BARTEC

User Manual - TRANSLATION

POLARIS REMOTE

POLARIS Remote KVM Analog 15" / 19.1"

Type 17-71V2-….

ATEX / IECEx / CSA

Zone 1 and Zone 21

Document no. 11-71V2-7D0010 / 236279

Status: 02 August 2019

Content	Pages
English	1-50

BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
GERMANY

Phone: +49 7931 597-0
Fax: +49 7931 597-119

Support: support-polaris@bartec.de
Download: http://automation.bartec.de
Internet: www.bartec.de

Blank

1. Basic safety instructions

1.1 Notes on this manual

Read carefully before putting the devices into operation.

The user manual is a fixed part of the product. It must be kept in the direct vicinity of the device and the installation, operating and service staff must have access to it at all times.

The user manual contains important information, safety instructions and test certificates which are necessary for the perfect function of the device in operation.

The user manual is directed at all individuals concerned with the commissioning, handling and servicing of the product. The applicable guidelines and standards for areas with gas and dust atmosphere (2014/34/-EU, EN/IEC 60079-17 and EN/IEC 60079-19) must be observed when conducting this work.

Knowledge of the safety and warning information in this user manual and the strict compliance with it is essential for safe installation and commissioning. Accidents, injuries and material damage can be avoided by circumspect handling and systematically following the instructions.

The examples, tables, and figures provided in this user manual are for illustration purposes. Due to the different requirements of the respective application, the BARTEC company cannot assume responsibility or liability for actual use based on the examples and figures.

The BARTEC company reserves the right to carry out technical changes at any time.

In no event will BARTEC company be responsible or liable for indirect or consequential damages resulting from the use or application of this user manual.

Safety instructions and warnings are specially highlighted in these operating instructions and marked by symbols.

DANGER

DANGER describes a directly imminent danger. If not avoided, death or severe injury will be the consequence.

WARNING

WARNING describes a possibly imminent danger. If not avoided, death or severe injury may be the consequence.

CAUTION

CAUTION describes a possibly imminent danger. If not avoided, mild or slight injury may be the consequence.

ATTENTION

ATTENTION describes a possibly damaging situation. If not avoided, the plant or objects in its vicinity may be damaged.

Important information on effective, economical & environmentally compliant handling.

1.1.1 Languages

The original user manual with safety information is written in English. All other available languages are translations of the original user manual.

The user manual is available in English. If further languages are required, these must be requested from BARTEC or stated on placing an order.

1.1.2 Changes in the document

BARTEC reserves the right to change the content of this document without notification. No warranty is assumed for the correctness of the information. In cases of doubt, the German safety instructions apply because it is not possible to rule out errors of translation or printing. In the case of legal disputes, the “General Terms and Conditions of Business” of the BARTEC GmbH also apply.

The current versions of the datasheets, operating instructions, certificates and EC declarations of conformity can be downloaded from www.bartec.de or may be requested directly from BARTEC GmbH.

1.2 Handling the product

The product described in these operating instructions has been tested and left the factory in perfect condition as regards meeting safety requirements. To maintain this condition and ensure that this product operates perfectly and safely, it may be used only in the manner described by the manufacturer. Appropriate transportation, suitable storage and careful operation are also essential for the perfect and safe operation of this product. The POLARIS must be installed properly and securely if it is to work perfectly and correctly.

The safe and perfect mounting of the POLARIS is a precondition for faultless and correct operation.

1.3 Intended use

1.3.1 Exclusive purpose

It is used exclusively in combination with operating devices which satisfy the requirements for Overvoltage Category I.

The POLARIS REMOTE KVM Analog series have been designed specially for use in hazardous (potentially explosive) areas in Zone 1 or Zones 21.

It is essential to observe the permissible operational data for the device being used.

1.3.2 Unintended use

Any other use is not in accordance with the intended purpose and can cause damage and accidents. The manufacturer will not be liable for any use beyond that of its Exclusive II intended purpose.

1.4 Duties of the operator

The owner/managing operator undertakes to restrict permission to work with the POLARIS to people who:

- are familiar with the basic regulations on safety and accident prevention and have been instructed in the use of the POLARIS;
- have read and understood the documentation, the chapter on safety and the warnings.

The owner/managing operator must check that the safety regulations and accident prevention rules valid for the respective application are being observed.

1.5 Safety information

1.5.1 General

- Take the device out of the hazardous area before wiping it with a dry cloth or cleaning it!
- Do not open devices in a hazardous area.
- The general statutory regulations or directives relating to safety at work, accident prevention and environmental protection legislation must be observed, e.g. the German industrial health and safety ordinance (BetrSichV) or the applicable national ordinances.
- In view of the risk of dangerous electrostatic charging, wear appropriate clothing and footwear.
- Avoid the influence of heat that is higher or lower than the specified temperature range.
- Protect the device from external influences! Do not expose the device to any caustic/aggressive liquids, vapours or mist! In the event of malfunctioning or damage to the enclosure, take the device out of the potentially explosive area immediately and bring it to a safe place.

1.6 General safety information for operation

1.6.1 Maintenance

The pertinent erection and operating provisions for electrical systems must be observed! (E.g. Directive RL 2014/34/EU, BetrSichV and nationally applicable ordinances EN 60079-14, IEC 60079-14 and the series DIN VDE 0100)!

Observe the national waste disposal regulations when disposing of materials.

1.6.2 Servicing

No constant servicing will be necessary if operated correctly under consideration of the assembly instructions and environmental conditions. See Chapter "Service, inspection, repair" in this respect.

1.6.3 Inspection

According to EN/IEC 60079-17 and EN/IEC 60079-19, the operator of electrical systems in potentially explosive atmospheres is obliged to have these inspected by an electrician to ensure correct condition.

1.6.4 Repairs

Repairs to explosion-proof equipment may only be performed by persons authorized by BARTEC, who must employ the latest technological practices, observe the manufacturer's instructions and use only original spare parts. The applicable regulations are to be observed here.

1.6.5 Commissioning

It must be checked that all components and documents are available before commissioning.

1.7 Labelling, test certificate and standards

The device features an explosion protection label, as well as a test certificate. For an explanation of the symbols and information used, see chapter 4 "Technical data".

The POLARIS REMOTE KVM Analog series complies with Directive 2014/34/EU on equipment and protective systems intended for use in potentially explosive atmospheres (ATEX Directive). For information on standards that must be observed, see chapter 3 "Explosion protection and approvals".

1.8 Warranty

WARNING

Explosion protection cannot be guaranteed if non-specified components are used.

- ▶ Do not make any changes or perform any reconstruction work on the device.
- ▶ Use only original spare parts.

The manufacturer provides a full warranty exclusively for the spare parts it supplies. When using parts from third parties, there is no guarantee that they have been designed or manufactured to handle the requisite stress or offer the requisite degree of safety.

As a fundamental rule, our “General Conditions of Sale and Delivery” apply. These are made available to the owner/managing operator at the latest on formation of a contract. Guarantee and liability claims for personal injury and damage to property are excluded if they are due to one or more of the following reasons

- Use of the POLARIS for a purpose other than that for which it is intended.
- Incorrect installation, commissioning, operation and maintenance.
- Non-compliance with the instructions in the manual with respect to transport, storage, assembly, commissioning, operation and maintenance.
- Structural modifications without our prior authorisation.
- Inadequate monitoring of components that are subject to wear
- Repairs done incorrectly.
- Disasters due to the effects of foreign matter or Act of God (events outside human control).

BARTEC grants a warranty period of one year on the POLARIS series, starting from the BARTEC delivery date. The warranty period for accessories is 1 year from the date of delivery. This warranty covers all parts of the delivery and is limited to the free-of-charge replacement of or repair of the defective parts by BARTEC. The packaging supplied should ideally be retained for this purpose (return shipping). If necessary and following written consultation, the products should be sent to us with an RMA form. No claims may be submitted for repair work to be performed at the installation location.

2. Product description

2.1 Definition

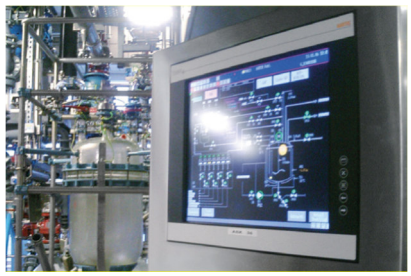
The **POLARIS Remote KVM Analog** device from BARTEC is a display, optionally with keyboard, mouse and touch screen which can operate a server or PC in the safe are in Ex zone 1.

Illustration 1: POLARIS Remote KVM Analog device series

It is connected to the server or PC easily and directly by means of the local unit already included in the scope of supply.

Illustration 2: e.g. local unit with STP cable

The **POLARIS Remote KVM Analog** series is optimised for signals such as VGA and PS/2 (USB via adapter). A local monitor, a keyboard and a mouse can be connected via "VGA/PS2 Out". The touch screen is connected via an RS232 interface (the installation of a driver is necessary and is contained in the scope of delivery).



The front-panel mounting design makes installation easy. On request, the devices are also available as a ready-made system solution in a stainless steel enclosure for wall, floor or table mounting.

Intrinsically safe keyboards in various national languages, and mouse, trackball, joystick and touchpad as front-panel installation are available. A resistive (intrinsically safe) touch screen and the connection of a BARTEC hand-held scanner are optional possibilities. The intrinsically safe input devices are supplied through barriers which are also integrated in the POLARIS Remote.

For particularly harsh areas of use with temperatures as low as down to -40 °C, we equip the POLARIS series with electrical heating. On request, we produce customised solutions with more command and signalling devices.

2.2 System design

2.2.1 Standard – Point to Point

The voltage of the local unit is supplied via the PS/2 keyboard of the local computer. A separate power pack is necessary in an individual case (not contained in the scope of delivery).

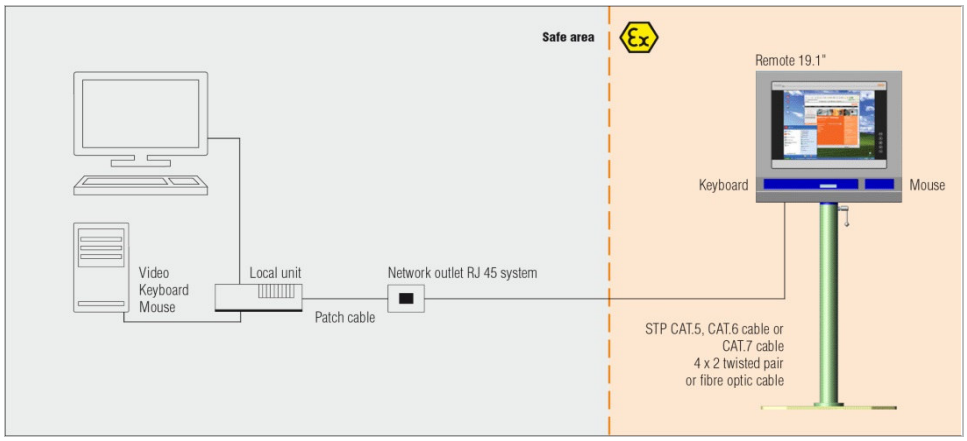


Illustration 3: System design with STP cable up to 300 m

2.2.2 Special application - Cascade connection

In the event of cascading, the local unit must be supplied additionally by a separate external power pack (type no., see chapter on "Accessories").

