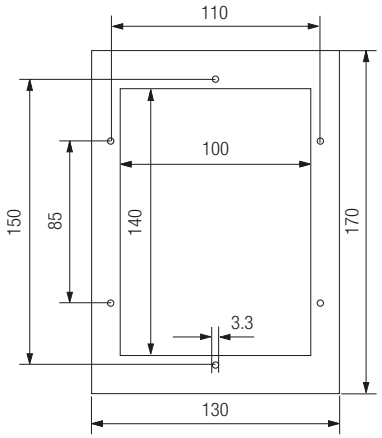
| **POLARIS Mouse, Trackball, Joystick and Touchpad** | |
|---|---|
| **Explosion protection** | |
| Marking ATEX | Ex II 2G Ex ib IIC T4 Gb<br>Ex II 2D Ex ib IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex ib IIC T4 Gb<br>Ex ib IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |

| **POLARIS Mouse** | |
|---|---|
| **Technical data** | |
| Construction | Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 170 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 15 mm |
| Weight | approx. 270 g |

| **POLARIS Trackball/Joystick** | |
|---|---|
| **Technical data** | |
| Construction | Front-panel fitting |
| Protection class | Trackball (front side)<br>static IP 65<br>dynamic IP 56<br>Joystick IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 140 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 43 mm |
| Weight | approx. 500 g |

| **POLARIS Touchpad** | |
|---|---|
| **Technical data** | |
| Construction | Capacitive touchpad for Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 170 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 15 mm |
| Weight | approx. 250 g |

**Dimensions and wall cut-out** (mm)



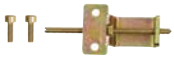

all hole diameters: 3.3 mm

**Ordering information**

| | |
|---|---|
| Mouse | **17-71VZ-1000** |
| Trackball | **17-71VZ-2000** |
| Touchpad | **17-71VZ-3000** |
| Joystick with button | **17-71VZ-9000** |

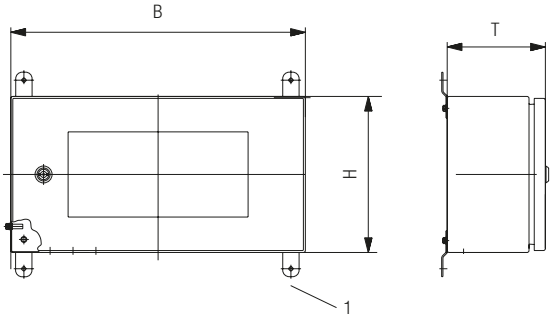
Technical data subject to change without notice.

### Ordering information

| Illustration | Description | | Order no. |
|---|---|---|---|
| | Ex i memory stick 4 GB | | **17-71VZ-5000/0100** |
| | Recovery stick | | **on request** |
| | **Connection cable for keyboard and mouse variants** | | |
| | Keyboard and mouse | 1.8 m | **05-0068-0163** |
| | Keyboard and mouse | 3.0 m | **05-0068-0204** |
| | Keyboard and trackball/joystick | 1.8 m | **05-0068-0172** |
| | Keyboard and trackball/joystick | 3.0 m | **05-0068-0205** |
| | Keyboard and touchpad | 1.8 m | **05-0068-0183** |
| | Keyboard and touchpad | 3.0 m | **05-0068-0206** |
| | **Reinforcement frame** | | |
| | POLARIS series 10.4" | | **04-0205-0008** |
| | POLARIS series 12.1" | | **04-0205-0007** |
| | POLARIS series 12.1" W | | **05-0205-0008** |
| | POLARIS series 15" | | **05-0205-0009** |
| | POLARIS series 17.3" W | | **05-0205-0013** |
| | POLARIS series 19.1" | | **05-0205-0010** |
| | POLARIS series 24" W | | **05-0205-0012** |
| | **Mounting clamp set** | | |
|  | 4 pieces | | **05-0091-0111** |
| | 6 pieces | | **05-0091-0112** |
| | **LAN STP cable** | | |
| | CAT.7 4 x 2 x 23 AWG, outer diameter: 7.9 mm | | **02-4082-0002** |
| | CAT.7 4 x 2 x 22 AWG, outer diameter: 18 mm; armoured | | **02-4082-0004** |
| | Note: additional cable glands required for armouring. | | |
| | **Original packaging** | | |
| | POLARIS series 10.4" | | **04-9035-0005** |
| | POLARIS series 12.1" | | **04-9035-0006** |
| | POLARIS series 12.1" W | | **04-9035-0005** |
| | POLARIS series 15" | | **04-9035-0007** |
| | POLARIS series 17.3" W | | **on request** |
| | POLARIS series 19.1" | | **04-9035-0008** |
| | POLARIS series 24" W | | **on request** |

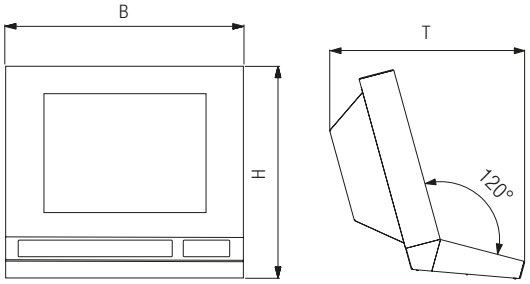
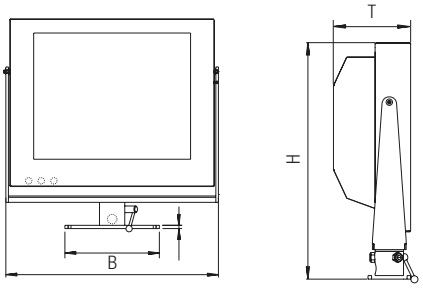
### Ordering information

| Illustration | Description | Dimensions in mm | Order no. |
|---|---|---|---|
| | **Basic stainless-steel enclosure** | | |
| | Technical data | | |
| | Material: Stainless-steel 1.4404; AISI 316 L | | |
| | Surface: brushed | | |
| | Protection class: IP 65 | | |
| | • for floor mounting with stand | (B x H x T) | |
| | POLARIS series 10.4" | 560 x 320 x 200 | **07-56D7-9611/9002** |
| | POLARIS series 12.1" | 600 x 350 x 200 | **07-56D7-9711/9002** |
| | POLARIS series 12.1" W | 560 x 320 x 200 | **07-56D7-9611/9002** |
| | Complete solutions with fitted components | | **on request** |
| | **Standard stainless-steel enclosure** | | |
| | • with adapter connection without stand | (B x H x T) | |
| | POLARIS series 15" | 650 x 500 x 150 | **05-0041-0395** |
| | POLARIS series 15" Sunlight | 650 x 500 x 150 | **05-0041-0395** |
| | POLARIS series 17.3" W | 660 x 600 x 150 | **on request** |
| | POLARIS series 19.1" | 760 x 600 x 150 | **05-0041-0994** |
| | POLARIS series 24" W | 885 x 625 x 150 | **05-0041-0993** |
| | **Basic stainless-steel enclosure** | | |
| | • for wall mounting with mounting straps | (B x H x T) | |
| | POLARIS series 10,4" | 560 x 320 x 200 | **07-56D7-9611/9001** |
| | POLARIS series 12,1" | 600 x 350 x 200 | **07-56D7-9711/9001** |
| | POLARIS series 12,1" | 560 x 320 x 200 | **07-56D7-9611/9001** |
| | POLARIS series 15" | 650 x 500 x 210 | **07-56D7-0B11/9001** |
| | POLARIS series 15" Sunlight | 650 x 500 x 210 | **07-56D7-0B11/9001** |
| | POLARIS series 19,1" | 760 x 600 x 210 | **07-56D7-9A11/9001** |




[1] mounting strap for wall mounting

### Ordering information

| Illustration | Description | Dimensions in mm | Order no. |
|---|---|---|---|
| | **Exclusive II stainless-steel enclosure**<br>Technical data<br>Material Stainless-steel grade 1.4301 | | |
| | • with adapter connection | (B x H x T) | |
| | POLARIS series 15" | 650 x 578 x 543 | **05-0041-0354** |
| | POLARIS series 17.3" W | 650 x 598 x 543 | **on request** |
| | POLARIS series 19.1" | 650 x 598 x 543 | **05-0041-0353** |
| | POLARIS series 24" W | 885 x 625 x 543 | **05-0041-0406** |
| |  | | |
| | • Stainless-steel enclosure - swivel/tilt without desktop mount | (B x H x T) | |
| | POLARIS series 15" | 770 x 685 x 218 | **05-0041-0356** |
| | POLARIS series 19.1" | 770 x 685 x 218 | **05-0041-0355** |
| |  | | |

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | Stand for floor mounting for Exclusive II stainless-steel enclosure<br>• Material: stainless-steel grade 1.4301<br>• Swivel<br>• Height approx. 900 mm, diameter 80 mm | **05-0005-0050** |
| | Stand for floor mounting for Standard stainless-steel enclosure from 15" series and POLARIS II<br>• Material: stainless steel grade 1.4301<br>• Swivel<br>• Height approx. 1000 mm, diameter 80 mm | **05-0005-0078** |
| | Desktop mount for stainless-steel enclosure for POLARIS 15" series/19.1" series<br>• Material: stainless steel grade 1.4301<br>• Swivel<br>• Height approx. 140 mm, diameter 80 mm | **05-0005-0070** |
| | Support arm for wall mounting<br>• Material: stainless-steel grade 1.4301<br>• Swivel<br>• Length approx. 580 mm | **05-0005-0058** |
| | Stainless-steel enclosure with additional fitted components<br>Material: stainless-steel<br>• Suitable for all POLARIS devices<br>• Optional for fitting switch modules and/or heating<br>• For wall mounting with mounting straps or support arm or for floor mounting with stand | **on request** |

The POLARIS Remote 15" unit by BARTEC is a display which a PC can be operated in safe areas of hazardous areas. Distances of up to 20 km are possible. POLARIS Remote 15" offers the user the possibility to use PC-based process control systems, without restrictions in hazardous areas. The front panel installation assures ease of mounting. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure as wall, floor or ceiling mounting versions. The screen of the Remote 15" is a TFT display with an XGA resolution and is characterised by its excellent brilliance and a very large reading angle. Intrinsically safe input devices can also be connected. The optional touchcreen (intrinsically safe) offers the ultimate in operating comfort. Connection in the safe area is realised via a local unit (included in scope of delivery).

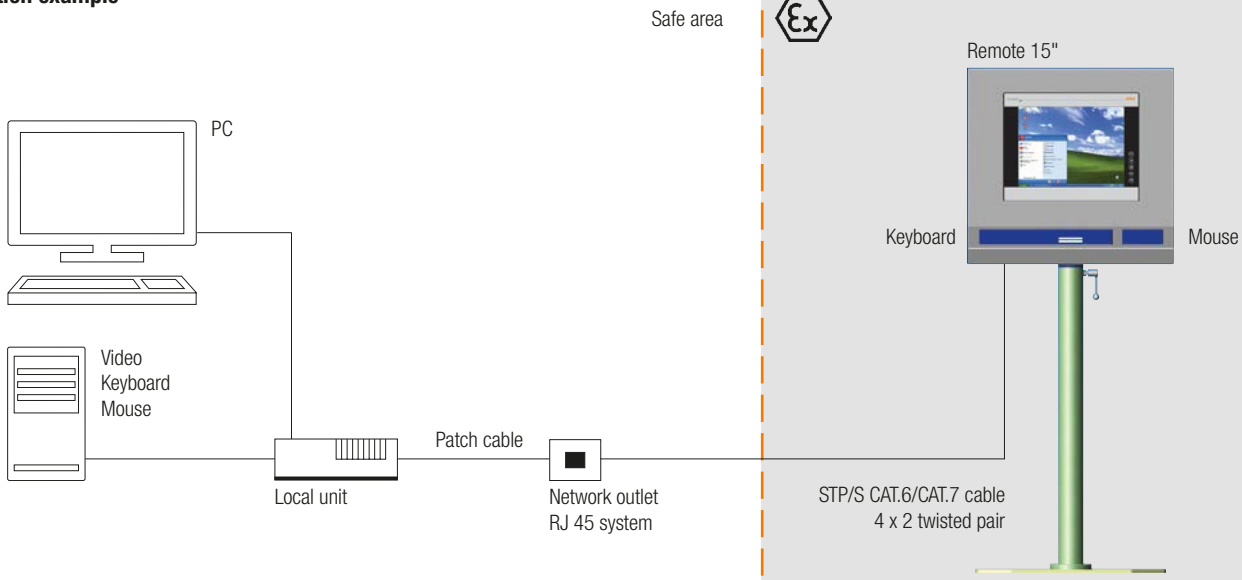
### Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb qb [ib op pr] IIC T4<br>Ⓔx II 2D Ex tb IIIC T120 °C |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb qb [ib op pr] IIC T4<br>Ex tb IIIC T120 °C |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

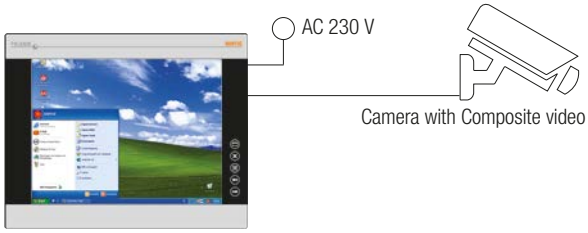
### Technical data

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 15" graphics-capable TFT colour display<br>16.7 million colours<br>XGA resolution 1024 x 768 pixels<br>Brightness 350 cd/m$^2$<br>Visible area approx. 304 x 228 mm<br>Contrast 700:1<br>Antireflection-coated glass panel<br>Optional touchscreen |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| KVM connection to the PC | via local unit |
| Cable length | POLARIS: terminals in the Ex e chamber<br>Local unit: RJ45 connector<br>Up to 300 m via STP copper cable VGA/PS2 (RS232 Touch)<br>Up to 100 m via STP copper cable DVI/USB<br><br>Optical fibre version<br>POLARIS: ST connector<br>Local unit: LC connector<br>Up to 500 m via multi-mode optical fibre (50 µm/125) DVI/USB<br>Up to 20 km via single-mode optical fibre (9/125 µm) DVI/USB |
| Composite video | Connection via Ex e terminals |
| Power supply | AC 90 to 253 V, 50 to 60 Hz or<br>DC 24 V ± 10 % on request or<br>DC 12 V (9 to 18 V) on request |
| Max. power consumption | $P_{max.}$ < 60 W |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 411 mm x 332 mm x approx. 135 mm |
| Wall cut-out | 394.5 mm x 315.5 mm + 0.5 mm |
| Weight | approx. 23 kg |
| Admissible ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Connection**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Variant | Code no. |
|---|---|---|---|---|---|
| Remote 15" without touchscreen | **4** | up to 300 m via STP/S copper cable VGA/PS2 | **00** | AC 90 to 253 V | **0** |
| | | up to 100 m via STP copper cable DVI/USB | **17** | | |
| Remote 15" with touchscreen | **6** | up to 500 m via multi-mode optical fibre cable DVI/USB | **21** | DC 24 V | **1** |
| | | up to 20 km via single-mode optical fibre cable | **on request** | DC 12 V | **2** |
| | | Composite video Input* | **16** | | |

* not with touchscreen

**Complete order no. 17-71V2- ☐ 0 ☐ ☐ / 00 ☐ 0**

Please insert correct code. Technical data subject to change without notice.

You will find the accessories with order details on the accessories pages.

The POLARIS Remote 15" unit by BARTEC is a display which a PC can be operated in safe areas of hazardous areas. Distances of up to 20 km are possible. POLARIS Remote 15" offers the user the possibility to use PC-based process control systems, without restrictions in hazardous areas. The front panel installation assures ease of mounting. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure as wall, floor or ceiling mounting versions. The screen of the Remote 15" is a TFT display with an XGA resolution and is characterised by its excellent brilliance and a very large reading angle. Intrinsically safe input devices can also be connected. The optional touchcreen (intrinsically safe) offers the ultimate in operating comfort. Connection in the safe area is realised via a local unit (included in scope of delivery).

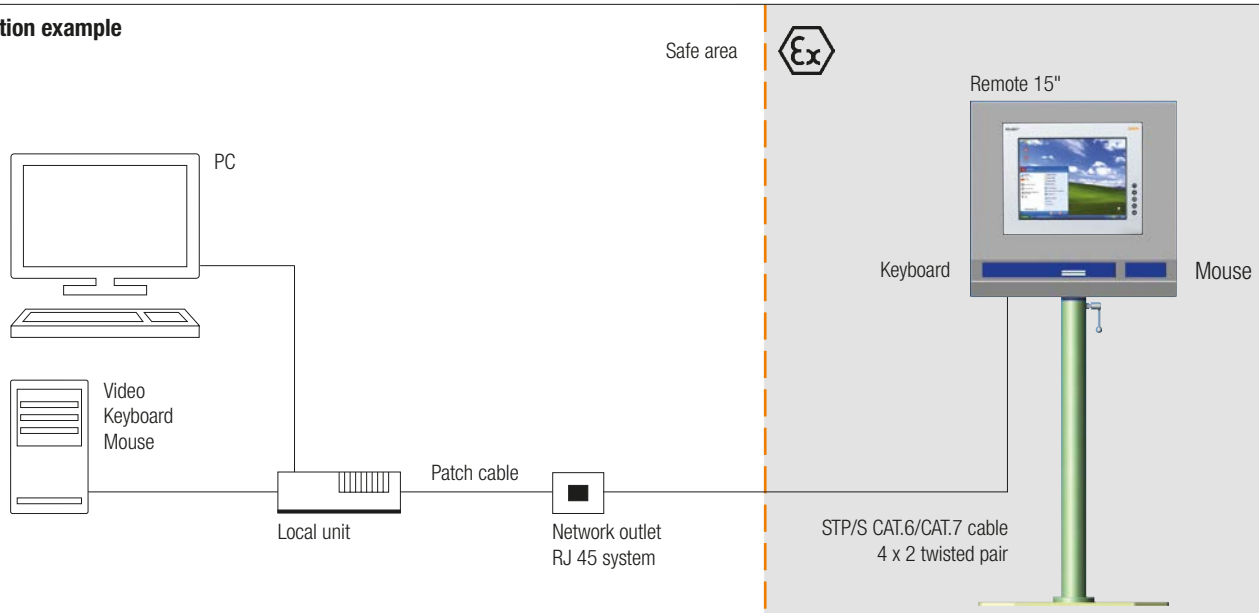
### Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

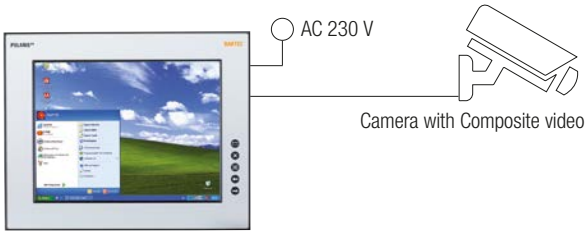
### Technical data

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 15" graphics-capable TFT colour display<br>262,144 colours<br>XGA resolution, 1024 x 768 pixels<br>Brightness 1000 cd/m$^2$<br>Visible area approx. 304 x 228 mm<br>Contrast 700:1<br>Antireflection-coated glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| KVM connection to the PC | via local unit |
| Cable length | POLARIS: terminals in the Ex e chamber<br>Local unit: RJ45 connector<br>Up to 300 m via STP copper cable VGA/PS2 (RS232 Touch)<br>Up to 100 m via STP copper cable DVI/USB<br><br>Optical fibre version<br>POLARIS: ST connector<br>Local unit: LC connector<br>Up to 500 m via multi-mode optical fibre (50 µm/125) DVI/USB<br>Up to 20 km via single-mode optical fibre (9/125 µm) DVI/USB |
| Composite video | Connection via Ex e terminals |
| Power supply | AC 90 to 253 V, 50 to 60 Hz or<br>DC 24 V ± 10 % on request or<br>DC 12 V (9 to 18 V) on request |
| Max. power consumption | $P_{max.}$ < 60 W |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 411 mm x 332 mm x approx. 135 mm |
| Wall cut-out | 394.5 mm x 315.5 mm + 0.5 mm |
| Weight | approx. 23 kg |
| Admissible ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Connection**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Variant | Code no. |
|---|---|---|---|---|---|
| Remote 15" Sunlight with touchscreen | **6** | up to 300 m via STP/S copper cable VGA/PS2 | **00** | AC 90 to 253 V | **0** |
| | | up to 100 m via STP copper cable DVI/USB | **17** | | |
| | | up to 500 m via multi-mode optical fibre cable DVI/USB | **21** | DC 24 V | **1** |
| | | up to 20 km via single-mode optical fibre cable | **on request** | | |

**Complete order no. 17-71V2-** ☐ **0** ☐ ☐ **/ 00** ☐ **0**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS Remote 19.1" unit by BARTEC is a display which a PC can be operated in safe areas of hazardous areas.Distances of up to 10000 m are possible. POLARIS Remote 19.1" offers the user the possibility of using any currently available PC-based process control system, without any restrictions in the Ex area. The front panel installation assures ease of mounting. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure as wall, floor or ceiling mounting versions. The screen of the Remote 19.1" is a TFT display with an SXGA resolution and is characterised by its excellent brilliance and a very large reading angle.Intrinsically safe input devices can also be connected. The optional touchcreen (intrinsically safe) offers the ultimate in operating comfort. Connection in the safe area is realised via a local unit (included in scope of delivery).

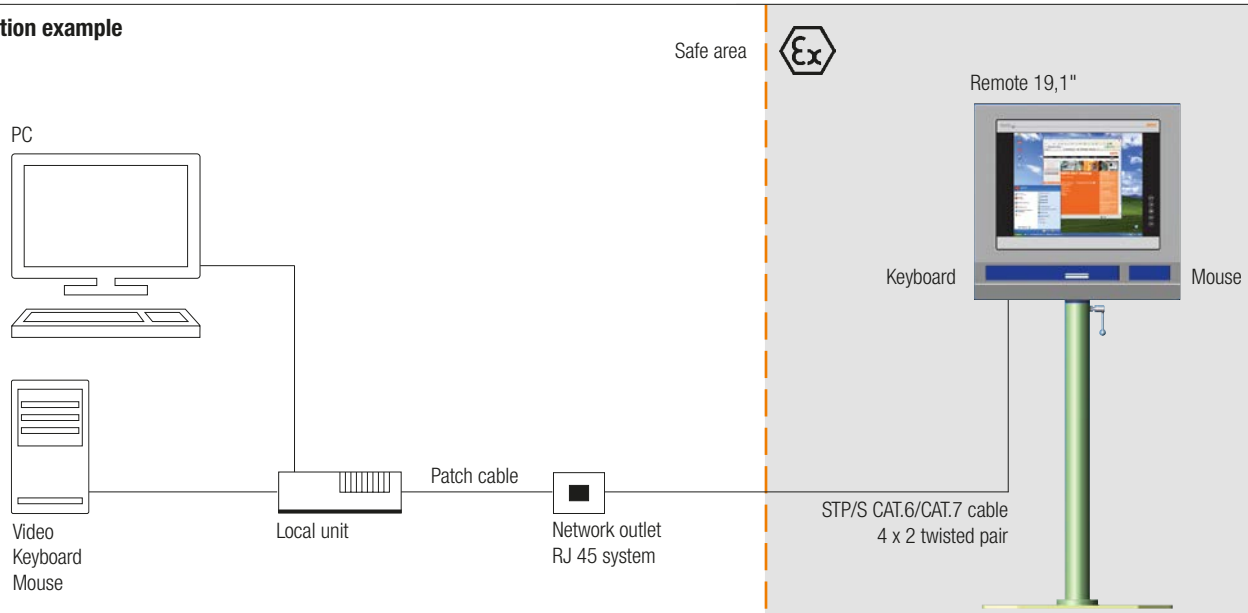
### Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 1 und 21 | Ⓔx II 2G Ex db eb qb [ib op pr] IIC T4<br>Ⓔx II 2D Ex tb IIIC T120 °C |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb qb [ib op pr] IIC T4<br>Ex tb IIIC T120 °C |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

### Technical data

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 19.1" graphics-capable TFT colour display<br>16.7 million colours<br>SXGA resolution 1280 x 1024 pixels<br>Brightness 300 cd/m$^2$<br>Visible area approx. 380 x 305 mm<br>Contrast 1300:1<br>Antireflection-coated glass pane<br>Optional touchscreen |
| Backlighting | LED technology<br>Service life approx. 40,000 hours (at +25 °C) |
| Requirement to the base station | Keyboard and mouse with a PS/2 connector; VGA connection or graphics card with the following technical data:<br>- VGA, SVGA, XGA, SXGA resolution<br>- Vertical sync frequency 60 to 75 Hz |
| Cable length | POLARIS: terminals in the Ex e chamber<br>Local unit: RJ45 connector<br>Up to 300 m via STP copper cable VGA/PS2 (RS232 Touch)<br>Up to 100 m via STP copper cable DVI/USB<br><br>Optical fibre version<br>POLARIS: ST connector<br>Local unit: LC connector<br>Up to 500 m via multi-mode optical fibre (50 µm/125) DVI/USB<br>Up to 20 km via single-mode optical fibre (9/125 µm) DVI/USB |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 60 W |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 498 mm x 400 mm x approx. 135 mm |
| Wall cut-out | 484 mm x 386.5 mm + 0.5 mm |
| Weight | approx. 33 kg |
| Admissible ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Variant | Code no. |
|---|---|---|---|---|---|
| Remote 19.1" without touchscreen | **5** | up to 300 m via STP/S copper cable VGA/PS2 | **00** | AC 90 to 253 V | **0** |
| | | up to 100 m via STP copper cable DVI/USB | **17** | | |
| | | up to 500 m via multi-mode optical fibre cable DVI/USB | **21** | | |
| Remote 19.1" with touchscreen | **7** | up to 20 km via single-mode optical fibre cable | **on request** | DC 24 V | **1** |
| | | Composite video Input* | **16** | | |

* not with touchscreen

**Complete order no. 17-71V2-** ☐ **0** ☐ ☐ **/ 00** ☐ **0**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS Remote 24" W unit by BARTEC is a display which a PC can be operated in safe areas of hazardous areas. Distances of up to 10000 m are possible. POLARIS Remote 24" W offers the user the possibility of using any currently available PC-based process control system, without any restrictions in the Ex area. The front panel installation assures ease of mounting. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure as wall, floor or ceiling mounting versions. The screen of the Remote 24" W is a TFT display with an Full HD resolution and is characterised by its excellent brilliance and a very large reading angle. Intrinsically safe input devices can also be connected. The optional touchcreen (intrinsically safe) offers the ultimate in operating comfort. Connection in the safe area is realised via a local unit (included in scope of delivery).

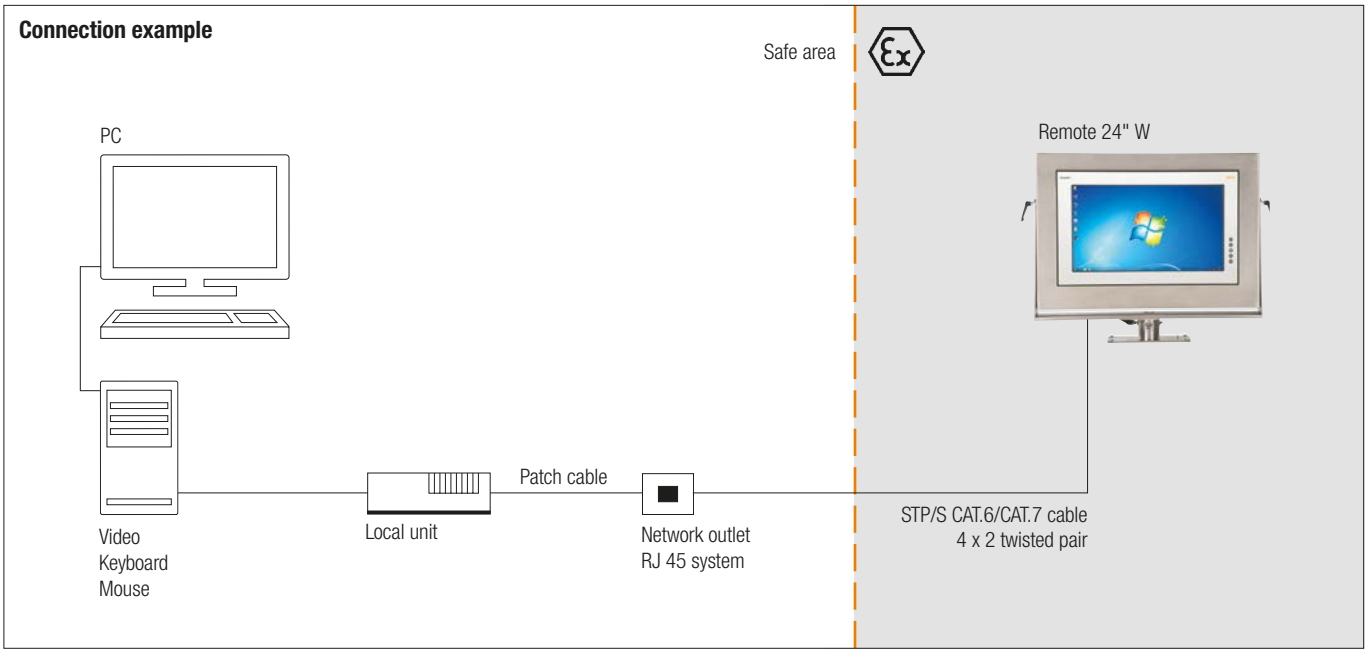
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 24" W graphics-capable TFT colour display<br>16.7 million colours<br>Full HD resolution 1920 x 1080 pixels<br>Brightness 300 cd/m$^2$<br>Visible area approx. 531 x 299 mm<br>Contrast 3000:1<br>Antireflection-coated glass pane<br>Optional touchscreen |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Cable length | up to 100 m via STP copper cable DVI/USB<br>up to 20 km via optical fibers Single Mode (9/125 µm) DVI/USB |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 60 W |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 644 mm x 406 mm x approx. 135 mm |
| Wall cut-out | 630 mm x 392 mm + 0.5 mm |
| Weight | approx. 40 kg |
| Admissible ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Interfaces | Code no. | Variant | Code no. |
|---|---|---|---|---|---|
| Remote 24" W without touchscreen | **C** | for STP/S copper cable (up to max. 100 m) | **17** | AC 90 to 253 V | **0** |
| | | for 50 µm multi-mode optical fibre cable (up to max. 500 m) | **on request** | | |
| Remote 24" W with touchscreen | **D** | up to 20 km via single-mode optical fibre cable | **on request** | DC 24 V | **1** |

**Complete order no. 17-71V2-** ☐ **0** ☐ ☐ **/ 00** ☐ **0**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS ZeroClient series is the modern safe remote HMI series for the Zone 1 hazardous area. The connection is based on the RDP7 protocol to control a remote computer. The ZeroClient shell, developed by BARTEC itself, comes in a user-friendly tile look and was designed in conformance to today's safety standards to prevent any risks emanating from the user or the network. The wired electrical connections are made via a terminal compartment in the "e" (increased safety) type of protection. State-of-the-art display technology provides optimum contrast even with a large viewing angle. The front-panel fitting assures easy installation. On request, the devices are also available as turn-key system solutions in stainless-steel enclosures as wall, floor or ceiling mounting versions. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort.

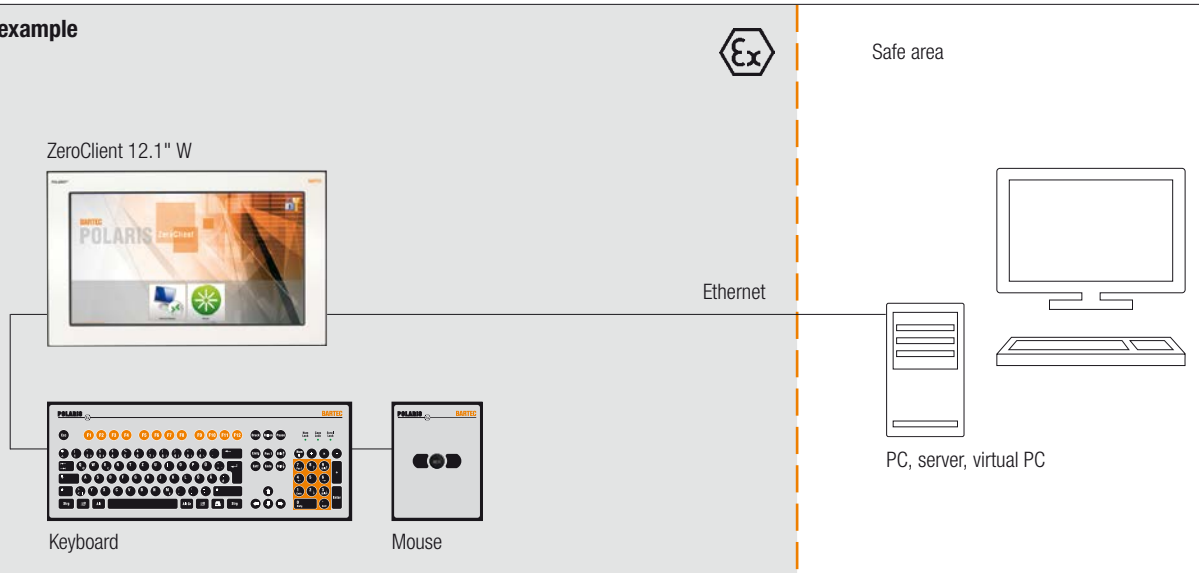
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 und 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 12.1" W graphics-capable TFT colour display<br>262,144 colours<br>WXGA resolution, 1280 x 800 pixels<br>Brightness 400 cd/m$^2$<br>Visible surface approx. 264 x 166 mm<br>Contrast 1200:1<br>Touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Interfaces | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e USB<br>1 x Ex i USB<br>2 x Ex i PS/2 for intrinsically safe keyboard and mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 400 mm x 246 mm x approx. 130 mm |
| Wall cut-out | 386 mm x 226 mm + 0.5 mm |
| Weight | approx. 14 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 35 W |
| Permissible ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 % to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**






**Ordering information**

| | |
|---|---|
| POLARIS REMOTE ZeroClient 12.1" W with touchscreen | **17-71V1-B436/Z000** |

Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS ZeroClient series is the modern safe remote HMI series for the Zone 1 hazardous area. The connection is based on the RDP7 protocol to control a remote computer. The ZeroClient shell, developed by BARTEC itself, comes in a user-friendly tile look and was designed in conformance to today's safety standards to prevent any risks emanating from the user or the network. The wired electrical connections are made via a terminal compartment in the "e" (increased safety) type of protection. State-of-the-art display technology provides optimum contrast even with a large viewing angle. The front-panel fitting assures easy installation. On request, the devices are also available as turn-key system solutions in stainless-steel enclosures as wall, floor or ceiling mounting versions. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort.

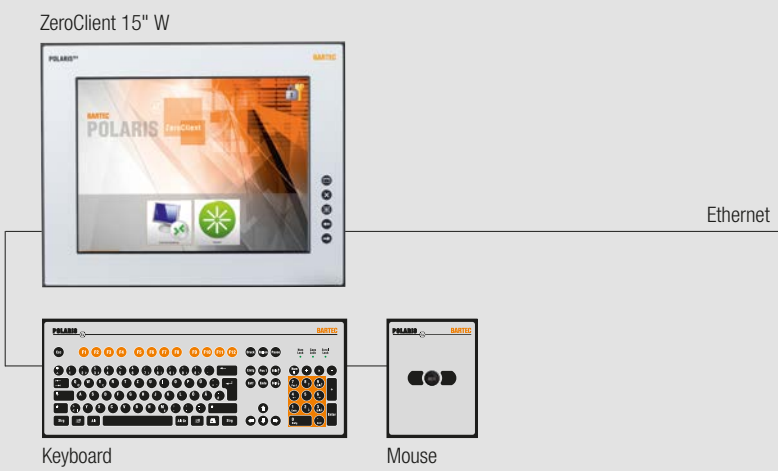
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 15" graphics-capable TFT colour display<br>16.7 million colours<br>XGA resolution 1024 x 768 pixels<br>Brightness 50 cd/m$^2$<br>Visible area approx. 304 x 228 mm<br>Contrast 700:1<br>Antireflection-coated glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Interfaces | 1 x Ex e Ethernet 100/10BaseT<br>(optical fibres optional)<br>1 x Ex e USB<br>1 x Ex i USB<br>2 x Ex i PS/2 for intrinsically safe keyboard and mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 411 mm x 332 mm x approx. 135 mm |
| Wall cut-out | 394.5 mm x 315.5 mm + 0.5 mm |
| Weight | approx. 23 kg |
| Power supply | DC 24 V ± 10 %<br>AC 100 to 230 V, 50 to 60 Hz |
| Input voltage range | DC 24 V ± 10 %<br>AC 90 V to 253 V |
| Max. power consumption | $P_{max.}$ < 70 W |
| Admissible ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Input voltage range | Code no. |
|---|---|---|---|
| ZeroClient 15" without touchscreen | **4** | AC 90 to 253 V | **0** |
| ZeroClient 15" with touchscreen | **6** | DC 24 V | **2** |

**Complete order no. 17-71V1-☐072/Z000/☐200**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS ZeroClient series is the modern safe remote HMI series for the Zone 1 hazardous area. The connection is based on the RDP7 protocol to control a remote computer. The ZeroClient shell, developed by BARTEC itself, comes in a user-friendly tile look and was designed in conformance to today's safety standards to prevent any risks emanating from the user or the network. The wired electrical connections are made via a terminal compartment in the "e" (increased safety) type of protection. State-of-the-art display technology provides optimum contrast even with a large viewing angle. The front-panel fitting assures easy installation. On request, the devices are also available as turn-key system solutions in stainless-steel enclosures as wall, floor or ceiling mounting versions. Intrinsically safe input devices can also be connected.

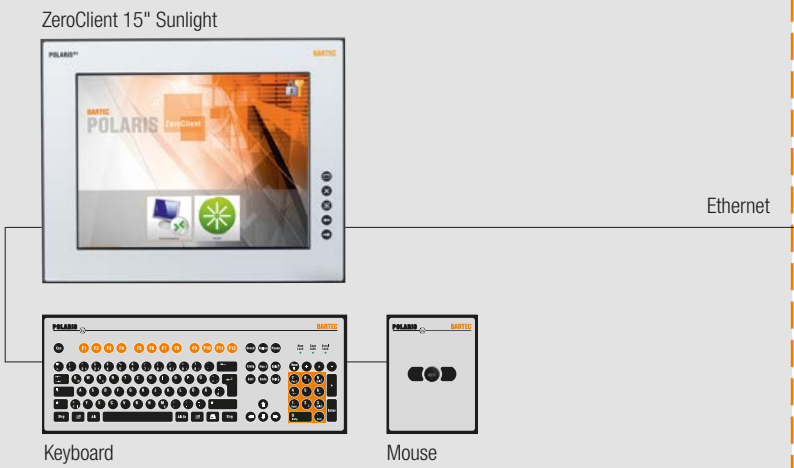
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 15" graphics-capable TFT colour display<br>262,144 colours<br>XGA resolution, 1024 x 768 pixels<br>Brightness 1000 cd/m$^2$<br>Visible area approx. 304 x 228 mm<br>Contrast 700:1<br>Antireflection-coated glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Interfaces | 1 x Ex e Ethernet 100/10BaseT<br>(optical fibres optional)<br>1 x Ex e USB<br>1 x Ex i USB<br>2 x Ex i PS/2 for intrinsically safe keyboard and mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 411 mm x 332 mm x approx. 135 mm |
| Wall cut-out | 394.5 mm x 315.5 mm + 0.5 mm |
| Weight | approx. 23 kg |
| Power supply | DC 24 V ± 10 %<br>AC 100 to 230 V, 50 to 60 Hz |
| Input voltage range | DC 24 V ± 10 %<br>AC 90 V to 253 V |
| Max. power consumption | $P_{max.}$ < 70 W |
| Admissible ambient temperatures | Storage -20 °C to +60 °C<br>Operation -20 °C to +60 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Input voltage range | Code no. |
|---|---|---|
| ZeroClient 15" Sunlight with touchscreen | AC 90 to 253 V | **0** |
| | DC 24 V | **2** |

**Complete order no. 17-71V1-6272/Z000/☐200**
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS ZeroClient series is the modern safe remote HMI series for the Zone 1 hazardous area. The connection is based on the RDP7 protocol to control a remote computer. The ZeroClient shell, developed by BARTEC itself, comes in a user-friendly tile look and was designed in conformance to today's safety standards to prevent any risks emanating from the user or the network. The wired electrical connections are made via a terminal compartment in the "e" (increased safety) type of protection. State-of-the-art display technology provides optimum contrast even with a large viewing angle. The front-panel fitting assures easy installation. On request, the devices are also available as turn-key system solutions in stainless-steel enclosures as wall, floor or ceiling mounting versions. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort.

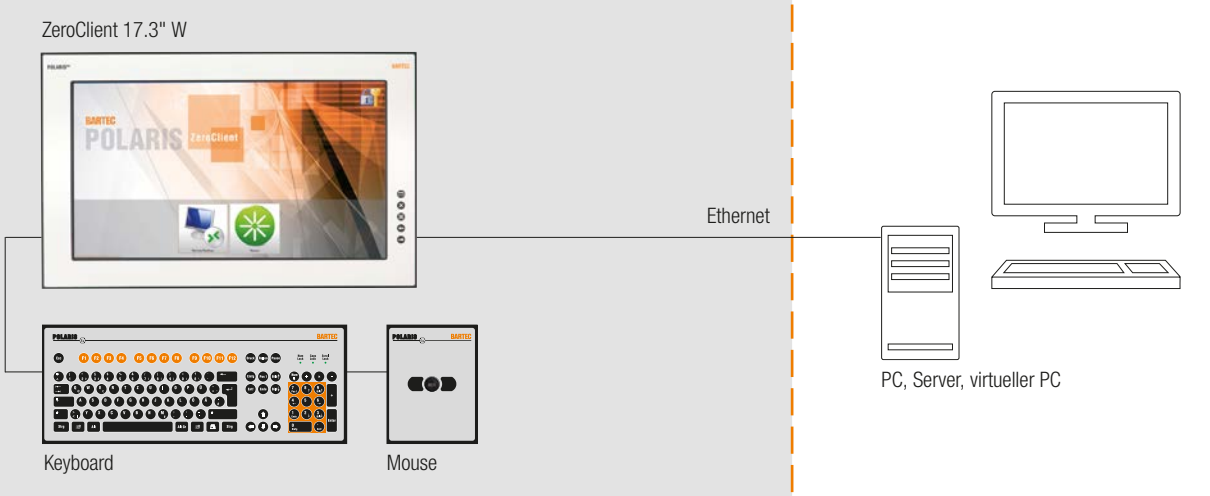
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 und 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 17.3" W graphics-capable TFT colour display<br>16.7 million colours<br>Full HD resolution, 1920 x 1080 pixels<br>Brightness 400 cd/m$^2$<br>Visible area approx. 382 x 215 mm<br>Contrast 600:1<br>Antireflection-coated glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Interfaces | 1 x Ex e Ethernet 100/10BaseT<br>(optical fibres optional)<br>1 x Ex e USB<br>1 x Ex i USB<br>2 x Ex i PS/2 for intrinsically safe keyboard and mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 503 mm x 314 mm x approx. 135 mm |
| Wandausschnitt | 489 mm x 300 mm + 0.5 mm |
| Weight | approx. 33 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 70 W depending on the variant |
| Admissible ambient temperature | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Input voltage range | Code no. |
|---|---|---|---|
| ZeroClient 17.3" W without touchscreen | **E** | AC 90 to 253 V | **0** |
| ZeroClient 17.3" W with touchscreen | **F** | DC 24 V | **2** |

**Complete order no. 17-71V1-☐072/Z000/☐200**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS ZeroClient series is the modern safe remote HMI series for the Zone 1 hazardous area. The connection is based on the RDP7 protocol to control a remote computer. The ZeroClient shell, developed by BARTEC itself, comes in a user-friendly tile look and was designed in conformance to today's safety standards to prevent any risks emanating from the user or the network. The wired electrical connections are made via a terminal compartment in the "e" (increased safety) type of protection. State-of-the-art display technology provides optimum contrast even with a large viewing angle. The front-panel fitting assures easy installation. On request, the devices are also available as turn-key system solutions in stainless-steel enclosures as wall, floor or ceiling mounting versions. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort.

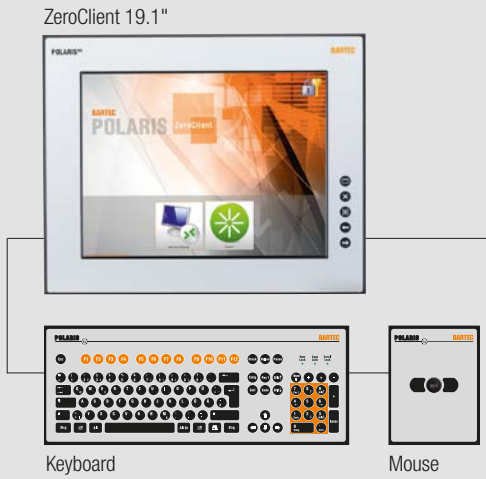
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 19.1" graphics-capable TFT colour display<br>16.7 million colours<br>SXGA resolution, 1280 x 1024 pixels<br>Brightness 300 cd/m$^2$<br>Visible area approx. 380 x 305 mm<br>Contrast 1300:1<br>Antireflection-coated glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Interfaces | 1 x Ex e Ethernet 100/10BaseT<br>(optical fibres optional)<br>1 x Ex e USB<br>1 x Ex i USB<br>2 x Ex i PS/2 for intrinsically safe keyboard and mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 498 mm x 400 mm x approx. 135 mm |
| Wall cut-out | 484 mm x 386.5 mm + 0.5 mm |
| Weight | approx. 33 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.} < 70$ W |
| Admissible ambient temperature | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Input voltage range | Code no. |
|---|---|---|---|
| ZeroClient 19.1" without touchscreen | **5** | AC 90 to 253 V | **0** |
| ZeroClient 19.1" with touchscreen | **7** | DC 24 V | **2** |

**Complete order no. 17-71V1-☐072/Z000/☐200**
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS ZeroClient series is the modern safe remote HMI series for the Zone 1 hazardous area. The connection is based on the RDP7 protocol to control a remote computer. The ZeroClient shell, developed by BARTEC itself, comes in a user-friendly tile look and was designed in conformance to today's safety standards to prevent any risks emanating from the user or the network. The wired electrical connections are made via a terminal compartment in the "e" (increased safety) type of protection. State-of-the-art display technology provides optimum contrast even with a large viewing angle. The front-panel fitting assures easy installation. On request, the devices are also available as turn-key system solutions in stainless-steel enclosures as wall, floor or ceiling mounting versions. Intrinsically safe input devices can also be connected. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort.

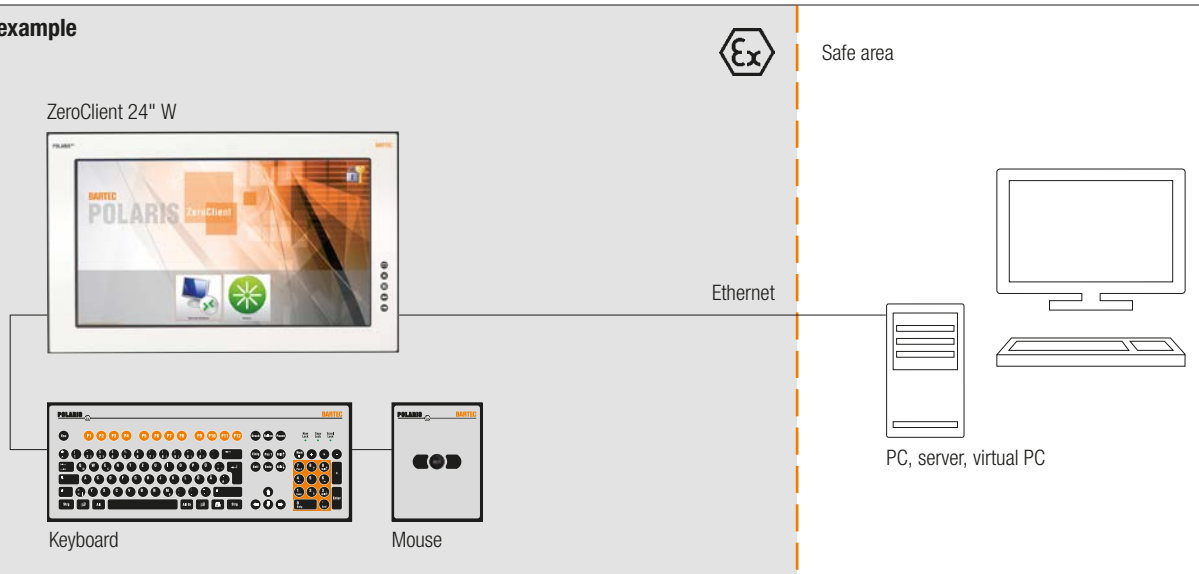
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 24" W graphics-capable TFT colour display<br>16.7 million colours<br>Full HD resolution, 1920 x 1080 pixels<br>Brightness 300 cd/m$^2$<br>Visible area approx. 531 x 299 mm<br>Contrast 3000:1<br>Antireflection-coated glass pane<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Interfaces | 1 x Ex e Ethernet 100/10BaseT<br>(optical fibres optional)<br>1 x Ex e USB<br>1 x Ex i USB<br>2 x Ex i PS/2 for intrinsically safe keyboard and mouse |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 644 mm x 406 mm x approx. 135 mm |
| Wall cut-out | 630 mm x 392 mm + 0.5 mm |
| Weight | approx. 40 kg |
| Power supply | AC 90 to 253 V, 50 to 60 Hz<br>DC 24 V ± 10 % on request |
| Max. power consumption | $P_{max.}$ < 100 W depending on the variant |
| Admissible ambient temperature | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Code no. | Input voltage range | Code no. |
|---|---|---|---|
| ZeroClient 24" W without touchscreen | **C** | AC 90 to 253 V | **0** |
| ZeroClient 24" W with touchscreen | **D** | DC 24 V | **2** |

**Complete order no. 17-71V1-** ☐ **072/Z000/** ☐ **200**

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS II Remote 19.1" from BARTEC is a display which enables a PC to be operated in safe areas of hazardous areas. Distances of up to 300 m are possible. POLARIS II Remote 19.1" allows the user the possibility of utilising any currently available PC-based process control systems without restrictions in the Ex areas. The devices are also available for wall, floor or table mounting for optimum use. The screen on the POLARIS II Remote 19.1" is a TFT display with SXGA resolution and is characterised by its outstanding brilliance and a very large reading angle. A keyboard with integrated trackball or touchpad is available. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort. Linking in the safe area is established through a local unit (included in the scope of delivery).

**Explosion protection**

| | |
|---|---|
| Marking ATEX Zone 2 | Ⓔx II 3G Ex nA ic IIC T5 Gc<br>-25 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IBExU 09 ATEX 1113 X |
| Marking ATEX Zone 21/22 | Ⓔx II 2D Ex ib tb IIIC T100 °C Db |
| Certification | IBExU 09 ATEX 1113 X |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Construction | Stainless-steel enclosure |
| Protection class | IP 65 |
| Display | 19.1" graphics-capable TFT colour display<br>16.7 million colours<br>SXGA resolution, 1280 x of 1024 pixels<br>Brightness 300 cd/m² <br>Visible surface approx. 376 x 301 mm<br>Contrast 1300:1<br>Option of touchscreen (resistive) |
| Backlighting | CFL technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Conductor length | up to 300 m through STP cable VGA/USB<br>up to 130 m through STP cable DVI/USB<br>up to 500 m through<br>multi-mode optical fibre cable DVI/USB<br>up to 20 km through<br>single-mode optical fibre cable DVI/USB |
| Dimensions (W x H x D) | 610 mm x 450 mm x approx. 100 mm |
| Weight | approx. 17 kg |
| Rated voltage | AC 110 to 230 V, 47 to 63 Hz<br>DC 24 V |
| Input voltage range | AC 90 to 253 V<br>DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 75 W |
| Permissible ambient temperatures | Storage -25 °C to +60 °C<br>Operation 0 °C to +50 °C |
| Relative air humidity | 5 to 95 % non-condensing |
| Material | Stainless steel |
| Optional accessories | Keyboard with integrated trackball 38 mm<br>Keyboard with integrated trackball 50 mm<br>Keyboard with integrated touchpad |

**Connection example**

**Ordering information**

| Version | Code no. | Input voltage | Code no. | Conductor length | Code no. | Keyboard language | Code no. | Insert unit | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| POLARIS II Remote 19.1" without touchscreen | **6** | AC 90 to 253 V | **1** | up to 300 m through STP cable VGA/USB | **0** | German | **1** | Trackball 50 mm | **1** |
| | | | | up to 130 m through STP cable DVI/USB | **4** | English | **2** | Trackball 38 mm | **2** |
| POLARIS II Remote 19.1" with touchscreen | **5** | DC 24 V | **2** | up to 500 m through multi-mode fibre-optic cable DVI/USB | **5** | French | **3** | Touchpad | **4** |
| | | | | up to 20 km through single-mode optical fibre cable DVI/USB | **6** | | | | |

**Complete order no. 17-72V5-** ☐☐**0**☐**/**☐☐**00**

Please insert correct code. Technical data subject to change without notice. Other versions on request.

The POLARIS II Remote 22" W from BARTEC is a display which enables a PC to be operated in safe areas of hazardous areas. Distances of up to 200 m are possible. POLARIS II Remote 22" W allows the user the possibility of utilising any currently available PC-based process control systems without restrictions in the Ex areas. The devices are also available for wall, floor or table mounting for optimum use. The POLARIS II Remote 22" W screen is a TFT display with WSXGA+ resolution and is distinguished by its outstanding brilliance and a very large reading angle. A keyboard with integrated trackball or touchpad is available. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort. Linking in the safe area is established through a local unit (included in the scope of delivery).

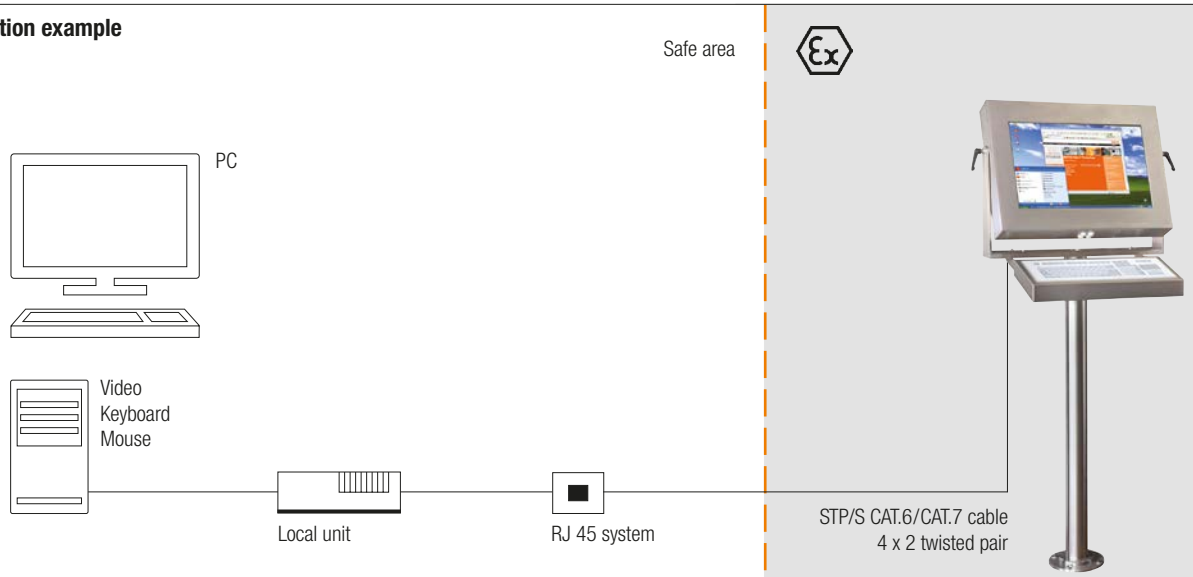
**Explosion protection**

| | |
|---|---|
| Marking ATEX Zone 2 | Ⓔx II 3G Ex nA ic IIC T5 Gc<br>-25 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IBExU 09 ATEX 1113 X |
| Marking ATEX Zone 21/22 | Ⓔx II 2D Ex ib tb IIIC T100 °C Db |
| Certification | IBExU 09 ATEX 1113 X |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Construction | Stainless-steel enclosure |
| Protection class | IP 65 |
| Display | 22" W graphics-capable TFT colour display<br>16.7 million colours<br>WSXGA+ resolution, 1680 x 1050 pixels<br>Brightness 300 cd/m$^2$<br>Visible surface approx. 474 x 296 mm<br>Contrast 600:1<br>Optional touchscreen (resistive) |
| Backlighting | CFL technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Conductor length | up to 200 m through STP cable VGA/PS2<br>up to 130 m through STP cable DVI/USB<br>up to 500 m through multi-mode optical fibre cable DVI/USB<br>up to 20 km through single-mode optical fibre cable DVI/USB |
| Dimensions (W x H x D) | 610 mm x 450 mm x approx. 100 mm |
| Weight | approx. 17 kg |
| Rated voltage | AC 110 to 230 V, 47 to 63 Hz<br>DC 24 V |
| Input voltage range | AC 90 to 253 V<br>DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 75 W |
| Permissible ambient temperatures | Storage -25 °C to +60 °C<br>Operation 0 °C to +50 °C |
| Relative air humidity | 5 to 95 % non-condensing |
| Material | Stainless steel |
| Optional accessories | Keyboard with integrated trackball 38 mm<br>Keyboard with integrated trackball 50 mm<br>Keyboard with integrated touchpad |

**Connection example**




**Ordering information**

| Version | Code no. | Input voltage | Code no. | Conductor length | Code no. | Keyboard language | Code no. | Insert unit | Code no. |
|---|---|---|---|---|---|---|---|---|---|
| POLARIS II Remote 22" W without touchscreen | **4** | AC 90 to 253 V | **1** | up to 300 m through STP cable VGA/USB | **0** | German | **1** | Trackball 50 mm | **1** |
| | | | | up to 130 m through STP cable DVI/USB | **4** | English | **2** | Trackball 38 mm | **2** |
| POLARIS II Remote 22" W with touchscreen | **3** | DC 24 V | **2** | up to 500 m through multi-mode fibre-optic cable DVI/USB | **5** | French | **3** | Touchpad | **4** |
| | | | | up to 20 km through single-mode optical fibre cable DVI/USB | **6** | | | | |

**Complete order no. 17-72V5-** ☐☐**0**☐**/**☐☐☐**00**

Please insert correct code. Technical data subject to change without notice. Other versions on request.

The POLARIS II Remote 24" W from BARTEC is a display which enables a PC to be operated in safe areas of hazardous areas. Distances of up to 20 km are possible. POLARIS II Remote 24" W allows the user the possibility of utilising any currently available PC-based process control systems without restrictions in the Ex areas. The devices are also available for wall, floor or table mounting for optimum use. The POLARIS II Remote 24" W screen is a TFT display with Full HD resolution and is distinguished by its outstanding brilliance and a very large reading angle. A keyboard with integrated trackball or touchpad is available. The optional (intrinsically safe) touchscreen offers the ultimate in operating comfort. Linking in the safe area is established through a local unit (included in the scope of delivery).

**Explosion protection**

| | |
|---|---|
| Marking ATEX Zone 2 | Ⓔx II 3G Ex nA ic IIC T5 Gc<br>-25 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IBExU 09 ATEX 1113 X |
| Marking ATEX Zone 21/22 | Ⓔx II 2D Ex ib tb IIIC T100 °C Db |
| Certification | IBExU 09 ATEX 1113 X |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Construction | Stainless-steel enclosure |
| Protection class | IP 65 |
| Display | 24" W graphics-capable TFT colour display<br>16.7 million colours<br>Full HD resolution, 1920 x 1080 pixels<br>Brightness 300 cd/m² <br>Visible surface approx. 474 x 296 mm<br>Contrast 5000:1<br>Optional touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Conductor length | up to 130 m through STP cable DVI/USB<br>up to 500 m through<br>multi-mode optical fibre cable DVI/USB<br>up to 20 km through<br>single-mode optical fibre cable DVI/USB |
| Dimensions (W x H x D) | 670 mm x 450 mm x approx. 100 mm |
| Weight | approx. 19 kg |
| Rated voltage | AC 110 to 230 V, 47 to 63 Hz<br>DC 24 V |
| Input voltage range | AC 90 to 253 V<br>DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 75 W |
| Permissible ambient temperatures | Storage -25 °C to +60 °C<br>Operation 0 °C to +50 °C |
| Relative air humidity | 5 to 95 % non-condensing |
| Material | Stainless steel |
| Optional accessories | Keyboard with integrated trackball 38 mm<br>Keyboard with integrated trackball 50 mm<br>Keyboard with integrated touchpad |

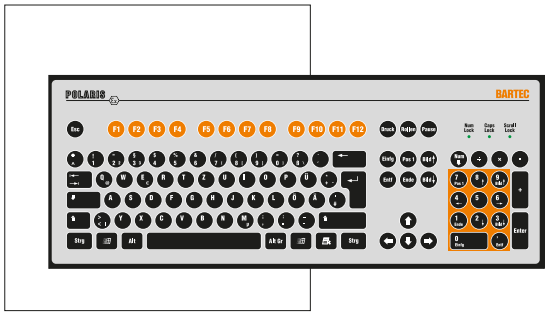
**Connection example**

**Ordering information**

| Input voltage | Code no. | Conductor length | Code no. | Keyboard language | Code no. | Insert unit | Code no. |
|---|---|---|---|---|---|---|---|
| AC 90 to 253 V | **1** | up to 130 m through STP cable DVI/USB | **4** | German | **1** | Trackball 50 mm | **1** |
| | | up to 500 m through optical fibres Multi Mode DVI/USB | **5** | English | **2** | Trackball 38 mm | **2** |
| DC 24 V | **2** | up to 20 km through optical fibres Single Mode DVI/USB | **6** | French | **3** | Touchpad | **4** |

**Complete order no. 17-72V5-8 ☐ 0 ☐ / ☐ ☐ 00**

Please insert correct code. Technical data subject to change without notice. Other versions on request.



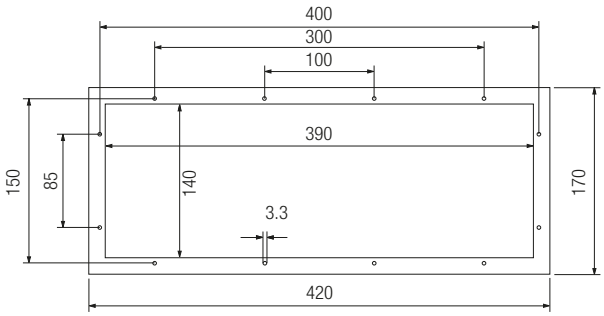
The intrinsically safe keyboard and the mouse variants are intended for POLARIS Professional and POLARIS Remote for zone 1 and 2 and for zone 21 and 22. They are connected directly to the POLARIS Panel PC or POLARIS Remote. The chemically resistant polyester foil is easy to clean and resistant to many aggressive fluids. The keyboard is available in various languages.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex ib IIC T4 Gb<br>Ⓔx II 2D Ex ib IIIC T120°C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex ib IIC T4 Gb<br>Ex ib IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |

Other approvals and certificates, see www.bartec.de

**Dimensions and wall cut-out for keyboard** (in mm)




all hole diameters: 3.3 mm

### Technical data

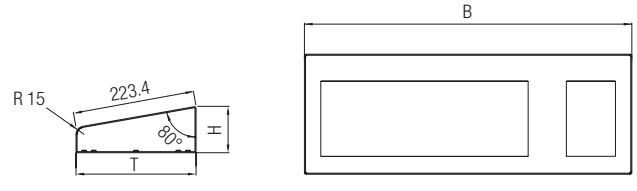
| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 420 mm x 170 mm |
| Wall cut-out | 390 mm x 140 mm |
| Installation depth | 18 mm |
| Weight | approx. 700 g |

### Ordering information

| Language | Order no. |
|---|---|
| German | **17-71VZ-4010** |
| English | **17-71VZ-4020** |
| French | **17-71VZ-4030** |

Other languages on request.
Technical data subject to change without notice.

**Dimensions** (in mm)



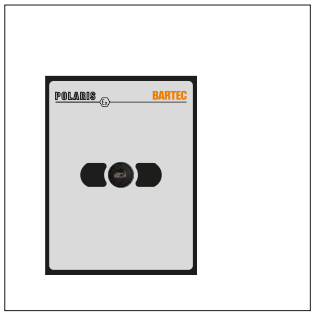

### Technical data

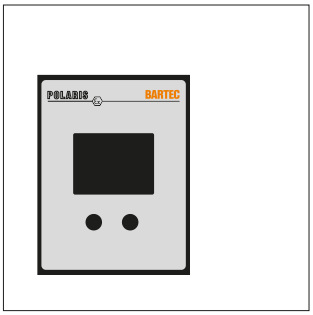
| | |
|---|---|
| Material | Stainless steel 1.4301; AISI 304 |
| Dimensions (W x H x D) | 600 mm x 85 mm x 220 mm |
| Protection class | IP 65 |

### Ordering information

| | |
|---|---|
| Enclosure | **05-0041-0277** |

Complete solution with installed equipment on request.
Technical data subject to change without notice.





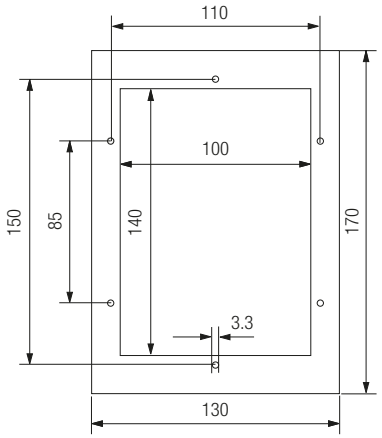
| **POLARIS Mouse, Trackball, Joystick and Touchpad** | |
|---|---|
| **Explosion protection** | |
| Marking ATEX | Ex II 2G Ex ib IIC T4 Gb<br>Ex II 2D Ex ib IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex ib IIC T4 Gb<br>Ex ib IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |

| **POLARIS Mouse** | |
|---|---|
| **Technical data** | |
| Construction | Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 170 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 15 mm |
| Weight | approx. 270 g |

| **POLARIS Trackball/Joystick** | |
|---|---|
| **Technical data** | |
| Construction | Front-panel fitting |
| Protection class | Trackball (front side)<br>static IP 65<br>dynamic IP 56<br>Joystick IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 140 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 43 mm |
| Weight | approx. 500 g |

| **POLARIS Touchpad** | |
|---|---|
| **Technical data** | |
| Construction | Capacitive touchpad for Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 170 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 15 mm |
| Weight | approx. 250 g |

**Dimensions and wall cut-out** (mm)



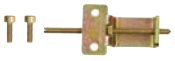

all hole diameters: 3.3 mm

**Ordering information**

| Description | Order no. |
|---|---|
| Mouse | **17-71VZ-1000** |
| Trackball | **17-71VZ-2000** |
| Touchpad | **17-71VZ-3000** |
| Joystick with button | **17-71VZ-9000** |

Technical data subject to change without notice.

