PEPPERL+FUCHS

PROTECTING YOUR PROCESS

Technical Manual
iPC-EX   Operator Terminals
REX, LETO, FERA, AXENA, ORTRA

Pepperl+Fuchs GmbH

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1 Important information

1.1 General instructions

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How to contact Pepperl+Fuchs GmbH:

Should you encounter any problems with the device, please consult the technical manual first of all. If you are still anable to solve the problems after studying the above information carefully you can contact the following places:

If you need to contact the support hotline, please make sure you have the Technical manual handy!

Region	Tel. / mail address
Western Europe + South Africa France, Belgium, Netherlands, Luxemburg, South Africa	+33-1 60 92 13-13, commercial@fr.pepperl-fuchs.com
Northern Europe Great Britain, Sweden, Norway, Denmark, Ireland, Finnland	+44-161-633 6431 sales@gb.pepperl-fuchs.com +353-21-4883798 info@insteco.iol.ie +358-9-477720-0 joel.patrikka@sensonor.fi
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Asia-Pacific Australia, Singapore, China, Thailand, … Japan	+65-6779-9091 sales@sg.pepperl-fuchs.com +81-45-939 7802 sales@jp.pepperl-fuchs.com

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1.2 Safety instructions

$\Rightarrow$ These devices are only allowed to be installed and operated by trained and qualified personnel who have received suitable instruction in their use.

$\Rightarrow$ These devices represent state-of-art technology. They are only allowed to be connected to systems that have been approved by Pepperl+Fuchs GmbH.

$\Rightarrow$ Never open the devices yourself. They are only allowed to be opened by authorized Pepperl+Fuchs GmbH personnel.
Pepperl+Fuchs GmbH is not liable for any resulting damages.

$\Rightarrow$ The devices are not allowed to be modified or otherwise altered in any way.
Pepperl+Fuchs GmbH **is not liable for any resulting damages.**

$\Rightarrow$ Please study the "*Technical Manual*" carefully prior to starting up the devices.

$\Rightarrow$ The most recent version of the "*Technical Manual*" is always valid. It is available on the Support page of our web site (Internet address: **http://www.pepperl-fuchs.com**).

$\Rightarrow$ The operating voltage of the devices **must not exceed the limits** indicated in the ***"Technical Manual"*** under **Technical data**.
In the event of failure to comply, **Pepperl+Fuchs GmbH is not liable for any resulting damages.**

$\Rightarrow$ The relevant **specifications for hazardous areas** (e.g. EN 50178, EN 60079, EN 50014 - 50039) and **accident prevention regulations** (e.g. UVV) must be observed.

The technical data specified for the hazardous area corresponds to the certified values for the European Ex approval. The user is responsible for ensuring that the devices are suitable for their intended application and for the prevailing ambient conditions. No warranty can be given by Pepperl+Fuchs GmbH in this connection.

Data subject to change without notice

1.3 Symbols used in this manual

	Warning:	The indicated specifications may not be modified. Non-compliance may result in dangerous situations and damages.
	Caution:	Careful installation: do not replace electrical fuses with fuses from different manufacturers. Non-compliance may result in dangerous situations and damages.
	Danger:	The product may possibly be negatively impacted or damaged by foreign influences.
	Non-hazardous area:	Assembly and installation only in **non-hazardous areas**. Power supply cables for the hazardous areas **zone 1** and **zone 2** only with cable type **DATL-A**.
	Danger: Hazardous area (Zone 1+2)	All safety regulations as well as **compliance certificates for hazardous areas** must be observed. In addition, all regulations (VDE) published by the respective authorities for the application of the devices in **hazardous areas** (**zone 1** and **2**) **must** be complied with at all times.
	Additional Info:	Information and notices that must be observed **additionally**.
	Pressure load:	Significant mechanical **pressure** or **impact loads** may result in damages.
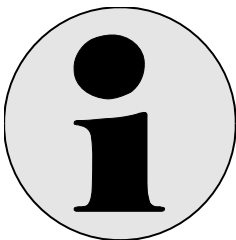
2 iPC-EX operator terminals

iPC-EX operator terminals can be used in the hazardous area (Zones 1 and 2, II 2 G) . They can be connected to any PC with standard ports: 15 pin analog graphic card for monitor and PS/2 ports for a keyboard and a mouse. The operator terminals consist of several separate components (described in section 4):

- EXVID   Exq display in various sizes and with various resolutions
- EXTA-K   Exi keyboard with various mouse systems
- SK-KVM   Line driver, converts the standard PC ports to optical fibre technology and connects the Ex components. It can also be used to connect a local operator terminal

Complete **Ex operator terminals** are available in the form of several packages, with a stainless steel surface-mounting case and keyboard / mouse.(described in section 6, 7 and 8):

- LETO-N   Compact stainless steel case
- FERA-N   Compact stainless steel case
- FERA-T   Compact stainless steel case with desk console
- FERA-H   Compact stainless steel case with heating
- AXENA-N   Stainless steel case with swivel-type display
- AXENA-T   Stainless steel case with swivel-type display with desk console
- AXENA-H   Stainless steel case with swivel-type display and heating
- AXENA-V   Stainless steel case with swivel-type display with cooling
- ORTRA-N   Stainless steel command station

For **panel mounting** the housing REX with optionally orderable keyboard (described in section 10) is available.

- REX   Panel mounting, suitable for integration in any type of case

Note:

All compact stainless steel cases are referred to below in this manual simply as AXENA, LETO und FERA unless the differences between the individual moduls are significant.

2.1 Diagram of the system in the hazardous area

2.1.1 Standard

Local workstation

S-KVM-M15-PS2- PS2

SK-KVM

Keyb   Mouse   Video

PC

Safe area

Hazardous area

EXVID

DATL-A3-x,x-0..

24V DC / 100 – 240V AC

15.0"
18.1"
21.3"

DATL-LWL4-2-2SC

Exi Barcode
Reader

e.g. EX-DRAGON-D101
or EX-DRAGON-M101
via EXOM-DRAGON

OSD

EXTA-Kx
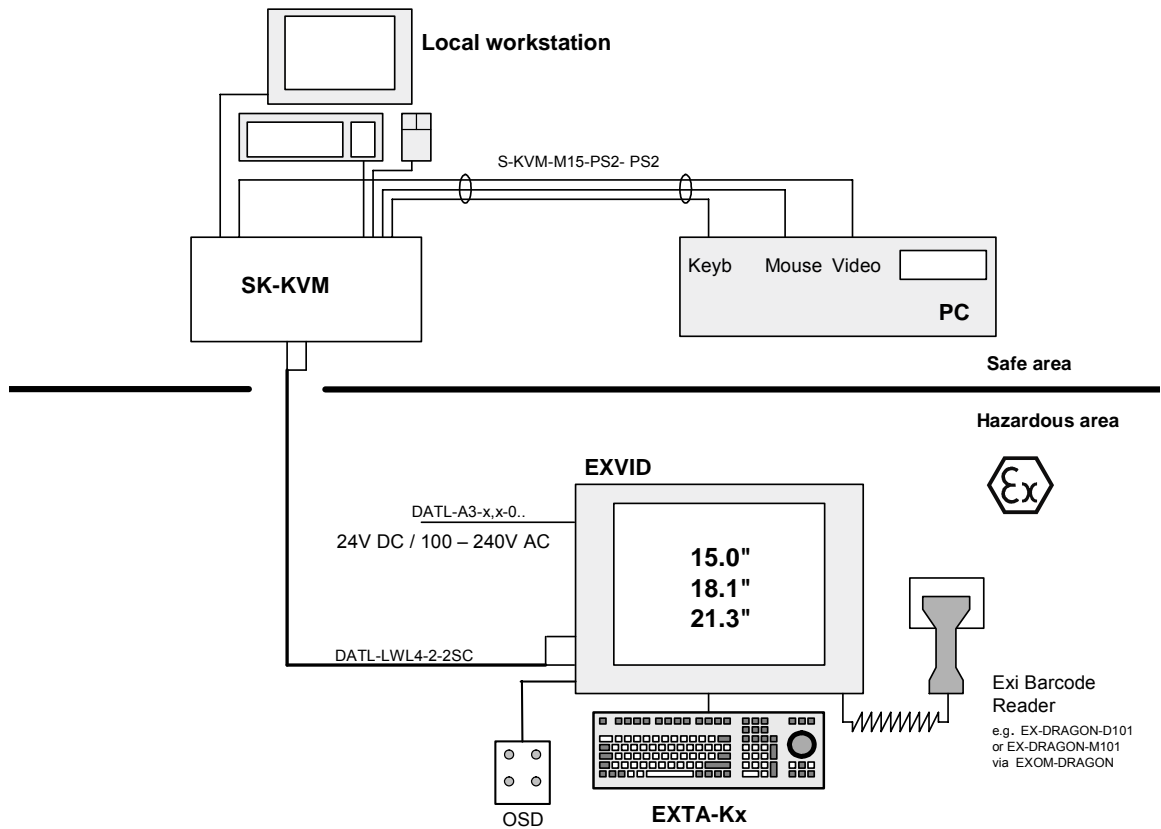
Connection of the Ex and local operator terminals to a PC

2.1.2 Special structure cascading

Local workstation

S-KVM-M15-PS2- PS2

Keyboard
Mouse
Video

X7	X5	X10	X9	X6	X8

SK-KVM

X7	X5	X10	X9	X6	X8

SK-KVM

Keyb   Mouse   Video

PC

Safe area

Hazardous area

EXVID

24V DC /
100-240V AC

EXVID

24V DC /
100-240V AC

OSD

EXTA-Kx

OSD

EXTA-Kx
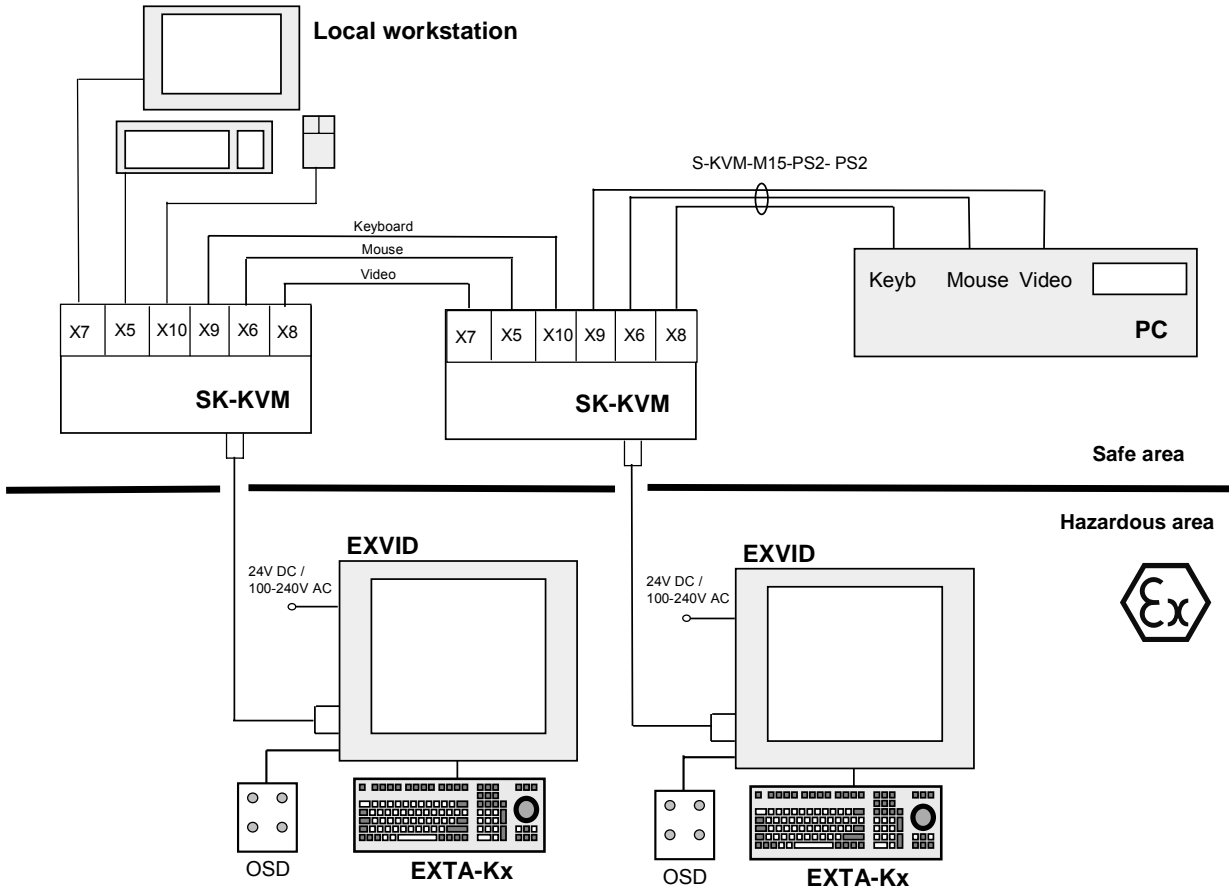
If you want to use several touch screens on one PC please contact the support!

3 Startup

3.1 Hardware connections

This description of the startup procedure only contains information that is relevant to the Ex PC operator terminal. Please refer to the PC manual for details of how to start up the PC.

Proceed as follows to start up the operator terminal:

- Switch off the system or machine.
- Make sure that the installation area is safe for the duration of the startup procedure if any non-intrinsically safe voltages need to be wired and/or non-intrinsically safe devices opened.
- Connect the SK-KVM to the PC.
- Connect the Exq display EXVID to the SK-KVM.
- Connect the protective earth conductor to the Exq display EXVID.

⚠ Warning Care - Attention	**Warning** The protective earth conductor (PE) is connected to the case. The case must be earthed (PA). The earth wire must have a cross-section of at least 4 mm² and be as short as possible.

- Connect the EXTA Exi keyboard and the EXTA Exi mouse to the Exq display EXVID. Please refer to the section 6 entitled "Wiring examples" for a wiring diagram.
- Connect the EXVID Exq display to the Exe power supply. Please refer to the section 6 entitled "Wiring examples" for a wiring diagram.
- Switch on the power supply.
- Check all the functions of the Ex PC operator terminal (Exq display, Exi keyboard and Exi mouse).
- Switch on the system or machine.
- Check the functions of the complete system or machine.

⚠ Warning Care - Attention	**Warning** The equipment or machine may malfunction if the Ex PC operator terminal is not correctly connected and configured.

⚠ Warning Care - Attention	**Warning** These devices are intended solely for installation in another machine. They are not allowed to be started up until the conformity of the final product with the 89/336/EEC and 89/392/EEC Directives has been established and this product inspected by an authorized expert in accordance with VDE 0165 and EN 50014 ff.

3.2 Operation and calibration (OSD menu)

This section describes all the operator controls and their functions.

The SK-KVM-10 is operated and calibrated with an OSD (**O**n **S**creen **D**isplay) menu and four buttons. These four buttons can be used to navigate in the menu and change parameters.
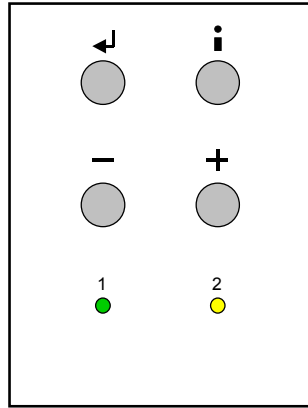
The functions of the buttons are as follows:

<+>	Increment parameter setting, shift selection to right Quick OSD menu call: - Select data source - Automatic picture calibration
<->	Decrement parameter setting, shift selection to left
<i>	OSD call Select main menu / submenu
<↵>	Scroll from top to bottom in main menu / submenu, select Quick OSD menu call: Set contrast, brightness, zoom and picture-in-picture (PIP) properties

LED 1 (green)	
Blinking	Processor running
Lit	Processor fault
Not lit	No power
LED 2 (yellow)	
Lit	Data transfer OK
Not lit	No data

OSD menu / quick OSD menus

In addition to setting the parameters in the **OSD menu**, it is also possible to change the most important functions, such as brightness, contrast and automatic picture calibration, directly using the so-called **quick OSD menus**.

3.2.1 Quick OSD menus

The following settings can be selected <u>additionally</u> using the quick OSD menus:

3.2.2 Using the Quick OSD menus

3.2.2.1 Opening the menus with the <↵> button

Function	Settings	Description
Brightness	Setting range: 0 to 100 with (+/-) buttons	For setting the brightness Adjusts the reproduction of dark picture sections.
Contrast	Setting range: 0 to 100 with (+/-) buttons	For setting the contrast Adjusts the reproduction of bright picture sections.
Zoom	Setting range: 0 to 100 with (+/-) buttons	For setting the zoom factor Zooms in the display contents
Picture-in picture	Setting range: Small, medium, large	For setting the picture-in picture properties Sets the size of the picture on the display

3.2.2.2 Opening the menus with the <+> button

Function	Settings	Description
Source RGB, composite colour video signal, S-VHS	Select by pressing the <+> button again	Selects the data source
Picture calibration	Select by pressing the <+> button again	Automatic picture calibration. Calibrates the frequency, phase and picture position

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3.2.3 Opening the OSD menu with the <i> button

The on-screen display (OSD) is a special menu system that appears on the screen. All the monitor settings can be selected using this menu system in conjunction with the operator controls described here.