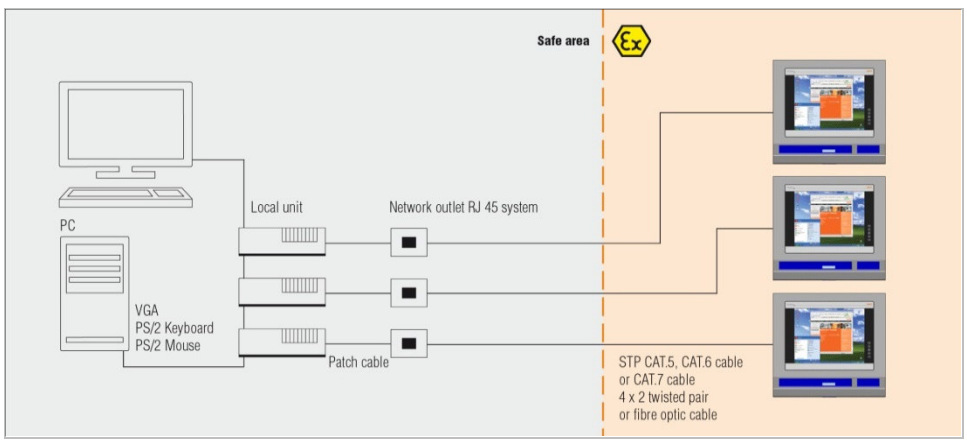


Illustration 4: System design with STP cable up to 330 m and cascading of several POLARIS Remote devices

3. Explosion protection and approvals

POLARIS Remote KVM Analog Type 17-71V2-….	
ATEX	
Ex protection type	II 2G Ex db eb mb q [ib op pr] IIC T4 Gb II 2D Ex mb tb IIIC T120°C Db -20 °C ≤ Ta ≤ 60 °C
Certification	IBExU 05 ATEX 1117 X
Standards in accordance with EMC Directive 2014/34/EU	EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-5:2015 EN 60079-7:2015 EN 60079-11:2012 EN 60079-18:2015 EN 60079-28:2015 EN 60079-31:2014
IECEx	
Ex protection type	Ex db eb qb [ib op pr] IIC T4 Gb Ex tb IIIC T120 °C Db
Certification	IECEx IBE 11.0007X
Standards in accordance with EMC Directive 2014/34/EU	IEC 60079-0:2011 Edition: 6 IEC 60079-1:2014-06 Edition: 6 IEC 60079-5:2015 Edition: 4 IEC 60079-7:2015 Edition: 5 IEC 60079-11:2011 Edition: 6 IEC 60079-18:2015 Edition: 4 IEC 60079-28:2015 Edition: 2 IEC 60079-31:2013 Edition: 2
Special conditions	The intrinsically safe circuits and the enclosure are galvanically connected. The equipotential bonding must be guaranteed at the installation of the intrinsically safe circuits. High charging mechanisms at the operation surface of the Visual units respectively accessories (for example pneumatic particle transport) must be excluded at the application. The degree of protection (IP code) must be ensured by the installation of the units in enclosures (IP code).

Further test certificates	
INMETRO	11/UL-BRHZ-0131X
Customs Union Russia (EAC)	TC RU C-DE.GB06.B.00334
Korea	KTL 14-KB4BO-0258X
India	CCEs P261984
China	NEPSI GYJ18.1382X
America	CSA 70010166
More test certificates	www.bartec.de
EU-conformity	
RoHS-Directive	2011/65/EU
Standards in accordance with EMC Directive 2014/30/EU	EN/IEC 61000-6-2:2005 EN 61000-6-4:2007 + A1:2011 IEC 61000-6-4:2006 + A1:2010 EN 60529:1991 + A1 2000 + A2 :2013 IEC 60529:1989 + A1 1999 + A2 :2013
Electrical safety	EN/IEC 61010-1:2010
Product labelling	CE 0044

4. Technical data

4.1 POLARIS Remote KVM Analog

4.1.1 General data

Construction	Front panel fitting; Optional turn-key system solutions in a stainless steel enclosure as wall, floor or table mounting versions.
Connection to the PC	Connection directly to VGA, PS/2 keyboard and PS/2 mouse, optionally RS232 interface for touch screen Extension via STP/S 4x2x23 AWG
Conductor length	up to 300 m with STP/S copper cable
POLARIS Remote connection	1 x Ex e for STP/S (CAT 7) 1 x Ex e power supply 2 x Ex i for PS/2 for intrinsically safe keyboard and mouse
Optional interface modules	1 x Ex i Supply module for hand scanner
Display	Antireflection coating glass pane Optional touch screen
Power supply	AC 90 V to 253 V ± 10 %, 50 Hz to 60 Hz DC 24 V ±10 %
Max. power consumption	P_{max} < 100 W depending on the version
Relative air humidity	5 to 95 % non-condensing
Vibration	0.7 G/1 mm; 5 Hz-500 Hz pulse in all 3 axes
Shock	15 G, 11 ms pulse in all 3 axes
Material Front Rear	 Polyester foil on anodized aluminium plate (conditionally UV-resistant) sheet steel bichromated
Protection class Front Rear	 IP66 IP54
Optional approved accessories	Keyboard Mouse variants Hand scanner

4.1.2 Characteristics POLARIS Remote KVM Analog 15"

Display 	15" graphics-capable TFT display XGA resolution 1024 x 768 pixels 262,144 colours Brightness 350 cd/m2 Visible surface approx. 304 x 228 mm Contrast 400:1
Backlighting	LED technology, Service life approx. 50,000 hours (at +25 °C)
Permissible ambient temperature Storage/Transport Operation	 -20 °C to +50 °C 0 °C to +50 °C
Dimensions (width x height x depth)	411 mm x 332 mm x approx. 135 mm
Wall cut-out (width x height)	394.5 mm x 315.5 mm + 0.5 mm
Weight	approx. 23 kg

4.1.3 Characteristics POLARIS Remote KVM Analog 19.1"

Display 	19.1" graphics-capable TFT display SXGA resolution 1280 x 1024 pixels 16.2 million colours Brightness 300 cd/m2 Visible surface approx. 380 x 305 mm Contrast 1300:1
Backlighting	LED technology, Service life approx. 40,000 hours (at +25 °C)
Permissible ambient temperature Storage/Transport Operation	 -20 °C to +50 °C 0 °C to +50 °C
Dimensions (width x height x depth)	498 mm x 400.5 mm x approx. 135 mm
Wall cut-out (width x height)	484 mm x 386.5 mm + 0.5 mm
Weight	approx. 33 kg

4.2 Keyboard

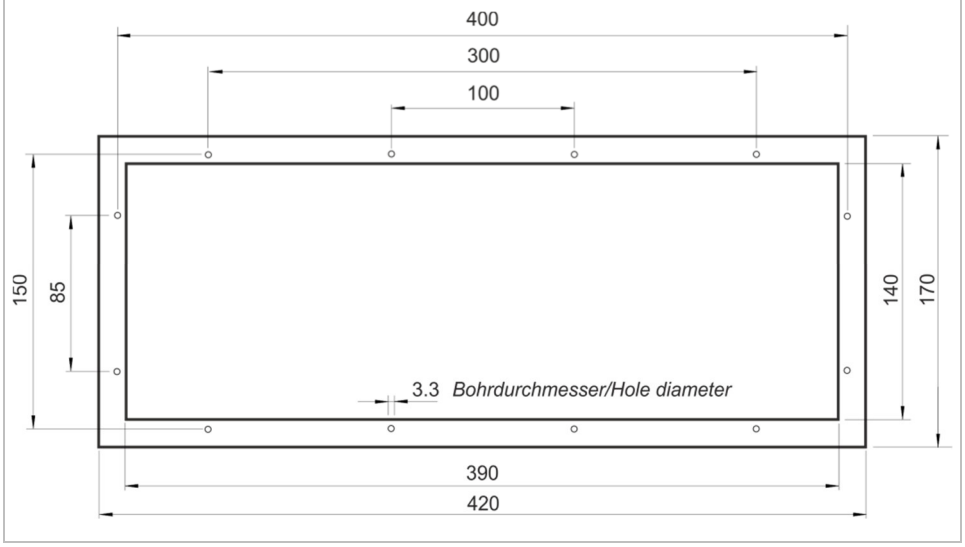
4.2.1 Explosion protection

Type	17-71VZ-40..
Ex protection type ATEX	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T120°C Db -20 °C ≤ Ta ≤ +60 °C (50°C)
Certification	IBExU 05 ATEX 1117 X
Ex protection type IECEx	Ex ib IIC T4 Gb Ex ib IIIC T120 °C Db
Certification	IECEx IBE 11.0007X
Ex protection type	Class I, Zone 1 (A)Ex ib IIC T4; Gb Class II, Zone 21 (A)Ex ib IIIC T120 °C; Db
Certification	CSA 15.70010166
More test certificates	www.bartec.de

4.2.2 General data

Construction	Front panel fitting
Material	Polyester foil on aluminium sheet (conditionally UV-resistant)
Protection class (front)	IP65
Dimensions (width x height)	420 mm x 170 mm
Wall cut-out (width x height)	391 mm x 140 mm
Installation depth	18 mm
Weight	approx. 700 g
Other features	Keyboard available in various languages

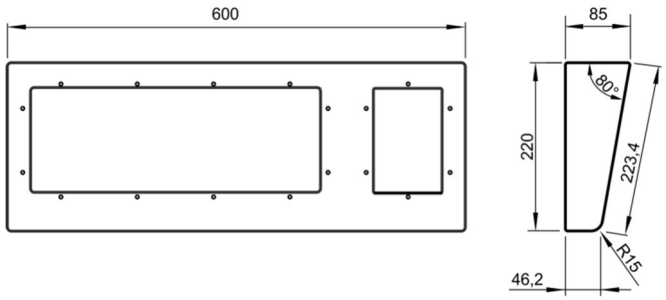
Dimensions and wall cut-out for keyboard (mm)



4.2.3 Characteristics enclosure for keyboard

Order no.	05-0041-0277
Material	Stainless steel 1.4301; AISI 304
Dimensions (width x height x depth)	600 mm x 85 mm x 220 mm
Protection class	IP65

Dimensions (mm)



4.3 Finger mouse, trackball, touchpad and joystick

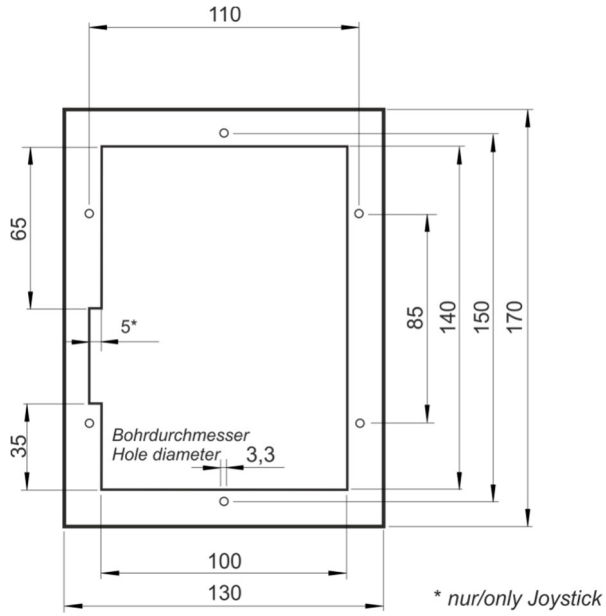
4.3.1 Explosion protection

Ex protection type ATEX	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIC T120°C Db -20 °C ≤ Ta ≤ +60 °C (50°C)
Certification	IBExU 05 ATEX 1117 X
Ex protection type IECEx	Ex ib IIC T4 Gb Ex ib IIIC T120 °C Db
Certification	IECEx IBE 11.0007X
Ex protection type	Class I, Zone 1 (A)Ex ib IIC T4; Gb Class II, Zone 21 (A)Ex ib IIIC T120 °C; Db
Certification	CSA 15.70010166
More test certificates	www.bartec.de

