BARTEC

POLARIS Remote

User Manual Version 4.00

POLARIS Remote 19.1" / POLARIS Remote 15"

Type 17-71V2-....

User Manual

POLARIS

Remote 19.1" / Remote 15"

Version 4.00
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Technical data subject to change!

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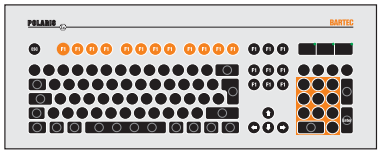


Keyboard

Mouse

Trackball

Touchpad

The **POLARIS Remote 19.1"** and **POLARIS Remote 15"** from BARTEC are displays with keyboard and mouse with which a PC in the non-hazardous area can be operated from the Ex zone (Zone 1).

Distances are possible up to 10,000 m and depends on the variant.

The two **POLARIS Remotes** provide the user with the facility for use of all PC-based process control systems currently available, without restrictions, in the Ex zone.

The front panel fitting permits easy installation. On request, the devices can also be supplied in the form of complete system solutions in a stainless steel enclosure for wall, floor or ceiling mounted installation.

Example:
POLARIS Remote with stand

Example:
POLARIS Remote with Fibre optic

The **POLARIS Remote 19.1"** screen takes the form of a TFT display with SXGA resolution (1280 x 1024 pixels), and XGA resolution (1024 x 768 pixels) in the case of the **POLARIS Remote 15"**. These are notable for their excellent brilliance and extremely good read angle.

An intrinsically safe keyboard and mouse, trackball and touchpad are available for front panel installation. Optional it is possible to choose a resistive touch screen (intrinsically safe) or a connection for a hand-held scanner BCS 302ex.

Docking-on in the safe area is accomplished via **"local unit"** (included in scope of supply).

e.g. Local unit for STP cable

2. Technical data POLARIS Remote

2.1 Characteristics data Remote 19.1" und Remote 15"

Type	:	17-71V2-....
Ex protection type	:	Ⓔx II 2G Ex e q [ib] IIC T4
		Ⓔx II 2D Ex tD A21 IP 6X T 80°C
Certification	:	IBExU05ATEX1117 X

2.2 General data

Construction	:	Front panel fitting
		System solution in stainless steel enclosure for wall, floor or ceiling mounting
Connection to the PC	:	Connection to VGA, PS/2 keyboard and PS/2 mouse port, RS232
		Extension via STP/S cable; 4 x 2 x 23 AWG, optionally via fiber optic cable
Requirement to the base station	:	Keyboard and mouse with PS/2 connector
		VGA connection or graphics card with the following technical data (DVI connection also possible with fiber optics):
		- VGA-, SVGA-, XGA-, SXGA resolution
		- Vertical sync frequency 60 to 75 Hz
Transmission distance	:	Up to 300 m via STP/S cable
		Up to 400 m via 50 µm multi-mode fibre optic cable
		Up to 200 m via 62.5 µm multi-mode fibre optic cable
		Up to 10,000 m via 9 µm single-mode fibre optic cable
Power supply	:	AC 90 to 253 V; 50 to 60 Hz
Max. power take-up P_{max}	:	< 60 W
Admissible ambient temperature	:	Storage -20 °C to +50 °C
		Operation 0 °C to +50 °C
Material	:	Front Polyester foil on aluminium sheet (conditionally UV resistant)
		Enclosure Galvanised sheet steel bichromated
Protection class	:	IP 65 (front side)
		IP 54 (rear side)
Humidity	:	5 to 95 % non-condensing

Below +10 °C the unit has to be heated in order to guarantee the lifetime of the backlight illumination.

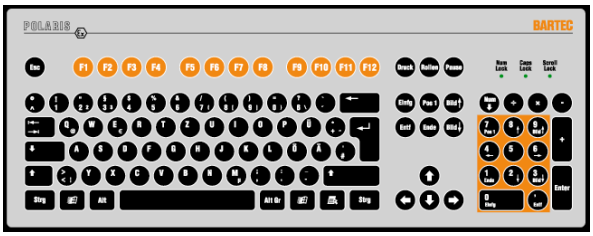
2.3 Characteristics data Remote 19.1"

Display	:	19.1" TFT graphic display
		SXGA resolution 1280 x 1024 pixels
		16.7 million colours
		Brightness 250 cd/m^2
		Visible area approx. 380 x 305 mm
		Contrast 700:1
		Antireflection coating glass pane
		Optional touch screen (resistive)
Dimensions	:	498 mm x 400.5 mm x approx. 135 mm
Wall cut-out	:	484 mm x 386.5 mm + 0.5 mm
Weight	:	approx. 33 kg
Backlight illumination	:	CFL technology
		Service-life approx. 40,000 hours at +25 °C

2.4 Characteristics data Remote 15"

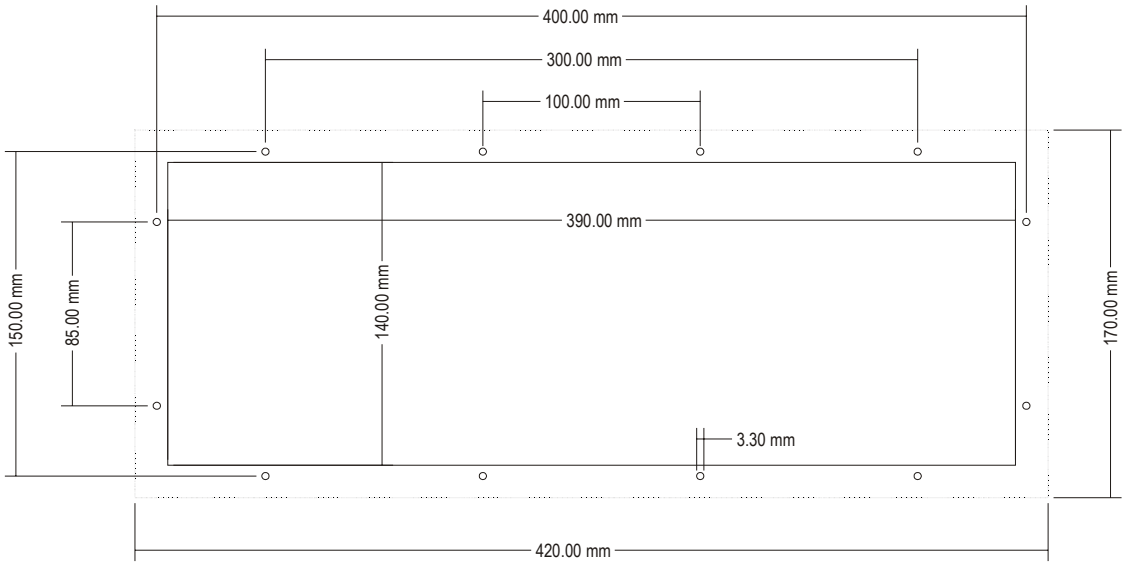
Display	:	15" TFT graphic display
		XGA resolution 1024 x 768 pixels
		262,144 colours
		Brightness 350 cd/m^2
		Visible area approx. 304 x 228 mm
		Contrast 400:1
		Antireflection coating glass pane
		Optional touch screen (resistive)
Dimensions	:	411 mm x 332 mm x approx. 135 mm
Wall cut-out	:	394.5 mm x 315.5 mm + 0.5 mm
Weight	:	approx. 23 kg
Backlight illumination	:	CFL technology
		Service-life approx. 50,000 hours at +25 °C

2.5 Characteristics data keyboard



Type	:	**17-71VZ-40..**
Ex protection type	:	II 2G Ex ib IIC T4
		II 2D Ex ibD 21 T 120°C
Certification	:	IBExU05ATEX1117 X
Protection class	:	IP 65 (front side)
Construction	:	Front panel fitting
Material		Polyester foil on aluminium sheet (conditionally UV resistant)
Dimensions	:	420 mm x 170 mm (weight x height)
Wall cut-out	:	390 mm x 140 mm
Installation depth	:	18 mm
Weight	:	approx. 700 g

Dimensions and wall cut-out for keyboard



All hole diameter: 3.3 mm

2.6 Characteristics data mouse, trackball and touchpad

2.6.1 Mouse

Type	:	**17-71VZ-1000**
Ex protection type	:	⟨Ex⟩ II 2G Ex ib IIC T4
		⟨Ex⟩ II 2D Ex ibD 21 T 120°C
Certification	:	IBExU05ATEX1117 X
Protection class	:	IP 65 (front side)
Construction	:	Front panel fitting
Material		Polyester foil on aluminium sheet (conditionally UV resistant)
Dimensions	:	130 mm x 170 mm (weight x height)
Wall-cut out	:	100 mm x 140 mm
Installation depth	:	15 mm
Weight	:	approx. 270 g

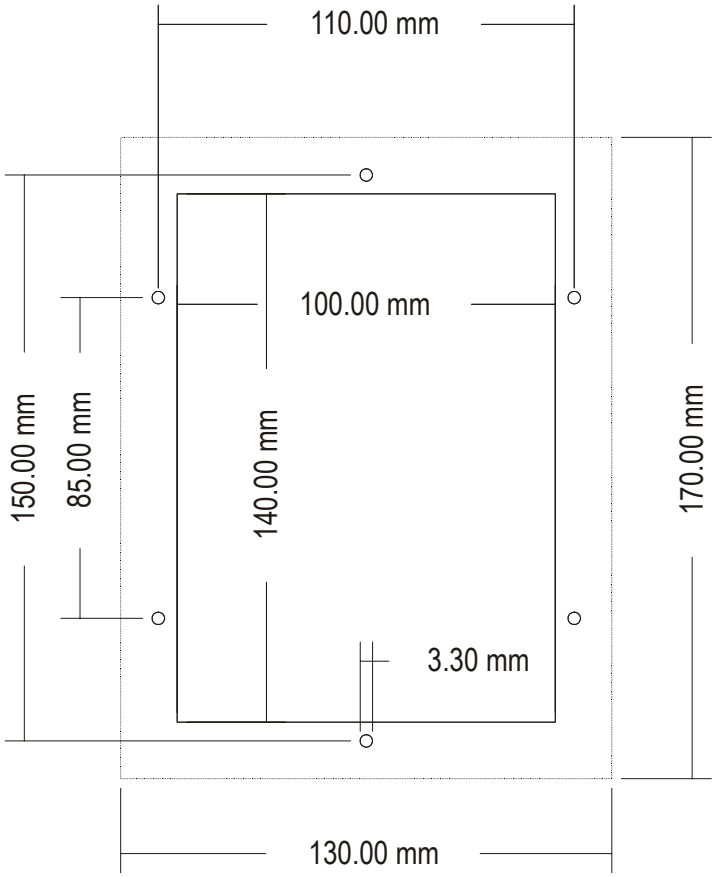
2.6.2 Trackball

Type	:	**17-71VZ-2000**
Ex protection type	:	⟨Ex⟩ II 2G Ex ib IIC T4
		⟨Ex⟩ II 2D Ex ibD 21 T 120°C
Certification	:	IBExU05ATEX1117 X
Protection class	:	Static: IP 65 (front side) Dynamic: IP 51 (front side)
Construction	:	Front panel fitting
Material		Polyester foil on aluminium sheet (conditionally UV resistant)
Dimensions	:	130 mm x 170 mm (weight x height)
Wall-cut out	:	100 mm x 140 mm
Installation depth	:	43 mm
Weight	:	approx. 500 g

2.6.3 Touchpad

Type	:	**17-71VZ-3000**
Ex protection type	:	⟨Ex⟩ II 2G Ex ib IIC T4
		⟨Ex⟩ II 2D Ex ibD 21 T 120°C
Certification	:	IBExU05ATEX1117 X
Protection class	:	IP 65 (front side)
Construction	:	Front panel fitting
Material		Polyester foil on aluminium sheet (conditionally UV resistant)
Dimensions	:	130 mm x 170 mm (weight x height)
Wall-cut out	:	100 mm x 140 mm
Installation depth	:	15 mm
Weight	:	approx. 250 g