3.2.3.1 Structure of the on-screen display menu

Main menu	Function	Settings / setting range	Description
Picture 1	Brightness	Setting range: 0 to 100 with (+/-) buttons	**For setting the brightness** Adjusts the reproduction of bright picture sections
	Contrast	Setting range: 0 to 100 with (+/-) buttons	**For setting the contrast** Adjusts the reproduction of dark picture sections
	H position	Setting range: 0 to 100 with (+/-) buttons	**Shifts the picture horizontally**
	V position	Setting range: 0 to 100 with (+/-) buttons	**Shifts the picture vertically**
	Phase	Setting range: 0 to 31 with (+/-) buttons	**Adjusts the phase of the input signal**
	Frequency	Setting range: depending on panel and graphic adapter with (+/-) buttons	**Adjusts the frequency of the input signal**
	Scale factor	Fill screen - Fill to aspect ratio - One to tone	**Fixed, predefined picture scale factor**
	Scale	Depends on resolution of input signal	**Freely definable, non-linear picture scale factor**
Picture 2	Sharpness	1, 2, 3, 4, 5	**Allows the picture sharpness to be set by selecting one of the five sharpness values (filters). 1=sharp and 5=smooth**
	Gamma	Video or CRT	**Corrects the gamma graph** Colour values are multiplied by a specified factor and sent to the display
	Colour temperature	5000 - 6500 – 9300 - VAR	**Sets the required colour temperature or hue** Three predefined colour temperatures and one freely definable colour temperature are available. If "VAR" is activated, three bars appear for R, G and B. Setting range: 0 to 100 % (50% corresponds to a factor of 1)

Main menu	Function	Settings / setting range	Description
Options 1	OSD	Choice of nine predefined OSD positions	**Selects the position of the OSD menu**
	OSD H position	Setting range: 0 to 100 with (+/-) buttons	**Shifts the OSD menu horizontally**
	OSD V position	Setting range: 0 to 100 with (+/-) buttons	**Shifts the OSD menu vertically**
	OSD timeout	5 ... 60 seconds	**Sets the time the OSD menu remains on the screen after the last keystroke** The timeout can be set between 5 and 60 s in steps of 5 s
	OSD background	Opaque – Transparent	**Selects the background colour of the OSD menu** You can choose between a transparent or opaque background.
	Backlight	Setting range: 0 to 100 with (+/-) buttons	**Sets the brightness of the display backlighting** Not possible
	Interference suppression	ON – OFF	Default setting = OFF. ON activates the interference suppression function for sync signals. This prevents the picture from being recalibrated (and the picture background from appearing) in case of temporary disturbances
Options 2	DPMS *	ON – OFF	**Switches the Display Power Management System (DPMS) on or off** If DPMS is active, the monitor is switched off (i.e. the screen goes dark) whenever no more sync signals are present
	Source select	OFF – ON – Default	**Selects video sources** (not relevant because there is only one RGB input; default setting = ON)
	Clear colour	Red – Green – Blue – Black	**Selects the background colour of the screen if no input signal is present**
	Border colour	Red – Green – Blue – Black	**Selects the colour of the non-active area**
	Source info	ON – OFF	**Switches information about the signal source on or off** If any of the following settings are changed, the new signal source information is displayed on the screen for a few seconds: - Signal source (e.g. RGB analogue) - Mode (number of the entry in the internal timing table) - Resolution of the input video source - H or V frequency Analog RGB1 Modus: %d, %d x %d %u,%03u kHz / %u Hz

*IMPORTANT:

DPMS MODE
DPMS mode must not be activated simultaneously with the power-saving mode of the computer monitor. This prevents the Ex components from "jerking" the PC out of power-saving mode, because the connection between the line driver and the front end is interrupted.

Main menu	Function	Settings / setting range	Description
Utilities	Language	English – German	**Selects the language of the OSD menu**
	Calibration	Press <+>	**Calibrates the internal A/D converter (follow the instructions provided in the menu)**
	Freeze frame	ON – OFF	**Saves (freezes) the display contents**
	Factory defaults	Press <+>	**Restores all functions** (brightness, contrast, etc.) to the factory settings.
	Installation RGB mode	Press <+>	**Matches the picture to video signals which are not stored in the device as timing data (if the display resolution is not the same as the source resolution).** 9 possible settings appear when you press the <+>-button
	If <+> is pressed:		
	H and V frequency	–	Shows the H/V frequency of the active video source
	H/V total, H/V start	–	Shows the timing parameters used by the active video source
	Options:	Var. RGB mode deactivated, Mode1, Mode2, Mode3	Deactivated: Only the internal timing tables are used
			Mode1: The set parameters are used with full, automatic calibration (normal setting)
			Mode2: The set parameters are used with full, automatic calibration but without automatic "position" calibration
			Mode3: The set parameters are used with full, automatic calibration but without automatic "frequency" calibration
	H visible	100 to 2000 with (+/-) buttons	**Sets the horizontal display resolution (important parameter)**
	V visible	100 to 2000 with (+/-) buttons	**Sets the vertical display resolution (important parameter)**
	H total	100 to 2500 with (+/-) buttons	**Sets the total number of pixels per line (important parameter)**
	H start	0 to 750 with (+/-) buttons	**Sets the number of pixels from H sync start to the start of the picture**
	V start	0 to 500 with (+/-) buttons	**Sets the number of lines from V sync start to the start of the picture**
	Install	Press <+>	Activates the set timing parameters
	Test pattern	Press <+>	Displays a test pattern
About	Firmware, resolution, timing	–	**Shows the firmware version and the data of the active video source**

3.3 Input locking

With the <u>input locking</u> the operating elements keyboard, mouse, OSD operator panel, Barcode Reader and EXVID Touch Screen can be locked for the inputs at the terminal.
Please take the wiring diagrams for the different case models from chap. 5.

Switch: (optional) (not a component of the scope of supply) ,
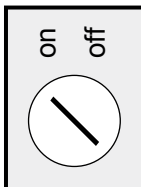
Function:

<u>Switch OFF</u>: The operating elements are in function

<u>Switch ON</u>: The operating elements are locked by the EXVID Display

3.4 Installing the driver software

3.4.1 Mouse driver

Standard-PS/2-Mouse   it is standard on operating systems.

Alternative can be used:
Microsoft PS/2-mouse.

Note:

Please note, that a possibly existing scroll wheel is not supported by the mouse.

3.4.2 Touch driver

Software on the CD or Pepperl+Fuchs-Website

Insert the CD or start the Website http://www.pepperl-fuchs.com

If you want to use several touch screens on one PC

please contact the support!

If the CD does not start automatically, start the program manually in *Windows Explorer*.

- ➔ Select the Support dialog box
- ➔ Select Download
- ➔ Select Software
- ➔ Industrie PC's – iPC-EX   ➔   Software Driver, Updates
- ➔ Download Driver and Tools iPC-4
- ➔ Download iPC_touch.zip
- ➔ Un'zip and create a folder e.g. „Touch"
      Please consider the following when un'zip
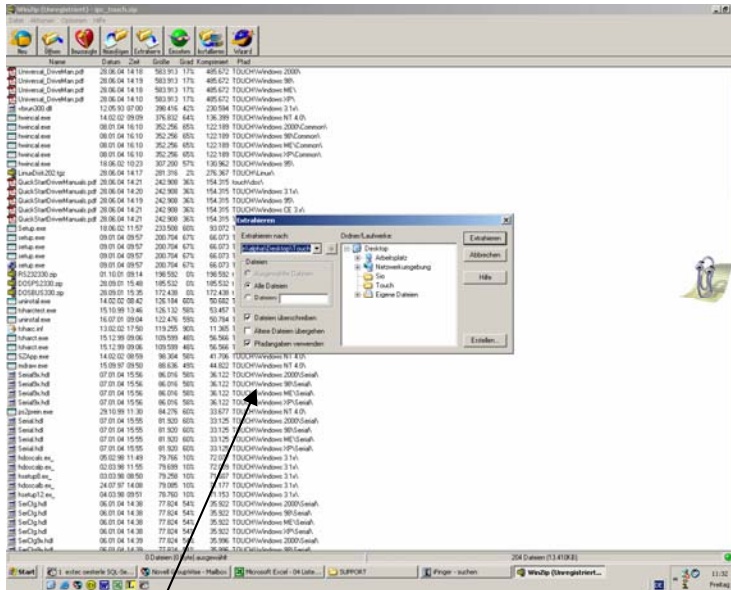
Use folder names

➔ Un'zip zip

➔ Select operating system

➔ WIN 98, WIN ME, WIN 2000, WIN XP (see chapt. 3.4.3)

➔ WIN NT (see chap. 3.4.6)

3.4.3 Installing the driver software for Windows 95, 98, ME, 2000 und XP

Select operating system **Windows 95, 98, ME, 2000 XP**
- The "Welcome"- screen displayed
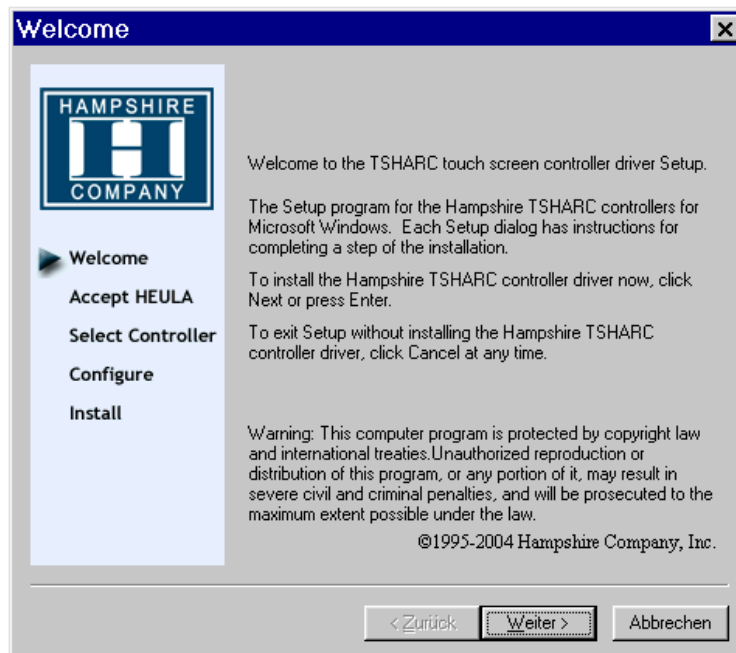
➔ Click „next"

- Software license agreement
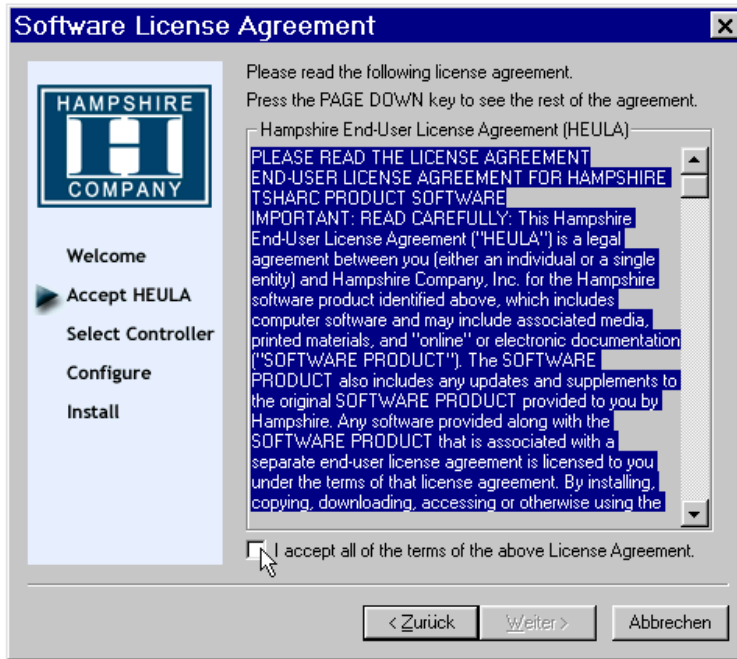
- When you click "I accept....", the blue background disappears and the "Next" button is activated
- Click "Next"

  o The *"Select Controller"* dialog box is opened.
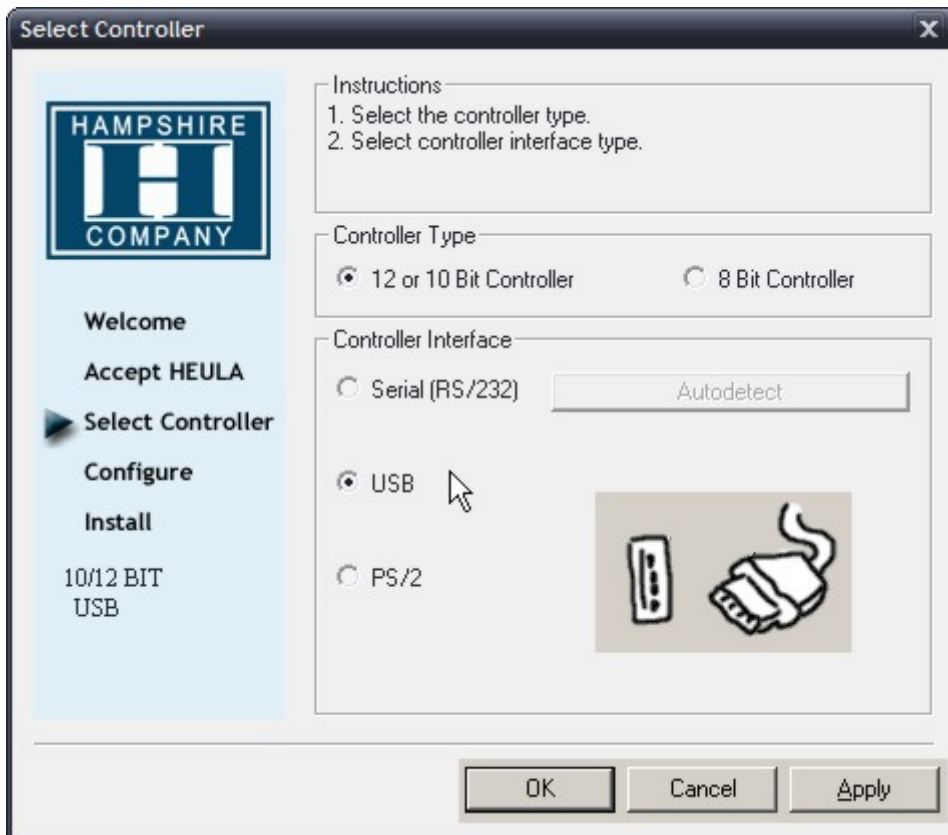
➔ Select manual "12 or 10 bit Controller / Serial (RS/232).

➔ Click the – *Autodetect* – button

→ Continue the installation routine.

→ When the installation routine has finished, your computer is rebooted.

3.4.4 Calibration program

ℹ	For calibration the user rights of an administrator are necessary!

If the program does not start automatically, you must start it manually by selecting the Windows Start menu / Programs / *"Hampshire TSHARC Control Panel"*.

The calibration program opens with the Screen Selection tab and starts to set the calibration points after a few seconds. You must touch each point in turn.
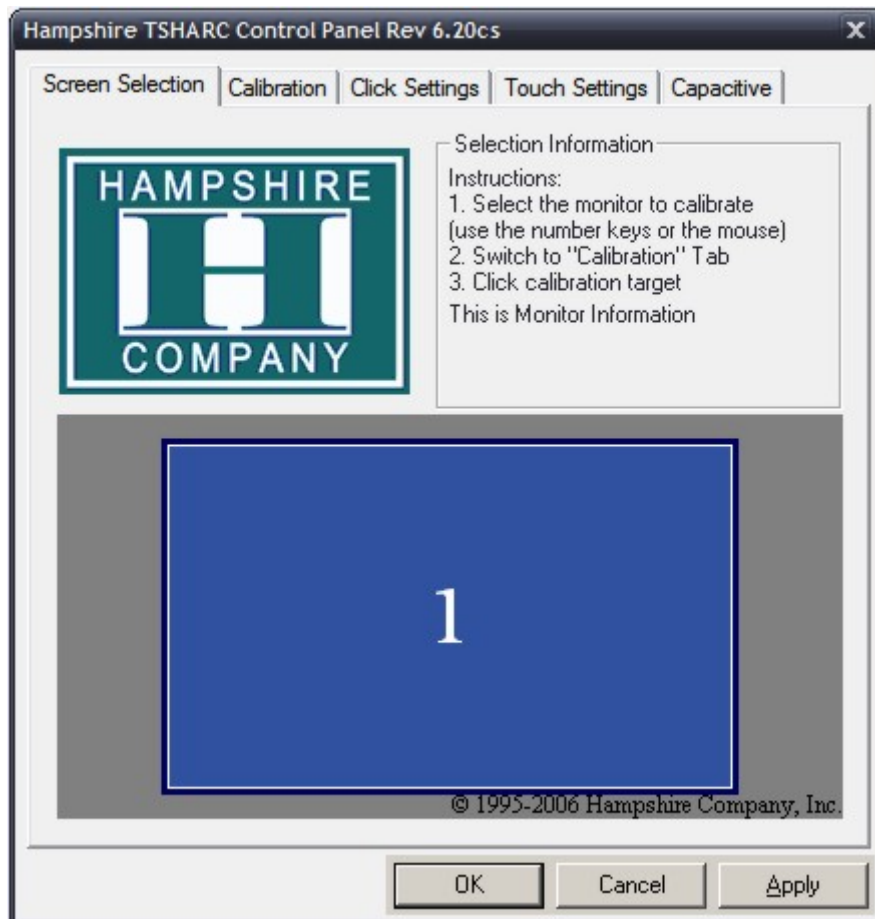
Setting the touch functions

The touch function settings are specified on six tabs. Confirm all changes to the set values by clicking the "Apply" button.
(The settings shown here are the recommended ones.)