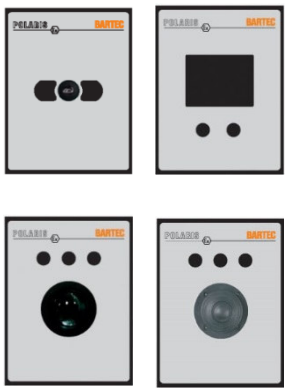
4.3.2 General data

Construction		Front panel fitting
Material		Polyester foil on aluminium sheet (conditionally UV-resistant)
Protection class		
Fingermouse/Joystick/Touchpad		IP65 front site
Trackball	Static	IP65 front site
	Dynamic	IP51 front site
Dimensions	(width x height)	130 mm x 170 mm
Wall cut-out	(width x height)	100 mm x 140 mm

Dimensions and wall cut-out (mm)

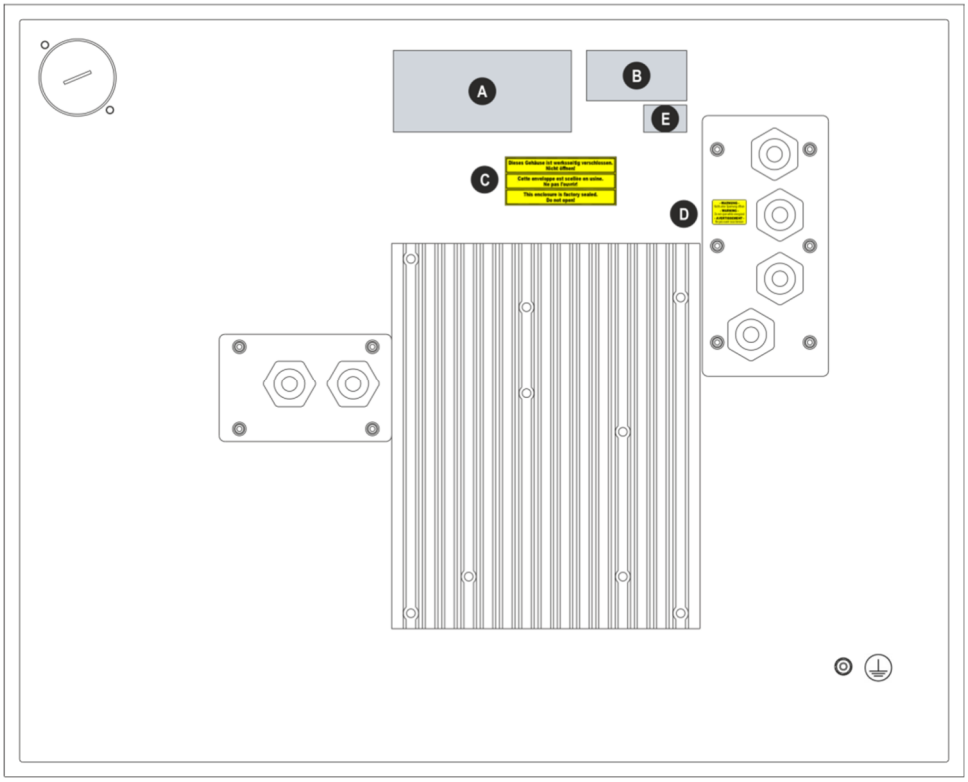


4.3.3 Variants

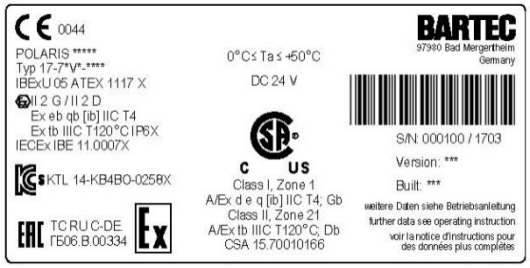


Finger mouse	Type 17-71VZ-1000
Installation depth	15 mm
Weight	approx. 270 g
Touchpad	Type 17-71VZ-2000
Installation depth	15 mm
Gewicht	approx. 250 g
Trackball	Type 17-71VZ-3000
Installation depth	43 mm
Weight	approx. 500 g
Joystick with button	Type 17-71VZ-9000
Installation depth	43 mm
Weight	approx. 500 g

4.4 Product labelling



A Example: ATEX type label



B IMMETRO type label

C Warnings on the device

D Warning on terminal compartment!

E Test sticker

5. Transport, storage, scope and assembly

5.1 Transport

A written report of any transport damage or missing items must be given to the appointed forwarder and to BARTEC GmbH immediately on receipt of the delivery.

Damage caused by incorrect storage and transport shall not fall within the warranty provisions of BARTEC GmbH.

CAUTION

This device is heavy (23-38 kg).

There is a risk of injury if it is lifted or moved incorrectly.

- ▶ You will need help from others when transporting it.

5.2 Intermediate storage

ATTENTION

Damage to property through incorrect storage!

- ▶ Comply with the correct storage temperatures.
- ▶ Keep the POLARIS free of moisture.

5.3 Scope of delivery

1 x POLARIS Remote KVM Analog Zone 1/21

1 x Local Unit, 1 x KVM cable (optional serial cable for touch or hand scanner)

1 x RJ45 network box, 1 x RJ45 patch cable, 3 m

1 x Reinforcement frame, 1 x Set of mounting clamps

1 x User manual POLARIS Remote KVM Analog for Zone 1/21

1 x Operation instructions KVM Extender

Not enclosed:

- Assembly material
- Cable for voltage supply and data line
- Power pack for local unit
- Connection cable for BARTEC hand scanner

5.3.1 Accessories optional

- Keyboard, finger mouse, touchpad, trackball, joystick
- Enclosure and supporting system for wall, floor and table mounting
- BARTEC hand scanner
- Connection cable for BARTEC hand scanner

5.4 Assembly

Before assembling the device, make sure you have all the components and documents.

Required Tools

POLARIS (mounting clamps)	1 x hex key 3 mm 1 x slotted screwdriver
POLARIS termination-compartments	1 x hex key 2,5 mm 1 x slotted screwdriver
POLARIS PE-connection	1 x ring spanner 7 mm
POLARIS accessories	1 x socket wrench 5.5 mm
System solution in an "Exclusive II" stainless steel enclosure e	1 x hex key 5 mm (to fix the supporting system in place)

5.4.1 Installation options

The POLARIS can be installed directly in:

- Enclosures
- Switch cabinet doors
- Operating consoles

The POLARIS series are mounted by fitting them into front panels, which can be done with very little effort. On request, we supply the operating devices as ready-to-use system solutions in stainless steel enclosures for mounting onto walls, floors or table.

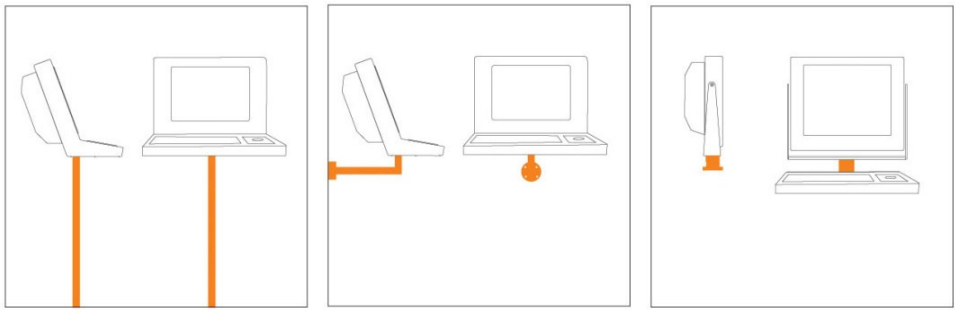


Illustration 5: Examples of floor, wall and table mounting in an "Exclusive II" enclosure

6. Installation

We recommend setting up and testing the entire system before its ultimate installation in the ex-area. If a long connection cable is not available, please use a patch cable to test the basic functions.

DANGER

Electrostatic charging through a stream of particles.

There is a risk of fatal injury in an explosive atmosphere!

- ▶ Make sure there are no highly energetic charging mechanisms at the user interface on the display unit or its accessories.
- ▶ Do not install the device in the stream of particles.

DANGER

No PE connection. Risk of fatal injury in an explosive atmosphere!

- ▶ The POLARIS must be integrated in the equipotential bonding.

The POLARIS Series is approved for an ambient temperature of from 0 °C to +50 °C and a relative air humidity of from 5 to 95 % without condensation.

6.1 Requirements

- The place where the POLARIS is installed must have sufficient mechanical stability/fastening.
- The enclosure intended for accommodating the POLARIS must be designed to bear the device's weight.
- If a supporting system is used, the surface underneath and the means of fastening the supporting system must be designed to bear the weight of the POLARIS

Selecting the location

CAUTION

Pay attention to wall and ground condition!

A sufficiently stable wall (e.g. concrete or limestone) or floor (e.g. concrete) must be selected for securing the load-bearing system.

- ▶ The structural stability of the wall or floor must be able to bear 4 times the weight of the POLARIS as system solution.
- ▶ The support arm system must be assembled using suitable mounting materials (M12) (e.g. dowels or stud bolts).

- Choose the optimum height for operating the POLARIS.
- Ensure good lighting conditions for a perfectly legible display (no direct exposure to the sun's rays).

- Do not mount in direct proximity to switching or current changing devices.
- Only install the POLARIS in conjunction with the reinforcement frame in an IP65 enclosure. Failure to comply with this can lead to water penetrating and damaging the device.

Outdoor installation

ATTENTION

Damage from condensation or overheating!

- ▶ Avoid direct sunlight!
  Remedy: e.g. shelter with sufficient air circulation.
- ▶ Remove condensation on the POLARIS immediately.
- ▶ A POLARIS built into an enclosure must be heated and not removed from the mains.
- ▶ Equip the protective housing with breather.

6.2 Mechanical installation

CAUTION

This device is heavy (23-38 kg).

There is a risk of injury if it is lifted or moved incorrectly.

- ▶ You will need help from others when transporting it.

Only qualified personnel, i.e. trained skilled specialists will have the necessary specialised know-how to be able to perform all the mechanical work. Familiarity with and the technically perfect implementation of the safety instructions described in this manual are preconditions for safe installation and commissioning.

6.2.1 Installation in 2G-/2D-enclosure

In order to guarantee the IP degree of enclosure protection = IP54 for installation in 2G enclosures of Ex e type of protection (e.g. control equipment), and = IP6X for installation in 2D enclosures in areas where combustible dusts exist - with "protection through the enclosure" type of protection - the reinforcement frame should be used for fastening on the front side.

A reinforcement frame is inserted between the retaining brackets and the enclosure material for good transmission of the clamping force. This ensures even transmission of force.

For POLARIS built into the enclosure door

The open door must be supported and secured during the installation and servicing phase. Otherwise the wall thickness specified may lead to the door sagging slightly when open.

DANGER

If there is no reinforcement frame, it will not be possible to maintain the IP protection. There is a risk of fatal injury in an explosive atmosphere!

- ▶ Only use enclosure with at least 2 mm wall thickness.
- ▶ Insert the reinforcement frame between the holder and the enclosure.