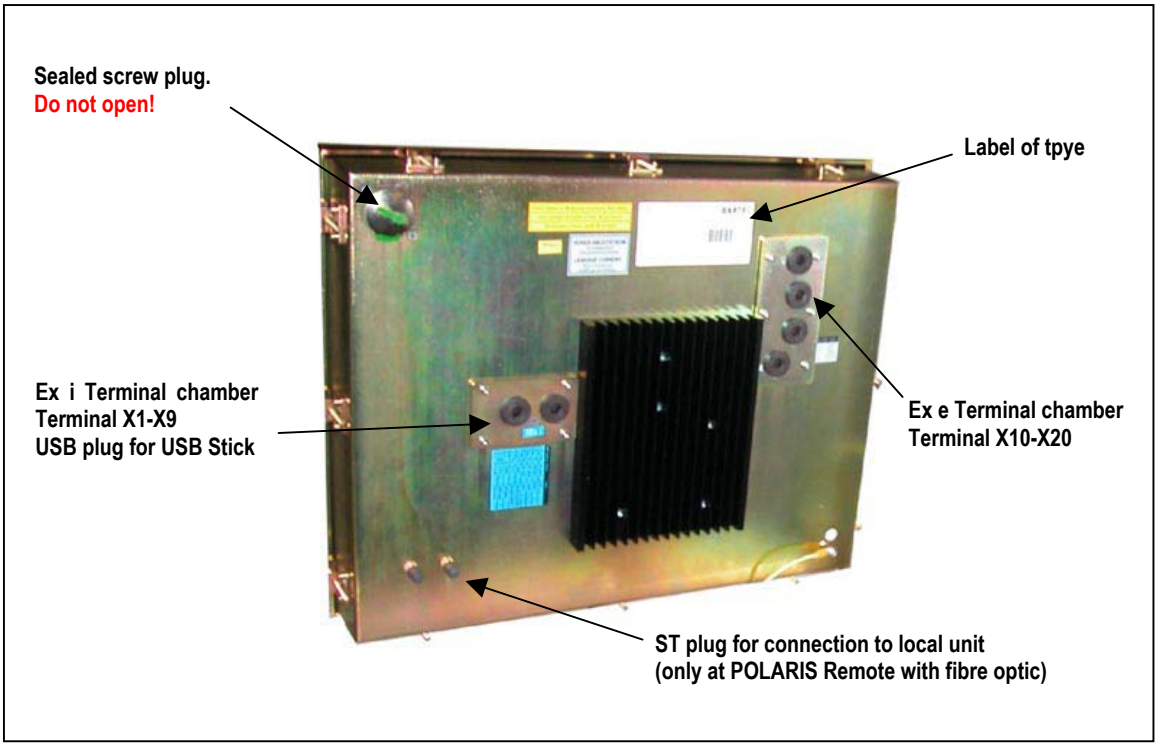
Dimensions and wall cut-out for mouse, trackball and touchpad



All hole diameter: 3.3 mm

3. Terminal assignment

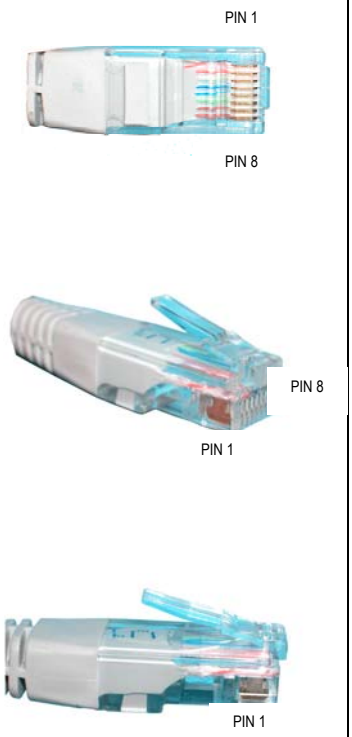
3.1 Overview of connections



3.2 Terminal assignment EEx i

Terminal	Interface	Colour	Signal	Remarks
	Scanner connection (optional)			
X1	Hand-held scanner		+UB	Supply voltage +5 V
X2	Hand-held scanner		RxD-I	Data input RS232 signal
X3	Hand-held scanner		GND	Mass connected to protective earth
PS/2 interface for input devices				
X4	PS2	WH/BR	VCC	Supply voltage
X5	PS2	GN/YE	GND	Mass connected to protective earth
X6	PS2	PK	KB_CLK	Keyboard clock signal
X7	PS2	GR	KB_DATA	Keyboard data signal
X8	PS2	BL	MS_CLK	Mouse clock signal
X9	PS2	RD	MS_DATA	Mouse data signal

3.3 Terminal assignment EEx e



Terminal strip X13-X20 (CAT cable from local unit)

Remote Terminal	CAT cable Colour Pair	Network socket Function	Network socket RJ45-connector
X13	OG/WH	T1	1
X14	OG	R1	2
X15	GN/WH	T2	3
X16	GN	R2	6
X17	BU/WH	T3	5
X18	BU	R3	4
X19	BN/WH	T4	7
X20	BN	R4	8

Colour sequence T568B

Terminal	Interface	Signal	Remarks
X10	Supply	L	AC 230 V ± 10 % AC 90 to 253 V*
X11	Supply	N	Neutral
X12	Supply	PE	Protective earth
For KVM signal			
X13	KVM	T1	KVM CAT Pair 1
X14	KVM	R1	KVM CAT Pair 1
X15	KVM	T2	KVM CAT Pair 2
X16	KVM	R2	KVM CAT Pair 2
X17	KVM	T3	KVM CAT Pair 3
X18	KVM	R3	KVM CAT Pair 3
X19	KVM	T4	KVM CAT Pair 4
X20	KVM	R4	KVM CAT Pair 4

* available from quarter 01/2007

3.3.1 Interference suppression

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

- Interference voltages injected into the unit via power and signal cables and static charges caused by contact are to be conducted to earth (e.g. grounding screw terminal fixed to the back of the unit). This earthing point must be connected to the PE conductor by means of the shortest possible low resistance copper conductor or must be integrated in the equipotential bonding. If this point is not observed, the measures taken to suppress interference and preclude damage to the device effectively will be impaired.

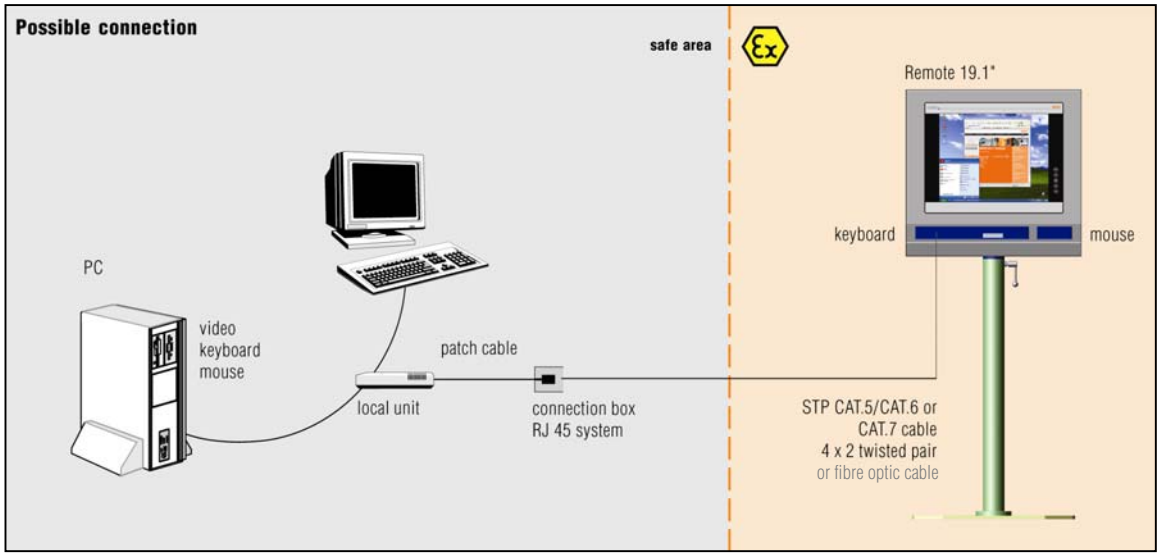
- The installation point should be as far as possible away from fields of electromagnetic interference. This is especially important if there are frequency converters in the vicinity. Under certain circumstances it will be advisable to set up partitions to isolate the POLARIS Remote from interference.

- If inductive unit 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, for example, be achieved by avoiding laying such cables in close proximity to high current carrying cables.

4. Overview of connection diagram

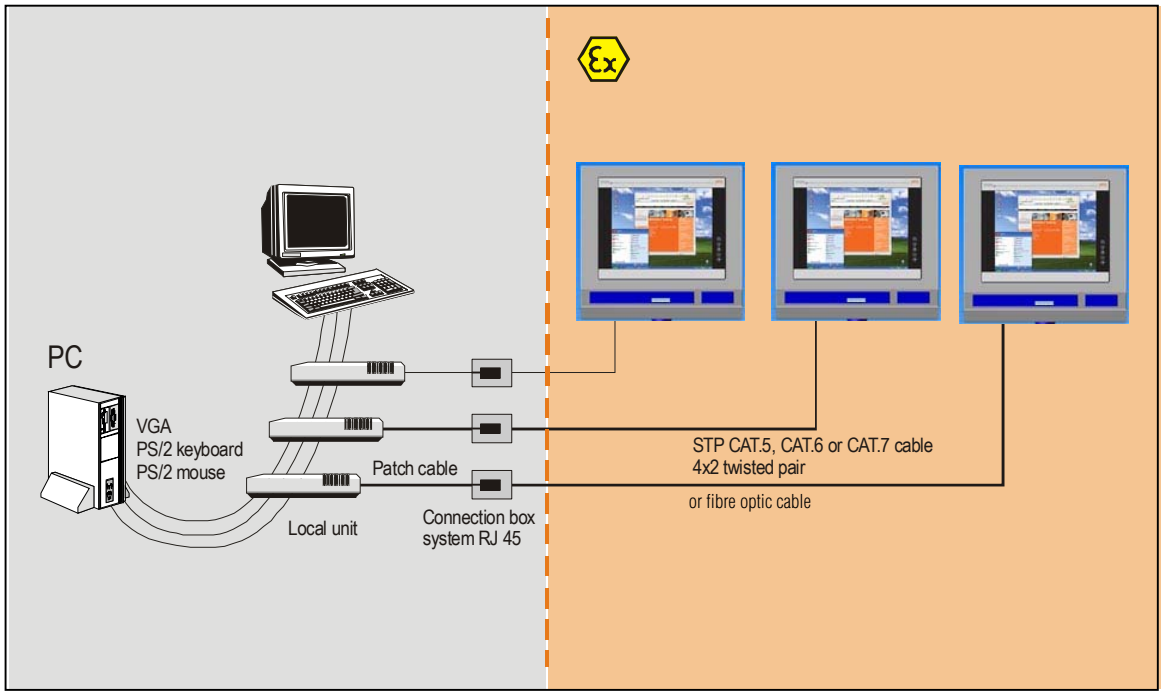
4.1 Standard application – Point-to-Point



4.2 Special application – Cascade circuit

Cascading possible for up to 4 POLARIS Remote.

Note: The local unit needs a separate external power supply (type no. see chapter 7 Accessories)



5. Notes on the installation of POLARIS Remote

5.1 Safety instructions

For electrical appliances, the appropriate regulations for setting-up and operation have to be observed (e.g. directive 1999/92/EC, directive 94/9EC, BetrSichV and national regulations/acts, IEC/EN 60 079-14 and VDE 0100).