Click "OK" to exit the calibration program.

The tabs are explained on the next few pages. Each time you enter a new setting, you must click "Apply" in order to save it!

Hampshire TSHARC Control Panel Rev 6.20cs

Screen Selection | Calibration | Click Settings | Touch Settings | Capacitive |

Touch (or click) the calibration target to calibrate
the touch screen.
Administrator Access is Required.

Configure

Configure the calibration type
and offset.

Test

Test touch screen calibration.

OK   Cancel   Apply
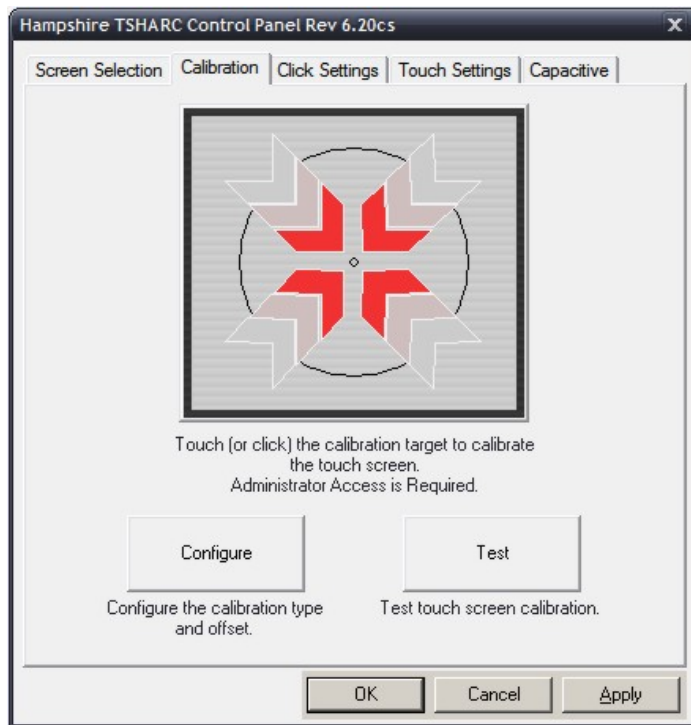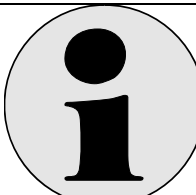
- "Calibration Options" tab
  You can select the various calibration options on this tab and recalibrate the touch screen.

  → Click "Configure" to open a popup menu in which you can set the number of calibration points and their distance to the edge of screen (offset).

	Note:
	For the largest accuracy calibrate as much points as possible with small offset.

  → Click the large calibration target to start the calibration program.

	Note:
	With diagonal view to the display a misalignment between fingers and calibration point (parallax error) arises.

  → Click "Test" to test the calibration.
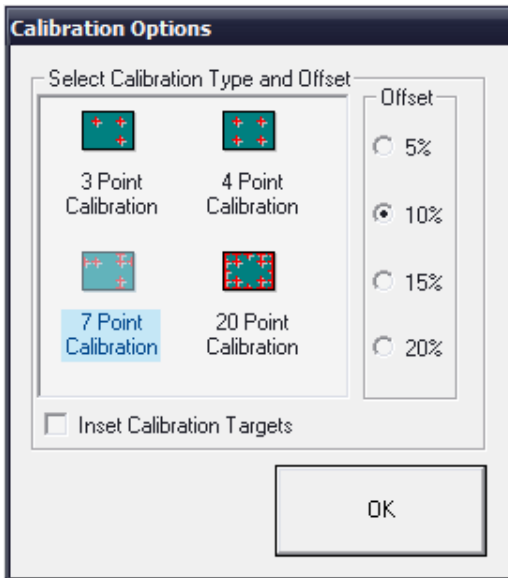
- "Click Settings" tab

You can edit the double click settings on this tab.

→ The box in the top left (Right Click Emulation) initiates a mouse "right click". Touching the same point on the screen for a predefined period of time is interpreted as a right click. You can set the amount of time needed to produce a right click event with the slider in this box.

→ You can set the double click time and define the event area (the area within which two clicks are necessary to count as a double click) in the bottom box.

You can check your settings in the "hand" box.
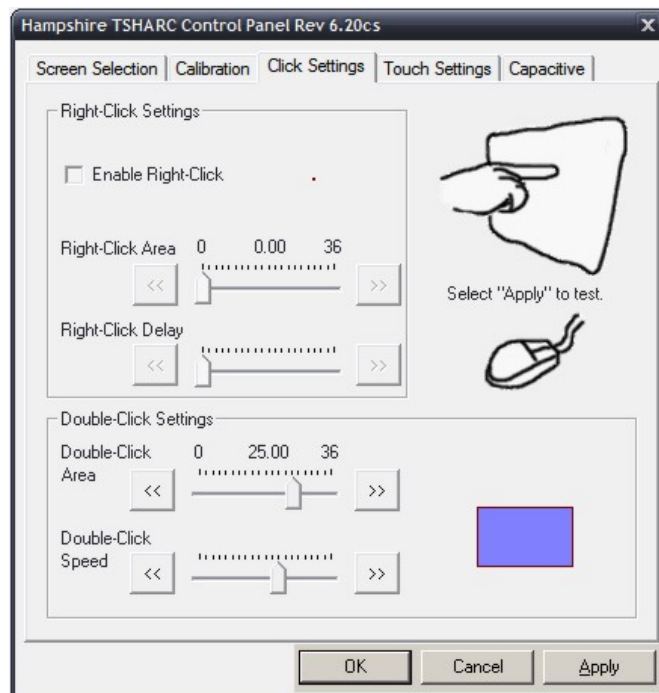
- "Touch Settings" tab
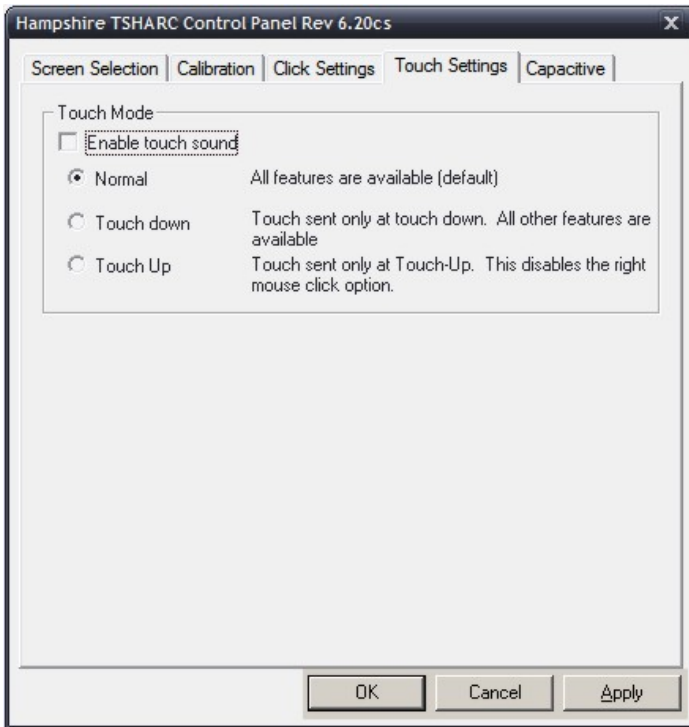
- "Capacitive" tab

    - Not required for the iPC-EX -

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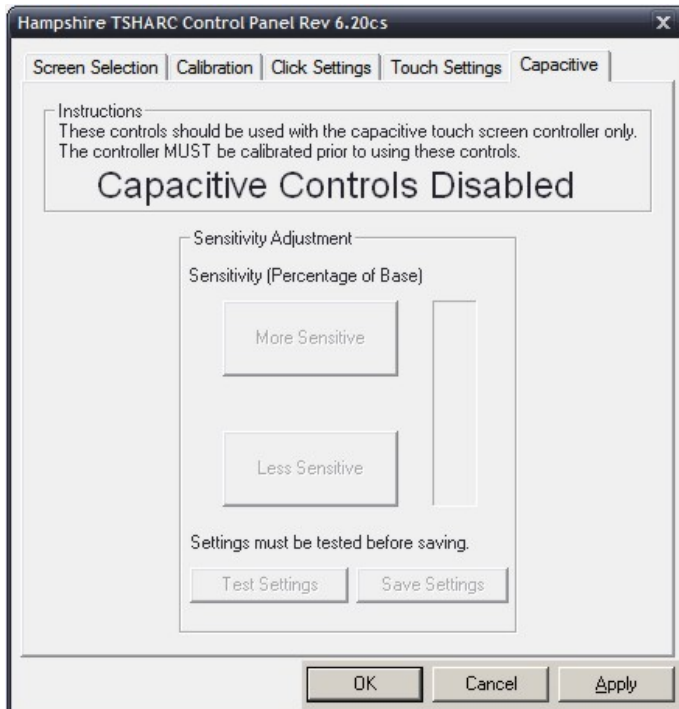
3.4.5 Uninstalling the driver software WIN 9x, ME, 2000, XP

Start the program manually in *Windows Explorer*:

➔ Select installation directory.Default

➔ C:\ program\TSHARC

➔ Start tsun.exe

➔ Confirm "yes"

➔ Accomplish a restart

3.4.6 Installing the Touch driver for Windows NT

➔ Select WIN NT

➔ IpcEx\Touch\WIN NT 40 \ tsharc.inf

➔ Select "TSHARC-12 Serial COM1, 9600bps" or "TSHARC-12 Serial COM2, 9600bps"

➔ After the confirmation of the license the following input masks appear.

Note: Some of the screens shown here may not always be available, depending on the selected driver.

"Controller Type" screen
- Select TSHARC-12 Serial (or possibly TSHARC 10/12).
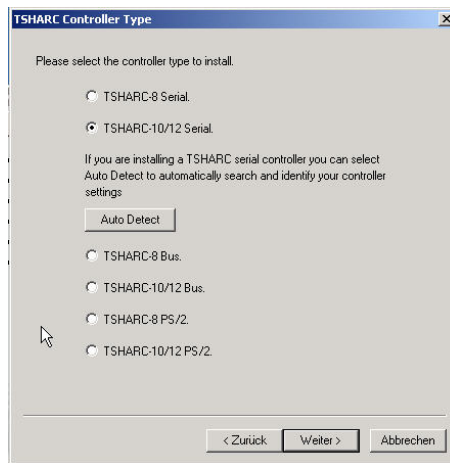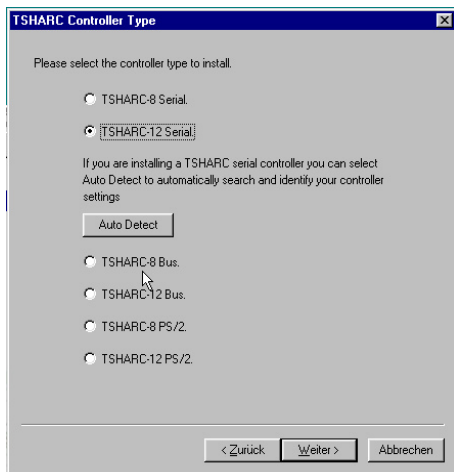
"Serial Communication" screen

- Select the COM port.
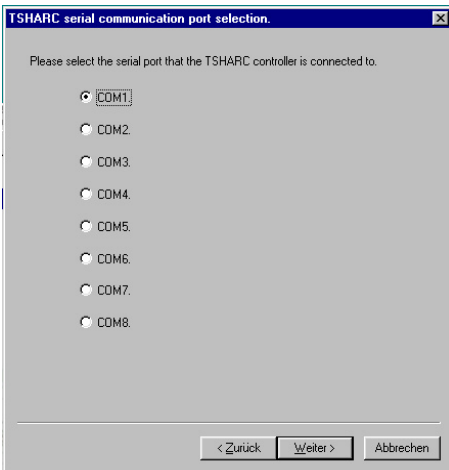
"Serial Baud Rate" screen

- Set the baud rate to 9600 bps.
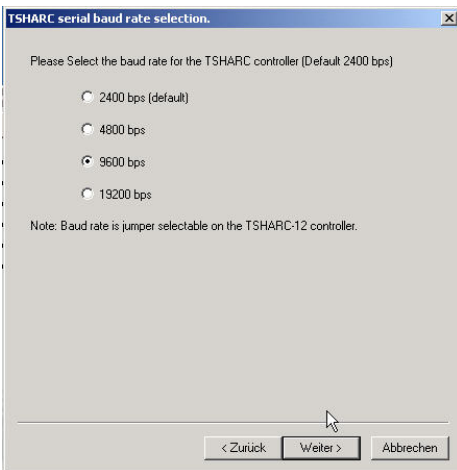
"Install Now" screen

- Select "Default" if your PC uses the "standard" COM port interrupts.
- Choose "Select my own" if you want to check or change the interrupts.
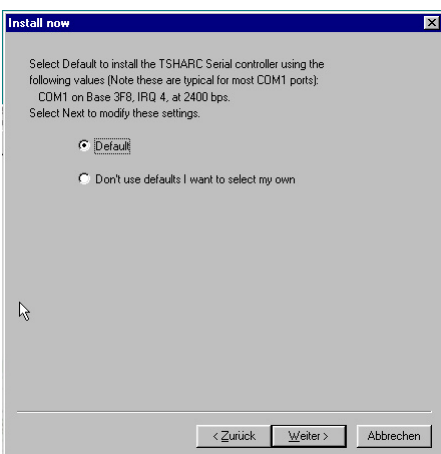
"Serial Base Selection" screen (only if you chose "Select my own")
- Select the serial port base address.
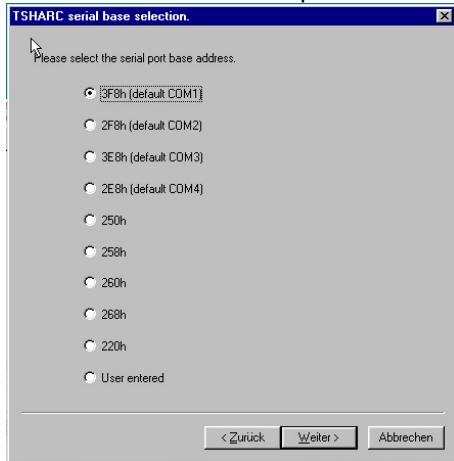
-When the installation routine has finished, your computer is rebooted.

3.4.7 Calibration program (only for Windows NT)

The calibration program *"Hampshire TSHARC Control Panel"* is started automatically the first time you install the software. (If it does not start automatically, you must start it manually instead via the Windows Start menu / Programs / *"Hampshire TSHARC Control Panel"*.)

The first step in the calibration program is to set the calibration points. You must touch each of these points (crosses) in turn.

Setting the touch functions

The touch function settings are specified on six tabs. Confirm any changes to the set values by clicking the "Accept" button.
(The settings illustrated here are the recommended ones.)

Click "OK" to exit the calibration program.

7-point calibration is automatically set as the calibration type.

The tabs are explained on the next few pages.

- "Calibration" tab
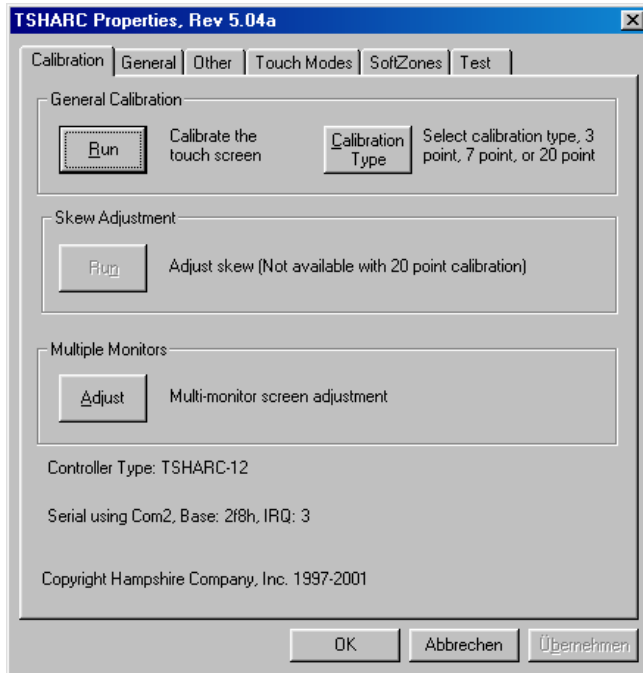
Click the "Calibration Type" button to set the calibration type.
Click "Run" to recalibrate.