## Ordering information

| Illustration | Description | | Order no. |
|---|---|---|---|
| | **Connection cable for keyboard and mouse variants** | | |
| | Keyboard and mouse | 1.8 m | **05-0068-0163** |
| | Keyboard and mous | 3.0 m | **05-0068-0204** |
| | Keyboard and trackball/joystick | 1.8 m | **05-0068-0172** |
| | Keyboard and trackball/joystick | 3.0 m | **05-0068-0205** |
| | Keyboard and touchpad | 1.8 m | **05-0068-0183** |
| | Keyboard and touchpad | 3.0 m | **05-0068-0206** |
| | **Reinforcement frame** | | |
| | POLARIS series 15" | | **05-0205-0009** |
| | POLARIS series 19,1" | | **05-0205-0010** |
| | POLARIS series 24" | | **05-0205-0012** |
|  | **Mounting clamp set** | | |
| | 4 pieces | | **05-0091-0111** |
| | 6 pieces | | **05-0091-0112** |
| | **LAN STP cable** | | |
| | CAT.7 4 x 2 x 23 AWG, outer diameter: 7.9 mm | | **02-4082-0002** |
| | CAT.7 4 x 2 x 22 AWG, outer diameter: 18 mm; armoured | | **02-4082-0004** |
| | Note: additional cable glands are necessary for armouring. | | |
| | **Power pack for local unit** | | |
| | for CAT cable with keyboard usage | | **03-9911-0018** |
| | for CAT cable without keyboard usage | | **03-9911-0020** |
| | for optical fibre cable | | **on request** |
| | **19" rack mounting set for local unit** | | |
| | for CAT cable | | **03-8931-0037** |
| | for optical fibre cable | | **03-8931-0038** |

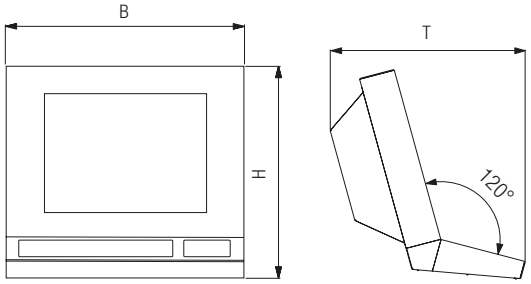
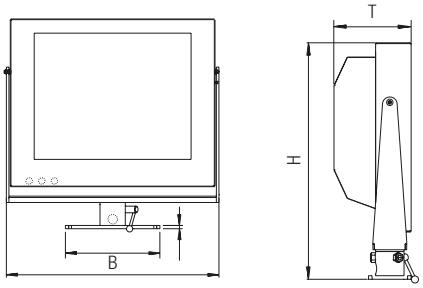
### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **USB to PS/2 adapter** for mouse and keyboard, for non-hazardous areas | **03-9829-0007** |
| | **Local unit/STP cable** (UAA/PS2) | |
| | "Black Box" make with RS232 interface | **03-9840-0091** |
| | "IHSE" make with RS232 interface | **03-9840-0079** |
| | | |
| | **KVM cable** | |
| | VGA, PS/2 keyboard, PS/2 mouse, lengths 3 m | **05-0068-0218** |
| | VGA, AT keyboard, serial mouse, lengths 3 m | **05-0068-0220** |
| | **Original packaging** | |
| | POLARIS series 15" | **04-9035-0007** |
| | POLARIS series 19.1" | **04-9035-0008** |

### Ordering information

| Illustration | Description | Dimensions in mm | Order no. |
|---|---|---|---|
| | **Standard Stainless-steel enclosure** | | |
| | Technical data | | |
| | Material Stainless-steel 1.4404; AISI 316 L | | |
| | Surface brushed | | |
| | Protection class IP 65 | | |
| | • with adapter connection without stand | (B x H x T) | |
| | POLARIS series 15" | 650 x 500 x 150 | **05-0041-0395** |
| | POLARIS series 19.1" | 760 x 600 x 150 | **05-0041-0994** |
| | POLARIS series 24" W | 885 x 625 x 150 | **05-0041-0993** |

### Ordering information

| Illustration | Description | Dimensions in mm | Order no. |
|---|---|---|---|
| | **Exclusive II Stainless-steel enclosure**<br>Technical data<br>Material Stainless-steel grade 1.4301 | | |
| | • with adapter connection | (B x H x T) | |
| | POLARIS series 15" | 650 x 578 x 543 | **05-0041-0354** |
| | POLARIS series 19.1" | 650 x 598 x 543 | **05-0041-0353** |
| | POLARIS series 24" W | 885 x 625 x 543 | **05-0041-0406** |
| |  | | |
| | • Stainless-steel enclosure - swivel/tilt without desktop mount | (B x H x T) | |
| | POLARIS series 15" | 770 x 685 x 218 | **05-0041-0356** |
| | POLARIS series 19.1" | 770 x 685 x 218 | **05-0041-0355** |
| |  | | |

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | Stand for floor mounting for Exclusive II Stainless-steel enclosure<br>• Material: stainless-steel grade 1.4301<br>• Swivel<br>• Height approx. 900 mm, diameter 80 mm | **05-0005-0050** |
| | Stand for floor mounting for Standard Stainless-steel enclosure from 15" series and POLARIS II<br>• Material: stainless-steel grade 1.4301<br>• Swivel<br>• Height approx. 1000 mm, diameter 80 mm | **05-0005-0078** |
| | Desktop mount for Stainless-steel enclosure for POLARIS 15" series/19.1" series<br>• Material: stainless-steel grade 1.4301<br>• Swivel<br>• Height approx. 140 mm, diameter 80 mm | **05-0005-0070** |
| | Support arm for wall mounting<br>• Material: stainless-steel grade 1.4301<br>• Swivel<br>• Length approx. 580 mm | **05-0005-0058** |
| | Stainless-steel enclosure with additional fitted components<br>Material: stainless-steel<br>• Suitable for all POLARIS devices<br>• Optional for fitting switch modules and/or heating<br>• For wall mounting with mounting straps or support arm or for floor mounting with stand | **on request** |

The POLARIS Touch Panel 5.7" is an innovative further development of the POLARIS Panel PCs 5.7". High-resolution displays with LED technology and touchscreen for intuitive as well as comfortable operation are available now in the standard variant. State-of-the-art LED display technology ensures the optimum contrast even with a large viewing angle. The proven LX800 offers sufficient computer capacity for presenting HTML pages or functioning as a remote client. Of course, here too the user can work with the latest "BMS-Graf-pro" Runtime 7 under Windows® XP Embedded, for example for the transmission of projects over the Ethernet, the use of graphics lists or an integrated user administration. Allows a high-performance visual display and operation of the processes directly on site. The front-panel fitting makes mounting easy. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure for wall or floor mounting. An intrinsically safe USB interface is available for a USB Ex i memory stick. Intrinsically safe input devices can also be connected.

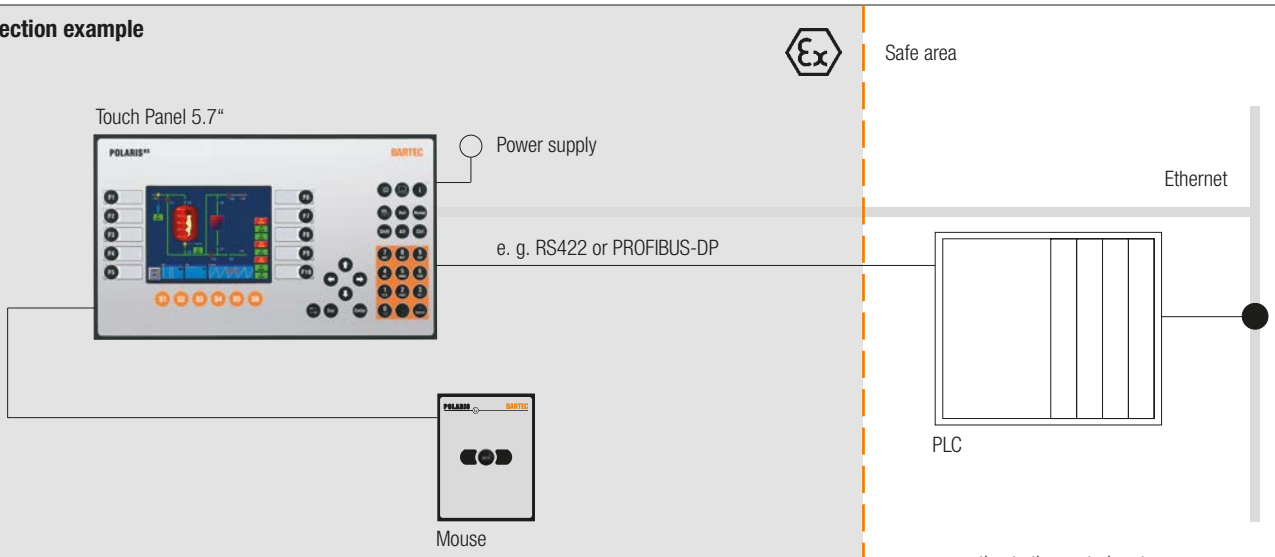
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 5.7" TFT graphic display<br>262,144 colours<br>Resolution VGA 640 x 480 pixels<br>Brightness 700 cd/m$^2$<br>Visible surface approx. 115 x 86 mm<br>Contrast 800:1<br>Touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | LX800 processor, 500 MHz<br>Compact Flash 4 GB |
| Operating system | Windows® XP Embedded (pre-installed) |
| Interfaces<br>(basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>1 x Ex i PS/2 for intrinsically safe mouse |
| Keyboard<br>(short-stroke keys) | alphanumeric key block<br>4 cursor keys<br>6 special keys<br>10 function keys able to be labelled with LEDs |
| Dimensions (W x H x D) | 335 mm x 199 mm x approx. 130 mm |
| Wall cut-out | 321 mm x 179 mm + 0.5 mm |
| Weight | approx. 10 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 30 W |
| Permissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>Variant:<br>Operation -20 °C to +50 °C<br>on request (without external heating) |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Interfaces | Code no. |
|---|---|---|
| Touch Panel 5.7" | USB Ex e/RS422 (recommended version) | **37** |
| | RS485 | **38** |
| | BARTEC PROFIBUS-DP | **02** |
| | RS232 | **09** |
| | TTY | **11** |
| | BARTEC PROFIBUS-DP, Ex d-USB | **33** |
| | Further Interface combinations on request | **XX** |

**Complete order no. 17-71V1-A0 ☐☐ /X000**
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS Touch Panel 10.4" is an innovative further development of the POLARIS Panel PCs 10.4". High-resolution displays with LED technology and touchscreen for intuitive as well as comfortable operation are available now in the standard variant. State-of-the-art LED display technology ensures the optimum contrast even with a large viewing angle. The proven LX800 offers sufficient computer capacity for presenting HTML pages or functioning as a remote client. Of course, here too the user can work with the latest "BMS-Graf-pro" Runtime 7 under Windows® XP Embedded, for example for the transmission of projects over the Ethernet, the use of graphics lists or an integrated user administration. Allows a high-performance visual display and operation of the processes directly on site. The front-panel fitting makes mounting easy. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure for wall or floor mounting. An intrinsically safe USB interface is available for a USB Ex i memory stick. Intrinsically safe input devices can also be connected.

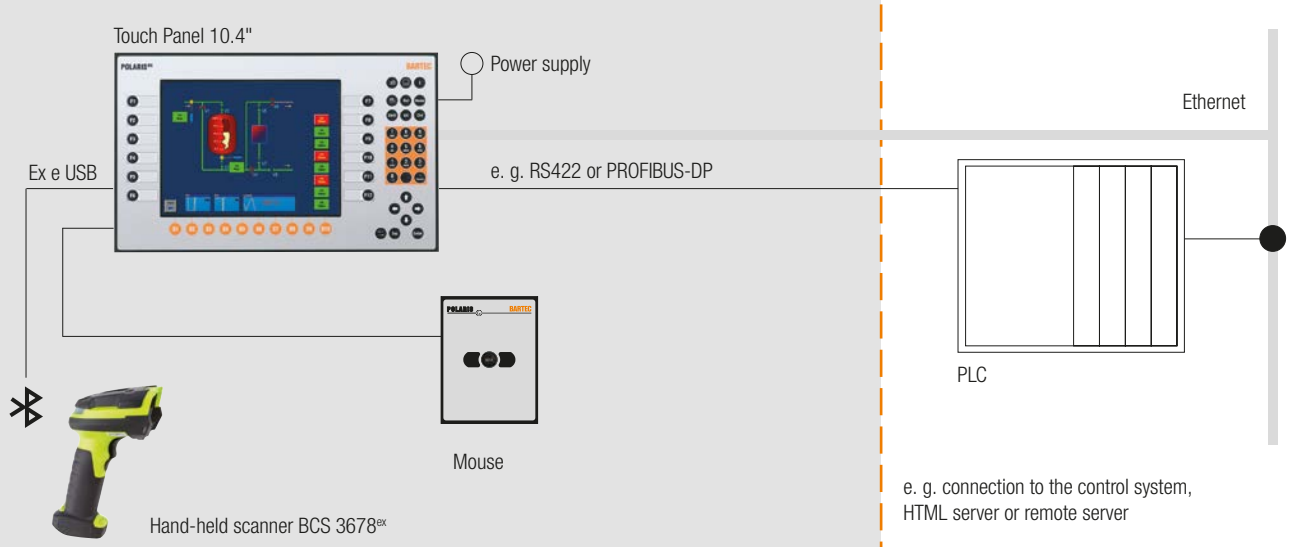
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 10.4" TFT graphic display<br>262,144 colours<br>Resolution SVGA 800 x 600 pixels<br>Brightness 400 cd/m$^2$<br>Visible surface approx. 211 x 158 mm<br>Contrast 700:1<br>Touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | LX800 processor, 500 MHz<br>Compact Flash 4 GB |
| Operating system | Windows® XP Embedded (pre-installed) |
| Interfaces<br>(basic version) | 1 x Ex e Ethernet 100/10BaseT<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>1 x Ex i PS/2 for intrinsically safe mouse |
| Keyboard<br>(short-stroke keys) | Alphanumeric key block<br>4 cursor keys<br>10 special keys<br>12 function keys able to be labelled with LEDs |
| Optional accessories | Hand-held scanner on request |
| Abmessungen (W x H x D) | 400 mm x 246 mm x approx. 130 mm |
| Wall cut-out | 386 mm x 226 mm + 0.5 mm |
| Weight | approx. 14 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 30 W |
| Permissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>Variant<br>Operation -20 °C to +50 °C<br>on request (without external heating) |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV-resistant)<br>Back: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Interfaces | Code no. |
|---|---|---|
| Touch Panel 10.4" | USB Ex e/RS422 (recommended version) | **37** |
| | RS485 | **38** |
| | BARTEC PROFIBUS-DP | **02** |
| | RS232 | **09** |
| | TTY | **11** |
| | BARTEC PROFIBUS-DP, Ex d-USB | **33** |
| | Further Interface combinations on request | **XX** |

**Complete order no. 17-71V1-90 ☐☐ /X000**
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS Touch Panel 12.1" is an innovative further development of the POLARIS Panel PCs 12.1". High-resolution displays with LED technology and touchscreen for intuitive as well as comfortable operation are available now in the standard variant. State-of-the-art LED display technology ensures the optimum contrast even with a large viewing angle. The proven LX800 offers sufficient computer capacity for presenting HTML pages or functioning as a remote client. Of course, here too the user can work with the latest "BMS-Graf-pro" Runtime 7 under Windows® XP Embedded, for example for the transmission of projects over the Ethernet, the use of graphics lists or an integrated user administration. The front-panel fitting makes mounting easy. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure for wall or floor mounting. An intrinsically safe USB interface is available for a USB Ex i memory stick. Intrinsically safe input devices can also be connected.

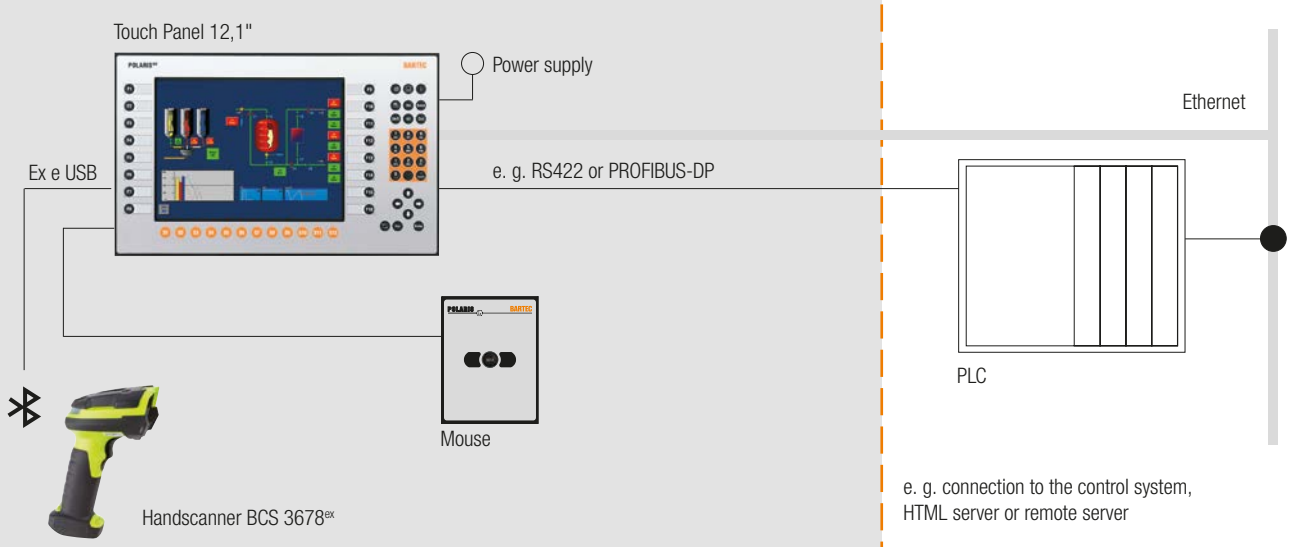
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb qb [ib op pr] IIC T4<br>Ⓔx II 2D Ex tb IIIC T120 °C |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb qb [ib op pr] IIC T4<br>Ex tb IIIC T120 °C |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 12.1" TFT graphic display<br>262,144 colours<br>Resolution XGA 1024 x 768 pixels<br>Brightness 500 cd/m$^2$<br>Visible surface approx. 246 x 184 mm<br>Contrast 700:1<br>Touchscreen (resistive) |
| Backlighting | LED technology<br>Service life approx. 50,000 hours (at +25 °C) |
| Computer capacity | LX800 processor, 500 MHz<br>Compact Flash 4 GB |
| Operating system | Windows® XP Embedded (pre-installed) |
| Interfaces<br>(basic version) | 1 x Ex e Ethernet 100/10BaseT<br>(optical fibres optional)<br>1 x Ex e RS422<br>1 x Ex i USB for Ex i memory stick<br>1 x Ex i PS/2 for intrinsically safe mouse |
| Keyboard<br>(short-stroke keys) | Alphanumeric key block<br>4 cursor keys<br>12 cursor keys<br>16 function keys able to be labelled with LEDs |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 440 mm x 275 mm x approx. 130 mm |
| Wall cut-out | 425 mm x 255 mm + 0.5 mm |
| Weight | approx. 18 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 35 W |
| Permissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>Variant:<br>Operation -20 °C to +50 °C<br>on request (without external heating) |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate<br>(conditionally UV-resistant)<br>Back: bichromated sheet steel |

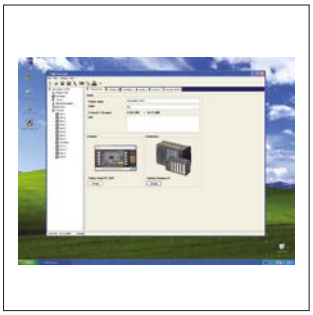
**Connection example**




**Ordering information**

| Description | Interfaces | Code no. |
|---|---|---|
| Touch Panel 12,1" | USB Ex e/RS422 (recommended version) | **37** |
| | RS485 | **38** |
| | BARTEC PROFIBUS-DP | **02** |
| | RS232 | **09** |
| | TTY | **11** |
| | BARTEC PROFIBUS-DP, Ex d-USB | **33** |
| | Further Interface combinations on request | **XX** |

**Complete order no. 17-71V1-80 ☐☐ /X000**
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.



The BMS-Graf-pro programming package enables a simple and comfortable creation of process visualisation for POLARIS Comfort and POLARIS Professional. Alarm signals, operating messages, variables, user administration, text lists, and graphics lists can be generated in one project for animation and process images. With the aid of high-performance objects, from the line to touch buttons, the process images can be conveniently produced on a user friendly interface. The BMS-Graf-pro Runtime is optimised to the quickest reaction times. This benefits the presentation of the process images and also the communication for control. Communication protocols such as Modbus/TCP also support this optimisation. In the course of the development, particular attention was paid to ensuring that an existing project from older BMS Graf and BMS-Graf-pro versions could be opened easily and if necessary transferred into the new device with very little adjustments required.

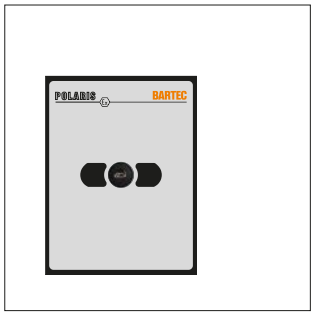
**Technical data**

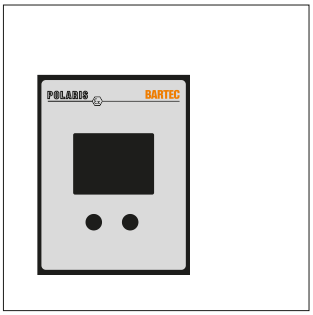
| | | |
|---|---|---|
| Technical characteristic figures | Images | 500 |
| | Fields per image | 100 |
| | Variables per image | 100 |
| | Graphics objects | |
| | Curves | 50 |
| | Graphics lists | over 100 |
| | Text lists | over 100 |
| | Variables | over 1000 |
| | Messages | 250 |
| | Message text | 250 |
| | Size of message buffer | 2000 |
| | User administration | |
| | User levels | 25 |
| Communication | PROFIBUS DP<br>Modbus/TCP Client<br>Modbus RTU Master<br>Modbus RTU Slave | |
| System requirements | Windows® XP or higher<br>Processor at least 2 GHz<br>Graphics at least XGA | |
| POLARIS requirements | Windows® XP Embedded or higher<br>Processor at least 500 MHz<br>Graphics at least VGA | |

**Ordering information**

| | |
|---|---|
| Visualisation Software BMS-Graf-pro 7<br>for all available languages | **17-28TF-0075** |

Technical data subject to change without notice.





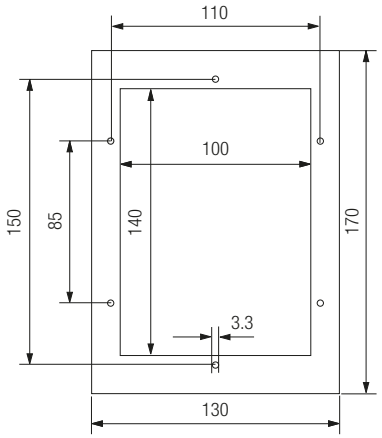
| **POLARIS Mouse, Trackball, Joystick and Touchpad** | |
|---|---|
| **Explosion protection** | |
| Marking ATEX | Ex II 2G Ex ib IIC T4 Gb<br>Ex II 2D Ex ib IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex ib IIC T4 Gb<br>Ex ib IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |

| **POLARIS Mouse** | |
|---|---|
| **Technical data** | |
| Construction | Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 170 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 15 mm |
| Weight | approx. 270 g |

| **POLARIS Trackball/Joystick** | |
|---|---|
| **Technical data** | |
| Construction | Front-panel fitting |
| Protection class | Trackball (front side)<br>static IP 65<br>dynamic IP 56<br>Joystick IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 140 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 43 mm |
| Weight | approx. 500 g |

| **POLARIS Touchpad** | |
|---|---|
| **Technical data** | |
| Construction | Capacitive touchpad for Front-panel fitting |
| Protection class | IP 65 |
| Material | Polyester foil on aluminium sheet (conditionally UV-resistant) |
| Dimensions (W x H) | 130 mm x 170 mm |
| Wall cut-out | 100 mm x 140 mm |
| Installation depth | 15 mm |
| Weight | approx. 250 g |

**Dimensions and wall cut-out** (mm)



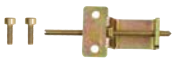

all hole diameters: 3.3 mm

**Ordering information**

| Description | Order no. |
|---|---|
| Mouse | **17-71VZ-1000** |
| Trackball | **17-71VZ-2000** |
| Touchpad | **17-71VZ-3000** |
| Joystick with button | **17-71VZ-9000** |

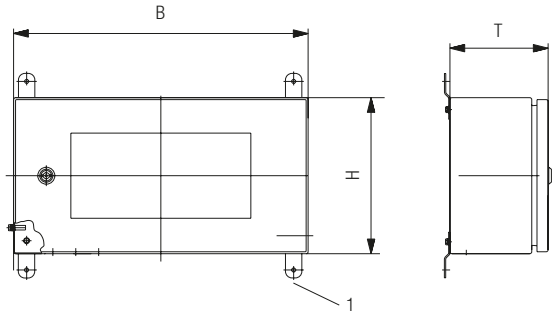
Technical data subject to change without notice.

### Ordering information

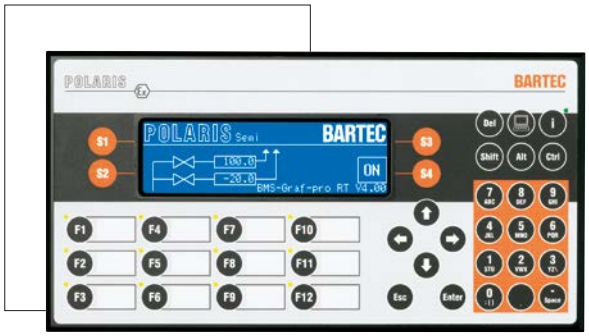
| Illustration | Description | Order no. |
|---|---|---|
| | **Ex i USB Stick** ATEX/IECEx Zone 1 and Zone 21 | |
| | Ex i memory stick 4 GB | **17-71VZ-5000/0100** |
| | Recovery stick Built 008 | **17-71VZ-5000/0108** |
| | **Reinforcement frame** | |
| | Touch Panel 5.7" | **05-0205-0006** |
| | Touch Panel 10.4" | **05-0205-0008** |
| | Touch Panel 12.1" | **05-0205-0007** |
|  | **Mounting clamps set** | |
| | 4 pieces | **05-0091-0111** |
| | 6 pieces | **05-0091-0112** |
| | **LAN STP cable** | |
| | CAT.7 4 x 2 x 23 AWG, outer diameter: 7.9 mm | **02-4082-0002** |
| | CAT.7 4 x 2 x 22 AWG, outer diameter: 18 mm; armoured | **02-4082-0004** |
| | Note: Additional cable glands for armouring necessary | |
| | **Original packing** | |
| | Touch Panel 5.7" | **04-9035-0004** |
| | Touch Panel 10.4" | **04-9035-0005** |
| | Touch Panel 12.1" | **04-9035-0006** |

### Ordering information

| Illustration | Description | Dimensions in mm | Order no. |
|---|---|---|---|
| | **Standard Stainless-steel enclosure** | | |
| | Technical data | | |
| | Material Stainless-steel 1.4404; AISI 316 L | | |
| | Surface brushed | | |
| | Protection class IP 65 | | |
| | • for floor mounting with stand | (B x H x T) | |
| | Touch Panel 5.7" | 500 x 280 x 200 | **07-56D7-9011/9002** |
| | Touch Panel 10.4" | 560 x 320 x 200 | **07-56D7-9611/9002** |
| | Touch Panel 12.1" | 600 x 350 x 200 | **07-56D7-9711/9002** |
| | Complete solution with installed equipment | | **on request** |
| | • for wall mounting including mounting straps | (B x H x T) | |
| | Touch Panel 5.7" | 500 x 280 x 200 | **07-56D7-9011/9001** |
| | Touch Panel 10.4" | 560 x 320 x 200 | **07-56D7-9611/9001** |
| | Touch Panel 12.1" | 600 x 350 x 200 | **07-56D7-9711/9001** |
| | Complete solutions with installed equipment | | **on request** |




1 mounting strap for wall mounting




The POLARIS Control is the ideal solution for all simple applications requiring texts and small-scale graphics. For the display, an extremely conveniently readable daylight blue-colour display is utilised. With the Control, process visualisation can be directly connected in explosive areas without the need for additional intrinsically safe isolation cards. There is no need to lay blues lines for intrinsically safe circuits. A separate wiring of the data line is not necessary. The POLARIS Control can be directly connected to the PROFIBUS-DP or the communication interface of the control station. RS422/RS485 or PROFIBUS-DP are available, for example. An intrinsically safe USB interface for a USB Ex i memory stick enables the device configuration to be transferred easily. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure for wall or floor mounting. The visualisation is created with the "BMS-Graf- pro" programming package (Version 6.xxx), which has been specially developed and optimised for this purpose.

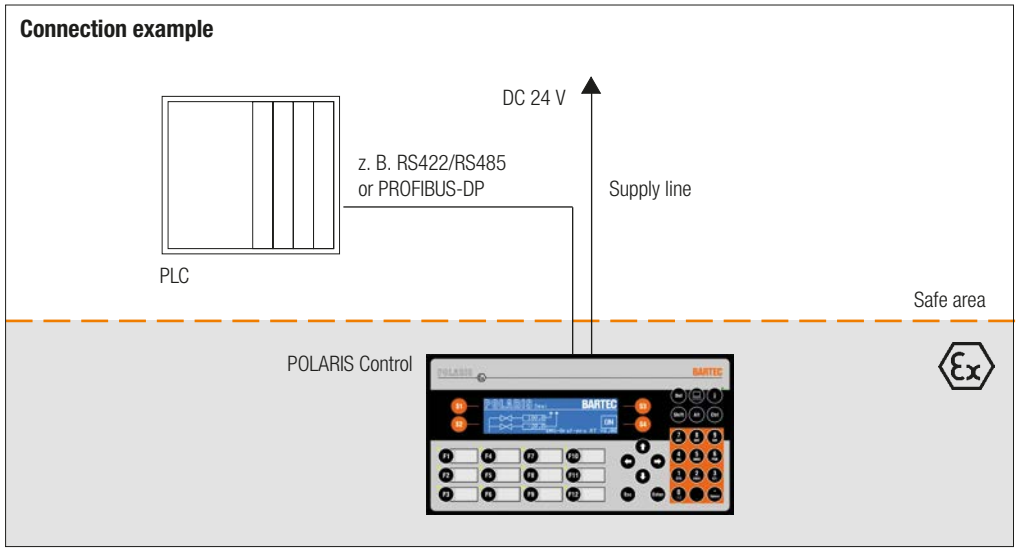
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | LCD display<br>2 colours white/blue<br>240 x 64 pixels<br>Visible area approx. 133 x 40 mm<br>Antireflection-coated glass pane<br>Daylight display technology |
| Backlighting | LED technology |
| Keyboard<br>(short-stroke keys) | Alphanumeric key block<br>4 special keys<br>12 function keys able to be labelled with LEDs |
| Interfaces<br>(Basic version) | 1 x Ex i USB for Ex i memory stick<br>1 x Ex e RS422/RS485 |
| Dimensions (W x H x D) | 290 mm x 151 mm x approx. 130 mm |
| Wall cut-out | 275 mm x 131 mm + 0.5 mm |
| Weight | approx. 6 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 15 W |
| Admissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV resistant)<br>Rear panel: bichromated sheet steel |

**Connection example**



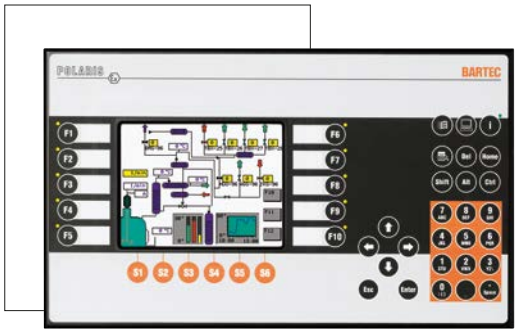



**Ordering information**

| Description | Interfaces | Code no. |
|---|---|---|
| POLARIS Control | RS422/RS485 | **0** |
| | PROFIBUS-DP* | **1** |
| | RS232 | **2** |
| | TTY | **3** |

* Download only via USB Ex i memory stick.

**Complete order no. 17-71V0-000** ☐
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.



The POLARIS Panel PC 5.7" is the logical further development of the BAT 300 but still retains downward compatibility. State-of-the-art TFT technology is used for the display with a very high viewing angle, which attains a level of brightness of 400 cd/m² in the Ex applications. With the Panel PC 5.7", process visualisations can be directly connected in explosive areas without the need for additional intrinsically safe isolation cards. There is no need to lay blues lines for intrinsically safe circuits. A separate wiring of the data line is not necessary. The Panel PC can be directly connected to the PROFIBUS-DP or the communication interface of the control station. Available features include for example RS422/RS485, PROFIBUS-DP, RS232 or TTY. An intrinsically safe USB interface for a USB Ex i memory stick enables the device configuration to be transferred easily. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure for wall or floor mounting. The visualisation is created with the "BMS-Graf- pro" programming package (Version 6.xxx), which has been specially developed and optimised for this purpose.

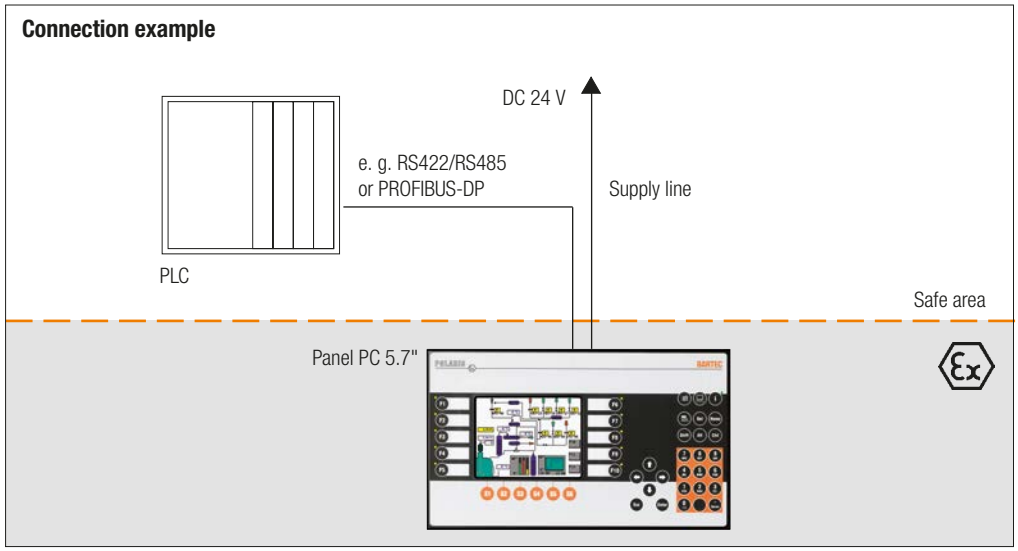
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 5.7" graphics-capable TFT colour display<br>262,144 colours<br>QVGA resolution 320 x 240 pixels<br>Brightness 400 cd/m²<br>Visible area approx. 116 x 88 mm<br>Contrast 300:1<br>Antireflection-coated glass pane |
| Backlighting | CFL technology<br>Service life approx. 25,000 hours (at +25 °C) |
| Computer capacity | Processor 500 MHz<br>256 MB RAM<br>Compact Flash CF 512 MB |
| Keyboard<br>(short-stroke keys) | Alphanumeric key block<br>4 cursor keys<br>6 special keys<br>10 function keys able to be labelled with LEDs |
| Interfaces<br>(Basic version) | 1 x Ex e RS422/RS485<br>1 x Ex i USB for Ex i memory stick |
| Dimensions (W x H x D) | 335 mm x 199 mm x approx. 130 mm |
| Wall cut-out | 321 mm x 179 mm + 0.5 mm |
| Weight | approx. 10 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 30 W |
| Admissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV resistant)<br>Rear panel: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Interfaces | Code no. |
|---|---|---|
| Panel PC 5.7" | RS422/RS485 | **00** |
| | PROFIBUS-DP* | **02** |
| | RS232 | **09** |
| | TTY | **11** |

* Download only via USB Ex i memory stick.

**Complete order no. 17-71V1-10** ☐☐
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The POLARIS Panel PC 10.4" is the logical further development of the BAT 600 but still retains downward compatibility. State-of-the-art TFT technology is used for the display, which attains a brightness level of 450 cd/m² in Ex applications. As an option, the POLARIS Panel PC 10.4" is also available with a daylight readable display. The Panel PC 10.4" allows process visualisations to be connected directly in explosive areas without the need for any additional intrinsically safe isolation cards. There is no need to lay blues lines for intrinsically safe circuits. A separate wiring of the data line is not necessary. The Panel PCs can be connected directly to the PROFIBUS-DP or the control station's communication interface. Available features include for example RS422/485 or PROFIBUS-DP and the option of a supply module for hand-held scanners. An intrinsically safe USB interface for a USB Ex i memory stick makes it easy to transfer the device's configuration. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure for wall or floor mounting. The visualisation is created with the „BMS-Graf- pro" programming package (Version 6.xxx), which has been specially developed and optimised for this purpose.

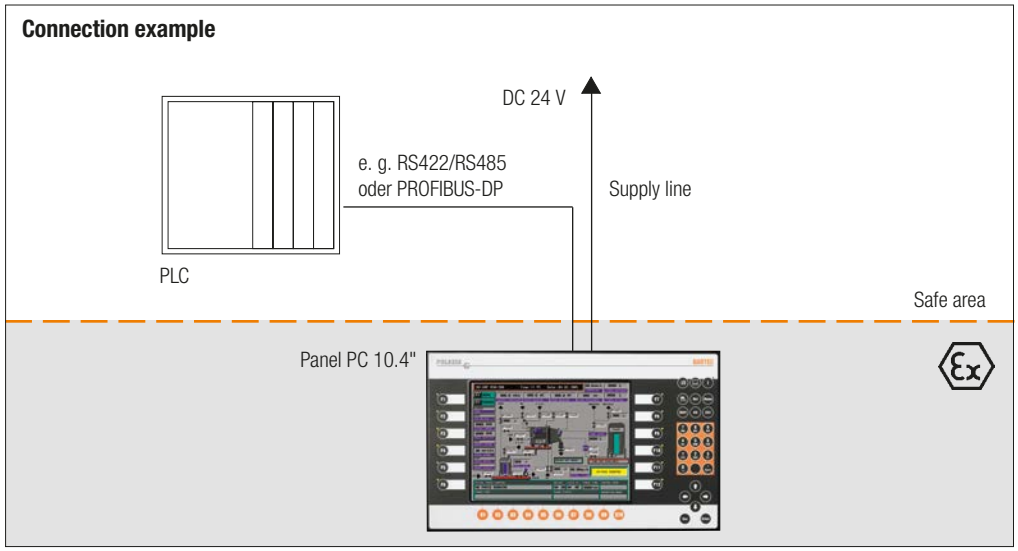
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 and 21 | Ⓔx II 2G Ex db eb q [ib] IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T120 °C Db |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb q [ib] IIC T4 Gb<br>Ex tb IIIC T120 °C Db |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 10.4" graphics-capable TFT colour display<br>262,144 colours<br>VGA resolution 640 x 480 pixels<br>Brightness up to 450 cd/m²<br>Visible area approx. 211 x 158 mm<br>Contrast 600:1<br>Antireflection-coated glass pane |
| Backlighting | CFL technology<br>Service life approx. 25,000 hours (at +25 °C) |
| Computer capacity | Processor 500 MHz<br>256 MB RAM<br>Compact Flash CF 512 MB |
| Keyboard<br>(short-stroke keys) | Alphanumeric key block<br>4 cursor keys<br>10 cursor keys<br>12 function keys able to be labelled with LEDs |
| Interfaces<br>(Basic version) | 1 x Ex e RS422/RS485<br>1 x Ex i USB for Ex i memory stick |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 400 mm x 246 mm x approx. 130 mm |
| Wall cut-out | 386 mm x 226 mm + 0.5 mm |
| Weight | approx. 14 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.}$ < 30 W |
| Admissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV resistant)<br>Rear panel: bichromated sheet steel |

**Connection example**



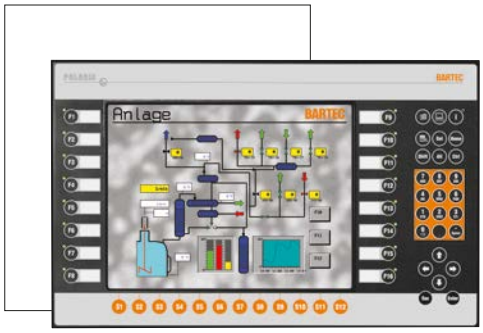



**Ordering information**

| Description | Interfaces | Code no. |
|---|---|---|
| Panel PC 10.4" | RS422/RS485 | **00** |
| | PROFIBUS-DP* | **02** |
| | RS422/RS485, supply module for hand-held scanner | **04** |
| | PROFIBUS-DP, supply module for hand-held scanner* | **06** |
| | RS232 | **09** |
| | TTY | **11** |
| | RS232, supply module for hand-held scanner | **13** |
| | TTY, supply module for hand-held scanner | **15** |

* Download only via USB Ex i memory stick.

**Complete order no. 17-71V1-20** ☐☐
Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.




The POLARIS Panel PC 12.1" is the logical further development of the BAT 800 but still retains downward compatibility. State-of-the-art TFT technology is used for the display. The Panel PC 12.1" allows process visualisations to be connected directly in explosive areas without the need for any additional intrinsically safe isolation cards. The laying of blue lines for intrinsically safe circuits is dispensed with and there is no need for separate data line wiring either. The Panel PCs can be connected directly to the PROFIBUS-DP or the control station's communication interface. Available features include for example RS422/RS485 or PROFIBUS-DP and the option of a supply module for hand-held scanners. An intrinsically safe USB interface for a USB Ex i memory stick makes it easy to transfer the device's configuration. On request, the devices are also available as turn-key system solutions in a Stainless-steel enclosure for wall or floor mounting. The visualisation is created with the „BMS-Graf- pro" programming package (Version 6.xxx), which has been specially developed and optimised for this purpose.

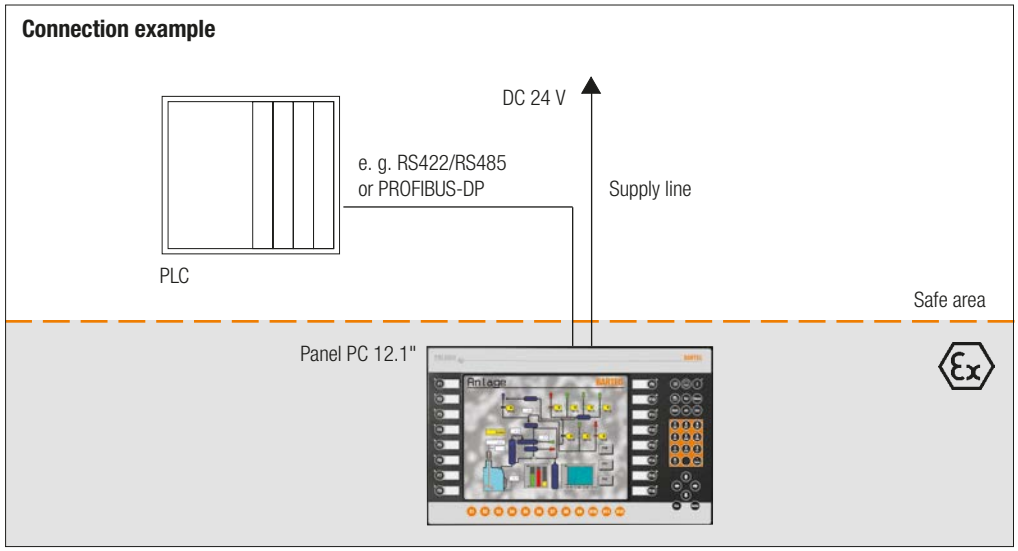
**Explosion protection**

| | |
|---|---|
| Marking ATEX<br>Zone 1 und 21 | Ⓔx II 2G Ex db eb qb [ib] IIC T4<br>Ⓔx II 2D Ex tb IIIC T120 °C |
| Certification | IBExU 05 ATEX 1117 X |
| Marking IECEx | Ex db eb qb [ib] IIC T4<br>Ex tb IIIC T120 °C |
| Certification | IECEx IBE 11.0007 X |
| Other approvals and certificates, see www.bartec.de | |
| Variant for Zone 2 | www.bartec.de |

**Technical data**

| | |
|---|---|
| Construction | Front-panel fitting |
| Protection class | IP 65 (front)<br>IP 54 (back) |
| Display | 12.1" graphics-capable TFT colour display<br>262,144 colours<br>SVGA resolution 800 x 600 pixels<br>Brightness 350 cd/m$^2$<br>Visible area approx. 249 x 188 mm<br>Contrast 400:1<br>Antireflection-coated glass pane |
| Backlighting | CFL technology<br>Service life approx. 25,000 hours (at +25 °C) |
| Computer capacity | Processor 500 MHz<br>256 MB RAM<br>Compact Flash CF 512 MB |
| Keyboard<br>(short-stroke keys) | alphanumerischer Tastenblock<br>4 cursor keys<br>12 cursor keys<br>16 function keys able to be labelled with LEDs |
| Interfaces<br>(Basic version) | 1 x Ex e RS422/RS485<br>1 x Ex i USB for Ex i memory stick |
| Optional accessories | Hand-held scanner on request |
| Dimensions (W x H x D) | 440 mm x 275 mm x approx.130 mm |
| Wall cut-out | 425 mm x 255 mm + 0.5 mm |
| Gewicht | approx. 18 kg |
| Power supply | DC 24 V ± 10 % |
| Max. power consumption | $P_{max.} < 30$ W |
| Admissible<br>ambient temperatures | Storage -20 °C to +50 °C<br>Operation 0 °C to +50 °C<br>System solution with heating on request. |
| Relative air humidity | 5 to 95 % non-condensing |
| Vibration | 0.7 g/1 mm;<br>5 Hz to 500 Hz pulse in all 3 axes |
| Shock | 15 g/11 ms pulse in all 3 axes |
| Material | Front: polyester foil on anodised aluminium plate (conditionally UV resistant)<br>Rear panel: bichromated sheet steel |

**Connection example**




**Ordering information**

| Description | Interfaces | Code no. |
|---|---|---|
| Panel PC 12.1" | RS422/RS485 | **00** |
| | PROFIBUS-DP* | **02** |
| | RS422/RS485, supply module for hand-held scanner | **04** |
| | PROFIBUS-DP, supply module for hand-held scanner* | **06** |
| | RS232 | **09** |
| | TTY | **11** |
| | RS232, supply module for hand-held scanner | **13** |
| | TTY, supply module for hand-held scanner | **15** |

* Download only via USB Ex i memory stick.

**Complete order no. 17-71V1-30** ☐☐

Please insert correct code. Technical data subject to change without notice.
You will find the accessories with order details on the accessories pages.

The BMS-Graf-pro software package is a very convenient tool for the generation of process representations. Individual images and projects are created on the PC and stored in the POLARIS Panel PC, POLARIS Control. The programme ensures that the single images use only a very small amount of memory space. This allows the storage of over 100 images. The well established and highly reliable functions of the BMS Graf are still available for example: input and output fields, bar graphs and vector graphics. All existing project can be integrated within the new software. The completely new WINDOWS based platform is suitable for most popular versions of WINDOWS NT, WIN 2000 and XP. With the selection of the correct protocol driver (please refer to table) connections to various PLC systems are possible. BARTEC is continuously increasing the number of protocols available.

Logic controllers for serial coupling

| Description | PLC |
|---|---|
| AS511 on S5 Programming Port | S5-95U to 115U |
| MPI on S7 Programming Port | S7-300 S7-400 with MPI-Box |
| 3964R with RK 512 | S5 with communication processors CP524 to CP544<br>S7-300 with communication processor CP341<br>S7-400 with communication processor CP441-2 |
| Modbus RTU, Slave and Master | Telemechanique TSX-Series with communication processor TSXSCG1131<br>April<br>AEG A-series with Modbus module,<br>AEG Modicon, AEG Quantum<br>Allen Bradley SLC500 with Pro Soft module (3150MCM)<br>PLC5/40 or PLC5/60 with comminicaions board 17-71-DBMM<br>HIMA H51, H41, H11<br>Yokogawa<br>SMCC Micro XL with communication processor PX1<br>Centrum CS with communication processor ACM11<br>GE-FANUC<br>90-30 with communication processor CMM311E<br>90-70 with communication processor CMM711 or PCM711<br>DCS Eurotherm, DCS Fisher&Porter SistemSix<br>Foxboro DCS 80E, AS21<br>Honeywell TDC3000<br>Fisher Rosemount Delta V<br>Saia PCD |
| Mitsubishi A | Mitsubishi A with communication processor ASJ71C24 |
| COMLI | Sattcontrol<br>Alfa Laval |
| Hostlink | OMRON SYSMAC CQM1 |

Logic controllers for PROFIBUS DP

| Description | PLC |
|---|---|
| Siemens | S5-95U with PROFIBUS-DP Master interface<br>S5-135U with PROFIBUS-DP Master interface EM308C<br>S7-300 with CPU 315-2 DP (Master)<br>S7-400 with CPU 416-2 DP (Master)<br>PCS 7 |
| Hartmann & Braun | Freelance 2000 with field controller |
| Schneider | TSX Premium with PROFIBUS coupling unit<br>AEG Quantum with PROFIBUS coupling unit |

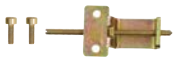
Software BMS-Graf-pro is including the latest handling units.
For more possibilities ask us.

**Ordering information**

| BMS-Graf-pro 6 Visualisation Software | Order no. |
|---|---|
| German | **17-28TF-0071/0100** |
| English | **17-28TF-0071/0200** |
| French | **17-28TF-0071/0300** |

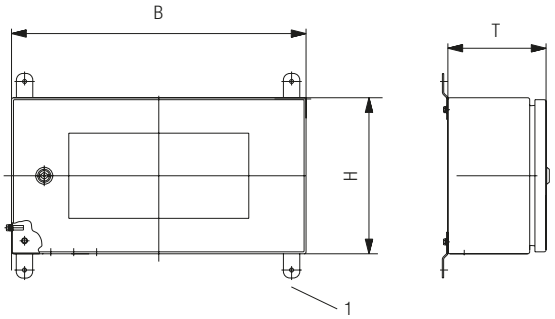
Technical data subject to change without notice.

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **Ex i memory stick**<br>for POLARIS Panel PC and POLARIS Control | **17-71VZ-5000** |
| | **Reinforcement frame** | |
| | Control | **05-0205-0011** |
| | Panel PC 5.7" | **05-0205-0006** |
| | Panel PC 10.4" | **05-0205-0008** |
| | Panel PC 12.1" | **05-0205-0007** |
|  | **Mounting clamps set** | |
| | 4 pieces | **05-0091-0111** |
| | 6 pieces | **05-0091-0112** |
| | **Original packing** | |
| | Control | **04-9035-0003** |
| | Panel PC 5.7" | **04-9035-0004** |
| | Panel PC 10.4" | **04-9035-0005** |
| | Panel PC 12.1" | **04-9035-0006** |

### Ordering information

| Illustration | Description | Dimensions in mm | Order no. |
|---|---|---|---|
| | **Standard stainless-steel enclosure** | | |
| | Technical data | | |
| | Material Stainless-steel 1.4404; AISI 316 L | | |
| | Surface Brushed | | |
| | Protection class IP 65 | | |
| | • for floor mounting with stand | (B x H x T) | |
| | Control | 450 x 240 x 150 | **07-56D7-2B00/9002** |
| | Panel PC 5.7" | 500 x 280 x 200 | **07-56D7-9011/9002** |
| | Panel PC 10.4" | 560 x 320 x 200 | **07-56D7-9611/9002** |
| | Panel PC 12.1" | 600 x 350 x 200 | **07-56D7-9711/9002** |
| | Complete solution with installed equipment | | **on request** |
| | • for wall mounting including mounting straps | (B x H x T) | |
| | Control | 450 x 240 x 150 | **07-56D7-2B00/9001** |
| | Panel PC 5.7" | 500 x 280 x 200 | **07-56D7-9011/9001** |
| | Panel PC 10.4" | 560 x 320 x 200 | **07-56D7-9611/9001** |
| | Panel PC 12.1" | 600 x 350 x 200 | **07-56D7-9711/9001** |
| | Complete solution with installed equipment | | **on request** |




1 mounting strap for wall mounting

ANTARES REMOTE I/O SYSTEM

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17-28TF-0074

# **ANTARES RCU** (Rail Control Unit)

The Rail Control Unit (RCU) ANTARES is the central unit in the ANTARES system. It consists of the head module and the connection module. Various field bus and Ethernet-based head modules are available. There is no need to use an isolating repeater to connect them. Redundancy is achieved with no single point of failure by connecting two PROFIBUS-DP RCUs. The head module, consisting of the CPU, the communication interface and an integrated power supply unit, is produced with the Ex d type of protection and is plugged into the corresponding connection module. The innovative interlocking technology ensures a reliable connection. The hot swap capability allows the head module to be replaced even in an explosive atmosphere. The connection module has an integrated Ex e junction box. A version is also available for armoured leads. The system is configured by means of Software ANTARES Designer using the USB interface. See the system description for installation instructions.

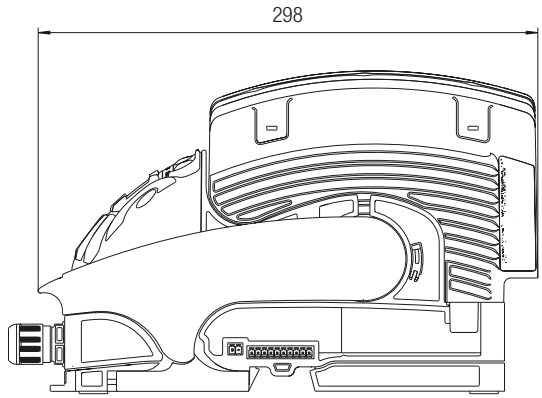
**Explosion protection**

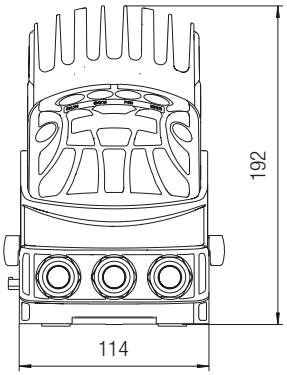
| | | |
|---|---|---|
| Marking ATEX | Ⓔx II 2G Ex d e [ib] IIC T4 Gb | |
| Certification | PTB 11 ATEX 2009 X | |
| Marking IECEx | Ex d e [ib] IIC T4 Gb | |
| Certification | IECEx PTB 11.0051 X | |
| Marking CSA | Class I, Zone 1 | |
| Certification | CSA 2567944 | |
| Other approvals and certificates, see www.bartec.de | | |
| Ambient temperature | -20 °C to +60 °C | |
| Protection class (EN/IEC 60529) | RCU | IP 54 |
| | Internal system bus (in the ANTARES system construction) | IP 30 |

**Technical data**

| | | |
|---|---|---|
| Enclosure material | Connection module | PA |
| | Head module | aluminium die-casting, PA |
| Mounting rail | TH 35-15 DIN EN/IEC 60715 (steel, galvanised) flush on mounting plate | |
| Supply I/O modules | up to max. 32 modules (module dependent) | |
| Electrical connections Ex e | Data and power supply cable through tension spring clamp up to 2.5 mm² | |
| Displays | LED connection modules | |
| | Operation | LED RUN |
| | Communication | LED COM |
| | Redundancy (primary) | LED PRI |
| | Error | LED ERR |
| Rated voltage | DC 24 V -15 %, +25 % | |
| Power consumption | max. 100 W | |
| Overvoltage category | II | |
| Degree of contamination | 2 | |
| Dimensions RCU (W x H x D) | 114 mm x 192 mm x 298 mm | |
| Weight | approx. 5 kg | |
| Storage and transport temperature | -25 °C to +70 °C | |
| Relative Humidity | 5 to 95 %, non-condensing | |
| Vibration (EN/IEC 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes | |
| Shock (EN/IEC 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction | |
| Process connection | | |
| Internal Bus communication | 10 + 2 pole connector | |
| PROFIBUS-DP | Full redundancy possible up to 1.5 Mbit/s | |
| Ethernet 100BaseT with integrated switch | PROFINET<br>MODBUS/TCP<br>EtherNet/IP | |
| Configuration | | |
| Interface | USB | |
| Software | ANTARES Designer | |
| Back up | SD card | |

**Dimensions**




**Ordering information** Head Module ANTARES

| Interface | Code no. |
|---|---|
| PROFIBUS-DP | **1** |
| PROFINET | **2** |
| MODBUS/TCP | **3** |
| EtherNet/IP | **4** |

**Complete order no. 17-5174-1 ☐ 00**
Please enter code number. Technical data subject to change without notice.

**Ordering information** Connection Module ANTARES

| Interface | Code no. | Wire | Code no. |
|---|---|---|---|
| EtherNet | **9** | not armoured | **1** |
| PROFIBUS-DP | **1** | armoured | **2** |

**Complete order no. 17-5164-9 ☐ ☐ 0**
Please enter code number. Technical data subject to change without notice.

The ANTARES 8 Digital In NAMUR Remote I/O Module is suitable for capturing 8 intrinsically safe binary signals in hazardous areas. NAMUR sensors, optocouplers, wired and unwired mechanical contacts or other actuating elements can be connected with intrinsic safety. All of the I/O module's transmission channels are conductively connected to each other. The ANTARES 8DI-N Remote I/O Module is operated by and supplied with power by the ANTARES Rail Control Unit (RCU). A bus rail is not necessary. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. Parameters can be set for each channel. Open circuit/short circuit monitoring can be programmed for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2015 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0055 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +60 °C |

### Safety data per transmission channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 8DI-N | 9.9 V | 11.2 mA | 27.7 mW | negligible | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8DI-N | 3.2 µF | 20 µH | or | 470 nF | 100 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8DI-N | 22 µF | 10 µH | or | 2.5 µF | 100 mH |

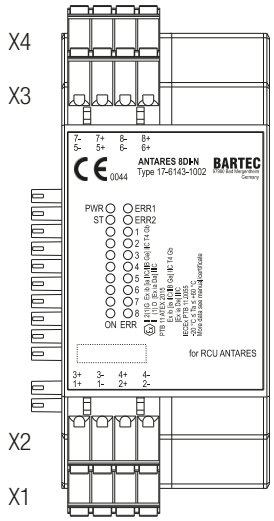
### Technical data

| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole, to 2.5 $mm^2$<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 380 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination (IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz<br>in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

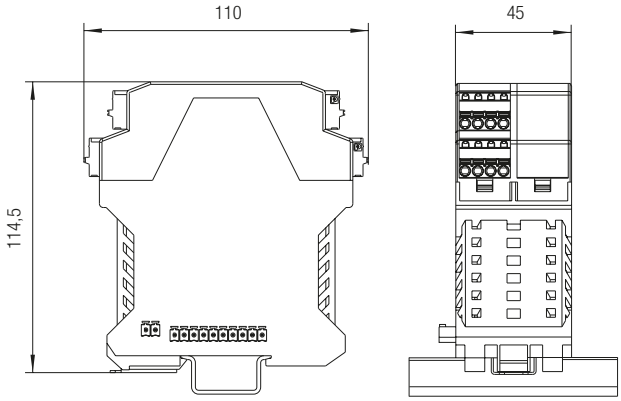
| | |
|---|---|
| Number of Channels | NAMUR to DIN EN 60947-5-6<br>8 digital inputs Ex i (short-circuit-proof)<br>Channel 7 and Channel 8<br>configurable as counters<br>(max. count rate 5 kHz) |
| Galvanic isolation | between inputs and the internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| Sensor supply | 8.2 V |
| Switching thresholds | damped < 1.2 mA<br>not damped > 2.1 mA<br>Open circuit < 0.3 mA<br>Short-circuit > 225 Ω |
| Displays | LEDs in enclosure front:<br>Status PWR, ST, ERR1, ERR2<br>Inputs 2 LEDs per Channel<br>1 x LED yellow Channel active<br>1 x LED red Channel error |

**Wiring diagram/terminal assigment**




| Terminal block | Terminal | Description | |
|---|---|---|---|
| X4 | 7- | Minus terminal | Channel 7 |
| | 7+ | Plus terminal | Channel 7 |
| | 8- | Minus terminal | Channel 8 |
| | 8+ | Plus terminal | Channel 8 |
| X3 | 5- | Minus terminal | Channel 5 |
| | 5+ | Plus terminal | Channel 5 |
| | 6- | Minus terminal | Channel 6 |
| | 6+ | Plus terminal | Channel 6 |
| X2 | 3+ | Plus terminal | Channel 3 |
| | 3- | Minus terminal | Channel 3 |
| | 4+ | Plus terminal | Channel 4 |
| | 4- | Minus terminal | Channel 4 |
| X1 | 1+ | Plus terminal | Channel 1 |
| | 1- | Minus terminal | Channel 1 |
| | 2+ | Plus terminal | Channel 2 |
| | 2- | Minus terminal | Channel 2 |

**Dimensions**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ON 1-8 | GE | Channel switched on |
| ERR 1-8 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 8DI-N | **17-6143-1002/0000** |

Technical data subject to change without notice.

The ANTARES 16 Digital In NAMUR Remote I/O Module is suitable for capturing 16 intrinsically safe binary signals in hazardous areas. NAMUR sensors, optocouplers, wired and unwired mechanical contacts or other actuating elements can be connected with intrinsic safety. All of the I/O module's transmission channels are conductively connected to each other. The ANTARES 16DI-N Remote I/O Module is operated by and supplied with power by the ANTARES Rail Control Unit (RCU). A bus rail is not necessary. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. Parameters can be set for each channel. Open circuit/short circuit monitoring can be programmed for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2015 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0055 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +60 °C |

### Safety data per transmission Channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 16DI-N | 9.9 V | 11.2 mA | 27.7 mW | negligible | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 16 DI-N | 3.2 µF | 20 µH | or | 470 nF | 100 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 16 DI-N | 22 µF | 10 µH | or | 2.5 µF | 100 mH |

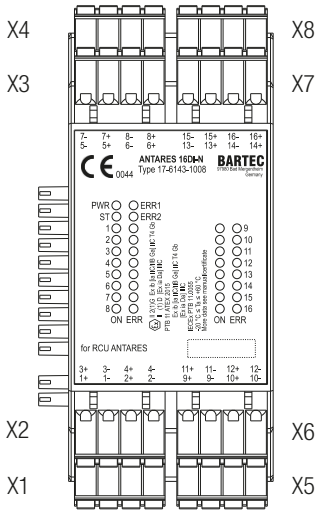
### Technical data

| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole, to 2.5 $mm^2$;<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 490 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination (IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

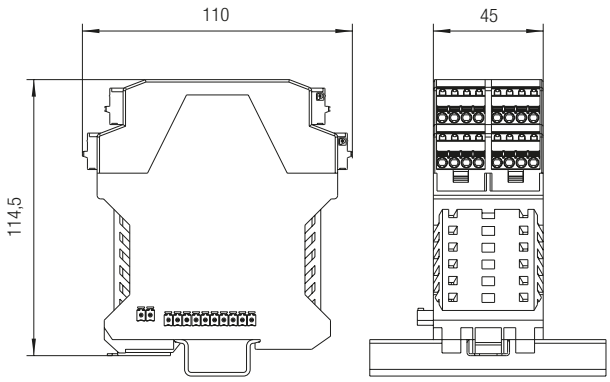
| | |
|---|---|
| Number of Channels | NAMUR to DIN EN 60947-5-6<br>16 digital inputs Ex i (short-circuit-proof) |
| Galvanic Isolation | between inputs and internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| Sensor supply | 8.2 V |
| Switching thresholds | damped < 1.2 mA<br>not damped > 2.1 mA<br>Open circuit < 0.3 mA<br>Short-circuit > 225 Ω |
| Displays | LEDs in enclosure front:<br>Status: PWR, ST, ERR1, ERR2<br>Inputs: 2 LEDs per Channel<br>1 x LED yellow Channel active<br>1 x LED red Channel error |

**Wiring diagram/terminal assigment**




| Terminal block | Terminal | Description | | Terminal block | Terminal | Description | |
|---|---|---|---|---|---|---|---|
| X4 | 7- | Minus terminal | Channel 7 | X8 | 15- | Minus terminal | Channel 15 |
| | 7+ | Plus terminal | Channel 7 | | 15+ | Plus terminal | Channel 15 |
| | 8- | Minus terminal | Channel 8 | | 16- | Minus terminal | Channel 16 |
| | 8+ | Plus terminal | Channel 8 | | 16+ | Plus terminal | Channel 16 |
| X3 | 5- | Minus terminal | Channel 5 | X7 | 13- | Minus terminal | Channel 13 |
| | 5+ | Plus terminal | Channel 5 | | 13+ | Plus terminal | Channel 13 |
| | 6- | Minus terminal | Channel 6 | | 14- | Minus terminal | Channel 14 |
| | 6+ | Plus terminal | Channel 6 | | 14+ | Plus terminal | Channel 14 |
| X2 | 3+ | Plus terminal | Channel 3 | X6 | 11+ | Plus terminal | Channel 11 |
| | 3- | Minus terminal | Channel 3 | | 11- | Minus terminal | Channel 11 |
| | 4+ | Plus terminal | Channel 4 | | 12+ | Plus terminal | Channel 12 |
| | 4- | Minus terminal | Channel 4 | | 12- | Minus terminal | Channel 12 |
| X1 | 1+ | Plus terminal | Channel 1 | X5 | 9+ | Plus terminal | Channel 9 |
| | 1- | Minus terminal | Channel 1 | | 9- | Minus terminal | Channel 9 |
| | 2+ | Plus terminal | Channel 2 | | 10+ | Plus terminal | Channel 10 |
| | 2- | Minus terminal | Channel 2 | | 10- | Minus terminal | Channel 10 |

**Dimensions**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ON 1-16 | GE | Channel switched on |
| ERR 1-16 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Modul 16DI-N | **17-6143-1008/0000** |

Technical data subject to change without notice.

The ANTARES 8DO-SCL Remote I/O Module (single channel limitation) is operated and supplied with power by the Rail Control Unit (RCU) ANTARES. This module is suitable for the direct control of up to 8 intrinsically safe solenoid valves in the explosion hazardous area. The hot swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. The internal and galvanically isolated bus connection is established by simply plugging the modules to the RCU. A bus rail is not necessary. Open circuit/short circuit monitoring can be programmed for each channel. The bus status messages and individual messages per channel are displayed by the LEDs. This also enables diagnostics on the module. The Software ANTARES Designer allows the module to be programmed and the output load to be calculated automatically. See the system description for installation instructions. Note: Further approvals and data can be found at www.bartec.de

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2014 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0054 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +50 °C<br>-20 °C to +60 °C<br>(in conjunction with a distance module) |

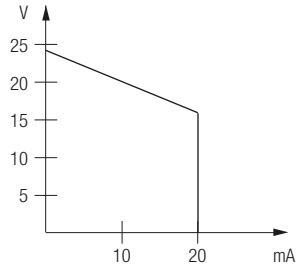
### Safety data per transmission Channel

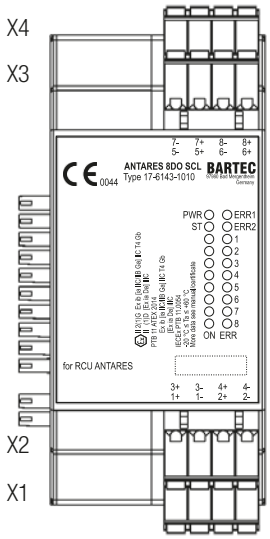
| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 8DO-SCL | 27.5 V | 104 mA | 715 mW | 6 nF | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8DO-SCL | 80 nF | 0.2 mH | or | 60 nF | 0.53 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8DO-SCL | 666 nF | 0.1 mH | or | 244 nF | 11 mH |

### Technical data

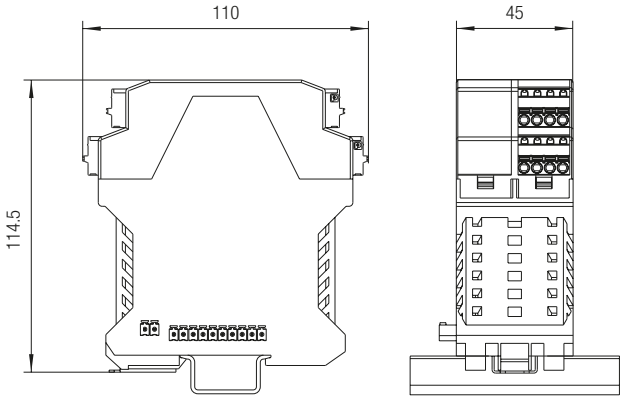
| | |
|---|---|
| Enclosure material | PA |
| Protection class<br>(EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole, up to 2.5 mm²<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and<br>terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 390 g |
| Storage and<br>transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination<br>(IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

| | |
|---|---|
| Number of Channels | 8 digital outputs Ex i (short-circuit-proof) |
| Galvanic isolation | between outputs and internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| No-load voltage | DC 24 V |
| Total current of all 8 Channels | max. 160 mA |
| Output current | max. 20.5 mA per Channel (limited) |
| Internal resistance | 271 Ω |
| Rated output current | $I_N$ = 20 mA ($U_N$ = 18.5 V) |
| Output level |  |
| Displays | LEDs in enclosure front:<br>Status PWR, ST, ERR1, ERR2<br>Outputs 2 LEDs per Channel<br>1 x LED yellow Channel active<br>1 x LED red Channel error |

| Wiring diagram/terminal assigment | Terminal block | Terminal | Description | |
|---|---|---|---|---|
|  | X4 | 7- | Minus terminal | Channel 7 |
| | | 7+ | Plus terminal | Channel 7 |
| | | 8- | Minus terminal | Channel 8 |
| | | 8+ | Plus terminal | Channel 8 |
| | X3 | 5- | Minus terminal | Channel 5 |
| | | 5+ | Plus terminal | Channel 5 |
| | | 6- | Minus terminal | Channel 6 |
| | | 6+ | Plus terminal | Channel 6 |
| | X2 | 3+ | Plus terminal | Channel 3 |
| | | 3- | Minus terminal | Channel 3 |
| | | 4+ | Plus terminal | Channel 4 |
| | | 4- | Minus terminal | Channel 4 |
| | X1 | 1+ | Plus terminal | Channel 1 |
| | | 1- | Minus terminal | Channel 1 |
| | | 2+ | Plus terminal | Channel 2 |
| | | 2- | Minus terminal | Channel 2 |

**Dimensions**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ON 1-8 | GE | Channel switched on |
| ERR 1-8 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 8DO-SCL | **17-6143-1010/0000** |

Technical data subject to change without notice.