The operator of an electrical appliance in an area where there is an explosion hazard has to maintain the resources in a proper condition, operate them correctly, monitor them and carry out maintenance and repair work (BetrSichV and national regulations/acts and EN 60 079-14).

Where the IP rating is concerned, only original replacement parts may be used (e.g. lid seal).

The unit may be opened only in the manufacturer's works!

The unit is factory sealed! Do not open!

5.1.1 Safety-relevant notice

Inside areas of explosive atmospheres any electrostatic charging mechanism on the surface of the indicating terminals have to be excluded if they are stronger than manual rubbing (e.g. cleaning by hand).

5.2 Maintenance

For the maintenance, servicing and checking of associated resources, adhere to the valid regulations in accordance with directive 1999/92/EC, IEC 60079-19 and EN60079-17 !

Installation/dismantling, servicing and maintenance work may only be carried out by trained specialists. The general statutory regulations and other binding directives on workplace safety, accident prevention and environmental protection must be adhered to.

Observe the national disposal of waste regulations when disposing of this equipment at the end of its useful life.

5.2.1 Servicing

If operated correctly, in accordance with the installation instructions and environmental conditions, no regular servicing is necessary.

5.2.2 Inspection

In accordance with IEC 60079-19 and EN 60079-17, the site operator has an obligation to ensure that any electrical appliance installed within, an area containing gases and dust, which could be potentially explosive, is correctly installed by trained personnel and that the installation is regularly inspected and correctly maintained to ensure the safety of the operatives in the area.

5.2.3 Repair

Repairs to explosion protected resources may only be carried out by authorised persons using original replacement parts and in accordance with up-to-date technology. The appropriate valid regulations are to be adhered to. If in doubt contact BARTEC.

5.3 Installation options

The POLARIS Remote can be installed directly in

- Switch cabinet doors
- Mimic panels
- Enclosures

In order to guarantee IP 65, use the reinforcement frame and the enclosure's own IP rating has to be suitable for the application.

The following points should be taken into consideration when installing the POLARIS Remote:

- Convenient height for operation.
- Good lighting so that the display will be easily readable.
- The device must be protected against the penetration of moisture.
- At ambient temperatures below 0°C, the POLARIS Remote has to be heated.
- Below +10°C the POLARIS Remote needs to be heated to maintain the lifetime of the backlight illumination.
- Avoid installing in the immediate vicinity of switching devices or converters.

Note: Only use heating systems, which are certified for explosive areas!

The following factors should be taken into consideration in order to ensure proper and workmanlike installation:

- The installation location must be sufficiently stable / fixed.
- The enclosure in which the POLARIS Remote is mounted must be strong enough to support its weight.
- Following the cutting out of the opening into which the POLARIS Remote is to be fitted, the surface must be dressed to ensure it is smooth, level and undamaged so as to preserve the integrity of the seal.

5.3.1 Cable glands / Conduits

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.

5.4 Mechanical installation

In order to achieve an even clamping pressure, it is recommended that the reinforcement frame (not included in the scope of the delivery) be inserted between the mounting clamps (included in scope of the delivery) and the enclosure.

- Tighten the fixing screws in the mounting brackets slightly.
- Check the position of the display and the seal.
- Tighten the set screws so as to ensure an adequate seal on the POLARIS Remote is assured.

5.4.1 Recommended enclosure

- **Stainless steel enclosure with wall thickness > 2 mm.** In this case the reinforcement frame between the retaining clips and enclosure material should always be used.

- **Reinforcement frame** for maintenance of Protection Class IP 65
  for POLARIS Remote 19.1" (05-0205-0010)
  and for POLARIS Remote 15" (05-0205-0009)

5.4.2 Special installation instructions

In order to guarantee the IP degree of enclosure protection = IP 54 for installation in 2G enclosures of EEx e type of protection (e.g. control equipment), and = IP 6X 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.

5.4.3 Cover Ex i terminal box

When using a housing with a degree of protection of at least IP 20, the cover for the Ex i box can be dispensed with.

5.4.4 General data

- The user is allowed to perform only the wiring work necessary on the terminals accessible to him. Any more extensive dismantling of the device may be performed only by the manufacturer or by persons authorized by the manufacture. The unit is factory sealed. Do not open!

- Ex i-terminal compartment marked:

  ➡ with terminals for Ex i input device (Ex i-data)

- Keyboard	Type 17-71VZ-40..
- Mouse	Type 17-71VZ-1000
- Trackball	Type 17-71VZ-2000
- Touchpad	Type 17-71VZ-3000
- Hand-held scanner BCS 302^{ex}	Type 17-21BA-0020 (not possible in combination with touch screen)

  Work may be performed on the terminal compartment with the system live even if explosive atmospheres are present.

Do not connect the keyboard, mouse, trackball and touch pad while energised!

- The Ex e terminal compartment with terminals for the power supply and data cable may be opened only provided it has been ensured that no explosive atmosphere is present and that the power is off.

- The unit may only be started (if an explosive atmosphere is present) once it has been ensured that the unit is completely closed and that all bolts and screws have been correctly tightened.

- Stand-alone POLARIS Remote and flush-fitted units with a damaged glass must be taken out of operation immediately.

5.4.5 Installation guidelines

- The external earth connection facility should be connected to the equipotential bonding conductor of the potentially explosive area. Since the intrinsically safe circuits are direct-connected to earth, equipotential bonding must be maintained during complete installation of the intrinsically safe circuits.
- All current safety and accident prevention regulations must be observed.
- Units must only be operated after proper installation.
- It must be possible to de-energise the products at any time (in fixed installations by means of an mains switch or fuse which isolates each of the supply cables). The PE terminals on the back of the unit must be connected to the protective earth conductor.
- It must be ensured that supply voltage is the same as that stated in this manual and that the tolerances are adhered to.
- Malfunctions may occur if the stated tolerances are either exceeded or are insufficient.
- Steps must be taken to ensure that the system is not put into hazardous, undefined states in the event of power failures.
- EMERGENCY STOP switches must remain effective in all operating modes and conditions.
- Connection cables (especially data transmission cables) must be selected and installed so as to preclude impairment of the system's functionality by capacitive or inductive interference. Appropriate measures must be taken to deal with open circuit states in such a way that the system cannot enter undefined states
- Wherever malfunctions are liable to cause injury to persons or damage to property additional external safety circuits must be installed (e.g. limit switches, mechanical interlocks, etc.)

6. Installation of additional components

6.1 Local unit for STP cable

Front panel

Rear panel

The SDBX-Cat5-KVM Extender "local unit" from IHSE GmbH can be used with the POLARIS Remote.

Further information can be found in the Internet at:

Data sheet: http://www.ihse.com/pdf/i434-Sx_e.pdf

Manual: http://www.ihse.com/pdf/b434-Sx_e.pdf

Please read the manual carefully and also pay attention on the warning of the manufacturer.

6.1.1 Features

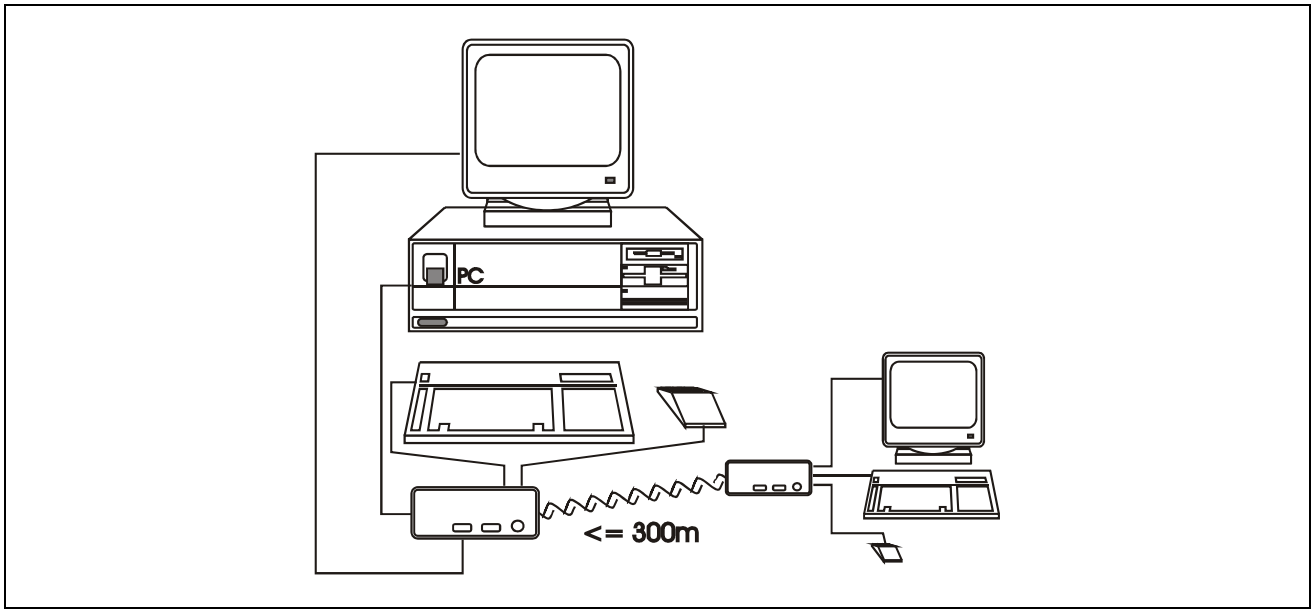
This product has a number of unique features that allow transparent remote operation of your PC:

- The CPU can be served up to 300 m away via the STP cable to POLARIS Remote. You need only a single CAT.5-, CAT.6- or a CAT.7 twisted pair cable per each VGA channel. Please use installation cables (with solid wires) - patch cables (with stranded wires) are not useful for bridging distances.
- Keyboard adjustable Video Equalisation - Compensates for loss of image quality due to cable length
- Fully buffered signals to ensure consistent remote operation of your PC.
- PS/2 keyboard and PS/2 mouse emulation allowing you to 'Plug & Play' - Intelligent keyboard and mouse emulation ensures the PC boots and operates correctly under all possible circumstances as well as allowing 'Plug & Play' initialisation of the remote keyboard and mouse.

6.1.2 Operation

The local unit is simple to operate and works with all operating systems – no software is required. Just connect the units up as described and you're ready to work. Complete keyboard and PS/2 mouse emulation allows you to 'Plug & Play'. Your PC will boot even if the POLARIS Remote end of the link is not powered or the keyboard and / or mouse are disconnected.

6.1.3 Mounting arrangement



6.1.4 Technical data "Local unit"

Power supply

Local unit	:	Optional, via the PC connected, thanks to additional table-top power pack
		Note: For cascading please take attention to chapter 4.2.

Interfaces

Video	:	VGA to UXGA, RGB without Plug & Play-support (up to 300 m at 1280 x 1024)
Keyboard	:	IBM-PS2 (IBM-AT with adaptor)
Mouse	:	Standard PS/2 two-button mouse, Microsoft Intellimouse Logitech three-button mouse
		serial (only SDBX/Ax) fully transparent with handshake up to 19200 Baud
Connecting cable	:	(not included in scope of supply)
		STP/S cable
		CAT.7 4 x 2 x AWG 23 (z. B, 02-4082-0002)
		Connection as per EIA/TIA 568 B
Maximum cable length	:	Up to 300 m
Dimensions	:	approx. 198 x 111 x 50 mm (length x width x height)
Weight	:	approx. 600 g
Temperature range	:	Operation approx. +10 °C to +45 °C
Accessories	:	19" rack mounting set (03-8931-0037)

6.1.5 Compatibility

This product features a number of different functions and has been tested with a large number of different devices, in order to permit cooperation with the hardware of the most diverse range of manufacturers in the most varied environments. It is nonetheless not possible to guarantee trouble-free functioning with every keyboard/mouse/monitor and every motherboard available on the market.