Reinforcement frame for maintenance of protection class IP65	
POLARIS 15"	05-0205-0009
POLARIS 19.1"	05-0205-0010

Fit the reinforcement frame

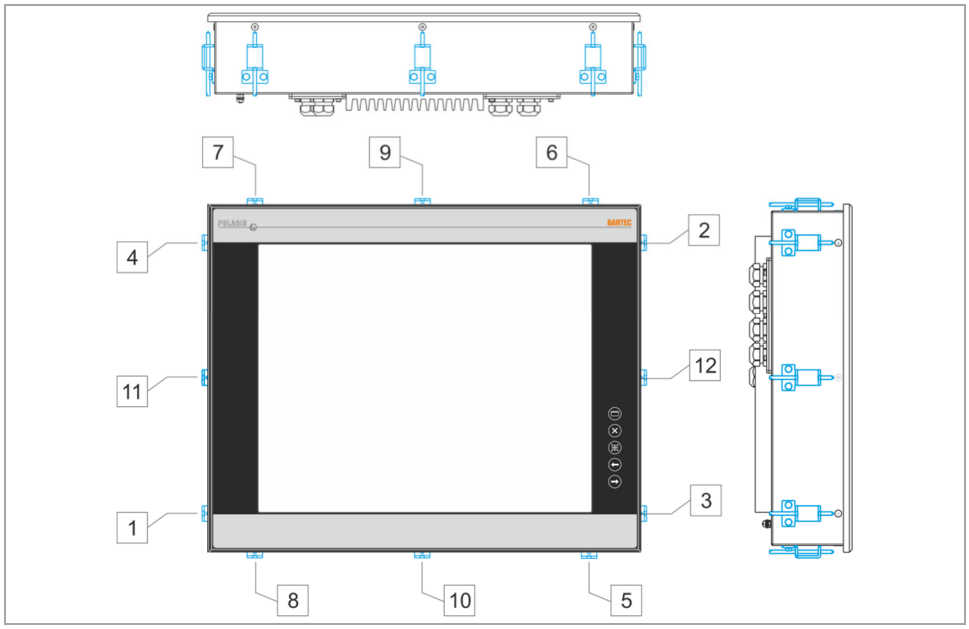


Illustration 6: Fixing reinforcement frame with mounting clamps to POLARIS

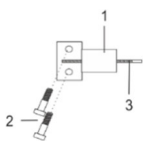
Work steps

(1) Insert the POLARIS into the cut-out in the enclosure.

(2) From the back, place the reinforcement frame over the POLARIS.

(3) Using the M4x12 (2) screws to fasten the mounting clamps (1) to the rear side of the POLARIS and tighten to 1.37 Nm.

(4) Tighten the clamping screw (3) of the mounting clamps in the order 1 to 12 to a torque of 1.02 Nm.



Number of mouting clamps	
POLARIS 15"	12 pieces
POLARIS 19.1"	

Always tighten the mounting clamps crosswise.

6.2.2 Installation as a system solution in the stainless steel enclosure "Exclusive II"

The POLARIS is available as a ready-made system solution in a stainless steel enclosure e.g. "Exclusive II" for floor, wall or table mounting.

CSA approval

The CSA approval for the POLARIS series includes an POLARIS system solution in stainless steel enclosure "Exclusive II" for wall and floor mounting.

Other system solutions and mounting systems (e.g. table mounting) have **not** been tested and approved in accordance with CSA.

For POLARIS built into the enclosure door

The open door must be supported and secured during the installation and servicing phase. Otherwise the wall thickness specified may lead to the door sagging slightly when open.

Selection of location

CAUTION

Pay attention to wall and ground condition!

A sufficiently stable wall (e.g. concrete or limestone) or floor (e.g. concrete) must be selected for securing the load-bearing system.

- ▶ The structural stability of the wall or floor must be able to bear 4 times the weight of the POLARIS as system solution.
- ▶ The support arm system must be assembled using suitable mounting materials (M12) (e.g. dowels or stud bolts).

Work steps (Stainless steel enclosure "Exclusive II")

(1) Prepare supply and data line(s).

(2) Prepare installation on the basis of the drilling template (see illustration 7 - 9).

(3) Install supply and data line(s) in the base.

(4) Fasten the supporting system.

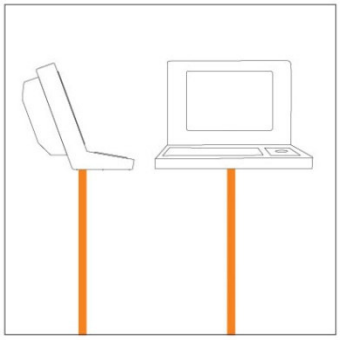
(5) Pull supply and data line(s) through the cable glands provided into the enclosure. Ensure there is sufficient length.

(6) Mount the enclosure on the supporting system.

(7) Open the terminal compartments on the POLARIS and feed the supply and data line(s) through the cable glands and wire them. Block unused terminal compartments with a blanking plug.

(8) Close the door of the "Exclusive II" enclosure.

6.2.3 Floor mounting (Stainless steel enclosure "Exclusive II")



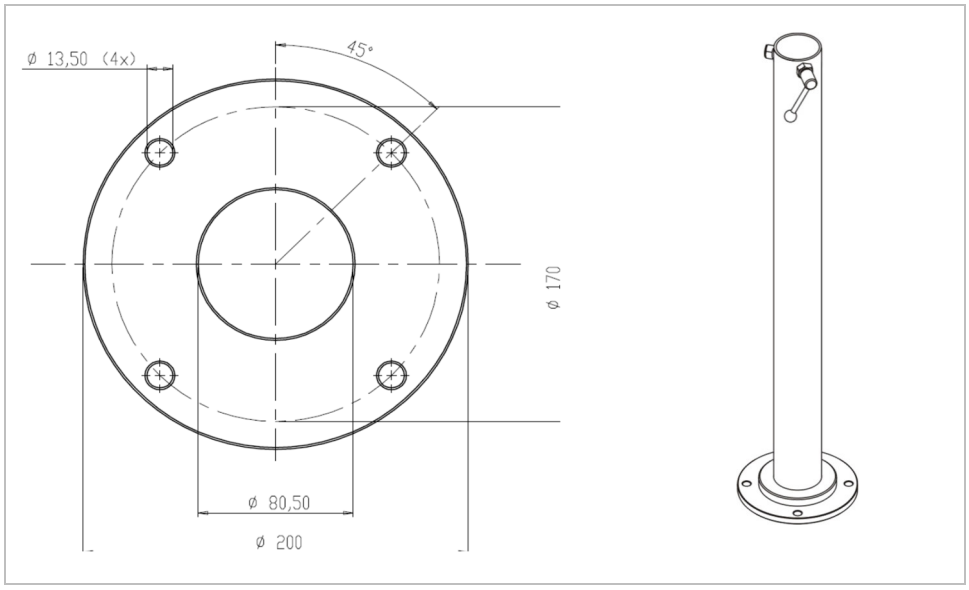
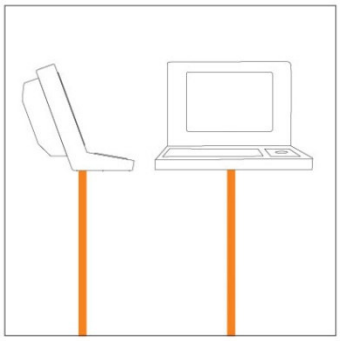


Illustration 7: Drilling pattern - supporting system for floor mounting

6.2.4 Wall mounting (Stainless steel enclosure "Exclusive II")



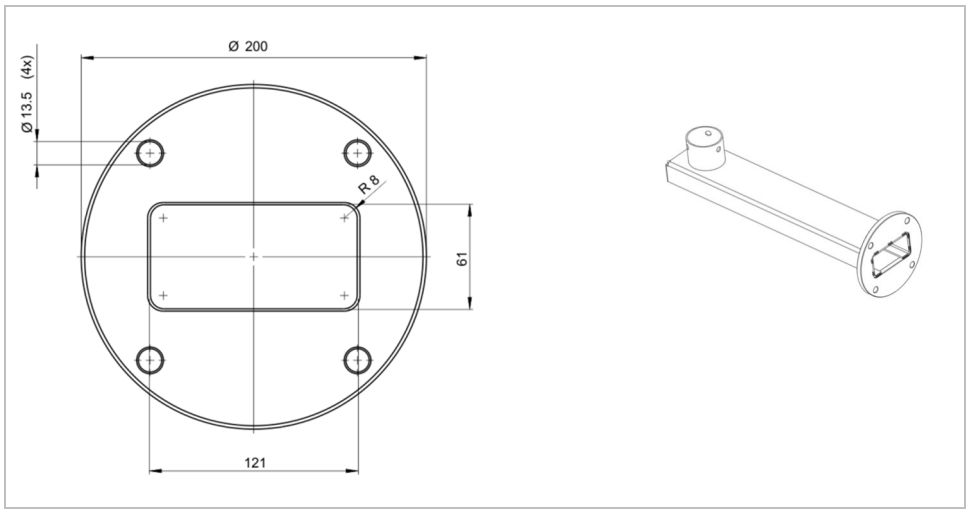


Illustration 8: Drilling pattern - supporting system for floor mounting

6.2.5 Table mounting swivel/tilt (Stainless steel enclosure "Exclusive II")

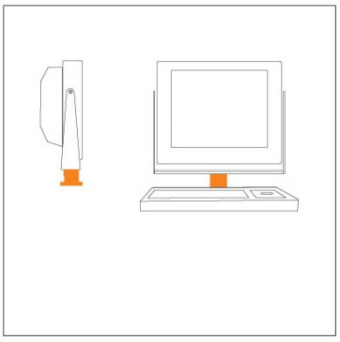
CAUTION

Movable enclosure parts on the swivel-mounted enclosure.
There is a risk of injury by hands being crushed.

- ▶ 3 people are needed for assembly/disassembly.
- ▶ When lifting the POLARIS, always pick up the swivel-mounted adapter and enclosure together.
- ▶ Hold up the POLARIS on both sides (two people), so that the third person can lay the supply and data line(s) in the supporting system. Make sure that your fingers do not get caught between the swivel adapter and the enclosure as you set up the POLARIS.

CSA approval

The system solutions table mounting have **not** been tested and approved in accordance with CSA. Must be checked separately in each individual case.



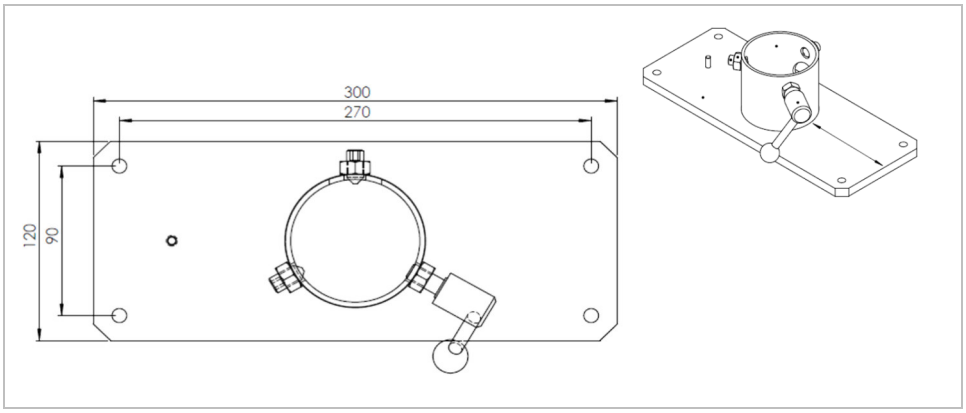


Illustration 9: Drilling pattern - supporting system for table mounting

Rotating

The POLARIS is fixed using two side T screws.

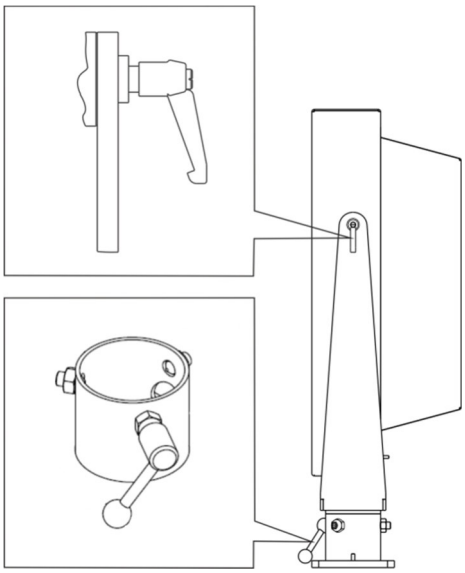
The angle of rotation can be changed once the screws have been loosened

Inclining

The POLARIS is fixed on the carrier system using two hexagon socket screws M10 and a T screw.

The angle of rotation can be changed once the screws have been loosened.

Tools: hex key 5 mm



6.3 Electrical installation

6.3.1 Installation guidelines

Only qualified personnel, i.e. trained electricians will have the required specialised knowledge to be able to do all the electrical work.