- "General" tab
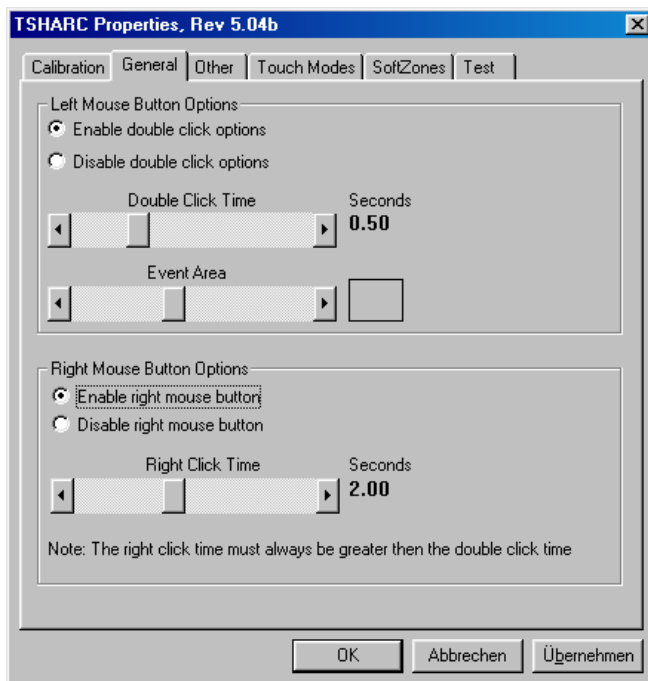
You can set the various mouse functions here.

- "Other" tab
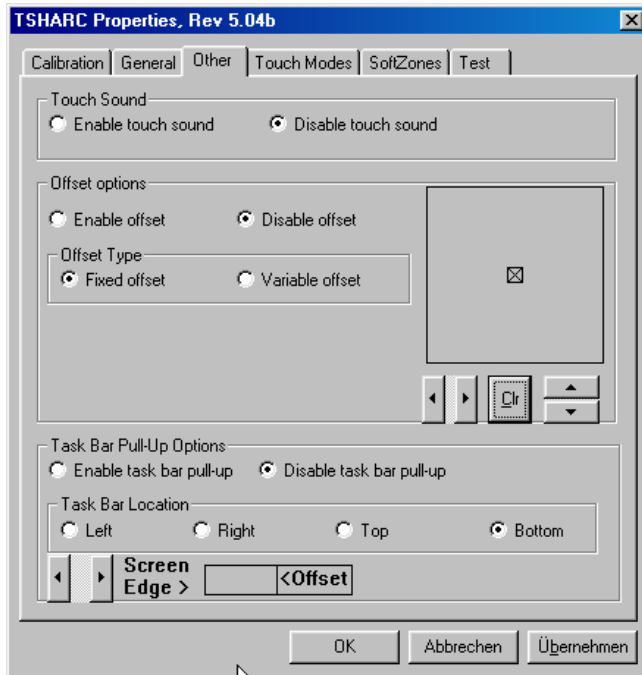
- "Touch Modes" tab
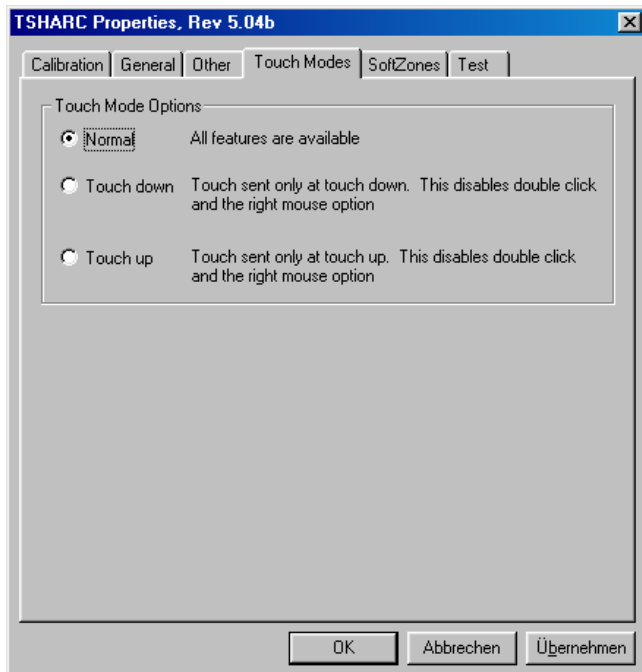
- "SoftZones" tab
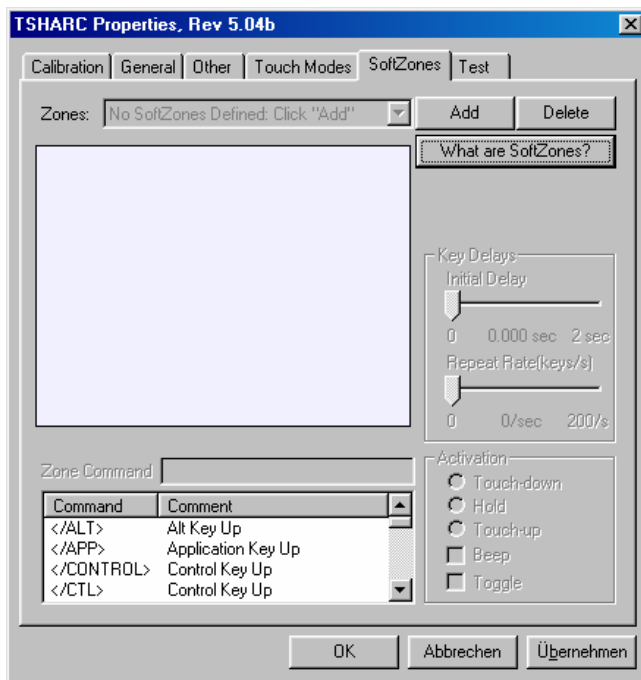
This tab also includes a help button labelled "What are SoftZones?".
Click this button to find out more about the SoftZones settings.

- "Test" tab
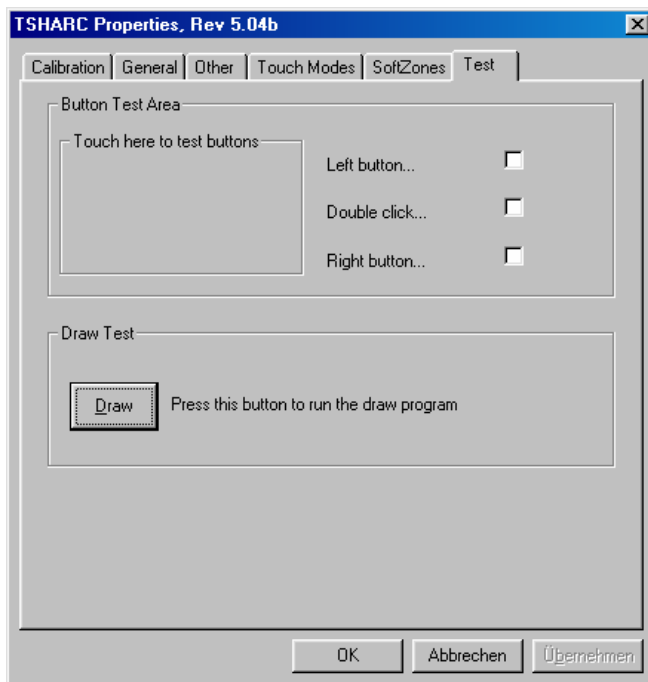
You can test the mouse functions in the test area ("Button Test Area").
The mouse functions are set on the "General" tab.

3.4.8 Uninstalling the driver software (Windows NT)

The uninstall software is available on the CD or the Pepperl+Fuchs – Website.

If the CD does not start automatically, start the program manually in *Windows Explorer*:

> ➔ Select the Support dialog box
>
> ➔ Select Download
>
> ➔ Select Software
>
> ➔ Industrie PC's – iPC-EX   ➔   Software Driver, Updates
>
> ➔ Download Driver and Tools iPC-4
>
> ➔ Download iPC_touch.zip
>
> ➔ Un'zip and create a folder e.g. "Touch"
>
> ➔ Select folder "Touch"
>
> ➔ Select UNINSTAL.EXE

3.4.9 Known problems that can occur when you install the driver software

o   The iPC-EX is not supplied with power until you start the computer.
    As a result, it sometimes happens that the EXVID touchscreen is not recognized by the software.

   ➔ Remedy: Always make sure that the EXVID touchscreen and the SK-KVM are supplied with
                 power before you boot your computer.

o   The EXVID touchscreen does not work if the driver is installed twice.

   ➔ Remedy: Uninstall the driver using the uninstall routine and then install it again.

o   The PS/2 mouse no longer works after you install the EXVID touchscreen driver.

   ➔ Remedy: Remove the mouse driver (not the EXVID touchscreen driver) and restart Windows.
                 Windows should then search for the mouse and reinstall it (this method does not work
                 with Windows NT4.0).

o   The following error sometimes occurs with Windows 95:
    - The calibration setup program is ten times as wide as the screen.

   ➔ Remedy: Click the title bar in the program window repeatedly with the mouse and move it over to
                     the left until the calibration buttons are visible.
                 Start the calibration.

o   Using "Auto Detect" under Windows 2000 sometimes leads to a resource conflict between the keyboard
    and the mouse.
   ➔ Error symptoms: Windows 2000 boots up, but the mouse and keyboard are locked as soon as
                         the
                         Windows Start screen appears.

   ➔ Remedy: Restart Windows 2000 with the last configuration that worked correctly.
                         Remove the driver using the TSHARC uninstall routine in your program folder
                         (c:\Programs or c:\Program files)\HAMPSHIRE\Uninstall.exe.
                         Install the driver again manually (don't use "Auto Detect").

3.4.10 EXVID Operation

Warning Care - Attention	**Warning** The display EXVID may only operate with closed Exe connection area. With opened Exe connection the explosion protection is not given.

Warning Care - Attention	**Warning** Exe Box only open 5 minutes after switching supply voltage off. Otherwise internal capacities could be still loaded and release in the case of short-circuit an explosion.

3.4.11 Scanner configuration for iPC-EX

1. Block diagram for barcode reader data:
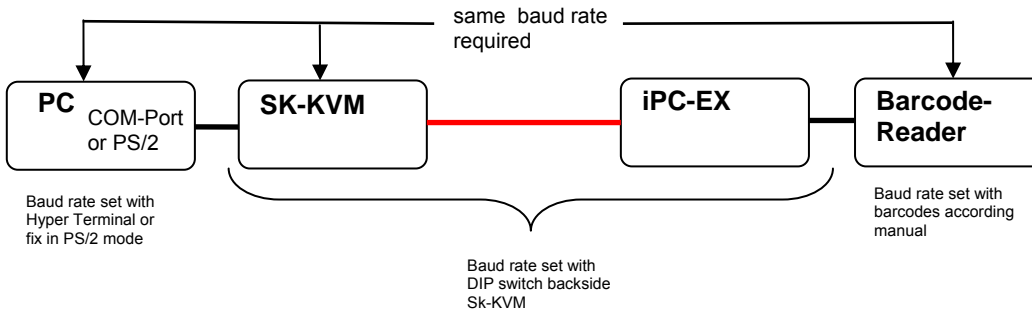
2. In general barcode data can be transmitted to PC within 2 ways:

- through RS232 serial port   (Sk-KVM DIP-Switch 1.2 ON)
- embedded in PS/2 keyboard port   (Sk-KVM DIP-Switch 1.2 OFF)

The baud rate for an PS/2 port is fixed for 1200 Bd so the barcode reader settings has to be:

1200	Baud
8	Databits
EVEN	Paritybit
1	Stopbit

The RS232 port can work with different Baud rates 9600 Bd and 1200 Bd are supported by iPC-EX. For this mode a 9-Pin-D-SUB cable from Sk-KVM "serial PC" to PC serial port is required.
For

1200	Baud	(Sk-KVM DIP-Switch 1.1 OFF)
9600	Baud	(Sk-KVM DIP-Switch 1.1 ON)

also:

8	Databits
EVEN	Paritybit
1	Stopbit

So for 1200Bd PS/2 emulation with US keyboard:
(DIP switch 1.4 and 1.5 according language table, see chap. 4.4.3)

Sk-KVM DIP-Switch 1.1 OFF
Sk-KVM DIP-Switch 1.2 OFF
Sk-KVM DIP-Switch 1.4 OFF }
Sk-KVM DIP-Switch 1.5 ON   }   for US American keyboard layout

3. General hints for changing Sk-KVM DIP switches:

- power off Sk-KVM, while changing settings
- some PCs need to get restarted, when PS/2 connection was interrupted

3.5 Screen Saver installation

If static pictures are used for more than 10 hours, burn-in effects may occur also with LCD monitors. We therefore strongly recommend to use a screen saver.

PEPPERL+FUCHS
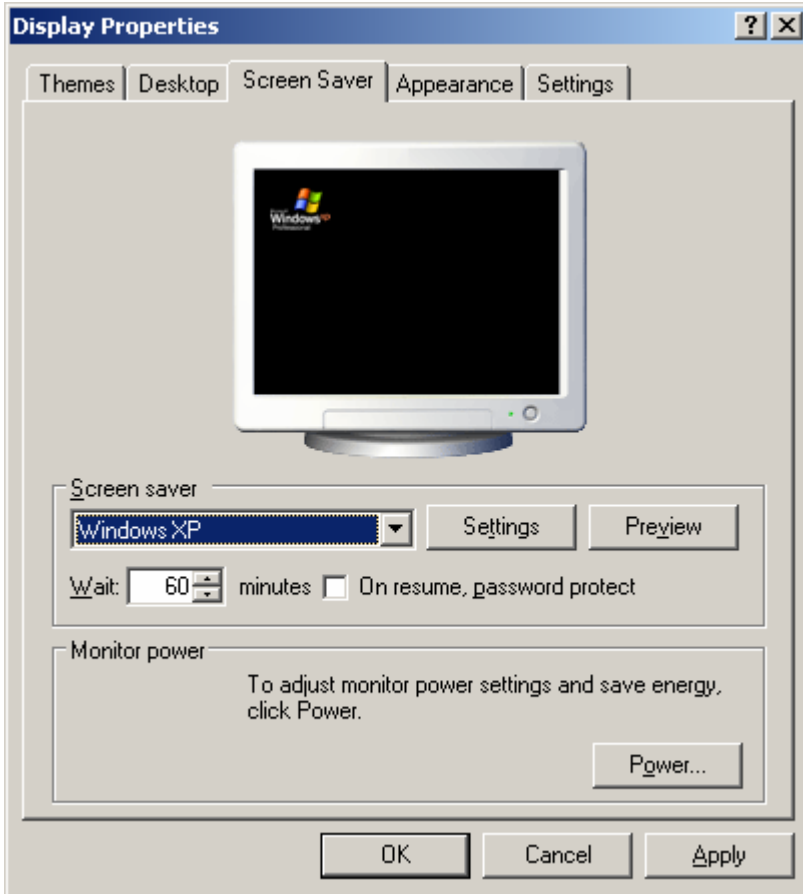
4   iPC-EX   components

4.1   EXVID   displays

4.1.1   EXVID-15XC   Exq 15.0" display

The EXVID Exq display can be used in the hazardous area (Zones 1 and 2). It can be connected to any PC by means of the SK-KVM. The display has XGA resolution with 1024 x 768 pixels as default. Other resolutions (VGA - UXGA) can be zoomed to XGA (SK-KVM). From the point of view of the software application, the display is an 'ordinary' monitor. The software therefore does not need to be modified in any way.
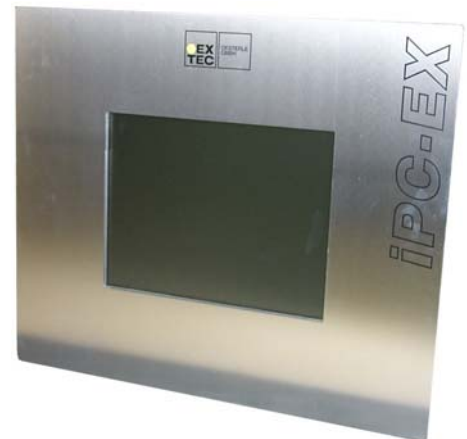
4.1.1.1 Technical data

	EXVID-15XC
Approval:	
Type of protection	II2G, EEx qe [ib] IIC T4
Approval	IBEXU 01 ATEX 1099
Degree of protection	Front panel: IP 65
Ambient conditions (operation):	
Temperature range	-20 °C – +40 °C***
Relative humidity	Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-20 °C – +70 °C
Mechanical data:	
Resolution	XGA 1024 x 768 pixel
Type	TFT, LCD, High Color (19 bit)
Refresh rate	75 Hz
Screen diagonal	15.0"
Contrast	300:1
Brightness	200 cd/m^2
Viewing angle	160°
Weight	Approx. 35 kg
Dimensions (W x H x D) in mm	583 x 483 x 111
Supply voltage Type -DC:	24V DC $\pm$ 20%, typ. 1.7 A, max 2 A (Exe)
fuse FUSE for EXVID-30-50ATH (See page 32)	
Shut-off rating I$_A$=50A	
Type -AC:	100V AC / 50 - 60 Hz, typ. 0.41 A, max 0.48 A (Exe)
fuse FUSE for EXVID-30-50ATH (See page 32)	240V AC / 50 -60 Hz, typ. 0,17 A, max. 0,2 A (Exe)
Shut-off rating I$_A$=35A	
Material Front panel	Stainless steel (1.4301), brushed, graining 240 µm
Rear panel	Stainless steel (1.4301)
Data ports:	
PC interface	Optical fibre cable from display to linedriver up to maximum 750 m
	Type Optical fibre: 2 x 50/125 µ with SC plug connectors
Keyboard	Type: TTL/ PS/2 (Exi, screw terminal)
Mouse	Type: TTL/ PS/2 (Exi, screw terminal)
Barcode reader (optional)	Type: ENT-DC (Exi, screw terminal)
OSD menu control	Type: digital (Exi, screw terminal)
Enable switch keyboard + mouse (optional)	Type: digital (Exi, screw terminal)
	(Refer to section 4.1.6 "EXVID terminal assignment" for port assignments)

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*** At temperatures between -20°C und 0°C a preheatingime from 1 hour is necessary to keep the indicated display specifications and full functionality.