The local unit is compatible with the following devices:

PC	PC/AT, PS2 and 100% compatible clones
Keyboard	PC/AT enhanced keyboard. Some older XT/AT autosensing keyboards may not be compatible.
PS/2 mouse	Standard PS/2 mouse, Microsoft Intellimouse, Logitech three-button mouse
Monitor	SVGA, VGA, XGA, RGB (Sync on Green)

6.1.6 The local unit is compatible with the following devices:

- Connect the local unit to the PC and the two devices using a CAT.5, CAT.6 or CAT.7 cable.
- Power on your PC and check that the keyboard operates correctly. Boot an operating system (such as WINDOWS) or application you intend to use. Check the mouse function (if required).
- Check that the link integrity LED on the local unit flashes on and off.

We recommend that the complete system is tested in one room before permanent installation. If a long interconnect cable is not available, us a patch cable or test basic unit operation with your PC.

All configuration and video tuning is carried out using the keyboard connected to the POLARIS Remote. A hot-key sequence is used to enter command mode where settings may be adjusted and certain modes of operation configured (see the IHSE manual for technical details).

6.1.7 Quick Startup

For advanced users, we recommend to take an overview over the system, by reading the 'Quick Startup' section:

- Turn off your PC. Connect the POLARIS Remote to the voltage supply!
- Connect the local unit to the PC and POLARIS Remote.
- Power on your PC and check that the keyboard operates correctly. Note that the image quality may be poor at this point. Boot an operating system (such as Windows) or application you intend to use. Check that the mouse functions (if required).
- Check the link integrity (LED at the local unit - flashing).
- Enter Command Mode ² + ³ + © .
- Use Assisted EQ to get an approx EQ setting ² + ¾ ein.
- Fine tune HF & LF EQ for the best picture. LF removes smearing and HF adjusts sharpness. You may obtain a better result by slightly overcompensating the LF EQ before adjusting the HF EQ.
- With cables, 100m+ it might be possible to obtain a better screen picture by processing Quick Skew – Toggle GREEN Delay (² + g) .
- Exit Command Mode and save settings » .

Further information:

Further information on the functions of the local unit can be found in the IHSE manual at www.ihse.com

Data sheet: http://www.ihse.com/pdf/i434-Sx_e.pdf

Manual: http://www.ihse.com/pdf/b434-Sx_e.pdf

Please read the manual carefully and also pay attention on the warning of the manufacturer.

6.2 Local unit for Fibre optic cable

	
DMXI KVM-Extender	DDXI KVM-Extender

The DMXI or DDXI-KVM Extender "local unit" from IHSE GmbH can be used with the POLARIS Remote.

Note: The DMXI local unit is used only in combination with POLARIS Remote without touch screen and without a power supply unit for BCS 302ex Hand-held scanner.

Further information can be found in the Internet at:

DMXI	Data sheet:	http://www.ihse.de/pdf/i421-xx_e.pdf
	Manual:	http://www.ihse.de/pdf/b421-xx_e_1.10.pdf
DDXI	Data sheet:	http://www.ihse.de/pdf/i437-xx_e.pdf
	Manual:	http://www.ihse.de/pdf/b437-xx_e.pdf

Please read the manual carefully and also pay attention on the warning of the manufacturer.

6.2.1 Features

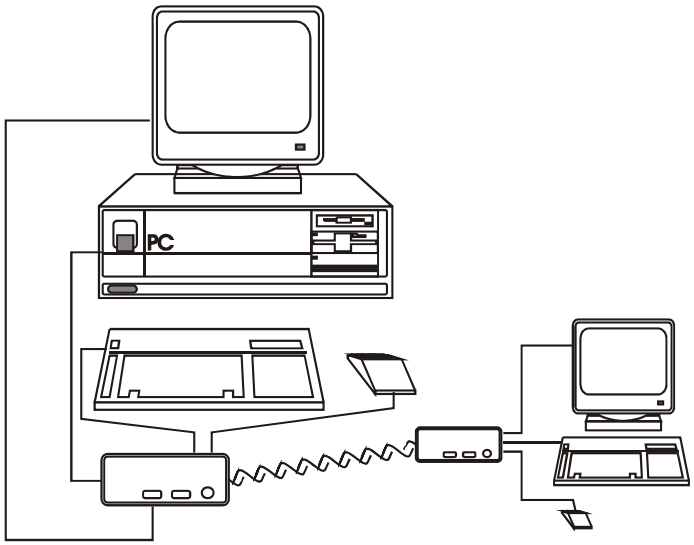
This product has a number of unique features that allow transparent remote operation of your PC:

- At POLARIS Remote with Fibre optic cable access your CPU up to 10,000 m away. You need only a duplex fibre optic cable.
- Automatic DPA Adjustment: The units are self adapting to the screen parameters under mostly all circumstances.
- Fully buffered signals to ensure consistent remote operation of your PC.
- PS/2 keyboard and PS/2 mouse emulation allowing you to 'Plug & Play' - Intelligent keyboard and mouse emulation ensures the PC boots and operates correctly under all possible circumstances as well as allowing 'Plug & Play' initialisation of the remote keyboard and mouse

6.2.2 Operation

The local unit is simple to operate and works with all operating systems – no software is required. Just connect the units up as described and you're ready to work. Complete keyboard and PS/2 mouse emulation allows you to 'Plug & Play'. Your PC will boot even if the POLARIS Remote end of the link is not powered or the keyboard and / or mouse are disconnected.

6.2.3 Mounting arrangement



Fibre optic	Up to	400 m	via	50 µm	multi-mode fibre optic cable (Standard version)
	Up to	200 m	via	62,5 µm	multi-mode fibre optic cable
	Up to	10,000 m	via	9 µm	single-mode fibre optic cable

6.2.4 Technical data "Local unit"

Power supply		
Local unit	:	Power supply unit: AC 90 up to 240 V / 0.5 A /47…63 Hz DC 6 V – 2000 mA (type 03-9911-0022)
Interfaces		
Video	:	VGA to SXGA, RGB without Plug & Play-support
Keyboard	:	IBM-PS2 (IBM-AT with adaptor)
Mouse	:	Standard PS/2 two-button mouse, Microsoft Intellimouse Logitech three-button mouse
		serial (only SDBX/Ax) fully transparent with handshake up to 19200 Baud
Connecting cable	:	(not included in scope of supply)
		Fibre optic cable duplex with
		SC connector for local unit
		(connection cable 0.5 m SC/ST connector with ST-coupling including in the scope of the delivery)
		ST connector for POLARIS Remote
Maximum cable length	:	Up to 400 m via 50 µm multi-mode fibre optic cable (Standard version)
		Up to 200 m via 62.5 µm multi-mode fibre optic cable
		Up to 10,000 m via 9 µm single-mode fibre optic cable
Dimensions	:	approx. 133 x 170 x 44 mm (length x width x height)
Weight	:	approx. 1 kg
Temperature range	:	Operation approx. +10 °C to +45 °C
Accessories	:	19" rack mounting set (03-8931-0038)
Optical elements	:	Further information can be found in the manual of IHSE

6.2.5 Compatibility

This product features a number of different functions and has been tested with a large number of different devices, in order to permit cooperation with the hardware of the most diverse range of manufacturers in the most varied environments. It is nonetheless not possible to guarantee trouble-free functioning with every keyboard/mouse/monitor and every motherboard available on the market.

The local unit is compatible with the following devices:

PC	PC/AT, PS2 and 100% compatible clones
Keyboard	PC/AT enhanced keyboard. Some older XT/AT autosensing keyboards may not be compatible.
PS/2 mouse	Standard PS/2 mouse, Microsoft Intellimouse, Logitech three-button mouse
Monitor	SVGA, VGA, XGA, RGB (Sync on Green)

6.2.6 The local unit is compatible with the following devices:

- Connect the local unit to the PC and the two devices with two fibers 62.5 µm, 50 µm or 9 µm.
- Power on your PC and check that the keyboard operates correctly. Boot an operating system (such as WINDOWS) or application you intend to use. Check the mouse function (if required).

We recommend that the complete system is tested in one room before permanent installation. If a long interconnect cable is not available, us a patch cable or test basic unit operation with your PC.

All necessary configuration and video tuning is done automatically. Special configuration and video tuning is carried out using the keyboard connected to the POLARIS Remote. A hot-key sequence is used to enter command mode where settings may be adjusted and certain modes of operation configured (see the IHSE manual for technical details).

Further information:

Further information on the functions of the local unit can be found in the IHSE manual at www.ihse.com

DMXI	Data sheet:	http://www.ihse.de/pdf/i421-xx_e.pdf
	Manual:	http://www.ihse.de/pdf/b421-xx_e_1.10.pdf
DDXI	Data sheet:	http://www.ihse.de/pdf/i437-xx_e.pdf
	Manual:	http://www.ihse.de/pdf/b437-xx_e.pdf

Please read the manual carefully and also pay attention on the warning of the manufacturer.

6.3 Connection of EEx i keyboard to the POLARIS Remote

- Make the connection between the POLARIS Remote and the EEx i keyboard.
- Connection via connecting cable, longer than approx. 1.80 m

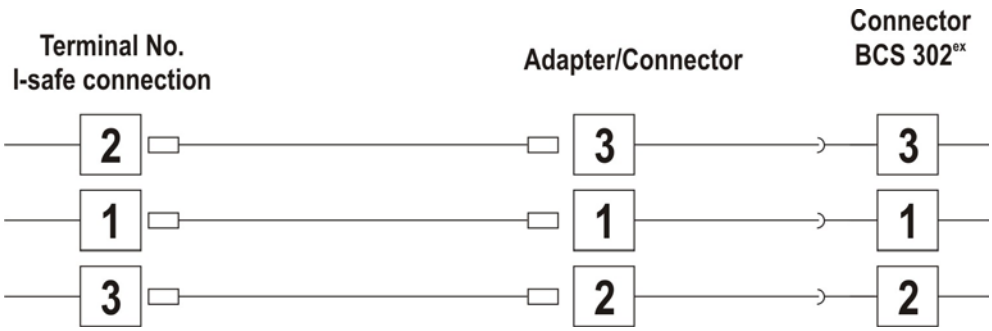
  - Keyboard and mouse Type 05-0068-0163
  - Keyboard and trackball Type 05-0068-0172
  - Keyboard and touchpad Type 05-0068-0183

6.4 Connection to BCS 302ex Hand-held scanner

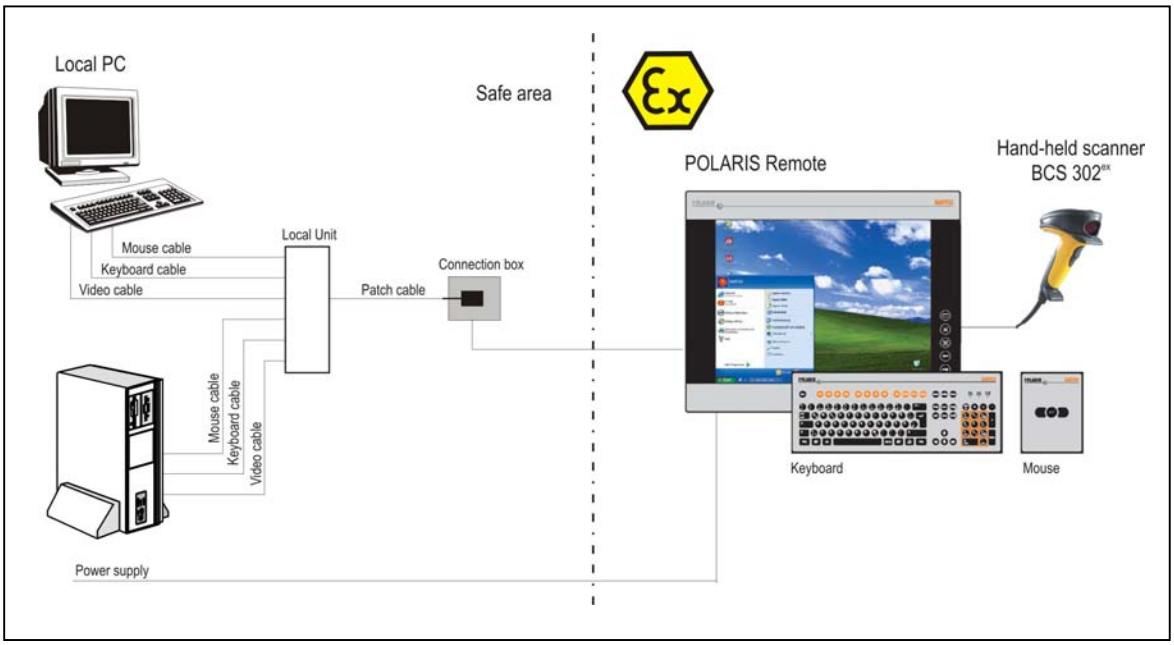
6.4.1 Supply module for BCS 302ex

Terminal connection diagram for hand-held scanner BCS 302ex to supply module via a connector/adapter.