Familiarity with and the technically perfect implementation of the safety instructions described in this manual are preconditions for safe installation and commissioning.

- The user may do only the wiring at the terminals that are accessible to him/her (Ex i and Ex e terminal compartment).
- Any unused cable glands on the Ex e terminal compartment should be closed using an approved blanking plug.
- More extensive dismantling work on the device may be done only by the manufacturer or by persons authorised by the manufacturer for this purpose. The device is factory-sealed. Never open it!
- The equipotential bonding connection point must be connected to the equipotential bonding conductor in the hazardous area. Since the intrinsically safe circuits are galvanically connected to earth, equipotential bonding is required throughout the entire installation of the intrinsically safe circuits.
- The safety and accident prevention regulations applicable to the respective individual case must be observed.
- Devices must be properly installed first before they may be operated.
- It must be possible at all times to disconnect the devices from the voltage supply (in fixed installations by means of an all-pole mains isolating switch or fuse).
- It must be ensured that the supply voltage agrees with the specifications in this user manual and the tolerances must be observed. Use smoothed direct current.
- Malfunctioning cannot be ruled out if levels exceed or drop below the specified tolerances.
- If there is a power failure or if the power supply is interrupted, make sure the system has not been put into a dangerous, undefined condition.
- EMERGENCY STOP mechanisms must remain effective throughout all modes and states of operation.
- Connection cables (particularly data transmission cables) must be selected and laid in a way that ensures that capacitive and inductive interference will not have any adverse effect on the equipment. Appropriate measures must be taken to handle line interruptions to prevent any undefined states occurring.
- Wherever malfunctioning can cause material damage or personal injuries, additional external safety circuits must be provided (e.g. limit switch, mechanical interlocking devices etc.).

6.4 Terminal compartments

DANGER

Sealed locking screw! The device is closed in the factory.

The explosion protection is lost if opened, and danger to life exists in an explosive atmosphere!

▶ Do not open the locking screw!

DANGER

Non-certified cable glands and non-sealed cable entries endanger the IP protection and accordingly the protection against explosions.

There is a risk of fatal injury in an explosive atmosphere!

▶ Use Ex-certified cable glands.

▶ Close non-sealed cable entries.

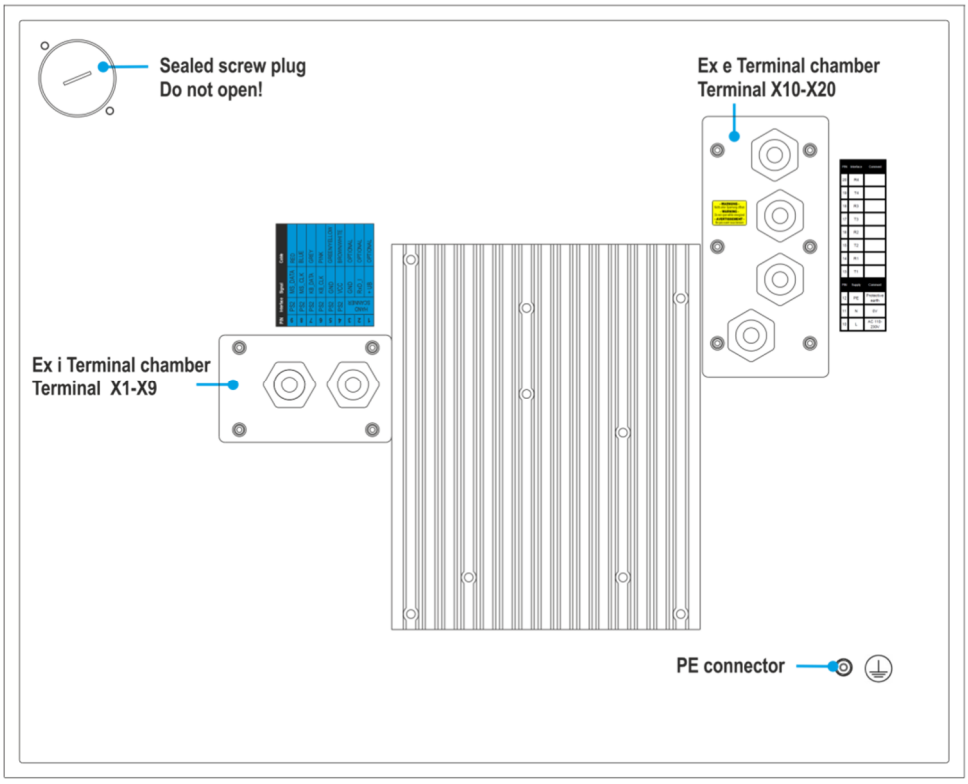


Illustration 10: Pin assignment POLARIS

All connection screws and terminals in the terminal compartment must be tightened with a torque spanner under consideration of the recommended torque of 0.4 Nm up to a max. 0.5 Nm.

6.5 PE conductor connection

DANGER

Death or danger of injury as a result of no PE conductor connection.
There is no explosion protection.

- ▶ Equipotential bonding with a core cross-section of at least 4 mm² is to be set up for the POLARIS (see figure).
- ▶ Secure PE conductor connections against self-loosening.

Stainless steel enclosure "Exclusive II"

- ▶ Attach equipotential bonding to the enclosure.
- ▶ All moving parts must be earthed.
- ▶ Secure PE conductor connections against self-loosening.

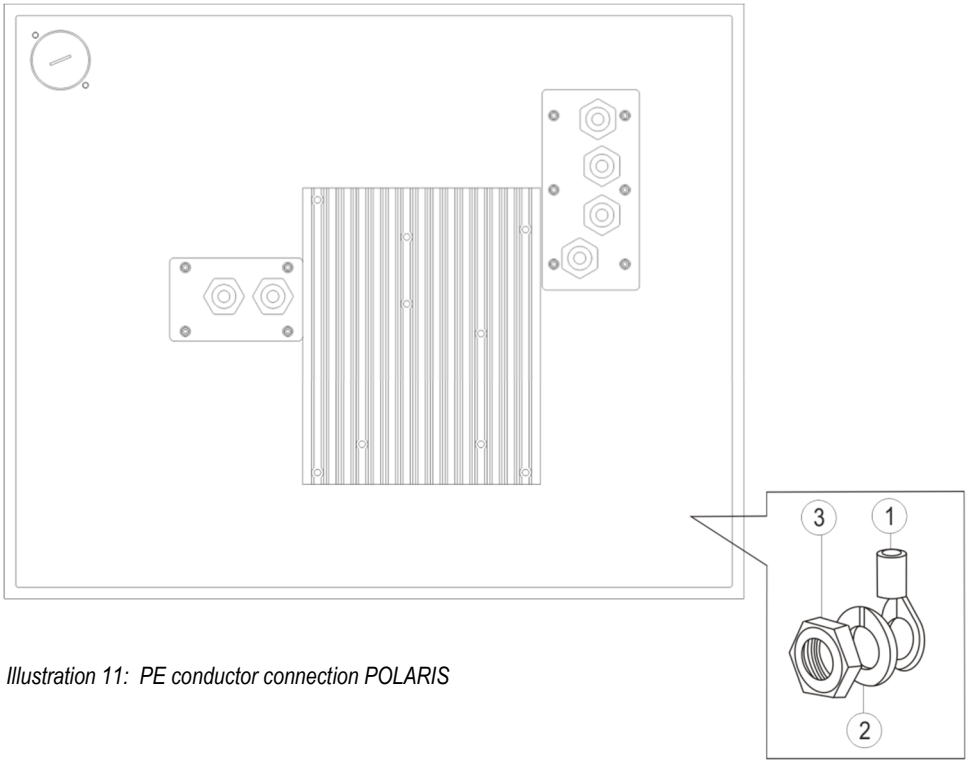


Illustration 11: PE conductor connection POLARIS

Work steps

(1) Washer on to earthing stud.

(2) Push non-sheathed cable with PE cable lug (1) on to earthing stud.

(3) Washer than Position spring washer (2) on threaded bolt and secure with hexagonal nut (3), max. torque: 2.9 Nm.

(4) Lay cable close to enclosure so that it cannot become loose.

ATTENTION

Device can be damaged by differences in potential!

- ▶ Avoid differences in potential (see chapter 6.9.5)

6.6 Ex e terminal compartments

6.6.1 Cable entries

When connecting cables and leads to supplies / communications equipment in increased safety protected areas, Ex certified cable entries must be used which are suitable for each type of cable and lead. You must maintain the protection concept "e" and include a suitable sealing element so that an IP rating of at least IP 54 is maintained.

The terminal area of the M20 cable glands is printed on the cable glands.

A different terminal area may only be substituted with a cable gland that complies with the current version of the approval.

The assembly instructions and installation conditions for the cable glands must be observed.

Tightening torque of cable glands

Torque	Connecting thread	Nut
non-armoured cables	2,3 Nm	1,5 Nm
armoured cables	8 Nm	5 Nm

DANGER

If the power supply is active there is a danger of life in an explosive atmosphere!

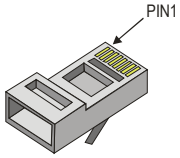
- ▶ Disconnect the device before starting work from the voltage supply.
- ▶ Only use certified cable glands that have been approved for the cable diameter of the connection cable.
- ▶ Unused cable glands must be sealed using an approved blanking plug.

6.6.2 Supply voltage terminal assignment (X10 to X12)

Mains Connection Variant AC			
Terminal	**Interface**	**Signal**	**Remarks**
X10	Supply	L	AC 110 - 230 V ± 10 %
X11	Supply	N	Neutral
X12	Supply	PE	Protective earth
Mains Connection Variant DC 24 V			
Terminal	**Interface**	**Signal**	**Remarks**
X10	Supply	+	DC 24 V ± 10 %
X11	Supply	-	0 Volt
X12	Supply	PE	Protective earth

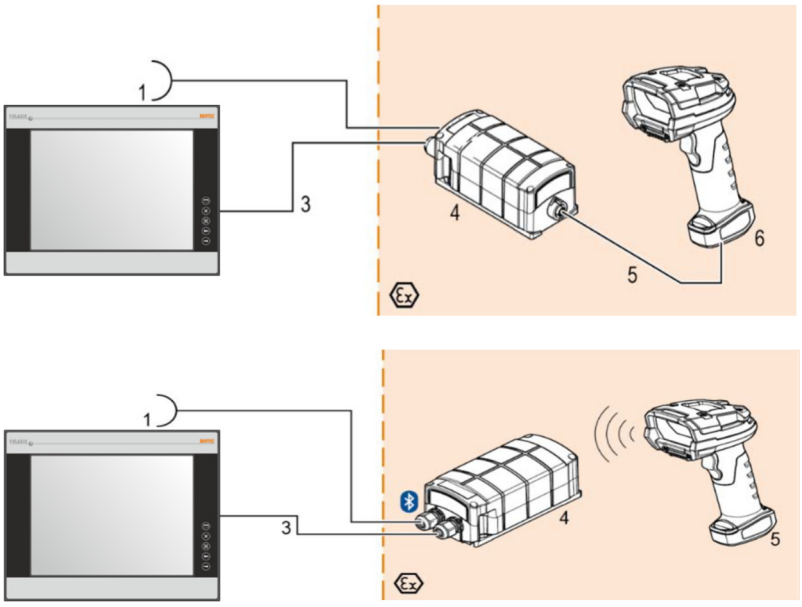
6.6.3 Terminal assignment LSA-Plus terminal (X13-X20)

POLARIS Remote	STP cable		RJ45 patch box	
	Terminal Colour	Terminal Colour (Color sequence according to DIN IEC 757)	Terminal Colour	Terminal Colour
X13	X13	WH/OG	T1	1
X14	X14	OG	R1	2
X15	X15	WH/GN	T2	3
X16	X16	GN	R2	6
X17	X17	WH/BU	T3	5
X18	X18	BU	R3	4
X19	X19	WH/BN	T4	7
X20	X20	BN	R4	8



6.6.4 Terminal RS 232 optional

RS 232 (Optional for Power module BCS 3600)			
Klemme	Schnittstelle	Signal	Power Module for BCS 3600
X 21	Not connected		
X 22	RxD	Input	X5 (TxD)
X 23	TxD	Output	X6 (RxD)
X 24		PE	



More information: http://automation.bartec.de/scannerE.htm

6.7 Ex i terminal compartment

Do not connect the keyboard, mouse, trackball, touchpad, joystick or the hand scanner while the power supply is active.