The ANTARES 8DO Remote I/O Module is suitable for capturing 8 intrinsically safe binary signals in hazardous areas. NAMUR sensors, optocouplers, wired and unwired mechanical contacts or other actuating elements can be connected with intrinsic safety. All of the I/O module's transmission channels are conductively connected to each other. The ANTARES 8DO Remote I/O Module is operated by and supplied with power by the ANTARES Rail Control Unit (RCU). A bus rail is not necessary. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. Parameters can be set for each channel. Open circuit/short circuit monitoring can be programmed for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2015 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0055 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +50 °C<br>-20 °C to +60 °C<br>(in conjunction with a distance module) |

### Safety data per transmission Channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 8DO | 27.5 V | 104 mA | 715 mW | 6 nF | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8DO | 80 nF | 0.2 mH | or | 60 nF | 0.53 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8DO | 666 nF | 0.1 mH | or | 244 nF | 11 mH |

### Technical data

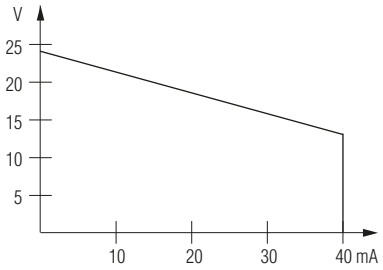
| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure:<br>IP 30 in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole up to 2.5 mm², <br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 390 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 % non-condensing |
| Degree of contamination (IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

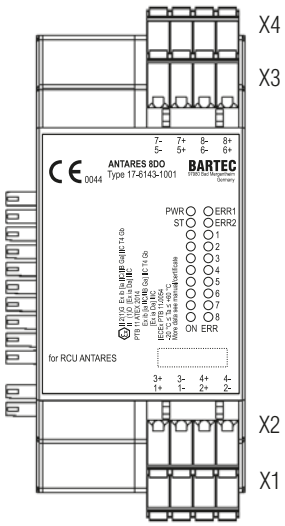
| | |
|---|---|
| Number of Channels | 8 digital outputs Ex i (short-circuit-proof) |
| Galvanic Isolation | between outputs and internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| No-load voltage | DC 24 V |
| Total current of all 8 Channels | max. 160 mA (limited) |
| Output current | max. 40 mA per Channel |
| Internal resistance | 271 Ω |
| Rated output current | $I_N$ = 20 mA ($U_N$ = 18.5 V) |

Output level

Currents between 40 mA and 70 mA can also be supplied to each channel. For this purpose, the short-circuit monitoring for the channel concerned must be switched off in the Antares Designer. This must, however, be checked in each case against the relevant requirement. The total current of 160 mA for the module continues to apply in each case. Accordingly, if the channel current is high, the number of available outputs per module will be reduced.

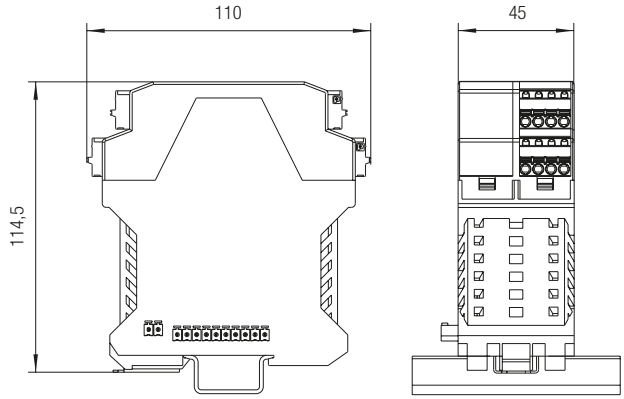



| | |
|---|---|
| Displays | LEDs in enclosure front:<br>Status: PWR, ST, ERR1, ERR2<br>Outputs: 2 LEDs per Channel<br>1 x LED yellow Channel active<br>1 x LED red Channel error |

| Wiring diagram/terminal assigment | Terminal block | Terminal | Description | |
|---|---|---|---|---|
|  | X4 | 7- | Minus terminal | Channel 7 |
| | | 7+ | Plus terminal | Channel 7 |
| | | 8- | Minus terminal | Channel 8 |
| | | 8+ | Plus terminal | Channel 8 |
| | X3 | 5- | Minus terminal | Channel 5 |
| | | 5+ | Plus terminal | Channel 5 |
| | | 6- | Minus terminal | Channel 6 |
| | | 6+ | Plus terminal | Channel 6 |
| | X2 | 3+ | Plus terminal | Channel 3 |
| | | 3- | Minus terminal | Channel 3 |
| | | 4+ | Plus terminal | Channel 4 |
| | | 4- | Minus terminal | Channel 4 |
| | X1 | 1+ | Plus terminal | Channel 1 |
| | | 1- | Minus terminal | Channel 1 |
| | | 2+ | Plus terminal | Channel 2 |
| | | 2- | Minus terminal | Channel 2 |



**Dimensions**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ON 1-8 | GE | Channel switched on |
| ERR 1-8 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 8DO | **17-6143-1001/0000** |

Technical data subject to change without notice.

The ANTARES 8AI Remote I/O Module is suitable for the direct linking of 8 intrinsically safe two-conductor transmitters. NAMUR sensors, optocouplers, wired and unwired mechanical contacts or other actuating elements can be connected with intrinsic safety. All of the I/O module's transmission channels are conductively connected to each other. The ANTARES 8AI Remote I/O Module is operated by and supplied with power by the ANTARES Rail Control Unit (RCU). A bus rail is not necessary. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. Parameters can be set for each channel. Open circuit/short circuit monitoring can be programmed for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2017 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0059 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +50 °C<br>-20 °C to +60 °C<br>(in conjunction with a distance module) |

### Safety data per transmission Channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 8AI | 27.5 V | 87 mA | 598 mW | 6 nF | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8AI | 79 nF | 0.2 mH | or | 37 nF | 1.7 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8AI | 666 nF | 0.1 mH | or | 264 nF | 16 mH |

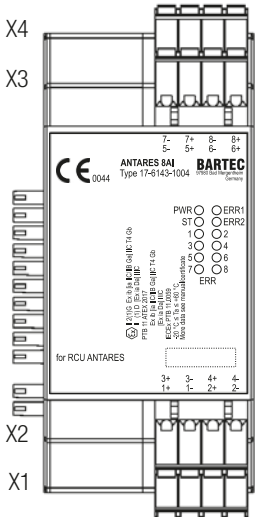
### Technical data

| | |
|---|---|
| Enclosure material | PA |
| Protection class<br>(EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole, up to 2.5 $mm^2$<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and<br>terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 390 g |
| Storage and<br>transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination<br>(IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

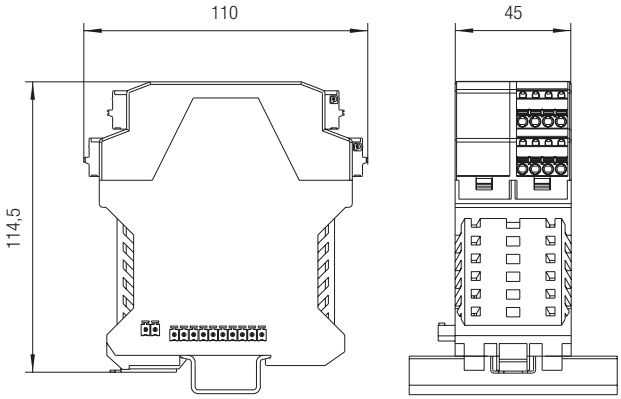
| | |
|---|---|
| Number of Channels | 8 analog inputs Ex i (short-circuit-proof) |
| Galvanic Isolation | between inputs and internal bus |
| Open circuit/short circuit | settable for each Channel with<br>Software |
| Signal range | 4 to 20 mA |
| Signal | min. 0 mA<br>max. 20.5 mA |
| Short-circuit current | max. 20.8 mA |
| Input resistance | $R_i$ = 10 Ω |
| Resolution | 16 bit (15 bit + prefix) |
| Tolerance | ± 0.1 % of the measuring range<br>at +25 °C |
| Influence of the<br>ambient temperature | ± 0.01 %/K of the measuring range |
| Minimum voltage at 20 mA | 16 V |
| Displays | LEDs in enclosure front:<br>Status: PWR, ST, ERR1, ERR2<br>Inputs: for each Channel 1 LED ERR |

**Wiring diagram/terminal assigment**




| Terminal block | Terminal | Description | |
|---|---|---|---|
| X4 | 7- | Minus terminal | Channel 7 |
| | 7+ | Plus terminal | Channel 7 |
| | 8- | Minus terminal | Channel 8 |
| | 8+ | Plus terminal | Channel 8 |
| X3 | 5- | Minus terminal | Channel 5 |
| | 5+ | Plus terminal | Channel 5 |
| | 6- | Minus terminal | Channel 6 |
| | 6+ | Plus terminal | Channel 6 |
| X2 | 3+ | Plus terminal | Channel 3 |
| | 3- | Minus terminal | Channel 3 |
| | 4+ | Plus terminal | Channel 4 |
| | 4- | Minus terminal | Channel 4 |
| X1 | 1+ | Plus terminal | Channel 1 |
| | 1- | Minus terminal | Channel 1 |
| | 2+ | Plus terminal | Channel 2 |
| | 2- | Minus terminal | Channel 2 |

**Dimensions**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ERR 1-8 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 8AI | **17-6143-1004/0000** |

Technical data subject to change without notice.

The ANTARES 8AIH Remote I/O Module is suitable for the direct linking of 8 intrinsically safe two-conductor transmitters. NAMUR sensors, optocouplers, wired and unwired mechanical contacts or other actuating elements can be connected with intrinsic safety. All of the I/O module's transmission channels are conductively connected to each other. The ANTARES 8AI Remote I/O Module is operated by and supplied with power by the ANTARES Rail Control Unit (RCU). A bus rail is not necessary. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. Parameters can be set for each channel. Open circuit/short circuit monitoring can be programmed for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2017 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0059 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +50 °C<br>-20 °C to +60 °C<br>(in conjunction with a distance module) |

### Safety data per transmission Channel

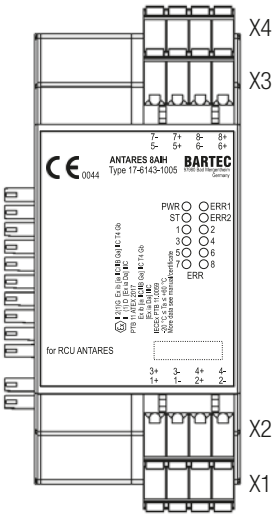
| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 8AIH | 27.5 V | 87 mA | 598 mW | 6 nF | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8AIH | 79 nF | 0.2 mH | or | 37 nF | 1.7 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8AIH | 666 nF | 0.1 mH | or | 264 nF | 16 mH |

### Technical data

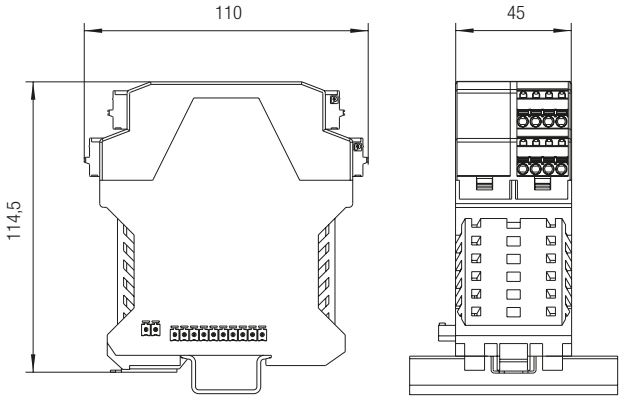
| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole, up to 2.5 $mm^2$<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 390 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination (IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

| | |
|---|---|
| Number of Channels | 8 analog inputs Ex i HART<br>(short-circuit-proof) |
| Galvanic Isolation | between inputs and internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| Signal range | 4 to 20 mA |
| Signal | min. 0 mA<br>max. 20.5 mA |
| Short-circuit current | max. 21 mA |
| Input resistance | $R_i$ = 10 Ω |
| Resolution | 16 bit (15 bit + prefix) |
| Tolerance | ± 0.1 % of the measuring range<br>at +25 °C |
| Influence of the ambient temperature | ± 0.01 %/K of the measuring range |
| Minimum voltage at 20 mA | 16 V |
| Displays | LEDs in enclosure front:<br>Status: PWR, ST, ERR1, ERR2<br>Inputs: per Channel 1 LED ERR |

| Wiring diagram/terminal assigment | Terminal block | Terminal | Description | |
|---|---|---|---|---|
|  | X4 | 7- | Minus terminal | Channel 7 |
| | | 7+ | Plus terminal | Channel 7 |
| | | 8- | Minus terminal | Channel 8 |
| | | 8+ | Plus terminal | Channel 8 |
| | X3 | 5- | Minus terminal | Channel 5 |
| | | 5+ | Plus terminal | Channel 5 |
| | | 6- | Minus terminal | Channel 6 |
| | | 6+ | Plus terminal | Channel 6 |
| | X2 | 3+ | Plus terminal | Channel 3 |
| | | 3- | Minus terminal | Channel 3 |
| | | 4+ | Plus terminal | Channel 4 |
| | | 4- | Minus terminal | Channel 4 |
| | X1 | 1+ | Plus terminal | Channel 1 |
| | | 1- | Minus terminal | Channel 1 |
| | | 2+ | Plus terminal | Channel 2 |
| | | 2- | Minus terminal | Channel 2 |

**Dimensions**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ERR 1-8 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 8AIH | **17-6143-1005/0000** |

Technical data subject to change without notice.

The ANTARES 4AIO Remote I/O Module is operated and supplied with power by means of the Rail Control Unit (RCU) ANTARES. This module allows the direct linking of 4 intrinsically safe transmitters with 2, 3 or 4 conductors or the output of 0 to 20 mA or 4 to 20 mA signals. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. The internal and galvanically isolated bus connection is established by simply plugging the modules to the RCU. A bus rail is not necessary. Open circuit/short circuit monitoring can be programmed for each channel. The bus status messages and individual messages per channel are displayed by the LEDs. This also enables diagnostics on the module. The Software ANTARES Designer allows parameters to be set for the signal range, channel type (in or out) and a 4-stage input filter for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2018 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0061 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +60 °C |

### Safety data per transmission Channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 4AIO | 27.5 V | 87 mA | 598 mW | 6 nF | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 4AIO | 79 nF | 0.2 mH | or | 37 nF | 1.7 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 4AIO | 666 nF | 0.1 mH | or | 264 nF | 16 mH |

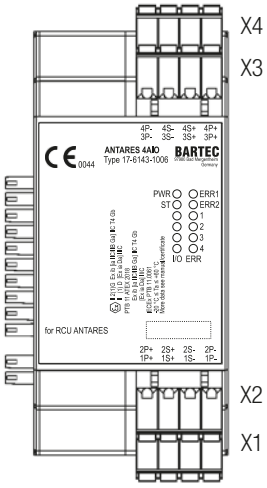
### Technical data

| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>up to 2.5 mm²<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 390 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination<br>(IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

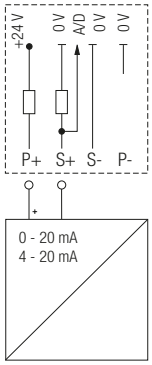
| | |
|---|---|
| **Inputs/outputs** | |
| Number of Channels | 4 inputs or outputs Ex i (short-circuit-proof)<br>Inputs active/passive |
| Galvanic Isolation | between inputs or outputs and internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| **Input channel** | |
| Signal range | 0 to 20 mA or 4 to 20 mA |
| Signal | min. 0 mA, max. 21 mA |
| Short-circuit current | max. 21.3 mA |
| Input resistance | $R_i$ = 10 Ω |
| Resolution | 16 bit (15 bit + prefix) |
| Tolerance | ± 0.1 % of the measuring range at +25 °C |
| Influence of the<br>ambient temperature | ± 0.01 %/K of the measuring range |
| Minimum voltage at 20 mA | 16 V |
| **Output channel** | |
| Signal range | 0 to 20 mA or 4 to 20 mA |
| Signal | min. 0 mA, max. 21 mA |
| Short-circuit current | max. 21.3 mA |
| Load | max. 750 Ω |
| Resolution | 14 bit |
| Tolerance | ± 0.1 % of the measuring range at +25 °C |
| Influence of the<br>ambient temperature | ± 0.01 %/K of the measuring range |
| Displays | LEDs in enclosure front:<br>Status: PWR, ST, ERR1, ERR2<br>Inputs/Outputs: 2 LEDs per Channel<br>1 x LED yellow,<br>Channel setting<br>1 x LED red,<br>Channel error |

**Wiring diagram/terminal assigment**

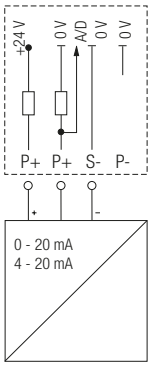



| Terminal block | Terminal | Description | |
|---|---|---|---|
| X4 | 4P- | Supply - | Channel 4 |
| | 4S- | Signal - | Channel 4 |
| | 4S+ | Signal + | Channel 4 |
| | 4P+ | Supply + | Channel 4 |
| X3 | 3P- | Supply - | Channel 3 |
| | 3S- | Signal - | Channel 3 |
| | 3S+ | Signal + | Channel 3 |
| | 3P+ | Supply + | Channel 3 |
| X2 | 2P+ | Supply + | Channel 2 |
| | 2P+ | Signal + | Channel 2 |
| | 2S- | Signal - | Channel 2 |
| | 2P- | Supply - | Channel 2 |
| X1 | 1P+ | Supply + | Channel 1 |
| | 1S+ | Signal + | Channel 1 |
| | 1S- | Signal - | Channel 1 |
| | 1P- | Supply - | Channel 1 |

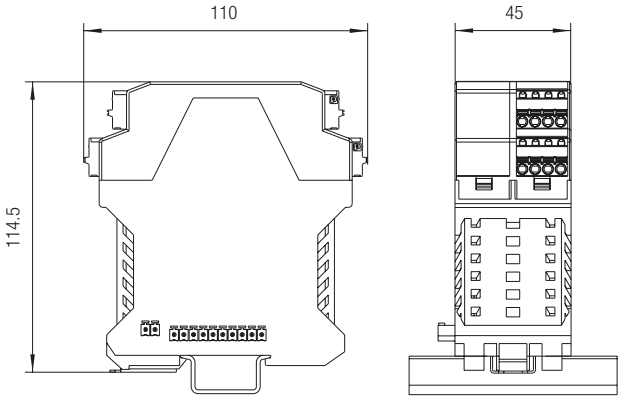
**Passive sensors/ 2 conductor transmitter**



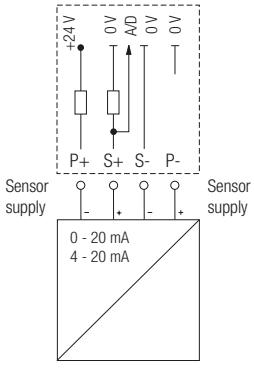

**Passive sensors/ 3 conductor transmitter**



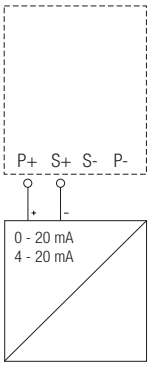

**Dimensions**




**Active sensors/ 4 conductor transmitter**




**Analog outputs/ 2 conductor actuators**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ON 1-4 | GE | Differentiation input/output module |
| ERR 1-4 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 4AIO | **17-6143-1006/0000** |

Technical data subject to change without notice.

The ANTARES 4AIOH Remote I/O Module is operated and supplied with power by means of the Rail Control Unit (RCU) ANTARES. This module allows the direct linking of 4 intrinsically safe 2-, 3-, 4-conductor transmitters or the output of 0 up to 20 mA or 4 up to 20 mA signals. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. The internal and galvanically isolated bus connection is established by simply plugging the modules to the RCU. A bus rail is not necessary. Open circuit/short circuit monitoring can be programmed for each channel. The bus status messages and individual messages per channel are displayed by the LEDs. This also enables diagnostics on the module. The Software ANTARES Designer allows parameters to be set for the signal range, channel type (in or out), HART function by DTM and a 4-stage input filter for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Certification | PTB 11 ATEX 2018 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0061 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +50 °C<br>-20 °C to +60 °C<br>(in conjunction with a distance module) |

### Safety data per transmission Channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 4AIOH | 27.5 V | 87 mA | 598 mW | 6 nF | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 4AIOH | 79 nF | 0.2 mH | or | 37 nF | 1.7 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 4AIOH | 666 nF | 0.1 mH | or | 264 nF | 16 mH |

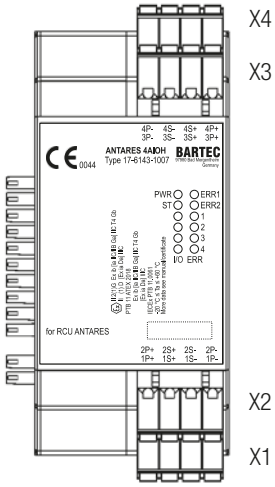
### Technical data

| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole up to 2.5 mm²<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 390 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination (IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

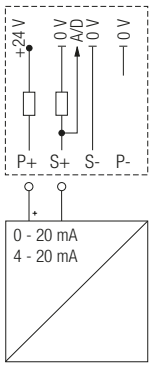
| | |
|---|---|
| **Inputs/Outputs** | |
| Number of Channels | 4 inputs or outputs Ex i (short-circuit-proof)<br>Inputs active/passive |
| Galvanic Isolation | between inputs or outputs and internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| **Input channel** | |
| Signal range | 0 to 20 mA or 4 to 20 mA |
| Signal | min. 0 mA, max. 21 mA |
| Short-circuit current | max. 21.3 mA |
| Input resistance | $R_i$ = 10 Ω |
| Resolution | 16 bit (15 bit + prefix) |
| Tolerance | ± 0.1 % of the measuring range at +25 °C |
| Influence of the ambient temperature | ± 0.01 %/K of the measuring range |
| Minimum voltage at 20 mA | 16 V |
| **Output channel** | |
| Signal range | 0 to 20 mA or 4 to 20 mA |
| Signal | min. 0 mA, max. 21 mA |
| Short-circuit current | max. 21.3 mA |
| Load | max. 750 Ω |
| Resolution | 14 bit |
| Tolerance | ± 0.1 % of the measuring range at +25 °C |
| Influence of the ambient temperature | ± 0.01 %/K of the measuring range |
| Displays | LEDs in enclosure front:<br>Status: PWR, ST, ERR1, ERR2<br>Inputs/Outputs: 2 LEDs per Channel<br>1 x LED yellow, Channel setting<br>1 x LED red, Channel error |

**Wiring diagram/terminal assigment**

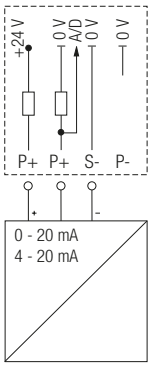



| Terminal block | Terminal | Description | |
|---|---|---|---|
| X4 | 4P- | Supply - | Channel 4 |
| | 4S- | Signal - | Channel 4 |
| | 4S+ | Signal + | Channel 4 |
| | 4P+ | Supply + | Channel 4 |
| X3 | 3P- | Supply - | Channel 3 |
| | 3S- | Signal - | Channel 3 |
| | 3S+ | Signal + | Channel 3 |
| | 3P+ | Supply + | Channel 3 |
| X2 | 2P+ | Supply + | Channel 2 |
| | 2P+ | Signal + | Channel 2 |
| | 2S- | Signal - | Channel 2 |
| | 2P- | Supply - | Channel 2 |
| X1 | 1P+ | Supply + | Channel 1 |
| | 1S+ | Signal + | Channel 1 |
| | 1S- | Signal - | Channel 1 |
| | 1P- | Supply - | Channel 1 |

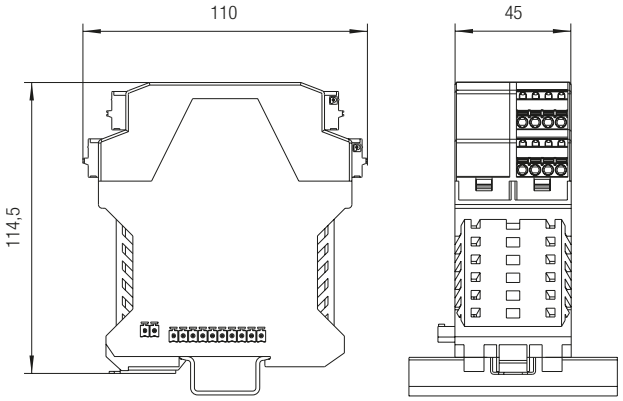
**Passive sensors/ 2 conductor transmitter**



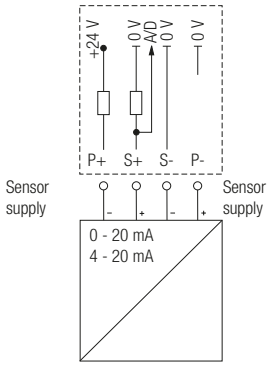

**Passive sensors/ 3 conductor transmitter**



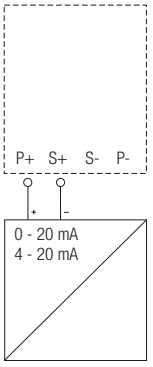

**Dimensions**




**Active sensors/ 4 conductor transmitter**




**Analog outputs/ 2 conductor actuators**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ON 1-4 | GE | Differentiation input/output module |
| ERR 1-4 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 4AIOH | **17-6143-1007/0000** |

Technical data subject to change without notice.

The ANTARES 4TI Remote I/O Module is operated and supplied with power by means of the Rail Control Unit (RCU) ANTARES. This module allows the intrinsically safe connection of 4 Pt100, Pt1000, resistors or potentiometers. The hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in an explosive atmosphere. The internal and galvanically isolated bus connection is established by simply plugging the modules to the RCU. A bus rail is not necessary. Open circuit/short circuit monitoring can be programmed for each channel. The bus status messages and individual messages per channel are displayed by the LEDs. This also enables diagnostics on the module. The Software ANTARES Designer allows parameters to be set for the sensor type. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1) G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1) D [Ex ia Da] IIIC |
| Prüfbescheinigung | PTB 11 ATEX 2016 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 11.0058 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +60 °C |

### Safety data per transmission Channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 4TI | 6.5 V | 25.9 mA | 42.1 mW | 16.6 nF | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 4TI | 24.9 µF | 2 µH | or | 593 nF | 73 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 4TI | 569 µF | 2 µH | or | 4.68 nF | 100 mH |

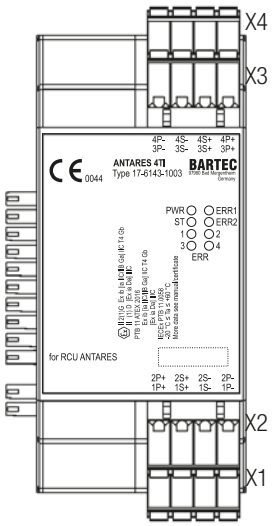
### Technical data

| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure: IP 30<br>in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole, to 2.5 $mm^2$<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | approx. 380 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination (IEN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm; 5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Elektrische Daten

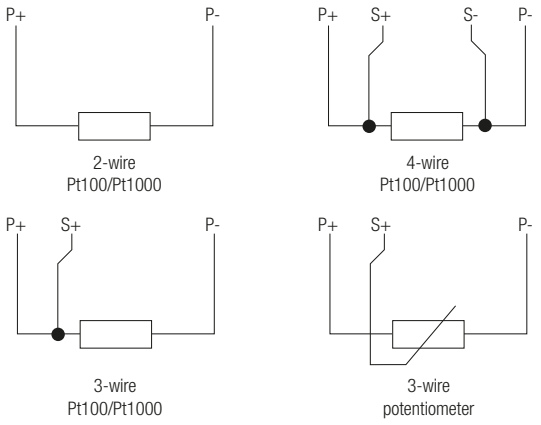
| | |
|---|---|
| Number of Channels | 4 inputs Ex i (short-circuit-proof) |
| Supply voltage | through internal bus |
| Galvanic isolation | between inputs and internal bus |
| Open circuit/short circuit | settable for each Channel with Software |
| Measurement range | Potentiometer 0 up to 10 kΩ<br>Temperature -200 °C to +850 °C |
| Sensors | Pt100, Pt1000, Potentiometer<br>with 2-, 3-, 4-conductor technology |
| Readings | Temperature (Pt100, Pt1000)<br>in °C, K or °F<br>Potentiometer in Ω, settable for each Channel with software |
| Displays | LEDs in enclosure front:<br>Status PWR, ST, ERR1, ERR2<br>Inputs 1 x LED error per Channel |
| Tolerance for 4-conductor wiring | ± 0.10 % of the measuring range<br>at +25 °C |
| Tolerance of the resistor | ± 0.15 % of the measuring range<br>at +25 °C |
| Influence of the ambient temperature | ± 0.01 %/K of the measuring range |

**Wiring diagram/terminal assigment**

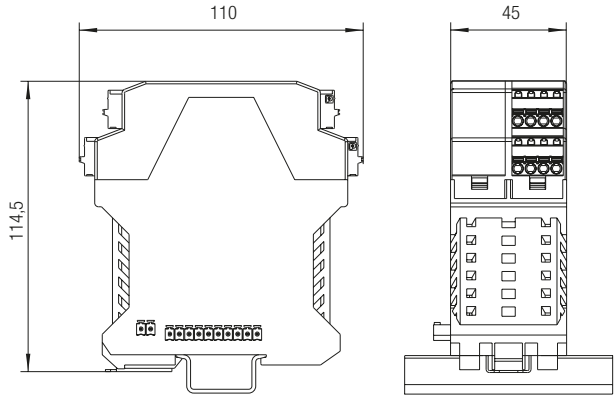



| Terminal block | Terminal | Description | |
|---|---|---|---|
| X4 | 4P- | Supply - | Channel 4 |
| | 4S- | Signal - | Channel 4 |
| | 4S+ | Signal + | Channel 4 |
| | 4P+ | Supply + | Channel 4 |
| X3 | 3P- | Supply - | Channel 3 |
| | 3S- | Signal - | Channel 3 |
| | 3S+ | Signal + | Channel 3 |
| | 3P+ | Supply + | Channel 3 |
| X2 | 2P+ | Supply + | Channel 2 |
| | 2P+ | Signal + | Channel 2 |
| | 2S- | Signal - | Channel 2 |
| | 2P- | Supply - | Channel 2 |
| X1 | 1P+ | Supply + | Channel 1 |
| | 1S+ | Signal + | Channel 1 |
| | 1S- | Signal - | Channel 1 |
| | 1P- | Supply - | Channel 1 |

**Connection examples**




**Dimensions**




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ERR 1-4 | RT | Channel error line break/short circuit |

**Ordering information**

| | |
|---|---|
| ANTARES Remote I/O Module 4TI | **17-6143-1003/0000** |

Technical data subject to change without notice.

The ANTARES 8TC Remote I/O Module (8 thermocouples) is suitable for the intrinsically safe connection of a variety of thermocouple types. All of the I/O module's transmission channels are conductively connected to each other. The ANTARES 8TC Remote I/O Module is operated by and supplied with power by the ANTARES Rail Control Unit (RCU). A bus rail is not necessary. Hot-swap capability allows the electronic unit to be replaced without disconnecting from voltage even in a potentially explosive atmosphere. Parameters can be set for every channel. Open circuit/short circuit monitoring can be programmed for each channel. See the system description for installation instructions.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>Ⓔx II (1)D [Ex ia Da] IIIC |
| Certification | PTB 14 ATEX 2009 |
| Marking IECEx | Ex ib [ia IIC/IIB Ga] IIC T4 Gb<br>[Ex ia Da] IIIC |
| Certification | IECEx PTB 14.0033 |
| Marking CSA | Class I, Zone 1 |
| Certification | CSA 2567944 |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature range | -20 °C to +60 °C |

### Safety data per transmission Channel

| Module | $U_o/U_i$ | $I_o/I_i$ | $P_o$ | $C_i$ | $L_i$ |
|---|---|---|---|---|---|
| 8TC | 1.4 V | 10.5 mA | 3.7 mW | negligible | negligible |
| Ex ia IIC | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8TC | 8.8 µF | 2 µH | oder | 0.74 µF | 100 mH |
| Ex ia IIB | $C_{o\ max.}$ | $L_{o\ min.}$ | | $C_{o\ min.}$ | $L_{o\ max.}$ |
| 8TC | 115 µF | 2 µH | oder | 3.9 µF | 100 mH |

### Technical data

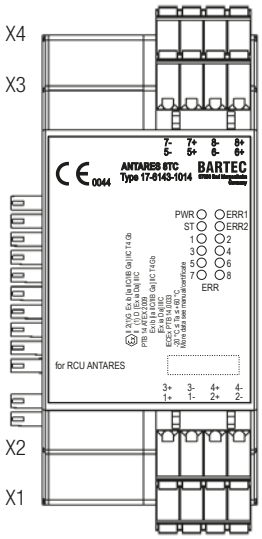
| | |
|---|---|
| Enclosure material | PA |
| Protection class (EN 60529) | Enclosure:<br>IP 30 in the ANTARES system construction |
| Electrical connections | plug-in tension spring-loaded clamps,<br>4-pole, up to 2.5 $mm^2$;<br>optional coding and numbering |
| Mounting rail | TH 35-15 DIN EN 60715<br>(steel, galvanised) |
| Device and terminal designation | see accessories |
| Dimensions (W x H x D) | 45 mm x 110 mm x 114.5 mm |
| Weight | ca. 390 g |
| Storage and transport temperature | -25 °C to +85 °C |
| Humidity | 5 to 95 %, non-condensing |
| Degree of contamination (EN 60664-1) | 2 |
| Vibration (EN 60068-2-6) | 2 g/7 mm;<br>5 Hz to 200 Hz in all 3 axes |
| Shock (EN 60068-2-27) | 15 g, 11 ms, ± 3 shocks per direction |

### Electrical data

| | |
|---|---|
| Number of Channels | 8 inputs Ex i (short-circuit proof) |
| Supply voltage | through internal bus |
| Galvanic isolation | between inputs and internal bus |
| Potential isolation of Channels | Funtionally up to 100 $V_{ss}$ |
| Open circuit/short circuit | settable for each Channel with Software |
| Measuring range | -80 mV to +80 mV |
| Sensors | Thermocouple types:<br>A; B; C; E; J; K; N; R; S; T; XK; mV |
| Display | Temperature in °C, K or °F |
| Measuring time cycle temperature operation | approx. 75 ms per canal |
| Influence of the ambient temperature | ± 0.05 %/10 K<br>of the measuring range full-scale value |

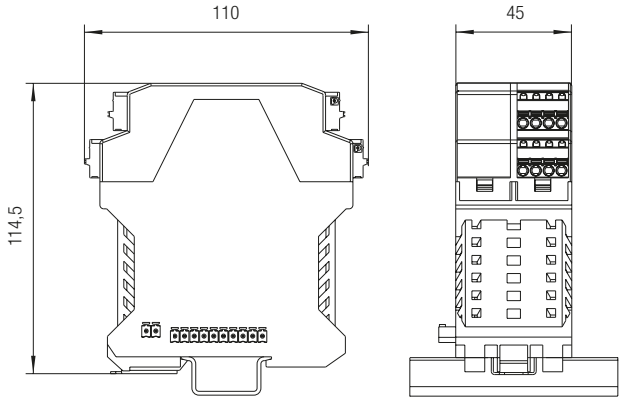
Measurement deviation

| Element Type | Standard | Measuring range (ITS-90) | Medium resolution | Average measurement deviation based on the measuring range |
|---|---|---|---|---|
| A | IEC 60584-1 | 0 to +2500 °C | 0.25 K | 0.1 % |
| B | IEC 60584-1 | +400 to +1800 °C | 0.25 K | 0.1 % |
| C | IEC 60584-1 | 0 to +2300 °C | 0.25 K | 0.1 % |
| E | IEC 60584-1 | -200 to +1000 °C | 0.1 K | 0.013 % |
| J | IEC 60584-1 | -200 to +1200 °C | 0.1 K | 0.014 % |
| K | IEC 60584-1 | -200 to +1370 °C | 0.1 K | 0.02 % |
| N | IEC 60584-1 | -200 to +1300 °C | 0.1 K | 0.02 % |
| R | IEC 60584-1 | -50 to +1767 °C | 0.2 K | 0.05 % |
| S | IEC 60584-1 | -50 to +1767 °C | 0.2 K | 0.053 % |
| T | IEC 60584-1 | -200 to +400 °C | 0.1 K | 0.042 % |
| XK | GOST 8.585 | -50 to +800 °C | 0.1 K | 0.02 % |
| mV | | 0 to +100 mV | 3.6 µV | 0.01 % |

| Wiring diagram/terminal assigment | Terminal block | Terminal | Description | |
|---|---|---|---|---|
|  | X4 | 7- | Minus terminal | Channel 7 |
| | | 7+ | Plus terminal | Channel 7 |
| | | 8- | Minus terminal | Channel 8 |
| | | 8+ | Plus terminal | Channel 8 |
| | X3 | 5- | Minus terminal | Channel 5 |
| | | 5+ | Plus terminal | Channel 5 |
| | | 6- | Minus terminal | Channel 6 |
| | | 6+ | Plus terminal | Channel 6 |
| | X2 | 3+ | Plus terminal | Channel 3 |
| | | 3- | Minus terminal | Channel 3 |
| | | 4+ | Plus terminal | Channel 4 |
| | | 4- | Minus terminal | Channel 4 |
| | X1 | 1+ | Plus terminal | Channel 1 |
| | | 1- | Minus terminal | Channel 1 |
| | | 2+ | Plus terminal | Channel 2 |
| | | 2- | Minus terminal | Channel 2 |



**Dimensions** (mm)




| LED | Colour | Meaning |
|---|---|---|
| PWR | GN | Power OK, goes out in the event of undervoltage |
| ST | GN | Data exchange active |
| ERR1 | RT | Communication error |
| ERR2 | RT | Error in the module |
| ERR 1-8 | RT | Channel error line break/short circuit |

**Ordering information**

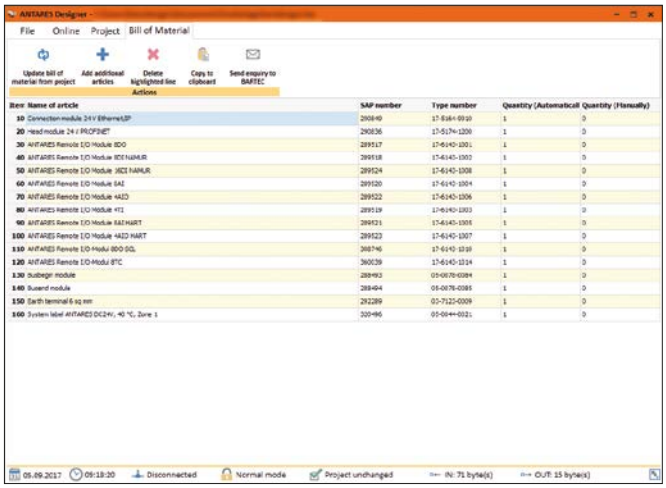
| | |
|---|---|
| ANTARES Remote I/O Modul 8TC | **17-6143-1014/0000** |

Technical data subject to change without notice.

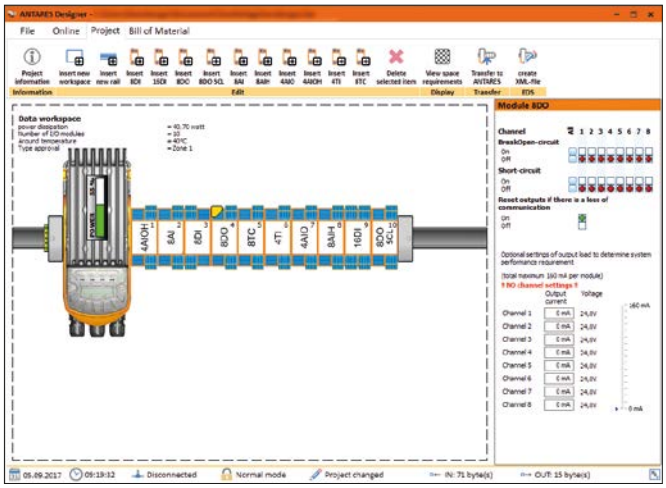
## Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **Software ANTARES Designer**<br>for ANTARES system project planning and configuration | **17-28TF-0074** |
| | **ANTARES PCS7 Driver**<br>for ANTARES system project planning and configuration in PCS7 systems | **03-9880-0030** |
| | **Distance module**<br>Dimensions (W x H x D)<br>22.5 mm x 110 mm x 114.5 mm | **05-0078-0106** |
| | **ANTARES ExtSet**<br>Rail extension set for distribution of Remote I/O modules to mutiple mounting rails.<br>ANTARES ExtSet 2 m<br>ANTARES ExtSet 10 m<br>ANTARES ExtSet 20 m | <br><br>**05-0090-0015**<br>**05-0090-0014**<br>**05-0090-0016** |
| | **Module at start of bus**<br>**Module at end of bus**<br>Mechanical fastening of the modules on the mounting rail and termination of the internal data bus | **05-0078-0084**<br>**05-0078-0085** |
| | **Plug bridge**<br>For connetion of two RCUs in the PROFIBUS-DP in redundancy operation | **05-0078-0086** |
| | **SD card**<br>For storing the RCU configuration data and 1 GB ATP Industrial Grade SD card | **17-28BE-F006/0002** |
| | **Coding pins** (unit 100 pieces)<br>Coding for plug-in tension spring clamps in the remote I/O modules,<br>Coding plug<br>Coding socket | <br><br>**03-7239-0019**<br>**03-7239-0020** |
| | **Earth conductor terminal** 6 mm²<br>Unit 5 pieces | **03-7123-0009** |
| | **Mounting rail** 2 m<br>TH 35-15 DIN EN 60715 (Metall), unit 5 pieces | **02-2010-0012** |
| | **System label for ANTARES**<br>DC 24 V, +40 °C, Zone 1<br>DC 24 V, +45 °C, Zone 1<br>DC 24 V, +50 °C, Zone 1<br>DC 24 V, +55 °C, Zone 1<br>DC 24 V, +60 °C, Zone 1<br>DC 24 V, +40 °C, Zone 21<br>DC 24 V, +45 °C, Zone 21<br>DC 24 V, +50 °C, Zone 21<br>DC 24 V, +55 °C, Zone 21<br>DC 24 V, +60 °C, Zone 21<br>DC 24 V, +40 °C, Zone 21<br>DC 24 V, +45 °C, Zone 21<br>DC 24 V, +50 °C, Zone 21<br>DC 24 V, +55 °C, Zone 21<br>DC 24 V, +60 °C, Zone 21 | <br>**05-0044-0021**<br>**05-0044-0022**<br>**05-0044-0023**<br>**05-0044-0024**<br>**05-0044-0025**<br>**05-0044-0026**<br>**05-0044-0027**<br>**05-0044-0028**<br>**05-0044-0029**<br>**05-0044-0030**<br>**05-0044-0031**<br>**05-0044-0032**<br>**05-0044-0035**<br>**05-0044-0036**<br>**05-0044-0037** |
| | **Label holder** Dimensions: 106 mm x 84 mm | **05-0705-0010** |
| | **Spring force connector** blue | **03-9320-0158** |

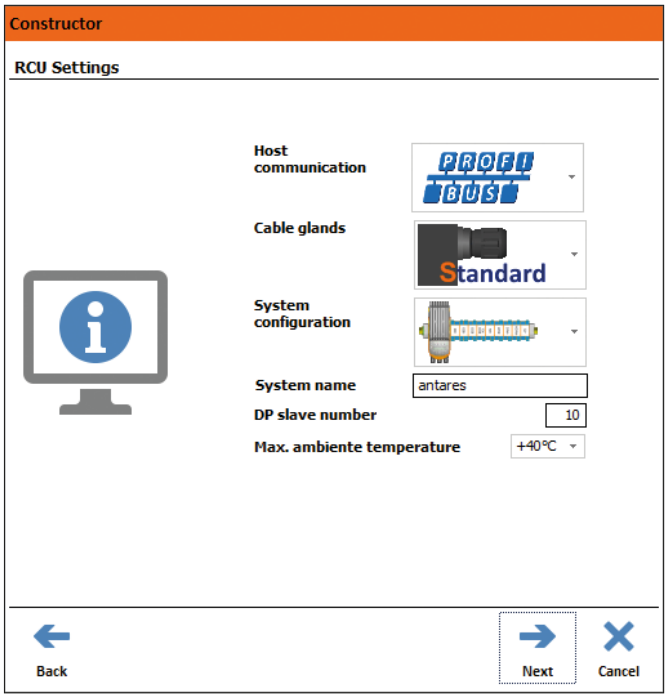
Parts list




Project Planning




Constructor




The ANTARES designer software has been developed by BARTEC. It operates intuitively, enabling the system to be planned and configured with just a few clicks of the mouse. During the set-up process, users can view their actual system configuration in true-to-scale image; the program also monitors compliance with certain limit values such as spacing, power management and the maximum data length on the PROFIBUS. Further functions such as the generation of parts lists and automatic enquiry by email are also possible. The software is also equipped with a CONSTRUCTOR (project or system generator), which calculates the required inputs and outputs and the spare capacity needed for the most cost-effective, i.e. optimal, system. The current output load can be automatically calculated specifically for the digital remote I/O output modules. The software has been developed for use with WINDOWS® XP or WINDOWS® 7.

### Ordering information

| | |
|---|---|
| Software ANTARES Designer | **17-28TF-0074** |

Technical data subject to change without notice.

MODEX BUS SYSTEMS

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In the Ex e version, the MODEX digital out module can control various actuators using 16 digital outputs. During operation, a channel can be short-circuited on the short-circuit proof outputs (short-circuit proof to a limited extent). For example, solenoid valves, contacts and also signal transmitters with 24 V/ max. 500 mA can be controlled as actuators. The controlled actuators can be switched off by an emergency stop via a second power supply connection on the module on terminals U- and U+. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to short-circuit or voltage failure can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1066 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0082U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

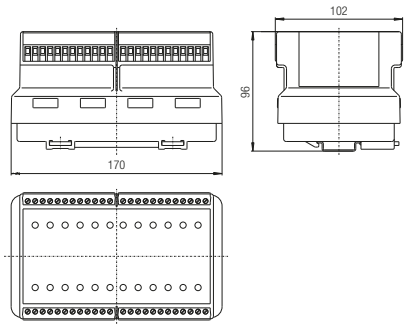
**Technical data**

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail | |
| Enclosure material | High-quality thermoplastics | |
| Protection class | Electronic assembly<br>Terminals<br>Terminals with cover | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Device designation | Front plate for labelling | |
| Displays | LEDs on front panel | |
| Storage temperature | -40 °C to +60 °C | |
| Ambient temperature | -40 °C to +60 °C at T4 | |
| Weight | 2.1 kg | |

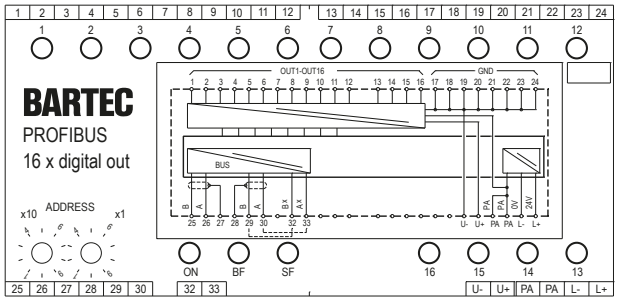
**Electrical data**

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 1.5 W |
| Supply voltage Outputs (U +, U-) suitable for emergency stop | DC 24 V (18 to 30 V) |
| Power output (U+, U-) | 240 W (max.) |
| Reverse polarity protection (L +, L-, U +, U-) | Yes |
| Power dissipation | max. 7.3 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//outputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF, SF<br>Outputs 16 x LED yellow, active |
| Outputs | |
| Output voltage | U+ -0.18 V |
| Output current | 500 mA at $T_U$ = +40 °C<br>400 mA at $T_U$ = +60 °C |
| Short-circuit protection | short-circuit proof to a limited extent |
| Reverse polarity protection | Yes |
| Circuit monitoring | Combined fault via bus |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Note | |
|---|---|
| Last bus module in system | Bridge A-A$^{X}$ (terminals 30, 33)<br>Bridge B-B$^{X}$ (terminals 29, 32) |
| GSD file<br>Download | BARX2901.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 16 x Ex e digital out | **07-7331-2301/0000** |

Technical data subject to change without notice.

In the Ex i version, the MODEX digital out Ex i module can control various actuators using 16 digital outputs. During operation, a channel can be short-circuited on the short-circuit proof outputs (short-circuit proof to a limited extent). For example, intrinsically safe solenoid valves and intrinsically safe signal transmitters can be controlled as actuators. The controlled actuators can be switched off by an emergency stop via a second power supply connection on the module on terminals U- and U+. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ib] IIC/IIB Gb<br>Ⓔx I M2 Ex db e [ib] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 00 ATEX 1649 |
| Marking IECEx | Ex db e [ib] IIC/IIB Gb<br>Ex db e [ib] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0035X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ib] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-.10./....<br>Type 17-6583-.11./....<br>Ⓔx II (2) G / II (2) D<br>[Ex ib Gb] IIC/IIB<br>[Ex ib Db] IIIC/IIIB<br>For further data see verification certificates. |
| Safety data | Type 17-6583-.10./....<br>$U_0$ = 21 V<br>$I_0$ = 111.6 mA<br>$P_0$ = 586 mW<br>Characteristic: linear |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ex ib IIC | $L_0$ | 2.1 mH | 1 mH | 0.5 mH | 0.2 mH | 0.1 mH | 0.05 mH |
| | $C_0$ | 93 nF | 96 nF | 110 nF | 150 nF | 180 nF | 188 nF |
| Ex ib IIB/IIIB/IIIC | $L_0$ | 12 mH | 10 mH | 5 mH | 0.5 mH | 0.2 mH | 0.1 mH |
| | $C_0$ | 540 nF | 620 nF | 710 nF | 750 nF | 910 nF | 1.1 nF |

Type 17-6583-.11./....
$U_0$ = 21 V
$I_0$ = 139.2 mA
$P_0$ = 731 mW
Characteristic: linear

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ex ib IIC | $L_0$ | 1.2 mH | 1 mH | 0.5 mH | 0.2 mH | 0.1 mH | 0.05 mH |
| | $C_0$ | 83 nF | 86 nF | 100 nF | 140 nF | 170 nF | 188 nF |
| Ex ib IIB/IIIB/IIIC | $L_0$ | 7.4 mH | 5 mH | 0.5 mH | 0.2 mH | 0.1 mH | 0.05 mH |
| | $C_0$ | 630 nF | 680 nF | 730 nF | 900 nF | 1.1 nF | 1.27 nF |

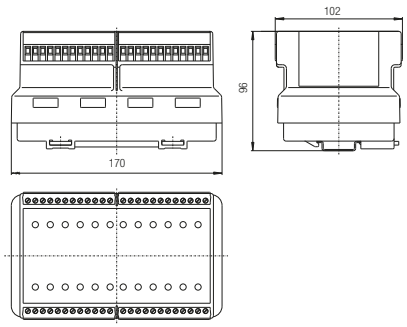
### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Electronic assembly IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with cover IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -40 °C to +60 °C at T4 |
| Weight | 2.1 kg |

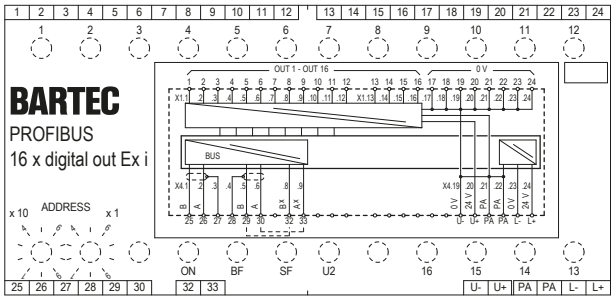
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 2.5 W |
| Supply voltage Outputs (U +, U-) suitable for emergency stop | DC 24 V (20 to 30 V) |
| Power output (U+, U-) | 15 W (max.) |
| Reverse polarity protection (L +, L-, U +, U-) | Yes |
| Power dissipation | max. 8 W (Module) |
| Galvanic isolation | Power supply//bus//electronic//outputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF, SF, U2<br>Outputs LED yellow, active<br>LED red, short-circuit |
| Outputs | |
| Output voltage | DC 18.1 V (at U+ ≥ 22 V) |
| Output data | $I_N$ = 30 mA $R_i$ = 220 Ω<br>$I_N$ = 35 mA $R_i$ = 180 Ω |
| Short-circuit protection | conditionally short-circuit-proof |
| Reverse polarity protection | Yes |
| Circuit monitoring | Combined fault via bus |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Note | |
|---|---|
| Last bus module<br>in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file<br>Download | BARX2301.gsd<br>http://automation.bartec.de |

### Ordering information

| | | |
|---|---|---|
| PROFIBUS Interface<br>16 x digital out Ex i<br><br>Output data<br>$I_N$ = 30 mA<br>$R_i$ = 220 Ω | Safety data<br>Type 17-6583-.10./....<br>$U_0$ = 21 V<br>$I_0$ = 111.6 mA<br>$P_0$ = 586 mW<br>$U_m$ = 253 V<br>$L_0$ = 3.2 mH (IIC)/12 mH (IIB)<br>$C_0$ = 188 nF (IIC)/1.27 µF (IIB) | **07-7331-2301/1000** |
| PROFIBUS Interface<br>16 x digital out Ex i<br><br>Output data<br>$I_N$ = 35 mA<br>$R_i$ = 180 Ω | Safety data<br>Type 17-6583-.11./....<br>$U_0$ = 21 V<br>$I_0$ = 139.2 mA<br>$P_0$ = 731 mW<br>$U_m$ = 253 V<br>$L_0$ = 1.8 mH (IIC)/8 mH (IIB)<br>$C_0$ = 188 nF (IIC)/1.27 µF (IIB) | **07-7331-2301/1100** |

Further data see certificate: TÜV 00 ATEX 1649. Technical data subject to change without notice.

In the Ex-e version, the MODEX digital in module with 16 digital inputs enables 16 binary signals to be fed in. For example, pressure-resistant limit switches or control devices can be imported as signals. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1066 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0082U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

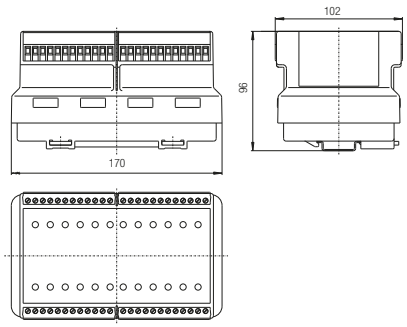
### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Electronic assembly IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with cover IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -40 °C to +60 °C at T4 |
| Weight | 2.1 kg |

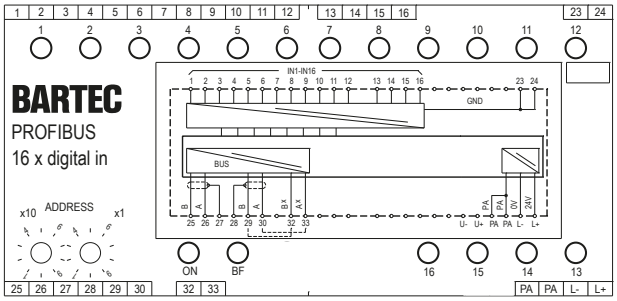
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 1.5 W |
| Reverse polarity protection (L+, L-) | Yes |
| Power dissipation | max. 4.6 W (Module) |
| Galvanic isolation | Power supply//bus//inputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF<br>Ausgänge 16 x LED yellow, active |
| Inputs | |
| Switching threshold | 0 - Signal 0 V to +5 V<br>1 - Signal +10 V to +30 V |
| Power input | typ. 5 mA at 24 V<br>min. 4 mA at 20 V |
| Power consumption | max. 3.1 W (at 16 active inputs) |
| Reverse polarity protection | Yes |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Note | |
|---|---|
| Last bus module in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file<br>Download | BARX2900.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 16 x digital in Ex e | **07-7331-2302/0000** |

Technical data subject to change without notice.

In the Ex i version, the MODEX Ex i digital in module with 16 digital inputs enables 16 binary signals to be evaluated. For example, NAMUR sensors, optocouplers, mechanical contacts or other actuating elements can be imported as signals in an intrinsically safe manner. The module is connected to the process control system via the PROFIBUS-DP. This is also displayed on the module itself using LEDs. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ia Ga] IIC Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 98 ATEX 1355 X |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0024X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-33../....<br>Ⓔx II (1) G / II (1) D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>For further data see test certificates. |
| Safety data | $U_0$ = 12.3 V<br>$I_0$ = 31.8 mA<br>$P_{max.}$ = 97.8 mW<br>$U_m$ = 253 V<br>$L_0$ = 31 mH (IIC)/115 mH (IIB)<br>$C_0$ = 1.28 µF (IIC)/8.1 µF (IIB) |

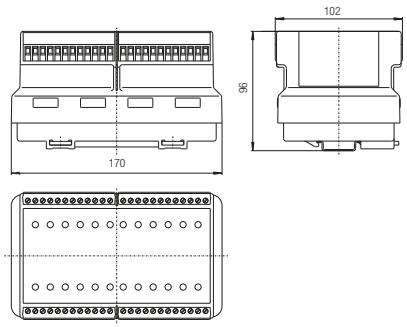
### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Enclosure IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with cover IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 2.1 kg |

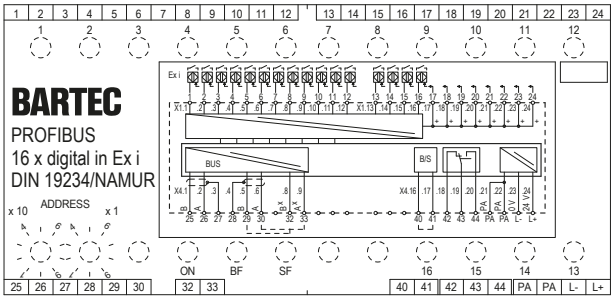
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 5.1 W |
| Reverse polarity protection (L +, L-) | Yes |
| Power dissipation | max. 5.1 W (Module), at 16 closed inputs |
| Galvanic isolation | Power supply//bus//circuitry//inputs |
| Displays | Status ON, BF, SF<br>Inputs 16 x LEDs<br>LED yellow, damped<br>LED red, open/short circuit |
| Inputs | |
| Sensor power supply | $U_a$ = 8.2 V |
| Switching threshold | open circuit < 0.23 mA<br>damped < 1.2 mA<br>undamped > 2.1 mA<br>short circuit > 7.4 mA |
| Transmittable frequency | 100 Hz |
| Line monitoring | Group error message via bus and relay contact AC 230 V/3 A/100 VA |

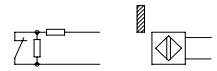
### Dimensions/mounting positions




### Wiring diagram/terminal assignment




### Status chart

| Input | | Data bit | | Diagnostics bit | |
|---|---|---|---|---|---|
| | | Type 07-7331-2303/0000 | Type 07-7331-2303/1000 | Jumper Open circuit/short circuit removed | Jumper Open circuit/short circuit connected |
| damped | | 1 | 0 | 0 | 0 |
| undamped |  | 0 | 1 | 0 | 0 |
| open circuit | | 1 | 0 | 1 | 0 |
| short circuit | | 0 | 1 | 1 | 0 |

| Note | |
|---|---|
| To disable open/short circuit monitoring, bridge terminals 40 and 41. | |
| Use a 1 kΩ/10 kΩ resistive coupling element type 17-9Z62-0002 for open/short circuit monitoring during contact scan. | |
| With 9 - 16 sensors also use external terminals. | |
| Last bus module in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file<br>Download | BARX2903.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| Standard | **07-7331-2303/0000** |
| Inverted | **07-7331-2303/1000** |

Technical data subject to change without notice.

In the Ex i version, the MODEX 8 x 4 to 20 mA module with 8 analogue inputs enables the supply and data logging of 8 analogue intrinsically safe two-wire transmitters. The input signal has 12-bit resolution and is transmitted with high interference resistance. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ia Ga] IIC Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 98 ATEX 1367 X |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0032X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-34../....<br>Ⓔx II (1) G / II (1) D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>For further data see test certificates. |
| Safety data | $U_0$ = 26 V<br>$U_m$ = 253 V<br>$P_0$ = 549 mW<br>$I_0$ = 84.3 mA<br>$L_0$ = 5.3 mH (IIC)/20 mH (IIB)<br>$C_0$ = 99 nF (IIC)/770 nF (IIB)<br>P = 549 mW |

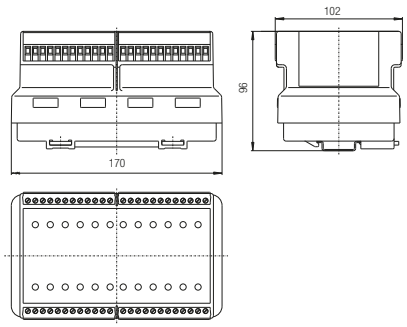
### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Electronic assembly IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with covers IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 2.1 kg |

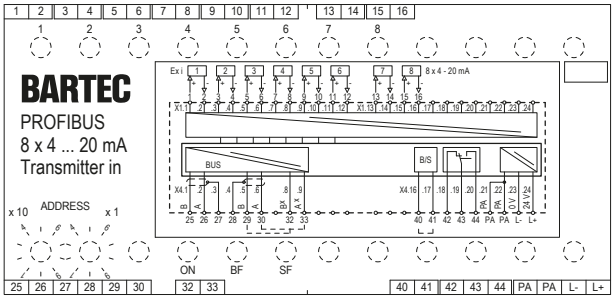
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 7.6 W |
| Reverse polarity protection (L +, L-) | Yes |
| Power dissipation | max. 5.1 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//inputs |
| Bus interface | RS485 with screw terminals |
| Displays | Bus status ON, BF, SF<br>Inputs 8 x LEDs<br>LED yellow, sensor active<br>LED red, open circuit/short circuit |
| Inputs | |
| Transmitter power supply | $U_a$ = 15 V at 20 mA |
| Signal range | 4 to 20 mA<br>4 mA = 655 dec.<br>20 mA = 3276 dec. |
| Transmission range | 0 to 25 mA |
| Input resistance | $R_i$ = 100 Ω |
| Conversion time | < 1 ms |
| Resolution | 12 bit |
| Precision | ± 0.2 % (with shielded cable) |
| Line monitoring | Group error message via bus and relay contact AC 230 V/3 A/100 V |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Note | |
|---|---|
| To disable open/short circuit monitoring, bridge terminals 40 and 41 | |
| Last bus module<br>in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file<br>Download | BARX2902.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x 4 to 20 mA in Ex i | **07-7331-2304/0000** |

Technical data subject to change without notice.

In the Ex e version, the MODEX 8 x 4 to 20 mA module with 8 analogue inputs enables 8 analogue active signals to be fed in. The input signal has 12-bit resolution and is transmitted with high interference resistance. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1066 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0082U |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

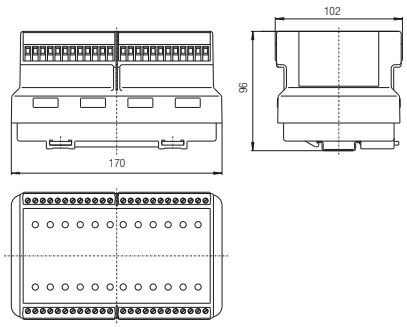
**Technical data**

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail | |
| Enclosure material | High-quality thermoplastic | |
| Protection class | Electronic assembly<br>Terminals<br>Terminals with covers | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Device designation | Front plate for labelling | |
| Displays | LEDs on front panel | |
| Storage temperature | -40 °C to +60 °C | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Weight | 2.1 kg | |

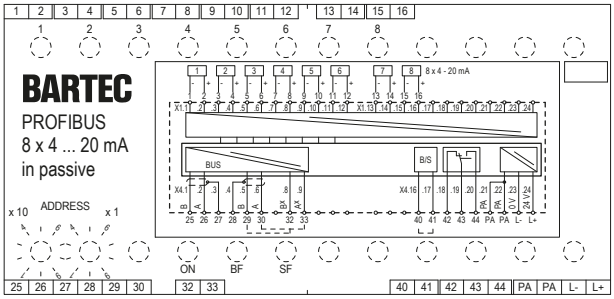
**Electrical data**

| | | |
|---|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) | |
| Power consumption (L +, L-) | 3.8 W | |
| Reverse polarity protection (L +, L-) | Yes | |
| Power dissipation | max. 4.1 W (Module) | |
| Galvanic isolation | Power supply//bus//circuitry//inputs | |
| Bus interface | RS485 with screw terminals | |
| Displays | Bus status<br>Inputs | ON, BF, SF<br>8 x LEDs<br>LED yellow, sensor active<br>LED red, open circuit/short circuit |
| Inputs | | |
| Signal range | 4 to 20 mA<br>4 mA = 655 dec.<br>20 mA = 3276 dec. | |
| Transmission range | 0 to 25 mA | |
| Input resistance | $R_i$ = 100 Ω | |
| Conversion time | < 1 ms | |
| Resolution | 12 bit | |
| Precision | ± 0.2 % (with shielded cable) | |
| Line monitoring | Group error message via bus and relay contact AC 230 V/3 A/100 V | |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Note | |
|---|---|
| To disable open/short circuit monitoring, bridge terminals 40 and 41 | |
| Last bus modulein system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file | BARX2902.gsd |
| Download | http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x 4 to 20 mA in passiv Ex e | **07-7331-2304/2000** |

Technical data subject to change without notice.

In the Ex e version, the MODEX 8 x 4 to 20 mA module with 8 analogue inputs enables 8 analogue signals to be fed in. For example, two-wire transmitters can be imported as signals. The input signal has 12-bit resolution and is transmitted with high interference resistance. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1066 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0082U |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

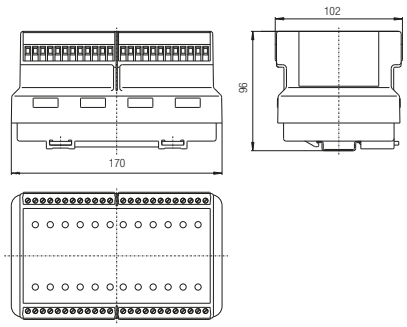
**Technical data**

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Electronic assembly IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with cover IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 2.1 kg |

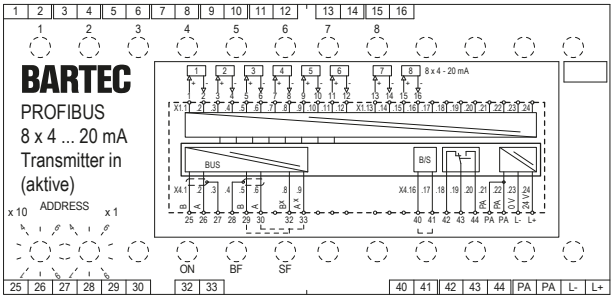
**Electrical data**

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 7.6 W |
| Reverse polarity protection (L +, L-) | Yes |
| Power dissipation | max. 5.1 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//inputs |
| Bus interface | RS485 with screw terminals |
| Displays | Bus status ON, BF, SF<br>Inputs 8 x LEDs<br>LED yellow, sensor active<br>LED red, open circuit/short circuit |
| Inputs | |
| Transmission range | 0 to 25 mA |
| Signal range | 4 to 20 mA<br>4 mA = 655 dec.<br>20 mA = 3276 dec. |
| Transmission range | 0 to 25 mA |
| Input resistance | $R_i$ = 100 Ω |
| Conversion time | < 1 ms |
| Resolution | 12 bit |
| Precision | ± 0.2 % (with shielded cable) |
| Line monitoring | Group error message via bus and relay contact AC 230 V/3 A/100 V |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




Note

Bridge open circuit/short circuit terminals 40 and 41 to disable open/short circuit monitoring.

| | |
|---|---|
| Last bus module in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file | BARX2902.gsd |
| Download | http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x 4 to 20 mA, 8 transmitter in Ex e | **07-7331-2304/3000** |

Technical data subject to change without notice.