Panel PC Terminal no.	Description	Adapter / connector PIN	Description	BCS 302ex PIN	Description
2	TxD	PIN 3	TxD / RxD	PIN 3	TxD / RxD
1	$+U_B$	PIN 1	Ucc / $+U_B$	PIN 1	Ucc
3	GND	PIN 2	GND	PIN 2	GND

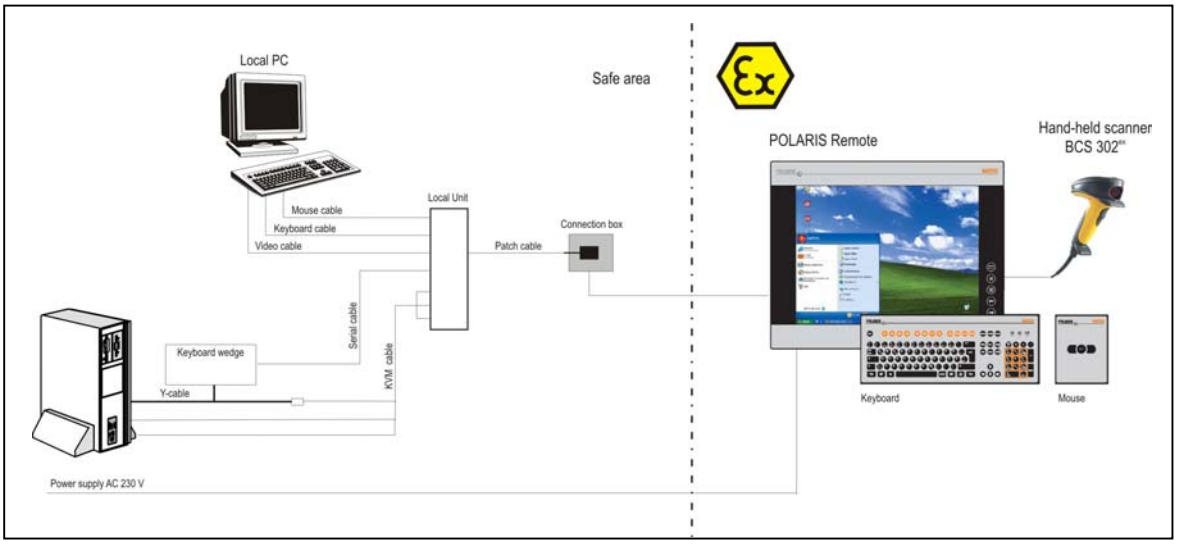


6.4.2 Via RS232



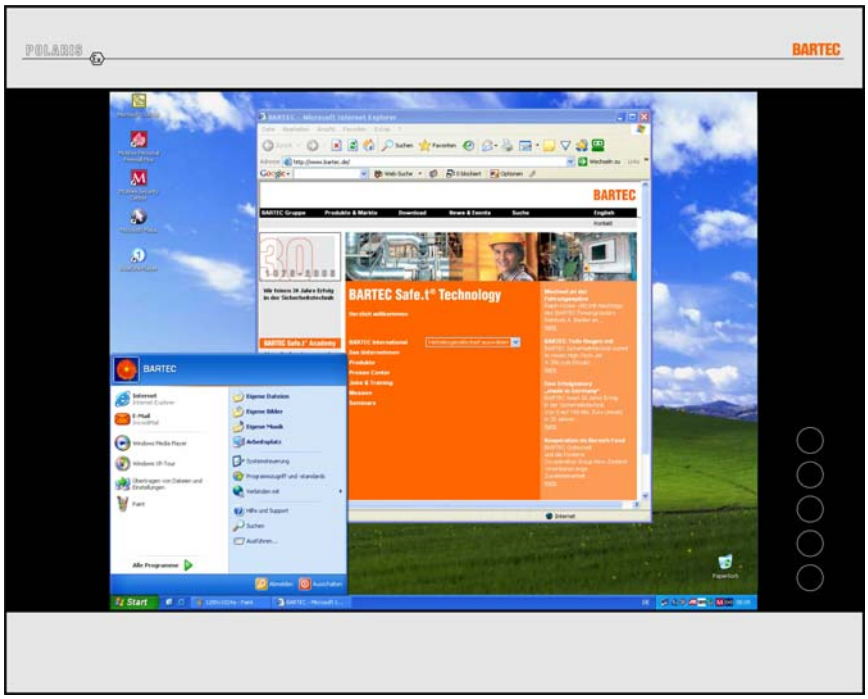
- For serial interface connection at local unit see illustration in chapter 6.6.
- Configuration BCS 302ex see Original Symbol Manual.

6.4.3 Via PS/2



- For keyboard wedge connection at local unit see illustration in chapter 6.6.
- For BCS 302ex configuration see Original Symbol Manual.
- To program the BCS 302ex hand-held scanner for keyboard wedge (type 17-28BB-0001) and to program the keyboard wedge, see Appendix.