DANGER

Accessories which have not been approved jeopardise the explosion protection.
Danger to life exists in an explosive atmosphere!

▶ Only use POLARIS accessories!

The cover for the Ex i terminal compartment need not be used when deploying a protective enclosure with protection class of at least IP20.

6.7.1 Connection of Ex i keyboard to the POLARIS (optional)

PS/2 for input devices					
Terminal	**Interface**	**Colour**	**Signal**	**Remarks**	
X4	PS/2	WH/BR	VCC	Supply voltage	
X5	PS/2	GN/YE	GND	Mass connected to protective earth	
X6	PS/2	PK	KB_CLK	Keyboard	clock signal
X7	PS/2	GR	KB_DATA	Keyboard	data signal
X8	PS/2	BL	MS_CLK	Mouse	clock signal
X9	PS/2	RD	MS_DATA	Mouse	data signal

- Make the connection between the POLARIS and the Ex i keyboard.
- Connection by means of a 1.80-metre-long connection cable
- Keyboard and mouse type 05-0068-0163
- Keyboard and trackball/joystick type 05-0068-0172
- Keyboard and touchpad type 05-0068-0183

  (Optional: 3-metre-long connection cable)

6.7.2 Connection of a BARTEC BCS 160ex series (optional)

Do not connect the hand scanner when there is an active power supply.

Configuration of hand scanner connection (optional))			
Terminal	**Interface**	**Signal**	**Remarks**
X1	Hand scanner	+UB	Supply voltage +5 V
X2	Hand scanner	RxD-I	Data input RS232-Signal
X3	Hand scanner	GND	Earth connected to protective ground
Intrinsically safe data and supply current circuits Terminal X1-X3		U_0	5.5 V
		I_0	440 mA
		P_0	1.25 W
		R_i	25 Ω
		C_0	55.8 µF
		L_0	0.2 mH

The hand scanner BCS 160ex series can only be used with the original connection cable from BARTEC. Hand scanner BCS 160ex with 1D/2D imager (type 17-21BA-M31S/I0000000) is not compatible.

Connection cable to Barcode hand scanner BCS 160ex 1D and PDF (pre-assembled)

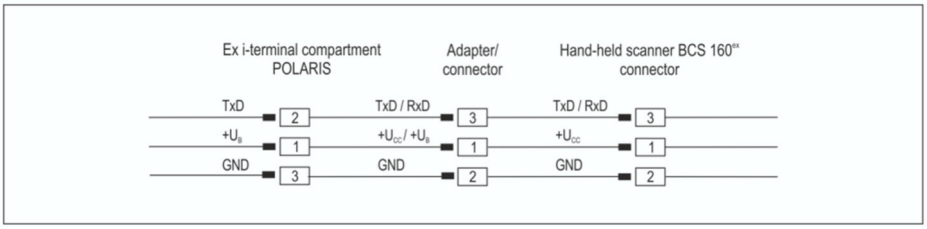
Cable specified for connection to:	Scanner cable	Version	Length	BARTEC order no.
POLARIS supply module	RS232/RS422 RS232/RS422	smooth spiral	1.8 m 3.8 m	17-21BE-M000/0000 17-21BE-M010/0000

Connection cable to Ex base station of BCS 160ex BT Bluetooth hand scanner (pre-assembled)

Cable specified for connection to:	Scanner cable	Version	Length	BARTEC order no.
POLARIS supply module	RS232/RS422 RS232/RS422	smooth spiral	1.8 m 3.8 m	17-21BE-M020/0000 17-21BE-M030/0000

Terminal connection diagram

BCS 160ex hand scanner to supply module by means of connector/adapter.



6.8 Local unit for STP cable

The local unit is used in connection with the POLARIS Remote KVM Analog.

Please read the enclosed manufacturer's manual and also observe the warnings given by the manufacturer.

6.8.1 Technical data of local unit

Enclosure	Aluminium anodised
Dimensions	ca. 198 x 111 x 50 mm (length x breadth x height)
Max. ambient temperature	0 °C to +45 °C
Weight	ca. 600 g
Maximum line length	300 m
Power supply	From PC via PS/2 keyboard Alternatively external power pack, see Accessories
Video	VGA ... UXGA, RGB without Plug & Play support (at 1280 x 1024 up to 300 m)
Keyboard / mouse	Standard PS/2, alternatively USB/PS2-Adapter, see Accessories
Serial	To connect the touch screen (necessary to install a driver)

6.8.2 Properties of local unit

Keyboard and mouse emulation for Plug & Play functionality. The PC boots under all conceivable circumstances. The Plug & Play initialisation of keyboard and mouse is guaranteed in the same way (length up to 300 m). A length adjustment using the keyboard is necessary.

6.8.3 Compatibility

In order to use the hardware of a broad variety of manufacturers in different environments, this product has a number of different functions and has been tested with a large number of different devices. Nevertheless, it is impossible to guarantee correct function with every keyboard/mouse/monitor and every mother board on the market.

6.8.4 Connection of STP cable

The connection between the POLARIS Remote KVM Analog and the local unit is made using a CAT 7 cable.

Requirements placed on CAT 7 cable:

The cables must be twisted and shielded EIA/TIA-568 B (usual) in pairs!
Recommended cable: LAN STP cable CAT.7 4x2x23 AWG, see accessories.

6.9 EMC (Electromagnetic compatibility)

This is a class A unit and can cause radio interference in residential areas; if it does, the owner/managing operator may be required to implement suitable measures and pay for loss or damage.

Only shielded conductors may be used as connecting conductors. This applies both to the data line and to all other conductors too.

The data lines must be stranded in pairs.
Example 2 x 2 x 0.75 mm² LIYCY TP.

As far as possible, separate conductors should be used for power supply and data

6.9.1 Voltage supply (AC- and DC-variants)

To supply voltage to the DC variant, it is necessary to use a regulated power supply unit with a power level of at least 5 A. The voltage supply at the place of installation may neither exceed nor drop below DC 24 V ± 10 %. Observe the voltage drop on the supply cable and correct if necessary.

The voltage drop in the DC variant of the supply line is calculated with the following formula:

ΔU	Voltage drop on the supply line at power supply voltage of DC 24 V	Max. 2.4 V
ΔU	Voltage drop on the supply line with maximum permissible mains adapter overvoltage DC 24 V +10 % (26.4 V)	Max. 4.8 V (until 10 % undervoltage is achieved)
I	Electricity for a POLARIS	At least 4 A
A	Cable cross-section of the supply line	
κ	Specific conductance of copper	$56\frac{m}{\Omega \cdot mm^2}$
l	Length of the supply line (consider both the outgoing and return line)	

$$R = \frac{l}{\kappa \cdot A} \quad R = \frac{\Delta U}{I} \qquad \Delta U = \frac{l}{\kappa \cdot A} \cdot I$$

If the voltage drop cannot be balanced out or the calculation produces excessive cable cross-sections, a separate mains adapter must be installed near the installation site.

Example: pressure-tight encapsulation or ex-free area on the outside of the building.

As a result of the connection of the power supply to the POLARIS, the earth for the power supply is connected to the PE. It is essential to ensure that the earth for the power supply on the POLARIS, if this is not electrically isolated, indicates no potential difference to the PE/PA.

6.9.2 Back-up fuse

The POLARIS REMOTE is fused internally in the DC model with a 4 A slow-blowing fuse and with the AC model with a 1.6 A or 2.5 A slow-blowing fuse. The fuse may be triggered in the case of voltage breaks or under-voltage.

Internal fuse		I^2 value	External fuse	
Little fuse 1.6 A T	1500A@250VAC	6.83 A^2 s	Siba 1.6 A F	1500A@250VAC
			Siba 2.0 A F	1500A@250VAC
			Siba 2.5 A F	1500A@250VAC
Little fuse 2.5 A T	1500A@250VAC	22.29	Eska 1.6 A M	1000A@250VAC
			Eska 2 A M	1000A@250VAC

We recommend that the POLARIS is secured with a back-up fuse to avoid triggering the internal fuse in the device. The internal fuse can only be replaced by BARTEC.

Back-up fuse AC: 1.6 A slow-blowing (since June 2015: 2.5 A)
DC: 4 A quick-blowing.

The I^2 value is to be observed for other versions of the fuses.

6.9.3 Interference suppression

Certain basic measures must be taken to ensure freedom from interference when the POLARIS are installed:

- The interference voltages coupled into the device via power, data and signal line and the electrostatic voltage caused by contact are to be dissipated through the equipotential bonding.
- The installation point should be as far as possible away from fields of electromagnetic interference. This is especially important if there are frequency converters in the vicinity. Under certain circumstances will it be advisable to set up partitions to isolate the graphic display from interference.
- If inductive devices are fitted in the vicinity (e.g. contactor, relay or solenoid coils), especially if they are powered from the same source, protective circuits (e.g. RC elements) must be installed.
- Power supply and data cables must be laid so as to avoid interference. This can be achieved, for example, by avoiding laying such cables in close proximity to high-current carrying cables.

6.9.4 Shielding

- Only cables with braided shielding should be used (recommended cover density > 80%).
- Sheet shielding should not be used.
- Generally, connection of the shielding at both ends results in optimum damping of all interference frequencies.
- Connection of the shielding at one side only may be more advisable if a difference in potential exists and no equipotential bonding cable can be laid.

6.9.5 Connection of shielding

A low impedance connection to the circuit protective conductor is important to ensure a low current fault path. When sub-D connectors are used, the shielding should always be connected to the metal casing of the sub-D plug.

The plug casing of some controllers is not always well connected to earth. In such cases it may prove advantageous to insulate the shielding from the sub-D plug of the controller and connect it directly to the protective earth conductor by means of a cable that should be kept as short as possible (0.75 mm² …1.5 mm²).

6.9.6 Examples of shielding connections

ATTENTION

Device can be damaged by differences in potential!

▶ Avoid differences in potential.

Double-sided shield connection on the connecting cables

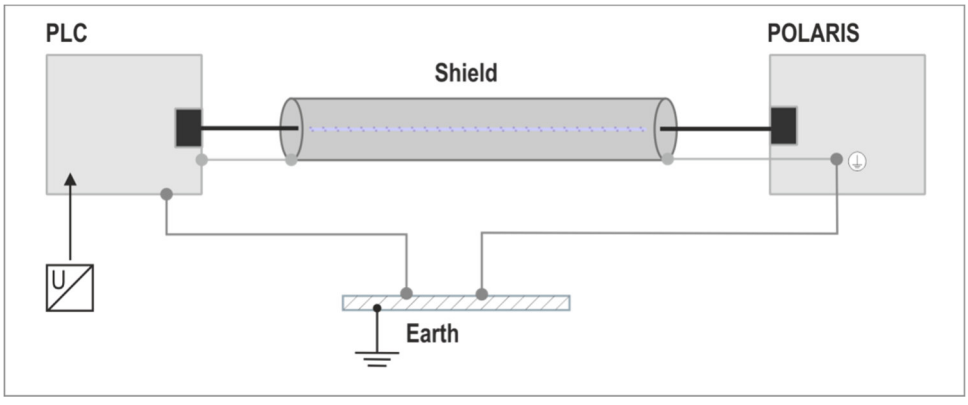


Illustration 12: Example of double-sided shield connection

Generally, connection of the shielding at both ends results in optimum damping of all interference frequencies. This method is to be recommended when there is good equipotential bonding between the individual units. In such cases it is possible to make use of the controller's voltage supply cable even if this is not electrically isolated.