With the MODEX 4 x Ex e digital out/8 x Ex i digital in, it is possible to control 4 Ex e valves while simultaneously importing limit switches via 8 digital intrinsically safe inputs. The statuses of the control and end position signals are displayed using LEDs. The output on the short-circuit proof outputs will be switched off automatically in the event of a short-circuit (short-circuit proof). The controlled actuators can be switched off by an emergency stop via a second power supply connection on the module on terminals U- and U+. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ia Ga] IIC Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 98 ATEX 1355 X |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0024X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-.50./....<br>Ⓔx II (1)G / II (1) D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>For further data see verification certificates. |
| Safety data | $U_0$ = 11.8 V<br>$I_0$ = 31 mA<br>$P_0$ = 90 mW<br>$L_0$ = 34 mH (IIC)/130 mH (IIB)<br>$C_0$ = 1.5 µF (IIC)/9.9 µF (IIB) |

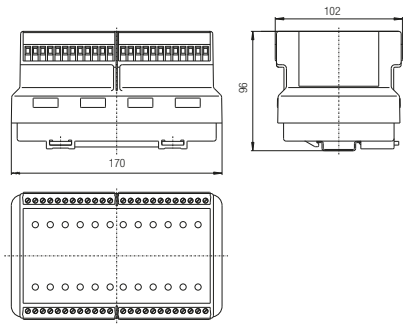
### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Electronic assembly IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with cover IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 2.1 kg |

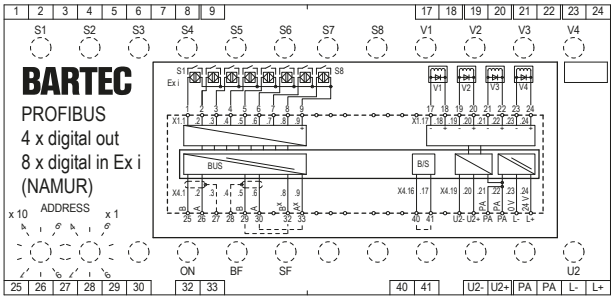
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 6.5 W |
| Supply voltage Outputs (U2+, U2-) suitable for emergency stop | DC 24 V (20 to 30 V) |
| Power output (U2+, U2-) | 60 W (at maximum output load) |
| Reverse polarity protection (L +, L-, U +, U-) | Yes |
| Power dissipation | max. 3.5 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//outputs// NAMUR inputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF, SF, U2<br>Inputs 8 x LEDs<br>LED yellow, damped<br>LED red, open circuit/short circuit<br>Outputs 4 x double LED<br>LED yellow, active |
| Inputs/outputs | |
| Sensors | 8 NAMUR sensors, mechanical contacts or others (EN/IEC 60947-5-6) |
| Function | damped/undamped<br>open circuit/short circuit detection |
| Characteristics Input | $U_N$ = 8.2 V |
| Output voltage per Channel | $U_2$ -0.2 V |
| Output current per Channel | max. 500 mA |
| Line monitoring | Group error message via bus and relay contact AC 230 V/3 A/100 V |

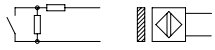
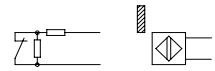
### Dimensions/mounting positions




### Wiring diagram/terminal assignment




### Status chart

| Input | | Data bit | Diagnostics bit | |
|---|---|---|---|---|
| | | | Jumper Open circuit/short circuit removed | Jumper Open circuit/short circuit connected |
| damped |  | 1 | 0 | 0 |
| undamped |  | 0 | 0 | 0 |
| open circuit | | 1 | 1 | 0 |
| short circuit | | 0 | 1 | 0 |

Notes

Bridge open circuit/short circuit terminals 40 and 41 to disable open/short circuit monitoring

Use a 1kΩ/10KΩ resistive coupling element type 17-9Z62-0002 for open/short circuit monitoring during contact scan

With 9 - 16 sensors, also use external terminals.

| | |
|---|---|
| Last bus module in system | Bridge A-A$^{X}$ (terminals 30, 33)<br>Bridge B-B$^{X}$ (terminals 29, 32) |
| GSD file<br>Download | BARX2305.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface<br>4 x Ex e digital out/8 x Ex i digital in (NAMUR) | **07-7331-2305/0000** |

Technical data subject to change without notice.

In the Ex i or Ex e version, the MODEX 8 x 4 to 20 mA module can control various actuators depending on the model using 8 analogue short-circuit proof outputs. The controlled actuators can be switched off by an emergency stop via a second power supply connection on the module on terminals U- and U+. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection Ex i

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ia Ga] IIC Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 99 ATEX 1426 |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0033X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Installation | Type 17-6583-3600<br>Ⓔx II (1)G / II (1)D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>For further data see test certificates. |
| Safety data | $U_0$ = 21.4 V<br>$I_0$ = 93.9 mA<br>$P_0$ = 503 mW<br>$C_0$ = 176 nF (IIC)/1.2 µF (IIB)<br>$L_0$ = 3.4 mH (IIC)/13.9 mH (IIB)<br>$U_m$ = 253 V |

### Explosion protection Ex e

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1066 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0082U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

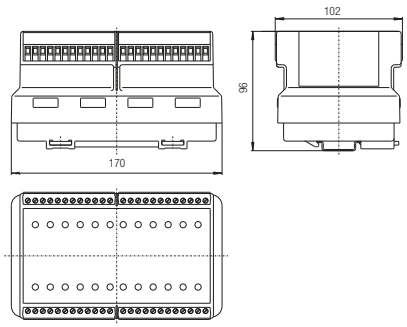
### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Electronic assembly IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with covers IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 2.1 kg |

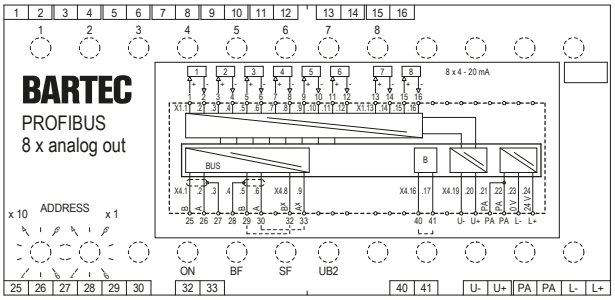
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 1.8 W |
| Supply voltage Outputs (U +, U-) suitable for emergency stop | DC 24 V (20 to 30 V) |
| Power consumption | max. 5.7 W |
| Reverse polarity protection (L +, L-, U+, U-) | Yes |
| Power dissipation | max. 7.5 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//outputs// |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF, SF, UB2<br>Outputs 8 x LEDs<br>LED yellow, output ok<br>LED red, short circuit |
| Outputs | |
| Signal range | 4 to 20 mA<br>4 mA = 0 dec.<br>20 mA = 4096 dec. |
| Resolution | 12 bit |
| Quantising | 3.91 µA/LSB |
| Load | 0 to 500 Ω |
| Basic error | at $T_U$ = 25 °C ± 0.2 % |
| Linearity | ± 0.2 % |
| Line monitoring | Group error message via bus |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Note | |
|---|---|
| To disable open/short circuit monitoring, bridge terminals 40 and 41. | |
| Last bus module in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file | BARX2306.gsd |
| Download | http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x 4 to 20 mA out Ex i | **07-7331-2306/0000** |
| PROFIBUS Interface 8 x 4 to 20 mA out Ex e | **07-7331-2306/1000** |

Technical data subject to change without notice.

With the MODEX 4 x digital out Ex i/8 x Ex i digital in, it is possible to control 4 Ex i valves while simultaneously importing NAMUR limit switches via 8 digital intrinsically safe inputs. The statuses of the control and end position signals are displayed using LEDs. The output on the short-circuit proof outputs will be switched off automatically by temperature monitoring in the event of a short-circuit (short-circuit proof). The controlled actuators can be switched off by an emergency stop via a second power supply connection on the module on terminals U- and U+. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ia Ga] IIC Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 98 ATEX 1355 X |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0024X |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-.51./....<br>Ⓔx II (1) G / II (1) D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>For further data see test certificates. |
| Safety data (in) | $U_0$ = 11.8 V<br>$I_0$ = 31 mA<br>$P_0$ = 90 mW<br>$U_m$ = 253 V<br>$L_0$ = 34 mH (IIC)/130 mH (IIB)<br>$C_0$ = 1.5 µF (IIC)/9.9 µF (IIB) |
| Satety data (out) | $U_0$ = 26.8 V<br>$I_0$ = 97 mA<br>$U_m$ = 253 V<br>$R_i$ = 301 Ω<br>$P_0$ = 650 mW<br>$L_0$ = 3.9 mH (IIC)/15 mH (IIB)<br>$C_0$ = 92 nF (IIC)/720 nF (IIB) |

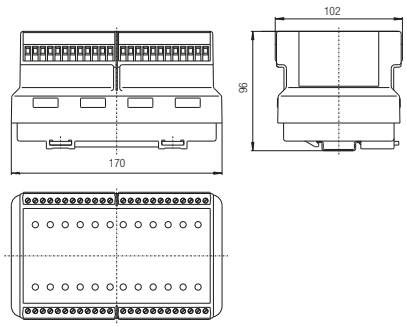
### Technical data

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure for TS 35 rail | |
| Enclosure material | High-quality thermoplastics | |
| Protection class | Electronic assembly | IP 66 EN/IEC 60529 |
| | Terminals | IP 20 EN/IEC 60529 |
| | Terminals with cover | IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Device designation | Front plate for labelling | |
| Displays | LEDs on front panel | |
| Storage temperature | -40 °C to +60 °C | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Weight | 2.1 kg | |

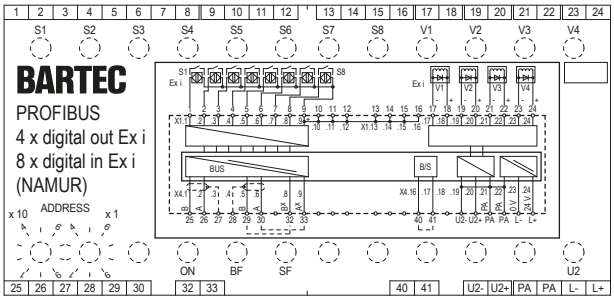
### Electrical data

| | | |
|---|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) | |
| Power consumption (L +, L-) | P = 6.5 W | |
| Supply voltage Outputs (U +, U-) suitable for emergency stop | DC 24 V (20 to 30 V) | |
| Reverse polarity protection (L +, L-, U2+, U2-) | Yes | |
| Power dissipation | max. 4.5 W (Module) | |
| Galvanic isolation | Power supply//bus//circuitry//outputs// NAMUR inputs | |
| Bus interface | RS485 with screw terminals | |
| Displays | Status | ON, BF, SF, U2 |
| | Inputs | 8 x LEDs |
| | | LED yellow, damped |
| | | LED red, open circuit/short circuit |
| | Outputs | 4 x double LED |
| | | LED yellow, active |
| | | LED red, short circuit |
| Inputs/outputs | | |
| Sensors | 8 NAMUR sensors, mechanical contacts or others (EN 60947-5-6) | |
| Function | damped/undamped<br>open circuit/short circuit detection | |
| Characteristics Input | $U_N$ = 8.2 V | |
| Output voltage per Channel | DC 22 V (at U2 ≥ 24 V) | |
| Internal resistance per Channel | 301 Ω | |
| Line monitoring | Group error message via bus and relay contact AC 230 V/3 A/100 V | |

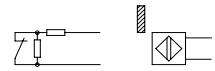
### Dimensions/mounting positions




### Wiring diagram/terminal assignment




### Status chart

| Input | | Data bit | Diagnostics bit | |
|---|---|---|---|---|
| | | | Jumper Open circuit/short circuit removed | Jumper Open circuit/short circuit connected |
| damped | | 1 | 0 | 0 |
| undamped |  | 0 | 0 | 0 |
| open circuit | | 1 | 1 | 0 |
| short circuit | | 0 | 1 | 0 |

| Notes | |
|---|---|
| Bridge open circuit/short circuit terminals 40 and 41 to disable open/short circuit monitoring | |
| Use a 1kΩ/10KΩ resistive coupling element type 17-9Z62-0002 for open/short circuit monitoring during contact scan | |
| GSD file | BARX2305.gsd |
| Download | http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface<br>4 x digital out Ex i/8 x Ex i digital in (NAMUR) | **07-7331-2305/1000** |

Technical data subject to change without notice.

The MODEX RTD in Ex i module enables an intrinsically safe connection of 4 Pt100, Pt1000, resistors or potentiometers. The inputs are galvanically isolated from each other, from the power supply and from the bus. The module is connected to the process control system via the PROFIBUS-DP. This is also displayed on the module itself using LEDs. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | ⟨Ex⟩ II 2(1)G Ex db e [ia Ga] IIC/IIB Gb<br>⟨Ex⟩ I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 01 ATEX 1668 |
| Marking IECEx | Ex db e [ia Ga] IIC/IIB Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0028X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-.7../....<br>⟨Ex⟩ II (1)G / II (1)D<br>[Ex ia Ga] IIC/IIB<br>[Ex ia Da] IIIC/IIIB<br>For further data see test certificates. |
| Safety data | $U_0$ = 7.2 V<br>$U_m$ = 253 V<br>$I_0$ = 6 mA<br>$P_0$ = 11 mW<br>$L_0$ = 25 mH (IIC)/50 mH (IIB)<br>$C_0$ = 1.1 µF (IIC)/5.7 µF (IIB) |

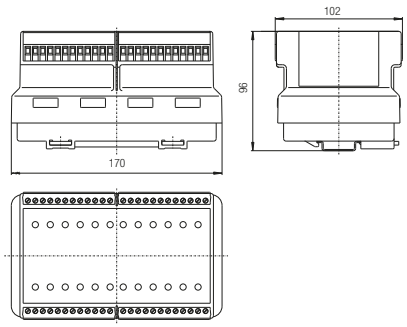
### Technical data

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail | |
| Enclosure material | High-quality thermoplastic | |
| Protection class | Enclosure<br>Terminals<br>Terminals with cover | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2,5 mm², fine stranded | |
| Device designation | Front plate for labelling | |
| Displays | LEDs on front panel | |
| Storage temperature | -40 °C to +60 °C | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Weight | 2.1 kg | |

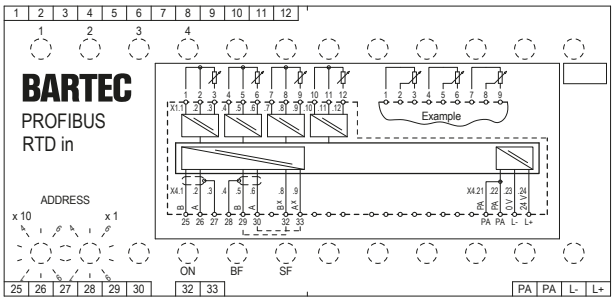
### Electrical data

| | | |
|---|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) | |
| Power consumption (L +, L-) | 4 W | |
| Reverse polarity protection (L +, L-, U+, U-) | Yes | |
| Power dissipation | max. 4 W (Module) | |
| Galvanic isolation | Power supply//bus//circuitry//inputs (also to each other) | |
| Bus interface | RS485 with screw terminals | |
| Displays | Status<br>Outputs | ON, BF, SF,<br>8 x LEDs<br>LED yellow, output ok<br>LED red, open circuit/short circuit |
| Inputs | | |
| Sensor power | 200 µA | |
| Measuring range | Temperature (Pt100, Pt1000)<br>-150 °C to +850 °C<br>Potentiometer 500 Ω to 5 kΩ<br>Resistor 0 Ω to 5 kΩ | |
| Displays | Temperature<br>Potentiometer<br>Resistor | -1500 to 8500 (dec.)<br>0000 to 1000 (dec. 0 to 100 %)<br>0000 to 5000 (dec.) |
| Line resistance | R ≤ 50 Ω (3-wire) | |
| Precision | ± 0.2 % (with shielded cable) | |
| Temperature drift | 0.05 %/10 K | |
| Line monitoring | Group error message via bus | |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Operating modes | Conversion time | |
|---|---|---|
| 4 x Pt100 | 380 ms (*1) | 320 ms (*2) |
| 4 x Pt1000 | 380 ms (*1) | 320 ms (*2) |
| 4 x Potentiometer | 80 ms (*3) | |
| 4 x Resistor | 80 ms (*3) | |
| 2 x Pt100 (Channel 1 and 2);<br>2 x Potentiometer (Channel 3 and 4) | 380 ms (*1) | 320 ms (*2) |
| 2 x Pt100 (Channel 1 and 2);<br>2 x Resistor (Channel 3 and 4) | 380 ms (*1) | 320 ms (*2) |
| 2 x Pt1000 (Channel 1 and 2);<br>2 x Potentiometer (Channel 3 and 4) | 380 ms (*1) | 320 ms (*2) |
| 2 x Pt1000 (Channel 1 and 2);<br>2 x Resistor (Channel 3 and 4) | 380 ms (*1) | 320 ms (*2) |
| all values 0 (dec.) | | |
| all values 32767 (dec.) | | |

(*1) Filter set to 50 Hz
(*2) Filter set to 60 Hz
(*3) Filt fixed at 250 Hz

| Note | |
|---|---|
| Last bus module<br>in system | Bridge A-A$^X$ (Terminals 30, 33)<br>Bridge B-B$^X$ (Terminals 29, 32) |
| GSD file<br>Download | BARX2307.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 4 x RTD in Ex i | **07-7331-2307/0000** |

Technical data subject to change without notice.

In the Ex e version, the MODEX 8 relay out module can activate various actuators using 8 outputs. It is possible, for example, to directly activate encapsulated solenoid valves, indicator lamps or other certified consumers up to 6 A. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1066 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0082U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail | |
| Enclosure material | High-quality thermoplastics | |
| Protection class | Electronic assembly<br>Terminals<br>Terminals with cover | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Device designation | Front plate for labelling | |
| Displays | LEDs on front panel | |
| Storage temperature | -40 °C to +60 °C | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Weight | 2.1 kg | |

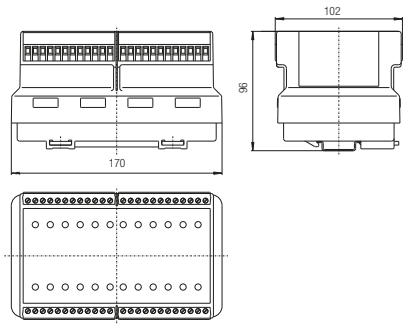
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 2.7 W |
| Reverse polarity protection (L+, L-) | Yes |
| Power dissipation | max. 6 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//outputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF<br>Outputs 8 x LED yellow, active |
| Outputs | |
| Power dissipation per Channel | max. 0.4 W |
| Output relay | 1 changeover contact |

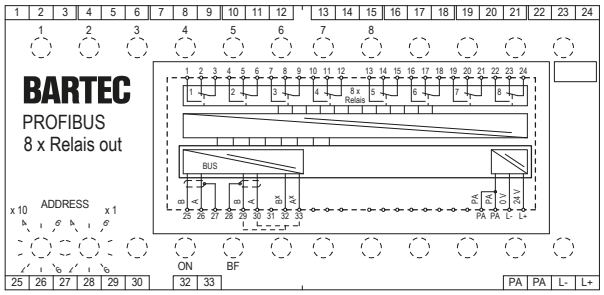
| $U_A$ | $I_{max}$ | |
|---|---|---|
| AC 250 V (max.) | 6.0 A | cos φ = 1 |
| DC 100 V | 0.5 A | ohmic load |
| DC 60 V | 1.0 A | |
| DC 30 V | 6.0 A | |
| DC 5 V | 6.0 A | |

| | |
|---|---|
| Mechanical service life | 10 million switching cycles |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




| Note | |
|---|---|
| Last bus module in system | Bridge A-A$^{X}$ (terminals 30, 33)<br>Bridge B-B$^{X}$ (terminals 29, 32) |
| GSD file<br>Download | BARX2308.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x relay out Ex e | **07-7331-2308/0000** |

Technical data subject to change without notice.

In the Ex i version, the MODEX 8 relay out module can activate various actuators using 8 outputs. It is possible, for example, to directly activate intrinsically safe solenoid valves or other intrinsically safe circuits. The module is connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ia Ga] IIC Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 99 ATEX 1457 |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0034X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-.8../....<br>Ⓔx II (1) G / II (1) D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC<br>For further data see test certificates. |
| Electrical data<br>$U_m$ = 253 V | Maximum value per circuit: $U_i$ = 60 V<br>The values for total voltage ($U_i$) of two neighbouring relay contact circuits must not exceed 60 V.<br>The effective internal inductance and capacitance is negligible. |

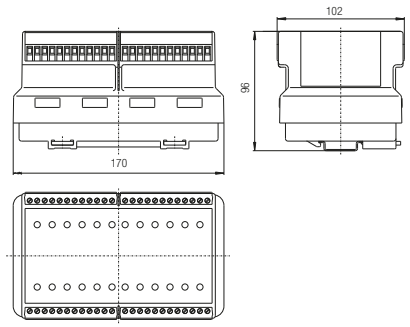
### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Electronic assembly IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with cover IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +60 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 2.1 kg |

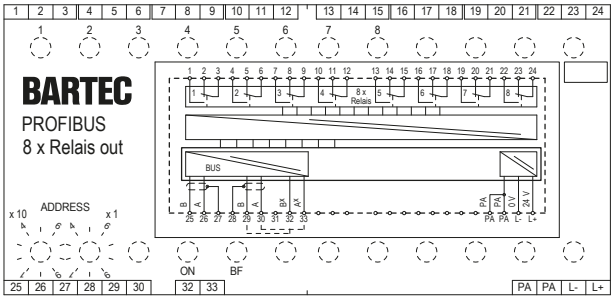
### Electrical data

| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 2.7 W |
| Reverse polarity protection (L+, L-) | Yes |
| Power dissipation | max. 3.7 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//outputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF<br>Outputs 8 x LED yellow, active |
| Outputs | |
| Power dissipation per Channel | max. 0.125 W |
| Output relay | 1 changeover contact<br>max. 40 W<br>max. 4 A |
| Mechanical service life | 10 million switching cycles |

### Dimensions/mounting positions




### Wiring diagram/terminal assignment




Notes

| | |
|---|---|
| Last bus module in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file<br>Download | BARX2908.gsd<br>http://automation.bartec.de |

### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x relay out Ex i | **07-7331-2308/1000** |

Technical data subject to change without notice.

**8 x 4 to 20 mA in Ex i** In the Ex i version, the MODEX 8 x 4 to 20 mA module with 8 analogue inputs enables 8 analogue intrinsically safe signals to be fed in or evaluated. For example, intrinsically safe two-wire transmitters or active 4 - 20 mA signals can be imported as signals. **8 x 4 to 20 mA in & out Ex i** In the Ex i version, the MODEX 4 x 4 to 20 mA module with 4 analogue inputs enables 4 analogue intrinsically safe signals to be fed in or evaluated and additionally the control of intrinsically safe actuators using 4 x 4 to 20 mA outputs. The input signal has 15-bit resolution plus sign and is transmitted with high interference resistance. Both modules are connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | ⟨Ex⟩ II 2(1)G Ex db e [ia Ga] IIC/IIB Gb<br>⟨Ex⟩ I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 01 ATEX 1724 |
| Marking IECEx | Ex db e [ia Ga] IIC/IIB Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0026X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-.H../....<br>⟨Ex⟩ II (1) G / II (1) D<br>[Ex ia Ga] IIC/IIB<br>[Ex ia Da] IIIC/IIIB<br>For further data see test certificates. |
| Safety data | $U_0$ = 26.7 V<br>$I_0$ = 89.9 mA<br>$P_0$ = 600 mW<br>$L_0$ = 5 mH (IIC)/18 mH (IIB)<br>$C_0$ = 93 nF (IIC)/720 nF (IIB)<br>External 4 to 20 mA-signals:<br>$U_i$ = 50 V<br>$I_i$ = 87.7 mA |

### Technical data

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure to TH 35 | |
| Enclosure material | High-quality thermoplastic | |
| Protection class | Electronic assembly<br>Terminals<br>Terminals with cover | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Device designation | Front plate for labelling | |
| Displays | LEDs on front panel | |
| Storage temperature | -40 °C to +60 °C | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Weight | 2.1 kg | |

### Electrical data

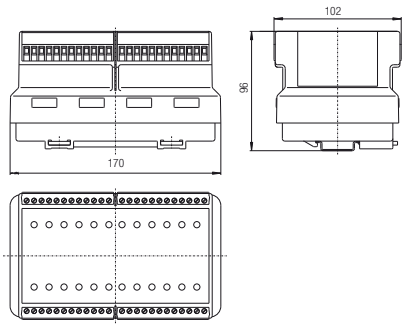
| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 7.8 W |
| Reverse polarity protection (L +, L-) | Yes |
| Power dissipation | max. 4.9 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//inputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF, SF<br>Inputs 8 x LEDs<br>LED yellow, sensor active<br>LED red, open circuit/short circuit |
| Inputs/outputs | |
| Signal range | 4 to 20 mA |

Transmisiion range

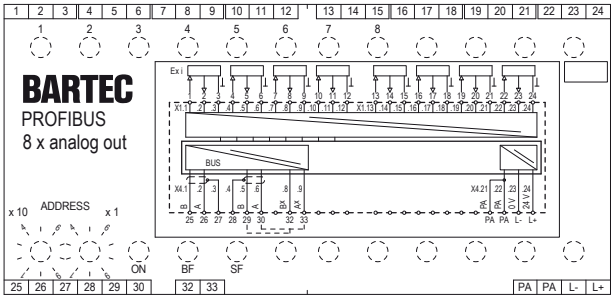
| Current | Range 4 to 20 mA | | |
|---|---|---|---|
| 21.5 mA | $7380_{hex}$ | 29568 dec. | Valve at short circuit $7FFF_{hex}$ |
| 20 mA | $6000_{hex}$ | 27648 dec. | |
| 4 mA | $0000_{hex}$ | 0 dec. | Valve at open circuit $8000_{hex}$ |
| 3.5 mA | $8000_{hex}$ | -32768 dec. | |

| | |
|---|---|
| Resolution | 15-bit plus sign |
| Precision | ± 0.1 % (with a shielded cable) |
| Line monitoring | Group error message for each Channel via bus |
| Input Channel data | |
| Supply for 2-wire transmitter | $U_a$ = 16 V to 20 mA, all Channels are short-circuit proof at the same time |
| Input resistance | External 4 to 20 mA-signals:<br>$R_i$ = 234 Ω + approx. 2 V (3 diodes) |
| Conversion time | < 70 ms |
| Output Channel data | |
| Output resistance | $R_i$ = 367 Ω |
| Quantising | 366.2 nA/LSB |
| Load | < 500 Ω |

### Dimensions/mounting positions

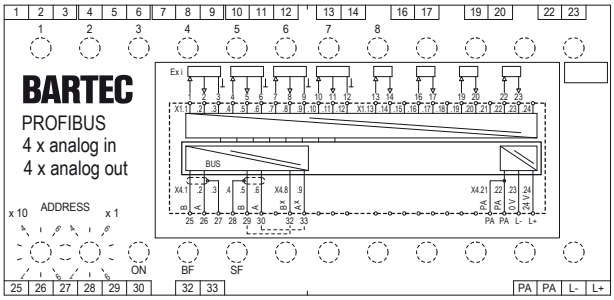



### Wiring diagram/terminal assignment 8 x 4 to 20 mA in




| Note | |
|---|---|
| Last bus module in system | Bridge A-A$^X$ (terminals 30, 33)<br>Bridge B-B$^X$ (terminals 29, 32) |
| GSD file | BARX2302.gsd (8 x 4 to 20 mA in Ex i)<br>BARX2303.gsd (4 x 4 to 20 mA in/out Ex i) |
| Download | http://automation.bartec.de |

### Wiring diagram/terminal assignment 4 x 4 to 20 mA in/out




### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x 4 to 20 mA in Ex i | **07-7331-230H/0001** |
| PROFIBUS Interface 4 x 4 to 20 mA in/out Ex i | **07-7331-230H/1011** |

Technical data subject to change without notice.

**8 x 4 to 20 mA in Ex i** In the Ex i version, the MODEX 8 x 4 to 20 mA module with 8 analogue inputs enables 8 analogue intrinsically safe signals to be fed in or evaluated. For example, intrinsically safe two-wire transmitters or active 4 - 20 mA signals can be imported as signals. **4 x 4 to 20 mA in & out Ex i** In the Ex i version, the MODEX 4 x 4 to 20 mA module with 4 analogue inputs enables 4 analogue intrinsically safe signals to be fed in or evaluated and additionally the control of intrinsically safe actuators using 4 x 4 to 20 mA outputs. The input signal has 16-bit resolution and is transmitted with high interference resistance. Both modules are connected to the process control system via the PROFIBUS-DP. Coding rotary switches are available for addressing the module. Diagnostics data indicating the status of the outputs with respect to a disconnection or short-circuit can also be transmitted in addition to the user data. This is also displayed on the module itself using LEDs.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ia Ga] IIC/IIB Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1066 U<br>TÜV 01 ATEX 1724 |
| Marking IECEx | Ex db e [ia Ga] IIC/IIB Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0082U<br>IECEx TUN 11.0026X |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-6583-.H../....<br>Ⓔx II (1) G / II (1) D<br>[Ex ia Ga] IIC/IIB<br>[Ex ia Da] IIIC/IIIB<br>For further data see test certificates. |
| Safety data | $U_0$ = 26.7 V<br>$I_0$ = 89.9 mA<br>$P_0$ = 600 mW<br>$L_0$ = 5 mH (IIC)/18 mH (IIB)<br>$C_0$ = 93 nF (IIC)/720 nF (IIB)<br>External 4 to 20 mA-signals<br>$U_i$ = 50 V<br>$I_i$ = 87.7 mA |

### Technical data

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure to TH 35 | |
| Enclosure material | High-quality thermoplastic | |
| Protection class | Electronic assembly<br>Terminals<br>Terminals with cover | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Device designation | Front plate for labelling | |
| Displays | LEDs on front panel | |
| Storage temperature | -40 °C to +60 °C | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Weight | 2.1 kg | |

### Electrical data

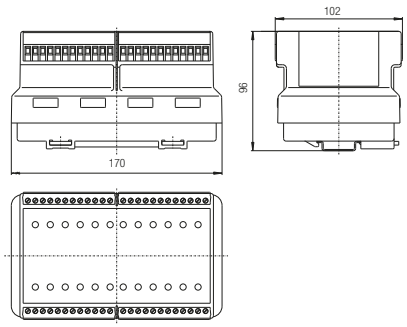
| | |
|---|---|
| Supply voltage electronics (L +, L-) | DC 24 V (20 to 30 V) |
| Power consumption (L +, L-) | 7.8 W |
| Reverse polarity protection (L +, L-) | Yes |
| Power dissipation | max. 4.9 W (Module) |
| Galvanic isolation | Power supply//bus//circuitry//inputs |
| Bus interface | RS485 with screw terminals |
| Displays | Status ON, BF, SF<br>Inputs 8 x LEDs<br>LED yellow, sensor active<br>LED red, open circuit/short circuit |
| Inputs/outputs | |
| Signal range | 4 to 20 mA |

Transmission range

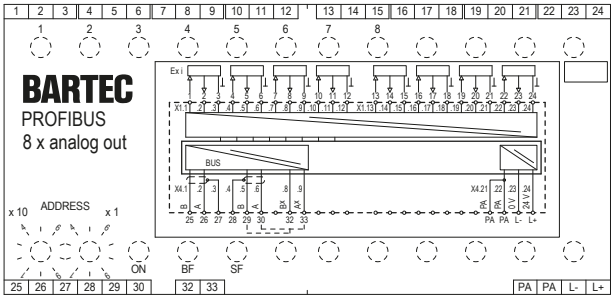
| Current | Range 4 to 20 mA | | |
|---|---|---|---|
| 24 mA | $FFFF_{hex}$ | 65535 dec. | Valve at short circuit $7FFF_{hex}$ |
| 20 mA | $D554_{hex}$ | 54612 dec. | |
| 4 mA | $2AAA_{hex}$ | 10922 dec. | Valve at open circuit $8000_{hex}$ |
| 0 mA | $0000_{hex}$ | 0 | |

| | |
|---|---|
| Resolution | 16 bit |
| Precision | ± 0.1 % (with a shielded cable) |
| Line monitoring | Group error message for each Channel via bus |
| Input Channel data | |
| Supply for 2-wire transmitter | $U_a$ = 16 V to 20 mA, all Channels are short-circuit proof at the same time |
| Input resistance | External 4 to 20 mA-signals:<br>$R_i$ = 234 Ω + approx. 2 V (3 diodes) |
| Conversion time | < 70 ms |
| Output Channels | |
| Output resistance | $R_i$ = 367 Ω |
| Quantising | 366.2 nA/LSB |
| Load | < 500 Ω |

### Dimensions/mounting positions

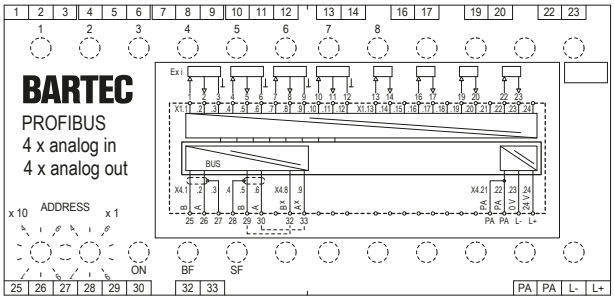



### Wiring diagram/terminal assignment 8 x 4 to 20 mA in




| Note | |
|---|---|
| Last bus module in system | Bridge A-A$^{X}$ (terminals 30, 33)<br>Bridge B-B$^{X}$ (terminals 29, 32) |
| GSD file | BARX2302.gsd (8 x 4 to 20 mA in)<br>BARX2303.gsd (4 x 4 to 20 mA in/out) |
| Download | http://automation.bartec.de |

### Wiring diagram/terminal assignment 4 x 4 to 20 mA in/out




### Ordering information

| | |
|---|---|
| PROFIBUS Interface 8 x 4 to 20 mA in | **07-7331-230H/0000** |
| PROFIBUS Interface 4 x 4 to 20 mA in/out (16 bit) | **07-7331-230H/1010** |

Technical data subject to change without notice.

The PROFIBUS devices have been particularly dimensioned for the industrial requirements of hazardous areas of zone 1. They are used for the separation or generation of new segments, converting the RS485 typical line structure into an open and flexible tree structure. Downstream stations can be coupled to and de-coupled from the superior bus system in a non-reactive and break/short-circuit tolerant manner, even during running bus operation.The devices facilitate a duplication of the signal to realize a redundant connection to a master. The devices are available as PROFIBUS-DP and as PROFIBUS-IS (intrinsically safe).

**Explosion protection Ex e**

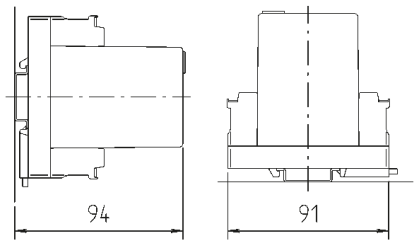
| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |

**Explosion protection Ex i**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ib] IIC Gb<br>Ⓔx I M2 Ex db e [ib] I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e [ib] IIC Gb<br>Ex db e [ib] I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e [ib] IIC Gb |
| Certification | CSA 2011-2484303U |
| Installation | Type 17-6583-.3..<br>Ⓔx II (2) G [Ex ib Gb] IIC<br>Ⓔx II (2) D [Ex ib Db] IIIC<br>IBExU05ATEX1074<br>IECEx IBE 12.0021 |

Other approvals and certificates, see www.bartec.de

**Dimensions/mounting positions**




Module width: 30 mm/75 mm

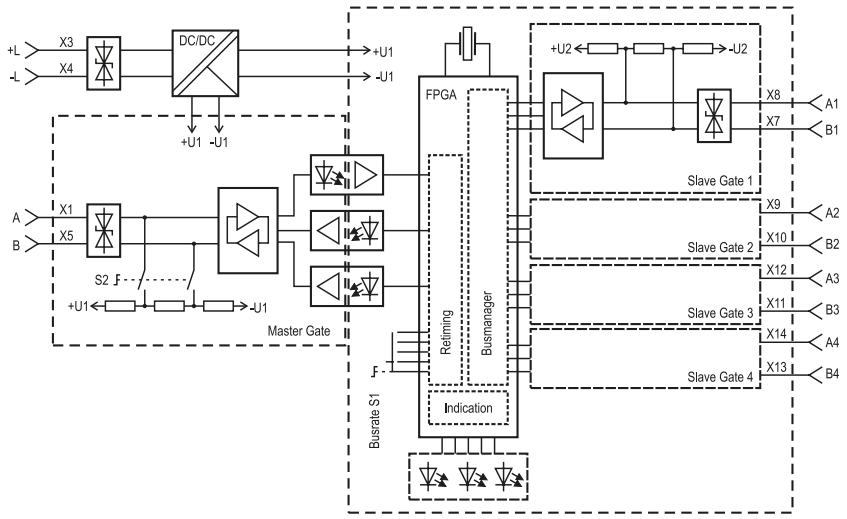
**Technical data**

| | | | |
|---|---|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 | | |
| Enclosure material | High-quality thermoplastics | | |
| Protection class | Electronic assembly<br>Terminals<br>Terminals with cover | IP 66<br>IP 20<br>IP 30 | EN/IEC 60529<br>EN/IEC 60529<br>EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | | |
| Device designation | written marking labels | | |
| Displays | LED green<br>LED green/yellow | Operational readiness<br>Bus activity | |
| Storage temperature | -25 °C to +70 °C | | |
| Ambient temperature | -25 °C to +60 °C at T4 | | |
| Weight | Module width 30 mm: 180 g<br>Module width 75 mm: 250 g | | |
| Dimensions (H x W x D) | 94 mm x 30 mm x 91 mm<br>94 mm x 75 mm x 91 mm | | |

**Electrical data**

| | | | |
|---|---|---|---|
| Supply voltage | DC 20 V to 30 V | | |
| Nominal power consumption | max. 70 mA | | |
| Operational readiness indicator | LED green | | |
| RS485 interface | PROFIBUS-DP, PROFIBUS-IS, EN 61158-2; EN 61784-1 | | |
| Connection resistance | Ex e<br>Ex i<br>Input<br>Output | PROFIBUS-DP<br>PROFIBUS-IS<br>manual connectable<br>Set | Standard<br>Standard |
| Data direction switching | automatic | | |
| Bus activity | dynamic | | |
| Transmission rate Ex e | Kbit/s-<br>Mbit/s- | 4, 8/9, 6/19, 2/45, 45/93, 75/187, 5/250/375/500/750<br>1.0/1.5/2.0/3.0/6.0/12.0 | |
| Transmission rate Ex i | Kbit/s-<br>Mbit/s- | 4, 8/9, 6/19, 2/45, 45/93, 75/187, 5/250/375/500/750<br>1.0/1.5 | |
| Transmission rate switchover | manual | | |

**e. g. function plan for 4-channel, intrinsically safe circuits**




**PROFIBUS-DP Coupler - increased safety**

| Description | Options | Module width | Order no. |
|---|---|---|---|
| PROFIBUS-DP Coupler | Ex e, 1 output | 30 mm | **07-7311-93WP/K1NO** |
| PROFIBUS-DP Coupler | Ex e, 2 outputs | 30 mm | **07-7311-93WP/K2NO** |
| PROFIBUS-DP Coupler | Ex e, 4 outputs | 75 mm | **07-7311-97WP/K4NO** |

**PROFIBUS-DP Repeater - increased safety**

| Description | Options | Module width | Order no. |
|---|---|---|---|
| PROFIBUS-DP Repeater | Ex e, 1 output | 30 mm | **07-7311-93WP/R1NO** |
| PROFIBUS-DP Repeater | Ex e, 2 outputs | 30 mm | **07-7311-93WP/R2NO** |
| PROFIBUS-DP Repeater | Ex e, 4 outputs | 75 mm | **07-7311-97WP/R4NO** |

**PROFIBUS Gateway DP/IS**

| Description | Options | Module width | Order no. |
|---|---|---|---|
| PROFIBUS Gateway DP/IS | Ex i, 1 output | 75 mm | **07-7311-97WP/K1EO** |
| PROFIBUS Gateway DP/IS | Ex i, 2 outputs | 75 mm | **07-7311-97WP/K2EO** |
| PROFIBUS Gateway DP/IS | Ex i, 4 outputs | 75 mm | **07-7311-97WP/K4EO** |

Technical data subject to change without notice.

The RS485/PROFIBUS Optical Fibre T-coupler reroutes the PROFIBUS from copper conductors to optical fibres. The coupler is a passive bus participant. The optical fibre T-coupler allows great ranges to be bridged in plants using PROFIBUS, and is resistant to interference. The electronics for the signal conversion are accomodated in the flameproof MODEX enclosure. The transmitter and receiver for the optical fibre T-coupler are activated in an intrinsically safe way, thereby ensuring that the transmission power of the transmitter does not exceed the permitted limits.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e [ib] IIC Gb<br>Ⓔx I M2 Ex db e [ib] I Mb |
| Certification | PTB 97 ATEX 1068 U<br>TÜV 99 ATEX 1404 X |
| Marking IECEx | Ex db e [ib] IIC Gb<br>Ex db e [ib] I Mb |
| Certification | IECEx PTB 11.0083U<br>IECEx TUN 12.0024X |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e [ib] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-1923-1133/0000<br>Ⓔx II (2)G / II (2)D<br>[Ex ib Gb] IIC<br>[Ex ib Db] IIIC |
| Optical fibre | Transmitter<br>Type 17-2114-0002<br>Ⓔx II 2G / II 2D<br>Ex ib op is IIC T4 Gb<br>Ex ib IIIC TX* °C Db<br>Receiver<br>Type 17-2114-0003<br>Ⓔx II 2G / II 2D<br>Ex ib IIC T4 Gb<br>Ex ib IIIC TX* °C Db<br>Further safety data see EC type examination certificate.<br>* See instruction manual for details. |

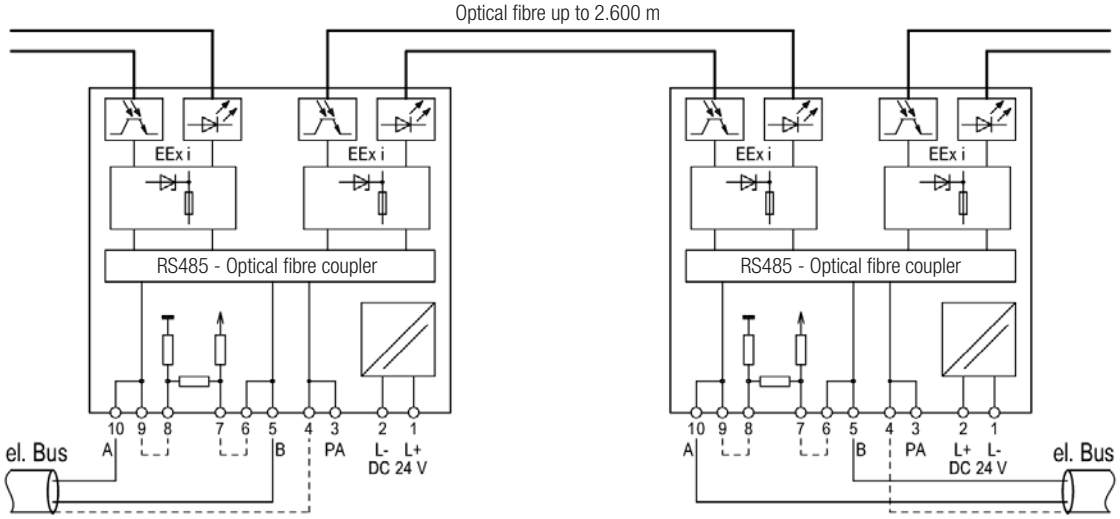
**Technical data**

| | |
|---|---|
| Construction | Clip-on enclosure to TH 35 |
| Enclosure material | High-quality thermoplastic |
| Protection class | At least IP 20 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +70 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 600 g |

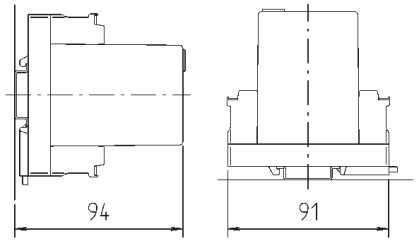
**Electrical data**

| | |
|---|---|
| Supply voltage | DC 20 V to DC 30 V |
| Power dissipation | max. $P_v$ = 0.90 W (Module) |
| Galvanic isolation | Bus//power supply//optical fibre |
| Bus input/output | 2-wire remote bus with screw terminals |
| Optical fibre input/output | FSMA Optical fibre plug-in connectors or<br>ST Optical fibre plug-in connectors |
| Wavelength | 850 nm/glass |
| Displays | operation LED green<br>active bus LED yellow |
| Range | 1400 m; 50.0 µm fibre/glass<br>2600 m; 62.5 µm fibre/glass |

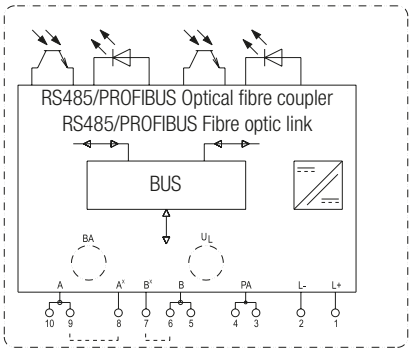
### Connection example of optical fibre T-coupler




### Dimensions/mounting positions




### Wiring diagram/terminal assignment




### Ordering information

| | | |
|---|---|---|
| T-coupler | FSMA | **07-7311-97WP/4000** |
| T-coupler | ST | **07-7311-97WP/4010** |

Technical data subject to change without notice.

The RS485/PROFIBUS Optical fibre Ring coupler reroutes the PROFIBUS from copper conductors to optical fibres. The coupler is a passive bus participant. The transmitter and receiver for the optical fibre ring coupler are activated in an intrinsically safe way, thereby ensuring that the transmission power of the transmitter does not exceed the permitted limits. The electronics for the signal conversion are accomodated in the flameproof MODEX enclosure - Transmitter and receiver for the Optical fibre-coupler are intrinsically safe headed. The intrinsically safe control transmitter and receiver of the electronic system guarantee that the transmitter rate does not go beyond maximum value limits.

**Configuration** Depending on the topology, several devices can be arranged in a ring. The ring must contain a master device. All other devices should be configured as slaves. The master must be connected to the level above it (e.g. control system).

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex db e [ib] IIC Gb<br>Ⓔx I M2 Ex db e [ib] I Mb |
| Certification | PTB 97 ATEX 1068 U<br>TÜV 99 ATEX 1404 X |
| Marking IECEx | Ex db e [ib] IIC Gb<br>Ex db e [ib] I Mb |
| Certification | IECEx PTB 11.0083U<br>IECEx TUN 12.0024X |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e [ib] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-1923-1122/0000<br>Ⓔx II (2) G / II (2) D<br>[Ex ib Gb] IIC<br>[Ex ib Db] IIIC |
| Optical fibre | Transmitter<br>Type 17-2114-0002<br>Ⓔx II 2 G / II 2 D<br>Ex ib op is IIC T4 Gb<br>Ex ib IIIC TX* °C Db<br>Receiver<br>Type 17-2114-0003<br>Ⓔx II 2 G / II 2 D<br>Ex ib IIC T4 Gb<br>Ex ib IIIC TX* °C Db<br>Further safety data see EC type examination certificate.<br>* See instruction manual for details. |

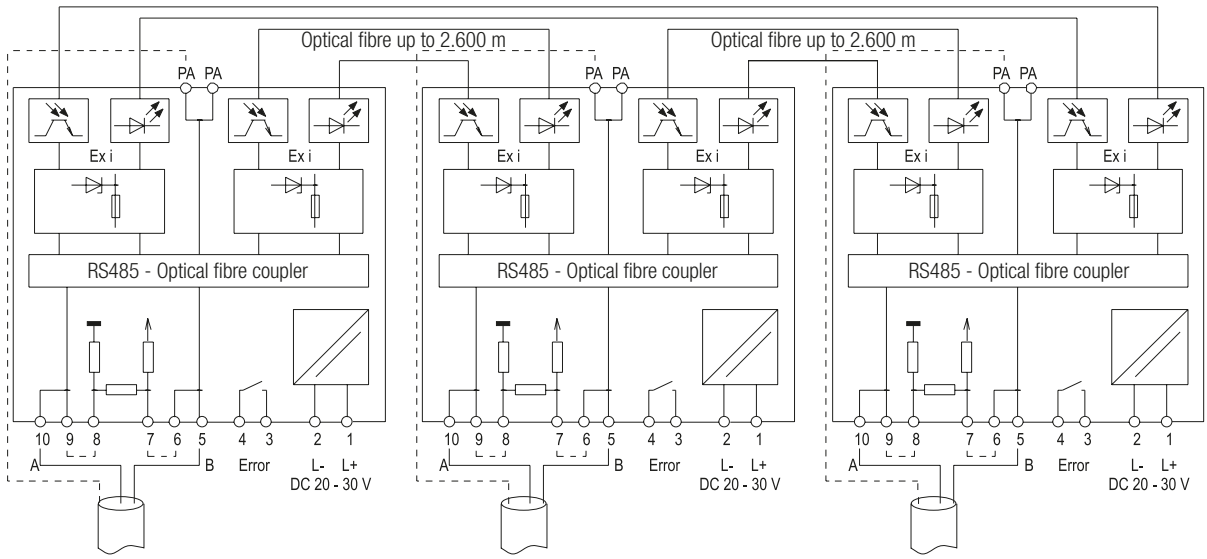
### Technical data

| | |
|---|---|
| Construction | Clip-on enclosure to TH 35 |
| Enclosure material | High-quality thermoplastic |
| Protection class | At least IP 20 |
| Terminals | 2.5 mm², fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +70 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 600 g |

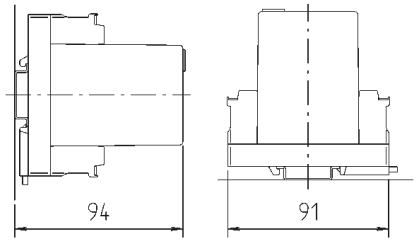
### Electrical data

| | |
|---|---|
| Supply voltage | DC 20 V to DC 30 V |
| Power dissipation | max. $P_v$ = 1.50 W (Module) |
| Galvanic isolation | Bus//power supply//optical fibre |
| Bus input/output | 2-wire remote bus with screw terminals |
| Optical fibre input/output | FSMA Optical fibre plug-in connectors or<br>ST Optical fibre plug-in connectors |
| Wavelength | 850 nm/glass |
| Displays | operation LED green<br>active bus LED yellow |
| Range | 1400 m; 50.0 µm fibre/glass<br>2600 m; 62.5 µm fibre/glass |
| Fault indicator | Fibre segment fault Channel 1, LED yellow<br>Fibre optic segment fault Channel 2, LED red |

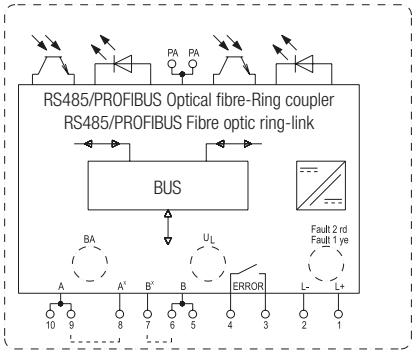
## Connection example of optical fibre Ring coupler




## Dimensions/mounting positions




## Wiring diagram/terminal assignment




## Ordering information

| | | |
|---|---|---|
| Master/Slave* | FSMA | **07-7311-97WP/5400** |
| Master/Slave* | ST | **07-7311-97WP/5410** |

* is configured using a contract bridge between terminal master/MA

Technical data subject to change without notice.

The RS485/PROFIBUS optical fibre branch coupler reroutes the PROFIBUS from copper conductors to optical fibres. The coupler is a passive bus participant. The transmitter and receiver for the optical fibre branch coupler are activated in an intrinsically safe way, thereby ensuring that the transmission power of the transmitter does not exceed the permitted limits. The electronics for the signal conversion are accomodated in the flameproof MODEX enclosure. Transmitter and receiver for the Optical fibre coupler are intrinsically safe headed during the execution. The transmitter and receiver for the optical fibre coupler are activated in an intrinsically safe way, thereby ensuring that the transmission power of the transmitter does not exceed the permitted limits.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | ⟨Ex⟩ II 2(1)G Ex db e [ib] IIC Gb<br>⟨Ex⟩ I M2 Ex db e [ib] I Mb |
| Certification | PTB 97 ATEX 1068 U<br>TÜV 99 ATEX 1404 X |
| Marking IECEx | Ex db e [ib] IIC Gb<br>Ex db e [ib] I Mb |
| Certification | IECEx PTB 11.0083U<br>IECEx TUN 12.0024X |
| Marking CSA | Class I Zone 1 IIC<br>A/Ex d e [ib] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Installation | Type 17-1923-1133/0000<br>⟨Ex⟩ II (2) G / II (2) D<br>[Ex ib Gb] IIC<br>[Ex ib Db] IIIC |
| Optical fibre | Transmitter<br>Type 17-2114-0002<br>⟨Ex⟩ II 2 G / II 2 D<br>Ex ib op is IIC T4 Gb<br>Ex ib IIIC TX* °C Db<br>Receiver<br>Type 17-2114-0003<br>⟨Ex⟩ II 2 G / II 2 D<br>Ex ib IIC T4 Gb<br>Ex ib IIIC TX* °C Db<br>Further safety data see EC type examination certificate.<br>* See instruction manual for details. |

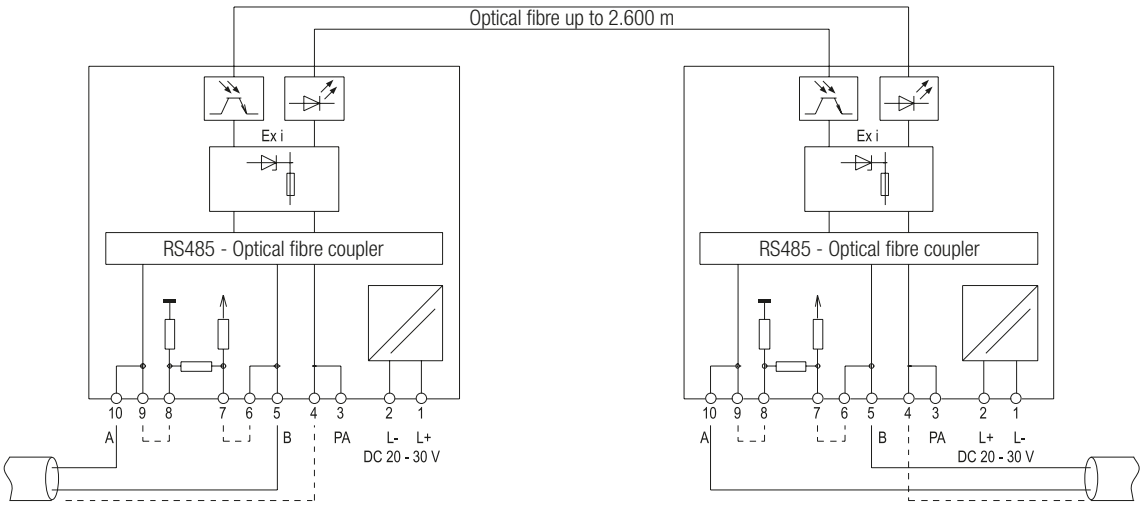
**Technical data**

| | |
|---|---|
| Construction | Clip-on enclosure to TH 35 |
| Enclosure material | High-quality thermoplastic |
| Protection class | At least IP 20 |
| Terminals | 2.5 $mm^2$, fine stranded |
| Device designation | Front plate for labelling |
| Displays | LEDs on front panel |
| Storage temperature | -40 °C to +70 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 600 g |

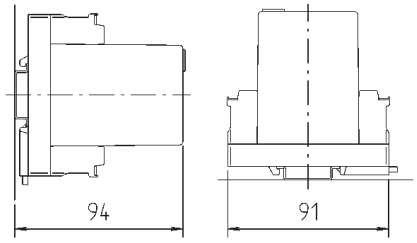
**Electrical data**

| | |
|---|---|
| Supply voltage | DC 20 V to DC 30 V |
| Power dissipation | max. $P_v$ = 0.85 W (Module) |
| Galvanic isolation | Bus//power supply//optical fibre |
| Bus input/output | 2-wire remote bus with screw terminals |
| Optical fibre input/output | F-SMA Optical fibre plug-in connectors or<br>ST Optical fibre plug-in connectors |
| Wavelength | 850 nm/glass |
| Displays | operation LED green<br>active bus LED yellow |
| Range | 1400 m; 50.0 µm fibre/glass<br>2600 m; 62.5 µm fibre/glass |

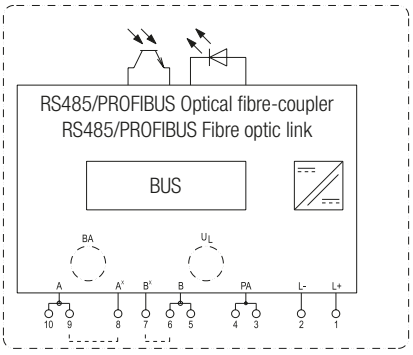
### Connection example of optical fibre branch coupler




### Dimensions/mounting positions




### Wiring diagram/terminal assignment




### Ordering information

| | | |
|---|---|---|
| Optical fibre branch coupler | FSMA | **07-7311-97WP/6000** |
| Optical fibre branch coupler | ST | **07-7311-97WP/6010** |

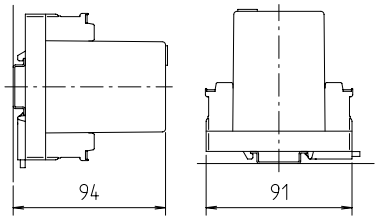
Technical data subject to change without notice.

The PROFIBUS Interface terminator is an active bus terminator. Its essential benefit is the fact that bus devices can be switched off, removed or replaced without impairing data transfer. This especially applies to bus devices on both ends of the bus line through which terminal resistances previously had to be switched and supplied.

### Explosion protection

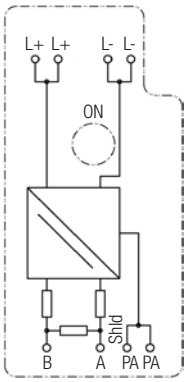
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex d e IIC Gb<br>Ⓔx I M2 Ex d e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

### Dimensions/mounting position




Module width: 30 mm

### Wiring diagram/terminal assigment




### Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastics |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 $mm^2$, fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN 60715 |
| Device designation | Front plate for labelling |
| Storage temperature | -40 °C to +70 °C |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Weight | 0.250 kg |

### Electrical data

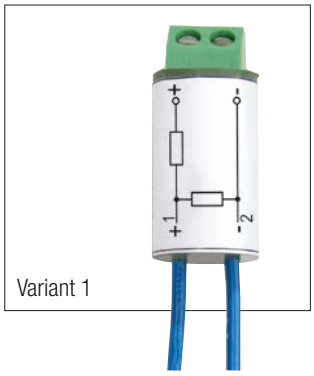
| | |
|---|---|
| Supply voltage | DC 20 V to 30 V |
| Power consumption | $P_{tot.}$ = 0.3 W |

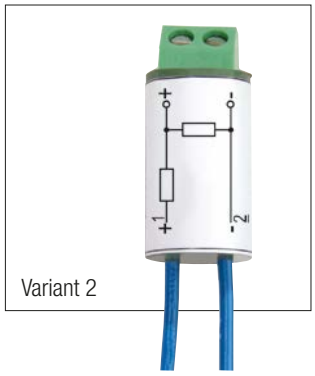
### Ordering information

| | |
|---|---|
| PROFIBUS Interface terminator | **07-7311-93WP/0000** |

Technical data subject to change without notice.

# Resistive coupling element




The resistive coupling element is used to monitor open and short circuits in isolator amplifier circuits controlled by mechanical contacts. The coupling element is installed directly to the control contact or inside its terminal box.

## Function

Numerous isolator amplifiers can monitor the connected sensor line for open or short circuit conditions thanks to the employment of electronic proximity switches to which current can be applied in both damped and undamped status (DIN EN 60947-5-6). Current values outside the specified range are identified as open or short circuits. If simple mechanical contacts are used, it is not possible to identify a short circuit.

Neither can be distinguished between open circuit and open contact. This problem can be solved by installing a resistor combination at the end of the sensor line immediately before the switch. This combination provides a closed-circuit current even when the contacts is open. At closed contact it restricts the current to a value which lies clearly below the response threhold for short circuit.

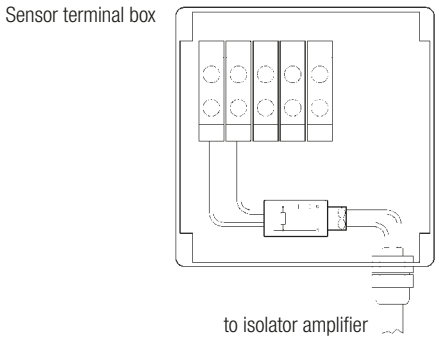
Four states can be detected: open circuit (broken cable), open switch, closed switch, short circuit

The resistive coupling element can be used with all isolator amplifiers featuring open and short circuit monitoring, e. g. BARTEC, CEAG, Hartmann & Braun, Pepperl + Fuchs

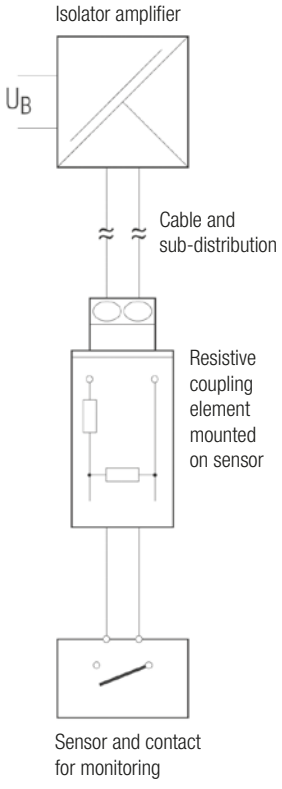
## Technical data

| | |
|---|---|
| Resistance | see ordering information |
| Terminals | 1.5 mm² |
| Connection cable | 0.75 mm² |
| Max. Power | 2.4 W at T5 |
| Ambient temperature | -40 °C to +60 °C |

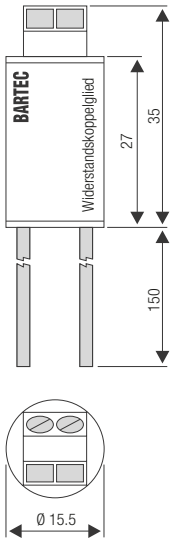
**Installation** for example, in the sensor terminal box



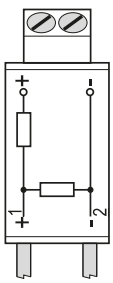

**Application** Variant 1
Open/short circuit monitoring for isolator amplifiers with contact control.



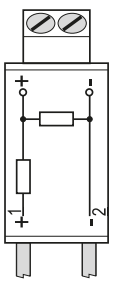

**Dimensions**




**Wiring diagram** Variant 1



**wiring diagram** Variant 2



**Ordering information**

| Variant | Description | | | | Order no. |
|---|---|---|---|---|---|
| 2 | 1 k/10 k | with terminals and single core cables | 10 k | parallel to the terminal | **17-9Z62-0001** |
| 1 | 1 k/10 k | with terminals and single core cables | 10 k | parallel to the single core cable | **17-9Z62-0002** |
| 1 | 1.5 k/10 k | with terminals and single core cables | 10 k | parallel to the single core cable | **17-9Z62-0003** |
| 1 | 680 k/22 k | with terminals and single core cables | 22 k | parallel to the single core cable | **17-9Z62-0004** |
| 1 | 1.2 k/15 k | with terminals and single core cables | 15 k | parallel to the single core cable | **17-9Z62-0005** |
| 1 | 680 R/22 k | with terminals and single core cables | 22 k | parallel to the single core cable | **17-9Z62-0006** |
| 1 | 1 k/12 k | with terminals and single core cables | 12 k | parallel to the single core cable | **17-9Z62-0007** |
| 1 | 1 k/15 k | with terminals and single core cables | 15 k | parallel to the single core cable | **17-9Z62-0008** |
| 1 | 2.2 k/3.3 k | with terminals and single core cables | 3 k3 | parallel to the single core cable | **17-9Z62-0010** |
| 1 | 1 k/22 k | with terminals and single core cables | 22 k | parallel to the single core cable | **17-9Z62-0012** |
| 1 | 2.1 k/22 k | with terminals and single core cables | 22 k | parallel to the single core cable | **17-9Z62-0013** |
| 1 | 1 k 4/10 k | with terminals and single core cables | 10 k | parallel to the single core cable | **17-9Z62-0015** |
| 1 | 1 k/2 k | with terminals and single core cables | 2 k | parallel to the single core cable | **17-9Z62-0016** |
| 1 | 1 k 5/8 k 25 | with terminals and single core cables | 8 k 25 | parallel to the single core cable | **17-9Z62-0017** |
| 1 | 1 k/10 k | with terminals and single core cables | 10 k | parallel to the single core cable + wire end ferrules | **17-9Z62-0021** |
| 1 | 1.5 k/10 k | with terminals and single core cables | 10 k | parallel to the single core cable + wire end ferrules | **17-9Z62-0022** |
| 1 | 2.7 k/10 k | with terminals and single core cables | 10 k | parallel to the single core cable | **17-9Z62-0023** |
| 1 | 680 R/2 k 7 | with terminals and single core cables | 2 k 7 | parallel to the single core cable | **17-9Z62-0027** |
| 1 | 100 R/1 k 1 | with terminals and single core cables | 100 R | parallel to the single core cable | **17-9Z62-0028** |
| 1 | 100 R/0 k | with terminals and single core cables | 100 R | parallel to the single core cable | **17-9Z62-0029** |
| 1 | 2.7 k/22 k | with terminals and single core cables | 22 k | parallel to the single core cable | **17-9Z62-0032** |

Technical data subject to change without notice.

# **Resistive coupling element** 1 kΩ/10 kΩ

The resistive coupling element is used to monitor open and short circuits in isolator amplifier circuits controlled by mechanical contacts. The coupling element is installed directly to the control contact or inside its terminal box.

### Function

Numerous isolator amplifiers can monitor the connected sensor line for open or short circuit conditions thanks to the employment of electronic proximity switches to which current can be applied in both damped and undamped status DIN EN 60947-5-6. Current values outside the specified range are identified as open or short circuits.

If simple mechanical contacts are used, it is not possible to identify a short circuit. Neither can be distinguished between open circuit and open contact. This problem can be solved by installing a resistor combination at the end of the sensor line immediately before the switch. This combination provides a closed-circuit current even when the contacts is open. At closed contact it restricts the current to a value which lies clearly below the response threhold for short circuit.

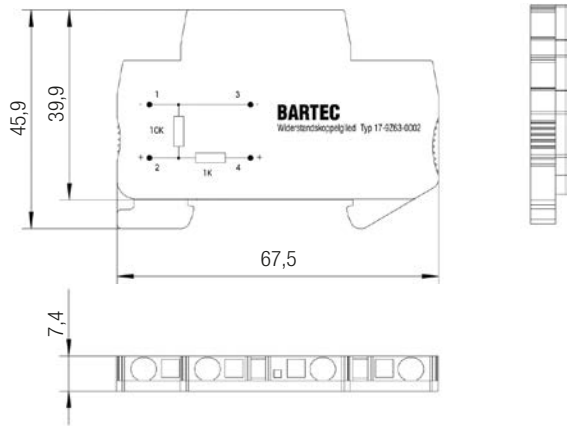
Four states can be detected: open circuit (broken cable), open switch, closed switch, short circuit.

### Technical data

| | |
|---|---|
| Resistance | 1 kΩ/0.6 W<br>10 kΩ/0.6 W |
| Terminals | 2.5 mm² |
| Mounting rail | TH 35 |
| Supply voltage | max. DC 20 V |
| Ambient temperature | -40 °C to +60 °C |
| Storage temperature | -40 °C to +60 °C |

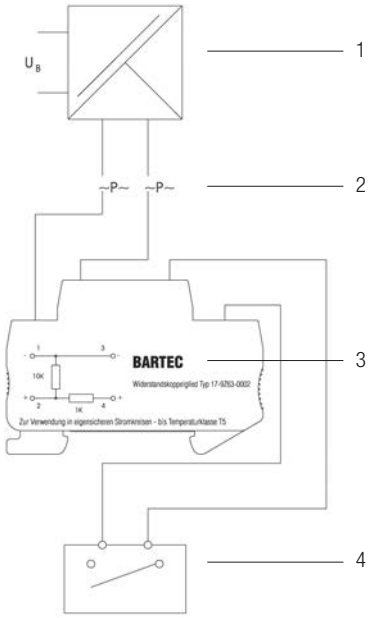
To the use in intrinsically safe electric circuits to temperature class T5. The resistive coupling element can be used with all isolator amplifiers featuring open and short circuit monitoring.