6.5 Display settings



Menu

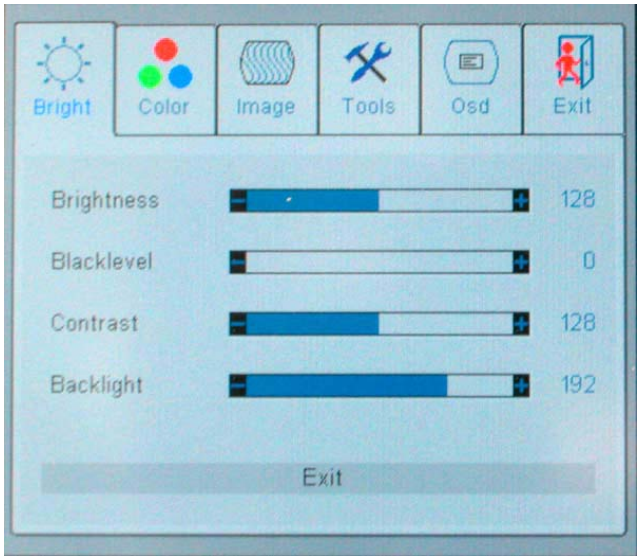
Exit

Auto Adjust

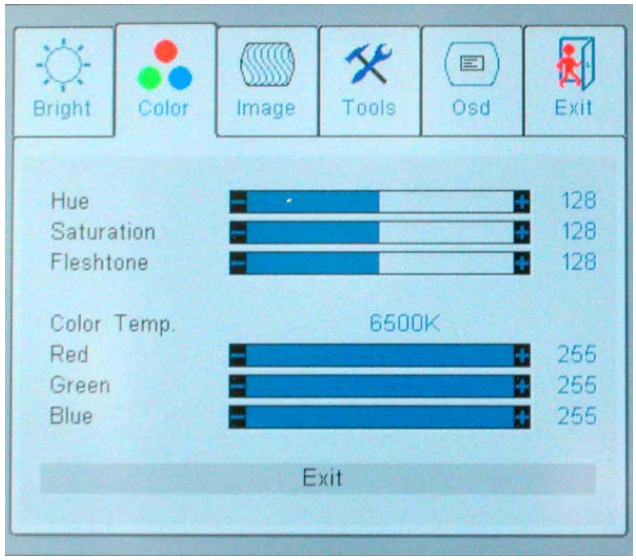
- Left

+ Right

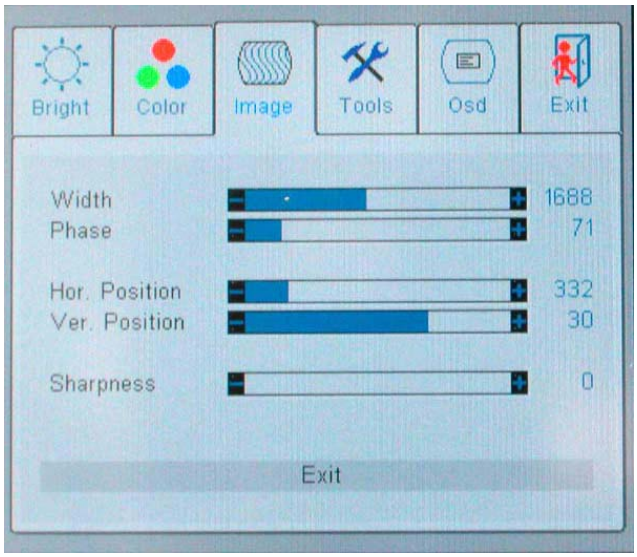
Bright



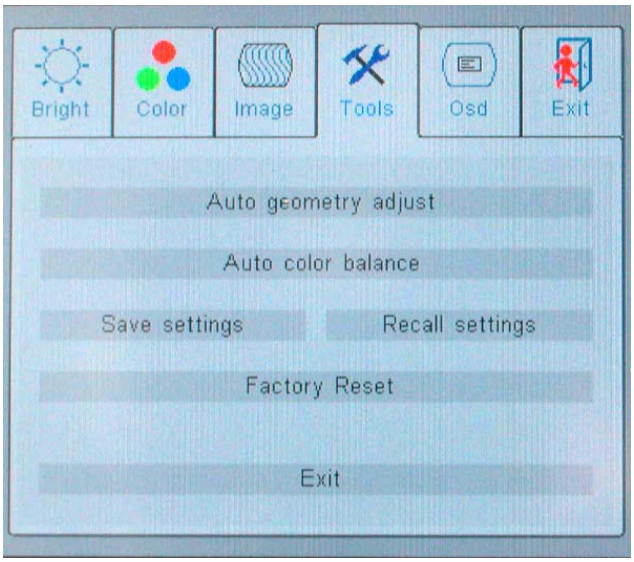
Colour



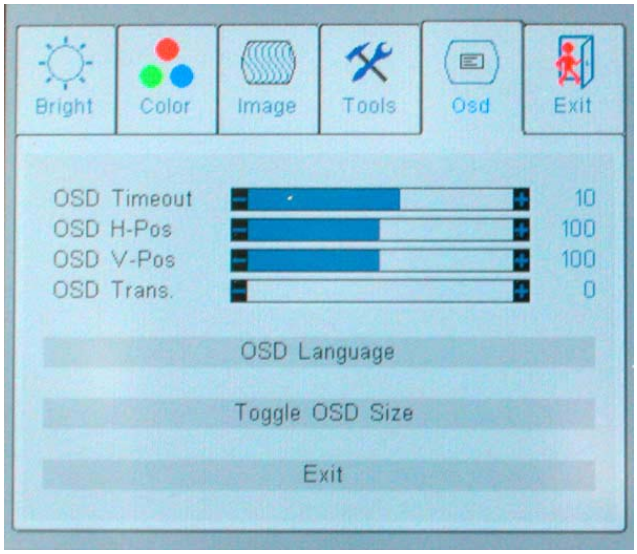
Image



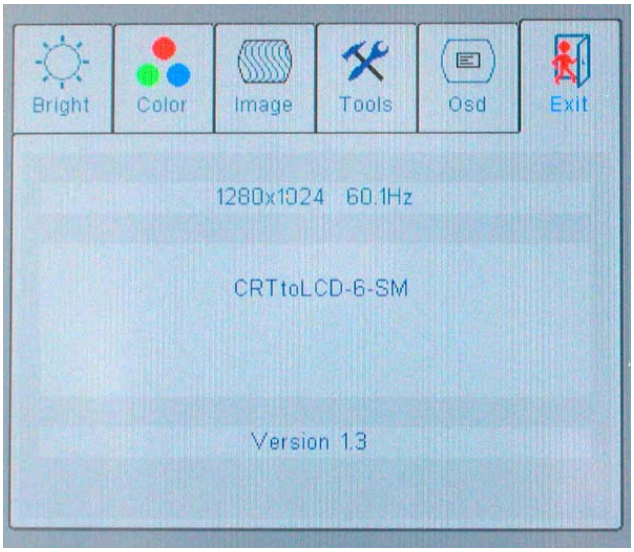
Tools



OSD

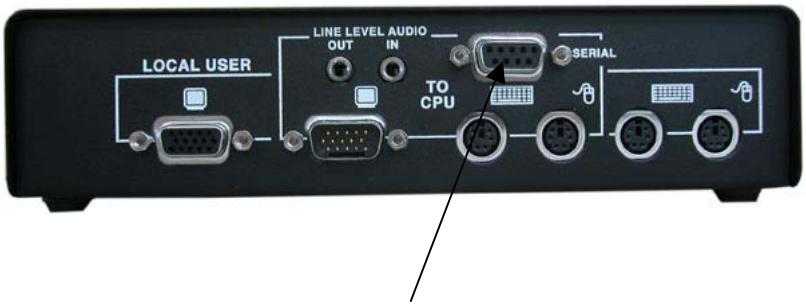


Exit



6.6 Set up touch screen

e.g. Local unit for CAT cable



Serial connection to the PC

- Note the remarks in the manual on the enclosed CD (readmee.pdf)
- Install the touch driver (DMC, TSC-10 series, Serial) to the PC from enclosed CD or download it from www.dmccoltd.com/english/download/index.asp
- Available drivers:

  - Windows 95, 98, ME NT4, 2000

  - Windows XP
- Connect serial port of local unit to COM port (9 pole) on PC.
- Calibrate touch screen (Programs\UPDD\Calibrate)
- A 4-point calibration is normally adequate,
  if not, more precise adjustments can be made under "Settings".

7. Accessories

Designation			Order no.
Local unit for STP/S cable or			included in the scope of the delivery
Local unit for fibre optic			included in the scope of the delivery
Cable set for local unit			included in the scope of the delivery
Mounting clamps set			included in the scope of the delivery
19" rack mounting set for	- local unit with CAT cable		03-8931-0037
	- local unit with fibre optic cable		03-8931-0038
Power supply unit	- local unit with CAT cable (keyboard connection possible)		03-9911-0018
	- local unit with CAT cable (keyboard connection not possible)		03-9911-0020
	- local unit with fibre optic		03-9911-0022
LAN STP cable	CAT.7 4x2x23 AWG	7.9 mm (outer Ø)	02-4082-0002
	CAT.7 4x2x23 AWG, armoured;	18 mm (outer Ø)	02-4082-0004
KVM cable		Total length: 3 m	03-9829-0007
Keyboard in national language			17-71VZ-40.0
Mouse			17-71VZ-1000
Trackball			17-71VZ-2000
Touchpad			17-71VZ-3000
Connection cable for keyboard and mouse		Total length: 1.8 m	05-0068-0163
		Total length: 3 m	05-0068-0204
Connection cable for keyboard and trackball		Total length: 1.8 m	05-0068-0205
		Total length: 3 m	05-0068-0204
Connection cable for keyboard and touchpad		Total length: 1.8 m	03-0068-0183
		Total length: 3 m	05-0068-0206
USB to PS/2 converter for mouse and keyboard			03-9829-0007
Mounting clamps set		- with 4 pieces	05-0091-0111
		- with 6 pieces	05-0091-0112
Reinforcement frame for POLARIS Remote 19.1"			05-0205-0010
Reinforcement frame for POLARIS Remote 15"			05-0205-0009
Enclosure for POLARIS Remote 19.1"		"Exclusive"	05-0041-0274
Enclosure for POLARIS Remote 15"		"Exclusive"	05-0041-0275
Stand for floor mounting, rotable		"Exclusive"	05-0005-0050
Support arm for wall mounting, rotable		"Exclusive"	05-0005-0058

8. Order numbers

POLARIS Remote

17-71V2-☐ 0 ☐☐ / ☐☐ 00

4	15"
5	19.1"
6	15" with touch screen
7	19.1" with touch screen

0 0	STP cable
0 4	STP cable; supply module for BCS 302ex Hand-held scanner
0 8	Fibre optic (up to 400 m)
1 2	Fibre optic (up to 400 m); supply module for BCS 302ex Hand-held scanner

+1 = additional with keyboard and trackball e.g. 0 8 +1 = 0 9
+2 = additional with keyboard and mouse
+3 = additional with keyboard and touch pad

0	without keyboard
1	Keyboard – language German
2	Keyboard – language English
3	Keyboard – language French
4	Keyboard – language Italian
5	Keyboard – language Swedish
7	Keyboard – language Slovenian
8	Keyboard – language Spanish
A	Keyboard – language Swiss

0	without enclosure	
1	Enclosure "Standard"	Wall mounting
2	Enclosure "Standard"	Floor mounting
5	Enclosure "EXCLUSIVE"	Wall mounting
6	Enclosure "EXCLUSIVE"	Floor mounting
8	Enclosure "EXCLUSIVE"	Table mounting
9	Enclosure "EXCLUSIVE"	Table mounting (rotable/inclinable)

Example:

POLARIS Remote 19" with touch screen with STP cable including English keyboard and trackball built in an exclusive enclosure for wall mounting

Type 17- 71V2-7001/2500

EG-Konformitätserklärung
EC-Declaration of Conformity
CE-Déclaration de Conformité

BARTEC

Wir	We	Nous

BARTEC GmbH, Max-Eyth-Strasse 16, 97980 Bad Mergentheim

erklären, dass das Produkt	declare, that the product	attestons, que le produit
POLARIS Serie	**POLARIS series**	**POLARIS série**

Typ-Nr.: 17-71Vx-xxxx/xxxx

CE

auf das sich diese Erklärung bezieht, den Bestimmungen der folgenden Richtlinien entspricht	to which this declaration relates is in accordance with the provision of the following directives	se référant à cette attestation correspond aux dispositions des directives sulvantes
94/9/EG, 89/336/EWG	**94/9/EC, 89/336/EEC**	**94/9/CE, 89/336/CEE**
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 60 079 - 0: 2004
E IEC 60 079 - 5: 2005
EN 60 079 - 7: 2003
E IEC 60 079 - 11: 2005
E EN 61 241 - 0: 2004 mit EN 61 241 - 1: 2004
EN 61 000 - 6 - 2: 2001
EN 61 000 - 6 - 4: 2001
EN 60950 - 1: 2001

EG-Baumusterprüf-bescheinigung	EC-Type Examination Certificate	Attestion d'examen CE de type
	IBExU 05 ATEX 1117 X	
Qualitätssicherung Produktion	Production Quality Assessment	Assurance Qualitée Production
	TÜV 96 ATEX 1086 Q	
Kennzeichnung	Marking	Marquage

CE0032

⟨Ex⟩ II 2G Ex e q [ib] IIC T4
bzw. ⟨Ex⟩ II 2G Ex d e q [ib] IIC T4 (Visualisierungsgerät)
⟨Ex⟩ II 2G Ex ib IIC T4 (Zubehör)
⟨Ex⟩ II 2D Ex tD A21 IP6X T80°C (Visualisierungsgerät, USB-Stick)
⟨Ex⟩ II 2D Ex ibD 21 T120°C (Tastatur, Maus, Trackball, Touchpad)

BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim

Bad Mergentheim, den 07.09.2006

Lothar Mezger
Geschäftsführung

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[1] **EG-BAUMUSTERPRÜFBESCHEINIGUNG**
gemäß Richtlinie 94/9/EG, Anhang III

[2] Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen, **Richtlinie 94/9/EG**

[3] EG-Baumusterprüfbescheinigungsnummer: **IBExU05ATEX1117 X**

[4] Gerät: Visualisierungseinheit POLARIS
Typ 17-71V*-****/****

[5] Hersteller: BARTEC GmbH

[6] Anschrift: Max-Eyth-Strasse 16
97980 Bad Mergentheim, GERMANY

[7] Die Bauart des unter [4] genannten Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser EG-Baumusterprüfbescheinigung festgelegt.

[8] IBExU Institut für Sicherheitstechnik GmbH, BENANNTE STELLE Nr. 0637 nach Artikel 9 der Richtlinie 94/9/EG des Europäischen Parlaments und des Rates vom 23. März 1994, bescheinigt, dass dieses Gerät die in Anhang II der Richtlinie festgelegten grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau des Gerätes zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen erfüllt.
Die Prüfergebnisse sind in dem Prüfbericht IB-05-3-212 vom 20.09.2005 festgehalten.

[9] Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit EN 60079-0:2004, prIEC 60079-5:2005, EN 60079-7:2003, prIEC 60079-11 (31G/143/CDV) und prEN 61241-0:2002, EN 61241-1:2004 und prIEC 61241-11 (31H/194/FDIS).

[10] Falls das Zeichen „X" hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser EG-Baumusterprüfbescheinigung unter [17] hingewiesen.

[11] Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf die Konzeption und den Bau des festgelegten Gerätes. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes.

[12] Die Kennzeichnung des unter [4] genannten Gerätes muss die folgenden Angaben enthalten:

Ⓔx II 2G Ex e q [ib] IIC T4 bzw.	**Ⓔx II 2G Ex d e q [ib] IIC T4**
Zubehör:	**Ⓔx II 2G Ex ib IIC T4**
Bedienflächen:	**Ⓔx II 2D tD A21 IP 6X T 80° C**
Trackball, Tastatur:	**Ⓔx II 2D ibD 21 T 120 °C**

$0\ °C \leq T_a \leq 50\ °C$

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7 - 09599 Freiberg, Germany
Tel.: 03731 3805-0 - Fax: 03731 23650

Zertifizierungsstelle Explosionsschutz
Im Auftrag

(Dr. Lösch)

Zertifizierungsstelle Explosionsschutz IBExU Institut für Sicherheitstechnik GmbH Kenn-Nr. 0637

- Siegel -
(Kenn-Nr. 0637)

Freiberg, 22.09.2005

Bescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit. Bescheinigungen dürfen nur unverändert weiterverbreitet werden.

Anlage

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[13] **Anlage**

[14] **zur EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU05ATEX1117 X**

[15] **Beschreibung des Gerätes**

Die Visualisierungseinheiten sind Schalttafeleinbaugeräte zur Verwendung in explosionsgefährdeten Bereichen und stellen Steuerfunktionen mittels Bildschirm dar. Sie haben Anschlussmöglichkeiten für Ethernet-, COM- und LWL-Datenübertragung sowie eigensicheres Zubehör. Die Geräte in unterschiedlichen Abmessungen bestehen aus mit Glaskugeln gefüllten Metallgehäusen mit Sicherheitsglasscheibe und beinhalten LCD-Bildschirm mit Touch, Stromversorgungen, CPU, Harddisk sowie elektronische Steuereinheiten und zugehörige eigensichere Betriebsmittel.
Das eigensichere Zubehör wie Maus, Trackball, Touch-Pad, Tastatur und USB-Stick sind Einbaugeräte für IP-Gehäuse. Der elektrische Anschluss erfolgt über Anschlussräume entsprechend den vorgesehenen Zündschutzarten.