Safety Instructions:

The fuses are put in the Ex-e box and may be replaced only by trained personnel by the identically types.

Fa. Pepperl+Fuchs GmbH, Type "Fuse for EXVID-30"
Work instruction for replacing a blown fuse see chapter 16.

Warning

Attached voltage supply should not supply a higher current as the indicated shut-off rating of the attached Ex-e-fuse.

4.1.1.2 Case

EXVID-15XC (15.0" display), all the connections are on the rear.

Material (front panel)	Stainless steel (1.4301), brushed, graining 240 μm
Degree of protection (front panel)	IP 65
Material (cover case)	Stainless steel (1.4301)
Degree of protection (cover case)	IP 54

Older version:

All dimensions in mm

Installation cutout: 520 x 410 mm
Fixed with 14 circumferential studs M5 x10

Warning

The protective earth conductor (PE) is connected to the case. The case must be earthed (PA). The earth wire must have a cross-section of at least 4 mm² and be as short as possible.

Newer version

583

4   111

365

PA

Exe

448   328   365   483

Exi

F.O.

135

405

548

All dimensions in mm

Installation cutout: 520 x 410 mm
Fixed with 14 circumferential studs M5 x10

Warning
Care - Attention

Warning

The protective earth conductor (PE) is connected to the case. The case must be earthed (PA). The earth wire must have a cross-section of at least 4 mm² and be as short as possible.

4.1.2 EXVID-18SXC Exq 18.1" display

The EXVID Exq display can be used in the hazardous area (Zones 1 and 2). It can be connected to any PC by means of the SK-KVM. The display has SXGA resolution with 1280 x 1024 pixels as default. Other resolutions (VGA - UXGA) can be zoomed to SXGA (SK-KVM). From the point of view of the software application, the display is an 'ordinary' monitor. The software therefore does not need to be modified in any way.

4.1.2.1 Technical data

	EXVID-18SXC
Approval:	
Type of protection	II2G, EEx qe [ib] IIC T4
Approval	IBEXU 01 ATEX 1099
Degree of protection	Front panel: IP 65
Ambient conditions (operation):	
Temperature range	-20 °C – +40 °C***
Relative humidity	Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-20 °C – +70 °C
Mechanical data:	
Resolution	SXGA 1280 x 1024 pixels
Type	TFT, LCD, High Color (19 bit)
Refresh rate	75 Hz
Screen diagonal	18.1"
Contrast	400:1
Brightness	270 cd/m^2
Viewing angle	170°
Weight	Approx. 37 kg
Dimensions (W x H x D) in mm	583 x 483 x 133
Supply voltage Type -DC:	24V DC $\pm$ 20%, typ. 2.5 A, max 3 A (Exe)
fuse FUSE for EXVID-30-50ATH (See page 36)	
Shut-off rating I_A=50A	
Type -AC:	100 V AC / 50 - 60 Hz, typ. 0.6 A, max 0.72 A (Exe)
fuse FUSE for EXVID-30-20ATH (See page 36)	240 V AC / 50 -60 Hz, typ. 0,25A, max. 0,3A (Exe)
Shut-off rating I_A=35A	
Material Front panel	Stainless steel (1.4301), brushed, graining 240 µm
Rear panel	Stainless steel (1.4301)
Data ports:	
PC interface	Optical fibre cable from display to linedriver up to maximum 750 m
	Type Optical fibre: 2 x 50/125 µ with SC plug connectors
Keyboard	Type: TTL/ PS/2 (Exi, screw terminal)
Mouse	Type: TTL/ PS/2 (Exi, screw terminal)
Barcode reader (optional)	Type: ENT-DC (Exi, screw terminal)
OSD menu control	Type: digital (Exi, screw terminal)
Enable switch keyboard + mouse (optional)	Type: digital (Exi, screw terminal)
	(Refer to section 4.1.6 "EXVID terminal assignment" for port assignments)

*** At temperatures between -20°C und 0°C a preheatingime from 1 hour is necessary to keep the indicated display specifications and full functionality.

Safety Instructions:

The fuses are put in the Ex-e box and may be replaced only by trained personnel by the identically types.

Fa. Pepperl+Fuchs GmbH, Type "Fuse for EXVID-30"
Work instruction for replacing a blown fuse see chapter 16.

Warning

In case of long standing pictures there might be the possibility of a burn-in of the display.
An extensive regeneration of the burned-in cells will be possible by a switch-off of the display for several
hours or change of picture white/black respectively.

Warning

Attached voltage supply should not supply a higher current as the indicated shut-off rating of the attached Ex-e-fuse.

...

4.1.2.2 Case

EXVID-18SXC (18.1" display), all the connections are on the rear.

Material (front panel)   Stainless steel (1.4301), brushed, graining 240 μm
Degree of protection (front panel)   IP 65
Material (cover case)   Stainless steel (1.4301)
Degree of protection (cover case)   IP 54

Older version:

All dimensions in mm
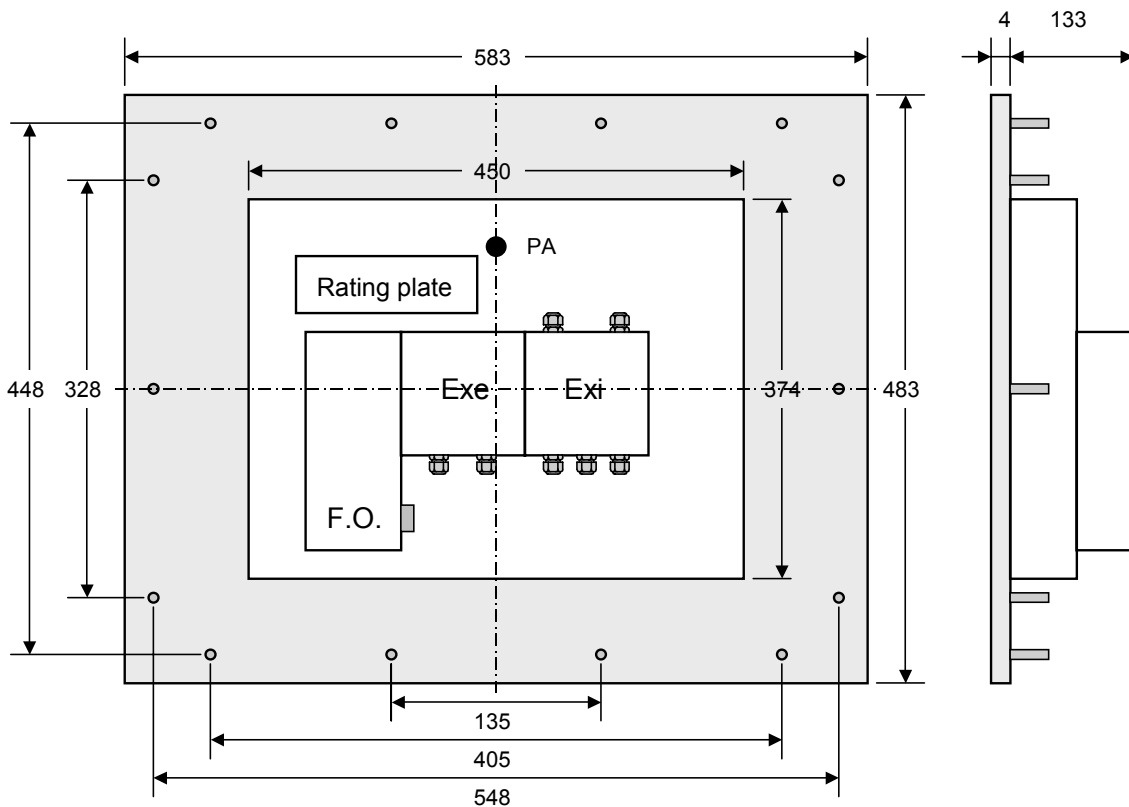
Installation cutout: 520 x 410 mm
Fixed with 14 circumferential studs M5 x10

Warning

Warning
Care - Attention

The protective earth conductor (PE) is connected to the case. The case must be earthed (PA). The earth wire must have a cross-section of at least 4 mm² and be as short as possible.

Newer version.

All dimensions in mm

Installation cutout: 520 x 410 mm
Fixed with 14 circumferential studs M5 x10

Warning

The protective earth conductor (PE) is connected to the case. The case must be earthed (PA). The earth wire must have a cross-section of at least 4 mm² and be as short as possible.

Warning
Care - Attention

4.1.3 EXVID-21UXC   Exq 21.3" display

The EXVID Exq display can be used in the hazardous area (Zones 1 and 2). It can be connected to any PC by means of the SK-KVM. The display has UXGA resolution with 1600 x 1200 pixels as default. Other resolutions (VGA - UXGA) can be zoomed to UXGA (SK-KVM). From the point of view of the software application, the display is an 'ordinary' monitor. The software therefore does not need to be modified in any way.

4.1.3.1 Technical data

	EXVID-21UXC
Approval:	
Type of protection	II2G, EEx qe [ib] IIC T4
Approval	IBEXU 01 ATEX 1099
Degree of protection	Front panel: IP 65
Ambient conditions (operation):	
Temperature range	0 °C – +40 °C
Relative humidity	Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-20 °C – +70 °C
Mechanical data:	
Resolution	UXGA 1600 x 1200 pixel
Type	TFT, LCD, High Color (19 bit)
Refresh rate	65 Hz
Screen diagonal	21.3"
Contrast	300:1
Brightness	250 cd/m^2
Viewing angle	160°
Weight	Approx. 50 kg
Dimensions (W x H x D) in mm	619 x 507 x 131
Supply voltage Type -DC: fuse FUSE for EXVID-30-50ATH (See page 21) Shut-off rating I_A=50A	24V DC ± 20%, typ. 3 A, max 3.5 A (Exe)
Type -AC: fuse FUSE for EXVID-30-20ATH (See page 21) Shut-off rating I_A=35A	100V AC / 50 - 60 Hz, typ. 0.72 A, max. 0.84 A (Exe) 240V AC / 50 - 60 Hz, typ. 0,3 A, max. 0,35A (Exe)
Material Front panel	Stainless steel (1.4301), brushed, graining 240 µm
Rear panel	Stainless steel (1.4301)
Data ports:	
PC interface	Optical fibre cable from display to linedriver up to maximum 750 m Type Optical fibre: 2 x 50/125 µ with SC plug connectors
Keyboard	Type: TTL/PS2 (Exi, screw terminal)
Mouse	Type: TTL/PS2 (Exi, screw terminal)
Scanner (optional)	Type: ENT-DC (Exi, screw terminal)
OSD menu control	Type: digital (Exi, screw terminal)
Enable switch keyboard + mouse (optional)	Type: digital (Exi, screw terminal)
	(Refer to section 4.1.6 "EXVID terminal assignment" for port assignments)

Safety Instructions:

The fuses are put in the Ex-e box and may be replaced only by trained personnel by the identically types.

Fa. Pepperl+Fuchs GmbH, Type "Fuse for EXVID-30"
Work instruction for replacing a blown fuse see chapter 16.
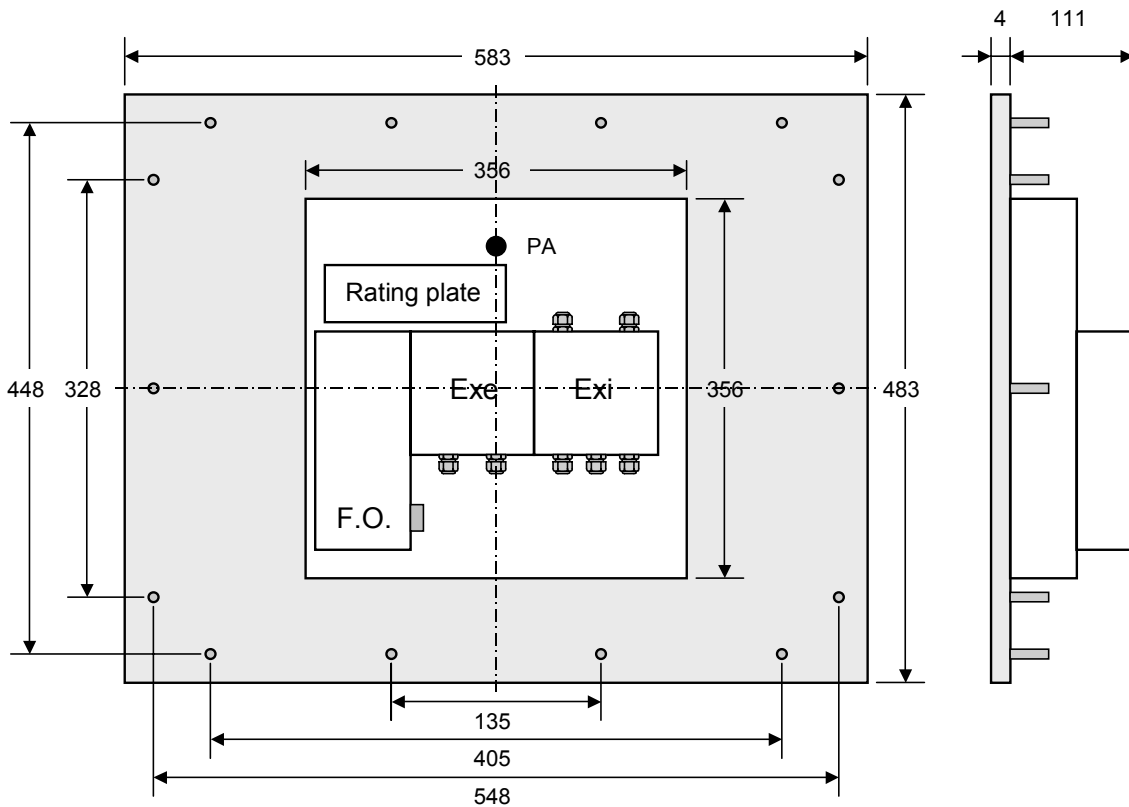

Warning

Attached voltage supply should not supply a higher current as the indicated shut-off rating of the attached Ex-e-fuse.

4.1.3.2 Case

EXVID-21UXC (21.3" display), all the connections are on the rear.