### Dimensions



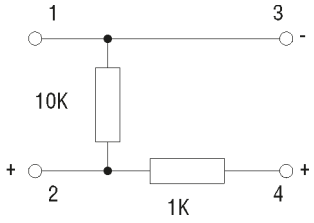

### Application

Open/short circuit monitoring for isolator amplifiers with contact control.




1 Isolator amplifier
2 Cable and sub-distribution
3 Resistive coupling element mounted on sensor
4 Sensor and contact for monitoring

### Wiring diagram/terminal assigment




### Ordering information

| | |
|---|---|
| Resistive coupling element 1 kΩ/10 kΩ | **17-9Z63-0002** |

Other variants on request.
Technical data subject to change without notice.

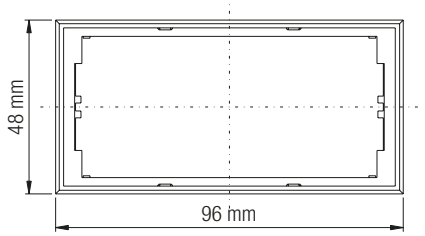
# Process Monitor PM 420ex

The process monitor is a 5-digit intrinsically safe display unit. It can be used to show electricity flowing out of a 4 mA to 20 mA field circuit into technical units. No additional voltage supply or battery is needed for operation.

## Explosion protection

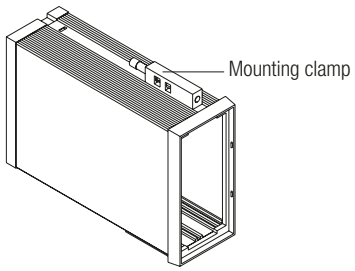
| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex ib [ia Ga] IIC T5 Gb |
| Certification | IBExU 09 ATEX 1095 X |
| Other approvals and certificates, see www.bartec.de | |
| Ambient temperature | -20 °C ≤ $T_a$ ≤ +60 °C |
| Safety retated data | $U_i$ ≤ DC 30 V<br>$I_i$ ≤ 100 mA<br>$L_i$ ≤ insignificant<br>$C_i$ ≤ 12 nF |

## Dimensions/mounting positions




Depth: 82 mm

## Mounting




## Technical data

| | |
|---|---|
| Structure | front-panel fitting |
| Enclosure material | high-quality thermoplastics |
| Protection class | front installation IP 40<br>terminals IP 20 |
| Displays | Type height 13 mm |
| Connecting terminals | 2.5 mm², fine-stranded |
| Storage temperature | -40 °C to +80 °C |
| Dimensions (W x H x D) | 96 mm x 48 mm x 82 mm |
| Wall cut-out | 91 mm x 44 mm + 0.5 mm |
| Weight | 120 g |

## Electrical data

| | |
|---|---|
| Measuring range | 4 to 20 mA |
| Measured variable | Current |
| Error of indicator | < 0.1 % of the display range |
| Temperature drift | < 0.01 %/K |

Input mode unit

| Parameter | Unit | Parameter | Unit |
|---|---|---|---|
| 0 | °C | 13 | t |
| 1 | A | 14 | ph |
| 2 | mA | 15 | ppm |
| 3 | V | 16 | rpm |
| 4 | mV | 17 | mbar |
| 5 | n | 18 | bar |
| 6 | mm | 19 | kPa |
| 7 | cm | 20 | 1/min |
| 8 | m | 21 | µS/cm |
| 9 | km | 22 | mS/cm |
| 10 | m³ | 23 | m³/h |
| 11 | % | 24 | Nm³/h |
| 12 | kg | | |

## Ordering information

| | |
|---|---|
| Process Monitor PM 420ex | **17-71MM-1002** |

Technical data subject to change without notice.

MODEX SWITCHING AND CONTROL COMPONENTS

## CONTENT


IP 30 isolator terminal, 2-pole 176
07-7311-6131/EE00

Fuse up to 1.25 A with double terminals 177
07-7311-61J2/..20

Fuse up to 1.25 A with single terminals 178
07-7311-61J2/.TA0

Fuse up to 2.5 A 179
07-7311-63J2/..00

Fuse up to 6.3 A 180
07-7311-93J2/..00

Fuse up to 6.3 A, quick-acting 181
07-7311-93J2/..00

Freewheeling diode, single 182
07-7311-61GF/54.0

Freewheeling diode, double 183
07-7311-63GF/5300

Measuring resistor max. 0.8 Watt 184
07-7311-61TW/..00

Lamp test circuit 185
07-7311-97GW/E3K0

Resistors max. 1.2 Watt 186 - 187
07-7311-63TW/....

Miniature switching relay 188
07-7311-6371/.000

Relay, 1 changeover contact/2 changeover contacts 189 - 190
07-7311-937./.000

Power relay 191
07-7311-9772/.310

Isolator relay, galv. insulation acc. to EN/IEC 60079-0 and EN/IEC 60079-11 192 - 193
07-7311-937./..00

Cradle relay AC 194 - 195
07-7331-977./.100

Cradle relay DC 196 - 197
07-7331-977./.100

Transformer AC 24 V/500 mA 198
07-7311-97S3/H3N0

AC/DC converter DC 24 V/450 mA 199
07-7311-97S7/AAM0

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07-7331-1201/0000

Power supply unit AC/DC 110 to 250 V 201
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Power Supply 100 W for Zone 1 + 2 and Zone 21 + 22 202
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Optocoupler, 2-channel 203
07-7311-93QH/C5M0

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07-7311-97MT/BA..

Measuring transducer for Pt100, galvanically isolated 206
07-7311-93T5/.350

Power contactor 207
07-7311-97ER/31.0

# **IP 30 isolator terminal** 2-pole

The MODEX series offers an isolator terminal which can be used for service and test tasks and for conventional manual switching functions. Thanks to the visibly clear distinction between switching positions and extremely small enclosure with 4 integrated terminals, the isolator terminal is very easy to install. The labelling options are the same as for rail-mounted terminals. The MODEX isolator terminal is installed directly in an Ex e enclosure and installed in the same way as a rail-mounted terminal. As a terminal with positive opening operation, it offers additional safety. All live parts are protected against accidental contact which allows you to open the Ex e enclosure and to operate the switch by hand when voltage is applied and within the explosive area. Connected actuators or sensors have 2-pole activation and can thus be replaced under potentially explosive conditions.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 99 ATEX 1020 U |
| Marking IECEx | Ex db eb IIC or Ex d e IIC Gb<br>Ex db eb I or Ex d e I Mb |
| Certification | IECEx PTB 11.0087U |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | | |
|---|---|---|
| Enclosure material | High-quality thermoplastic and duroplastic | |
| Protection class | Switching insert<br>Terminals<br>Terminals with cover | IP 54 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 | |
| Terminal designation | written marking labels | |
| Ambient temperature | -40 °C to +70 °C | |
| Storage temperature | -40 °C to +70 °C | |
| Weight | 0.245 kg | |

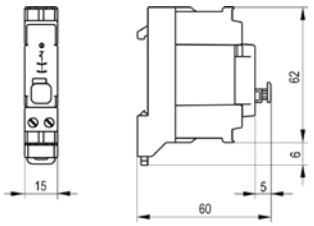
**Electrical data**

| | |
|---|---|
| Switching elements | 2-pole, positive opening contact |
| Service life | electrical/mechanical 0.6 $\geq 10^4$ switching cycles |
| Contact material | pure silver, gold-plated |
| Contact version | positive opening contact |
| Contact type | 2-pole, NC contact |
| Rated isolation voltage | 400 V |
| Short-circuit protection | fuse links, characteristic - quick-acting: 10 A |
| Mechanical life | 1 x $10^6$ switching cycles |
| Electrical life | 1 x $10^4$ switching cycles |
| Conventional thermal current | 7 A at $T_a \leq +40$ °C |
| Utilization categories | AC 15 for 400 V/2 A<br>DC 13 for 250 V/0.15 A |

**Rated operating current** (Switching capacity according to EN 61058-1)

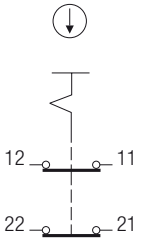
| **Alternating current 40 to 80 Hz** | | |
|---|---|---|
| Load U | Ohmic load I/AC-12 A | Inductive load I/AC-15 A |
| 125 V | 5 A | |
| 250 V | 4 A | 4.0 A |
| 400 V | 2 A | 2.0 A |
| **Direct current** | | |
| 30 V | 7 A | approx. 5 A |
| 250 V | 0.6 A | 0.15 A |

**Dimensions/mounting positions**




Module width: 15 mm

**Wiring diagram (I-position)/terminal assignment (I-position)**




Notes
- Adhere to VBG 4 § 6 par. 2 when working on the unit
- Provide IP 30 covers on terminals 11 and 21 (enclosed)
- Work only permitted on terminals 12 and 22
- Protect against accidental restarting/seal the isolator terminal
- Ensure power supply has been disconnected (pay attention to consumers with an energy storage mechanism)
- Cover neighbouring live parts

**Ordering information**

| | |
|---|---|
| IP 30 isolator terminal, 2-pole | **07-7311-6131/EE00** |

Technical data subject to change without notice.

Fused modules are required to protect equipment and power circuits in potentially explosive atmospheres. The increasing automation of functions and processes make it necessary to install the standard protective devices on-site. An advantage of control components is that they are fitted in explosion-protected enclosures with integrated double terminals. This allows the input and output voltage to continue to be used. Please indicate the desired current value with your order (see order information table).

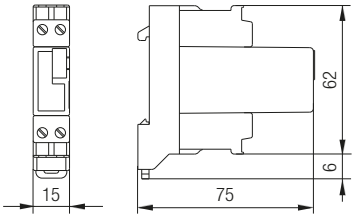


### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 98 ATEX 1010 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0086U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |

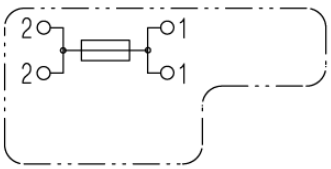
Other approvals and certificates, see www.bartec.de

### Dimensions/mounting positions




Module width: 15 mm

### Wiring diagram/terminal assignment




### Technical data

| | |
|---|---|
| Enclosure material | High quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -40 °C to +50 °C at T6<br>-40 °C to +60 °C at T4<br>(only at nominal current < 0.5 A) |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.055 kg |

### Electrical data see order information

| | |
|---|---|
| Rated voltage | 250 V |
| Switching capacity | at 250 V, 50 Hz, cos ϕ = 1<br>80 A for (M) 0.1 A to 1.25 A<br>35 A for (T) 0.1 A to 1.25 A |

### Order information

| Nominal current | Code no. | Characteristic | Fuse type | Code no. |
|---|---|---|---|---|
| 0.1 A | **5** | medium time-lag | Littelfuse 201 | **M** |
| 0.2 A | **8** | | | |
| 0.25 A | **9** | | | |
| 0.5 A | **C** | time-lag | Littelfuse 218 | **T** |
| 1.0 A | **G** | | | |
| 1.25 A | **H** | | | |

**Complete order no. 07-7311-61J2/ □□ 20**

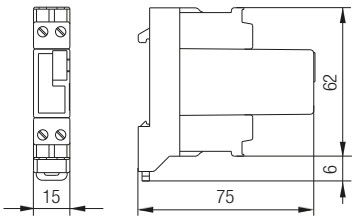
Please enter code number. Technical data subject to change without notice.

Fused modules are required to protect equipment and power circuits in potentially explosive atmospheres. The increasing automation of functions and processes make it necessary to install the standard protective devices on-site. An advantage of control components is that they are fitted in explosion-protected enclosures with integrated single terminals. This allows the input and output voltage to continue to be used. Please indicate the desired current value with your order (see order information table).

### Explosion protection

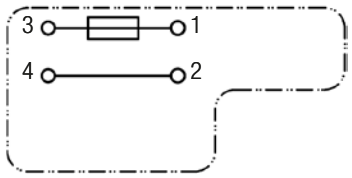
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 98 ATEX 1010 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0086U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

### Dimensions/mounting positions




Module width: 15 mm

### Wiring diagram/terminal assignment




### Technical data

| | |
|---|---|
| Enclosure material | High quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -40 °C to +50 °C at T6<br>+40 °C to +60 °C at T4<br>(only at rated current < 0.5 A) |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.055 kg |

### Electrical data see ordering information

| | |
|---|---|
| Rated voltage | 250 V |
| Switching capacity | at 250 V, 50 Hz, cos ϕ = 1<br>35 A for (T) 0.032 A to 1.25 A |

### Ordering information

| Fuse type | | Littelfuse 218 | |
|---|---|---|---|
| Nominal current (time-lag) | Code no. | Nominal current (time-lag) | Code no. |
| 0.032 A | **1** | 0.25 A | **9** |
| 0.050 A | **2** | 0.315 A | **A** |
| 0.063 A | **3** | 0.4 A | **B** |
| 0.08 A | **4** | 0.5 A | **C** |
| 0.1 A | **5** | 0.63 A | **E** |
| 0.125 A | **6** | 0.8 A | **F** |
| 0.16 A | **7** | 1.0 A | **G** |
| 0.2 A | **8** | 1.25 A | **H** |

**Complete order no. 07-7311-61J2 / ☐ TA0**
Please enter code number. Technical data subject to change without notice.

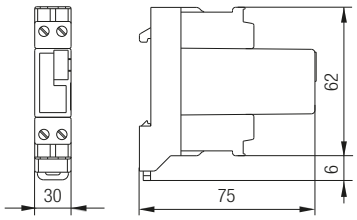
Fused modules are required to protect equipment and power circuits in potentially explosive atmospheres. The increasing automation of functions and processes make it necessary to install the standard protective devices on-site. An advantage of control components is that they are fitted in explosion-protected enclosures with integrated double terminals.



### Explosion protection

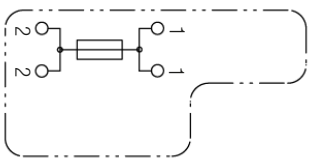
| | |
|---|---|
| Marking ATEX | Ex II 2G Ex db e IIC Gb<br>Ex II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

### Dimensions/mounting positions




Module width: 30 mm

### Wiring diagram/terminal assignment




### Technical data

| | |
|---|---|
| Enclosure material | High quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -40 °C to +50 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.120 kg |

### **Electrical data** see ordering information

| | |
|---|---|
| Rated voltage | 250 V |
| Switching capacity | at 250 V, 50 Hz, cos φ = 1<br>1000 A for (M) 1.6 A to 2.5 A<br>35 A for (T) 1.6 A to 2.5 A |

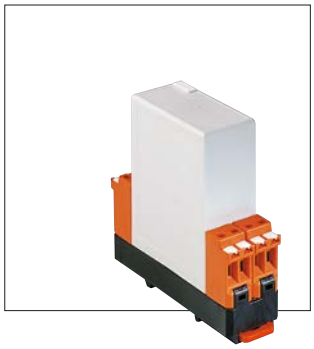
### Ordering information

| Nominal current | Code no. | Characteristic | Fuse type | Code no. |
|---|---|---|---|---|
| 1.6 A | **J** | medium time-lag | ESKA 57 | **M** |
| 2.0 A | **K** | | | |
| 2.5 A | **L** | time-lag | Littelfuse 218 | **T** |

**Complete order no. 07-7311-63J2/ □□ 00**

*07-7311-63J2/LT00 not available!

Please enter code number. Technical data subject to change without notice.

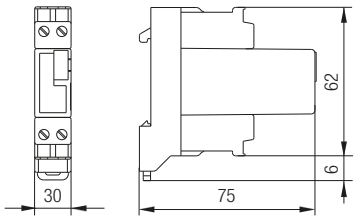


The increasing automation of functions and processes make it necessary to install the standard protective devices on-site. Fused modules are required to protect equipment and power circuits in potentially explosive atmospheres. An advantage of control components is that they are fitted in explosion-protected enclosures with integrated double terminals.

### Explosion protection

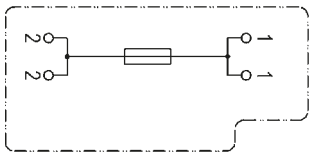
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

### Dimensions/mounting positions




Module width: 30 mm

### Wiring diagram/terminal assignment




### Technical data

| | |
|---|---|
| Enclosure material | High quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -40 °C to +50 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.250 kg |

### **Electrical data** see ordering information

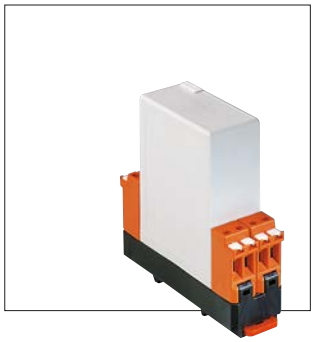
| | |
|---|---|
| Rated voltage | 250 V |
| Switching capacity | at 250 V, 50 Hz, cos φ = 1<br>1000 A for (M) 3.15 A to 6.3 A<br>35 A for (T) to 3.15 A<br>40 A for (T) 4 A<br>50 A for (T) 5 A<br>63 A for (T) 6.3 A |

### Ordering information

| Nominal current | Code no. | Characteristic | Fuse type | Code no. |
|---|---|---|---|---|
| 3.15 A | **M** | time-lag | ESKA 521 | **T** |
| 4.0 A | **N** | | | |
| 5.0 A | **P** | medium time-lag | Multicomp | **M** |
| 6.3 A | **Q** | | | |

**Complete order no. 07-7311-93J2/ ☐☐ 00**

Please enter code number. Technical data subject to change without notice.



The increasing automation of functions and processes make it necessary to install the standard protective devices on-site. Fused modules are required to protect equipment and power circuits in potentially explosive atmospheres. An advantage of control components is that they are fitted in enclosures with explosion protection with integrated double terminals.

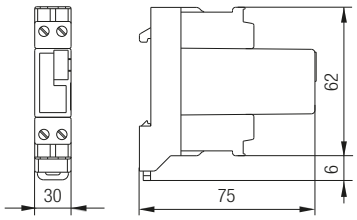


### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |

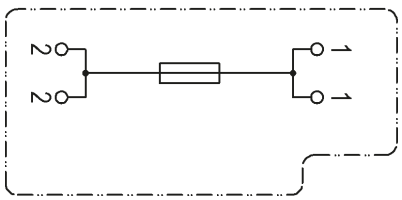
Other approvals and certificates, see www.bartec.de

### Dimensions/mounting positions




Module width: 30 mm

### Wiring diagram/terminal assignment



### Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -40 °C to +50 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.250 kg |

### **Electrical data** see ordering information

| | |
|---|---|
| Rated voltage | 250 V |
| Switching capacity | at 250 V, 50 Hz, cos ϕ = 1<br>35 A for 3.15 A<br>40 A for 4 A<br>63 A for 6.3 A |

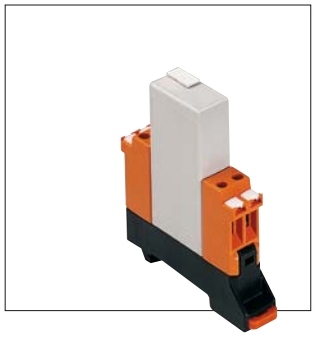
### Ordering information

| Nominal current | Code no. | Characteristic | Fuse type | Code no. |
|---|---|---|---|---|
| 2.5 A | **L** | quick-acting | Littelfuse 216 | **F** |
| 4.0 A | **N** | | | |
| 6.3 A | **Q** | | | |

**Complete order no.07-7311-93J2/ ☐☐ 00**

Please enter code number. Technical data subject to change without notice.

# **Freewheeling diode** single

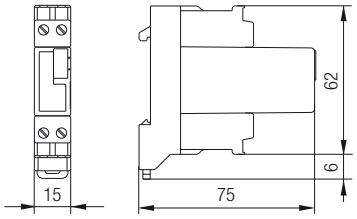


A freewheeling diode is used as a suppressor circuit. This module can be installed in series or in parallel to an electrical circuit as with a rail-mounted terminal. There are two connection terminals on either side to facilitate wiring to other MODEX modules or direct connection.

## Explosion protection

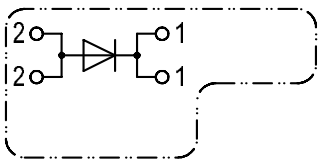
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 98 ATEX 1010 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0086U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

## Dimensions/mounting position



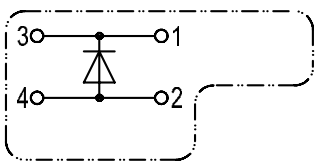

Module width: 15 mm

## Wiring diagram 1/terminal assignment 1




Variant 1

## Wiring diagram 2/terminal assignment 2




Variant 2

## Technical data

| | | |
|---|---|---|
| Enclosure material | High quality thermoplastic | |
| Protection class | Module | IP 66 EN/IEC 60529 |
| | Terminals | IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 | |
| Terminal designation | written marking labels | |
| Ambient temperature | -40 °C to +50 °C at T6<br>+40 °C to +60 °C at T4 | |
| Storage temperature | -40 °C to +70 °C | |
| Weight | 0.055 kg | |

## Electrical data

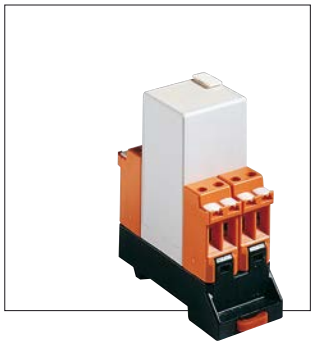
| | |
|---|---|
| Rated voltage | 400 V |
| Diode reverse voltage | 1000 V |
| Diode current | 0.7 A<br>Type N4007, other types on request |

## Ordering information

| | |
|---|---|
| Variant 1 | **07-7311-61GF/5400** |
| Variant 2 | **07-7311-61GF/5410** |

Technical data subject to change without notice.

# **Freewheeling diode** double



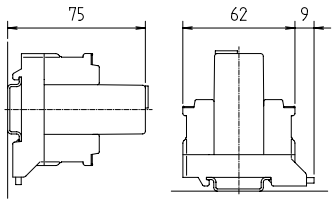
Diode suppressor circuits for electrical and electronic control systems. Spark suppression diodes to prevent overvoltage in inductive loads such as solenoid valves, DC relays, DC valves etc.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |

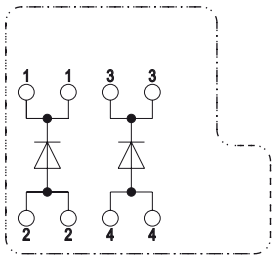
Other approvals and certificates, see www.bartec.de

### Dimensions/mounting position




Module width: 30 mm

### Wiring diagram/terminal assignment




### Technical data

| | | |
|---|---|---|
| Enclosure material | high-quality thermoplastic | |
| Protection class | Module<br>Terminals | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 | |
| Terminal designation | written marking labels | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Storage temperature | -40 °C to +70 °C | |
| Weight | 0.250 kg | |

### Electrical data

| | |
|---|---|
| Rated voltage | 400 V |
| Diode reverse voltage | 1000 V |
| Diode current | max. 0.6 A,<br>Type N4007 other types on request |

### Ordering information

| | |
|---|---|
| Freewheeling diode, double | **07-7311-63GF/5300** |

Technical data subject to change without notice.

# **Measuring resistor** max. 0.8 W

For general use throughout the field of measuring and control engineering for hazardous areas (e. g. monitoring switching contacts, open circuit monitoring).

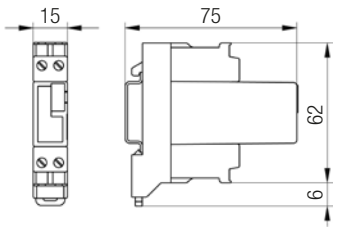
### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 98 ATEX 1010 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0086U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

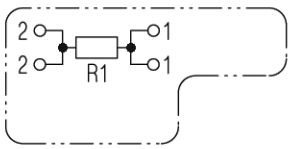
### Technical data

| | |
|---|---|
| Enclosure material | High quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -40 °C to +40 °C at T6<br>+40 °C to +60 °C at T4 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.050 kg |

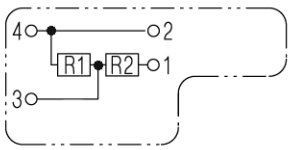
### Dimensions




### Wiring diagram 1/terminal assignment 1




### Wiring diagram 2/terminal assignment 2




### Ordering information

| Resistor pairs | | | | Spacing | Wiring diagram/ terminal assigment | Code no. |
|---|---|---|---|---|---|---|
| R1<br>R2 | 10 kΩ ± 1 %<br>1 kΩ ± 1 % | $I_{max.}$ = 6 mA<br>$I_{max.}$ = 6 mA | | None | 2 | **00** |
| R1<br>R2 | 3.3 kΩ ± 1 %<br>1.8 kΩ ± 1 % | $I_{max.}$ = 8 mA<br>$I_{max.}$ = 8 mA | | None | 2 | **01** |
| R1 | 4.7 kΩ ± 5 % | $I_{max.}$ = 12 mA | | None | 1 | **02** |
| R1 | 120 Ω ± 1 % | $I_{max.}$ = 60 mA | | None | 1 | **03** |
| R1 | 1 kΩ ± 1 % | $I_{max.}$ = 25 mA | | None | 1 | **04** |
| R1 | 250 Ω ± 0,1 % | $I_{max.}$ = 50 mA | | None | 1 | **05** |
| R1<br>R2 | 2 kΩ ± 1 %<br>1 kΩ ± 1 % | $I_{max.}$ = 6 mA | | None | 2 | **06** |
| R1<br>R2 | 249 Ω ± 1 %<br>100 Ω ± 1 % | $I_{max.}$ = 50 mA | | None | 2 | **07** |
| R1<br>R2 | 10 kΩ ± 1 %<br>2 kΩ ± 1 % | $I_{max.}$ = 6 mA | | None | 2 | **08** |
| R1<br>R2 | 8.2 kΩ ± 1 %<br>1.5 kΩ ± 1 % | $I_{max.}$ = 8 mA<br>$I_{max.}$ = 19 mA | | None | 2 | **09** |
| R1<br>R2 | 3.9 kΩ ± 1 %<br>6.8 Ω ± 1 % | $I_{max.}$ = 10 mA<br>$I_{max.}$ = 8 mA | | None | 2 | **10** |
| R1<br>R2 | 22 kΩ ± 1 %<br>680 Ω ± 1 % | $I_{max.}$ = 5 mA<br>$I_{max.}$ = 28 mA | | None | 2 | **11** |

**Complete order no. 07-7311-61TW/ □□ 00**

Please enter code number. Technical data subject to change without notice.

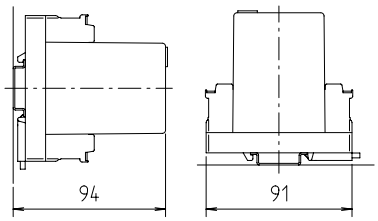
# Lamp test circuit

This module combines a given number of diodes on a single printed board. The diodes are connected to terminals.
Typical applications:
Lamp test circuits - the signals are connected without reaction. The diodes are connected in pairs and can be wired freely to the anode.

## Explosion protection

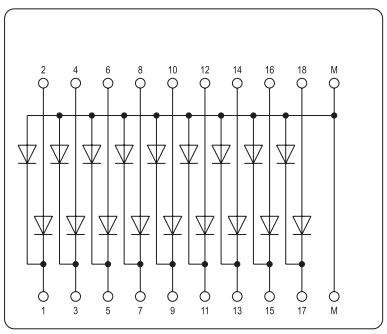
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

## Dimensions/mounting positions




Module width: 75 mm

## Wiring diagram/terminal assignment




## Technical data

| | |
|---|---|
| Enclosure material | High quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.400 kg |

## Electrical data

| | |
|---|---|
| Input voltage | max. DC 300 V |
| Reverse voltage | 1000 V |
| Diode current | 0.3 A max per lamp, Type 1N4007 |

## Ordering information

| | |
|---|---|
| Lamp test circuit | **07-7311-97GW/E3K0** |

Technical data subject to change without notice.

For general use throughout the field of measuring and control engineering for hazardous areas (e. g. monitoring switching contacts on relays, open circuit monitoring).

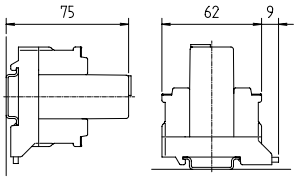
**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

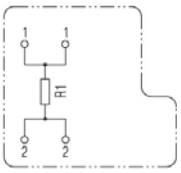
| | | |
|---|---|---|
| Enclosure material | High-quality thermoplastic | |
| Protection class | Module | IP 66 EN/IEC 60529 |
| | Terminals | IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 | |
| Terminal designation | written marking labels | |
| Ambient temperature | -25 °C to +60 °C at T4 | |
| Storage temperature | -40 °C to +70 °C | |
| Weight | 0.110 kg | |

**Dimensions/mounting positions**

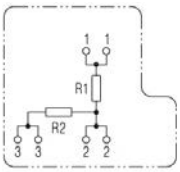



Module width: 30 mm

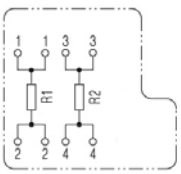
**Wiring diagram 1/terminal assignment 1**




**Wiring diagram 2/terminal assignment 2**




**Wiring diagram 3/terminal assignment 3**



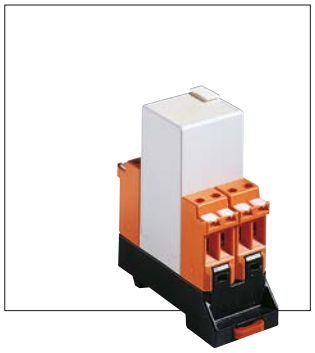
**Ordering information**

| Rating | | Spacing | Wiring diagram/ terminal assignment | Code no. |
|---|---|---|---|---|
| R1 4.7 kΩ ± 10 %<br>R2 10 kΩ ± 10 % | $I_{max.}$ = 5 mA<br>$I_{max.}$ = 5 mA | None | 1 | **01A0** |
| R1 100 Ω ± 1 %<br>R2 100 Ω ± 1 % | $I_{max.}$ = 50 mA<br>$I_{max.}$ = 50 mA | None | 3 | **0251** |
| R1 2.2 kΩ ± 1 %<br>R2 680 Ω ± 5 % | $I_{max.}$ = 15 mA<br>$I_{max.}$ = 35 mA | 8 mm | 3 | **03A0** |
| R1 680 Ω ± 5 % | $I_{max.}$ = 35 mA | None | 2 | **04A0** |
| R1 1 kΩ ± 1 %<br>R2 10 kΩ ± 1 % | $I_{max.}$ = 20 mA<br>$I_{max.}$ = 5 mA | None | 3 | **05G0** |
| R1 820 Ω ± 5 % | $I_{max.}$ = 35 mA | None | 2 | **0600** |
| R1 3.3 kΩ ± 5 % | $I_{max.}$ = 17 mA | None | 2 | **0700** |
| R1 2.7 kΩ ± 5 % | $I_{max.}$ = 19 mA | None | 2 | **0800** |
| R1 3 kΩ ± 1 %<br>R2 4.3 kΩ ± 1 % | $I_{max.}$ = 10 mA<br>$I_{max.}$ = 9 mA | None | 3 | **0900** |
| R1 82 Ω ± 1 %<br>R2 100 Ω ± 1 % | $I_{max.}$ = 70 mA<br>$I_{max.}$ = 60 mA | None | 3 | **1000** |
| R1 120 Ω ± 1 %<br>R2 150 Ω ± 1 % | $I_{max.}$ = 60 mA<br>$I_{max.}$ = 50 mA | None | 3 | **1100** |
| R1 6.8 kΩ ± 1 %<br>R2 820 Ω ± 1 % | $I_{max.}$ = 3.5 mA<br>$I_{max.}$ = 29 mA | None | 3 | **1200** |
| R1 680 Ω ± 2 %<br>R2 3.3 kΩ ± 2 % | $I_{max.}$ = 25 mA<br>$I_{max.}$ = 10 mA | None | 1 | **1300** |
| R1 2.2 kΩ ± 1 %<br>R2 3.3 kΩ ± 1 % | $I_{max.}$ = 15 mA<br>$I_{max.}$ = 10 mA | None | 1 | **1400** |
| R1 6.8 kΩ ± 1 %<br>R2 6.8 kΩ ± 1 % | $I_{max.}$ = 9 mA<br>$I_{max.}$ = 9 mA | None | 3 | **1500** |
| R1 3 kΩ ± 1 %<br>R2 3 kΩ ± 1 % | $I_{max.}$ = 10 mA<br>$I_{max.}$ = 10 mA | None | 1 | **1600** |
| R1 22 kΩ ± 1 % | $I_{max.}$ = 5 mA | None | 2 | **17A0** |
| R1 15 kΩ ± 1 %<br>R2 15 kΩ ± 1 % | $I_{max.}$ = 5 mA<br>$I_{max.}$ = 5 mA | None | 3 | **1800** |
| R1 1.8 kΩ ± 1 %<br>R2 4.7 kΩ ± 1 % | $I_{max.}$ = 2 mA<br>$I_{max.}$ = 10 mA | None | 3 | **1900** |
| R1 1.5 kΩ ± 1 %<br>R2 2.2 kΩ ± 1 % | $I_{max.}$ = 19 mA<br>$I_{max.}$ = 16 mA | None | 1 | **2000** |
| R1 8.2 kΩ ± 1 %<br>R2 1.5 kΩ ± 1 % | $I_{max.}$ = 12 mA<br>$I_{max.}$ = 28 mA | None | 3 | **2100** |
| R1 51.1 kΩ ± 1 %<br>R2 51.1 kΩ ± 1 % | $I_{max.}$ = 3 mA<br>$I_{max.}$ = 3 mA | None | 3 | **2200** |

**Complete order no. 07-7311-63TW/** ☐☐☐☐

Please enter code number. Technical data subject to change without notice.

# Miniature switching relay

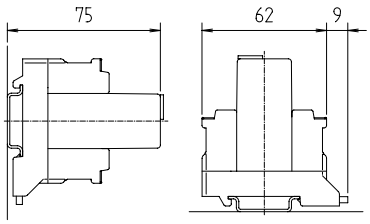


The relay modules offer most up-to-date switching configurations. A suppressor diode on the coil protects the power circuit from peak voltages. High shock and vibration resistance is just as important as the IP 66 protection of the contacts. The relay switches circuits up to 5 A and is used as an isolator between low-current control circuits and high-current switching circuits.

## Explosion protection

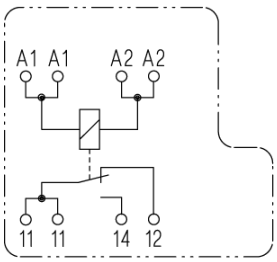
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

## Dimensions/mounting positions




Module width: 30 mm

## Wiring diagram/terminal assignment




## Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Labelling | written marking labels |
| Ambient temperature | -40 °C to +40 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.250 kg |

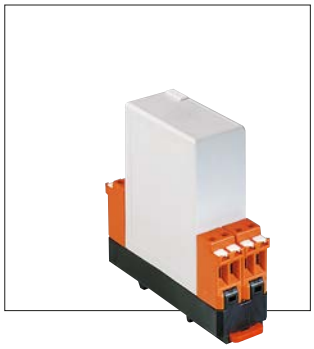
## Electrical data

| | |
|---|---|
| Coil data | AC/DC 11.2 V to 16 V/0.53 VA/0.37 W<br>AC/DC 21.5 V to 28 V/0.43 VA/0.33 W<br>AC/DC 42 V to 60.5 V/0.53 VA/0.4 W<br>AC/DC 54 V to 72 V/0.41 VA/0.3 W<br>AC 96 V to 144 V; 50/60 Hz/0.85 VA<br>AC 176 V to 264 V; 50 Hz/1.5 VA |
| Contact material | AgCdO |
| Max. switching voltage | AC 250 V/DC 300 V |
| Max. switching capacity (ohmic load) | 1250 VA (50 W) |
| Test voltage | Coil-contact 4 kV |
| Mechanical life | min. 3 x $10^6$ switching cycles |
| Electrical life | > 1 x $10^5$ switching cycles/AC 220 V, 5 A ohmic load |
| Switching frequency | 7200 switching cycles/h |

## Ordering information

| | | | | |
|---|---|---|---|---|
| AC/DC | 11.2 V | to | 16 V | **07-7311-6371/2000** |
| AC/DC | 21.5 V | to | 28 V | **07-7311-6371/3000** |
| AC/DC | 42 V | to | 60.5 V | **07-7311-6371/4000** |
| AC/DC | 54 V | to | 72 V | **07-7311-6371/5000** |
| AC | 96 V | to | 144 V | **07-7311-6371/7000** |
| AC | 176 V | to | 264 V | **07-7311-6371/8000** |

Technical data subject to change without notice.



The relay modules offer most up-to-date switching configurations. A suppressor diode on the coil protects the power circuit from peak voltages. The relay is used to switch power circuits up to 6 A. Thanks to its low power consumption it can be controlled by means of electronic circuits, optorelays from BARTEC or standard control circuits.



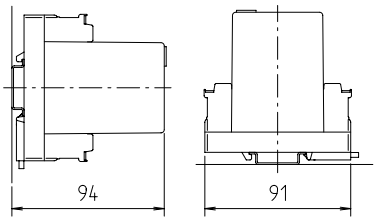
### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

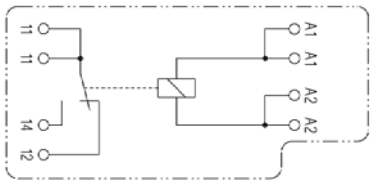
| | | | |
|---|---|---|---|
| Enclosure material | High-quality thermoplastic | | |
| Protection class | Module<br>Terminals | IP 66<br>IP 20 | EN/IEC 60529<br>EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | | |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 | | |
| Labelling | written marking labels | | |
| Storage temperature | -40 °C to +70 °C | | |
| Ambient temperature | -20 °C to +40 °C | | |
| Weight | 0.250 kg | | |

### Dimensions/mounting positions

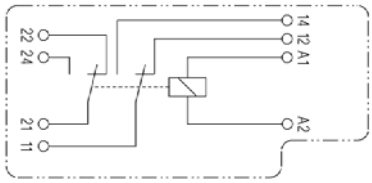



Module width: 30 mm

### Wiring diagram 1/terminal assignment 1




### Wiring diagram 2/terminal assignment 1



### Electrical data

Coil data

| AC/DC 12 V | AC/DC 24 V | AC 110 V | AC 120 V | AC 230/240 V |
|---|---|---|---|---|
| ± 10 % | ± 10 % | +10 % | +10 %/60 Hz | + 10 % |
| 0.45 W | 0.46 W | 1.2 VA | 1.0 VA | 1.2 VA |
| 0.6 VA | 0.56 VA | | | |

| | |
|---|---|
| Making current (16 ms) | 20 A (1 changeover contact)<br>10 A (2 changeover contacts) |
| Test voltage | Coil-contact 4 kV |
| Mechanical life | > 20 x $10^6$ switching cycles |
| Electrical life | > 1 x $10^5$ switching cycles/AC 230 V<br>6 A ohmic load (1 changeover contact)<br>> 1 x $10^5$ switching cycles/AC 230 V<br>3 A ohmic load (2 changeover contacts) |
| Operating frequency | 1800 switching cycles/h |

### Contact data Contact material AgCdO

| $U_A$ | $I_{max.}$ | $P_{max.}$ | (1 changeover contact) |
|---|---|---|---|
| AC 400 V | 2,0 A | 700 VA | cos ϕ = 1 |
| AC 250 V | 6.0 A | 1400 VA | ohmic load |
| DC 125 V | 0.6 A | 75 W | cos ϕ = 1 |
| DC 50 V | 3.0 A | 150 W | ohmic load |

| $U_A$ | $I_{max.}$ | $P_{max.}$ | (2 changeover contacts) |
|---|---|---|---|
| AC 400 V | 1.0 A | 350 VA | cos ϕ = 1 |
| AC 250 V | 3.0 A | 700 VA | ohmic load |
| DC 125 V | 0.25 A | 30 W | cos ϕ = 1 |
| DC 50 V | 1.5 A | 75 W | ohmic load |

### Ordering information

| Contacts | Code no. | Voltage | Code no. |
|---|---|---|---|
| 1 changeover | **1** | AC/DC 12 V | **2** |
| | | AC/DC 24 V | **3** |
| 2 changeovers | **2** | AC 110 V | **7** |
| | | AC 120 V/60 Hz | **H** |
| | | AC 230 V/240 V | **9** |

**Complete order no. 07-7311-937 ☐ / ☐ 000**
Relay, 2 changeover contacts also available in AC/DC 48 V.

**Order no. 07-7311-9372/4000**
Please insert correct code. Technical data subject to change without notice.

# Power relay

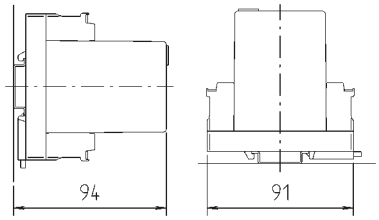
Relay modules in the MODEX system offer modern switch features in explosive areas. The MODEX power relay is used to switch load-current circuits to 12 A, e. g. heating circuits or smaller motors.

## Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |

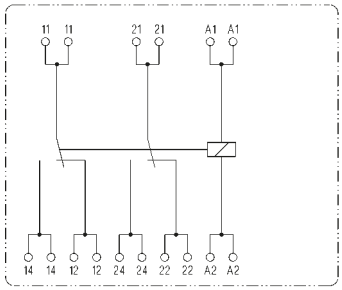
Other approvals and certificates, see www.bartec.de

## Dimensions/mounting positions




Module width: 75 mm

## Wiring diagram/terminal assignment




## Technical data

| | |
|---|---|
| Enclosure material | High quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | mounted in sequence on TH<br>at ≥ 16 mm spacing<br>-25 °C to +40 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.500 kg |

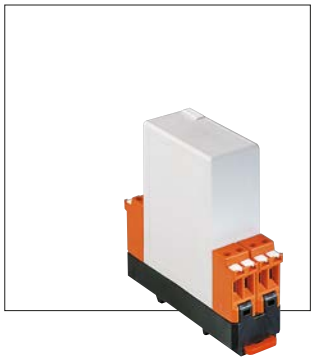
## Electrical data

| | |
|---|---|
| Coil data | DC 24 V ± 10 %<br>AC 230 V ± 10 % |
| Rated output | DC 24 V approx. 1.25 W<br>AC 230 V approx. 1.9 VA |
| Contact material | Contact material AgCdO |
| Max. switching voltage | AC 400 V |
| Max. switching current (ohmic load) | 12 A |
| Max. switching capacity (ohmic load) | 4560 VA |
| Test voltage | Coil contact 2.5 kV effective 15/10 ms |
| Mechanical life | 20 x $10^6$ switching cycles |
| Switching frequency | 6000 switching cycles/h without load<br>1000 switching cycles/h at nominal load |

## Ordering information

| | |
|---|---|
| DC 24 V | **07-7311-9772/3310** |
| AC 230 V | **07-7311-9772/H310** |

Technical data subject to change without notice.



This relay is used as an isolator between non-intrinsically safe and intrinsically safe circuits. Various coil and contact configurations are available. Several intrinsically safe circuits can be connected to the contact circuits, provided that intrinsic safety is maintained. Safe galvanic isolation in conformance to EN/IEC 60079-11 up to 375 V is provided between the coil and contacts.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2(1)G Ex de [ia Ga] IIC Ga |
| Certification | PTB 97 ATEX 1068 U<br>PTB 03 ATEX 2169 X |
| Marking IECEx | Ex db e IIC or Ex d e [ia Ga] IIC Ga<br>Ex db e I or Ex d e [ia Ma] I Mb |
| Certification | IECEx PTB 13.0016X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Ga |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

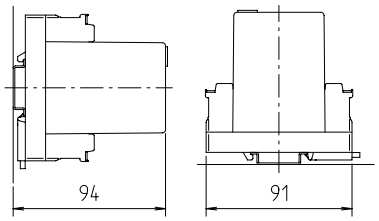
### Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 $mm^2$, fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking label |
| Ambient temperature | -25 °C to +55 °C (DC 12 V/24 V)<br>at T6 and 15 mm distance |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.250 kg |

### Electrical data

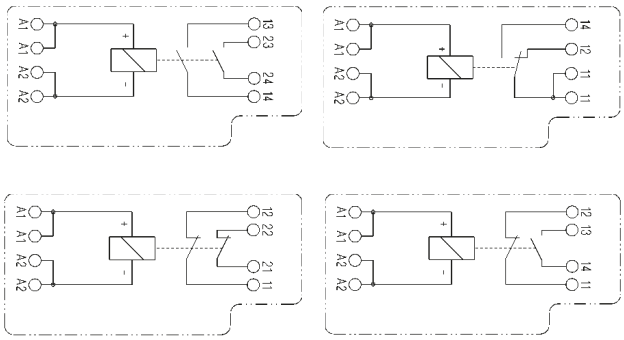
| | |
|---|---|
| Coil data | DC 12 V; 60 mA (9 to 14 V)<br>DC 24 V; 30 mA (18 to 28 V)<br>DC 48 V; 15 mA (36 to 56 V) |
| Contact data (non-intrinsically safe) | |
| Single-pole contact | Contact material AgCuNi |
| Max. switching voltage | AC 250 V |
| Max. switching current | 4 A |
| Max. switching capacity (AC) | 100 VA/cos ϕ = 1 |
| Max. switching capacity (at switching voltage up to DC 24 V) | 96 W/ohmic load |
| Contact data (intrinsically safe) | |
| Double contact | Contact material AgCuNi, hard gold plated |
| Max. switching voltage | AC 46 V<br>DC 65 V |
| Max. switching current | 2 A |
| Max. switching capacity (AC) | 92 VA/cos ϕ = 1 |
| Max. switching capacity | 48 W/ohmic load |
| Test voltages | Coil-contact 5000 $V_{rms}$<br>Contact assembly-contact assembly 2500 $V_{rms}$<br>Contact open 1000 $V_{rms}$ |
| Mechanical life | > 50 x $10^6$ switching cycles |
| Electrical life | 3 x $10^5$ switching cycles<br>(single-pole contact, AC 250 V; 4 A;<br>cos ϕ = 1; 360 switching cycles/h) |

### Dimensions/mounting positions




Module width: 30 mm

### Wiring diagram/terminal assignment




### Ordering information

| Contacts (non-intrinsically safe) | Code no. | Coil voltage (intrinsically safe) | Code no. |
|---|---|---|---|
| 1 changeover | **1** | DC 12 V | **V5** |
| 2 NO | **4** | DC 24 V | **W5** |
| 2 NC | **6** | DC 48 V | **X5** |
| 1 NO/1 NC | **7** | (non-intrinsically safe) | |
| (intrinsically safe) | | DC 12 V | **N6** |
| 1 changeover | **E** | DC 24 V | **Q6** |
| 1 NO/1 NC | **F** | DC 48 V | **R6** |
| 2 NO | **G** | | |
| 2 NC | **H** | | |

**Complete order no. 07-7311-937 ☐ / ☐☐ 00**

Please enter correct code. Technical data subject to change without notice.

# Cradle relay AC

Cradle relay for alternating voltage, neutral, monostable. High-quality cradle relays for AC are installed as encapsulated flameproof elements in the MODEX enclosure. The IP 66 protection class ensures that the contacts are also protected from aggressive atmospheres.

Applications:
switching of measuring and control circuits in industrial areas.

## Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC or Ex d e IIC Gb<br>Ex db e I or Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Other approvals and certificates, see www.bartec.de | |

## Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastics |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 $mm^2$, fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -25 °C to +50 °C at T6 mounted in sequence on TH at 5 mm spacing |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.500 kg |

## Electrical data

Operating data (coil circuit)

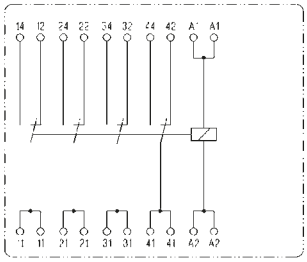
| $U_N$ | $I_N$ (8 contact decks) |
|---|---|
| AC 110 V | 25 mA |
| AC 120 V/50 Hz | 28 mA |
| AC 120 V/60 Hz | 25 mA |
| AC 220 V | 13 mA |
| AC 230/240 V | 13 mA |

| | |
|---|---|
| Contact data | Switching voltage: $U_{A\,max.}$ = AC/DC 125 V<br>Switching current: $I_{max.}$ = 1 A (per contact) |
| Switching capacity | $P_{max.}$ = 40 W/50 VA |
| Contact material | silver, gold-flashed |
| Contact arrangement | 4 changeovers; 8 NO; 4 NO/4 NC |

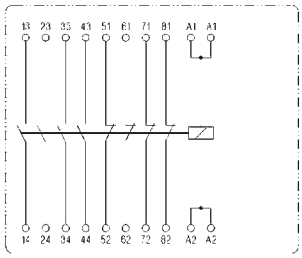
Note
For use with inductive loads the relays can be connected with an effective suppressor in order to protect the contacts.

| Other datas | AC types |
|---|---|
| Max. switching frequency | 20 (switching cycles/sec.) |
| Mech. service life | approx. $10^7$ (switching cycles) |
| Test voltage | coil/contact ($V\sim_{rms}$)<br>500 at $U_N \leq 60$ V, 2 000 at $U_N > 60$ V |
| | 500 contact/contact ($V\sim_{rms}$) |

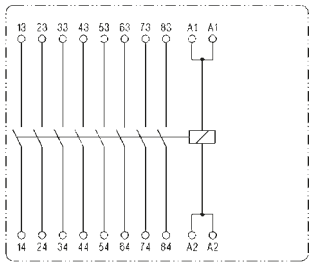
## Wiring diagrams/terminal assignments



4 changeovers

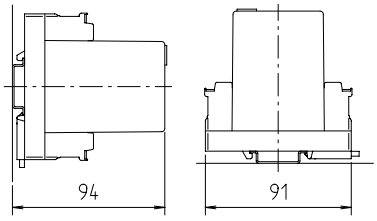


4 NO/4 NC



8 NO

## Dimensions/mounting positions




Module width: 75 mm

## Ordering information

| Contacts | Code no. | Voltage | Code no. |
|---|---|---|---|
| 4 changeovers | **4** | AC 110 V | **G** |
| 8 NO | **C** | AC 220 V | **H** |
| 4 NO/4 NC | **H** | AC 230 V/240 V | **J** |
| | | AC 120 V/60 Hz | **R** |

**Complete order no. 07-7311-977 ☐ / ☐ 100**

Please enter code number. Technical data subject to change without notice.

# Cradle relay DC

Cradle relay for direct voltage, neutral, monostable. High-quality cradle relays for DC are installed as encapsulated flameproof elements in the MODEX enclosure. The IP 66 protection class ensures that the contacts are also protected from aggressive atmospheres.

Applications:
switching of measuring and control circuits in industrial areas.

## Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC or Ex d e IIC Gb<br>Ex db e I or Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303 |
| Other approvals and certificates, see www.bartec.de | |

## Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastics |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 $mm^2$, fine stranded |
| Mounting rail | TH 35 x 7,5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -25 °C to +55 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.500 kg |

## Electrical data

Operating data (coil circuit)

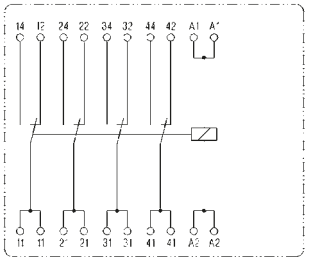
| $U_N$ | $I_N$ (8 contact decks) |
|---|---|
| DC 15 V | 60 mA |
| DC 24 V | 27 mA |
| DC 48 V | 17 mA |

| | |
|---|---|
| Contact data | Switching voltage: $U_{A\,max.}$ = AC/DC 125 V<br>Switching current: $I_{max.}$ = 1 A (per contact) |
| Switching capacity | $P_{max.}$ = 40 W/50 VA |
| Contact material | silver, gold-flashed |
| Contact arrangement | 4 changeovers; 8 NO; 4 NO/4 NC |

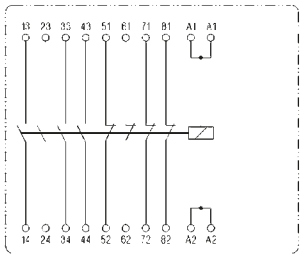
Note
For use with inductive loads the relays can be connected with an effective suppressor in order to protect the contacts.

| Other datas | DC types |
|---|---|
| Max. switching frequency | 50 (switching cycles/sec.) |
| Mech. service life | approx. $10^8$ (switching cycles) |
| Test voltage | 500 coil/contact ($V\sim_{rms}$) |
| | 500 contact/contact ($V\sim_{rms}$) |

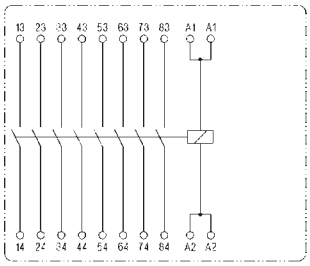
### Wiring diagrams/terminal assignments



4 changeovers

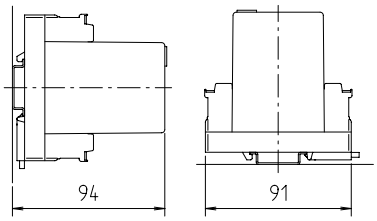


4 NO/4 NC



8 NO

### Dimensions/mounting positions




Module width: 75 mm

### Ordering information

| Contacts | Code no. | Voltage | Code no. |
|---|---|---|---|
| 4 changeovers | **4** | DC 15 V | **8** |
| 8 NO | **C** | DC 24 V | **3** |
| 4 NO/4 NC | **H** | DC 48 V | **4** |

**Complete order no. 07-7311-977 ☐ / ☐ 100**

Please enter code number. Technical data subject to change without notice.

# **Transformer** AC 24 V/500 mA

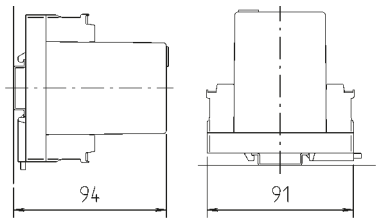
The control transformer converts mains voltage to low voltage. Input and output are electrically isolated. Especially suitable for supplying low power AC devices in zone 1 hazardous areas.

## Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0083U |

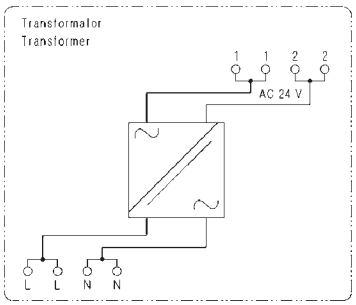
Other approvals and certificates, see www.bartec.de

## Dimensions/mounting positions




Module width: 75 mm

## Wiring diagram/terminal assignment




## Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Storage temperature | -40 °C to +60 °C |
| Weight | 0.900 kg |

## Electrical data

| | |
|---|---|
| Input voltage | AC 230 V ± 10 %, 50 Hz |
| Output voltage | AC 24 V ± 10 % |
| Output current | max. 500 mA |
| Power | 12 VA |

## Ordering information

| | |
|---|---|
| Transformer AC 24 V/500 mA | **07-7311-97S3/H3N0** |

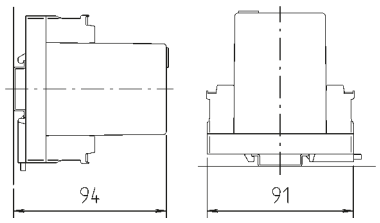
Technical data subject to change without notice.

The power supply module is ideal for control systems in measurement and control technology and for Ex d load with DC connection. The power supply unit has a stabilzed output and offers short-circuit protection.

### Explosion protection

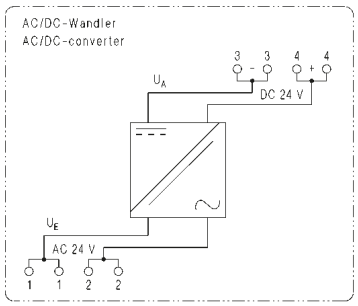
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

### Dimensions/mounting positions




Module width: 75 mm

### Wiring diagram/terminal assignment




### Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminal IP 20 EN/IEC 60529 |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -20 °C to +40 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.400 kg |

### Electrical data

| | |
|---|---|
| Input voltage | AC 24 V + 15 % - 5 %, 50/60 Hz |
| Output voltage | DC 24 V ± 5 % |
| Output current | 450 mA |
| Power dissipation | ≤ 2.5 W |
| Residual ripple | ≤ 20 $mV_{SS}$ |
| Power consumption | max. 13 W |

### Ordering information

| | |
|---|---|
| AC/DC converter, DC 24 V/450 mA | **07-7311-97S7/AAM0** |

Technical data subject to change without notice.

# **Power supply unit** DC 24 V/2 A

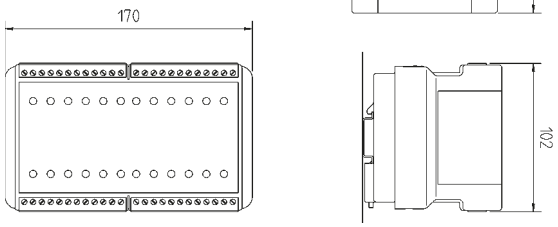
This power supply unit with wide-range input is suitable for universal use. The DC output voltage is stabilised, galvanically isolated and permanently protected against short-circuits.

## Explosion protection

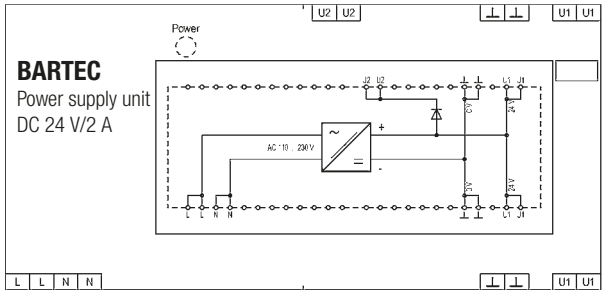
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1066 U |
| Marking IECEx | Ex db e IIC Gb<br>Ex db e I Mb |
| Certification | IECEx PTB 11.0082U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |

Other approvals and certificates, see www.bartec.de

## Dimensions/mounting positions




## Wiring diagram/terminal assignment




## Technical data

| | |
|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail |
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529<br>Terminals with cover IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Terminal designation | written marking labels |
| Display | LEDs on front panel |
| Ambient temperature | -25 °C to +60 °C at T4 |
| Storage temperature | -25 °C to +60 °C |
| Weight | 2.1 kg |

## Electrical data

| | |
|---|---|
| Supply voltage | AC 110 to 250 V, 47 to 63 Hz |
| Input voltage range | AC 94 to 265 V |
| Nominal input current | 0.6 A at AC 230 V/1.1 A at AC 120 V |
| Power consumption | $P_{max.}$ = 66 W |
| Power dissipation | $P_{V\,tot.}$ = 7.3 W |
| Galvanic isolation | Input//Output |
| Display | Operation LED green<br>Overload > 3 A<br>or short-circuit LED green flashing |
| Outputs | |
| Output voltage | DC 24 V +/-3 % |
| Output current | 2 A at $T_u$ < +50 °C |
| Power derating | 2.5 %/K > +50 °C |
| Nominal output power | $P_a$ = 48 W |
| Residual ripple | < 50 mV at $T_u$ = -10 °C to +60 °C |
| Protection and monitoring | Permanent short-circuit protection, overload proof |

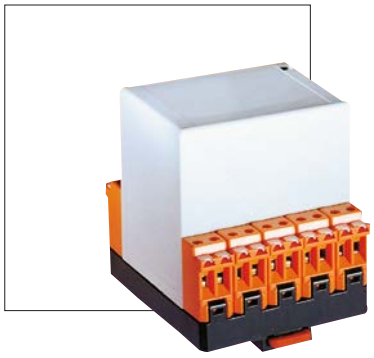
Note: At least 40 mm clearance must be left around the power supply unit.

## Ordering information

| | |
|---|---|
| Power supply unit, DC 24 V/2 A | **07-7331-1201/0000** |

Technical data subject to change without notice.

# **Power supply unit** AC/DC 110 to 250 V



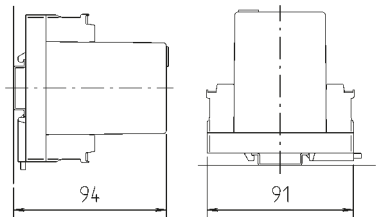
This power supply unit is suitable for universal use with either AC or DC voltage on the input side. The DC output voltage is stabilised and short-circuit and overload proof to a limited extent. An additional output circuit protection is recommended.



## Explosion protection

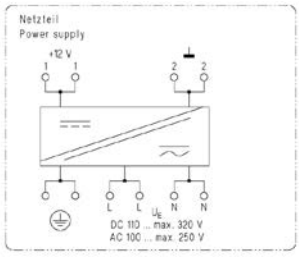
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex d e IIC Gb<br>Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

## Dimensions/mounting positions

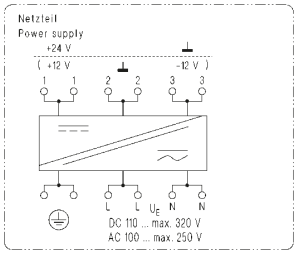



Module width: 75 mm

## Wiring diagram 1/terminal assignment 1




## Wiring diagram 2/terminal assignment 2




## Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | mounted on rail with 8 mm spacing<br>-20 °C to +40 °C at T6 |
| Storage temperature | -20 °C to +65 °C |
| Weight | 0.600 kg |

## **Electrical data** see ordering information

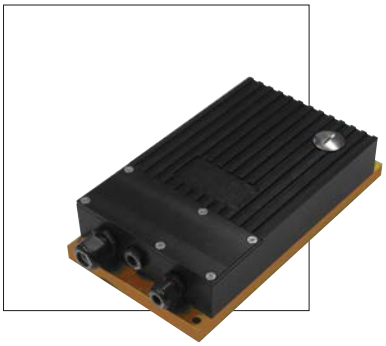
| | |
|---|---|
| Input voltage | DC 110 V to max. 320 V<br>AC 100 V to max. 250 V 50/60 Hz |
| Residual ripple | max. 150 $mV_{SS}$ |
| Power dissipation | max. 3 W |

## Ordering information

| Output voltage | Output current | Code no. |
|---|---|---|
| DC 12 V ± 5 % | 440 mA | **5L** |
| DC 24 V ± 5 % resp.<br>DC +12 V/-12 V ± 5 % | 220 mA<br>± 220 mA | **6G** |

**Complete order no. 07-7311-97S9/J ☐☐ 0**

Please enter code number. Technical data subject to change without notice.



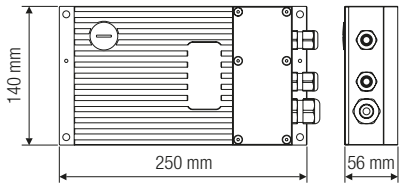
This power supply unit is universally usable and offers a wide-range input. The DC output voltage is stabilised and switches off in the event of overcurrent or short circuit. The power supply unit switches on again automatically once the rated current is reached. The wired connections are established by means of an integrated terminal compartment in the „e“ increased safety type of protection.

### Explosion protection

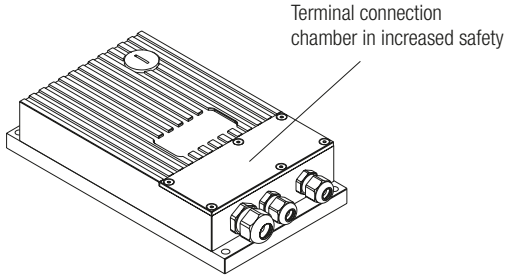
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex eq IIC T4 Gb<br>Ⓔx II 2D Ex tb IIIC T135 °C Db |
| Certification | IBExU 09 ATEX 1092 |

Other approvals and certificates, see www.bartec.de

### Dimensions/mounting positions




### Structure




### Technical data

| | |
|---|---|
| Structure | Aluminium enclosure |
| Protection class | IP 64 |
| Connecting terminals | 2.5 mm², fine-stranded |
| Terminal marking | printed |
| Ambient temperature | -20 °C up to +60 °C |
| Storage temperature | -20 °C up to +60 °C |
| Dimensions (width x depth x height) | 140 mm x 250 mm x 86 mm |
| Weight | 3 kg |

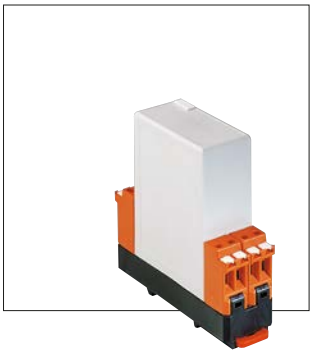
### Electrical data

| | |
|---|---|
| Rated voltage | AC 110 up to 230 V, 47 up to 63 Hz |
| Input voltage range | AC 90 up to 253 V |
| Input rated current | max. 0.5 A at $U_N$ = 230 V<br>1 A at $U_N$ = 110 V |
| Power consumption | $P_{max.}$ = 120 W |
| Power dissipation | $P_{V\,tot.}$ = 18 W |
| Outputs | |
| Output voltage (regulated) | DC 24 V ± 2 % at 4.2 A<br>DC 12 V ± 2 % at 8.5 A<br>DC 5 V ± 2 % at 20 A |

### Ordering information

| | |
|---|---|
| DC 24 V | **07-7381-1300** |
| DC 12 V | **07-7381-1200** |
| DC 5 V | **07-7381-1100** |

Technical data subject to change without notice.



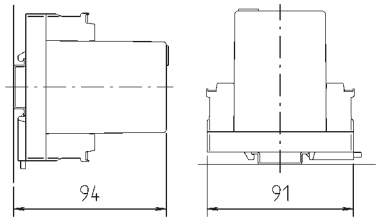
This optocoupler provides for a safe galvanic isolation between a non-intrinsically safe input circuit (transmitter) and the output connected to an intrinsically safe circuit (receiver), which is clearly identified by means of light blue terminals. The two channels are also safely galvanically isolated from each other.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e [ia Ga] IIC Gb<br>Ⓔx I M2 Ex db e [ia Ma] I Mb |
| Certification | PTB 97 ATEX 1068 U<br>TÜV 01 ATEX 1715 |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0083U<br>IECEx TUN 11.0029X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Fitting | Type 17-9135-4.../....<br>Ⓔx II (1) G / II (1) D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC |

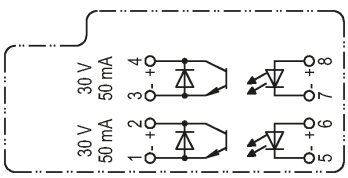
Other approvals and certificates, see www.bartec.de

### Dimensions/mounting positions




Module width: 30 mm

### Wiring diagram/terminal assignment




### Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 54 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | Max. 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -20 °C to +40 °C at T6 |
| Storage temperature | -40 °C to +70 °C |
| Weight | 0.250 kg |

### Electrical data

| | |
|---|---|
| Total power dissipation | $P_{max.}$ = 0.8 W<br>No capacities and inductances |
| Inputs | |
| Input voltage | DC 20 to 28 V<br>(with reverse polarity protection) |
| Input current | 5.5 mA to 9.2 mA |
| Outputs | |
| Voltage | DC 4 V to max. 30 V |
| Saturation voltage | 0.9 V |
| Current | max. 50 mA (only for connecting to certified intrinsically safe circuits. $C_i$ and $L_i$ negligible) |
| Transmission data | |
| Switching frequency | max. 5 kHz (with $U_A$ = 10 V) |
| Switching times measured at | $U_E$ = 20 $V_{SS}$; $U_A$ = 10 $V_{SS}$; $I_A$ = 50 mA<br>Rise time approx. 15 µs<br>Drop-out time approx. 13 µs<br>Switch-on time approx. 18 µs<br>Switch-off time approx. 19 µs |
| Galvanic isolation transmitter/receiver | max. 375 V (peak value) |

### Ordering information

| | |
|---|---|
| Optocoupler, 2-channel | **07-7311-93QH/C5M0** |

Technical data subject to change without notice.

4 NAMUR sensors, optocouplers, mechanical contacts or other operating elements can be connected to the isolator amplifier in an intrinsically safe way. The intrinsically safe inputs are safely galvanically isolated from the supply voltage and the outputs in accordance with EN/IEC 60079-11. Open and short circuits on the sensor lines are detected and signalled via an additional transistor output as group fault signal. LEDs display the output states.