Umgebungstemperaturbereich	0 °C bis 50 °C
Schutzart des Gehäuses:	IP 6X frontseitig IP 54 rückseitig
Typbezeichnung:	POLARIS Control Typ 17-71V0-****/**** POLARIS Panel PC Typ 17-71V1-****/**** POLARIS Remote Typ 17-71V2-****/**** Zubehör Typ 17-71VZ-****/****

Elektrische Daten

Versorgungsspannung (Kl. X1-X2 bzw. X10-X12) oder ab 15"-Gerät	24 VDC ± 10 % bis 1,6 A 230 VAC ± 10 % bis 0,4 A
Bemessungsspannung U_m	253 V
Ethernet (10 Base T) (Kl. X10-16)	bis 5 V AC/DC
COM-Schnittstelle (Kl. X3-12 bzw. X17-X26)	bis 30 V AC/DC

Eigensichere Daten- und Versorgungsstromkreise in Zündschutzart Ex ib IIC

(Kl. X1-X3) Zusatzmodul für Handscanner

U_o	5,5 V
I_o	440 mA
P_o	1,25 W
R_i	25 Ω
C_o	55,8 µF
L_o	0,2 mH

(Kl. X4-X9) ext. Tastatur/Eingabegerät

U_o	6,0 V
I_o	2,29 A
$I_{stationär}$	0,16 A
P_o	0,20 W
C_o	40 µF
L_o	5 µH

Kennlinie linear

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[16] **Prüfbericht**
Der Nachweis des Explosionsschutzes ist im Detail im Prüfbericht IB-05-3-212 dargelegt.

Zusammenfassung der Prüfergebnisse
Die Visualisierungseinheiten POLARIS mit Zubehör Typ 17-71V*-****/**** erfüllen die Anforderungen des Explosionsschutzes für Gerätegruppe II und der Gerätekategorie 2G bzw. 2D in Zündschutzart Sandkapselung in Verbindung mit Erhöhter Sicherheit bzw. Druckfester Kapselung, Eigensicherheit und Schutz durch Gehäuse für Gase der Explosionsgruppe IIC und der Temperaturklasse T4 bzw. einer Oberflächentemperatur von max. 120 °C.

[17] **Besondere Bedingungen**
Die eigensicheren Stromkreise und das Gehäuse sind galvanisch verbunden. Im gesamten Verlauf der Errichtung der eigensicheren Stromkreise muss Potentialausgleich bestehen.
Es sind hochenergetische Lademechanismen an der Bedienoberfläche der Visualisierungseinheiten bzw. des Zubehörs (z. B. pneumatischer Partikeltransport) bei der Anwendung auszuschließen.
Die IP-Schutzart muss durch den Einbau der Geräte in IP-Gehäuse gewährleistet sein.

[18] **Grundlegende Sicherheits- und Gesundheitsanforderungen**
Erfüllt durch Einhaltung von Normen (siehe [9]).

Im Auftrag

(Dr. Lösch)

Freiberg, 22.09.2005

Seite 3 von 3
IBExU05ATEX1117 X

IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

[1] **1. Ergänzung zur EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU05ATEX1117 X**

[2] **Gerät:** Visualisierungseinheit POLARIS
Typ 17-71V*-****/****

[3] **Hersteller:** BARTEC GmbH

[4] **Anschrift:** Max-Eyth-Strasse 16
97980 Bad Mergentheim
GERMANY

[5] **Ergänzung/Änderung**

Die Visualisierungseinheit Polaris Typ 17-71V*-****/**** darf auch gemäß den zusammengefassten und ergänzten Zeichnungen und Stücklisten gefertigt werden. Diese Ergänzung betrifft keine zu kennzeichnenden sicherheitsrelevanten Größen des bescheinigten Gerätes.

[6] **Prüfbericht**

Der Nachweis des Explosionsschutzes der unter [5] genannten Ergänzung der Visualisierungseinheit Polaris ist im Prüfbericht IB-06-3-150 vom 17.07.2006 dargelegt. Die Prüfunterlagen sind Bestandteil des Prüfberichtes und dort aufgeführt.

[7] **Prüfergebnis**

IBExU bescheinigt, dass das unter [2] genannte Gerät die in Anhang II der RL 94/9/EG festgelegten grundlegenden Sicherheits- und Gesundheitsanforderungen erfüllt. Die elektrischen Daten sowie „Besondere Bedingungen" bleiben unverändert.

Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

II 2G Ex e q [ib] IIC T4 bzw.	**II 2G Ex d e q [ib] IIC T4**
Zubehör	**II 2G Ex ib IIC T4**
Visualisierungsgerät, USB-Stick	**II 2D Ex tD A21 IP6X T80 °C**
Maus, Trackball, Touch-Pad, Tastatur	**II 2D Ex ibD 21 T120 °C**

0 °C ≤ Ta ≤ 50 °C

IBExU Institut für Sicherheitstechnik GmbH
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Freiberg, 19.07.2006

Zertifizierungsstelle Explosionsschutz

Im Auftrag

(Dr. Lösch)

Zertifizierungsstelle Explosionsschutz IBExU Institut für Sicherheitstechnik GmbH * Kenn-Nr. 0637 *

- Siegel -
(Kenn-Nr. 0637)

Bescheinigungen ohne Unterschrift und ohne Siegel haben keine Gültigkeit. Bescheinigungen dürfen nur unverändert weiterverbreitet werden.

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[1] **EC-TYPE EXAMINATION CERTIFICATE**
according to Directive 94/9/EC, Annex III
(Translation)

[2] Equipment and Protective Systems intended for use in Potentially Explosive Atmospheres, Directive 94/9/EC

[3] EC-Type Examination Certificate Number: **IBExU05ATEX1117 X**

[4] Equipment: Visual unit POLARIS
Type 17-71V*-****/****

[5] Manufacturer: BARTEC GmbH

[6] Address: Max-Eyth-Strasse 16,
97980 Bad Mergentheim, GERMANY

[7] The equipment mentioned under [4] and any acceptable variation thereto are specified in the schedule to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with article 9 of the Council Directive 94/9/EC of 23rd March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of the equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in test report IB-05-3-212 of 20th September 2005.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2004, prIEC 60079-5:2005, EN 60079-7:2003, prIEC 60079-11 (31G/143/CDV) and prEN 61241-0:2002, EN 61241-1:2004, prIEC 61241-11 (31H/194/FDIS).

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified under [17] in the schedule to this EC-Type Examination Certificate.

[11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

[12] The marking of the equipment mentioned under [4] shall include the following:

II 2G Ex e q [ib] IIC T4 resp.	**II 2G Ex d e q [ib] IIC T4**
Accessories:	**II 2G Ex ib IIC T4**
Operator control panel:	**II 2D tD A21 IP 6X T 80 °C**
Trackball, Keyboard:	**II 2D ibD 21 T 120 °C**

$0\ °C \leq T_a \leq 50\ °C$

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Authorised for certifications
- Explosion protection -

By order
(Dr. Lösch)

Zertifizierungsstelle Explosionsschutz IBExU Institut für Sicherheitstechnik GmbH Kenn-Nr. 0637
- Seal-
(ID no. 0637)

Freiberg, 22nd September 2005

Certificates without signature and seal are not valid.
Certificates may only be duplicated completely and unchanged.
In case of dispute, the German text shall prevail.

Schedule

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[13] **Schedule**

[14] **to EC-TYPE EXAMINATION CERTIFICATE IBExU05ATEX1117 X**

[15] **Description of the equipment**

The visual units are control board apparatus intended for the use in hazardous areas. The visual units illustrate controller functions on the display. They have terminals for Ethernet, COM- and LWL-data transmission as well as intrinsically safe equipment. The equipment with different dimensions consist of metal enclosures filled with glass balls with shatterproof glass and they contain LCD-display with touch screen, power supply, CPU, hard disc as well as electronic control units and associated intrinsically safe apparatus.
The intrinsically safe equipment like mouse, trackball, touch-pad, keyboard and USB-stick are inserted instruments for enclosures (IP code). The electrical connection is carried out via terminal compartments in accordance with the provided types of protection.

Ambient temperature range:	0 °C to 50 °C
Degree of protection of the enclosure:	IP 6X front side IP 54 back side
Type designation:	POLARIS Control type 17-71V0-****/**** POLARIS Panel PC type 17-71V1-****/**** POLARIS Remote type 17-71V2-****/**** accessories type 17-71VZ-****/****

Electrical data

Power supply circuit (Terminals X1-X2 resp. X10-X12) or from visual unit of the size 15"	24 VDC ± 10 % to 1.6 A 230 VAC ± 10 % up to 0.4 A
Rated voltage (U_m)	253 V
Ethernet (10 Base T) (Terminals X10-X16)	up to 5 V AC/DC
COM-interface (Terminals X3-X12 resp. X17-X26)	up to 30 V AC/DC

Intrinsically safe data- and supply circuits in type of protection Ex ib IIC

(Terminals X1-X3) Auxiliary module for handheld scanner

U_o	5.5 V
I_o	440 mA
P_o	1.25 W
R_i	25 Ω
C_o	55.8 µF
L_o	0.2 mH

(Terminals X4-X9) external keyboard/input unit

U_o	6.0 V
I_o	2.29 A
$I_{stationary}$	0.16 A
P_o	0.20 W
C_o	40 µF
L_o	5 µH

linear characteristic

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[16] **Test Report**
The detailed verification of the explosion protection is recorded in the Test Report IB-05-3-212.

Summary of test results:
The Visual units POLARIS with accessories type 17-71V*-****/**** fulfil the requirements of explosion protection for the Equipment Group II and Category 2G respectively 2D in type of protection Powder filling in combination with Increased safety respectively flameproof enclosures, Intrinsic safety and protection by enclosure for gases of the Explosion Group IIC and Temperature Class T4 respectively with a maximum surface temperature of maximum 120 °C.

[17] **Special conditions**
The intrinsically safe circuits and the enclosure are galvanically connected. In the whole course of the formation of intrinsically safe circuits equipotential bonding must be guaranteed. High energy load mechanism on the operating surface of the Visual units respectively of equipment (for example pneumatic particle transport) have to be excluded. The Degree of protection (IP code) must be ensured by mounting the units in enclosures (IP code).

[18] **Essential health and safety requirements**
Confirmed by compliance of standards (see [9]).

By order

Freiberg, 22nd September 2005

(Dr. Lösch)

IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

[1] **1st Addition to**
EC-TYPE EXAMINATION CERTIFICATE IBExU05ATEX1117 X
- Translation -

[2]	Equipment:	Visual unit POLARIS Typ 17-71V*-****/****
[3]	Manufacturer:	BARTEC GmbH
[4]	Address:	Max-Eyth-Strasse 16 97980 Bad Mergentheim, GERMANY

[5] **Addition / Alteration**
The Visual unit Polaris type 17-71V*-****/**** can also be produced according to the summarized and extended drawings and parts lists. The addition does not concerns any safety relevant parameters of the certified equipment, which has to be labelled.

[6] **Test Report**
The explosion proof protection of the addition of the Visual unit Polaris stated under [5] is documented in the Test Report IB-06-3-150 from 17th July 2006. The test documents are a constituent of the Test Report and listed there.

[7] **Test result**
IBExU certifies, that the equipment mentioned under [2] fulfills the in Annex II of the Directive 94/9/EC fixed Essential Health and Safety Requirements. Electrical data also special conditions are unchanged.