Single-sided shield connection on the connecting cables

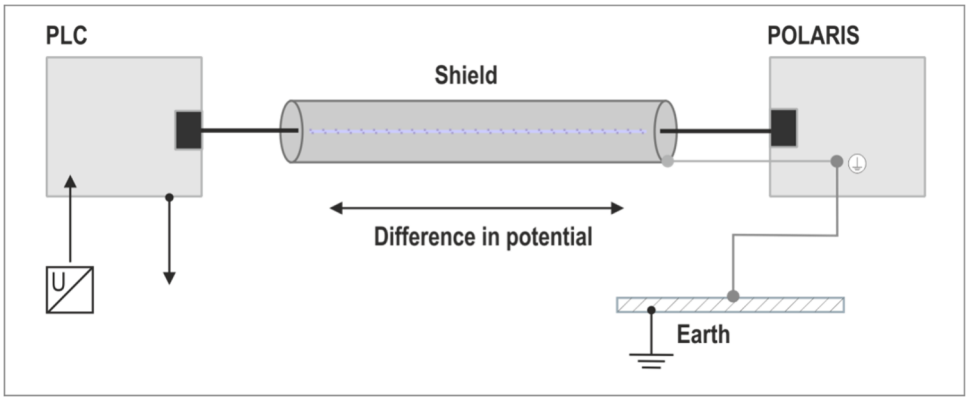


Illustration 13: Example of single-sided shield connection

Connection of the shielding at one end only is recommended when there is inadequate equipotential bonding, or none at all. In such cases an electrically isolated power supply unit must be used. Before the equipment goes into service the directions from the controller manufacturer regarding proper assembly and operation must be read carefully. They should then be applied taking full account of the recommendations we make here.

7. Commissioning

For electrical systems the relevant installation and operating specifications (e.g. Directives 2014/34/EU, BetrSichV and the applicable national ordinances, IEC 60 079-14 and the DIN VDE 0100 series) must be observed.

The operator of an electrical system in a hazardous environment must keep the operating equipment in an orderly condition, operate it correctly, monitor it and do the required maintenance and repairs.

Before commissioning the devices, check that all components and documents are there.

7.1 Final inspection

Check the following requirements before commissioning the device:

Only open the ex e terminal compartment with terminals for the supply and data line(s) once it has been ensured that no potentially explosive atmosphere is present and that the power supply has been turned off.

POLARIS Remote

- Has the reinforcement frame between the bracket and enclosure been inserted?
- Is there no damage to seals, cable connections or glass panel?
- Are the supply and data line(s) correctly wired?
- Is the PE connection correctly earthed?
- Have the supply and data line(s) been tightened in the screw terminals?
- Are all terminal compartments closed?
- Have all cable glands been tightened and all open cable entries closed with blanking plugs?

Local unit

- Is the network box connected to the local unit via patch cable?
- Are the data lines for USB, DVI and the power pack connected?

Only start the POLARIS (if a potentially explosive atmosphere is present) once the final inspection has been carried out.

8. Operation

The POLARIS series does not have any ON/OFF switch.

The device can be put into operation after the final check has been made.

8.1 Putting into operation for the first time

Compatibility

The system was tested with different devices. Nevertheless, it is impossible to guarantee that it will function correctly with every keyboard/mouse/ monitor and motherboard.

8.1.1 Length adjustment POLARIS Remote to local unit STP

It is necessary to make a length adjustment for the distortions on the STP cable when installing the first time. This length must be adjusted via the POLARIS Remote keyboard.

(1) Request the command menu with Ctrl + Shift + F10.

(2) Set the approximate cable length by multiple entry of the command Ctrl + Page Up

The cable length is increased by 25 m each time the command is executed.

(3) If necessary, the picture can be finely tuned with
L + → or
L + ← and
H + → or
H + ←

(4) With cable lengths >100 m the command 'Signal delay fast setting for GREEN' (Ctrl + G) may improve the picture.

(5) Store the settings and leave the command mode with Esc.

See manufacturer's manual for further information on the functions of the local unit.

8.2 Display settings

Settings can be done with the front-panel keyboard via OSD menu of the graphics card. Follow the instructions in the OSD menu.

OSD-Menu

8.3 Touch screen

In the POLARIS Remote devices the touch driver is on the CD included in the scope of supply. The touch driver for the respective operating system must be installed on the local server or PC.

There is also the option of downloading the touch screen software from

http://automation.bartec.de/

After installation, the touch screen must be calibrated.

The transmission is made via the RS232 interface.

8.3.1 Setting up the touch screen

Observe information in the manual on the enclosed CD (readmee.pdf).

Install touch screen driver (DMC, TSC-10 series, serial) from the enclosed CD on the PC or download from

http://automation.bartec.de/

Connect serial port of local unit with COM port (9-pole) of PC.

Calibrate touch screen (Programme\UPDD\Calibrate).
A 4-point calibration will normally be sufficient. If not the details can be determined in "Settings".

9. Faults and troubleshooting

Fault	Possible cause	Remedy
Display shows nothing	No power supply existing	Check connection of the power supply
	External fuse is blown	Check the fuse
	Internal fuse is blown	Send back to manufacturer
	Backlight defect	Send back to manufacturer exchanging backlight
	Unit defect	Send back to manufacturer
Screen shows "No Signal"	No signal from local unit	Check STP cable
	No VGA signal from local KVM	Check the VGA signal (VGA) at the local side by connecting an external monitor to the local KVM in the non-hazardous area
	KVM without current consumption	– PS2 connector of keyboard or external power supply has to be connected – Check the VGA signal (VGA) at the local side by connecting an external monitor to the local KVM in the non-hazardous area – if no screen is visible is to see maybe you need an external power supply if you don't you almost – if the problem appears after a longer use there is the possibility that the local unit is defect
No current consumption at Remote station	No power supply existing	Check connection of the power supply
	External fuse is blown	Check the fuse
	Internal fuse is blown	Send back to manufacturer
	Unit defect	Send back to manufacturer
Display is going on/off	to less power from power supply	Check the diameter of the cable Check power supply
Display shows only stripes	Display defect	Send back to manufacturer
Dark background	Lifetime of backlight is going to end	Send back to manufacturer Replace the backlighting
	Power Save activated	Press any key
Touchscreen without function	Driver deactivated Driver not installed	Check installation of driver and/or install driver
	Check serial interface	- check cable connection (RS232 existing) - check interface for function
	Wrong driver installed	Driver installation for serial interface is necessary www.automation.bartec.de calibrate touchscreen
Mouse pointer on screen and Touch point on screen are not the same	Touchscreen wrong or not calibrate	
Display show "Out of Range"	wrong graphic settings	Check graphic settings at local PC Frequency 75 Hz

10. Maintenance, inspection, repair

Only trained and qualified personnel may commission and do maintenance work on the POLARIS! Trained qualified personnel are people who are familiar with the installation, assembly, commissioning and operation of the POLARIS, have been instructed about the risks and have the appropriate qualifications by virtue of the work they do.

10.1 Maintenance intervals

The mechanical status of the devices should be checked at regular intervals. The length of the maintenance intervals depends on the ambient conditions. We recommend checking at least once a year. Regular maintenance is not necessary if operated appropriately in conformance with the installation instructions and with due consideration to the ambient conditions.

⚠ DANGER

Prevent electrostatic charging in hazardous (potentially explosive) areas.

There is a risk of a fatal injury in an explosive atmosphere!

▶ Take devices out of hazardous areas before wiping them dry or cleaning them!

ATTENTION

There is a risk of condensation forming when installed outside. Damage to property may occur if this is not checked!

▶ Regularly check the POLARIS for the formation of condensation.

10.2 Inspection

Under EN/IEC 60079-17 and EN/IEC 60079-19 the owner/ managing operator of electrical installations in hazardous areas is obliged to have these installations checked by a qualified electrician to ensure that they are in a proper condition.

10.3 Maintenance and repair work

Adhere to the applicable regulations under EN/IEC 60079-17 and EN/IEC 60079-19 when servicing, doing maintenance work on and testing associated operating equipment!

Assembly/disassembly, operating and maintenance work may be done only by trained specialists. The statutory rules and other binding directives on workplace safety, accident prevention and environmental protection must be observed.

10.3.1 Instructions for repairs

If you wish to send in a defective device for repair, please read the RMA procedure guidance first. Then fill in and sign the RMA (Return Merchandise Authorisation) form and send it to our "Retouren Center".

E-Mail: services@bartec.de
Fax: +49 7931 597-119

We cannot guarantee any contractually agreed processing times for devices that are sent in without an RMA number.

The RMA guide and the RMA form are available on our homepage for downloading.

http://www.bartec.de

Have you any questions? Write us an e-mail or call us.

E-Mail: services@bartec.de
Phone: +49 7931 597-444

11. Disposal

The component of the POLARIS contains metal, plastic parts and electronic components.

Our devices are intended as professional electric devices for business use only, referred to as B2B devices under the WEEE-Directive. The WEEE directive sets the framework for waste electric and electronic equipment handling procedures which are to apply throughout the EU. This means that you are not permitted to dispose of this equipment in normal household refuse. It should not be given to the collection sites set up by the public waste management authorities either but instead it should be disposed of in a separate collection in an environmentally sound manner.

Any product we supply can be returned by our customers to us when the time has come to dispose of it. We will ensure that it is disposed of in accordance with the respective applicable statutory regulations.

The sender pays the costs of the dispatch/packaging.

12. Dispatch and packaging instructions

ATTENTION

Sensitive Devices! Damage to property due to incorrect packaging!

- ▶ Take the device's maximum weight into account when selecting the packaging and mode of transport.
- ▶ Use the original packaging for transportation.

13. Accessories, spare parts

Icluded in the scope of the delivery:

Name		Order no.
Mounting clamps		05-0091-0112
Reinforcement frame	POLARIS 15"	05-0205-0009
	POLARIS 19.1"	05-0205-0010
Local unit		
RJ45 Network box		03-9320-0080
RJ45 Patch cable		03-9609-0010

Accessories/spare parts for POLARIS Remote KVM Analog:

Name			Order no.
Keyboard in respective national language			17-71VZ-40.0
Input devices	Mouse		17-71VZ-1000
	Trackball		17-71VZ-2000
	Touchpad		17-71VZ-3000
	Joystick without button		17-71V2-8000
	Joystick with button		17-71V2-9000
Connection cable	for keyboard and mouse	1.8 m	05-0068-0163
		3.0 m	03-0068-0204
	for keyboard and trackball/joystick	1.8 m	03-0068-0172
		3.0 m	05-0068-0205
	for keyboard and touchpad	1.8 m	03-0068-0183
		3.0 m	03-0068-0206
Enclosure "Exclusive II"	POLARIS 15"		03-8900-0224
	POLARIS 19.1"		03-8900-0225
Support system	Stand for floor mounting		05-0005-0050
	Support arm for wall mounting		05-0005-0058
	Stand for desk mounting		05-0005-0070
Enclosure for keyboard and mouse			05-0041-0277
Mounting clamps	4 pieces		05-0091-0111
	6 pieces		05-0091-0112
LAN STP cable	CAT.7 4x2x23 AWG, outer diameter: 7.9 mm		02-4082-0002
	CAT.7 4x2x22 AWG, outer diameter: 18 mm; armoured		02-4082-0004
BCS 160^{ex}	BARTEC hand scanner		17-21BA-M3.S.-……
Connection cable	for BARTEC hand scanner		on request
Original packing	POLARIS 15"		04-9035-0007
	POLARIS 19.1"		04-9035-0008
Local unit	for CAT cable with keyboard use		03-9911-0018
	for CAT cable without keyboard use		03-9911-0020