### Explosion protection

| | | |
|---|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb | |
| Certification | PTB 97 ATEX 1068 U<br>TÜV 97 ATEX 1211 X | |
| Marking IECEx | Ex db e [ia Ga] IIC Gb<br>Ex db e [ia Ma] I Mb | |
| Certification | IECEx PTB 11.0083U<br>IECEx TUN 11.0027X | |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb | |
| Certification | CSA 2011-2484303U | |
| Fitting | Type 17-5521-4.../....<br>Ⓔx II (1) G / II (1) D<br>[Ex ia Ga] IIC<br>[Ex ia Da] IIIC | $U_m$ = 253 V<br>$I_0$ = 30 mA<br>$U_0$ = 11.55 V<br>$P_0$ = 86.4 mW |

Other approvals and certificates, see www.bartec.de

### Technical data

| | | |
|---|---|---|
| Construction | Flameproof, clip-on enclosure for TH 35 rail | |
| Enclosure material | High-quality thermoplastics | |
| Protection class | Module<br>Terminals<br>Terminals with cover | IP 66 EN/IEC 60529<br>IP 20 EN/IEC 60529<br>IP 30 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded | |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 | |
| Terminal designation | written marking labels | |
| Ambient temperature | -20 °C to +50 °C | |
| Storage temperature | -40 °C to +60 °C | |
| Weight | 0.640 kg | |

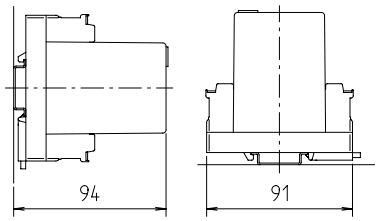
### Electrical data

| | | |
|---|---|---|
| Supply voltage | DC 20 V to DC 30 V | |
| Power consumption | max. 580 mA | |
| Power dissipation | $P_v$ = max. 2.4 W | |
| Galvanic isolation | Inputs//power supply, outputs | |
| **Inputs** | | |
| Voltage | $U_a$ = 8.2 V | |
| Switching thresholds | open circuit<br>damped<br>undamped<br>short circuit | < 0.26 mA<br>< 1.2 mA<br>> 2.1 mA<br>> 7.4 mA |
| **Outputs** | | |
| Transistor outputs | output current<br>signal level<br><br>Switching frequency | channel max. 100 mA<br>1 - signal = Ub - 1 V<br>0 - signal = 0.9 V<br>1.5 kHz |
| Displays | LED's for all outputs | |
| Line monitoring | always active, separate fault signal output | |

Notes

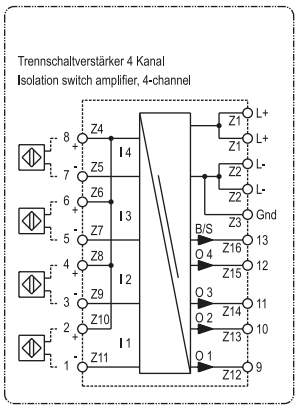
- Observe the terminal assignment
- Transistor output is not short-circuit proof
- For open/short-circuit monitoring with contact scan, use 1 kΩ/10 kΩ resistive coupling element; Type 17-9Z62-0002

### Dimensions/mounting positions




Module width: 75 mm

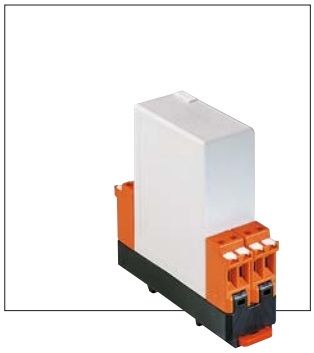
### Wiring diagram/terminal assignment




### Status chart

| Input | B/S | Out | B/S | Out | B/S | Out |
|---|---|---|---|---|---|---|
| damped | 0 | 1 | 0 | 0 | 1 | 1 |
| undamped | 0 | 0 | 0 | 1 | 1 | 0 |
| open circuit | 1 | 1 | 1 | 0 | 0 | 1 |
| short circuit | 1 | 0 | 1 | 1 | 0 | 0 |
| Code no. | **12** | | **22** | | **32** | |

**Complete order no. 07-7311-97MT/BA** □□
Please insert correct code. Technical data subject to change without notice.



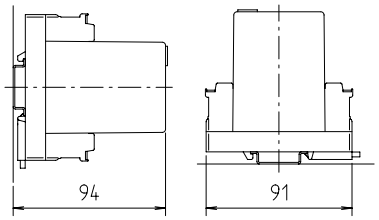
The MODEX series includes a temperature measuring transducer mounted on-site in the same way as a rail-mounted terminal. The module transforms the signal received from the Pt100 temperature sensor into a proportional, load-in-dependent 4 to 20 mA output signal. The sensor circuit is intrinsically safe according to Ex protection type Ex ia. An output current exceeding the 4 to 20 mA range signals a senor fault (open/short circuit). The Pt100 temperature sensor can be operated in 2-wire or 3-wire circuits in Zone 0 or Zone 1.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx II M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U<br>TÜV 97 ATEX 1204 X |
| Marking IECEx | Ex db e [ia Ga] IIC/IIB Gb<br>Ex db e [ia Ma] I Mb |
| Certification | IECEx PTB 11.0083U<br>IECEx TUN 11.0030X |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |
| Fitting | Pt100 measuring transducer Type 17-6582-1.../....<br>Ⓔx II (1)G [Ex ia Ga] IIC/IIB<br>Ⓔx II (1)D [Ex ia Da] IIIC/IIIB |
| Safety data | $U_m$ = 253 V<br>$I_0$ = 12 mA<br>$U_0$ = 17.3 V<br>P = 51.9 mW |

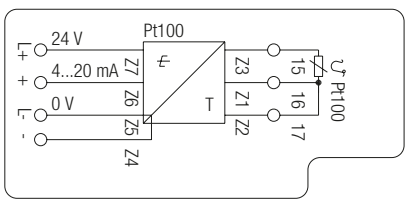
| Ex ia | IIC | IIB |
|---|---|---|
| $L_0$ (mH) ≤ | 200 | 800 |
| $C_0$ (nF) ≤ | 341 | 2048 |

### Dimensions/mounting positions




Module width: 30 mm

### Wiring diagram/terminal assignment




### Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | -40 °C to +60 °C at T4 |
| Storage temperature | -40 °C to +60 °C |
| Weight | 0.250 kg |

### Electrical data

| | |
|---|---|
| Operating voltage | DC 24 V -10 %, +20 % |
| Power consumption | 1.6 W |
| Sensor | Pt100 temperature sensor<br>2- or 3-wire circuits |
| Output | Load independent current: 4 to 20 mA<br>Max. load: ≤ 400 Ω |
| Temperature range | -50 °C to +100 °C<br>0 °C to +200 °C<br>0 °C to +400 °C |
| Accuracy | ± 1 % of upper value |
| Function test | Connect 100 Ω resistance to terminal 15 - 16 and bridge terminals 16 and 17. Apply current between L- and terminal 31.<br>Note: Observe terminal assignment. |

### Ordering information

| | |
|---|---|
| -50 °C to +100 °C | **07-7311-93T5/5350** |
| 0 °C to +200 °C | **07-7311-93T5/7350** |
| 0 °C to +400 °C | **07-7311-93T5/9350** |
| 0 °C to +150 °C | **07-7311-93T5/A350** |

Technical data subject to change without notice.

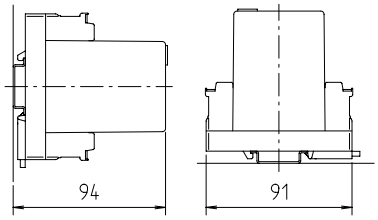
# Two-position controller

MODEX controller module for more up-to-date switching convenience in a potentially explosive atmosphere. The standard two-position controller monitors limit values (limit monitor). The analog input signal is compared with the potentiometer setpoint. A floating relay changeover contact is provided as output. The two-point controller is available with optional overcurrent/undercurrent detection, current output and signalling relay. The current output enables you to loop further devices (input current mirror) up to a total load of 400 Ω into the power circuit (4 to 20 mA).

## Explosion protection

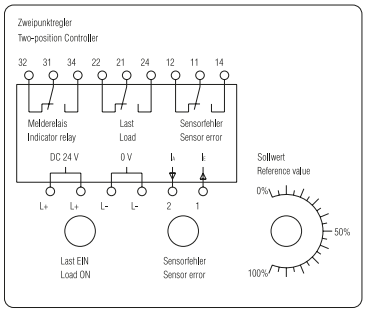
| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db e IIC Gb<br>Ⓔx I M2 Ex db e I Mb |
| Certification | PTB 97 ATEX 1068 U |
| Marking IECEx | Ex db e IIC oder Ex d e IIC Gb<br>Ex db e I oder Ex d e I Mb |
| Certification | IECEx PTB 11.0083U |
| Marking CSA | Class I, Zone 1, IIC<br>A/Ex d e [ia] IIC Gb |
| Certification | CSA 2011-2484303U |
| Other approvals and certificates, see www.bartec.de | |

## Dimensions/mounting positions




Module width: 75 mm

## Wiring diagram/terminal assignment




## Technical data

| | |
|---|---|
| Enclosure material | High-quality thermoplastic |
| Protection class | Module IP 66 EN/IEC 60529<br>Terminals IP 20 EN/IEC 60529 |
| Terminals | 2.5 mm², fine stranded |
| Mounting rail | TH 35 x 7.5 (15) EN/IEC 60715 |
| Terminal designation | written marking labels |
| Ambient temperature | mounted on rail<br>with spacing ≥ 16 mm:<br>-20 °C to +40 °C |
| Storage temperature | -40 °C to +60 °C |
| Weight | 0.500 kg |

## Electrical data

| | |
|---|---|
| Supply voltage | DC 24 V + 15 % |
| Rated output | max. 2.5 W |
| Input signal | 0 to 35 mA<br>≤ 3.5 mA - undercurrent<br>≥ 25 mA - overcurrent<br>4 to 20 mA ≙ 0 to 100 %<br>Load: 200 Ω |
| Hysteresis | 2 mA |
| Repeat accuracy | ± 0.5 % of under range limit (20 mA) |
| Ambient temperature | Influence: ≤ 0.008 %/K |
| Outputs | Relay output:<br>Load: AC 250 V, 3 A, 750 VA<br>Optional<br>Signal relay: AC 250 V, 1 A, 250 VA<br>Sensor fault relay: AC 250 V, 1 A, 250 VA<br>Current output: 4 to 20 mA<br>Load: 400 Ω |

## Ordering information

| | |
|---|---|
| Standard | **07-7311-97ER/3100** |
| With short circuit/open circuit detection of current output and signal relay | **07-7311-97ER/3150** |

Technical data subject to change without notice.

TABLETS/TABLET PCS FOR INDUSTRY

## Warranty and Service Levels

| | MC 92N0ex series | TC 75ex-NI | BCS 3600ex series |
|---|---|---|---|
| **Warranty** | | | |
| 1 year | x | x | x |
| 3 years | x<br>(384337) (00-1185) | x<br>425150 (00-1251) | x<br>425152 (00-1252) |
| **Service Contracts MGH** | | | |
| **All in Contract** | | | |
| 1 year | x<br>(416687) (00-1233) | | |
| 3 years | x<br>(357880) (00-1167) | x<br>(422963) (00-1242) | x<br>(422966) (00-1245) |
| 4 years | x<br>(385896) (00-1187) | x<br>(422964) (00-1243) | x<br>(422967) (00-1246) |
| 5 years | x<br>(366258) (00-1177) | x<br>(422965) (00-1244) | x<br>(422968) (00-1247) |
| **Comfort** | | | |
| 3 years | x<br>(357824) (00-1166) | x<br>(422953) (00-1234) | x<br>(422959) (00-1238) |
| 4 years | x<br>(385895) (00-1186) | x<br>(422956) (00-1235) | x<br>(422960) (00-1239) |
| 5 years | x<br>(366257) (00-1176) | x<br>(422957) (00-1236) | x<br>(422961) (00-1240) |
| extendable by 1 year, to max. 5 years | No | x<br>(422958) (00-1237) | x<br>(422962) (00-1241) |

**Service Contracts HOU**

| | | | |
|---|---|---|---|
| **Silver** | | | |
| 1 year | x<br>(MC92D2S1) | x<br>(MC92Z1S1) | x<br>(MC92D1S1) |
| 3 years | x<br>(MC92D2S3) | x<br>(MC92Z1S3) | x<br>(MC92D1S3) |
| **Gold** | | | |
| 1 year | x<br>(MC92D2G1) | x<br>(MC92Z1G1) | x<br>(MC92D1G1) |
| 3 years | x<br>(MC92D2G3) | x<br>(MC92Z1G3) | x<br>(MC92D1G3) |
| **Platinum** | | | |
| 1 year | x<br>(MC92D2P1) | | x<br>(MC92D1P1) |
| 3 years | x<br>(MC92D2P3) | | x<br>(MC92D1P3) |

| | Mobile X | RFID X |
|---|---|---|
| **Warranty** | | |
| 2 years | x | x |
| extendable by 1 year | x<br>425193 (00-1253) | |

# Warranty and Service Levels

| | Gravity X | Orbit X | Impact X | Wireless X |
|---|---|---|---|---|
| **Warranty** | | | | |
| 1 year | x | x | x | x |
| **Service Contracts PIXAVI** | | | | |
| **Basic** | | | | |
| Anual | x<br>403456 00-1202 - PX-SM-BASIC | | | |
| **Silver** | | | | |
| Anual | x<br>403455 00-1201 - PX-SM-SILVER | | | |
| **Gold** | | | | |
| Anual | x<br>403452 00-1200 - PX-SM-GOLD | | | |

| | Agile X IS | Agile X | Lumen X4 |
|---|---|---|---|
| **Warranty** | | | |
| 1 year | | | x |
| 3 years | x | x | |
| extendable by 1 year | x<br>(374954) (00-1183) | x<br>(374954) (00-1183) | |
| extendable by 2 years | x<br>(374955) (00-1184) | x<br>(374955) (00-1184) | |
| **Service Contracts MGH** | | | |
| **All in Contract** | | | |
| 3 years | x<br>(374952) (00-1181) | | |
| 4 years | x<br>(388441) (00-1190) | | |
| 5 years | x<br>(374953) (00-1182) | | |
| **Comfort** | | | |
| 3 years | x<br>(374949) (00-1179) | | x<br>(392231) (00-1191) |
| 4 years | x<br>(388440) (00-1189) | | |
| 5 years | x<br>(374951) (00-1180) | | |
| extendable by 1 year to max. 5 years | x<br>(423041) (00-1250) | | |
| **Service Contracts HOU** | | | |
| **Gold** | | | |
| 1 year | Planned | | |
| 3 years | Planned | | |
| **Platinum** | | | |
| 1 year | Planned | | |
| 3 years | Planned | | |

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Agile X 220 - 221
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HART Add-on module for Agile X tablet PC 222
17-A1Z0-0005; G7-A0Z0-0007; B7-A2Z0-0033

RFID UHF Add-On Modul for Agile X tablet PC 223
B7-A2Z0-0032

Accessories Agile X 224 - 228
00-..; 03-..; B7-..

The BARTEC Agile X IS is an rugged and highly flexible industrial tablet PC for rough environments. Agile X IS has a large number of international certifications and can be used throughout the world. It is certified for ATEX and IECEx Zone 1 and UL Class I Division 1. Further national certifications are possible on customer request. Thanks to its broad range of functions, the Agile X IS is the perfect assistant to service technicians, engineers and project managers in the field and in industry.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Zone 1<br>Ⓔx II 2G Ex ia op is IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +50 °C |
| Certification | DEMKO 16 ATEX 1803 |
| Marking IECEx | Zone 1<br>Ex ia IIC op is T4 Gb<br>-20 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IECEx UL 16.0160 |
| Marking UL | UL Class I Division 1<br>Class I, Division 1, Groups A, B, C and D<br><br>UL Zone 1<br>Class I, Division 1,<br>Groups A, B, C and D;<br>Class I, Zone 1, AEx ia IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +50 °C |
| Certification<br>(US and Canada) | E226123 |

### Technical data

| | |
|---|---|
| Processor | Intel N3710 1.6 GHz (turbo 2.56 GHz) |
| RAM | 8 GB SODIM DDR3L-1600 |
| Mass storage | 128 GB SATA uSSD |
| Operating system | Windows® 10 IoT Enterprise CBB<br>Windows® Embedded 8.1 Industry Pro<br>on request |
| Panel size | 10.1" (16:10) |
| Resolution | 1920 x 1200 pixel |
| Brightness | 700 cd/m² (nits) |
| Contrast ratio | 800:1 |
| Viewing angle | 89° from all sides |
| Backlight | LED |
| Glass | LCD display,<br>2 x bonded Gorilla glass |
| Multi touch | 10-point |
| WiFi | IEEE 802.11 a/b/g/n/ac on board<br>2 antennas |
| WWAN | 4G/LTE (optional) |
| Bluetooth | BT 4.1 LE Class I |
| Hotkey buttons | Front: Power, Home/Menu,<br>Fn 1 (programmable)<br>Upper right: Volume +, Volume -,<br>Fn 2 (programmable) |
| LED indicators | Power, charging, Mass storage status,<br>RF status |
| USB | USB 2.0<br>IP 65 (Industry) when cover is closed<br>(possible to exchange in Zone 1/ Div 1<br>only with certified BARTEC USB stick,<br>order no.: 17-A1Z0-0007 for 8 GB) |
| Interfaces | 1 x USB 2.0<br>1 x MicroSD card slot<br>1 x Micro SIM card slot<br>1 x Charging port<br>1 x Expansion port for Add-on module<br>1 x Docking station |
| Interfaces docking station | 4 x USB 2.0, 1 x RS232,<br>1 x Ethernet 10/100 Mbps, 1 x HDMI,<br>1 x Charging port |
| Audio | 2 microphones with integrated noise<br>cancellation system;<br>2 speakers (2 x 0.5 W) |
| Camera | Front: 2 MP camera<br>Rear: 5 MP autofocus camera with flash |
| Data capture<br>1D/2D Imager SE4500 from<br>Zebra (optional) | Following barcodes can be read:<br>1D codes: e. g. Code 39, EAN series, UPC<br>2D codes: e. g. Aztec, Data Matrix, QR code,<br>PDF-417 |
| RFID Reader HF/NFC | Following RFID tags are supported:<br>(read/write)<br>e. g. Type 1, 2, 3 and 4, ISO/IEC 14443A/B,<br>ISO/IEC 15693, Mifare Classic, FeliCa,<br>ISO 18092 (NFC) |
| Expansion port | HART Add-on module<br>(order no.: 17-A1Z0-0005) |
| Security | Kensington lock |
| Size (length x height x width) | 290 mm x 209 mm x 33 mm |
| Weight | 2.3 kg |
| Drop | From a height of over 1 m onto concrete<br>(incl. Add-on module and battery) |

| | |
|---|---|
| Protection class (EN/IEC 60529) | IP 65 (Industry) |
| Operating temperature | -20 °C to +50 °C (exclude cold start) |
| Storage temperature | -20 °C to +50 °C |
| Operating humidity | 5 % to 95 % (non-condensing) |
| Battery capacity | Internal battery: 7.4 V typ. 4200 mAh<br>External battery: 7.4 V typ. 4200 mAh |
| Battery charging time | Internal battery: approx. 3 h<br>Internal and external battery: approx. 5 h<br>External battery can be hot swapped in potentially explosive areas. |
| Adapter | AC 100 to 240 V (DC 19 V, 3.42 A) |
| Warranty | 3-years, can be extended by a further 2 years on request |
| Service contracts | COMFORT and ALL-IN |

| | |
|---|---|
| Scope of delivery | Dual stylus<br>Cover module (if no external battery included)<br>Power supply and power cable (EU + US)<br>Quick start guide |
| Accessories for use in | potentially explosive areas:<br>External battery<br>USB stick<br>MicroSD card<br>Screen protector<br>Carry system (incl. leather carry case, 4-point belt and shoulder strap)<br>HART Add-on module<br><br>non-potentially explosive areas:<br>Docking station<br>2-slot battery charging station |

**Ordering information**

| 4G/LTE | Code no. | Operating system | Code no. | External battery | Code no. | Scanner | Code no. |
|---|---|---|---|---|---|---|---|
| without | **0** | Windows Embedded 8.1 Industry Pro | **on request** | without | **0** | without | **0** |
| US frequency | **1** | | | | | | |
| EU frequency | **2** | Windows 10 IoT Enterprise CBB | **3** | 7.4 V/4200 mAh | **1** | 1D/2D Imager, SE4500 | **1** |

**Complete order no. 17-A1B4-1 ☐☐ 1/221 ☐ 1 ☐ 00**
Please insert correct code. Technical data subject to change without notice.

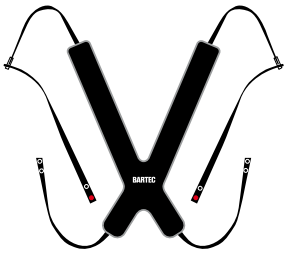
### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | Accessories are approved for:<br>- ATEX: Zone 0/1 (DEMKO 16 ATEX 1803)<br>- IECEx: Zone 0/1 ( IECEx UL 16.0160)<br>- UL: Class I Div. 1 (File E226123) | |
| | **External battery** certified in combination with Agile X IS<br>- Lithium-ion battery 7.4 V/4200 mAh (31.08 Wh)<br>- hot-swappable<br>Can be changed in potentially explosive atmosphere! | **17-A1Z0-0006** |
| | **Cover module**<br>- Cover module for battery compartment<br>- hot-swappable<br>Can be changed in potentially explosive atmosphere! | **03-9849-0150** |
| | **MicroSD card** (MLC) certified in combination with Agile X IS<br>- Storage capacity: 8 GB<br>- Storage capacity: 16 GB<br>- Storage capacity: 32 GB<br>Can be changed in potentially explosive atmosphere! | <br>**17-A1Z0-0008**<br>**17-A1Z0-0009**<br>**17-A1Z0-0010** |
| | **USB stick** certified in combination with Agile X IS<br>- Storage capacity: 8 GB<br>- Intrinsically safe<br>Can be changed in potentially explosive atmosphere! | **17-A1Z0-0007** |
| | **HART Add-on module** for Agile X IS, Type 17-A1B4-1..1/222.1.00<br>To configure, parametrise, read and measure HART devices in potentially explosive atmosheres.<br>The driver software makes it easy to install and set up.<br>Connection to HART loop as secondary master. Hardware supports Version 5, 6 and 7 HART.<br>May only be assemble/removed outside the potentially explosive atmosphere! | **17-A1Z0-0005** |
| | **Cover for expansion port**<br>suitable for Agile Tablet PC Series<br>May only be changed outside the potentially explosive atmosphere! | **03-9827-0011** |
| | **Screen protector** certified in combination with Agile X IS<br>- 1 piece<br>May only be changed outside the potentially explosive atmosphere! | **17-A1Z0-0011** |
| | **Dual stylus** suitable for capacitive touchscreen<br>- 1 piece | **03-9849-0151** |

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Carry system** suitable with Agile X IS<br>- Simplified handling<br>- Ergonomic back trace with shoulder pad for safe carrying in front of the body<br>- Access to battery and integration of Add-on modules possible<br>- with holder for stylus<br>- adjustable strap length<br>Scope of delivery<br>- Leather carry case<br>- 4-point belt<br>- Shoulder strap | **03-9829-0101** |
| | **Leather carry case** suitable with Agile X IS<br>- with practical stand function and holder for stylus<br>- Access to battery and integration of Add-on modules possible<br>- upgradable with shoulder strap and 4-point belt<br>- robust industry quality leather | **03-9829-0089** |
|  | **4-point belt** suitable for leather case for the Agile Tablet PC Series<br>- Ergonomic back trace with shoulder pad for safe carrying in front of the body<br>- Easy and secure fitting on leather carry case using coloured pop fasteners<br>- adjustable strap length | **03-9829-0092** |
| | **Battery bag** suitable for external battery of the Agile X IS<br>- easy mounting on 4-point belt or belt | **03-9829-0114** |
| | **Shoulder strap** suitable for leather carry case of tablet PC Agile series<br>- ergonomic and soft shoulder pad<br>- adjustable strap length<br>- mounting screw | **03-9829-0091** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **2-slot battery charging station** suitable with Agile X IS<br>- for charging 2 batteries<br>- Input voltage: DC 10 V to 20 V (50 W)<br>- Charge indicator by LED and buzzer<br>- two plugged charging stations can be supplied with one power supply<br><br>Scope of delivery<br>- 2-slot battery charging station<br>- Power supply<br>- AC power cable (EU + US) | **03-9914-0021** |
| | **Docking station** suitable for Agile Tablet PC Series<br>- Input voltage: DC 19 V<br>- Charging with inserted battery<br>- Interfaces:<br>4 x USB 2.0<br>1 x RS232<br>1 x Ethernet 10/100 Mbit/s<br>1 x HDMI<br>1 x Charging port<br><br>Scope of delivery<br>- Docking Station<br>- Mounting bracket<br>- Screws for mounting bracket (6 pieces)<br>- Fixation elements (2 pieces)<br>- Inserts for Agile X (2 pieces)<br>- Screws for insert (2 pieces)<br>- Rubber pads (4 pieces)<br>- Power supply<br>- Power cable (EU + US)<br>- Quick start guide (EN) | **03-9914-0022** |
| | **Power supply** suitable for Agile Tablet PC Series<br>Input voltage: AC 100 V to 240 V<br>Output voltage: DC 19 V/3.42 A | **03-9911-0040** |
| | **AC power cable**, 3-wire, country-specific<br>suitable for charging power supply<br>- Connector: IEC-60320-C5 | |
| | Version: EU | **03-9609-0022** |
| | Version: US | **03-9609-0023** |
| | Version: UK | **03-9609-0024** |
| | Version: UK | **03-9609-0033** |
| | Please purchase the required country-specific cables in the respective country! | |

### Ordering information

**Service**

| | Description | Order no. |
|---|---|---|
| | **Service level COMFORT**<br>Features:<br>- Defined turnaround time<br>- Product receipt/dispatch confirmation<br>- Fast proposal management<br>- Inspection fee included<br>Further details can be found in the contract documents. | |
| | **3-year contract**<br>one-off payment 10 % of Agile X IS list price for the duration | **00-1179** |
| | **4-year contract**<br>one-off payment 13.5 % of Agile X IS list price for the duration | **00-1189** |
| | **5-year contract**<br>one-off payment 17 % of Agile X IS list price for the duration | **00-1180** |
| | **Contract extension "Comfort"** of 1 year, to a maximum of 5 years<br>one-off payment 10 % of Agile X IS list price for the duration | **00-1250** |
| | **Service level ALL-IN from the start**<br>Features:<br>- Defined turnaround time<br>- Product receipt/dispatch confirmation<br>- Projectable cost of ownership: repair cost included<br>- Coverage of normal wear and tear and accidental damage<br>- Repair working time and inspection fee included<br>Further details can be found in the contract documents. | |
| | **3-year contract**<br>one-off payment 18 % of Agile X IS list price for the duration | **00-1181** |
| | **4-year contract**<br>one-off payment 27 % of Agile X IS list price for the duration | **00-1190** |
| | **5-year contract**<br>one-off payment 40 % of Agile X IS list price for the duration | **00-1182** |

### Ordering information

**Warranty**

| | Description | Order no. |
|---|---|---|
| | **Warranty extension (1-year contract)**<br>5 % of Agile X IS list price for the duration | **00-1183** |
| | **Warranty extension (2-year contract)**<br>10 % of Agile X IS list price for the duration<br>Further details can be found in the contract documents. | **00-1184** |

The BARTEC Agile X is a rugged and highly flexible industry tablet PC for rough environments. Agile X has a large number of international certifications and can be used throughout the world. It is certified for ATEX and IECEx Zone 2/22 and to UL Class I Div. 2. Further national certifications are possible on customer request. Thanks to its broad range of functions, the Agile X is the perfect assistant to service technicians, operating staff, engineers and project managers in the field and in industry.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 3G Ex ic IIA/IIC T5 Gc<br>Ⓔx II 3D Ex ic IIIB T90 °C Dc IP 54<br>(IIA when using hand strap<br>Type 03-9849-0130) |
| Certification | EPS 15 ATEX 1 823 X |
| Marking IECEx | Ex ic IIA/IIC T5 Gc<br>Ex ic IIIB T90 °C Dc IP 54<br>(IIA when using hand strap<br>Type 03-9849-0130) |
| Certification | IECEx EPS 15.0010X |
| Marking UL | Class I Div. 2 Groups A, B, C, D T4 A |
| Certification | UL File E321557 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Processor | Intel BayTrail-M Quad-Core with 1.8 GHz<br>(turbo frequency up to 2.2 GHz) |
| RAM | 8 GB SODIMM DDR3L-1600 |
| Mass storage | 128 GB mSATA MLC SSD<br>optional: 256 GB mSATA MLC SSD |
| Operating system | Windows® 10 IoT (64 bit), multilingual<br>Windows® Embedded 8.1 Industry Pro (64 bit)<br>Windows® 7 Professional for<br>Embedded systems (64 bit) |
| Size | 10.1" |
| Resolution | 1920 x 1200 pixel |
| Brightness | 700 cd/m² (nits) |
| Contrast ratio | 800:1 |
| Front glass | Gorilla glass, 3 mm with hardness of 8 H |
| Touch function | Projective Capactive Touch (min. 4 points) |
| WLAN-WiFi | IEEE 802.11 a/b/g/n |
| Bluetooth | Version 4.0 (Class I) |
| GPS | u-Blox Neo-6Q, up to 2.5 m accuracy |
| EU Network support | LTE, HSPA+, GSM/GPRS |
| US Network support | LTE, HSPA+, GSM/GPRS/EDGE,<br>EVDO Rev A, 1 x RTT |
| Audio | 1 x integrated microphone<br>2 x loudspeakers (2 x 1 watts) |
| External I/O | under protective cover – for use only outside potentially explosive atmospheres<br>1 x Micro HDMI<br>1 x 30 pin combination connection<br>(Giga-LAN or RS232)<br>1 x USB 3.0<br>1 x Audio combination connection (Mic in/Line Out)<br>1 x Charging Port (DC)<br>1 x MicroSD card slot |
| Keys | 1 x power, 1 x home,<br>2 x programmable function keys,<br>2 x volume keys |
| Sensors | Brightness sensor, G sensor, Gyro meter and ECompass |
| Security | Password security for user and hard disk lock<br>Kensington lock slot<br>Trusted platform module (TPM) V 1.2<br>Computrace® theft protection support |
| Camera | 5 MP camera with autofocus and<br>LED flash on the back<br>2 MP camera on the front |
| Barcode capture (optional) | 1D/2D Imager |
| HART Add-on module (optional) | to configure, parametrise, read and mesure HART devices in potentially explosive atmospheres |
| Internal RFID HF reader 13.56 MHz (optional) | Supported standards<br>ISO 15693 (Read/Write)<br>ISO 14443 (Read/Write)<br>ISO 18092 (Read) |
| RFID UHF Add-on module dual band (optional) | US: 902 to 928 MHz<br>EU: 865.6 to 867.5 MHz<br>Supported standards<br>EPC Global GEN2 (ISO1800-6c) with DRM<br>optional: ISO 18000-6B<br>Note: The RFID UHF Add-on module cannot be combined with internal RFID HF Reader |
| Size (W x L x H) | 271.8 mm x 197.2 mm x 19 mm |
| Weight | 1.5 kg with standard battery |
| Shock, vibration, drop, temperature and vibration | according to MIL-STD-810G |
| Protection class | IP 65 (EN/IEC 60529) |

| | |
|---|---|
| Operating temperature | outside potentially explosive area<br>-20 °C to +60 °C<br>inside potentially explosive area<br>-20 °C to +50 °C |
| Storage temperature | -30 °C to +70 °C |
| Operating humidity | 30 % ~ 90 % (non-condensing) |
| Certification | CE, FCC, UL 60950, ANSI/ISA 12.12.01, EN 60601 |
| Power input | DC 12 V to 19 V |
| Standard battery | Lithium-polymer battery<br>7.4 V/5300 mAh (39.22 Wh),<br>charging time: 3 h, running time: up to 6 h |
| Long life battery | Lithium-polymer battery<br>7.4 V/10280 mAh (76.07 Wh),<br>charging time: 6 h, running time: up to 13 h |
| Hot-Swap battery | 7.4 V/330 mAh (integrated in the device) |
| Adapter | AC 100 to 240 V, 50 to 60 Hz/DC 19 V |
| Warranty | 3-years, can be extended by a further 1 or 2 years on request |
| Service contracts | available for 3, 4 or 5 years<br>COMFORT<br>ALL-IN from the start |
| Scope of delivery | Standard battery/optional Long life battery<br>Stylus<br>Hand strap<br>Power supply<br>Power cable (EU + US)<br>Cover for interface extension<br>Quick start guide |

| | |
|---|---|
| Optional accessories for use | in potentially explosive atmospheres:<br>Standard battery/optional Long life battery<br>Stylus<br>Hand strap<br>Screen protector<br>Carry system<br>Leather carry case<br>4-point belt<br>Shoulder strap<br>Radio module 4G/LTE (self-assembly)<br>RFID UHF Add-on module (self-assembly)<br>HART Add-on module (self-assembly)<br><br>outside potentially explosive atmospheres:<br>2-slot battery charging station<br>Docking station<br>Power supply<br>Vehicle docking station<br>Power supply with vehicle charge adapter<br>Mounting plate for VESA mount<br>LAN adapter cable/RS232<br>Micro HDMI cable |



**Ordering information**

| Operating system - 64 bit | Code no. | Battery | Code no. | RFID | Code no. | Barcode options | Code no. |
|---|---|---|---|---|---|---|---|
| Windows® 7 Professional for embedded systems | **1** | Standard battery | **1** | none | **0** | none | **0** |
| Windows® Embedded 8.1 Industry Pro | **3** | | | | | | |
| Windows® 10 IoT | **5** | Long life battery | **2** | internal RFID HF Reader** | **2** | 1D/2D Imager* | **3** |

* cannot be combined with internal RFID HF
** cannot be combined with 1D/2D Imager

**Complete order no. B7-A234-40 ☐ 1/111 ☐☐☐ 00**

Please insert correct code. Technical data subject to change without notice.

Note: Optional modules such as LTE, RFID UHF, HART, etc. must be ordered separately as an accessory for self-assembly.

# **HART Add-on module** for Agile X tablet PC

The HART Add-on module is a new extension module for Agile X and offers a HART modem function. It may be connected to a HART loop as secondary master and facilitates applications such as configuring the HART devices. Due to the Windows operating system, the user can deploy all current software solutions and communicate using the FDT/DTM industrial standard. Agile X equipped with HART Add-on module is the new safe solution when working in potentially explosive and non potentially explosive atmospheres: parameter assignment, configuration, measurement and office tasks can be carried out much easier, faster and more safely.

## Explosion protection

| | |
|---|---|
| **Type 17-A1Z0-0005** | |
| Marking ATEX | Ⓔx II 2G Ex ia [ia Ga] IIC T4 Gb |
| Certification | EPS 15 ATEX 1 069 X |
| Marking IECEx | Ex ia [ia Ga] IIC T4 Gb |
| Certification | EPS 15.0065X |
| Marking NEC (USA/Canada) | Class I Div 1 Groups A, B, C, D T4 |
| Certification | CSA 70045374 |
| **Type G7-A0Z0-0007** | |
| Marking ATEX | Ⓔx II (2)G [ia Ga] IIC |
| Certification | EPS 15 ATEX 1 069 X |
| Marking IECEx | [Ex ia] IIC Ga |
| Certification | EPS 15.0065X |
| Kennzeichnung NEC | Use with intrinsically safe outputs in non-potentially explosive atmospheres. |
| **Type B7-A2Z0-0033** | |
| Marking ATEX | Ⓔx II 3G Ex ic [ia Ga] IIC T4 Gc<br>Ⓔx II 3D Ex ic [ia Da] IIIB T135 °C Dc |
| Certification | EPS 15 ATEX 1 823 X |
| Marking IECEx | Ex ic [ia Ga] IIC T4 Gc<br>Ex ic [ia Da] IIIB T135 °C Dc |
| Certification | EPS 15.0010X |
| Marking NEC (USA/Canada) | Class I Division 2 Groups A, B, C and D |
| Certification | UL File E321557 |
| Other country approvals on request. | |

## Technical data

| | | |
|---|---|---|
| Size (length x width x height) | 125 mm x 125 mm x 24 mm | |
| Weight | 200 g | |
| Protection class (IEC 60529) | mounted on tablet PC<br>connector strip (PoGo pins) | IP 54<br>IP 20 |
| Operating temperature | in the Ex area<br>in the safe area | -20 °C to +50 °C<br>-20 °C to +60 °C |
| Storage temperature | -30 °C to +70 °C | |
| Air humidity during operation | 30 % to 95 % (non-condensing) | |

| | |
|---|---|
| HART interface | $U_i \leq$ DC 30 V<br>$I_i \leq$ 130 mA<br>$P_i \leq$ 1 W<br>$U_0 \leq$ DC 3 V<br>$I_0 \leq$ 10 mA<br>$P_0 \leq$ 5 mW<br>$U_m \leq$ DC 60 V<br>max. cable length = 1.8 m |
| Energy management | Power supply is via the extension interface of the tablet PC |
| Connection requirements | HART loop connection<br>The HART Add-on module may be connected to a non-certified HART device.<br>Prerequisite: $U_m$ = 60 V or $U_i$ is not exceeded! |
| HART interface | Function as secondary master<br>DTM communication driver supports FDT version 1.2.1<br>DTM communication driver supports network read/write/check/search (topology scan)<br>Burst Mode is not supported by the communication driver<br>HART-Protocol supports version 5, 6 and 7 |
| Communication to the host (Agile X) | Via the extension interface of the tablet PC |
| DTM software | Available DTM software supports the following 64-bit operating systems:<br>Windows 7 Professional<br>Windows 8.1 Embedded Industry Pro<br>Windows 10 Enterprise |
| Service | 1 year standard warranty<br>Further 1 or 2 years on request |
| Scope of delivery | HART Add-on module, screws, cable set, quick start guide |

## Ordering information

| | |
|---|---|
| HART Add-on module for ATEX/IECEx Zone 1; Class I Div 1 | **17-A1Z0-0005** |
| HART Add-on module for non-Ex areas with intrinsically safe outputs | **G7-A0Z0-0007** |
| HART Add-on module for ATEX/IECEx Zone 2/22; Class I Div 2 | **B7-A2Z0-0033** |

Technical data subject to change without notice.

The intrinsically safe combination of the Agile X tablet PC system and the RFID UHF Add-on module enables the fast and efficient reading and writing of RFID transponders in a potentially explosive atmosphere in Zone 2/2 and Division 2. The modular system makes it possible to combine barcode and RFID recording in a single device. This means that users do not need to carry two separate devices with them. The data are available immediately for further processing and display on the tablet PC, and can be forwarded by means of radio technology (Bluetooth, WiFi or LTE) in real time to other devices in the network. Applications to control the RFID reader can be programmed on the Windows based Agile X using the Mercury API from Thing Magic. The Mercury API Software Development Kit (SDK) contains numerous examples of applications and source codes for developers. It demonstrates and simplifies entry into the development and functionality of the RFID UHF reader. Further information on programming, the commands and the mode of operation can be found in the corresponding programming manual, the instructions for the SDK or on the Thing Magic website.

### Explosion protection

| **Type B7-A2Z0-0033** | |
|---|---|
| The RFID UHF Add-on module is certified in combination with the Agile X, and can only be operated in combination with this in the potentially explosive atmosphere. | |
| Marking ATEX | Ex II 3G Ex ic IIA/IIC T5 Gc<br>Ex II 3D Ex ic IIIB T90 °C Dc IP 54<br>(IIA when using hand strap Type 03-9849-0130) |
| Certification | EPS 15 ATEX 1 823 X |
| Marking IECEx | Ex ic IIA/IIC T5 Gc<br>Ex ic IIIB T90 °C Dc IP 54<br>(IIA when using hand strap Type 03-9849-0130) |
| Certification | EPS 15.0010X |
| Marking UL | Class I Div. 2 Groups A, B, C, D T4 A |
| Certification | UL File E321557 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| Note: the device cannot be combined with the Agile X version with internal RFID HF reader. | |
|---|---|
| Module used | Thing Magic - Micro High Performance Multiprotocol embedded UHF RFID modules Type M6E-M |
| API suuport | Thing Magic - Mercury-API Software Development Kit (SDK)<br>A development platform to connect, configure and control the RFID reader. |
| Development support | Thing Magic - Universal Reader Assistant<br>This is a service program for the extended demonstration, testing and tuning of all Thing Magic RFID readers. It reduces the complexity for inexperienced users, while offering low level checking for advanced developers. |
| Frequency range Dual band | US: 902 to 928 MHz<br>EU: 865.6 to 867.5 MHz<br>Frequency range can be adjusted in line with specific national specifications using the application development. |
| Supported standards | EPC Global GEN2 (ISO1800-6C) with DRM optional: IP-X and ISO 18000-6B |
| Nominal reading range | up to approx. 150 cm |
| Nominal writing range | up to approx. 150 cm |
| Antenna | integrated antenna (50 Ω) |
| Maximum transmission power | The transmission power can be adjusted separately for reading and writing.<br>Adjustable from 0 dBm to +30 dBm in 0.5 dBm steps<br>Accuracy: +/- 1 dBm |
| Energy management | power supply is via the extension interface of the tablet PC |
| Communication to the host (Agile X) | via the extension interface of the tablet PC |
| Operating system of the host (Agile X) | Windows® Embedded 8.1 Industry Pro (64 bit)<br>Windows® 7 Professional SP1 for embedded systems (64 bit)<br>Windows® 10 IoT (64 bit) |
| Size (L x W x H) | 125 mm x 125 mm x 10 mm |
| Weight | approx. 170 g |
| Protection class (IEC 60529) | mounted on tablet PC IP 54<br>connector strip (PoGo Pins) IP 20 |
| Operating temperature | inside potentially explosive areas<br>-20 °C to +50 °C<br>outside potentially explosive areas<br>-20 °C to +60 °C |
| Storage temperature | -30 °C to +70 °C |
| Operating humidity | 30 % ~ 90 % (non-condensing) |
| Warranty | 1 year, can be extended by a further 1 or 2 years on request |
| Scope of delivery | RFID UHF Add-on module, fixing screws |

### Ordering information

| RFID UHF Add-on module | Order no. |
|---|---|
| for ATEX/IECEX Zone 2/22; Class I Div 2 | **B7-A2Z0-0032** |

Technical data subject to change without notice.

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | Accessories are approved for:<br>- ATEX: Zone 2/22 (EPS 15 ATEX 1 823 X)<br>- IECEx: Zone 2/22 (EPS 15.0010X)<br>- UL: Div 2 (File E321557) | |
| | **Standard battery**<br>- Lithium polymer battery 7.4 V/5300 mAh (39.22 Wh)<br>- hot-swappable<br>May only be changed and charged outside the potentially explosive atmosphere! | **B7-A2Z0-0028** |
| | **Long life battery**<br>- Lithium polymer battery 7.4 V/10280 mAh (76.07 Wh)<br>- hot-swappable<br>May only be changed and charged outside the potentially explosive atmosphere! | **B7-A2Z0-0029** |
| | **Battery lock**<br>Enables battery locking for prevent accidental removel | **03-9827-0004** |
| | **Cover for expansion port** suitable for Agile Tablet PC Series X<br>May only be changed outside the potentially explosive atmosphere! | **03-9827-0011** |
| | **HART Add-on module** for Agile X, type B7-A234-4.../....<br>To configure, parametrise, read and measure HART devices in potentially explosive atmospheres.<br>The driver software makes it easy to install and set up.<br>Connection to HART loop as secondary master. Hardware supports Version 5, 6 and 7 HART.<br>May only be assembled/removed outside the potentially explosive atmosphere! | **B7-A2Z0-0033** |
| | **RFID UHF Add-on module** for Agile X, type B7-A234-4.../....<br>UHF RFID Reader, Frequency: Dual Band<br>- EU: 865.6 up to 867.5 MHz<br>- US: 902.0 up to 928.0 MHz<br>May only be assembled/removed outside the potentially explosive atmosphere! | **B7-A2Z0-0032** |
| | **Radio module 4G/LTE (US)** compatible with:<br>Operating system Windows Embedded 8.1 Industry pro<br>Operating system Windows 10 IoT Enterprise<br>support: LTE, HSPA+ ,GSM/GPRS/EDGE, EV-DO Rev A, 1 x RTT | **03-9826-0127** |
| | **Radio module 4G/LTE (US)** compatible with:<br>Operating system Windows 7 Professional (for embedded systems)<br>support: LTE, HSPA+ ,GSM/GPRS/EDGE, EV-DO Rev A, 1 x RTT | **03-9826-0142** |
| | **Radio module 4G/LTE (EU)** compatible with:<br>Operating system Windows Embedded 8.1 Industry pro<br>Operating system Windows 10 IoT Enterprise<br>support: LTE, HSPA+, GSM/GPRS | **03-9826-0128** |
| | **Radio module 4G/LTE (EU)** compatible with:<br>Operating system Windows 7 Professional (for embedded systems)<br>support: LTE, HSPA+, GSM/GPRS | **03-9826-0141** |
| | **Screen protector** certified in combination with Agile X<br>- 1 piece<br>May only be changed outside the potentially explosive atmosphere! | **B7-A2Z0-0031** |

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Dual stylus** suitable for capacitive touchscreen<br>- 1 piece<br>- with spiral cord<br>- as from S/N 3B or higher | **03-9849-0151** |
| | **Stylus** suitable with Agile and Agile X<br>- 1 piece<br>- with rubber tip | **03-9849-0131** |
| | **Rubber tip for stylus**<br>suitable for stylus, type 03-9849-0131<br>- 1 piece | **03-9849-0140** |
| | **Carry system** suitable with Agile and Agile X<br>- Simplifies handling<br>- Ergonomic back trace with shoulder pad for safe carrying in front of the body<br>- Access to battery and integration of Add-on modules possible<br>- with holder for stylus<br>- adjustable strap length<br>Scope of delivery<br>- Leather carry case<br>- 4-point belt<br>- Shoulder strap | **03-9829-0100** |
| | **Leather carry case** suitable with Agile and Agile X<br>- with practical stand function and holder for stylus<br>- Access to battery and integration of Add-on modules possible<br>- upgradable with shoulder strap and 4-point belt<br>- robust industry quality leather | **03-9829-0090** |
| | **4-point belt** suitable for leather carry case of Agile Tablet PC Series<br>- Ergonomic back trace with shoulder pad for safe carrying in front of the body<br>- Easy and secure fitting on leather carry case using coloured pop fasteners<br>- adjustable strap length | **03-9829-0092** |
| | **Shoulder strap** suitable for leather carry case of Agile Tablet PC Series<br>- ergonomic and soft shoulder pad<br>- adjustable strap length<br>- mounting screw | **03-9829-0091** |
| | **Hand strap** suitable for Agile and Agile X<br>only suitable for use in gas group IIA<br>- 1 piece<br>- to be mounted on the back | **03-9849-0130** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **2-slot battery charging station** suitable with Agile and Agile X<br>- for charging 2 batteries<br>- Input voltage: DC 10 V to 20 V (50 W)<br>- Charge indicator by LED and buzzer<br>- two plugged charging stations can be supplied with one power supply<br><br>Scope of delivery<br>- 2-slot battery charging station<br>- Power supply<br>- AC power cable (EU + US) | **03-9914-0010** |
| | **Docking station** suitable for Agile and Agile X<br>- Input voltage: DC 12 V to 19 V<br>- Charging with inserted battery<br>- Interfaces:<br>4 x USB 2.0<br>1 x RS232<br>1 x Ethernet 10/100 Mbit/s<br>1 x VGA<br>1 x Charging port<br><br>Scope of delivery<br>- Docking station<br>- Quick start guide (EN)<br><br>Also required: (not included with delivery)<br>- Power supply<br>- AC power cable (EU + US) | **03-9915-0017** |
| | **Docking station** suitable for Agile Tablet PC Series<br>- Input voltage: DC 19 V<br>- Charging with inserted battery<br>- Interfaces:<br>4 x USB 2.0<br>1 x RS232<br>1 x Ethernet 10/100 Mbit/s<br>1 x HDMI<br>1 x Charging port<br><br>Scope of delivery<br>- Docking Station<br>- Mounting bracket<br>- Screws for mounting bracket (6 pieces)<br>- Fixation elements (2 pieces)<br>- Inserts for Agile X (2 pieces)<br>- Screws for insert (2 pieces)<br>- Rubber pads (4 pieces)<br>- Power supply<br>- Power cable (EU + US)<br>- Quick start guide (EN) | **03-9914-0022** |
| | **Power supply** suitable for Agile Tablet PC Series<br>Input voltage: AC 100 V to 240 V<br>Output voltage: DC 19 V/3.42 A<br><br>**AC power cable**, 3-wire, country-specific<br>Version: EU<br>Version: US<br>Version: UK<br>Please purchase the required country-specific cables in the respective country! | **03-9911-0040**<br><br><br><br>**03-9609-0022**<br>**03-9609-0023**<br>**03-9609-0024** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Vehicle docking station** suitable for Agile and Agile X<br>- Input voltage: DC 9 V to 36 V<br>- Charging with inserted battery<br>- with locking function<br>- Interfaces:<br>2 x USB 2.0<br>1 x RS232<br>1 x Ethernet 10/100 Mbit/s<br>1 x VGA<br>1 x SMA for external GPS antenna<br>1 x Charging port<br>1 x Terminal block for power supply<br>Also required: (not included with delivery)<br>- Power supply with vehicle charging adapter<br>- Cover for expansion port<br>Note: Cover of the expansion port must be changed. | **03-9915-0018** |
| | **Power supply with vehicle charging adapter**<br>Input voltage: DC 11 V to 16 V and DC 22 V to 24 V<br>Output voltage: DC 19 V/3.42 A | **03-9914-0011** |
| | **Cover for expansion port**<br>suitable for Agile and Agile X<br>- for vehicle docking station<br>Must be changed only outside potentially explosive atmosphere! | **03-9827-0005** |
| | **Mounting plate for VESA mount**<br>suitable for Agile and Agile X<br>- Material: metal | **03-9849-0133** |
| | **LAN adapter cable** for LAN from 30 pin extension port<br>- Connector: RJ45, female | **03-9919-0022** |
| | **RS232 adapter cable** with 30 pin extension port<br>- Connector: DB9 Serial RS232 cable (Male) | **03-9919-0023** |
| | **Micro HDMI cable**<br>- Micro HDMI (Male) to HDMI (Male) | **03-9919-0024** |

### Ordering information

**Service**

| | Description | Order no. |
|---|---|---|
| | **Service Level COMFORT**<br>Features:<br>- Defined turnaround time<br>- Product receipt/dispatch confirmation<br>- Fast proposal management<br>- Inspection fee included<br>Further details can be found in the contract documents. | |
| | **3-year contract**<br>one-off payment 10 % of Agile X list price for the duration | **00-1179** |
| | **4-year contract**<br>one-off payment 13.5 % of Agile X list price for the duration | **00-1189** |
| | **5-year contract**<br>one-off payment 17 % of Agile X list price for the duration | **00-1180** |
| | **Contract extension "Comfort"** of 1 year, to a maximum of 5 years<br>one-off payment 10 % of Agile X list price for the duration | **00-1250** |
| | **Service level ALL-IN from the start**<br>Features:<br>- Defined turnaround time<br>- Product receipt/dispatch confirmation<br>- Projectable cost of ownership: repair cost included<br>- Coverage of normal wear and tear and accidental damage<br>- Repair working time and inspection fee included<br>Further details can be found in the contract documents. | |
| | **3-year contract**<br>one-off payment 18 % of Agile X list price for the duration | **00-1181** |
| | **4-year contract**<br>one-off payment 27 % of Agile X list price for the duration | **00-1190** |
| | **5-year contract**<br>one-off payment 40 % of Agile X list price for the duration | **00-1182** |

### Ordering information

**Warranty**

| | Description | Order no. |
|---|---|---|
| | **Warranty extension (1-year contract)**<br>5 % of Agile X list price for the duration | **00-1183** |
| | **Warranty extension (2-year contract)**<br>5 % of Agile X list price for the duration<br>Further details can be found in the contract documents. | **00-1184** |

## CONTENT


Gravity X 232 - 233
Intrinsically Safe Camera
17-K113-1012111.0000

Accessories Gravity X 234 - 235
00-..; 03-..

Orbit X 236 - 237
Explosion-proof Wi-Fi Camera
17-K123-1012111.0000

Accessories Orbit X 238
03-..

Impact X 239 - 240
Intrinsically Safe Smartphone
17-S123-1112111.0000

Accessories Impact X 241 - 242
00-..; 03-..

Mobile X 243
Industrial Mobile Phone for Zone 1/21 and Div 1
17-S113-1.00

Accessories Mobile X 244 - 245
03-..

Full HD 1080 p video and 8 Mpix imaging, high-end lenses, ultra-fast zoom and autofocus make the Gravity X an extremely powerful piece of equipment. It can take photos and make audio and video recordings in potentially explosive atmospheres, and immediately load and save them to a network or a computer. The camera has high battery capacity, fast autofocus lens and high-resolution image sensors. The extremely light-sensitive image sensor and powerful LED lamps guarantee outstanding images and recordings. The Gravity X also comes with FlipScape™, a novel application which always records videos correctly, irrespective of which way the camera is held. This is because the Gravity X automatically switches to a second camera that is at a 90° angle to the standard camera. This means you can record in landscape mode using one hand, leaving the other hand free. A special camera button provides the basis for professional images. This camera button works in two steps. Before taking the photo, you can first adjust the AE parameters in the same way as with your digital single-lens reflex camera. The Gravity X comes with various camera apps, which enable you to adapt the camera to your requirements and which broaden potential uses.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ex II 2G Ex ib op is IIC T4 Gb |
| Certification | Sira 14ATEX2287X |
| Marking IECEx | Ex ib op is IIC T4 Gb |
| Certification | SIR 14.0105 X |
| Marking CSA | Class I, Ex ib IIC T4 Gb<br>Class I, AEx ib IIC T4 Gb |
| Certification | CSA file: 70056527 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Temperature range | |
| Operating temperature | -20 °C to +45 °C |
| Storage temperature | -40 °C to +60 °C |
| Video and imaging | |
| Video quality | Full HD video (1080 p, 30 fps) |
| Resolution | 8 megapixel stills |
| Image capture | Dedicated camera button |
| Video codecs | H.264/AVC |
| Zoom | 4 x |
| Memory | 16 to 32 GB |
| Robust design | |
| Impact | Impact-resistant to 2 joules |
| Drop | Drop-resistant to 2 metres |
| Submersible | Waterproof (IP 68) |
| Enclosure | Made from one piece of aluminium |
| Connections | Covered USB |
| Screen | 2 mm Gorilla Glass |
| Audio | |
| Microphone | Digital omnidirectional microphone |
| Audio | Full duplex audio communication |
| Video recording | Stereo microphones on back |
| Wireless headset | Bluetooth audio headset support |
| Handsfree | Integrated mic and speaker |
| Audio codec | CD quality AAC LD |
| Audio out | Standard 3.5 mm connection |
| Sound quality | Echo cancellation |
| Sensors | |
| Orientation | 3 axis gyroscope |
| Positioning | Global Positioning System (GPS) |
| Acceleration | Accellerometer |
| Navigation | Compass |
| Power input | |
| Battery size | 3000 mAh |
| Video playback | 8 h |
| Video recording | 4 to 6 h full operating time |
| Scope of delivery | |
| Charger | USB |
| Image transfer | Standard software for transfering images |
| Warranty | 1 year hardware warranty |
| User Manual | Quick guide |
| Packaging | With customised foam inlays |
| Size and weight | |
| Size | 150 mm x 65 mm x 12 mm |
| Weight | 290 g (10 oz) |

| Display and touchscreen | |
|---|---|
| Screen size | 4.3 inch Retina display |
| Resolution | 480 x 800 pixels |
| Brightness | Display can be read in direct sunlight |
| Touchscreen | Suitable for use when wearing gloves |
| Glass | Gorilla glass (IP 68) |
| Buttons | On/Off, Volume, Camera, Android |
| Applications | |
| HD Video conference | SIPIDO |
| Management Solution | Collaboration Suite |
| Browser | HTML5 with full range of features |
| Document display | PDF and Office documents |
| ERP | Compatible with ERP systems |
| Apps | Over 1.3 million on Google Play |
| Ergonomics | |
| Image capture | Flipscape™: take videos using one hand |
| Dirt protection | Anti-smuge recess for camera glass and screen |
| Touchscreen | Suitable for use when wearing gloves, moisture resistant |
| Shape factor | Fits in hand and pocket |
| Fall protection | Strap for ergonomic operation |

| Network functions | |
|---|---|
| Wi-Fi | 802.11 a/b/g/n (2.4 GHz & 5 GHz) |
| Bluetooth | Bluetooth 4.0 |
| Wi-Fi media sharing | Dropbox™, Picasa™, Flickr™, Box™, Onedrive™ |
| Operating system | |
| Android | 5.1.1 Lollipop |

**Ordering information**

| | |
|---|---|
| Gravity X for Europe | **17-K113-101211110000** |
| Gravity X for US | **17-K113-101211120000** |
| Gravity X for Australia | **17-K113-101211130000** |
| Gravity X for UK | **17-K113-101211140000** |

Technical data subject to change with notice.

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **Strap**<br>for hand and belt (multifunctional) | **03-9829-0081** |
| | **Hand strap**<br>(with snap hook) | **03-9829-0082** |
| | **Shoulder strap**<br>(with snap hook) | **03-9829-0084** |
| | **Bluetooth headset**<br>- with neck neckband<br>- with head band<br>- for mounting on a helmet | <br>**03-9810-0203**<br>**03-9810-0204**<br>**03-9810-0205** |
| | **Telescopic pole** | **03-9829-0086** |
| | **Protective cover**<br>black<br>orange<br>blue | <br>**03-9869-0021**<br>**03-9869-0022**<br>**03-9869-0029** |
| | **Tripod mount** | **03-9829-0085** |

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **Charger**<br>USB charger and USB cable<br>- Input voltage: AC 100 to 240 V<br>- Output: USB | |
| | Version for | |
| | - Europe | **03-9810-0199** |
| | - US | **03-9810-0184** |
| | - Australia | **03-9810-0186** |
| | - UK | **03-9810-0185** |
| | **Micro USB cable** 60 cm | **03-9828-0055** |

### Ordering information

**Service**

| | Description | Order no. |
|---|---|---|
| | **BASIC Service Level**<br>Response within 72 hours<br>Repair within 14 days<br>OTA firmware updates sent free of charge | **00-1202** |
| | **SILVER Service Level**<br>Response within 48 hours<br>Repair within 7 days<br>OTA firmware updates sent free of charge | **00-1201** |
| | **GOLD Service Level**<br>Response within 24 hours<br>Repair within 2 days<br>OTA firmware updates sent free of charge<br>Includes advice: 1 hour per month | **00-1200** |

Orbit X is the toughest, most intelligent and smallest explosion-protected camera. It has an HD image sensor, two LED lamps and a laser pointer. This means in potentially explosive atmospheres it is also possible to take photos and record videos, hold live wireless video conferences and use video streaming for monitoring. Using 1080p Wi-Fi, the camera with its compact and robust design can record, stream and display videos and 8 megapixel stills. Images and videos recorded in the field can then be transmitted via USB to any computer. Orbit X offers the option of remote management using the Collaboration X Device Management System. The camera can be connected by Wi-Fi to any Android device. The SIPIDO app is also included by way of standard, permitting video conferencing by Wi-Fi in full HD.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ex II 2G Ex ib op is IIC T4 Gb |
| Certification | Sira 13ATEX5134X |
| Marking IECEx | Ex ib op is IIC T4 Gb |
| Certification | SIR 13.0047X |
| Marking CSA | Class I, Ex ib op is IIC T4 Gb<br>Class I, AEx ib op is IIC T4 Gb |
| Certification | CSA file: 70009910 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Protection class | IP 68 water proof |
| Shock resistance | Shock-resistant to 4 Joules/<br>Drop-resistant to 2 metres |
| Wireless | CE and FCC compliant |
| Temperature range | |
| Operating temperature | -20 °C to +45 °C |
| Storage temperature | -40 °C to +60 °C |
| Video and imaging | |
| Video resolution | Full HD video<br>(1080p, 30 fps (frames per second)) |
| Image resolution | 8 megapixel stills |
| Buttons | Power/standby, light/laser and<br>video/photo/call |
| Codecs | H.264/AVC |
| Memory | 16 to 32 GB of internal video and image storage |
| Image sensor | 1/3 inch high-end CMOS sensor (8 Mpix) |
| Light modes | Powerful video LED light |

| | |
|---|---|
| Dimensions and weight | |
| Length | 117.5 mm |
| Diameter | 27 mm |
| Weight | 105 g |
| Storage temperature | -40 °C to +60 °C |
| Operating temperature | -20 °C to +45 °C |
| Camera glass | Gorilla Glass impact-proof |
| Material | Aluminium |
| Surface | Hard anodised scratch-resistant surface |
| Mounting | Fixtures for attaching to helmet and for wall<br>mounting included with delivery |
| Connectors | Covered USB and audio jack<br>(non ATEX version available with micro HDMI) |
| Power supply | |
| Battery | 1000 mAh |
| Standby | 200 hours |
| Video streaming | Up to 1 hour |
| Video recording | Up to 1.5 hours |
| Applications | |
| HD Video conference | SIPIDO app |
| Management solution | Collaboration X |
| Third party apps | Google Play |
| Web Media Gallery | View images and video in browser |
| Core features | |
| Operating system | Android 5.1.1 Lollypop |
| CPU | Dual core 1.2 GHz |
| Video codec | 1080p, 30 fps video |
| Wireless | |
| Bluetooth | Bluetooth |
| Wi-Fi | 802.11 a/b/g/n (2.4 + 5 G) |
| Audio | |
| Microphone | 2 digital (speech + surroundings),<br>active noise cancelling |
| Audio communication | Full duplex |
| Audio codecs | CD quality AAC LC/LD |
| Bluetooth | Bluetooth audio headset support |
| Headset | 3.5 mm audio jack |

| | |
|---|---|
| Pairing | |
| Wireless pairing | Connect to Android smartphone using Orbit X |
| Network functions | |
| Video conferencing | SIP, H.323 |
| Streaming | ISMA, RTSP, HTML5, WebRTC, Onvif |
| Firewall | Firewall traversal technology |
| STUN | STUN server support |
| QoS | Diffserv, IP precedence (QoS) |
| Scope of delivery | |
| Helmet mount | |
| Wall mount | |
| USB charger | Specify EU/US/UK and AU version when ordering |
| User manual | Quick guide and online manuals |
| Warranty | 1 year |

**Ordering information**

| | |
|---|---|
| Orbit X for Europe | **17-K123-101211110000** |
| Orbit X for US | **17-K123-101211120000** |
| Orbit X for Australia | **17-K123-101211130000** |
| Orbit X for UK | **17-K123-101211140000** |

Technical data subject to change without notice.

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **Bluetooth headset**<br>- with neck neckband<br>- with head band<br>- for mounting on a helmet | <br>**03-9810-0203**<br>**03-9810-0204**<br>**03-9810-0205** |
| | **Telescopic pole** | **03-9829-0086** |
| | **Charger**<br>USB charger and USB cable<br>- Input voltage: 100 to 240 V AC<br>- Output: USB<br><br>Version for<br>- Europe<br>- US<br>- Australia<br>- UK | <br><br><br><br><br>**03-9810-0199**<br>**03-9810-0184**<br>**03-9810-0186**<br>**03-9810-0185** |
| | **Micro USB cable** 60 cm | **03-9828-0055** |
| | **Bracket with adhesive pads**<br>for flat and rounded surfaces | **03-9829-0087** |
| | **Spare adhesive pads**<br>(Set of 6) flat and curved | **03-9827-0010** |

The Impact X is an intrinsically safe smartphone that has been designed for use in a potentially explosive atmosphere. The tough, waterproof and light aluminium enclosure makes it a versatile smartphone. It also has double the battery life (3000 mpA), can be operated while wearing gloves, and the display can be read in direct sunlight. The Impact X comes with FlipScape™, a novel application which always records videos correctly, irrespective of which way the camera is held. This is because the Impact X automatically switches to a second camera that is at a 90° angle to the standard camera. This means you can record in landscape mode using one hand, leaving the other hand free. The SIPIDO telepresence app is also included, enabling the user to stream live HD videos wherever needed. In this way it is possible to include users in the field in video conferences The Impact X runs on the Android OS. Android is currently the leading operating system for mobile devices. Android guarantees access to the most diverse media with intuitive navigation. The operating system is fast, well-known and can be customised. It is easily updated to new versions.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex ib op is IIC T4 Gb |
| Certification | Sira 13ATEX5134X |
| Marking IECEx | Ex ib op is IIC T4 Gb |
| Certification | SIR 13.0047 X |
| Marking CSA | Class I, Ex ib IIC T4 Gb<br>Class I, AEx ib IIC T4 Gb |
| Certification | CSA file: 70009910 |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Temperature range | |
| Operating temperature | -20 °C to +45 °C |
| Storage temperature | -40 °C to +60 °C |
| Video and imaging | |
| Video quality | Full HD video (1080p, 30 fps) |
| Resolution | 8 megapixel stills |
| Image capture | Dedicated camera button |
| Video codecs | H.264/AVC |
| Zoom | 4 x |
| Memory | 32 GB |
| Robust design | |
| Impact | Impact-resistant to 2 joules |
| Drop | Drop-resistant to 2 metres |
| Protection class | Waterproof (IP 68) |
| Enclosure | Made from one piece of aluminium |
| Connections | Covered USB port |
| Screen | 2 mm Gorilla Glass |
| Audio | |
| Microphone | Digital omnidirectional microphone |
| Audio | Full duplex audio communication |
| Video recording | Stereo microphones on back |
| Headset | Handsfree support |
| Wireless headset | Bluetooth audio headset support |
| Handsfree | Integrated mic and speaker |
| Audio codec | CD quality AAC LD |
| Sound quality | Echo cancellation |
| Audio out | Standard 3.5 mm connection |
| Sensors | |
| Orientation | 3 axis gyroscope |
| Positioning | Global Positioning System (GPS) |
| Acceleration | Accellerometer |
| Navigation | Compass |
| Temperature | Sensor |
| Pressure | Sensor |
| Power supply | |
| Battery | 3000 mAh |
| Talk time | 8 h |
| Video recording | 4 h full operating time |
| Scope of delivery | |
| Charger | USB |
| Warranty | 1 year hardware warranty |
| User Manual | Quick guide |
| USB cable | USB cable for charging and data transfer |
| Software updates | Available using Collaborate Suite |
| Packaging | With customised foam inlays |

| Size and weight | |
|---|---|
| Size | 150 mm x 65 mm x 12 mm |
| Weight | 290 g (10 oz) |
| Display and touchscreen | |
| Screen size | 4.3" Retina display |
| Resolution | 480 x 800 pixels |
| Brightness | Display can be read in direct sunlight |
| Touchscreen | Suitable for use when wearing gloves |
| Glass | Gorilla Glass (IP 68) |
| Buttons | On/Off, Volume, Camera, Android |
| Applications | |
| HD Video conference | SIPIDO |
| Management Solution | Collaboration Suite |
| Browser | HTML5 with full range of features |
| Document display | PDF and Office documents |
| ERP | Compatible with ERP systems |
| Apps | Google Play, Dropbox™, Picasa™, Flickr™ |
| Ergonomics | |
| Image capture | Flipscape™: Take videos using one hand |
| Dirt protection | Anti smuge recess for camera glass and screen |
| Touchscreen | Suitable for use when wearing gloves, moisture resistant |
| Shape factor | User-friendly due to ergonomic design |
| Fall protection | Strap for ergonomic operation |

| Network functions | |
|---|---|
| Wi-Fi | 802.11 a/b/g/n (2.4 GHz & 5 GHz) |
| Cellular | 4G/HSPA+ (CDMA available) |
| Bluetooth | Bluetooth 4.0 |
| Video Conferencing | Skype, SIP, H.323 |
| Streaming | ISMA, RTSP, HTML5, WebRTC |
| Network | Firewall traversal technology<br>STUN server support |
| Bandwidth | Dynamic Bandwidth Control |
| QoS | Diffserv, IP precedence (QoS) |
| Operating system | |
| Android | 5.1.1 Lollipop |

**Ordering information**

| | |
|---|---|
| Impact X for Europe | **17-S123-111211110000** |
| Impact X for US | **17-S123-111211120000** |
| Impact X for Australia | **17-S123-111211130000** |
| Impact X for UK | **17-S123-111211140000** |

Technical data subject to change without notice.