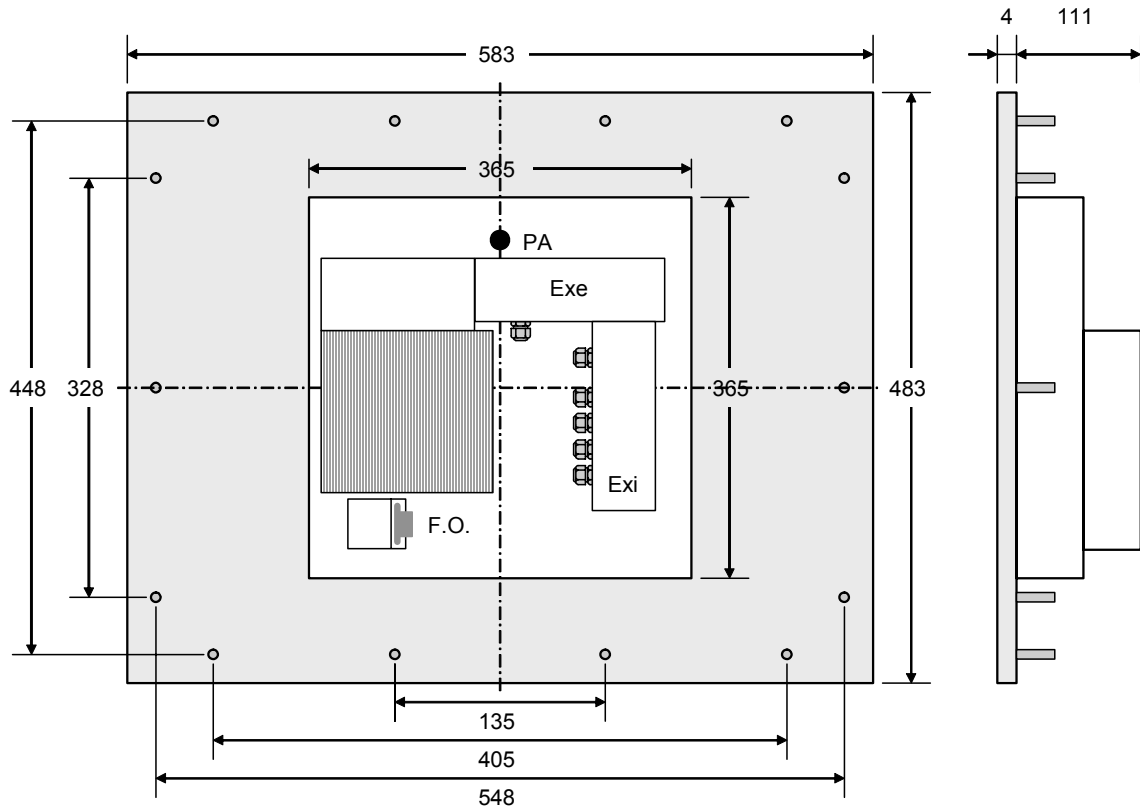|	
Material (front panel)	Stainless steel (1.4301), brushed, graining 240 µm
Degree of protection (front panel)	IP 65
Material (cover case)	Stainless steel (1.4301)
Degree of protection (cover case)	IP 54
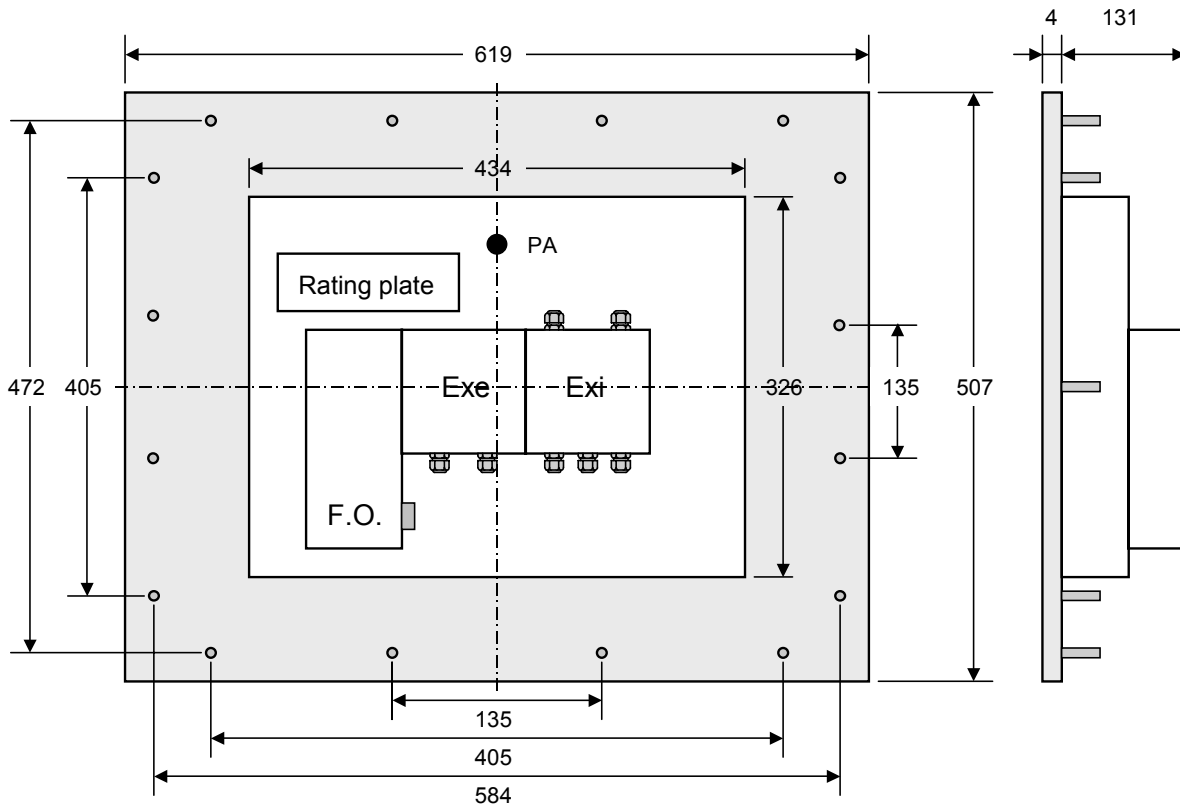
All dimensions in mm

Installation cutout: 556 x 444 mm
Fixed with 16 circumferential studs M5 x10

Warning

The protective earth conductor (PE) is connected to the case. The case must be earthed (PA). The earth wire must have a cross-section of at least 4 mm² and be as short as possible.

4.1.4 EXVID touchscreen
Exq display 15.0" / Exq display 18.1"

4.1.4.1 Technical data EXVID touchscreen

Display data refer to section 4.1.1.1 and section 4.1.2.1.

EXVID touchscreen	EXVID-15XC-TO / EXVID-18SXC-TO
Ambient conditions (operation):	
Temperature range	-10 °C – +70 °C
Relative humidity	+40 °C, 95% (96h endurance test)
Ambient conditions (storage):	
Temperature range	-30 °C – +85 °C
General data:	
Technology	Resistive analog touchscreen
Touch resolution	1024 x 1024 points
Light transmission	80%
Activation force	50 – 150 g/cm^2
Response time	10 – 15 msec
Position accuracy	3 mm
Functions	Mouse click, double click, drag, right click
Scratch resistance	3H pencil hardness
Durability	3 000 000 touches per point min.
Operating systems:	
	Windows 95, 98, ME, NT4.0, 2000, XP

4.1.4.2 EXVID touchscreen
Chemical resistance of the front foil

Material of front foil: PC (polycarbonate)
Material of top layer: PET backing material with ITO coating

Front foil resistant to the following chemicals:

Alcohols
Aldehydes:
Formaldehyde
Other organic solvents:
Acetone
Industrial oils and greases
Washing, rinsing and cleaning agents
Hydrocarbons:
Benzine

Not resistant to:

Hydrocarbons:
Benzene, toluene

4.1.4.3 Damage to / incorrect use of the front foil

o Front foil torn   → Touchscreen no longer works

o Front foil damaged mechanically   → Previous load, i.e. cursor follows force centre point

4.2 EXTA-K   Exi PC-keyboards

The intrinsically safe EXTA-K keyboards integrate different mouse systems. All the keyboard variants have identical dimensions. The keyboards are designed to be installed in a case.

4.2.1   EXTA-K1   Exi PC-keyboard without mouse system

4.2.1.1 Technical data

	EXTA-K1
Approval:	
Type of protection Approval Degree of protection	II2G, EEx ib IIC T4 DMT 01 ATEX E177 IP 65
Ambient conditions (operation):	
Temperature range Relative humidity	0 °C – +50 °C(On request +60°C) Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-10 °C – +70 °C
Mechanical data:	
Material Weight Dimensions (W x H x D) in mm Installation cutout (W x H) in mm Supply voltage Cable Port	Aluminium / foil 1.2 kg 482.6 x 177.8 x 45 450 x 150 Exi, via data cable 1.8 m / end sleeves TTL / PS/2
No. of keys:	105
Layouts:	
	German US international French Swedish Danish Russian Korean Spanish Swiss Layout On request: further layouts

4.2.2 EXTA-K3 Exi PC-keyboard with trackball mouse
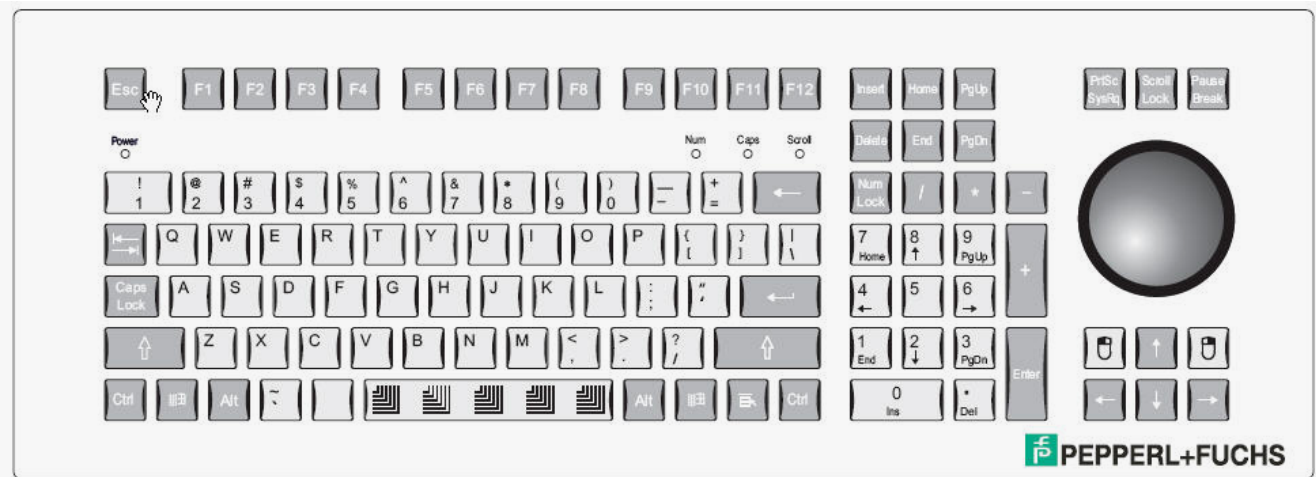
4.2.2.1 Technical data

	EXTA-K3
Approval:	
Type of protection	II2G, EEx ib IIC T4
Approval	DMT 01 ATEX E177
Degree of protection	IP 65, with resting trackball
	With movement undefined
Ambient conditions (operation):	
Temperature range	0 °C – +50 °C (On request +60°C)
Relative humidity	Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-10 °C – +70 °C
Mechanical data:	
Material	Aluminium / foil
Weight	1.2 kg
Dimensions (W x H x D) in mm	482.6 x 177.8 x 45
Installation cutout (W x H) in mm	450 x 150
Supply voltage	Exi, via data cable
Cable	1.8 m / end sleeves
Port	TTL / PS/2
No. of keys:	105
Trackball:	
Ball diameter	50.8 mm
Ball material / colour	Phenol resin / black
Motive force	0.5 N
Required driver	Microsoft Mouse ®, PS/2
Layouts:	
	German US international
	French Swedish
	Danish Russian
	Korean Spanish
	Swiss Layout
	On request: further layouts

4.2.3 EXTA-K4 Exi PC-keyboard with touchpad mouse
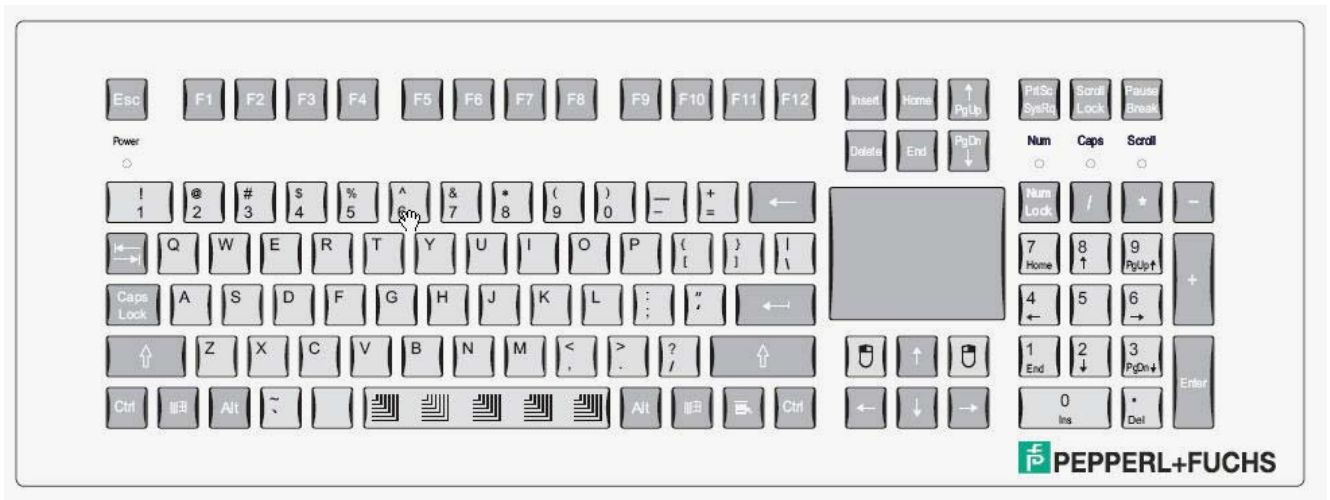
4.2.3.1 Technical data

	EXTA-K4
Approval:	
Type of protection	II2G, EEx ib IIC T4
Approval	DMT 01 ATEX E177
Degree of protection	IP 65
Ambient conditions (operation):	
Temperature range	0 °C – +50 °C (On request +60°C)
Relative humidity	Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-10 °C – +70 °C
Mechanical data:	
Material	Aluminium / foil
Weight	1.2 kg
Dimensions (W x H x D) in mm	482.6 x 177.8 x 45
Installation cutout (W x H) in mm	450 x 150
Supply voltage	Exi, via data cable
Cable	1.8 m / end sleeves
Port	TTL / PS/2
No. of keys:	105
Touchpad:	
Operating principle	Capacitive
Resolution	40 pixels / mm
Required driver	Microsoft Mouse ®, PS/2
Dimensions (W x H) in mm	66 x 50
Layouts:	
	German US international French Swedish Danish Russian Korean Spanish Swiss Layout On request: further layouts

4.3 TA-K PC-keyboards (non EX)

The non EX keyboards, TA-K, integrate different mouse systems. All keyboard variants have identical dimensions. The keyboards are designed to be installed in a case. All EX keyboards are available as non EX keyboards, too.