The marking of the equipment must be include the following:

Ex II 2G Ex e q [ib] IIC T4 bzw.	**Ex II 2G Ex d e q [ib] IIC T4**
Accessories	**Ex II 2G Ex ib IIC T4**
Visual equipment, USB-stick	**Ex II 2D Ex tD A21 IP6X T80 °C**
Mouse, Trackball, Touchpad, Keyboard	**Ex II 2D Ex ibD 21 T120 °C**

0 °C ≤ Ta ≤ 50 °C

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- Seal -
(Identification No. 0637)

Freiberg, 19th July 2006

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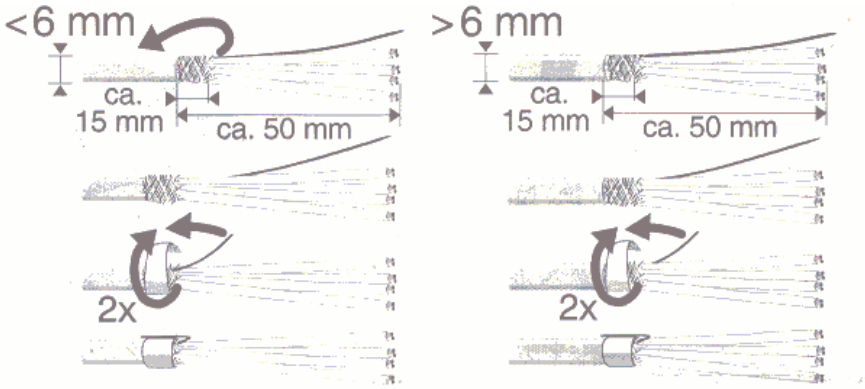
Mounting instructions Class D/E, CAT 6 Outlet

1. Preparation of the cable ends

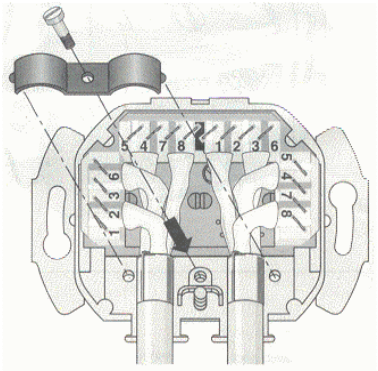
Remove cable sheathing approx. 50 mm in length. Cut back overall screen to approximate 15 mm, remove twisted pair screen as required. To ensure contact of the screen the diameter of the cable end must be 6 to 10 mm. If cable is too thin fold back screen over cable cover. To improve contact wind self-adhesive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



2. Mounting of the cables with one twin cable clip

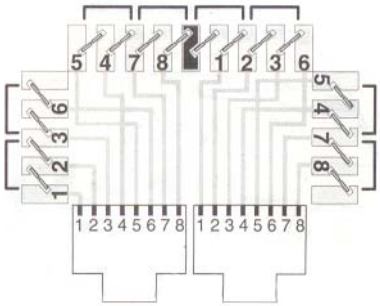
Both cables are mounted in the top cover with a bolt through the cable clamp; this ensures screen contact.

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



3. Recommendation – Colour code

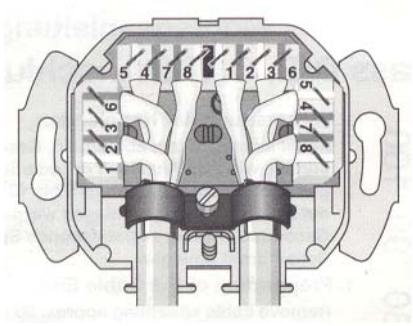
TIA/EIA-568-B	
Colour	Terminal
WH-OG	1
OG	2
WH-GN	3
GN	6
WH-BU	5
BU	4
WH-BN	7
BN	8



Mounting instructions Class D/E, CAT 6 Outlet

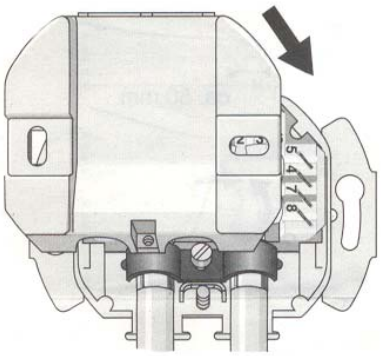
4. Wire connection

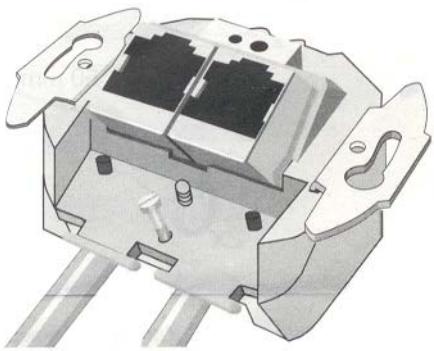
Connect the connecting blocks with the LSA-Plus tool. The twist should be opened sufficiently to connect (max. 13 mm)



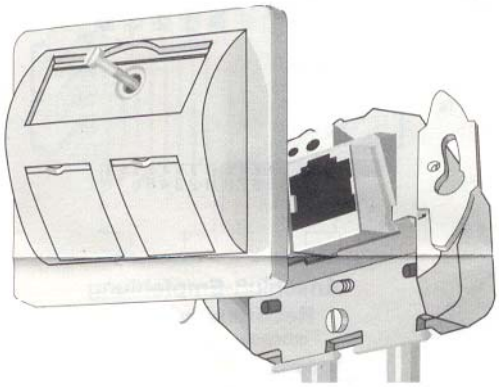
5. Mounting the bottom case

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

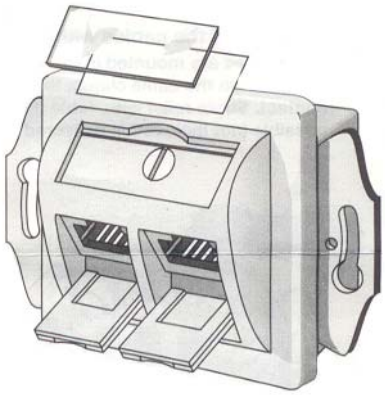




6. Mounting the central insert



7. Attaching the labels



Programming Keyboard wedge

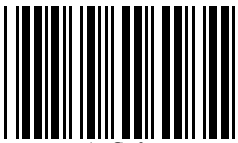
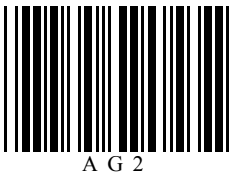
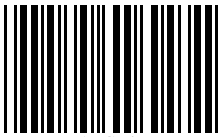
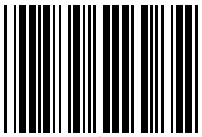
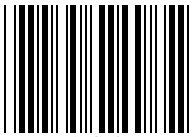
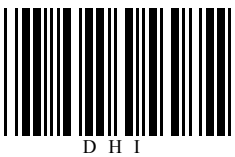
Programming the BCS 302ex Hand-held scanner:

- Instruction manual from Symbol for programming (product reference guide for P300 STD/FZY/PRO scanner)
- BCS 302ex Hand-held scanner
- Keyboard wedge Master BB+ with instruction manual
- Ready-connected and operative system

Required barcodes in the manual:

Page 2 – 9	Barcode **Set All Defaults**
Page 2 – 12	Barcode **Standard RS – 232 C**
Page 2 – 16	Barcode **Continous On**
Page 2 – 50	Barcode **Enable Code 39**
Page 2 – 96	Barcodes **Scan Sufix** oder **Data Format Cancel** (if incorrectly scanned)
Page 2 – 120	for **Numeric Barcodes (7013** for Enter character**)**
Page A – 6	for Enter character **Prefix Sufix Values**
Page 2 – 97	Barcodes **Scan Options** and **<Data> <Suffix>**
Page 2 – 98	Barcodes **Enter**
Page 2 – 101	Barcode (Parity) **Even**
Page 2 – 108	Barcode (ASCII Format) **7 – Bit**

Default configuration of the keyboard wedge

 A G 0	By reading in this barcode the keyboard wedge is returned to its standard setting. **After scanning, wait approx. 6 sec until acknowledged.**	
 $ % /	**Configuration start:** In order to programme the keyboard wedge this special start sequence must be scanned at the beginning.	
 A E U	Activation of the keyboard wedge mode	
 A G 1	 A G 2	 A G 3
 A G 4	 A G 5	 A G 6
 A G 7	 A G 8	 A G 9
 A G 0	Since the keyboard wedge can be connected to almost all available PCs, the keyboard wedge must be programmed to the respective PC. For this purpose a so-called I.D. (three digit number) is required.	
 D H I	Through this barcode a deactivated upper-case key is assumed.	
 $ + $	**Configuration end:** By scanning this barcode the alterations are stored.	

Resistance list – polyester front foil
POLARIS series

BARTEC

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

Hydrocarbons
Aliphatic hydrocarbons
General
Benzine
Benzene
Toluene
Xylene

Chlorinated hydrocarbons
Chlorofluorocarbon
Perchloroethylene
III-trichloroethane
Trichloroethylene

Ester
Ethyl acetate

Other organic solvents
Aether
Dimethyl formamide
Dioxane

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

Aldehydes
Acetaldehyde
Formaldehyde

Caustic solutions	
Ammonia	< 2 %
Caustic soda	< 2 %

Saline solutions
Alkalicarbonate
Bichromate
Prussiate of potash

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

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

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

(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.

Important Note concerning transport and shipping

! Sensitive Devices !

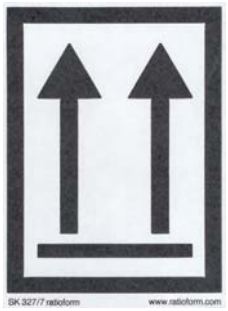
It is absolutely necessary to deliver the equipment in the original packaging in order to avoid damage occuring with the equipment.

Order no. original packaging

Order no. for Remote 15"	04-9035-0007
Order no. for Remote 19.1"	04-9035-0008

!! PROTECT EDGES !!

Marking on Packaging



Return Form for Repairs

Please note that it is essential to fill in this form and enclose it with the return shipment, as otherwise delays may occur in the processing of your order!

Send to:

BARTEC GmbH
Service- und Retourencenter
Max-Eyth-Straße 16
97980 Bad Mergentheim

DEUTSCHLAND/GERMANY

Address of sender:

.....
.....
.....
.....
.....

It is essential to fill in the following details!

Device designation: .....

Type number ..... **Serial no.** .....

Description of fault:
(Note: "defective", "broken", "for repair", etc. are not descriptions of a fault)

.....
.....
.....
.....

For questions please contact:

Person to contact: ..... Phone: .....

E-mail: ..... Fax: .....

Once the fault has been analysed, you will be sent a cost estimate.

Important instructions for all returns:

Please return in the original packaging!

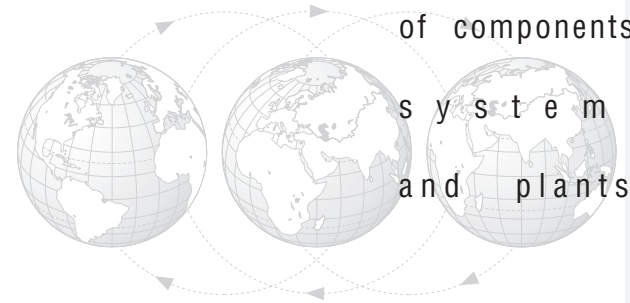
If you no longer have the original packaging, it is essential to make allowance for the weight of the device and to pack it adequately accordingly.

Put the additional marking on the packaging. The sender will be liable for any transport damage occurring if the devices have not been packed appropriately for transport. Our General Terms and Conditions apply (http://www.bartec.de).

Date: ..... Signature: .....

BARTEC

BARTEC protects people and the environment by the safety of components, systems and plants.



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