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **Strap**<br>for hand and belt (multifunctional) | **03-9829-0081** |
| | **Hand strap**<br>(with snap hook) | **03-9829-0082** |
| | **Shoulder strap**<br>(with snap hook) | **03-9829-0084** |
| | **Bluetooth headset**<br>- with neck neckband<br>- with head band<br>- for mounting on a helmet | <br>**03-9810-0203**<br>**03-9810-0204**<br>**03-9810-0205** |
| | **Telescopic pole** | **03-9829-0086** |
| | **Protective cover**<br>black<br>orange<br>blue | <br>**03-9869-0021**<br>**03-9869-0022**<br>**03-9869-0029** |
| | **Tripod mount** | **03-9829-0085** |

### Ordering information

| Illustration | Description | Order no. |
|---|---|---|
| | **Charger**<br>USB charger and USB cable<br>- Input voltage: 100 to 240 V AC<br>- Output: USB | |
| | Version for | |
| | - Europe | **03-9810-0199** |
| | - US | **03-9810-0184** |
| | - Australia | **03-9810-0186** |
| | - UK | **03-9810-0185** |
| | **Micro USB cable** 60 cm | **03-9828-0055** |

### Ordering information

**Service**

| | Description | Order no. |
|---|---|---|
| | **BASIC Service Level**<br>Response within 72 hours<br>Repair within 14 days<br>OTA firmware updates sent free of charge | **00-1202** |
| | **SILVER Service Level**<br>Response within 48 hours<br>Repair within 7 days<br>OTA firmware updates sent free of charge | **00-1201** |
| | **GOLD Service Level**<br>Response within 24 hours<br>Repair within 2 days<br>OTA firmware updates sent free of charge<br>Includes advice: 1 hour per month | **00-1200** |

The Mobile X is a light and robust, dust and waterproof industrial mobile phone with the latest hardware and Android operating system. It is ideal for use in extremely tough conditions because it has been tested under military standards. The lone worker protection function and an inbuilt LED torch, as well as the excellent hands-free function, complete the package. Other useful features include the dual Micro SIM and the expandable memory with MicroSD card. Simple operation and long battery life deliver ultimate convenience, while camera and push-to-talk offer practical advantages in daily use.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex ib IIC T4 Gb<br>Ⓔx II 2D Ex ib IIIC T135°C Db IP 6X |
| Certification | EPS 16 ATEX 1 144 X |
| Marking IECEx | Ex ib IIC T4 Gb<br>Ex ib IIIC T135°C Db IP 6X |
| Certification | IECEx EPS 16.0060X |
| Marking CSA (Northern America) | Class I Div. 1 Groups A, B, C and D T4<br>Class II Div. 1 Groups E, F, G<br>Class III Div. 1 |
| Certification | 70170801 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Dimensions | 63 mm x 140 mm x 26 mm |
| Weight | 240 g |
| Display | 2.4" (6.1 cm), scratch resistant |
| Shocks, vibrations, falls, temperature and vibration | according to MIL-STD-8106 |
| Resolution | 240 x 320 pixel |
| Operating temperature range | -20 °C to +60 °C |
| Protection class (EN/IEC 60529) | IP 68 |
| Camera | 2 MP (rear) |
| Flashlight | LED, integrated and efficient |
| Sensors | G-Sensor, magnetic sensor, gyroscope |
| Operating system | Android |
| Processor | MT6572M (1.3 GHz) |
| Data and working memory | 4 GB ROM and 512 MB RAM |
| Slots | Micro SIM<br>MicroSD memory expandable to 32 GB |
| Battery | 1900 mAh |
| Wireless communication | WLAN IEEE 802.11 b/g/n<br>Bluetooth Version 4.0<br>GPS integrated |
| Communication | SMS, MMS, E-Mail<br>(POP3, IMAP, Microsoft™ Exchange) |
| NFC | Near Field Communication<br>Integrated modes: read/write, peer-to-peer |
| Buttons | SOS button, push-to-talk button |

| | |
|---|---|
| Scope of delivery | Mobile X<br>Battery<br>USB charging adapter<br>USB cable with i.safe PROTECTOR<br>Headset<br>Screwdriver<br>Quick start guide and safety instructions |
| Optional accessories | Charger<br>USB charging adapter<br>Leather holster incl. belt clip<br>Belt clip<br>Screen protector |

### Mobile standards/frequencies

| | supported | | |
|---|---|---|---|
| Frequency (MHz) | (2G) GSM | 3G/WCDMA | Band |
| 850 | Yes | No | 5 |
| 900 | Yes | Yes | 8 |
| 1800 | Yes | No | 3 |
| 1900 | Yes | Yes | 2 |
| 2100 | No | Yes | 1 |

### Ordering information

| | |
|---|---|
| Mobile X with 2 MP camera (Zone 1/21) | **17-S113-11000000** |
| Mobile X with 2 MP camera (Div 1) | **17-S111-11000000** |
| Mobile X NC without 2 MP camera (Zone 1/21) | **17-S113-10000000** |
| Mobile X NC without 2 MP camera (Div 1) | **17-S111-10000000** |

### Ordering information

**Accessories for use in potentially explosive atmosphere**

| Illustration | Description | Order no. |
|---|---|---|
| | The accessory is approved for:<br>- ATEX Zone 1/21 (EPS 16 ATEX 1 144 X)<br>- IECEx Zone 1/21 (EPS 16.0060 X)<br>- CSA Class I, II Div 1 (Certificate: applied for) | |
| | **Battery** for Zone 1/21<br>Li-Ion 3.8 V/1900 mAh (7.03 Whr)<br>May only be changed outside the potentially explosive atmosphere! | **03-9829-0093** |
| | **Battery** for Div 1<br>Li-Ion 3.8 V/1900 mAh (7.03 Whr)<br>May only be changed outside the potentially explosive atmosphere! | **03-9829-0094** |
| | **Leather holster** with belt clip<br>(suitable for Mobile X) | |
| | Colour: black<br>Colour: yellow | **03-9829-0095**<br>**03-9829-0096** |
| | **Belt clip** for leather holster, 1 piece<br>(suitable for Mobile X) | **03-9829-0075** |
| | **Screen protector,** 1 piece<br>(suitable for Mobile X) | **03-9829-0097** |

### Ordering information

**Accessories for use outside potentially explosive atmosphere**

| Illustration | Description | Order no. |
|---|---|---|
| | **Charger** for charging of the Mobile X with inserted battery<br>Input voltage: AC 100 V to 240 V<br>Consisting of:<br>1 x Charger<br>1 x USB charging adapter<br>1 x USB cable with i.safe PROTECTOR | **03-9829-0098** |
| | **USB cable** with i.safe PROTECTOR | **03-9829-0077** |
| | **USB charging adapter**<br>Input voltage: AC 100 V to 240 V<br>Output voltage: DC 5 V/1 A<br>Interface: USB type A<br>Can only be used for the Mobile X in combination with a USB cable with i.safe PROTECTOR!<br>With plug for following countries/regions:<br>- Version: US<br>- Version: EU<br>- Version: UK<br>- Version: Australia | <br><br><br><br><br><br><br>**03-9914-0014**<br>**03-9914-0015**<br>**03-9914-0016**<br>**03-9914-0017** |

### Ordering information

| | |
|---|---|
| Warranty extension Mobile X (1-year contract) | **on request** |

TOUCH COMPUTER/MOBILE COMPUTER

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Your workers in the field need a mobile computer to communicate with others and to access information. Only in this way can they work with maximum efficiency and improve service to customers. You would like to provide your staff with an enterprise-class hand-held device that has been designed for field use – your employees, however, expect a device that has the same level of development and which is as easy to use as their own smartphone. The touch computers in the TC 75$^{ex}$ series meet all of these requirements because they have been optimised for use in business. A tough design for reliable, everyday operation. Access to practically all information in your back-end systems wherever and whenever you need it. The ability to collect more types of data quicker than ever before. Immediate Push-to-Talk communication with field staff, line managers, despatch coordinators and colleagues in the office. 4G LTE support for robust, wireless connections in the fastest mobile phone networks in the world. And an extensive range of accessories which meets the unique demands of practically all mobile employees. The TC 75$^{ex}$ series – a simple way of equipping your field team with a true mobile office – now also in a potentially explosive atmosphere.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | II 3G Ex ic op is IIC T5 Gc<br>II 3D Ex ic op is IIIB T100 °C Dc |
| Certification | EPS 17 ATEX 1 028 X |
| Marking IECEx | Ex ic op is IIC T5 Gc<br>Ex ic op is IIIB T100 °C Dc IP 64 |
| Certification | IECEx EPS 17.0012X |
| Marking ETL | Class I Div. 2 Groups A, B, C and D<br>Class II Div. 2 Groups F, G<br>Class III<br>Temperature class T4 |
| Certification | 5012876 |

Other approvals and certificates, see www.bartec.de

**Technical data**

| | |
|---|---|
| Protection class (EN/IEC 60529) | IP 64 |
| Storage temperature | -40 °C to +50 °C |
| Operating temperature | -20 °C to +50 °C |
| Air humidity during operation | 5 % to 95 % (non-condensing) |
| Processor | ARM® Cortex™-Dual Core 1.76 GHz |
| System memory | 1 GB RAM |
| RAM | 8 GB Flash pSLC |
| Expandable memory | MicroSD card up to 8 GB supported |
| Operating system | Android 5.1 (Lollipop) with Mobility Extensions |
| Size | 4.7“, bonded |
| Resolution | 1280 x 720 pixels |
| Touch function | capacitive dual mode touch (finger/stylus) |
| Wireless communication | WLAN-WiFi IEEE 802.11 a/b/g/n<br>Bluetooth Version 4.0<br>GPS integrated (Nuystar, Glonass)<br>WWAN Global: LTE/UMTS/HSPA/HSPA+ |
| Data capture RFID Reader HF/NFC | Following RFID tags are supported: (read/write) e. g. Type 1, 2, 3 and 4, ISO/IEC 14443A/B, ISO/IEC 15693, Mifare Classic, FeliCa, ISO 18092 (NFC) |
| Barcode scanning 1D/2D Imager (SE4750 from Zebra) | Readable 1D codes:<br>Code 11, Code 39, Code 93, Code 128, Codabar, Coupon Code, Chinese 2 of 5, Discrete 2 of 5, EAN-8, EAN-13, Interleaved 2 of 5, MSI, UPCA, UPCE, UPC/EAN supplementals, Trioptic 39, RSS-14, RSS Expanded, RSS Limited, Webcode<br><br>Readable 2D codes:<br>Aztec, Australian 4-state, Canadian 4-state, Composite AB, Composite C, PDF-417, Data Matrix, Dutch Kix, Japanese 4-state, Macro PDF-417, (Macro) Micro PDF-417, Micro PDF-417, microQR, Maxi Code, QR Code, TLC39, UK 4-state, US Planet, US Postnet, USPS 4-state (US4CB) |

| | |
|---|---|
| Audio | 3 x integrated microphones (Noise suppression)<br>1 x loudspeaker |
| Internal I/O under battery | 2 x Nano SIM card slot<br>1 x Micro SIM/SAM card slot |
| Externe I/O | only for use outside potentially explosive atmospheres<br>1 x Cradle Connector<br>(OTG host, data exchange and charging)<br>1 x Port (PoGo Pin) for 2-slot charger |
| Buttons | 1 x on/off button<br>1 x function button<br>1 x scan button<br>2 x volume buttons (+/-)<br>4 x capacitive function buttons<br>(home, menu, ESC, search function) |
| LED | 1 x LED indicator |
| Sensors | Brightness sensor, G-sensor,<br>proximity sensor and eCompass |
| Camera | 8 MP autofocus camera and LED flash<br>1.3 MP camera |
| Size (L x W x H) | 161 mm x 84 mm x 28 mm |
| Weight | 376 g with battery |
| Battery<br>(Type B7-A2Z0-00..) | Lithium polymer battery 3.7 V/4620 mAh (1S/2P)<br>Soft bottom Hot-swap<br>Must be changed only outside potentially explosive atmosphere. |

| | |
|---|---|
| USB charging adapter | Input voltage: AC 100 to 240 V<br>Output voltage: DC 5 V/1 A/5 W |
| Warranty | 1 year |
| Service agreements | available on request |
| Scope of delivery | Touch Computer TC 75ex-NI<br>Battery<br>Hand strap<br>Quick start guide |

**Ordering information**

| | |
|---|---|
| TC 75ex-NI with 4G/LTE US + Canada | **B7-A264-1111/11111100** |
| TC 75ex-NI with 4G/LTE LATAM (without Brazil) | **B7-A264-1211/11111100** |
| TC 75ex-NI with 4G/LTE EMEA/APAC | **B7-A264-1311/11111100** |
| TC 75ex-NI with 4G/LTE Taiwan | **B7-A264-1411/11111100** |

Technical data subject to change without notice.

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Battery** for Touch Computer TC 75ex-NI<br>Lithium-ion battery 3.7 V/4620 mAh<br>May only be changed outside the potentially explosive atmosphere! | **B7-A2Z0-0045** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **4-slot battery charging station** for Touch Computer TC 75ex-NI<br>- For charging four batteries<br>- Charging display via LED<br>Further required (not included in the delivery)<br>- Power supply with DC connection cable<br>- AC power cable | **G7-A0Z0-0020** |
| | **Base station** for Touch Computer TC 75ex-NI<br>- For charging the Touch Computer<br>- For charging a spare battery<br>Further required (not included in the delivery)<br>- Power supply with DC connection cable<br>- AC power cable | **G7-A0Z0-0022** |
| | **USB adapter cable** for Touch Computer TC 75ex-NI<br>- For charging the Touch Computer<br>- For synchronising data via USB<br>Further required (not included in the delivery)<br>- Power supply for USB adapter cable<br>- AC power cable | **G7-A0Z0-0037** |
| | **Power supply** with DC connecting cable<br>- Input voltage: AC 100 V to 240 V<br>- Output voltage: DC 12 V/4,16 A/50 W | **G7-A0Z0-0023** |
| | **Power supply** for USB adapter cable<br>- including DC connecting cable<br>- Input voltage: AC 100 V to 240 V<br>- Output voltage: DC 5 V/3 A/16 W | **G7-A0Z0-0038** |
| | **AC power cable** suitable for power supply with DC connection cable<br>- US + Canada<br>- EU + APAC<br>- TAIWAN<br>Other versions on request. | **G7-A0Z0-0024**<br>**G7-A0Z0-0026**<br>**G7-A0Z0-0027** |
| | **AC power cable** suitable for power supply with USB adapter cable<br>- US + Canada<br>- EU + APAC<br>Other versions on request. | **G7-A0Z0-0032**<br>**G7-A0Z0-0034** |

Lumen X4 from BARTEC is an extremely light, rugged and highly flexible industry touch computer for rough environments. Lumen X4 has a large number of international certifications and can be used throughout the world. It is approved for ATEX and IECEx Zone 2/22 and for CSA Class I Div. 2. Approvals for other countries are possible on customer request. Thanks to its numerous functions, the Lumen X4 provides perfect support for warehouse management, transport, service technicians, operating personnel, engineers and project managers in the field and in industry.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 3G Ex ic IIC T5 Gc<br>Ⓔx II 3D Ex ic IIIB T100 °C Dc |
| Certification | EPS 16 ATEX 1 039 X |
| Marking IECEx | Ex ic IIC T5 Gc<br>Ex ic IIIB T100 °C Dc |
| Certification | IECEx EPS 16.0016X |
| Marking CSA | Class I Div. 2 Groups A, B, C and D T5 |
| Certification | CSA File: 70043322 |
| Other approvals and certificates, see www.bartec.de | |

**Technical data**

| | |
|---|---|
| Protection class (EN/IEC 60529) | IP 54<br>IP 65 for the version for use outside potentially explosive atmospheres |
| Storage temperature | -30 °C to +60 °C |
| Operating temperature | on starting: -10 °C to +50 °C<br>during operation: -20 °C to +50 °C |
| Air humidity during operation | 5 % to 95 % (non-condensing) |
| Processor | ARM® Cortex™-A53 Quad Core 1.3 GHz |
| Memory | 2 GB SDRAM |
| Storage | 16 GB eMMC |
| Expandable memory | MicroSD card up to 32 GB supported |
| Operating system | Android 5.1 (Lollipop) |
| Size | 4.3" |
| Resolution | 480 x 800 pixels |
| Brightness | 400 cd/m² |
| Touch function | Projective capacitive multi-touch |
| Wireless communication | WLAN-WiFi IEEE 802.11 a/b/g/n<br>Bluetooth Version 4.1 + EDR<br>GPS integrated<br>WWAN 4G-GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA/LTE<br>Includes telephone function<br>(Exception:<br>data transmission only within the EU) |
| Data capture<br>RFID Reader HF/NFC | Following RFID tags are supported:<br>(read/write) e. g. Type 1, 2, 3 and 4,<br>ISO/IEC 14443A/B, ISO/IEC 15693,<br>Mifare Classic, FeliCa, ISO 18092 (NFC) |
| Barcode scanning (optional)<br>1D/2D Imager<br>(SE4500 from Zebra) | Readable 1D codes:<br>Code 11, Code 39, Code 93, Code 128, Codabar, Coupon Code, Chinese 2 of 5, Discrete 2 of 5, EAN-8, EAN-13, Interleaved 2 of 5, MSI, UPCA, UPCE, UPC/EAN supplementals, Trioptic 39, RSS-14, RSS Expanded, RSS Limited, Webcode<br><br>Readable 2D codes:<br>Aztec, Australian 4-state, Canadian 4-state, Composite AB, Composite C, PDF-417, Data Matrix, Dutch Kix, Japanese 4-state, Macro PDF-417, (Macro) Micro PDF-417, Micro PDF-417, microQR, Maxi Code, QR Code, TLC39, UK 4-state, US Planet, US Postnet, USPS 4-state (US4CB) |

| | |
|---|---|
| Audio | 1 x integrated microphone,<br>1 x loudspeaker (1 x 1.2 watts) |
| Internal I/O under battery | 1 x Micro-SIM card slot<br>1 x MicroSD card slot |
| Externe I/O | only for use outside potentially explosive atmospheres<br>1 x Micro USB/Charging port<br>(OTG host, data exchange and charging)<br>1 x Port for 2-slot charger<br>(PoGo pin for charging) |
| Keys | 1 x on/off key<br>1 x function key<br>2 x volume keys (+/-)<br>4 x capacitive function keys<br>(home, menu, ESC, search function) |
| LED | 1 x LED indicator |
| Sensors | Brightness sensor, G-sensor, proximity sensor and eCompass |
| Camera | front: 2 MP camera<br>rear: 8 MP autofocus camera and LED flash |
| Size (length x width x height) | 132.7 mm x 82 mm x 25.7 mm |
| Weight | 280 g with battery |
| Battery (Type B7-A2Z0-0034) | Lithium polymer battery<br>3.7 V/3900 mAh (1S/2P),<br>Battery life up to 20 hrs.,<br>Charge time using USB charging adapter: up to 2.5 hrs,<br>Charge time using USB (PC): up to 6.5 hrs<br>Must be changed only outside potentially explosive atmosphere. |
| USB charging adapter | Input voltage: AC 100 to 240 V<br>Output voltage: DC 5 V/1 A/5 W |

| | |
|---|---|
| Warranty | 1 year |
| Service agreements | available on request |
| Scope of delivery | Lumen X4<br>Battery<br>Hand strap<br>USB charging adapter with EU and US plug<br>Micro USB cable (type A to micro type B),<br>Quick start guide |
| Optional accessories | for use in potentially explosive atmospheres:<br>Battery<br>Screen protector<br>MicroSD card<br><br>for use outside potentially explosive atmospheres:<br>USB charging adapter with UK and AUS plug<br>Micro USB host cable (OTG)<br>2-slot battery charger<br>2-slot charger |

**Ordering information**

| | |
|---|---|
| Lumen X4<br>with RFID Reader HF/NFC,<br>without 1D/2D Imager | **B7-A2P4-2233/12210000** |
| Lumen X4<br>with RFID Reader HF/NFC,<br>with 1D/2D Imager SE4500 from Zebra | **B7-A2P4-2233/12210300** |

Technical data subject to change without notice.

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | The accessory is approved for:<br>- ATEX Zone 2/22 (EPS 16 ATEX 1 039 X)<br>- IECEx Zone 2/22 (IECEx EPS 16.0016X)<br>- CSA Class I Div 2 (File 70043322) | |
| | **Battery**<br>- Lithium Polymer battery 3.7 V/3900 mAh (14.43 Wh)<br>Must be changed only outside potentially explosive atmosphere! | **B7-A2Z0-0034** |
| | **Screen protector** 5 pieces<br>(certified in combination with Lumen X4)<br>Must be changed only outside potentially explosive atmosphere! | **B7-A2Z0-0035** |
| | **Expanded memory** for Lumen X series<br>- Certified in combination with Lumen X4<br>- Based on Industry version of ATP<br>Must be changed only outside potentially explosive atmosphere!<br>Important Note:<br>- MicroSD cards are not specified in certificate.<br>- The customer can use any MicroSD card.<br>BARTEC recommends the use of following MicroSD cards:<br>- MicroSD card with 4 GB<br>- MicroSD card with 8 GB | <br><br><br><br><br><br><br>**17-28BE-F006/000A**<br>**17-28BE-F006/000B** |
| | **Hand strap** 1 piece<br>- to be mounted on the back | **03-9849-0142** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **USB charging adapter**<br>Input voltage: AC 100 V to 240 V<br>Output voltage: DC 5 V/1 A<br>Interface: USB type A<br>Can only be used in combination with micro USB cable!<br>With plug for following countries/regions:<br>- US<br>- EU<br>- UK<br>- AUS | <br><br><br><br><br><br><br>**03-9914-0014**<br>**03-9914-0015**<br>**03-9914-0016**<br>**03-9914-0017** |
| | **Micro USB cable**<br>- USB type A to Micro USB type B<br>- For charging in combination with USB charging adapter<br>- For communication/data exchange with other USB devices | **03-9919-0025** |
| | **Micro USB host cable**<br>- Provides OTG (On-the-Go) function<br>- Host function enables a USB flash drive to be connected | **03-9919-0026** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **2-slot charger**<br>for charging 2 Lumen X4<br>- Input voltage: DC 12 V (50 W)<br>- Charge indicator by LED and buzzer<br>- 2 plugged chargers can be supplied with one power supply.<br><br>Further required (not included in the delivery):<br>- Power supply<br>- AC power cable<br>- DC power cable | **03-9914-0018** |
| | **2-slot battery charger**<br>for charging 2 batteries<br>- Input voltage: DC 12 V (50 W)<br>- Charge indicator by LED and buzzer<br>- 2 plugged chargers can be supplied with one power supply.<br><br>Further required (not included in the delivery):<br>- Power supply<br>- AC power cable<br>- DC power cable | **03-9914-0019** |
| | **Power supply**<br>Input voltage: AC 100 V to 240 V<br>Output voltage: DC 12 V/4.16 A/50 W | **03-9911-0042** |
| | **AC power cable,** 3-wire, country-specific<br>Version: EU<br>Version: US | <br>**03-9609-0011**<br>**03-9609-0021** |
| | **DC power cable**<br>Connection between power supply and 2-slot charger or 2-slot battery charger | **03-9919-0028** |
| | **Leather protective holster**<br>(suitable for Lumen X4) | **03-9829-0110** |

### Ordering information

**Service**

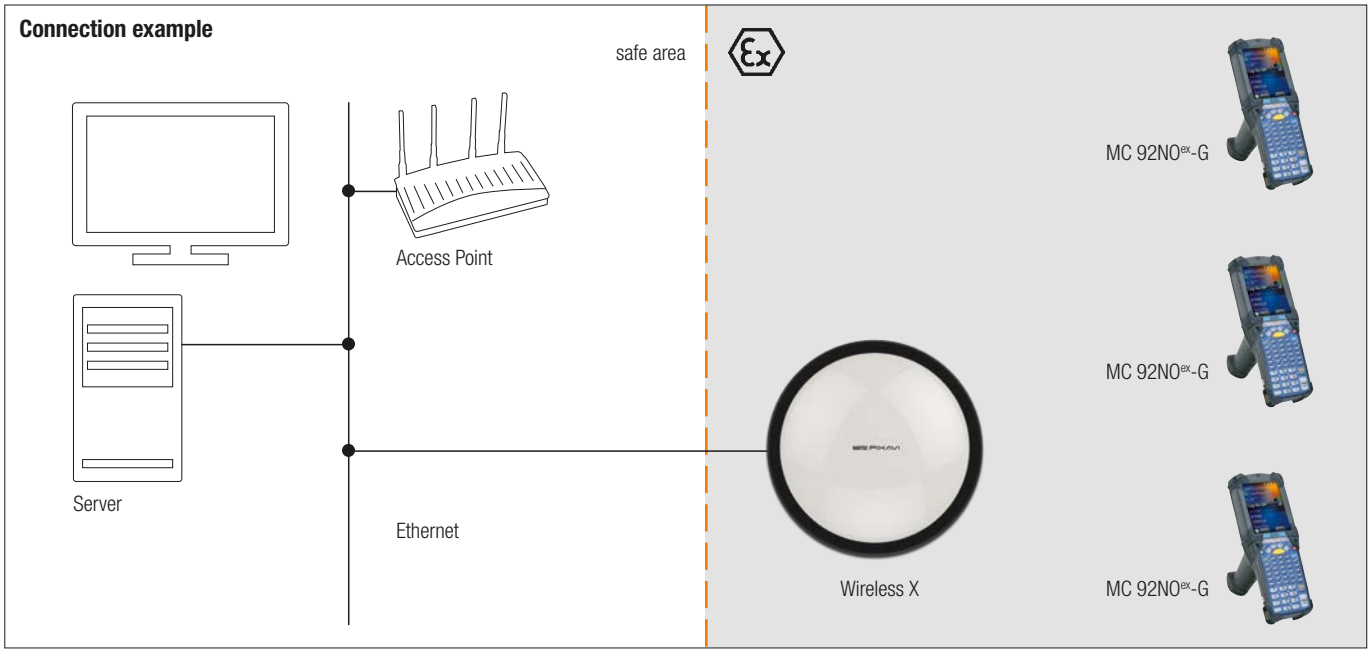
| Description | Order no. |
|---|---|
| **Service Level Comfort** (3-year contract)<br>one-off payment 10 % of Lumen X list price for 3 years<br>- Defined turnaround time<br>- Product receipt/dispatch confirmation<br>- Fast proposal management<br>- Inspection fee included<br><br>Further details can be found in the contract documents.<br><br>Warranty extension not available | **00-1191** |

In close cooperation with Zebra, BARTEC has developed the MC 92 Mobile Computer for global use in potentially explosive areas, based on the successful MC 9000$^{ex}$ range. The device range enables complex applications to be executed, processes to be simplified and productivity boosted. Whereas barcode scanners are used for the classic collection of data, the MC 92 also offers wireless data exchange and direct further processing of data in the field. The MCs are available with a choice of different barcode scanners in order to read 1D, PDF, 2D and DPM (Device Part Marking) barcodes. The selection permits a customised adjustment that also enables barcode scanning at a distance of up to 12 m (long range). In the RFID reader area, a UHF version is also available in addition to the LF and HF versions. The RFID reader is available as an internal solution. Three versions of operating system are available. These are the familiar environment of Windows® Embedded Handheld and Compact, as well as Android, the innovative, most commonly used operating system in the world. This means the user can easily adjust the devices to meet his requirements. The real time data exchange via Wi-Fi or Bluetooth is convenient, saves time and improves work processes. International approvals such as ATEX/IECEx and UL certificates as well as other national approvals such as for Brazil, South Africa, Russia etc., guarantee the worldwide use of the devices. The optimised power management and automatic shutdown via a motion sensor both guarantee long operating times.

**Technical data**

| | |
|---|---|
| Keypad design | 28 numeric keys<br>43 numeric keys with (F) function keys<br>53 alphanumeric keys<br>53 alphanumeric keys with layout for VT emulation |
| Display | 3.7" VGA colour display with 480 x 640 pixel touchscreen |
| Ambient temperature | -20 °C to +40 °C |
| Storage temperature | -40 °C to +70 °C |
| Charge temperature | 0 °C to +40 °C |
| Humidity | 5 % to 95 % (non-condensing) |
| Protection class (EN/IEC 60529) | IP 64 for Type 17-A1A2-... (UL Div 1)<br>IP 54 for Type 17-A1A3-... (ATEX/IECEx Zone 1) |
| Processor | TI OMAC 4430 dual-core® processor/1 GHz |
| Memory | 1 GB/2 GB flash RAM/ROM optionally expanded with SD card (SDHC): up to 32 GB |
| Operating system | Windows® Embedded Handheld 6.5.3<br>Windows® Embedded Compact 7 (CE 7.0)<br>Android 4.4.4 (Kit Kat) with Mobility Extension (Mx) from Zebra |
| Power supply | Lithium-ion battery with 7.4 V/2400 mAh for<br>- Type 17-A1Z0-0001 for MC 92 Type 17-A1A3-... (ATEX/IECEx Zone 1)<br>- Type 17-A1Z0-0002 for MC 92 Type 17-A1A2-... (UL Div. 1)<br>Battery can be changed in the potentially explosive area. |
| Backup battery (installed in the device) | Ni-MH battery (rechargeable)<br>2.4 V/15 mAh |
| Interfaces | RS232 and USB over Single Slot Cradle<br>Ethernet over Ethernet-enable Cradle |
| Application development | PSDK and EMDK for Windows and Android available from Zebra Support website |

**Connection example**




| | |
|---|---|
| Software environment | All applications from Zebra and 3rd party providers (for Zebra MC9200) are compatible with the Version for use in a potentially explosive area of the MC 92NO$^{ex}$-IS.<br>Examples are Wavelink Terminal Emulation, tools and applications from Zebra. |
| Voice and audio | Integrated microphone,<br>loudspeaker and 2.5 mm headset jack |
| Voice communication | Voice over IP<br>Voice Directed Picking<br>Tech Speech Pro approved, speech-based applications through third party provider VDP Clients<br>Push-To-Talk, Workforce Connect PTT Express (client included) with headset and hands free mode, wired headset support |
| Radio standard | Win CE/WEH: IEEE 802.11 a/b/g/n/d/h/i<br>Android: IEEE 802.11 a/b/g/n/d/h/i/k/r |
| Data rate | IEEE802.11a: up to 54 Mbit/Sec.<br>IEEE802.11b: up to 11 Mbit/Sec.<br>IEEE802.11g: up to 54 Mbit/Sec.<br>IEEE802.11n: up to 65 Mbit/Sec. |
| Frequency range (country-related) | IEEE802.11a: 5 GHz<br>IEEE802.11b: 2.4 GHz<br>IEEE802.11g: 2.4 GHz<br>IEEE802.11n: 2.4 GHz and 5 GHz |
| Security | WPA2 Enterprise, 802.1x; EAP-TLS; TTLS (CHAP, MS-CHAP, MS-CHAPv2, PAP or MD5); PEAP (TLS, MSCHAPv2, EAP-GTC); LEAP, EAP-FAST (TLS, MS-CHAPv2, EAP-GTC), WPA2/ AES, CCX v4 and IPv6 |
| Output power | 210 mW |

| | |
|---|---|
| Antenna | Integrated in the device<br>Note: The respective radio frequencies and usable channels depend on specific country regulations. |
| Bluetooth (WPAN) | Microsoft stack (preinstalled as standard)<br>Bluetooth Version 2.1 with EDR<br>Stonestreet stack (may be optionally activated)<br>Bluetooth 4.0 Plus BLE or WBA<br>Android devices: Bluetooth version 4.0<br>with low energy consumption |
| Scope of delivery | 1 x MC 92NO$^{ex}$, 1 x battery, 1 x wrist strap,<br>1 x stylus,1 x manual |
| Optional accessories for use | in potentially explosive atmospheres:<br>Battery<br>SD card<br>Screen protector<br>Spare keypad (self-assembly)<br>Holster<br>Stylus<br>Wrist strap<br><br>outside potentially explosive atmospheres:<br>Single Slot Cradle<br>4-slot Ethernet cradle<br>Battery charger<br>4-slot charger<br>Vehicle charger |

| Application areas | Features | Technology |
|---|---|---|
| Oil and gas industry<br>Petrochemical and chemicals<br>Pharmaceuticals industry<br>Logistics | Most robust device in its class<br>Integrated barcode or RFID reader (LF, HF, UHF)<br>Optimised power management and long operating times | 3.7" VGA colour display with touchscreen, legible in sunlight<br>High performance dual core processor<br>"Hot swap" battery change (can be changed in potentially explosive atmospheres) |

**Available barcode scanning options**

| Barcode options | | Reading range | Operating systems (available) | |
|---|---|---|---|---|
| 1D barcodes | | | Windows CE/WEH | Android 4.4.4 |
| SE965-SR | 1D Standard Range Scan Engine | up to approx. 1.3 m | √ | √ |
| SE1524-ER | 1D Extended Range Scan Engine | up to approx. 13.7 m | √ | √ |
| 1D/2D barcodes | | | | |
| SE4500-SR | 1D-/2D Omnidirectional Imager Engine | up to approx. 60 cm | √ | √ |
| DPM/1D-/2D barcodes | | | | |
| SE4500-HD | DPM/1D-/2D Imager Engine | up to approx. 28 cm | √ | - |

Detailed information about barcode scanning can be found in the user manual or "Integrator Guide" from Zebra Technologies. The maximum reading range of the various scan engines depends on the type of barcode used, the print quality and the module width (in mm).

| Supported 1D barcodes 1D symbol/codes | | Supported 2D barcodes (only supports the Imager version) 2D symbol/codes | | DPM Codes (1D-/2D Symbol/Codes) mounted on: |
|---|---|---|---|---|
| Code 11 | Code 39 | Aztec | Micro PDF-417 | Metal |
| Code 93 | Code 128 | Australian 4-state | Maxi Code | Plastic |
| Codabar | Coupon Code | Canadian 4-state | PDF-417 | Glass |
| Chinese 2 of 5 | Discrete 2 of 5 | Composite AB | QR Code | |
| Interleaved 2 of 5 | Trioptic 39 | Composite C | TLC39 | Method: |
| EAN-8 | EAN-13 | Data Matrix | UK 4-state | Dot peening |
| UPCA | UPCE | Dutch Kix | US Planet | Laser cut |
| UPC/EAN additions | MSI | Japanese 4-state | US Postnet | Cast |
| Webcode | RSS-14 | PDF-417 Macro | USPS 4-state (US4CB) | Punched |
| RSS Limited | RSS Expanded | (Macro) Micro PDF-417 | microQR | Moulded |

The MC 92NO$^{ex}$-G Mobile Computer with its handgrip is a robust unit for secure barcode scanning in Potentially explosive areas. The scan trigger is ideally integrated in the hand-grip, enabling barcodes to be conveniently scanned. The integrated radio module ensures real time data exchange with the host system. The MC 92NO$^{ex}$-G combines the advantages of the Microsoft or Android platform with the strengths of the TI OMAC 4430 dual core® processor with 1 GHz. The large, easy to read 3.7" VGA colour display is equipped with touchscreen technology. The device operates using the IEEE 802.11 radio standards.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex q [ib] IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C |
| Certification | PTB 13 ATEX 2019X |
| Marking IECEx | Ex q [ib] IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C |
| Certification | IECEx PTB 13.0043X |
| Marking UL | Class I Div. 1 Group C, D T4 Ex ia<br>Class II Div. 1 Group F, G<br>Class III |
| Certification | UL File E226123 |

Other approvals and certificates, see www.bartec.de

### Technical data

| | | |
|---|---|---|
| Dimensions (H x W x D) | 231 mm x 91 mm x 196 mm | |
| Weight (incl. battery) | Type 17-A1A3-...<br>approx. 1060 g | (ATEX/IECEx Zone 1) |
| | Type 17-A1A2-...<br>approx. 830 g | (UL Division 1) |

### Options for data capture

| | |
|---|---|
| **SE965-SR** | 1D scan engine with standard range |
| **SE1524-ER** | 1D scan engine with extended range |
| **SE4500-SR** | Omnidirectional 1D/2D engine for image capture of 1D and 2D symbols |
| **SE4500-HD** | 1D/2D DPM engine for image capture of several DPMs on metal, plastic and glass surfaces,including dot peening, laser etching, moulding, punching or fusing procedures |

### Ordering information

| Approval | Code no. | Barcode scanning | Code no. | Version | Code no. | Operating system | Code no. |
|---|---|---|---|---|---|---|---|
| UL Div. 1 | **2** | SE 965-SR<br>1D Standard Range Scan Engine | **A** | 28 keys, numeric | **A** | Windows® Embedded Handheld 6.5.3 | **Q** |
| | | SE 1524-ER<br>1D Extended Range Scan Engine | **J** | 43 keys, numeric with (F) function keys | **F** | Windows® Embedded Compact 7 (CE 7.0) | **Y** |
| ATEX/IECEx Zone 1 | **3** | SE 4500-SR<br>1D /2D Imager Engine | **3** | 53 keys, alphanumeric | **E** | Android 4.4.4 | **A** |
| | | SE 4500-HD**<br>1D /2D Imager DPM | **5** | 53 keys, alphanumeric with layout for VT emulation* | **G** | | |

**Complete order no. 17-A1A ☐ -0G ☐ 0/SY ☐ ☐ A600**
**MC 92NO$^{ex}$-G including Lithium-ion battery** (1 piece).

* Emulation software is not included with delivery.
** only available with Windows CE/WEH operating system

Note: You will find the accessories with order details on the accessories pages.
Please insert correct code. Technical data subject to change without notice.

The MC 92NO$^{ex}$-K Mobile Computer is a robust unit for secure barcode scanning in potentially explosive areas. The scan trigger is positioned so that barcodes can be scanned with the greatest convenience. The integrated radio module ensures real time data exchange with the host system. The MC 92NO$^{ex}$-K combines the advantages of the Microsoft or Android platform with the strengths of the TI OMAC 4430 dual core® processor with 1 GHz. The large, easy to read 3.7" VGA colour display is equipped with touchscreen technology. The device operates using the IEEE 802.11 radio standards.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex q [ib] IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C |
| Certification | PTB 13 ATEX 2019X |
| Marking IECEx | Ex q [ib] IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C |
| Certification | IECEx PTB 13.0043X |
| Marking UL | Class I Div. 1 Group C, D T4 Ex ia<br>Class II Div. 1 Group F, G<br>Class III |
| Certification | UL File E226123 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | | |
|---|---|---|
| Dimensions (H x W x D) | 231 mm x 91 mm x 59 mm | |
| Weight (incl. battery) | Type 17-A1A3-...<br>approx. 980 g | (ATEX/IECEx Zone 1) |
| | Type 17-A1A2-...<br>approx. 700 g | (UL Division 1) |

### Options for data capture

| | |
|---|---|
| **SE965-SR** | 1D scan engine with standard range |
| **SE4500-SR** | Omnidirectional 1D/2D engine for image capture of 1D and 2D symbols |
| **SE4500-HD** | 1D/2D DPM engine for image capture of several DPMs on metal, plastic and glass surfaces,including dot peening, laser etching, moulding, punching or fusing procedures |



### Ordering information

| Approval | Code no. | Barcode scanning | Code no. | Version | Code no. | Operating system | Code no. |
|---|---|---|---|---|---|---|---|
| UL Div. 1 | **2** | SE 965-SR 1D-Standard Range Scan Engine | **A** | 28 keys, numeric | **A** | Windows® Embedded Handheld 6.5.3 | **Q** |
| | | SE 4500-SR 1D-/2D Imager Engine | **3** | 43 keys, numeric with (F) function keys | **F** | Windows® Embedded Compact 7 (CE 7.0) | **Y** |
| ATEX/IECEx Zone 1 | **3** | | | 53 keys, alphanumeric | **E** | | |
| | | SE 4500-HD** 1D-/2D Imager DPM | **5** | 53 keys, alphanumeric with layout for VT emulation* | **G** | Android 4.4.4 | **A** |

**Complete order no. 17-A1A ☐ -0K ☐ 0/SY ☐ ☐ A600**
**MC 92NO$^{ex}$-K including Lithium-ion battery** (1 piece).

* Emulation software is not included with delivery.
** only available with Windows CE/WEH operating system

Note: You will find the accessories with order details on the accessories pages.
Please insert correct code. Technical data subject to change without notice.

The unique concept enables barcode scanning and RFID technology to be combined in this device. Thanks to the modular keypad and colour display, data can be processed directly on the Mobile Computer. The data are transmitted to other areas of the company via WiFi or Bluetooth, so that the data are available for further processing in real time. As software for the individual application development, BARTEC offers a demo version in Open Source and an SDK file. The SDK file is available for the programming language C# and includes all necessary resources for specific application development within Windows® operating systems. The Open Source demo is used firstly to demonstrate the reading and writing of RFID tags. It also serves as a good basis for the application developer with respect to customised programming of the readers. The MC 92NO$^{ex}$-IS can be retrofitted in the factory with the RFID option. It cannot be retrofitted by the customer.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex q [ib] IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C<br>Ⓔx II 2G Ex q [ib] IIB T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C<br>(with mounted antenna) |
| Certification | PTB 13 ATEX 2019X |
| Marking IECEx | Ex q [ib] IIC T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C<br>Ex q [ib] IIB T4 Gb<br>-20 °C ≤ $T_a$ ≤ +40 °C<br>(with mounted antenna) |
| Certification | IECEx PTB 13.0043X |
| Marking UL | Class I Div. 1 Group C, D T4 Ex ia<br>Class II Div. 1 Group F, G<br>Class III |
| Certification | UL File E226123 |

Other approvals and certificates, see www.bartec.de

**Technical data**

| | |
|---|---|
| Dimensions (H x W x D) | MC 92NO$^{ex}$-G with internal RFID<br>234 mm x 91 mm x 196 mm<br>with internal RFID + mounted antenna<br>273 mm x 111 mm x 196 mm<br>MC 92NO$^{ex}$-K with internal RFID<br>234 mm x 91 mm x 59 mm<br>with internal RFID + mounted antenna<br>254 mm x 111 mm x 117 mm |
| Weight<br>(including battery, depending on version and configuration) | MC 92NO$^{ex}$-G with internal RFID<br>approx. 1060 g*<br>approx. 830 g**<br>with internal RFID + mounted antenna<br>approx. 1040 g*<br>approx. 910 g**<br>MC 92NO$^{ex}$-K with internal RFID<br>approx. 980 g*<br>approx. 700 g**<br>with internal RFID + mounted antenna<br>approx. 1060 g*<br>approx. 780 g** |

* for Type 17-A1A3-... (ATEX/IECEx Zone 1)
** for Type 17-A1A2-... (UL Division 1)

| | |
|---|---|
| Operating system | Windows® Embedded Handheld 6.5.3 |

Note
Android 4.4.4 (KitKat) and Windows® Embedded Compact 7 (CE 7.0) are not supported. Combination with the scan engine is not supported.

### LF reader

| | |
|---|---|
| Supported standards | HITAG S256, HITAG S 2 kbit, HITAG 1, HITAG 2, Q5, ATA5567, EM4305, HDX - RO, HDX (Multipage), EM4xxx (UNIQUE), FDX-B, BDE, ISO 117845, ISO Animal, EM 4450/4550, EM4xxx (UNIQUE), FDX-B, BDE, ISO 11784/5, ISO Animal |
| Read/write range | approx. 5 cm |
| Antenna | Ferrite antenna or antenna with air coil |
| Frequency range | 125/134 kHz |

### HF reader

| | |
|---|---|
| Supported standards | HF ISO 15693 e.g. I-Code SLI, Tag-IT HFI, my-d vicinity, STM LRI512<br>HF ISO 14443 e.g. mifare, mifare Ultra Light, my-d proximity, I-Code 1 (optional) |
| Read/write range<br>HF ISO 15693<br>HF ISO 14443 | <br>approx. 7 cm to 12 cm<br>approx. 1 cm to 6 cm<br>(with tag in credit card format) |
| Antenna | integrated |
| Frequency range | 13.56 MHz |

### UHF reader

| | | |
|---|---|---|
| Supported standards | | EPC Class 1 Gen 2 tag |
| Read/write range | | approx. 30 cm to 50 cm |
| Antenna | | integrated |
| Frequency range | Europe (EU)<br>USA (US) | 865.6 to 867.5 MHz (EN 302 208)<br>902.0 to 928.0 MHz<br>(FCC CFR 47 Part 15.247) |

### UHF reader with mounted antenna

| | | |
|---|---|---|
| Supported standards | | EPC Class 1 Gen 2 tag |
| Read/write range | | approx. 150 cm |
| Antenna | | external (UPM Raflatac) |
| Frequency range | Europe (EU)<br>USA (US) | 865.6 to 867.5 MHz (EN 302 208)<br>902.0 to 928.0 MHz<br>(FCC CFR 47 Part 15.247) |

### Ordering information

| Approval | Code no. | RFID internal options (without barcode scanning option) | Code no. | Version | Code no. |
|---|---|---|---|---|---|
| UL Div. 1 | **2** | RFID LF reader | **1** | 28 keys, numeric | **A** |
| | | RFID HF reader | **3** | 43 keys, numeric with (F) function keys | **F** |
| | | RFID UHF (US) reader | **A** | | |
| ATEX/IECEx Zone 1 | **3** | RFID UHF (EU) reader | **B** | 53 keys, alphanumeric | **E** |
| | | RFID UHF (US) reader with mounted antenna | **C** | 53 keys, alphanumeric with layout for VT emulation* | **G** |
| | | RFID UHF (EU) reader with mounted antenna | **D** | | |

**Complete order no.**
**MC 92NO$^{ex}$ including Lithium-ion battery** (1 piece).

**Version MC 92NO$^{ex}$-G** **17-A1A ☐ -RG0 ☐ /SY ☐ QA600**
**Version MC 92NO$^{ex}$-K** **17-A1A ☐ -RK0 ☐ /SY ☐ QA600**

* Emulation software is not included with delivery.

Note: You will find the accessories with order details on the accessories pages.
Please insert correct code. Technical data subject to change without notice.

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | The accessory is approved for:<br>- ATEX: Zone 1 (PTB 13 ATEX 2019 X)<br>- IECEx: Zone 1 (IECEx PTB13.0043X)<br>- UL: Class I, Division 1 (File E226123<br>weitere Zulassungen auf Anfrage | |
| | **Battery**<br>- Lithium-ion battery<br>- 7.4 V/2400 mAh - rechargeable<br>- can be changed in the potentially explosive area<br>- certified in combination with the MC 92NO$^{ex}$ series<br>- compatible with MC 9090$^{ex}$ series | |
| | Version: MC 92NO$^{ex}$-IS<br>Type 17-A1A3-xxxx/xxxxxxxx<br>certified for: ATEX/IECEx - Zone 1 | **17-A1Z0-0001** |
| | Version: MC 92NO$^{ex}$-IS<br>Type 17-A1A2-xxxx/xxxxxxxx<br>certified for: UL Class I Div 1, UL Class II Div 1, UL Class III | **17-A1Z0-0002** |
| | **SD card***<br>- based on the industrial version of ATP<br>- certified in combination with MC 92NO$^{ex}$ series<br>- compatible with the MC 9090$^{ex}$ series<br>- can be changed in the safe area | |
| | Industrial grade SD card with<br>- 2 GB (compatible with MC 9090$^{ex}$ series)<br>- 4 GB (compatible with MC 9090$^{ex}$ series)<br>- 8 GB<br>- 16 GB<br>- 32 GB | **17-28BE-F006/0003**<br>**17-28BE-F006/0004**<br>**17-28BE-F006/0005**<br>**17-28BE-F006/0006**<br>**17-28BE-F006/0007** |
| | * Only use SD cards that have been tested by BARTEC and/or have been certified for this purpose. | |
| | **Spare keypad with blue overlay**<br>- certified in combination with the MC 92NO$^{ex}$ series<br>- compatible with the MC 9090$^{ex}$ series<br>- can be changed in the safe area | |
| | Suitable for use in the potentially explosive area:<br>- ATEX/IECEx Zone 1<br>- UL Class I Div 1, UL Class II Div 1, UL Class III | |
| | Keypad variations<br>- Keypad with 28 numeric keys<br>- Keypad with 43 numeric keys, (F) function keys<br>- Keypad with 53 alphanumeric keys<br>- Keypad with 53 alphanumeric keys for VT emulation* | **05-0080-0438**<br>**05-0080-0440**<br>**05-0080-0441**<br>**05-0080-0442** |
| | * Emulation software is not pre-installed on the devices. | |
| | **Screen protector**<br>- certified in combination with MC 92NO$^{ex}$ series<br>- compatible with MC 9090$^{ex}$ series<br>- can be changed in the safe area<br>- 5 pcs per package | **17-A1Z0-0004** |
| | Suitable for use in the potentially explosive area:<br>- ATEX Zone 1<br>- UL Class I Div 1, UL Class II Div 1, UL Class III | |
| | ** Only use screen protectors that have been tested by BARTEC and/or have been certified for this purpose. | |

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Leather holster**<br>- certified in combination with the MC 92NO$^{ex}$ series<br>- compatible with the MC 9090$^{ex}$ series<br>- can be changed in the safe area<br><br>Suitable for use in the potentially explosive area:<br>- ATEX/IECEx Zone 1<br>- UL Class I Div 1, UL Class II Div 1, UL Class III | |
| | for MC 92NO$^{ex}$-K RFID* (Type 17-A1Ax-RKxx/xxxxxxxx) | **03-9809-0023** |
| | for MC 92NO$^{ex}$-G RFID* (Type 17-A1Ax-RGxx/xxxxxxxx) | **03-9809-0024** |
| | for MC 92NO$^{ex}$-G und MC 92NO$^{ex}$-K (Type 17-A1Ax-0Gxx/xxxxxxxx)<br>including belt clip/rotating part | **03-9809-0026** |
| | * We recommend the use of a shoulder strap to wear and fasten the holster. | |
| | **Belt clip/rotating part** for holster | **03-9809-0027** |
| | **Shoulder strap** suitable for leather carry case for the Agile tablet PC series and MC 92 mobile computers<br>- ergonomic and soft shoulder pad<br>- adjustable strap length | **03-9829-0091** |
| | **Stylus**<br>Suitable for use in the potentially explosive area:<br>- ATEX/IECEx Zone 1<br>- UL Class I Div 1, UL Class II Div 1, UL Class III | |
| | for MC 92NO$^{ex}$-K<br>- 10 pcs per package - colour: yellow<br>- 3 pcs per package, with rubber loop - colour: grey | **03-9849-0069**<br>**03-9849-0039** |
| | for MC 92NO$^{ex}$-G<br>- 3 pcs per package - Colour: grau<br>- 10 pcs per package - Colour: gelb | **03-9849-0043**<br>**03-9849-0070** |
| | available individual parts<br>- 3 pcs per package, with spare rubber loop | **03-9849-0047** |
| | **Wrist strap**<br>Suitable for use in the potentially explosive area:<br>- ATEX/IECEx Zone 1<br>- UL Class I Div 1, UL Class II Div 1, UL Class III | |
| | for MC 92NO$^{ex}$-G<br>- 3 pcs per package | **03-9849-0068** |
| | **Hand strap** for MC 92NO$^{ex}$-K<br>- 3 pcs per package | **03-9849-0067** |
| | **Holder for hand strap** for MC 92NO$^{ex}$-K<br>- 1 pcs per package | **03-9849-0056** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Docking Station**<br>Docking station for communication with the PC<br>- to charge the Mobile Computer<br>- to charge a spare battery<br>- to synchronise data via RS232 or USB<br>- to install software | **05-0079-0018** |
| | Includes:<br>- Single slot cradle with charging shaft for Lithium-ion battery, USB master and slave connection | **03-9915-0003** |
| | - RS232 connecting cable Cradle <-> PC | **03-9919-0004** |
| | - USB connecting cable Cradle <-> PC | **03-9919-0008** |
| | - Power pack AC 100 - 240 V, DC 12 V, 16 A | **03-9911-0042** |
| | - DC connecting cable (Power supply to Cradle) | **03-9919-0028** |
| | - AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | Please order the individual parts required separately:<br>AC power cable - 3-wire - for the specific country | **03-9609-0021** |
| | - AC power cable (US) - 3-wire<br>EC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | |
| | **4-slot Ethernet Docking Station**<br>4-slot docking station for communication via Ethernet<br>- to charge a maximum of 4 Mobile Computers over Ethernet<br>- to synchronise data<br>- to install software<br>- only compatible with MC 92NO$^{ex}$ series | |
| | Note<br>MC 92NO$^{ex}$ with Android operating systems do not support any Ethernet communication. | |
| | Please order the individual parts required separately:<br>- 4-slot Ethernet cradle | **03-9849-0026** |
| | - Power pack for 4-slot cradles: AC 90 - 264 V, DC 12 V, 9 A | **03-9911-0043** |
| | - DC connecting cable for power supply from the power pack to the 4-slot cradle | **03-9919-0029** |
| | AC power cable - 3 wire - for the specific country<br>- AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | - AC power cable (US) - 3-wire<br>IEC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | **03-9609-0021** |
| | **4-slot Docking Station**<br>4-slot docking station **without** communication to the Ethernet or PC<br>- to charge a maximum of 4 Mobile Computers | |
| | Please order the individual parts required separately:<br>- 4-slot charger (charge only) | **03-9849-0052** |
| | - Power pack for 4-slot cradles: AC 90 - 264 V, DC 12 V, 9 A | **03-9911-0043** |
| | - DC connecting cable for power supply from the power pack to the 4-slot cradle | **03-9919-0029** |
| | AC power cable - 3-wire - for the specific country<br>- AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | - AC power cable (US) - 3-wire<br>IEC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | **03-9609-0021** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

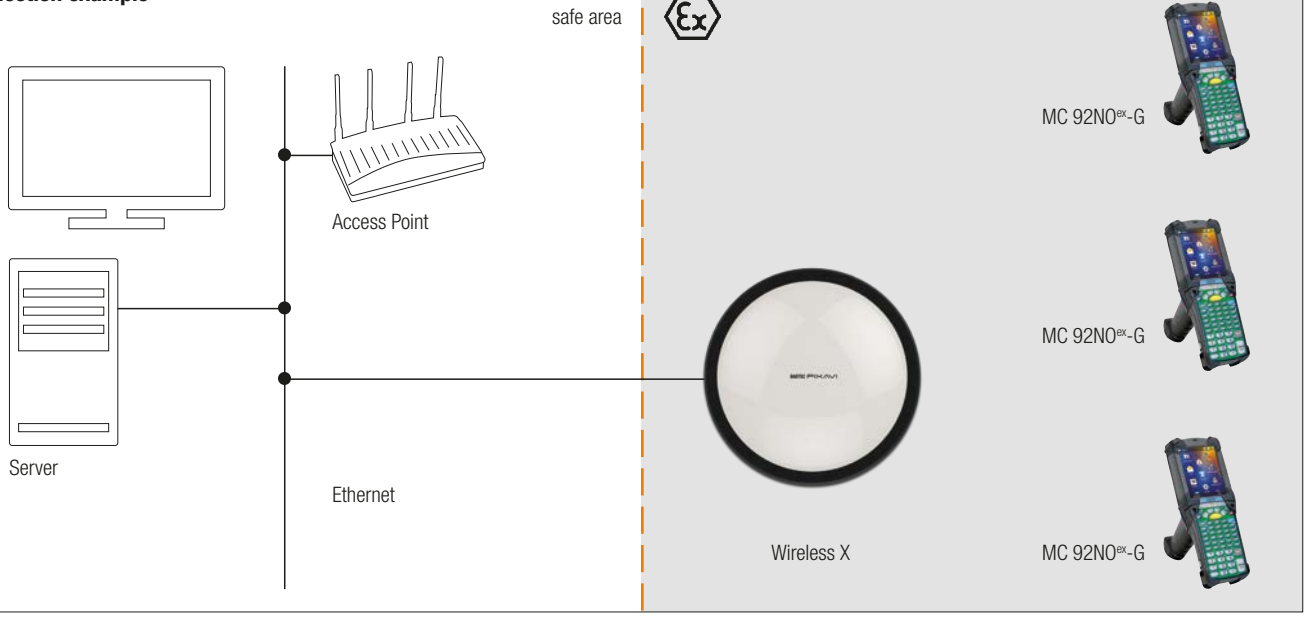
| Illustration | Description | Order no. |
|---|---|---|
| | **4-slot Battery charger**<br>- to charge a maximum of 4 batteries | |
| | Please order the individual parts required separately:<br>- 4-slot battery charger | **03-9849-0062** |
| | - Power pack for 4-slot battery charger:<br>AC 100 to 240 V, DC 15 V, 5 A | **03-9911-0043** |
| | - DC connecting cable for power supply from the power pack to the 4-slot battery charger | **03-9919-0030** |
| | AC power cable - 3-wire – for the specific country<br>- AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | - AC power cable (US) - 3-wire<br>IEC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | **03-9609-0021** |
| | **Car charging options**<br>- to charge a Mobile Computer | |
| | - car charging cable - 12 V, requires cable adapter for car charging cable | **03-9914-0008** |
| | - car charging cable - 24 V, requires cable adapter for car charging cable | **03-9914-0009** |
| | Please order the individual parts required separately:<br>- Cable adapter for car charging cable | **03-9919-0019** |
| | **Further accessories** for the MC 9200 range are available from Zebra<br>Homepage: https://www.zebra.com/de/de.html | |
| | Accessories page:<br>https://www.zebra.com/gb/en/products/accessories/mobile-computer.html | |

In close cooperation with Zebra, BARTEC has developed the MC 92 Mobile Computer for global use in potentially explosive areas, based on the successful MC 9000$^{ex}$ range. The device range enables complex applications to be executed, processes to be simplified and productivity boosted. Whereas barcode scanners are used for the classic collection of data, the MC 92 also offers wireless data exchange and direct further processing of data in the field. The MCs are available with a choice of different barcode scanners in order to read 1D, PDF, 2D and DPM (Device Part Marking) barcodes. The selection permits a customised adjustment that also enables barcode scanning at a distance of up to 12 m (long range). In the RFID reader area, a UHF version is also available in addition to the LF and HF versions. The RFID reader is available as internal solution without barcode scanning. Three versions of operating system are available. These are the familiar environment of Windows® Embedded Handheld and Compact, as well as Android, the innovative, most commonly used operating system in the world. This means the user can easily adjust the devices to meet his requirements. The real time data exchange via Wi-Fi or Bluetooth is convenient, saves time and improves work processes. International approvals such as ATEX/IECEx and UL certificates as well as other national approvals such as for Brazil, South Africa, Russia etc., guarantee the worldwide use of the devices. The optimised power management and automatic shutdown via a motion sensor both guarantee long operating times.

**Technical data**

| | |
|---|---|
| Keypad design | 28 numeric keys<br>43 numeric keys with (F) function keys<br>53 alphanumeric keys<br>53 alphanumeric keys with layout for VT emulation |
| Display | 3.7" VGA colour display with 480 x 640 pixel touchscreen |
| Ambient temperature | -20 °C to +40 °C |
| Storage temperature | -40 °C to +70 °C |
| Charge temperature | 0 °C to +40 °C |
| Humidity | 5 % to 95 % (non-condensing) |
| Protection class (EN/IEC 60529) | IP 64 |
| Processor | TI OMAC 4430 dual-core® Processor/1 GHz |
| Memory | 1 GB/2 GB flash RAM/ROM optionally expanded with SD card (SDHC): up to 32 GB |
| Operating system | Windows® Embedded Handheld 6.5.3<br>Windows® Embedded Compact 7 (CE 7.0)<br>Android 4.4.4 (Kit Kat) with Mobility Extension (Mx) from Zebra |
| Power supply | Lithium-ion battery B7-A2Z0-0044 mit 7.4 V/2600 mAh<br>Battery can changed in the safe area. |
| Backup battery (installed in the device) | Ni-MH battery (rechargeable)<br>2.4 V/15 mAh |
| Interfaces | RS232 and USB over Single Slot Cradle<br>Ethernet over Ethernet-enable Cradle |
| Application development | PSDK and EMDK for Windows and Android available from Zebra Support website |
| Software environment | All applications from Zebra and 3rd party providers (for Zebra MC9200) are compatible with the Version for use in a potentially explosive area of the MC 92NO$^{ex}$-NI.<br>Examples are Wavelink Terminal Emulation, tools and applications from Zebra. |
| Voice and audio | Integrated microphone, loudspeaker and 2.5 mm headset jack |

**Connection example**




| | |
|---|---|
| Voice communication | Voice over IP<br>Voice Directed Picking<br>Tech Speech Pro approved, speech-based applications through third party provider VDP Clients (only with Windows operating system)<br>Push-To-Talk, Workforce Connect PTT Express (client included) with headset and hands free mode, wired headset support |
| Radio standard | Win CE/WEH: IEEE 802.11 a/b/g/n/d/h/i<br>Android: IEEE 802.11 a/b/g/n/d/h/i/k/r |
| Data rate | IEEE802.11a: up to 54 Mbit/Sec.<br>IEEE802.11b: up to 11 Mbit/Sec.<br>IEEE802.11g: up to 54 Mbit/Sec.<br>IEEE802.11n: up to 65 Mbit/Sec. |
| Frequency range (country-related) | IEEE802.11a: 5 GHz<br>IEEE802.11b: 2.4 GHz<br>IEEE802.11g: 2.4 GHz<br>IEEE802.11n: 2.4 GHz and 5 GHz |
| Security | WPA2 Enterprise, 802.1x; EAP-TLS; TTLS (CHAP, MS-CHAP, MS-CHAPv2, PAP or MD5); PEAP (TLS, MSCHAPv2, EAP-GTC); LEAP, EAP-FAST (TLS, MS-CHAPv2, EAP-GTC), WPA2/AES, CCX v4 and IPv6 |
| Output power | 210 mW |

| | |
|---|---|
| Antenna | Integrated in the device<br>Note: The respective radio frequencies and usable channels depend on specific country regulations. |
| Bluetooth (WPAN) | Microsoft stack (preinstalled as standard)<br>Bluetooth Version 2.1 with EDR<br>Stonestreet stack (may be optionally activated)<br>Bluetooth 4.0 Plus BLE or WBA<br>Android devices: Bluetooth version 4.0 with low energy |
| Scope of delivery | 1 x MC 92NO$^{ex}$, 1 x battery, 1 x wrist strap, 1 x stylus, 1 x manual |
| Optional accessories for use | in potentially explosive atmospheres:<br>Battery<br>SD card<br>Screen protector<br>Spare keypad (self-assembly)<br>Holster<br>Stylus<br>Wrist strap<br><br>outside potentially explosive atmospheres:<br>Single Slot Cradle<br>4-slot Ethernet cradle<br>Battery charger<br>4-slot charger<br>Vehicle charger |

| Application areas | Features | Technology |
|---|---|---|
| Oil and gas industry<br>Petrochemical and chemicals<br>Pharmaceuticals industry<br>Logistics | Most robust device in its class<br>Integrated barcode or RFID reader (LF, HF, UHF)<br>Optimised power management and long operating times | 3.7" VGA colour display with touchscreen, legible in sunlight<br>High performance dual core processor<br>"Hot swap" battery change (in the safe area) |

**Available barcode scanning options**

| Barcode options | | Reading range | Operating systems (available) | |
|---|---|---|---|---|
| 1D barcodes | | | Windows CE/WEH | Android 4.4.4 |
| SE965-SR | 1D Standard Range Scan Engine | up to approx. 1.3 m | √ | √ |
| SE1524-ER | 1D Extended Range Scan Engine | up to approx. 13.7 m | √ | √ |
| 1D/2D barcodes | | | | |
| SE4500-SR | 1D/2D Omnidirectional Imager Engine | up to approx. 60 cm | √ | √ |
| SE4750-SR | 1D/2D Omnidirectional Imager Engine | up to approx. 88 cm | √ | √ |
| SE4750-MR | 1D/2D Omnidirectional Middle Range Imager Engine | up to approx. 4.4 m | √ | √ |
| SE4600-LR | 1D/2D Omnidirectional Long Range Imager Engine | up to approx. 9.1 m | √ | - |
| DPM/1D/2D barcodes | | | | |
| SE4500-HD | DPM/1D/2D Imager Engine | up to approx. 28 cm | √ | - |

Detailed information about barcode scanning can be found in the user manual or "Integrator Guide" from Zebra Technologies. The maximum reading range of the various scan engines depends on the type of barcode used, the print quality and the module width (in mm).

| Supported 1D barcodes 1D symbol/codes | | Supported 2D barcodes (only supports the Imager version) 2D symbol/codes | | DPM Codes (1D-/2D Symbol/Codes) mounted on: |
|---|---|---|---|---|
| Code 11 | Code 39 | Aztec | Micro PDF-417 | Metal |
| Code 93 | Code 128 | Australian 4-state | Maxi Code | Plastic |
| Codabar | Coupon Code | Canadian 4-state | PDF-417 | Glass |
| Chinese 2 of 5 | Discrete 2 of 5 | Composite AB | QR Code | |
| Interleaved 2 of 5 | Trioptic 39 | Composite C | TLC39 | Method: |
| EAN-8 | EAN-13 | Data Matrix | UK 4-state | Dot peening |
| UPCA | UPCE | Dutch Kix | US Planet | Laser cut |
| UPC/EAN additions | MSI | Japanese 4-state | US Postnet | Cast |
| Webcode | RSS-14 | PDF-417 Macro | USPS 4-state (US4CB) | Punched |
| RSS Limited | RSS Expanded | (Macro) Micro PDF-417 | microQR | Moulded |

The MC 92NO$^{ex}$-G Mobile Computer with its handgrip is a robust unit for secure barcode scanning in potentially explosive areas. The scan trigger is ideally positioned on the handgrip, enabling barcodes to be conveniently scanned. The integrated radio module ensures real time data exchange with the host system. The MC 92NO$^{ex}$-G combines the advantages of the Microsoft or Android platform with the strengths of the TI OMAC 4430 dual core® processor with 1 GHz. The large, easy to read 3.7" VGA colour display is equipped with touchscreen technology. The device operates using the IEEE 802.11 radio standard.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 3G Ex ic IIC T6 Gc<br>Ⓔx II 3D Ex ic IIIB T80°C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C |
| Certification | EPS 14 ATEX 1 782 X |
| Marking IECEx | Ex ic IIC T6 Gc<br>Ex ic IIIB T80°C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IECEx EPS 14.0100X |
| Marking UL | Class I Div 1 Group C, D T4 Ex ia<br>Class II Div 1 Group F, G<br>Class III |
| Certification | UL File E321557 Vol. 1 Sec. 5 |
| Other approvals and certificates, see www.bartec.de | |

### Options for data capture

| | |
|---|---|
| **SE965-SR** | 1D Scan Engine with Standard Range |
| **SE1524-ER** | 1D Scan Engine with extended Range |
| **SE4500-SR** | Omnidirectional 1D/2D Engine for Image Capture of 1D and 2D symbols |
| **SE4750-SR** | Omnidirectional 1D/2D Engine for Image Capture of 1D and 2D symbols |
| **SE4750-MR** | Omnidirectional 1D/2D Engine for Image Capture of 1D and 2D symbols with medium range |
| **SE4600-LR** | Omnidirectional 1D/2D Engine for Image Capture of 1D and 2D symbols with extended range |
| **SE4500-HD** | 1D/2D DPM Engine for Image Capture of several DPMs on metal, plastic and glass surfaces, including dot peening, laser etching, moulding, punching or fusing procedures |

### Technical data

| | |
|---|---|
| Dimensions (H x W x D) | 231 mm x 91 mm x 196 mm |
| Weight (incl. battery) | approx. 780 g |



### Ordering information

| Barcode scanning | | Code no. |
|---|---|---|
| SE 965-SR | 1D Standard Range Scan Engine | **A** |
| SE 1524-ER | 1D Extended Range Scan Engine | **J** |
| SE 4500-SR | 1D/2D Imager Engine | **3** |
| SE 4750-SR | 1D/2D Imager Engine | **L** |
| SE 4750-MR | 1D/2D Middle Range Imager | **M** |
| SE 4500-HD** | 1D/2D Imager DPM | **5** |
| SE 4600-LR** | 1D/2D Long Range Imager | **9** |

| Version | Code no. |
|---|---|
| 28 keys, numeric | **A** |
| 43 keys, numeric with (F)-function keys | **F** |
| 53 keys, alphanumeric | **E** |
| 53 keys, alphanumeric with layout for VT emulation* | **G** |

| Operating system | Code no. |
|---|---|
| Windows® Embedded Handheld 6.5.3 | **Q** |
| Windows® Embedded Compact 7 (CE 7.0) | **Y** |
| Android 4.4.4 | **A** |

**Complete order no. B7-A2A4-0G ☐ 0/SY ☐ ☐ A60**
**MC 92NO$^{ex}$-G including Lithium-ion battery** (1 piece).

* Emulation software is not included with delivery.
** only with Windows CE/WEH operating system available.

Note: You will find the accessories with order details on the accessories pages.
Please insert correct code. Technical data subject to change without notice.