4.3.1 TA-K5   PC-keyboard with optical trackball mouse

4.3.1.1 Technical data

	TA-K5
Approval:	Non ex
Degree of protection	IP 65, with resting trackball With movement undefined
Ambient conditions (operation):	
Temperature range Relative humidity	0 °C – +50 °C (On request +60°C) Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-10 °C – +70 °C
Mechanical data:	
Material Weight Dimensions (W x H x D) in mm Installation cutout (W x H) in mm Supply voltage Cable Port	Aluminium / foil 1.2 kg 482.6 x 177.8 x 45 450 x 150 PS/2 1.8 m / end sleeves TTL / PS/2
No. of keys:	105
Trackball:	
Ball diameter Ball material / colour Motive force Required driver	50.8 mm Phenol resin / grey Adjustable per ring Microsoft Mouse ®, PS/2
Layouts:	
	German US international French Swedish Danish Russian Korean Spanish Swiss Layout On request: further layouts

4.3.2 EXTA-K / TA-K keyboard case

All dimensions in mm

Installation cutout (W x H): 450 x 150 mm
Installation depth: 45 mm
20 circumferential studs M3 x 10
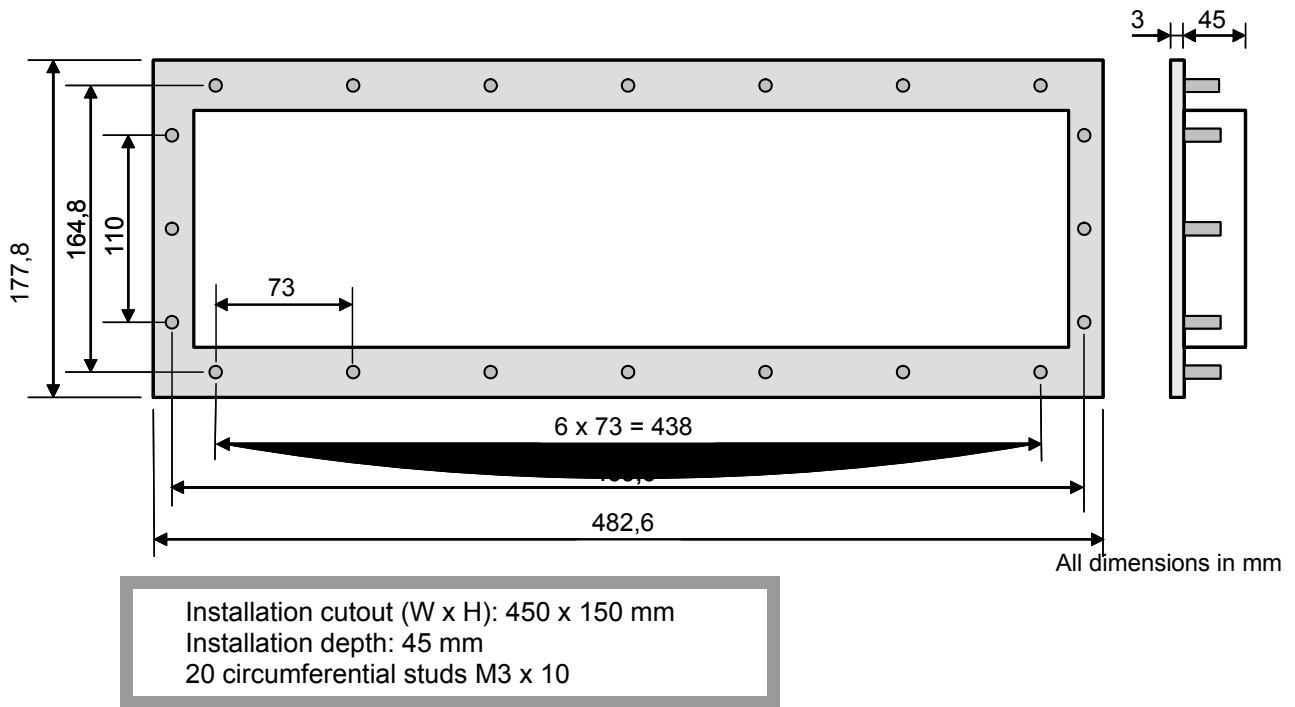
4.3.3 EXTA-K / TA-K desktop case, stainless steel
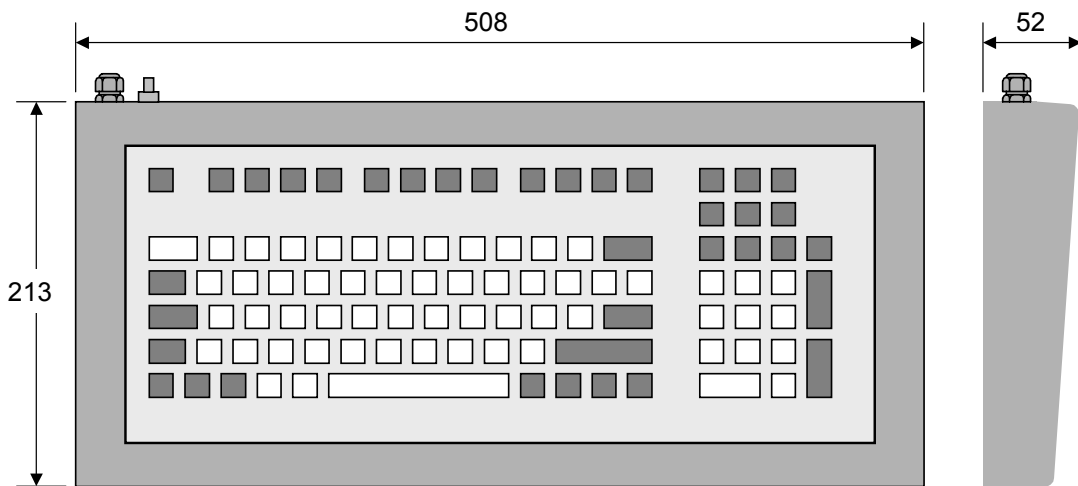
Fig. 6-1: ABG-EXTA-K134-10   All dimensions in mm

Weight (with keyboard):   approx. 5.4 kg
Degree of protection (case):   IP 65
PA Equipotential bonding

- If the keyboard is build into a metal housing with equipotential bonding the equipotential connection is given by the fixing bolts.
- If the keyboard is build into a housing without equipotential bonding (mobile housing) the equipotential connection could be done by the shield of the connection cable.

4.3.4 EXTA-K / TA-K core assignment

	Assignment	Colour coding EXTA-K1	Colour coding EXTA-K3 /-K4 / TA-K5
Keyboard cable	+5V	Green	Green
	GND	Yellow	Yellow
	DATA	Grey	Grey
	CLK	Brown	Brown
Mouse cable (EXTA K3 / EXTA K4 TA-K5 only)	+5V		Red
	GND		Blue
	DATA		Pink
	CLK		White

Warning
Care - Attention

Warning

When connecting the EXTA-K / TA-K keyboards pay attention to correct wiring coding.
In case of incorrect connection or wiring malefunction and destroy of their electronic is possible.

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4.3.5 EXTA-K / TA-K chemical resistance of the front foil

Polyester foil, resistant to the following chemicals in accordance with DIN 42 115 Part 2:

Concentration 100%, unless otherwise specified:

Alcohols:		Alkaline solutions:	
Ethanol		Ammonia	< 2%
Cyclohexanol		Sodium hydroxide solution	< 2%
Diacetone alcohol			
Glycol		**Saline solutions:**	
Glycerine		Alkali carbonates	
Isopropanol		Bichromates	
Methanol		Yellow potassium prussiates	
Aldehydes:		**Miscellaneous substances:**	
Acetaldehyde		Molecular chlorine	
Formaldehyde		Cresol phenol soaps in solution	
		Oxygen	
Hydrocarbons:		Tricresyl phosphate	
Aliphatic hydrocarbons		Water	
Benzine		Hydrogen peroxide	< 25%
Benzene			
Toluene		**Washing, rinsing and cleaning agents:**	
Xylene		Potassium soap	
		Detergent solution (tensides)	
Chlorinated hydrocarbons:		Softener	
Chlorofluorocarbons			
Perchloroethylene		**Industrial oils and greases:**	
III-trichloroethylene		Drilling emulsions	
Trichloroethylene		Diesel fuel	
		Boiled oil	
Other organic solvents:		Fuel oil	
Ether		Paraffin oil	
Acetone		Castor oil	
Diethyl formamide		Silicone oil	
Dioxane		Turpentine oil and turpentine substitute	
Acids:			
Formic acid	< 50%		
Acetic acid			
Phosphoric acid	< 30%		
Hydrochloric acid	$\leq$ 10%		
Nitric acid	$\leq$ 10%		

Not resistant to:

Concentrated mineral acids	Benzyl alcohol
Concentrated alkaline solutions	Methylene chloride
High-pressure vapour hotter than 100°C	

Like all polyester foils, not resistant to long-term exposure to direct sunlight (UV).

4.3.6 Instruction for cleaning the trackball of EXTA-K3 / Chemical resistances

Chemical resistance of the trackball:
Mineral lubricants
Aliphatic hydrocarbons
Aromatic hydrocarbons
Benzine
Weak mineral acids
Strong mineral acids
Weak organic acids
Strong organic acids
Oxidise acids
Weak bases
Strong bases
Trichlorethylen
Perchlorethylen
Acetone
Alcohole
Hot water (hydrolyses resistant)
UV-light and atmospheric conditions

Instruction for cleaning the trackball
- Only use wettish cloth to avoid ingress of cleaning fluid.
- Clean carefully, beware of applying pressure.
- Wipe the cleaning fluid off.

4.4 F.O. interface module   SK-KVM

The Fibre Optic data interface SK-KVM is the optical galvanic isolator for the iPC-EX system. It must be installed in the safe area close to the PC. The SK-KVM can be connected to the standard 'PS/2 mouse' and 'PS/2 keyboard' ports or to the standard graphics port of the PC.

The SK-KVM is enclosed in a desktop case and supplied with power by means of a 24V plug-in power supply unit. Support plates are optionally available for 19" systems (2 HE, 84 TE), Type ' COVER19K '.

4.4.1 Technical data

	SK-KVM
Degree of protection:	
Degree of protection	IP 20
Ambient conditions (operation):	
Temperature range	0 °C – +50 °C
Relative humidity	Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-10 °C – +70 °C
Mechanical data:	
Weight	Approx. 1.0 kg
Material	Aluminium desktop case
Dimensions (W x H x D) in mm	200 x 70 x 190
Supply voltage	24V DC $\pm$ 20% (approx. 0,8 A)
Laser data transmission Tx:	
Laser class	1 (meet IEC 60825-1 and FDA 21 CFR 1040.10 u. 1040.11)
Wave length	830 – 860 nm
maximum subdue	-7.5 dBm
Max. cable length:	
Max. cable length	Connection between PC and SK-KVM max. 2m

Technical data

	SK-KVM
Local keyboard interface PS/2:	
Current draw:	100 mA
Supply voltage:	5 V
Local mouse interface PS/2:	
Current draw:	100 mA
Supply voltage:	5V

4.4.1.1 Local keyboard

Possibility for the interface local PS/2 keyboard.

4.4.1.2 Local mouse

Possibility for the interface local PS/2 mouse.

It can be only attached "Microsoft mous" compatible mice. For the function of the mice must be installed the standard mouse driver form Microsoft. Other mouse drivers are not supported. 3 byte protocolls are supported, i. e. mice with scrolling and special keys function, but scrolling and special keys cannot be used.

4.4.2 Connector pin assignment

Version:EXIPC_4_239_TH_E.DOC / 23.07.08

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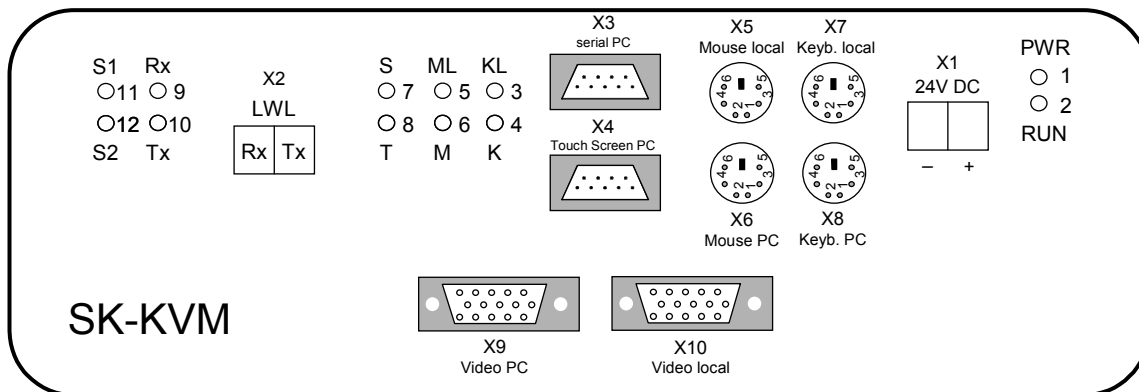
Terminal X1   For the 24V DC supply (via 19" rack)
 (2 pin screw terminal)

Pin	Signal
X1.1	GND
X1.2	+24V DC
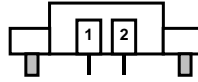
Terminal X2   For connecting the optical fibre video cable
 (SC connector)

Pin	Signal
X2.1	RxD
X2.2	TxD
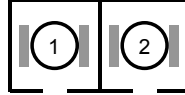
Terminal X3   For connecting the serial port (to the PC)
Terminal X4   For connecting the touchscreen (to the PC)
 (9 pin sub-D connector, female)
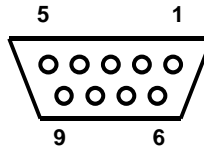
Pin	Signal	Pin	Signal	Pin	Signal
X…1	DCD2	X…4	DTR2	X…7	RTS2
X…2	RxD2	X…5	GND	X…8	CTS2
X…3	TxD2	X…6	DSR2	X…9	n.c.

Terminal X5   For connecting the mouse (local) MS compatible mouse, 3 Byte protokoll
Terminal X6   For connecting the mouse (to the PC)
Terminal X7   For connecting the keyboard (local)
Terminal X8   For connecting the keyboard (to the PC)
 (6 pin PS/2 connector, female)

Pin	Signal	Pin	Signal	Pin	Signal
X…1	Data	X…3	GND	X…5	Clock
X…2	nc	X…4	+5V	X…6	nc
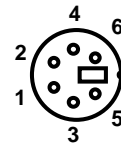
Terminal X9   For connecting the PC video card

Terminal X10   For connecting a local monitor
(15 pin HD sub-D connector, female)
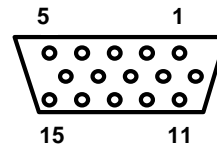
Pin	Signal	Pin	Signal	Pin	Signal
X…1	Red	X…6	Red GND	X…11	n.c.
X…2	Green	X…7	Green GND	X…12	n.c.
X…3	Blue	X…8	Blue GND	X…13	H sync
X…4	n.c.	X…9	n.c.	X…14	V sync
X…5	n.c.	X…10	Sync GND	X…15	n.c.

LEDs:

LED		Colour	Meaning
1	PWR	Green	Power +5V
2	RUN	Green	Processor OK
3	KL	Yellow	RxD from local keyboard
4	K	Yellow	RxD keyboard data, both local and Ex to PC
5	ML	Yellow	RxD from local mouse
6	M	Yellow	RxD mouse data, both local and Ex to PC
7	S	Yellow	RxD data from serial Exi port (e.g. Barcode Reader) to PC
8	T	Yellow	RxD data from EX Touch Screen to PC
9	Rx	Green	F.O. Rx from EX Display
10	Tx	Green	F.O. Tx to EX Display
11	S1	Yellow	System 1 (Ex) active
12	S2	Yellow	System 2 (local) active

4.4.3 DIP switch assignment

3 x DIP switch (1 x 8 pin and 2 x 4 pin side by side)
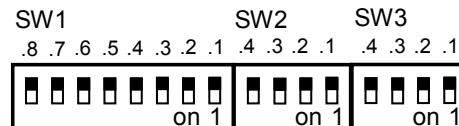
(view of case rear)

SW1	ON	OFF
1.8	Programming mode	Programming mode *)
1.7	Programming mode	Programming mode *)
1.6	Programming ON	Programming OFF *)
1.5	Language (*see language table*)	Language (*see language table*)
1.4	Language (*see language table*)	Language (*see language table*)
1.3	Only EXTA-K4: Click+Doubleclick disabled	Click+Doubleclick enabled for EXTA-K4 *)
1.2	Serial Exi port via serial port	Serial Exi port via keyboard port *)
1.1	Baud rate serial Exi port 1200/8/E/1 or 9600/8/E/1 (*only if SW 1.2 is ON*)	Baud rate serial Exi port 1200/8/E/1 *)

Exception forms here the LWL Loopbacktest. It is activated over the DIP Switches 1.4=ON and 1.6=ON (see chapter 13)

SW2	ON	OFF
2.4	Not used	Not used
2.3	Modus for blackbox USB/PS2-adapter and K3-keyboard	Function like 1.52A
2.2	Time switch 10 s	Time switch 2 s *)
2.1	4-wire compatibility mode	2-wire compatibility mode *)

*) Factory default

SW3	ON	OFF
3.4	Not used	Not used
3.3	Not used	Not used
3.2	Not used	Not used
3.1	Not used	Not used

Language table for scanner data

1.4	1.5	
OFF	OFF	German *)
OFF	ON	US
ON	OFF	French

*) Factory default

Language table for scanner data converts the visible ASCII-characters into country specific PS/2 conform **make and break** codes.

To simulate the function keys F1-F12 (they are not defined in the ASCII standard), an additional language table is deposited, which is activated only for the following character by the ASCII character 0x07 (BEL).

In table 1 you see the ASCII sequences, which must be read in by the barcode reader, in order to simulate the appropriate function keys in the PC.

	normal	with SHIFT
F1	0x07 0x21	0x07 0x31
F2	0x07 0x22	0x07 0x32
F3	0x07 0x23	0x07 0x33
F4	0x07 0x24	0x07 0x34
F5	0x07 0x25	0x07 0x35
F6	0x07 0x26	0x07 0x36
F7	0x07 0x27	0x07 0x37
F8	0x07 0x28	0x07 0x38
F9	0x07 0x29	0x07 0x39
F10	0x07 0x2A	0x07 0x3A
F11	0x07 0x2B	0x07 0x3B
F12	0x07 0x2C	0x07 0x3C

table 1: Extended functionality for function keys

Remark: This conversion is done in all of the supported code tables.-
English, German and French.

4.4.4 Configuration Barcode Reader

- <u>Barcode reader by keyboard port</u>

    The barcode reader must be configured with 1200/8/E/1.

- <u>Barcode reader by serial port</u>

    The barcode reader must be configured with 1200/8/E/1 or 9600/8/E/1.

4.4.5 Adjustments

The SK-KVM is adjusted by the OSD operator panel on the EXVID display. Please refer to section 3.2 "Adjustment of the EXPC monitor with analogue interface" for a description.