14. Order numbers

POLARIS Remote KVM Analog 15"

Selection chart

Version	Code no.	Interfaces	Code no.
Remote 15" without touchscreen	4	for STP/S copper cable (up to max. 300 m)	00
Remote 15" with touchscreen	6	for STP/S copper cable (up to max. 300 m) supply module for hand-held scanner*	04

*(not with touchscreen)

Complete order no. 17-71V2-☐0☐☐

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

POLARIS Remote KVM Analog 19.1"

Selection chart

Version	Code no.	Interfaces	Code no.
Remote 19.1" without touchscreen	5	for STP/S copper cable (up to max. 300 m)	00
Remote 19.1" with touchscreen	7	for STP/S copper cable (up to max. 300 m) supply module for hand-held scanner*	04

* (not with touchscreen)

Complete order no. 17-71V2-☐0☐☐

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

15. Additional information

Resistance list – polyester front foil
POLARIS series

BARTEC

Page 1 of 1

The polyester front foil material used for the POLARIS series in accordance with DIN 42115, section 2, is resistant against the testing material specified as follows:

Alcohols
Ethyl acohol
Cyclohexanone
Glycol
Glycerol
Isopropanol
Methanol

Aldehydes
Acetaldehyde
Formaldehyde

Caustic solutions	
Ammonia	< 2 %
Caustic soda	< 2 %

Hydrocarbons
Aliphatic hydrocarbons
General
Benzine
Benzene
Toluene
Xylene

Saline solutions
Alkalicarbonate
Bichromate
Prussiate of potash

Different substances	
Molecular chlorine	
Liquid cresolphenole soaps	
Oxygen	
Tricresyl phosphate	
Water	< 100 °C
Hydrogen peroxide	< 25 %

Chlorinated hydrocarbons
Chlorofluorocarbon
Perchloroethylene
III-trichloroethane
Trichloroethylene

Ester
Ethyl acetate

Detergents, scavengers and cleaning agents
Potassium soap
Detergent solutions (tenside)
Fabric softeners

Other organic solvents
Aether
Dimethyl formamide
Dioxane

Technical oils and fats
Cutting emulsion
Diesel oil
Varnish
Heating oil
Paraffin oil
Ricinus oil
Silicone oil
Turpentine oil and turpentine oil substitute

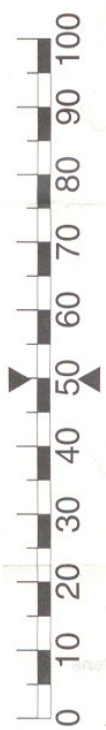
Acids	
Formic acid	< 50 %
Acetic acid	
Phosphoric acid	< 30 %
Hydrochloric acid	≤ 10 %
Nitric acid	≤ 10 %

(Where not stated otherwise: concentration = 100%)

Polyester membranes have a limited resistance to UV light and should therefore not be exposed to direct sunlight for extended periods of time.

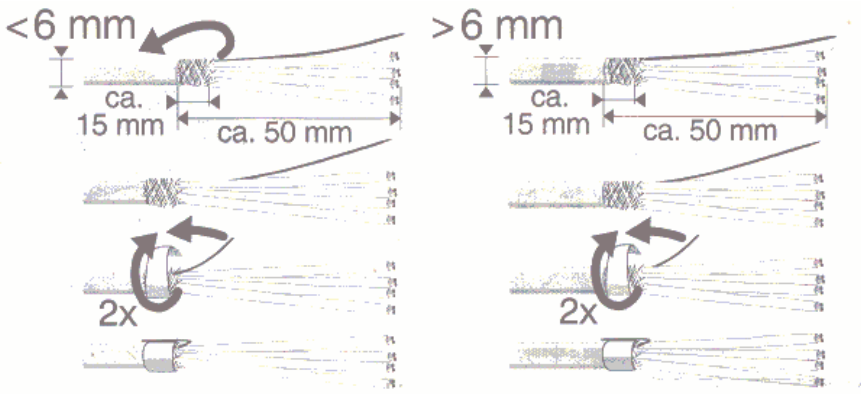
D_BMS791.doc • Resistance list Polyester front foil • Revision 1 / Status: July, 18th 2006 • Technical data subject to change

Mounting instructions Class D/E, CAT 6 Outlet



1. Preperation of the Cable Ends

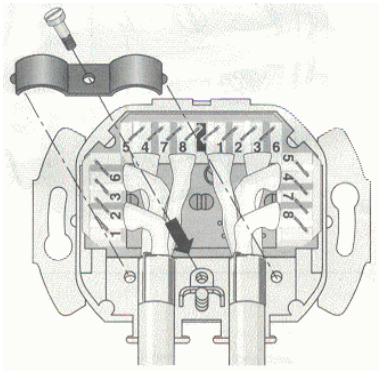
Remove cable sheathing approx. 50 mm in length. Cut back overall screen to approximate 15 mm, remove twisted pair screen as required. To ensure contact of the screen the diameter of the cable end must be 6 to 10 mm. If cable is too thin fold back screen over cable cover. To improve contact wind self-adhesive screening foil over the screen (approx. 2 turns, optional), bend tracing wire over that.



2. Mounting of the cables with one twin cable clip

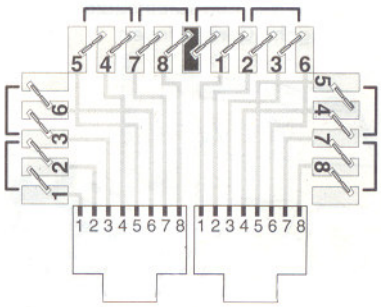
Both cables are mounted in the top cover with a bolt through the cable clamp; this ensures screen contact.

Strain relief with cable tie on top cover is possible (not included in delivered state.)



3. Recommendation – Colour Code

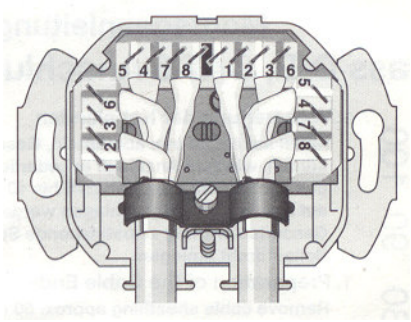
TIA/EIA-568-B (Color sequence according to DIN IEC 757)	
colour	terminal
WH-OG OG	1 2
WH-GN GN	3 6
WH-BU BU	5 4
WH-BN BN	7 8



Mounting instructions Class D/E, CAT 6 Outlet

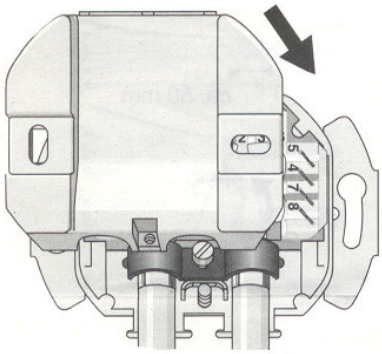
4. Wire connection

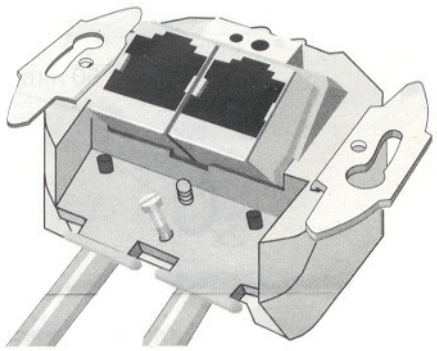
Connect the connecting blocks with the LSA-Plus tool. The twist should only be opened sufficiently to connect (max. 13 mm).



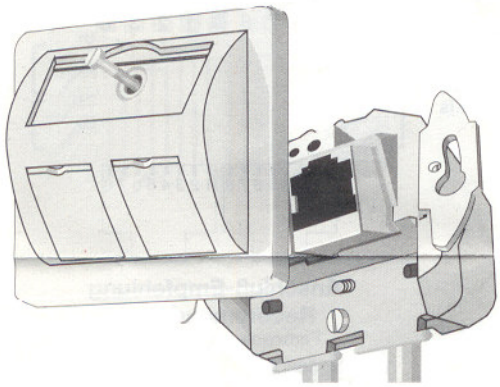
5. Mounting the bottom case

Fit the notches of the top case into the slots of the bottom case and fasten.

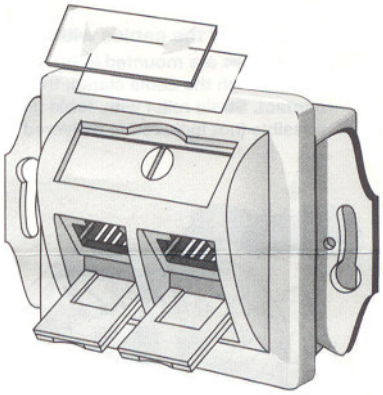




6. Mounting the central insert



7. Attaching the labels



16. Declaration of conformity

EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité

Nº 11-71V0-7C0001_D

BARTEC
BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Wir	We	Nous
BARTEC GmbH,		
erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
POLARIS Serie	**POLARIS serie**	**POLARIS sèrie**
Typ 17-71V0-**/****** **Typ 17-71V1-****/****** **Typ 17-71V2-****/****** **Typ 17-71V3-****/****** **Typ 17-71V6-****/****** **Typ 17-71VZ-****/******		
auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 2014/34/EU	**ATEX-Directive 2014/34/EU**	**Directive-ATEX 2014/34/UE**
EMV-Richtlinie 2014/30/EU	**EMC-Directive 2014/30/EU**	**Directive-CEM 2014/30/UE**
RoHS-Richtlinie 2011/65/EU **RED-Richtlinie 2014/53/EU**	**RoHS-Directive 2011/65/EU** **RED-Directive 2014/53/EU**	**Directive-RoHS 2011/65/UE** **Directive RED 2014/53/UE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous

EN 60079-0:2012+A11 :2013
EN 60079-1:2014
EN 60079-5:2015
EN 60079-7:2015
EN 60079-11:2012
EN 60079-18:2015
EN 60079-28:2015
EN 60079-31:2014
EN 61000-6-2:2005
EN 61000-6-4:2007 +A1 :2011
EN 60529 :1991 +A1 :2000 +A2 :2013
EN61010-1 :2010
EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + AC:2011 + A2:2013
EN 62479 :2010
EN 62311 :2008
EN 300 328 V 2.1.1 (2016-11)
EN 55022 :2010 / AC :2011
EN 55024 :2010 / A1 :2015
EN 55032 :2012 / AC : 2013
EN 55032 :2015 / AC : 2016
EN 61000-3-2 :2014
EN 61000-3-3 :2013
EN 301 489-1 V2.1.1. (2017-02)
EN 301 489 -17 V3.1.1 (2017-02)

03-0383-0362

Seite / page / page 1 von / of / de 2

EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité

Nº 11-71V0-7C0001_D

BARTEC

BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Kennzeichnung	Marking	Marquage

Visualisierungseinheit
II 2G Ex db eb mb q [ib op pr] IIC T4 Gb
II 2D Ex mb tb IIIC T120° C Db

Zubehör
II 2G Ex ib IIC T4 Gb
II 2D Ex ib IIIC T120° C Db

USB Smart Device
II 2G Ex mb IIC T4 Gb
II 2D Ex mb IIIC T120° C Db

The marking is variable on type and components used

Verfahren der EU-Baumuster-prüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié

IBExU 05 ATEX 1117 X
0637 IBExU, Fuchsmühlenweg 7, 09599 Freiberg, D

CE 0044

Bad Mergentheim, den 07.12.2017

i.V. Nader Halmuschi
Head of BU

i.V. Gitta Kugler
Director Global Test, Certification & IP Management

03-0383-0362

Seite / page / page 2 von / of / de 2

All certificates see www.bartec.de