The MC 92NO$^{ex}$-K Mobile Computer is a robust unit for secure barcode scanning in potentially explosive atmospheres. The scan trigger is positioned so that barcodes can be scanned with the greatest convenience. The integrated radio module ensures real time data exchange with the host system. The MC 92NO$^{ex}$-K combines the advantages of the Microsoft or Android platform with the strengths of the TI OMAC 4430 dual core® processor with 1 GHz. The large, easy to read 3.7" VGA colour display is equipped with touchscreen technology. The device operates using the IEEE 802.11 radio standard.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 3G Ex ic IIC T6 Gc<br>Ⓔx II 3D Ex ic IIIB T80°C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C |
| Certification | EPS 14 ATEX 1 782 X |
| Marking IECEx | Ex ic IIC T6 Gc<br>Ex ic IIIB T80°C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C |
| Certification | IECEx EPS 14.0100X |
| Marking UL | Class I Div 2 Group A, B, C, D T6<br>Class II Div 2 Group F, G<br>Class III |
| Certification | UL File E321557 Vol. 1 Sec. 5 |

Other approvals and certificates, see www.bartec.de

### Technical data

| | |
|---|---|
| Dimensions (H x W x D) | 231 mm x 91 mm x 59 mm |
| Weight (incl. battery) | approx. 640 g |

### Options for data capture

| | |
|---|---|
| **SE965-SR** | 1D Scan Engine with Standard Range |
| **SE4500-SR** | Omnidirectional 1D/2D Engine for Image Capture of 1D and 2D symbols |
| **SE4500-HD** | 1D/2D DPM Engine for Image Capture of several DPMs on metal, plastic and glass surfaces, including dot peening, laser etching, moulding, punching or fusing procedures |

### Ordering information

| Barcode scanning | | Code no. | Version | Code no. | Operating system | Code no. |
|---|---|---|---|---|---|---|
| SE 965-SR | 1D Standard Range Scan Engine | **A** | 28 keys, numeric | **A** | Windows® Embedded Handheld 6.5.3 | **Q** |
| SE 4500-SR | 1D/2D Imager Engine | **3** | 43 keys, numeric with (F)-function keys | **F** | Windows® Embedded Compact 7 (CE 7.0) | **Y** |
| SE 4500-HD** | 1D/2D Imager DPM | **5** | 53 keys, alphanumeric | **E** | | |
| | | | 53 keys, alphanumeric with layout for VT emulation* | **G** | Android 4.4.4 | **A** |

**Complete order no. B7-A2A4-0K ☐ 0/SY ☐ ☐ A600**
**MC 92NO$^{ex}$-K including Lithium-ion battery** (1 piece).

* Emulation software is not included with delivery.
** only available with Windows CE/WEH operating system

Note: You will find the accessories with order details on the accessories pages.
Please insert correct code. Technical data subject to change without notice.

The unique concept enables barcode scanning and RFID technology to be combined in this device. Thanks to the modular keypad and colour display, data can be processed directly on the Mobile Computer. The data are transmitted to other areas of the company via WiFi or Bluetooth, so that the data are available for further processing in real time. As software for the individual application development, BARTEC offers a demo version in Open Source and an SDK file. The SDK file is available for the programming language C# and includes all necessary resources for specific application development within Windows® operating systems. The Open Source demo is used firstly to demonstrate the reading and writing of RFID tags. It also serves as a good basis for the application developer with respect to customised programming of the readers. The MC 92NO$^{ex}$-NI can be retrofitted in the factory with the RFID option. It cannot be retrofitted by the customer.

**Explosion protection**

| | |
|---|---|
| Marking ATEX | Ⓔx II 3G Ex ic IIC T4 Gc<br>Ⓔx II 3D Ex ic IIIB T130 °C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C<br><br>Ⓔx II 3G Ex ic IIB T4 Gc<br>Ⓔx II 3D Ex ic IIIB T130 °C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C<br>(with mounted antenna) |
| Certification | EPS 14 ATEX 1 782 X |
| Marking IECEx | Ex ic IIC T4 Gc<br>Ex ic IIIB T130 °C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C<br><br>Ex ic IIB T4 Gc<br>Ex ic IIIB T130 °C Dc IP 64<br>-20 °C ≤ $T_a$ ≤ +50 °C<br>(with mounted antenna) |
| Certification | IECEx EPS 14.0100X |
| Marking UL | Class I Div. 2 Group A, B, C, D T4<br>Class II Div. 2 Group F, G<br>Class III |
| Certification | UL File E321557 Vol. 1 Sec. 5 |

Other approvals and certificates, see www.bartec.de

**Technical data**

| | | |
|---|---|---|
| Dimensions (H x W x D) | MC 92NO$^{ex}$-G<br>with internal RFID<br>234 mm x 91 mm x 196 mm<br><br>with internal RFID + mounted antenna<br>273 mm x 111 mm x 196 mm<br><br>MC 92NO$^{ex}$-K<br>with internal RFID<br>234 mm x 91 mm x 59 mm<br><br>with internal RFID + mounted antenna<br>254 mm x 111 mm x 117 mm | |
| Weight<br>(including battery, depending on version and configuration) | MC 92NO$^{ex}$-G<br>with internal RFID<br>with internal RFID<br>+ mounted antenna<br><br>MC 92NO$^{ex}$-K<br>with internal RFID<br>with internal RFID<br>+ mounted antenna | <br>approx. 780 g<br>approx. 830 g<br><br><br>approx. 640 g<br>approx. 690 g |
| Operating system | Windows® Embedded Handheld 6.5.3 | |

Note
Android 4.4.4 (KitKat) and Windows® Embedded Compact 7 (CE 7.0) are not supported. Combination with the scan engine is not supported.

### LF reader

| | |
|---|---|
| Supported standards | HITAG S256, HITAG S 2 kbit, HITAG 1, HITAG 2, Q5, ATA5567, EM4305, HDX - RO, HDX (Multipage), EM4xxx (UNIQUE), FDX-B, BDE, ISO 117845, ISO Animal, EM 4450/4550, EM4xxx (UNIQUE), FDX-B, BDE, ISO 11784/5, ISO Animal |
| Read/write range | approx. 5 cm |
| Antenna | Ferrite antenna or antenna with air coil |
| Frequency range | 125/134 kHz |

### HF reader

| | |
|---|---|
| Supported standards | HF ISO 15693 e.g. I-Code SLI, Tag-IT HFI, my-d vicinity, STM LRI512<br>HF ISO 14443 e.g. mifare, mifare Ultra Light, my-d proximity, I-Code 1 (optional) |
| Read/write range<br>HF ISO 15693<br>HF ISO 14443 | <br>approx. 5 cm to 6 cm<br>approx. 4 cm to 5 cm<br>(with tag in credit card format) |
| Antenna | integrated |
| Frequency range | 13.56 MHz |

### UHF reader

| | | |
|---|---|---|
| Supported standards | | EPC Class 1 Gen 2 tag |
| Read/write range | | approx. 30 cm to 50 cm |
| Antenna | | integrated |
| Frequency range | Europe (EU)<br>USA (US) | 865.6 to 867.5 MHz (EN 302 208)<br>902.0 to 928.0 MHz<br>(FCC CFR 47 Part 15.247) |

### UHF reader with mounted antenna

| | | |
|---|---|---|
| Supported standards | | EPC Class 1 Gen 2 tag |
| Read/write range | | approx. 150 cm |
| Antenna | | external (UPM Raflatac) |
| Frequency range | Europe (EU)<br>USA (US) | 865.6 to 867.5 MHz (EN 302 208)<br>902.0 to 928.0 MHz<br>(FCC CFR 47 Part 15.247) |

### Ordering information

| RFID internal options (without barcode scanning option) | Code no. |
|---|---|
| RFID LF reader | **1** |
| RFID HF reader | **3** |
| RFID UHF (US) reader | **A** |
| RFID UHF (EU) reader | **B** |
| RFID UHF (US) Reader with mounted antenna | **C** |
| RFID UHF (EU) Reader with mounted antenna | **D** |

| Version | Code no. |
|---|---|
| 28 keys, numeric | **A** |
| 43 keys, numeric with (F)-function keys | **F** |
| 53 keys, alphanumeric | **E** |
| 53 keys, alphanumeric with layout for VT emulation* | **G** |

**Complete order no.**
**MC 92NO$^{ex}$ including Lithium-ion battery** (1 piece).
* Emulation software is not included with delivery.

**Version MC 92NO$^{ex}$-G** **B7-A2A4-RG0** ☐ **/SY** ☐ **QA600**
**Version MC 92NO$^{ex}$-K** **B7-A2A4-RK0** ☐ **/SY** ☐ **QA600**

Note: You will find the accessories with order details on the accessories pages.
Please insert correct code. Technical data subject to change without notice.

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Battery**<br>- Lithium-ion battery<br>- 7.4 V/2600 mAh - rechargeable<br>- can be changed in the safe area<br>- approved in combination with the MC 92NO$^{ex}$ series<br>- compatible with MC 9090$^{ex}$ series | |
| | Version: MC 92NO$^{ex}$-NI<br>Type B7-A2A4-xxxx/xxxxxxxx<br>approved for: ATEX/IECEx Zone 2 and Zone 22<br>UL Class I Div 2, UL Class II Div 2, UL Class III | **B7-A2Z0-0044** |
| | **SD card***<br>- based on the industrial version of ATP<br>- approved in combination with MC 92NO$^{ex}$ series<br>- compatible with the MC 9090$^{ex}$ series<br>- can be changed in the safe area<br>***** SD cards are not laid down in the certificate.<br>The customer can choose any SD card. | |
| | Industrial grade SD cards recommended by BARTEC with | |
| | - 2 GB (compatible with MC 9090$^{ex}$ series) | **17-28BE-F006/0003** |
| | - 4 GB (compatible with MC 9090$^{ex}$ series) | **17-28BE-F006/0004** |
| | - 8 GB | **17-28BE-F006/0005** |
| | - 16 GB | **17-28BE-F006/0006** |
| | - 32 GB | **17-28BE-F006/0007** |
| | **Alternative keypad with green overlay**<br>- approved in combination with the MC 92NO$^{ex}$ series<br>- compatible with the MC 9090$^{ex}$ series<br>- can be changed in the safe area<br>Suitable for use in the potentially explosive area<br>- ATEX/IECEx Zone 2 and Zone 22<br>- UL Class I Div 2, UL Class II Div 2, UL Class III | |
| | Keypad variations | |
| | - Keypad with 28 numeric keys | **05-0080-0577** |
| | - Keypad with 43 numeric keys, (F) function keys | **05-0080-0578** |
| | - Keypad with 53 alphanumeric keys | **05-0080-0579** |
| | - Keypad with 53 alphanumeric keys for VT emulation* | **05-0080-0580** |
| | * Emulation software is not preinstalled on the devices. | |
| | **Screen protector****<br>- approved in combination with MC 92NO$^{ex}$ series<br>- compatible with MC 9090$^{ex}$ series<br>- can be changed in the safe area<br>- 5 pcs per package | **17-A1Z0-0004** |
| | Suitable for use in the potentially explosive area<br>- ATEX/IECEx Zone 2 und 22<br>- UL Class I Div 2, UL Class II Div 2, UL Class III | |
| | ****** Only use screen protectors that have been tested by BARTEC and/or have been certified for this purpose. | |

## Ordering information

### Accessories for use in potentially explosive atmospheres

| Illustration | Description | Order no. |
|---|---|---|
| | **Leather holster**<br>- approved in combination with the MC 92NO$^{ex}$ series<br>- compatible with the MC 9090$^{ex}$ series<br>- can be changed in the safe area<br><br>Suitable for use in the potentially explosive area<br>- ATEX/IECEx Zone 2 and 22<br>- UL Class I Div 2, UL Class II Div 2, UL Class III | |
| | for MC 92NO$^{ex}$-K RFID* (Type B7-A2Ax-RKxx/xxxxxxxx) | **03-9809-0023** |
| | for MC 92NO$^{ex}$-G RFID* (Type B7-A2Ax-RGxx/xxxxxxxx) | **03-9809-0024** |
| | for MC 92NO$^{ex}$-G and MC 92NO$^{ex}$-K (Type B7-A2Ax-0xxx/xxxxxxxx)<br>including belt clip/rotating part | **03-9809-0026** |
| | * We recommend the use of a shoulder strap to wear and fasten the holster. | |
| | **Belt clip/rotating part** for holster | **03-9809-0027** |
| | **Shoulder strap** suitable for leather carry cases for the Agile tablet PC series and MC 92 mobile computers<br>- ergonomic and soft shoulder pad<br>- adjustable strap length | **03-9829-0091** |
| | **Stylus**<br>Suitable for use in the potentially explosive area:<br>- ATEX/IECEx Zone 2 and 22<br>- UL Class I Div 2, UL Class II Div 2, UL Class III | |
| | for MC 92NO$^{ex}$-K<br>- 10 pcs per package - colour: yellow<br>- 3 pcs per package of spare rubber loops - colour: grey | **03-9849-0069**<br>**03-9849-0039** |
| | for MC 92NO$^{ex}$-G<br>- 3 pcs per package - colour: grey<br>- 10 pcs per package - colour: yellow | **03-9849-0043**<br>**03-9849-0070** |
| | available individual parts<br>- 3 pcs per package of spare rubber loops | **03-9849-0047** |
| | **Wrist strap**<br>Suitable for use in the potentially explosive area:<br>- ATEX/IECEx Zone 2 and 22<br>- UL Class I Div 2, UL Class II Div 2, UL Class III | |
| | **Hand strap** for MC 92NO$^{ex}$-G<br>- 3 pcs per package | **03-9849-0068** |
| | **Holder for hand strap** for MC 92NO$^{ex}$-K<br>- 3 pcs per package<br>- 1 3 pcs per package | **03-9849-0067**<br>**03-9849-0056** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Docking Station**<br>Docking station for communication with the PC<br>- to charge the Mobile Computer<br>- to charge a spare battery<br>- to synchronise data via RS232 or USB<br>- to install software | **05-0079-0018** |
| | Includes: | |
| | - Single slot cradle with charging shaft for Lithium-ion battery, USB master and slave connection | **03-9915-0003** |
| | - RS232 connecting cable Cradle <-> PC | **03-9919-0004** |
| | - USB connecting cable Cradle <-> PC | **03-9919-0008** |
| | - Power pack AC 100 to 240 V, DC 12 V, 16 A | **03-9911-0042** |
| | - DC connecting cable (Power supply to Cradle) | **03-3319-0028** |
| | - AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | Please order the individual parts required separately:<br>AC power cable - 3-wire - for the specific country | |
| | - AC power cable (US) - 3-wire<br>IEC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | **03-9609-0021** |
| | **4-slot Ethernet Docking Station**<br>4-slot docking station for communication via the Ethernet<br>- to charge a maximum of 4 Mobile Computer over the Ethernet<br>- to synchronise data<br>- to install software<br>- only compatible with MC 92NO$^{ex}$ series | |
| | Note:<br>MC 92NO$^{ex}$ with Android operating systems do not support any Ethernet communication. | |
| | Please order the individual parts required separately: | |
| | - 4-slot Ethernet cradle | **03-9849-0026** |
| | - Power pack for 4-slot cradles: AC 90 to 264 V, DC 12 V, 9 A | **03-9911-0043** |
| | - DC connecting cable for power supply from the power pack to the 4-slot cradle | **03-9919-0029** |
| | AC power cable - 3 wire - for the specific country | |
| | - AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | - AC power cable (US) - 3-wire<br>IEC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | **03-9609-0021** |
| | **4-slot Docking Station**<br>4-slot docking station **without** communication to the Ethernet or PC<br>- to charge a maximum of 4 Mobile Computers | |
| | Please order the individual parts required separately: | |
| | - 4-slot charger (charge only) | **03-9849-0052** |
| | - Power pack for 4-slot cradles: AC 90 to 264 V, DC 12 V, 9 A | **03-9911-0043** |
| | - DC connecting cable for power supply from the power pack to the 4-slot cradle | **03-9919-0029** |
| | AC power cable - 3-wire - for the specific country | |
| | - AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | - AC power cable (US) - 3-wire<br>IEC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | **03-9609-0021** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **4-slot battery charger**<br>- to charge a maximum of 4 batteries | |
| | Please order the individual parts required separately:<br>- 4-slot battery charger | **03-9849-0062** |
| | - Power pack for 4-slot battery charger:<br>AC 100 - 240 V, DC 15 V, 5 A | **03-9911-0043** |
| | - DC connecting cable for power supply from the power packto the 4-slot battery charger | **03-9919-0030** |
| | AC power cable - 3-wire – for the specific country<br>- AC power cable (EU) - 3-wire<br>IEC connector IEC-60320 C13 socket to C14 plug | **03-9609-0011** |
| | - AC power cable (US) - 3-wire<br>IEC connector IEC-60320 C13 socket to NEMA 5-15P USA plug | **03-9609-0021** |
| | **Car charging options**<br>- to charge a Mobile Computer | |
| | - car charging cable - 12 V, requires cable adapter for car charging cable | **03-9914-0008** |
| | - car charging cable - 24 V, requires cable adapter for car charging cable | **03-9914-0009** |
| | Please order the individual parts required separately:<br>- Cable adapter for car charging cable | **03-9919-0019** |
| | **Further accessories** for the MC 9200 range are available from Zebra<br>Homepage: https://www.zebra.com/de/de.html | |
| | Accessories page:<br>https://www.zebra.com/gb/en/products/accessories/mobile-computer.html | |

# DATA CAPTURE

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Hand-held scanner BCS 3600ex-IS series 284 - 291
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Corded hand-held scanner BCS 3608ex-IS 286
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B7-A2S4-1HP0

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B7-A2S4-2HP1

Accessories for hand-held scanner BCS 3600ex-NI series 296 - 298
for ATEX/IECEx Zone 2/22 and ETL Class I, II, III Div. 2
B7-A2Z0-00..; 17-A1Z0-00..; G7-A0Z0-00..

Universal supply module for hand-held scanner BCS 3600ex-NI series 299
for ATEX/IECEx Zone 2/22 and ETL Class I, II, III Div. 2
B7-A2Z0-0042, B7-A2Z0-0043

RFID X-IS handheld reader for Zone 1/21 300
with Bluetooth LF/HF/UHF Reader
17-A1R4-1700/0000

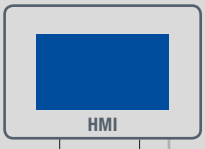
RFID X-NI handheld reader for Zone 2/22 301
with Bluetooth LF/HF/UHF Reader
B7-A2R4-1700/0000

## Zone 1/Div. 1

## Non-Ex

**BCS 3608ex-IS**
17-A1S4-1HP0

**HMI**
with Interfaces




**HMI supply module Ex i**

**Connecting cable**

| | |
|---|---|
| **1.9 m** | 17-A1Z0-0015 |
| **4.5 m** | 17-A1Z0-0016 |
| **2.7 m** | 17-A1Z0-0017 |

**Universal supply module 3608ex-IS**
17-A1Z0-0018

**Universal supply module 3678ex-IS**
17-A1Z0-0019

**BCS 3678ex-IS**
17-A1S4-2HP1

**SMART USB Device BT**
17-71VZ-A020/0000

**Battery**
17-A1Z0-0012

Bluetooth-enabled devices, e. g. **Agile X IS**

### ACCESSORIES

**Leather holster**
17-A1Z0-0024

### PROGRAMMING

via Zebra
123Scan Utility
(USB supported only)

**Programming cable** (optional)

| | | |
|---|---|---|
| | **1.9 m USB** | |
| **IS** | 17-A1Z0-0020 | 12 V |

### CUSTOMER SOLUTION

USB (virtual COM)
RS232
RS422
RS485

### COMMUNICATION + LOADING

**Connecting cable for Zone 1/Div. 1**

| | |
|---|---|
| RS232, 1.9 m | 17-A1Z0-0026 |
| RS232, 4.5 m | 17-A1Z0-0027 |
| USB, 2 m, ext. 12 V | 17-A1Z0-0020 |

**Base station**

| | |
|---|---|
| **IS** | 17-A1Z0-0014 |
| **NI** | G7-A0Z0-0010 |

Power supply options: DC 24 V, AC 110/120 V, AC 230 V — Customer specific connection cable — BARTEC specific cable

## Zone 2/Div. 2

**Special tool for lock nut**
G7-A0Z0-0031

**1.9 m USB**

| | |
|---|---|
| NI | B7-A2Z0-0046 |

Zebra 123Scan Utility

PC

USB (virtual COM)
RS232
RS422
RS485

12 V

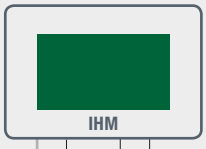
**Connecting cable for Zone 2/Div. 2**

| | |
|---|---|
| RS232, 2.0 m | G7-A0Z0-0014 |
| RS232, 4.6 m | G7-A0Z0-0015 |
| RS232, 2.8 m | G7-A0Z0-0016 |
| USB, 2 m, ext. 12 V | G7-A0Z0-0018 |

LOADING
IS COMING SOON!

**4-slot battery charger**

| | |
|---|---|
| IS | 17-A1Z0-0013 |
| NI | G7-A0Z0-0013 |




**HMI**
with Interfaces

**BCS 3608ex-NI**
B7-A2S4-1HP0

**HMI limiting cable***

**4.5 m USB**
COMING SOON!

**1.9 m USB**
B7-A2Z0-0041

**Connecting cable**

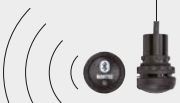
**1.9 m**
B7-A2Z0-0037

**4.5 m**
B7-A2Z0-0038

**2.7 m**
B7-A2Z0-0039

**Universal supply module**
**3608ex-NI**
B7-A2Z0-0042

**Universal supply module**
**3678ex-NI**
B7-A2Z0-0043



**SMART USB Device BT**
17-71VZ-A020/0000

**BCS 3678ex-NI**
B7-A2S4-2HP1

Bluetooth-enabled devices, e. g. **Agile X**

**Battery**
B7-A2Z0-0036

* Internal power supply at the HMI USB module must be at least 500 mA

The latest generation of rugged explosion-protected hand-held scanners of the BCS 36x8ex series offers outstanding performance for incomparable capture of 1D/2D barcodes, photos, documents and more. The devices are based on the ZEBRA "3600 Ultra-Rugged Series Handheld Scanners" series and are now also available from BARTEC in an explosion-protected version. They are available for ATEX/IECEx and CSA. Further local approvals are available on request. The series consists of a corded (BCS 3608ex) and cordless (BCS 3678ex) Bluetooth version, which are used in the toughest environments in the world – in warehouses and production halls. These scanners don't just enable every 1D or 2D barcode to be scanned from a distance of up to 2.1 m, but also capture a diverse amount of business information to rationalise everyday business processes such as OCR, documents and photos. Irrespective of the type of data your employees need to collect, you now get all the familiar functions from the industrial application for use in a potentially explosive atmosphere. The BCS 3600ex series therefore offers a new level of reliability for scanners. The result? The most reliable, fastest and most accurate scanning functionality on the market, setting new standards.

| **Industries** | **Areas of use** |
|---|---|
| Warehouse management<br>Production | Outstanding data capture<br>for the management of articles in the entire goods flow (incoming and outgoing goods, warehouse management, etc.)<br>Proof of delivery<br>Image capture |

**Decoding options**

| | |
|---|---|
| 1D barcodes | UPC/EAN, UPC/EAN with supplementals, Bookland EAN, ISSN, UCC Coupon Extended Code, Code 128, GS1-128, ISBT 128, ISBT Concatenation, Code 39, Code 39 Full ASCII, Trioptic Code 39, Code 32, Code 93, Code 11, Interleaved 2 of 5, Discrete 2 of 5, Codabar, MSI, Chinese 2 of 5, Matrix 2 of 5, Korean 3 of 5, GS1 DataBar variants |
| 2D barcodes | PDF417, MicroPDF417, Composite Codes, TLC-39, Data Matrix, Maxicode, QR Code, Micro QR, Aztec, Han Xin, GS1-QR, GS1-DM |
| Postcodes | US Postnet, US Planet, UK Postal, Japan Post, Australia Post, Royal Mail 4 State Customer, KIX Code (Dutch), UPU 4 State Postal FICS (Post US4), USPS 4 State Postal (Post US3) |
| OCR (optical character recognition, photos and documents) | OCR-A/B, MICR-E13B,<br>Series number of US currency |

**Decoding ranges**

| Symbology/resolution | Near/distant |
|---|---|
| Code 128: 0.127 mm | 15.2 to 35.6 cm |
| Code 128: 0.508 mm | 12.7 to 114.3 cm |
| Code 128: 1.016 mm | 7.1 to 203.2 cm |
| DataMatrix: 0.1905 mm | 17.8 to 27.9 cm |
| DataMatrix: 0.254 mm | 15.2 to 38.1 cm |

**• Outstanding performance**

Your employees can scan information at high speed – virtually all current barcodes under any conditions. From photos to document the condition of incoming deliveries, through to images for the purpose of electronic archiving. It is not even a problem if barcodes are damaged, soiled or have been printed in poor quality – this intelligent scanner can handle them all.

**• Ultra-rugged design**

There is hardly any place as tough as in the warehouse or the production plant. For this reason, we have now also developed an explosion protected version of the DS 3608 and DS 3678 from ZEBRA. These models are available in a corded or cordless design and are the most robust scanners on the market.

**• Unrivalled handling simplicity**

With the tools available, these scanners are easy to use. You can remotely configure and extend your scanners, format data for an immediate transfer to your business applications, monitor the battery charge of cordless models and much more.

**• Outstanding scan performance with 1D/2D barcodes in every environment**

The advanced imager reads 1D and 2D barcodes on a monitor or label faster and with a 30 % larger working area than comparable models of this class for unsurpassed productivity. Employees are able to successfully scan virtually any barcode at the first attempt, even if it is damaged, dirty, poorly printed or under shrink-wrap.

**• Ultra-rugged – the toughest design in its class**

The BCS 3608ex/BCS 3678ex is our toughest scanner yet, with the highest drop and tumble specification and the best sealing of its class. The BCS 3608ex/BCS 3678ex is built to survive a 2.4 m drop to concrete, which is 23 % more durable than any other scanner in this class. The BCS 3608ex/BCS 3678ex operates reliably even after 5,000 tumbles, simulating the real-world tumbling that occurs with a drop. Both models are dust-proof, spray-proof and water-proofed to IP 65.

**• More than just barcodes: capture OCR, photos and documents**

With ZEBRA's intelligent document capture, photos are taken, refocused and corrected to make them easier to read. The support of several OCR typefaces also ensures fast and simple data transfer.

**• Simple handling with the original complimentary tools from ZEBRA**

You can use the original ZEBRA tools for the DS3608-HP and DS3678-HP series. The 123Scan Utility and the Scanner Management Service (SMS) are available with which scanners can be configured remotely, firmware upgrades carried out, data formatted to fit your backend systems or the Power Precision +/- battery statistics checked and more.

**• Capture and processing of up to 20 barcodes simultaneously**

Many labels have several barcodes which need to be scanned by your staff. Now, one press of the trigger captures the right barcodes and applies the unique data format required for each one for instant transmission to your back-end systems – all with complete control over the order barcodes are processed.

**• Faster pick-list processing**

Users can easily select and read an individual barcode from any pick list.

**• Extreme temperature rating**

These scanners withstand extreme cold, heat and moisture, and can therefore be deployed almost anywhere.

**• A Bluetooth model in a class of its own for superior cordless freedom**

Bluetooth 4.0 (Low Energy) provides a lightning fast connection and maximum energy efficiency. Our ZEBRA Wi-Fi Friendly Mode eliminates the interference that Bluetooth devices can often create in Wi-Fi environments. The compact and rugged cradle offers excellent flexibility and durability. The BCS 3678ex is the only scanner of this product family with a cradle in the IP 65 class of protection. Its charging contacts withstand 250,000 insertions.

The first-in-its-class 'battery charge gauge' and Bluetooth status LED make it easy to monitor battery power as well as Bluetooth connectivity.

The Power Precision +/- battery represents the ultimate when it comes to battery performance and management. You achieve more scans per battery charge compared to rival products.

# **Corded hand-held scanner BCS 3608$^{ex}$-IS** for ATEX/IECEx Zone 1/21 and CSA Class I, II, III Div. 1

The corded version is ideal for stationary applications used to collect data from 1D barcodes, 2D barcodes, postcodes and OCR in a potentially explosive atmosphere. The rugged version offers all highly developed ergonomic and functional features required in industrial applications. The corded version requires a universal supply module to guarantee ex-compliant voltage supply and data communication.

## Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 1/21 | Ⓔx II 2G Ex ia ma op is IIC T4 Gb<br>Ⓔx II 2D Ex ia ma op is IIIC T135°C Db IP 64 |
| Certification | EPS 18 ATEX 1 199 X |
| Marking IECEx<br>Zone 1/21 | Ex ia ma op is IIC T4 Gb<br>Ex ia ma op is IIIC T135°C Db IP 64 |
| Certification | IECEx EPS 18.0100X |
| Marking CSA | Class I, II, III Div. 1<br>Class I Div. 1 Groups A, B, C and D<br>Class II Div. 1 Groups E, F<br>Class III<br><br>Class I Div. 1<br>Class I Div. 1 Groups A, B, C and D T4 |
| Certification | applied for |
| Other approvals and certificates, see www.bartec.de | |

## Technical data

| | |
|---|---|
| Physical features | |
| Dimensions (H x W x D) | 185 mm x 76 mm x 132 mm |
| Weight | approx. 450 g excluding cord |
| Operating current (full operation) | 500 mA (typical) |
| Resting current (stand-by) | 165 mA (typical) |
| Input voltage | 10 V |
| Max. input power | 5 W |
| Max. input current | 750 A |
| Max. inner capacity | 314.57 µF |
| Max. inner inductivity | 10.8 µH |
| Colour | Industrial green |
| Material | Lexane EXL 1414 |
| User displays | Direct decoding display, LEDs, signal tone, vibration |
| Power supply | using universal supply module or other Ex-compliant supply module |
| Supported interfaces | RS232<br>(Scanner to the universal power supply module) |

| | |
|---|---|
| Performance features | |
| Illumination | 2 x LED, warm white |
| High-performance scanner 1D/2D imager SE4750 | For scanning 1D barcodes, 2D barcodes, postcodes, OCR |
| User environment | |
| Ambient temperature | -20 °C to +50 °C |
| Storage temperature | -40 °C to +70 °C |
| Relative air humidity | 5 % to 95 %, condensing |
| Protection class | IP 65 |
| Insensitivity to ambient light | 0 to 108,000 lux (in direct sunlight) |
| Programming/service programs | |
| Programming cable (from PC to scanner via USB) | Available as an option; for the use of ZEBRA Software Tools such as 123Scan Utility to configure hand-held scanners in the safe area on a PC |
| Programming manual | Permits programming by scanning barcodes. Available at: www.zebra.com |
| 123Scan Utility | Programming of scanner parameters via USB, firmware upgrades, provision of scanned barcode data and printing of reports. Available at: www.zebra.com<br>Programming via the universal supply module is not supported. A programming cable (Typ 17-A1Z0-0020) required in non-hazardous areas. |
| Scanner Management Service (SMS) | Performs remote administration of your ZEBRA scanners and retrieves its inventory data. Available at: www.zebra.com |
| Scope of delivery | BCS 3608$^{ex}$-IS, Quick start guide<br>Also required: (not included with delivery) Universal supply module + connecting cable or HMI limiting cable for data transmission |

## Ordering information

| | |
|---|---|
| BCS 3608$^{ex}$-IS | **17-A1S4-1HP0** |

Technical data subject to change without notice.

The Bluetooth version is ideal for mobile applications used to collect data from 1D barcodes, 2D barcodes, postcodes and OCR in a potentially explosive atmosphere. The rugged version offers all highly developed ergonomic and functional features required in industrial applications. For the Bluetooth version there are several possibilities to transfer the data via Bluetooth "Single Point-to-Point".

### Explosion protection

| | |
|---|---|
| Marking ATEX Zone 1/21 | Ex II 2G Ex ia ma op is IIC T4 Gb<br>Ex II 2D Ex ia ma op is IIIC T135°C Db IP 64 |
| Certification | EPS 17 ATEX 1 177 X |
| Marking IECEx Zone 1/21 | Ex ia ma op is IIC T4 Gb<br>Ex ia ma op is IIIC T135°C Db IP 64 |
| Certification | IECEx EPS 17.0090X |
| Marking CSA | Class I, II, III Div. 1<br>Class I Div. 1 Groups A, B, C and D<br>Class II Div. 1 Groups E, F<br>Class III<br><br>Class I Div. 1<br>Class I Div. 1 Groups A, B, C and D T4 |
| Certification | applied for |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Physical features | |
| Dimensions (H x W x D) | 185 mm x 76 mm x 142 mm |
| Weight | 450 g |
| Operating current (full operation) | 650 mA (typical) |
| Resting current (stand-by) | 4 mA (typical) |
| Max. input voltage | 4.2 V |
| Max. input power | 10 W |
| Max. input current | 10 A |
| Max. inner capacity | 1105.2 µF |
| Max. inner inductivity | 15.96 µH |
| Colour | Industrial green |
| Material | Lexane EXL 1414 |
| User displays | Direct decoding display, LEDs, signal tone, vibration |
| Battery | Lithium-ion 3.6 V/2800 mAh |
| Cordless connection to | Bluetooth universal supply module, base station, Bluetooth-enabled terminal devices<br><br>Bluetooth Class 1, Version 4.0 (LE), serial interface (SPP) and HID profile |
| Radio range (direct visual connection outdoors - laboratory values) | Via Bluetooth universal supply module, base station or Bluetooth-enabled terminal devices<br><br>Class 1: at least 100.0 m<br>Class 2: at least 10.0 m |
| Data rate | 3 Mbit/s (2.1 Mbit/s) for classic Bluetooth<br>1 Mbit/s (0.27 Mbit/s) for Low Energy |

| | |
|---|---|
| Performance features | |
| Illumination | 2 x LED, warm white |
| High-performance scanner 1D/2D imager SE4750 | For scanning 1D barcodes, 2D barcodes, postcodes, OCR |
| User environment | |
| Ambient temperature | -20 °C to +50 °C |
| Storage temperature | -40 °C to +70 °C |
| Relative air humidity | 5 % to 95 %, condensing |
| Protection class | IP 65 |
| Insensitivity to ambient light | 0 to 108,000 lux (in direct sunlight) |
| Programming/service programs | |
| Programming cable (from PC to scanner via USB) | Available as an option; for the use of ZEBRA Software Tools such as 123Scan Utility to configure hand-held scanners in the safe area on a PC |
| Programming manual | Permits programming by scanning barcodes. Available at: www.zebra.com |
| 123Scan Utility | Programming of scanner parameters via USB, firmware upgrades, provision of scanned barcode data and printing of reports. Available at: www.zebra.com<br>Programming via the universal supply module is not supported. A cradle for non-hazardous areas and a corresponding USB cable are required in non-hazardous areas. |
| Scanner Management Service (SMS) | Performs remote administration of your ZEBRA scanners and retrieves its inventory data. Available at: www.zebra.com |
| Scope of delivery | BCS 3678ex-IS, Battery, Special tool for safety lock, Quick start guide<br><br>Also required: (not included with delivery) Battery charger or base station for charging Universal supply module or base station + connecting cable for data transmission |

### Ordering information

| | |
|---|---|
| BCS 3678ex-IS | **17-A1S4-2HP1** |

Technical data subject to change without notice.

### Ordering information

**Accessories for use in potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Battery**<br>for hand-held scanner BCS 3678ex-IS<br>Lithium-ion battery 3.6 V/2800 mAh (10.08 Wh)<br>May only be changed outside the potentially explosive atmosphere! | **17-A1Z0-0012** |
| | **High quality leather holster**<br>for hand-held scanner<br>- for attachment to a belt or wall<br>- Colour: black | **17-A1Z0-0024** |
| | **Connection cable**<br>Connection between universal supply module and BCS 3608ex-IS handheld scanner<br>1.9 m (plain)<br>4.5 m (plain) | <br><br>**17-A1Z0-0015**<br>**17-A1Z0-0016** |
| | 2.7 m (spiral) | **17-A1Z0-0017** |

**Ordering information**

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **4-slot battery charger**<br>for hand-held scanner BCS 3678ex-IS<br>- Input voltage: DC 12 V (50 W)<br>- Charging display via LED and sound<br><br>Additionally required: (not included in delivery)<br>- Power pack with DC connecting cable<br>- AC power cable | **17-A1Z0-0013** |
| | **Base station**<br>for hand-held scanner BCS 3678ex-IS<br>- Input voltage: DC 12 V<br>- Data synchronisation via Bluetooth<br>Supported interfaces:<br>- USB<br>- RS232<br>- Keyboard Wedge*<br>- IBM 468x/469x*<br>- Charging the battery inserted in the handheld scanner<br>- LED charge function and charging indicator<br>- Dimensions (H x B x T) 229.4 mm x 99.8 mm 82.6 mm<br>- IP 65<br><br>Additionally required: (not included in delivery)<br>- NPower pack with DC connecting cable<br>- AC power cable<br>- Connecting cable (type 17-A1Z0-....)<br><br>*Connection cable on request. | **17-A1Z0-0014** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Programming cable**<br>for programming BCS 3608ex-IS and BCS 3678ex-IS via PC, supports connection via USB only<br>1.9 m (plain)<br><br>Additionally required: (not included in delivery)<br>- Power pack with DC connecting cable<br>- AC power cable | **17-A1Z0-0020** |
| | **Power supply** with DC connection cable<br>for 4-slot battery charger<br>- Input voltage: AC 100 V to 240 V<br>- Output voltage: DC 12 V/4, 16 A/50 W | **G7-A0Z0-0019** |
| | **AC power cable**<br>- US + Canada<br>- EU + APAC<br>- TAIWAN<br>Other versions on request. | <br>**G7-A0Z0-0024**<br>**G7-A0Z0-0026**<br>**G7-A0Z0-0027** |
| | **Connecting cable** for BCS 3678ex-IS handheld scanners<br>- Connection between cradle and PC<br>- Cable with terminal for 12 V power supply<br>RS232: 2.0 m (plain)<br>RS232: 4.5 m (plain)<br>USB: 1.9 m (plain) | <br><br><br>**17-A1Z0-0026**<br>**17-A1Z0-0027**<br>**17-A1Z0-0020** |
| | **Special tool for lock nut**<br>for hand-held scanner BCS 3678ex-IS<br>- For opening and locking the special lock<br>- 5 pieces | **G7-A0Z0-0031** |

# Universal supply module for hand-held scanner BCS 3600ex-IS series

for ATEX/IECEx Zone 1/21 and CSA Class I, II, III Div. 1

The universal supply module is designed for an intrinsically safe supply (barrier) and contains a safety barrier (evaluation barrier) for data lines in a potentially explosive atmosphere. The data lines can be connected directly in the potentially explosive atmosphere to non-Ex systems, for example PCs, PLCs or microprocessors. The data interface to be used can be set using dip switches. These adjustment possibilities make it easier for an existing old system to subsequently be converted and modified.

## Explosion protection

| | |
|---|---|
| Marking ATEX Zone 1/21 | Ⓔx II 2G Ex e m [ia] IIC T4 Ga<br>Ⓔx II 2D Ex e m [ia] IIIB T135 °C Da |
| Certification | applied for |
| Marking IECEx Zone 1/21 | Ex e m [ia] IIC T4 Ga<br>Ex e m [ia] IIIB T135 °C Da |
| Certification | applied for |
| Marking CSA | Class I, II, III Div. 1<br>Class I Div. 1 Groups A, B, C and D<br>Class II Div. 1 Groups E, F<br>Class III<br><br>Class I Div. 1<br>Class I Div. 1 Groups A, B, C and D T4 |
| Certification | applied for |
| Other approvals and certificates, see www.bartec.de | |

## Technical data

| | |
|---|---|
| **Physical features** | |
| Dimensions (H x W x D) | 81 mm x 176 mm x 88 mm |
| Input voltage | DC 24 V, AC 85 to 250 V |
| Colour | black |
| Material | Thermoplastic |
| Supported interfaces | Universal supply module<br>to PC/Host — max. cable length<br>USB* — 5 m<br>RS232 — 15 m<br>RS422 — 1000 m<br>RS485 — 1200 m<br>* USB only works as SPP (Serial Port Profile), HID (Human Interface Device) is not supported. |
| Bluetooth | Bluetooth 4.2 (LE), Class 1<br>Pairing with 1 scanner (Point to Point)<br>SPP - the digital scanner connects to the universal supply module via Bluetooth. The universal supply module is recognised as a serial connection by the PC/host.<br>Radio range (direct visual contact outside – laboratory values) with BCS 3678ex<br>Class 1: at least 100.0 m |
| Connecting cable (Universal supply module to host) | Not available in scope of delivery! Please use commercially available shielded data cables to avoid external interference. Recommendation: CAT5 or higher quality |
| **User environment** | |
| Ambient temperature | -20 °C to +50 °C |
| Storage temperature | -40 °C to +70 °C |
| Relative air humidity | 5 % to 95 %, condensing |
| Protection class | IP 65 |
| Insensitivity to ambient light | 0 to 108,000 lux (in direct sunlight) |

## Specification

| | |
|---|---|
| Weight | 850 g |
| Max. output voltage | 10 V |
| Max. output current | 750 mA |
| Max. output power | 7.5 W |

**Note on programming with Zebra 123Scan Utility:**
Programming via the universal power supply module is not supported.

## Ordering information

| | |
|---|---|
| Universal supply module, corded for BCS 3608ex-IS | **17-A1Z0-0018** |
| Universal supply module, Bluetooth for BCS 3678ex-IS | **17-A1Z0-0019** |

(Scope of delivery: 1 x universal supply module)
Technical data subject to change without notice.

The latest generation of rugged explosion-protected hand-held scanners of the BCS 36x8ex series offers outstanding performance for incomparable capture of 1D/2D barcodes, photos, documents and more. The devices are based on the ZEBRA "3600 Ultra-Rugged Series Handheld Scanners" series and are now also available from BARTEC in an explosion-protected version. They are available for ATEX/IECEx and CSA. Further local approvals are available on request. The series consists of a corded (BCS 3608ex) and cordless (BCS 3678ex) Bluetooth version, which are used in the toughest environments in the world – in warehouses and production halls. These scanners don't just enable every 1D or 2D barcode to be scanned from a distance of up to 2.1 m, but also capture a diverse amount of business information to rationalise everyday business processes such as OCR, documents and photos. Irrespective of the type of data your employees need to collect, you now get all the familiar functions from the industrial application for use in a potentially explosive atmosphere. The BCS 3600ex series therefore offers a new level of reliability for scanners. The result? The most reliable, fastest and most accurate scanning functionality on the market, setting new standards.

| **Industries** | **Areas of use** |
|---|---|
| Warehouse management<br>Production | Outstanding data capture<br>for the management of articles in the entire goods flow (incoming and outgoing goods, warehouse management, etc.)<br>Proof of delivery<br>Image capture |

**Decoding options**

| | |
|---|---|
| 1D barcodes | UPC/EAN, UPC/EAN with supplementals, Bookland EAN, ISSN, UCC Coupon Extended Code, Code 128, GS1-128, ISBT 128, ISBT Concatenation, Code 39, Code 39 Full ASCII, Trioptic Code 39, Code 32, Code 93, Code 11, Interleaved 2 of 5, Discrete 2 of 5, Codabar, MSI, Chinese 2 of 5, Matrix 2 of 5, Korean 3 of 5, GS1 DataBar variants |
| 2D barcodes | PDF417, MicroPDF417, Composite Codes, TLC-39, Data Matrix, Maxicode, QR Code, Micro QR, Aztec, Han Xin, GS1-QR, GS1-DM |
| Postcodes | US Postnet, US Planet, UK Postal, Japan Post, Australia Post, Royal Mail 4 State Customer, KIX Code (Dutch), UPU 4 State Postal FICS (Post US4), USPS 4 State Postal (Post US3) |
| OCR (optical character recognition, photos and documents) | OCR-A/B, MICR-E13B,<br>Series number of US currency |

**Decoding ranges**

| Symbology/resolution | Near/distant |
|---|---|
| Code 128: 0.127 mm | 15.2 to 35.6 cm |
| Code 128: 0.508 mm | 12.7 to 114.3 cm |
| Code 128: 1.016 mm | 7.1 to 203.2 cm |
| DataMatrix: 0.1905 mm | 17.8 to 27.9 cm |
| DataMatrix: 0.254 mm | 15.2 to 38.1 cm |

**• Outstanding performance**

Your employees can scan information at high speed – virtually all current barcodes under any conditions. From photos to document the condition of incoming deliveries, through to images for the purpose of electronic archiving. It is not even a problem if barcodes are damaged, soiled or have been printed in poor quality – this intelligent scanner can handle them all.

**• Ultra-rugged design**

There is hardly any place as tough as in the warehouse or the production plant. For this reason, we have now also developed an explosion protected version of the DS 3608 and DS 3678 from ZEBRA. These models are available in a corded or cordless design and are the most robust scanners on the market.

**• Unrivalled handling simplicity**

With the tools available, these scanners are easy to use. You can remotely configure and extend your scanners, format data for an immediate transfer to your business applications, monitor the battery charge of cordless models and much more.

**• Outstanding scan performance with 1D/2D barcodes in every environment**

The advanced imager reads 1D and 2D barcodes on a monitor or label faster and with a 30 % larger working area than comparable models of this class for unsurpassed productivity. Employees are able to successfully scan virtually any barcode at the first attempt, even if it is damaged, dirty, poorly printed or under shrink-wrap.

**• Ultra-rugged – the toughest design in its class**

The BCS 3608ex/BCS 3678ex is our toughest scanner yet, with the highest drop and tumble specification and the best sealing of its class. The BCS 3608ex/BCS 3678ex is built to survive a 2.4 m drop to concrete, which is 23 % more durable than any other scanner in this class. The BCS 3608ex/BCS 3678ex operates reliably even after 5,000 tumbles, simulating the real-world tumbling that occurs with a drop. Both models are dust-proof, spray-proof and water-proofed to IP 65.

**• More than just barcodes: capture OCR, photos and documents**

With ZEBRA's intelligent document capture, photos are taken, refocused and corrected to make them easier to read. The support of several OCR typefaces also ensures fast and simple data transfer.

**• Simple handling with the original complimentary tools from ZEBRA**

You can use the original ZEBRA tools for the DS3608-HP and DS3678-HP series. The 123Scan Utility and the Scanner Management Service (SMS) are available with which scanners can be configured remotely, firmware upgrades carried out, data formatted to fit your backend systems or the Power Precision +/- battery statistics checked and more.

**• Capture and processing of up to 20 barcodes simultaneously**

Many labels have several barcodes which need to be scanned by your staff. Now, one press of the trigger captures the right barcodes and applies the unique data format required for each one for instant transmission to your back-end systems – all with complete control over the order barcodes are processed.

**• Faster pick-list processing**

Users can easily select and read an individual barcode from any pick list.

**• Extreme temperature rating**

These scanners withstand extreme cold, heat and moisture, and can therefore be deployed almost anywhere.

**• A Bluetooth model in a class of its own for superior cordless freedom**

Bluetooth 4.0 (Low Energy) provides a lightning fast connection and maximum energy efficiency. Our ZEBRA Wi-Fi Friendly Mode eliminates the interference that Bluetooth devices can often create in Wi-Fi environments. The compact and rugged cradle offers excellent flexibility and durability. The BCS 3678ex is the only scanner of this product family with a cradle in the IP 65 class of protection. Its charging contacts withstand 250,000 insertions.

The first-in-its-class 'battery charge gauge' and Bluetooth status LED make it easy to monitor battery power as well as Bluetooth connectivity.

The Power Precision +/- battery represents the ultimate when it comes to battery performance and management. You achieve more scans per battery charge compared to rival products and obtain a wealth of data about the condition of the battery, for example past charge cycles, current battery status and an operating status display that indicates whether batteries are functioning efficiently and are fully charged or whether they must be taken out of operation.

The corded version is ideal for stationary applications used to collect data from 1D barcodes, 2D barcodes, postcodes and OCR in a potentially explosive atmosphere. The rugged version offers all highly developed ergonomic and functional features required in industrial applications. The corded version requires a universal supply module to guarantee ex-compliant voltage supply and data communication.

### Explosion protection

| | |
|---|---|
| Marking ATEX Zone 2/22 | Ⓔx II 3G Ex ic IIC T4 Gc<br>Ⓔx II 3D Ex ic IIIB T135 °C Dc IP 64 |
| Certification | EPS 16 ATEX 1113 X |
| Marking IECEx Zone 2/22 | Ex ic IIC T4 Gc<br>Ex ic IIIB T135 °C Dc IP 64 |
| Certification | IECEx EPS 16.0050X |
| Marking ETL | Class I, II, III Div 2<br>Class I Div 2 Groups A, B, C and D<br>Class II Div 2 Groups E, F<br>Class III<br><br>Class I Div 2<br>Class I Div 2 Groups A, B, C and D T4 |
| Certification | applied for |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Physical features | |
| Dimensions (H x W x D) | 185 mm x 76 mm x 132 mm |
| Weight | 309 g excluding cord |
| Operating current (full operation) | 500 mA (typical) |
| Resting current (stand-by) | 165 mA (typical) |
| Input voltage | 5 V |
| Max. input power | 2.75 W |
| Max. input current | 550 mA |
| Max. inner capacity | 752.57 µF |
| Max. inner inductivity | 17.4 µH |
| Colour | Industrial green |
| Material | Lexane EXL 1414 |
| User displays | Direct decoding display, LEDs, signal tone, vibration |
| Power supply | using universal supply module or other Ex-compliant supply module |
| Supported interfaces | RS232<br>(Scanner to the universal power supply module) |

| | |
|---|---|
| Performance features | |
| Illumination | 2 x LED, warm white |
| High-performance scanner 1D/2D imager SE4750 | For scanning 1D barcodes, 2D barcodes, postcodes, OCR |
| User environment | |
| Ambient temperature | -20 °C to +50 °C |
| Storage temperature | -40 °C to +70 °C |
| Relative air humidity | 5 % to 95 %, condensing |
| Protection class | IP 65 |
| Insensitivity to ambient light | 0 to 108,000 lux (in direct sunlight) |
| Programming/service programs | |
| Programming cable (from PC to scanner via USB) | Available as an option; for the use of ZEBRA Software Tools such as 123Scan Utility to configure hand-held scanners in the safe area on a PC |
| Programming manual | Permits programming by scanning barcodes. Available at: www.zebra.com |
| 123Scan Utility | Programming of scanner parameters via USB, firmware upgrades, provision of scanned barcode data and printing of reports. Available at: www.zebra.com<br>Programming via the universal supply module is not supported. A programming cable (Typ B7-A2Z0-0046) required in non-hazardous areas. |
| Scanner Management Service (SMS) | Performs remote administration of your ZEBRA scanners and retrieves its inventory data. Available at: www.zebra.com |
| Scope of delivery | BCS 3608ex-NI, Quick start guide<br>Also required: (not included with delivery) Universal supply module + connecting cable or HMI limiting cable for data transmission |

### Ordering information

| | |
|---|---|
| BCS 3608ex-NI | **B7-A2S4-1HP0** |

Technical data subject to change without notice.

The Bluetooth version is ideal for mobile applications used to collect data from 1D barcodes, 2D barcodes, postcodes and OCR in a potentially explosive atmosphere. The rugged version offers all highly developed ergonomic and functional features required in industrial applications. For the Bluetooth version there are several possibilities to transfer the data via Bluetooth "Single Point-to-Point".

### Explosion protection

| | |
|---|---|
| Marking ATEX Zone 2/22 | Ⓔx II 3G Ex ic IIC T4 Gc<br>Ⓔx II 3D Ex ic IIIB T135 °C Dc IP 64 |
| Certification | EPS 16 ATEX 1113 X |
| Marking IECEx Zone 2/22 | Ex ic IIC T4 Gc<br>Ex ic IIIB T135 °C Dc IP 64 |
| Certification | IECEx EPS 16.0050X |
| Marking ETL | Class I, II, III Div. 2<br>Class I Div. 2 Groups A, B, C and D<br>Class II Div. 2 Groups E, F<br>Class III<br>Class I Div. 2<br>Class I Div. 2 Groups A, B, C and D T4 |
| Certification | 5012876 |
| Other approvals and certificates, see www.bartec.de | |

### Technical data

| | |
|---|---|
| Physical features | |
| Dimensions (H x W x D) | 185 mm x 76 mm x 142 mm |
| Weight | 411 g |
| Operating current (full operation) | 650 mA (typical) |
| Resting current (stand-by) | 4 mA (typical) |
| Max. input voltage | 4.2 V |
| Max. input power | 2.275 W |
| Max. input current | 10 A |
| Max. inner capacity | 1105.2 µF |
| Max. inner inductivity | 15.96 µH |
| Colour | Industrial green |
| Material | Lexane EXL 1414 |
| User displays | Direct decoding display, LEDs, signal tone, vibration |
| Battery | Lithium-ion 3.6 V/3150 mAh |
| Cordless connection to | Bluetooth universal supply module, base station, Bluetooth-enabled terminal devices<br>Bluetooth Class 1, Version 4.0 (LE), serial interface (SPP) and HID profile |
| Radio range (direct visual connection outdoors - laboratory values) | Via Bluetooth universal supply module, base station or Bluetooth-enabled terminal devices<br>Class 1: at least 100.0 m<br>Class 2: at least 10.0 m |
| Data rate | 3 Mbit/s (2.1 Mbit/s) for classic Bluetooth<br>1 Mbit/s (0.27 Mbit/s) for Low Energy |
| Performance features | |
| Illumination | 2 x LED, warm white |
| High-performance scanner 1D/2D imager SE4750 | For scanning 1D barcodes, 2D barcodes, postcodes, OCR |
| User environment | |
| Ambient temperature | -20 °C to +50 °C |
| Storage temperature | -40 °C to +70 °C |
| Relative air humidity | 5 % to 95 %, condensing |
| Protection class | IP 65 |
| Insensitivity to ambient light | 0 to 108,000 lux (in direct sunlight) |
| Programming/service programs | |
| Programming cable (from PC to scanner via USB) | Available as an option; for the use of ZEBRA Software Tools such as 123Scan Utility to configure hand-held scanners in the safe area on a PC |
| Programming manual | Permits programming by scanning barcodes. Available at: www.zebra.com |
| 123Scan Utility | Programming of scanner parameters via USB, firmware upgrades, provision of scanned barcode data and printing of reports. Available at: www.zebra.com<br>Programming via the universal supply module is not supported. A cradle for non-hazardous areas and a corresponding USB cable are required in non-hazardous areas. |
| Scanner Management Service (SMS) | Performs remote administration of your ZEBRA scanners and retrieves its inventory data. Available at: www.zebra.com |
| Scope of delivery | BCS 3678$^{ex}$-NI, Battery, Special tool for safety lock, Quick start guide<br>Also required: (not included with delivery) Battery charger or base station for charging Universal supply module or base station + connecting cable for data transmission |

### Ordering information

| | |
|---|---|
| BCS 3678$^{ex}$-NI | **B7-A2S4-2HP1** |

Technical data subject to change without notice.

## Ordering information

### Accessories for use in potentially explosive atmospheres

| Illustration | Description | Order no. |
|---|---|---|
| | **Battery**<br>for hand-held scanner BCS 3678ex-NI<br>Lithium-ion battery 3.6 V/3150 mAh (11.34 Wh)<br>May only be changed outside the potentially explosive atmosphere! | **B7-A2Z0-0036** |
| | **High quality leather holster**<br>for hand-held scanner<br>- for attachment to a belt or wall<br>- Colour: black | **17-A1Z0-0024** |
| | **Connection cable**<br>Connection between universal supply module and BCS 3608ex-NI handheld scanner<br>1.9 m (plain)<br>4.5 m (plain) | <br><br>**B7-A2Z0-0037**<br>**B7-A2Z0-0038** |
| | 2.7 m (spiral) | **B7-A2Z0-0039** |
| | **HMI limiting cable**<br>Connection between HMI and BCS 3608ex-NI handheld scanner, with open cable ends<br>1.9 m (plain) USB<br>1.9 m (plain) RS232<br>4.5 m (plain) RS232; can be individually shortened | <br><br>**B7-A2Z0-0041**<br>**B7-A2Z0-0040**<br>**B7-A2Z0-0050** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **4-slot battery charger**<br>for hand-held scanner BCS 3678$^{ex}$-NI<br>- Input voltage: DC 12 V (50 W)<br>- Charging display via LED and sound<br><br>Additionally required: (not included in delivery)<br>- Power pack with DC connecting cable<br>- AC power cable | **G7-A0Z0-0013** |
| | **Base station**<br>for hand-held scanner BCS 3678$^{ex}$-NI<br>- Input voltage<br>- at RS232: DC 12 V<br>- at USB: DC 5 V<br>- Data synchronisation via Bluetooth<br>Supported interfaces:<br>- USB<br>- RS232<br>- Keyboard Wedge*<br>- IBM 468x/469x*<br>- Charging the battery inserted in the handheld scanner<br>- LED charge function and charging indicator<br>- Dimensions (H x B x T) 229.4 mm x 99.8 mm 82.6 mm<br>- IP 65<br><br>Additionally required: (not included in delivery)<br>- Power pack with DC connecting cable<br>- AC power cable<br>- Connecting cable (type 17-A1Z0-....)<br><br>*Connection cable on request. | **G7-A0Z0-0010** |

### Ordering information

**Accessories for use outside potentially explosive atmospheres**

| Illustration | Description | Order no. |
|---|---|---|
| | **Programming cable**<br>for programming BCS 3608ex-NI via PC,<br>supports connection via USB only<br>1.9 m (plain) | **B7-A2Z0-0046** |
| | **Power supply** with DC connection cable<br>for 4-slot battery charger<br>- Input voltage: AC 100 V to 240 V<br>- Output voltage: DC 12 V/4, 16 A/50 W | **G7-A0Z0-0019** |
| | **AC power cable**<br>- US + Canada<br>- EU + APAC<br>- TAIWAN<br>Other versions on request. | <br>**G7-A0Z0-0024**<br>**G7-A0Z0-0026**<br>**G7-A0Z0-0027** |
| | **Connecting cable** for handheld scanner BCS 3678ex-NI<br>- Connection between cradle and PC<br>- Cable with terminal for 12 V power supply<br>RS232: 2.0 m (plain)<br>RS232: 4.6 m (plain)<br>RS232: 2.8 m (spiral)<br>USB: 2.0 m (plain) | <br><br><br>**G7-A0Z0-0014**<br>**G7-A0Z0-0015**<br>**G7-A0Z0-0016**<br>**G7-A0Z0-0018** |
| | **Special tool for lock nut**<br>for hand-held scanner BCS 3678ex-NI<br>- For opening and locking the special lock<br>- 5 pieces | **G7-A0Z0-0031** |

# Universal supply module for hand-held scanner BCS 3600ex-NI series

for ATEX/IECEx Zone 2/22 and ETL Class I, II, III Div. 2

The universal supply module is designed for an intrinsically safe supply (barrier) and contains a safety barrier (evaluation barrier) for data lines in a potentially explosive atmosphere. The data lines can be connected directly in the potentially explosive atmosphere to non-Ex systems, for example PCs, PLCs or microprocessors. The data interface to be used can be set using dip switches. These adjustment possibilities make it easier for an existing old system to subsequently be converted and modified.

## Explosion protection

| | |
|---|---|
| Marking ATEX<br>Zone 2/22 | Ⓔx II 3G Ex ic IIC T4 Gc<br>Ⓔx II 3D Ex ic IIIB T135 °C Dc IP 64 |
| Certification | EPS 16 ATEX 1113 X |
| Marking IECEx<br>Zone 2/22 | Ex ic IIC T4 Gc<br>Ex ic IIIB T135 °C Dc IP 64 |
| Certification | IECEx EPS 16.0050X |
| Marking ETL | Class I, II, III Div 1<br>Class I Div 1 Groups A, B, C and D<br>Class II Div 1 Groups E, F<br>Class III<br><br>Class I Div 1<br>Class I Div 1 Groups A, B, C and D T4 |
| Certification | applied for |
| Other approvals and certificates, see www.bartec.de | |

## Technical data

| | |
|---|---|
| **Physical features** | |
| Dimensions (H x W x D) | 81 mm x 176 mm x 88 mm |
| Input voltage | DC 24 V, AC 85 to 250 V |
| Colour | black |
| Material | Thermoplastic |
| Supported interfaces | Universal supply module<br>to the PC/host — max. cable length<br>USB* — 5 m<br>RS232 — 15 m<br>RS422 — 1000 m<br>RS485 — 1200 m<br>* USB only works as SPP (Serial Port Profile), HID (Human Interface Device) is not supported. |
| Bluetooth | Bluetooth 4.2 (LE), Class 1<br>Pairing with 1 scanner (Point to Point)<br>SPP - the digital scanner connects to the universal supply module via Bluetooth. The universal supply module is recognised as a serial connection by the PC/host.<br>Radio range (direct visual contact outside – laboratory values) with BCS 3678ex<br>Class 1: at least 100.0 m |
| Connecting cable<br>(Power pack to host) | Not available in scope of delivery!<br>Please use commercially available shielded data lines to avoid outside interference |
| **User environment** | |
| Ambient temperature | -20 °C to +50 °C |
| Storage temperature | -40 °C to +70 °C |
| Relative air humidity | 5 % to 95 %, condensing |
| Protection class | IP 65 |
| Insensitivity to ambient light | 0 to 108,000 lux<br>(in direct sunlight) |

## Specification

| | |
|---|---|
| Weight | 380 g |
| Max. output voltage | 5 V |
| Max. output current | 550 mA |
| Max. output power | 2.75 W |

**Note when programming using Zebra 123Scan utility:**
Programming via the universal supply module is not supported.

## Ordering information

| | |
|---|---|
| Universal supply module, corded for BCS 3608ex-NI | **B7-A2Z0-0042** |
| Universal supply module, Bluetooth for BCS 3678ex-NI | **B7-A2Z0-0043** |

(Scope of delivery: 1 x universal supply module)
Technical data subject to change without notice.

# **RFID X-IS** handheld reader for Zone 1/21

The RFID X-IS is a handheld reader for easily and efficiently reading RFID/NFC tags via direct application or in difficult-to-reach places. The tag information can be read directly on the OLED display, transferred via Bluetooth or read from the internal memory via USB.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Zone 1/21<br>Ⓔx II 2G Ex ib IIC T4 Gb<br>Ⓔx II 2D Ex ib IIIC T135°C Db IP 6X |
| Certification | EPS 16 ATEX 1119 |
| Marking IECEx | Zone 1/21<br>Ex ib IIC T4 Gb<br>Ex ib IIIC T135°C Db IP 6X |
| Certification | IECEx EPS 16.0052X |

### RFID standards supported

| Frequency range | Reading distance | RFID/NFC Tag |
|---|---|---|
| LF 125 kHz | up to 30 mm | ISO: De-Facto Standard (EM4200, Hitag S 2048) |
| LF 134 kHz | up to 30 mm | ISO: 11784, 11785 (TI HDX, FSK 64 bit Read Only Singe Page IC, EM4305 FDX-B) |
| HF 13.56 MHz | up to 20 mm | ISO: 15693, 18000-3 (NXP I-Code SLIX, Infineon my-d vicinity SRF55V10P) |
| HF 13.56 MHz | up to 10 mm | ISO: 14443, 18000-3 (NXP MIFARE Classic 1K or 4K, NXP NTAG213, NXP NTAG216) |
| UHF 860 MHz to 960 MHz | up to 150 mm | ISO: 18000-6 (Alien Higgs 3 conforming to the EPC Class1 Gen 2 standard) |

The precise reading range depends on the RFID tag, mounting surface, ambient conditions, etc.

### Technical data

| | |
|---|---|
| Dimensions (L x H x W) | 190 mm x 30 mm x 35 mm |
| Weight | 130 g |
| Bluetooth® | 4.0 LE |
| Memory | 1000 readings (UID + date + time) |
| Battery | Ni-MH 1000 mAh |
| Display | OLED, 4 rows |
| Protection class | IP 64 |
| Operating temperature | -20 °C to +60 °C |
| Scope of delivery | RFID X-IS, USB cable, quick start guide and safety information |

### Ordering information

| | |
|---|---|
| RFID X-IS with Bluetooth LF/HF/UHF Reader | **17-A1R4-1700/0000** |

Technical data subject to change without notice.

The RFID X-NI is a handheld reader for easily and efficiently reading RFID/NFC tags via direct application or in difficult-to-reach places. The tag information can be read directly on the OLED display, transferred via Bluetooth or read from the internal memory via USB.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Zone 2/22<br>Ⓔx II 3G Ex ic IIC T4 Gc IP 54<br>Ⓔx II 3D Ex ic IIIB T135°C Dc IP 54 |
| Certification | EPS 16 ATEX 1067 X |
| Marking IECEx | Zone 2/22<br>Ex ic IIC T4 Gc IP 54<br>Ex ic IIIB T135°C Dc IP 54 |
| Certification | IECEx EPS 16.0026X |

### RFID standards supported

| Frequency range | Reading distance | RFID/NFC Tag |
|---|---|---|
| LF 125 kHz | up to 30 mm | ISO: De-Facto Standard (EM4200, Hitag S 2048) |
| LF 134 kHz | up to 30 mm | ISO: 11784, 11785 (TI HDX, FSK 64 bit Read Only Singe Page IC, EM4305 FDX-B) |
| HF 13.56 MHz | up to 20 mm | ISO: 15693, 18000-3 (NXP I-Code SLIX, Infineon my-d vicinity SRF55V10P) |
| HF 13.56 MHz | up to 10 mm | ISO: 14443, 18000-3 (NXP MIFARE Classic 1K or 4K, NXP NTAG213, NXP NTAG216) |
| UHF 860 MHz to 960 MHz | up to 150 mm | ISO: 18000-6 (Alien Higgs 3 conforming to the EPC Class1 Gen 2 standard) |

The precise reading range depends on the RFID tag, mounting surface, ambient conditions, etc.

### Technical data

| | |
|---|---|
| Dimensions (L x H x W) | 190 mm x 30 mm x 35 mm |
| Weight | 130 g |
| Bluetooth® | 4.0 LE |
| Memory | 1000 readings (UID + date + time) |
| Battery | Ni-MH 1000 mAh |
| Display | OLED, 4 rows |
| Protection class | IP 64 |
| Operating temperature | -20 °C to +60 °C |
| Scope of delivery | RFID X-NI, USB cable, quick start guide and safety information |

### Ordering information

| | |
|---|---|
| RFID X-NI with Bluetooth LF/HF/UHF Reader | **B7-A2R4-1700/0000** |

Technical data subject to change without notice.

## CONTENT

Wireless X - Wi-FI Access Point 302
17-2171-1.../....

The Wireless X is nothing but a revolution within Wi-Fi in hazardous areas. Based on 25 years of Ex experience, BARTEC have created the smallest, lightest and highest performing Wi-Fi access point for zone 1 available on the market. Based on both clever engineering, material science and state of the art wireless infrastructure, we are now eliminating the need for bulky and heavy enclosures and antennas. Powered by 802.11a/b/g/n/ac dual band access points, the Wireless X does not require external antennas. By using internal antennas, combined with years of experience creating innovative Ex-certified products, we have managed to create a smart solution. The Wireless X is built with an RF transparent dome to eliminate the need for external antennas. The new and smart circular design, ensures that the product is well within the requirements for the Ex certification. With a rigid aluminum base, the Wireless X is IP 65 and IECEx and ATEX Zone 1 compliant. The result is a staggering reduction of 1/2 the installation time, 1/4th of the weight and 1/4th the size compared to an Ex-d based enclosure solution with external antennas. This allows the users to create Wi-Fi in any hazardous location at a fraction of the cost, compared with legacy solutions. The software is Cisco's own, making it plug and play for most networks. The Cisco Wi-Fi portfolio is industry leading and known amongst most IT management organizations.

### Explosion protection

| | |
|---|---|
| Marking ATEX | Ⓔx II 2G Ex db eb IIC T6 Gb<br>-20 ºC ≤ $T_{amb}$ ≤ 60 °C |
| Certification | Presafe 17 ATEX 11333 X |
| Marking IECEx | Ex db eb IIC T6 Gb |
| Certification | IECEx PRE 17.0059 X |

Other approvals and certificates, see www.bartec.de

### Technical data

| | |
|---|---|
| Input voltage range | 85 - 264 V AC (47 - 63 Hz), 120 - 370 V DC |
| Wireless | Wi-Fi 802.11 a/b/g/n/ac |
| Interfaces | Terminal block connection for Ethernet cable<br>Splice tray for 9/125 µm single-mode fiber<br>POE supported |
| Ambient temperature | -20 °C to +60 °C<br>(with total dissipation up to 22.5 W)<br>-20 °C to +53 °C<br>(with total dissipation up to 34 W) |
| Antennas | Integrated |
| Size | Ø 452,5 mm<br>Thickness 188 mm |
| Weight | 8 kg (excluding access point mounted inside) |
| Compatibility | We recommend using Cisco 27xx, 28xx, 37xx and 38xx series Cisco access points, but other Cisco variants along with equipment from other leading Wi-Fi brands will also be compatible |
| Material | Aluminium and RF transparent dome |

### Ordering information

| | |
|---|---|
| Wireless X | **on request** |

Technical data subject to change wirthout notice.

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