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4.4.6 Case

Aluminium desk-type case
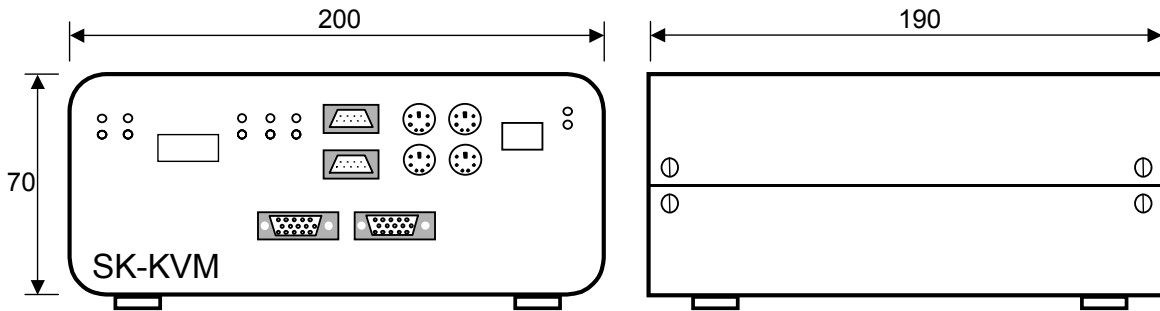
Rear view
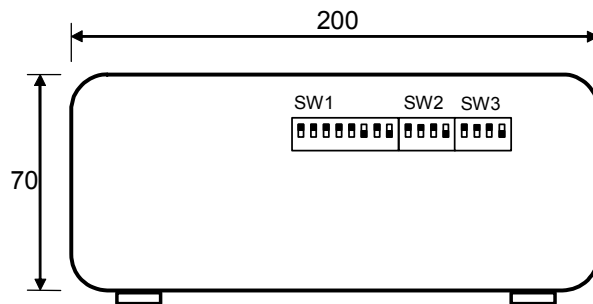
4.4.7 COVER19K option for 19" fixing
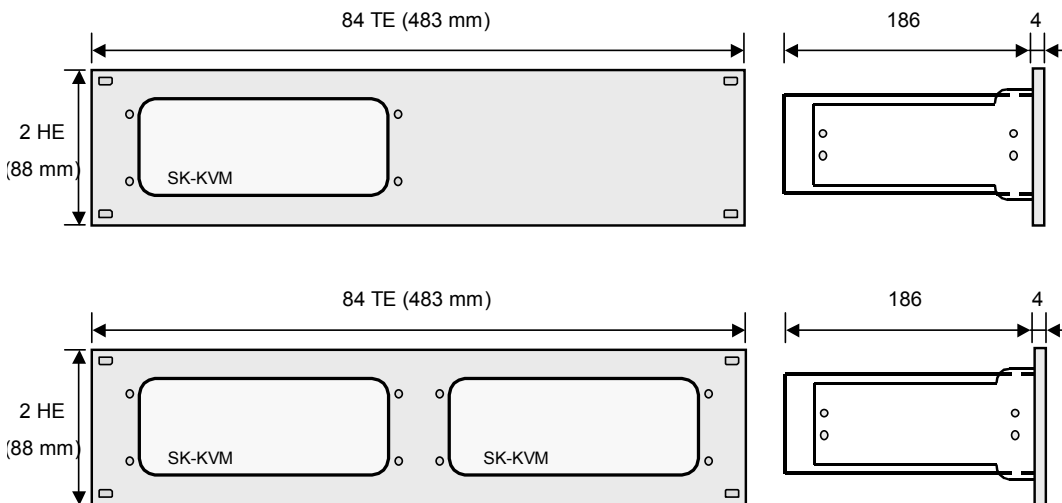
All dimensions in mm

Cover panel for installing the SK-KVM in a 19" rack. The SK-KVM is fastened to the brackets of the COVER19K by means of the screws on the side of the case cover. Cover panels for either one or two SK-KVMs are available:

        COVER19K-KVM-10-1   Panel for 1x SK-KVM
        COVER19K-KVM-10-2   Panel for 2x SK-KVM

Note: The DIP switch on the rear of the SK-KVM must be set before the COVER19K is installed in the 19" rack!

4.4.8 BN-24/1500-AC   power supply unit

For supplying the SK-KVM line driver

Switched-mode plug-in power supply unit with 24 V DC / 1.5 A output

4.4.9 Technical data

	BN-24/1500-AC
Degree of protection:	
Degree of protection	IP 40
Ambient conditions (operation):	
Temperature range	0 °C – +50 °C
Relative humidity	Max. 85% without condensation (48 h endurance test)
Ambient conditions (storage):	
Temperature range	-10 °C – +70 °C
Mechanical data:	
Weight	Approx. 150 g
Dimensions (W x H x D) in mm	50 x 110 x 20
Cable	Approx. 1.8 m
Connection on AC side	with AC Adaptor cable
Connection on DC side	Connector compatible with SK-KVM
	(other national connectors available)
Electrical data:	
Input voltage	100 – 240V AC / 50 - 60 Hz
Output voltage	24V DC / 1.5 A
Mains cable:	**S-BN-24/1500-EU1**
Type	2 pin universal IEC 320-C8
Country	Euro connector
Length	1.5 m

5 Wiring examples

5.1 Exi and Exe connection box and PA connection

On the rear side of the display (EXVID-xxx and REX-xxx) or inside the stainless steel housings (LETO, FERA, AXENA, ORTRA) are Exe terminal boxes and Exi terminals.

- the Exe box must not be opened if hazardous gases are present and unless the main power is switched off

- inside the Exe box of the display (EXVID-xxx and REX-xxx) is also a main FUSE.. This is a certified Ex fuse and has to be replaced only with exactly the same type. It can be delivered by Pepperl-Fuchs as a spare part. (See technical data)

- the 24V DC power supply Version has an inside protection if plus and minus are mixed up. This protection can stand this wrong powering for about 1 minute before it breaks and the external fuse is blown.

- The 100-240V AC version needs to be exactly connected as shown in the connection diagrams, PE has to be connected in any case.

- because of safety for human beings and because of necessary EMC, the PA connection has to be made in any case with a good wide connection and a cable of 4mm² minimum.

- The PA connection is on the rear side of the display (EXVID-xxx and REX-xxx), or beside the cable glands of the cable entries of the stainless steel housing (LETO, FERA, AXENA, ORTRA) and is internally cabled by Pepperl-Fuchs. The Swivel arm (P+F No.: TRAGARM) and pole (P+F No.: STANDFUSS) have their own PA bolts.

⚠ Warning Care - Attention	**Warning** The protective earth conductor (PE) is connected to the case. The case must be earthed (PA). The earth wire must have a cross-section of at least 4 mm² and be as short as possible.
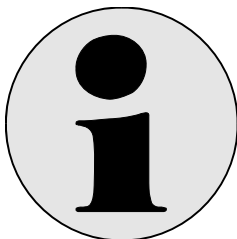
ℹ	**Info** When wiring electrical circuits the following documents shall be considered: - Data sheets, certificates, installation instructions of the used equipment. - Installation instructions according to IEC 60079-14/ IEC 60079-25 as well as national deviations.

5.2 Standard wiring
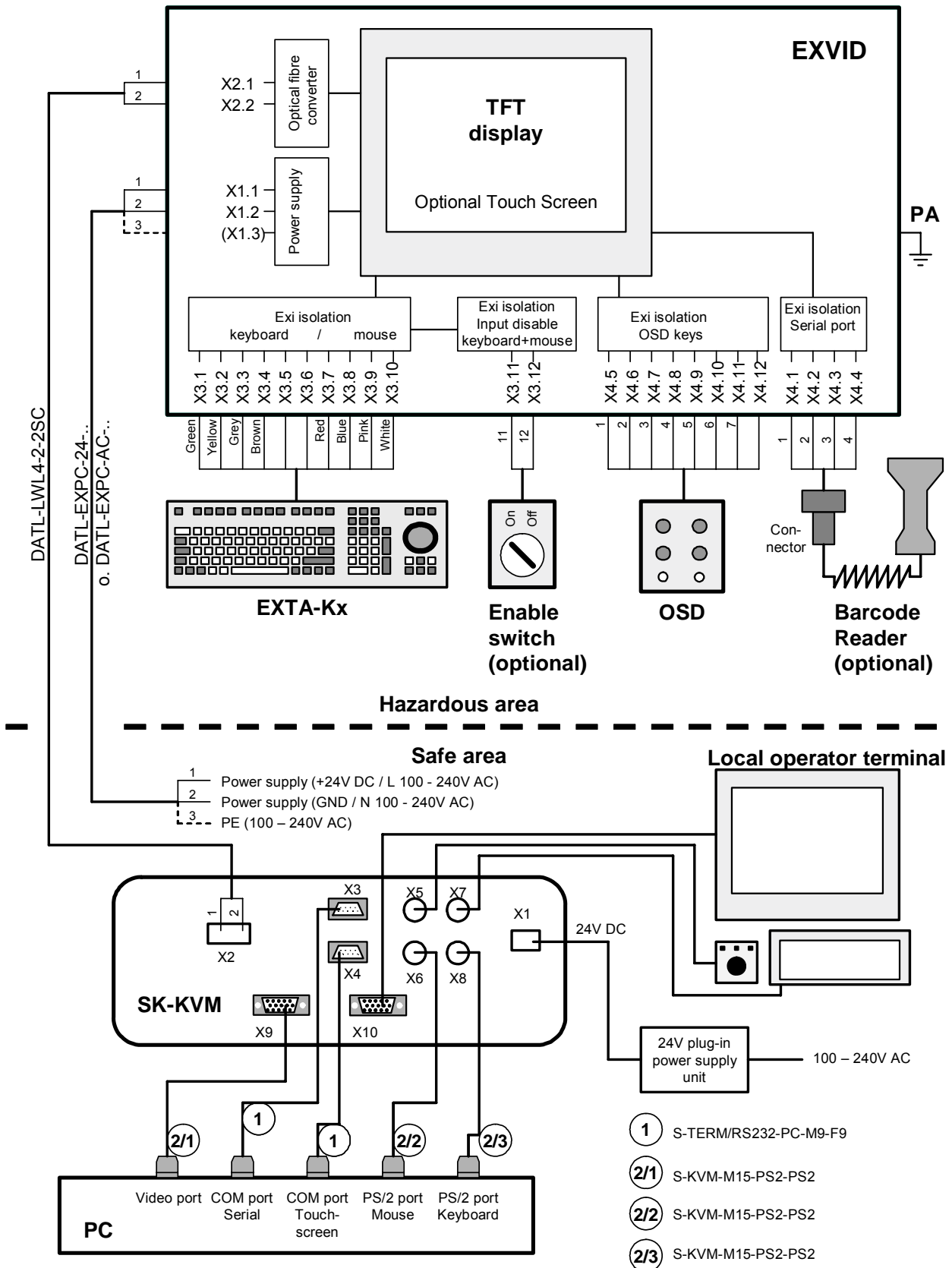
5.3 24V DC wiring at long length

When long cables DATL-A3-1,5-0 and DATL-A3-2,5-0 are necessary the cable resistance has to be considered. Therefore the following maximum lengths are valid:

Typ EXVID	typ. current consumption	max. current consumption	DATL-A3-1,5-0 1.5mm^2 11,5 Ohm/km ø 7,5 mm	DATL-A3-2,5-0 2,5 mm^2 6,9 Ohm/km ø 8,9 mm
EXVID-15XC 24V DC ± 10%	1.7 A	2.0 A	**max. 125 m**	**max. 204 m**
EXVID-18SXC 24V DC ± 10%	2.5 A	3.0 A	**max. 85 m**	**max. 140 m**
EXVID-21UXC 24V DC ± 10%	3 A	3.5 A	**max. 75 m**	**max. 115 m**

5.4 100V – 240V AC wiring at long length

When long cables DATL-A3-1,5-0 and DATL-A3-2,5-0 are necessary the cable resistance has to be considered. Therefore the following maximum lengths are valid:

Typ EXVID	typ. current-consumption	max. current-consumption	DATL-A3-1,5-0 1,5mm^2 12 Ohm/km ø 7,9 mm	DATL-A3-2,5-0 2,5 mm^2 8 Ohm/km ø 9,1 mm
EXVID-15XC 100V AC	0,41 A	0,48 A	**> 750 m**	**> 750 m**
EXVID-18SXC 100V AC	0,6 A	0,72 A	**> 750 m**	**> 750 m**
EXVID-21UXC 100V AC	0,72A	0,84 A	**> 750 m**	**> 750 m**

Typ EXVID	typ. current-consumption	max. current-consumption	DATL-A3-1,5-0 1,5mm^2 12 Ohm/km ø 7,9 mm	DATL-A3-2,5-0 2,5 mm^2 8 Ohm/km ø 9,1 mm
EXVID-15XC 240V AC	0,17 A	0,2 A	**> 750 m**	**> 750 m**
EXVID-18SXC 240V AC	0,25 A	0,3 A	**> 750 m**	**> 750 m**
EXVID-21UXC 240V AC	0,3 A	0,35 A	**> 750 m**	**> 750 m**

With AC 100-240V the maximum prospective short-circuit current and the associated release time of the pre-fuse are to be considered.

5.5 EXVID terminal assignment REX

5.5.1 Actual version: REX
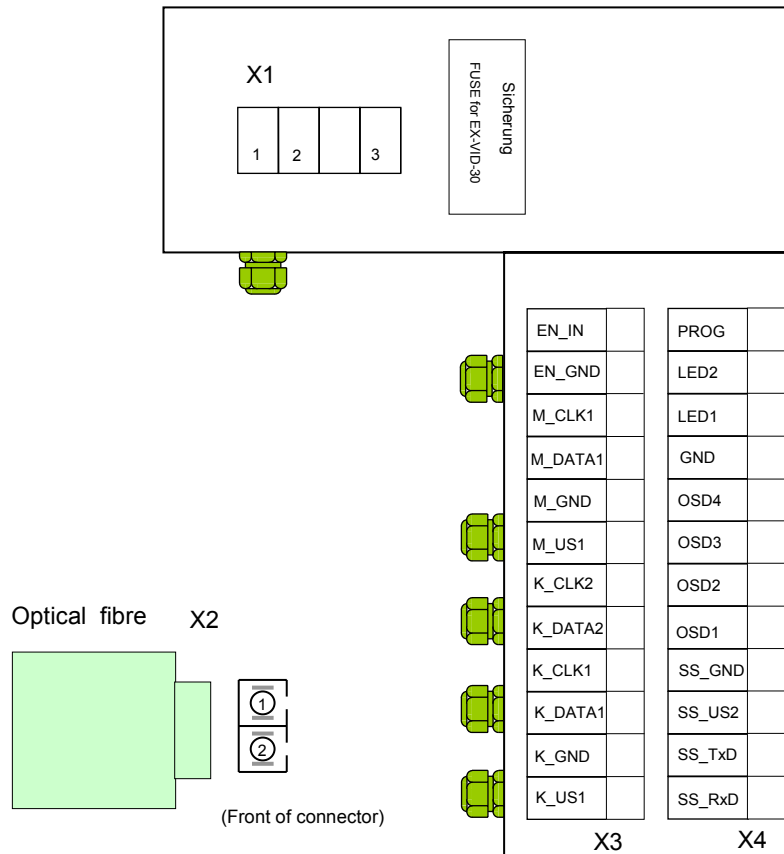
X1			Sicherung / FUSE for EX-VID-30
1	2	3	

Optical fibre   X2

(Front of connector)

X3		X4	
EN_IN		PROG	
EN_GND		LED2	
M_CLK1		LED1	
M_DATA1		GND	
M_GND		OSD4	
M_US1		OSD3	
K_CLK2		OSD2	
K_DATA2		OSD1	
K_CLK1		SS_GND	
K_DATA1		SS_US2	
K_GND		SS_TxD	
K_US1		SS_RxD	

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Terminal X1   Power supply

Pin	24V DC version	100 - 240V AC version
X1.1	+24 V DC	100 - 240 V AC, L
X1.2	GND	100 - 240 V AC, N
X1.3	–	PE

Terminal X2   Optical fibre

Pin	Signal
X2.1	TxD
X2.2	RxD

Terminal X3   Keyboard / mouse / enable

PIN	Assignment	Color coding for EXTA-K1	Color coding for EXTA-K3 / -K4
K_US1	Keyboard +Us1	green	green
K_GND	Keyboard GND	yellow	yellow
K_DATA1	Keyboard DATA1	grey	grey
K_CLK1	Keyboard CLK1	brown	brown
K_DATA2	Keyboard DATA2		
K_CLK2	Keyboard CLK2		
M_US1	Mouse +Us1	–	red
M_GND	Mouse GND	–	blue
M_DATA1	Mouse DATA1	–	pink
M_CLK1	Mouse CLK1	–	white
EN_GND	'Enable' GND	"INPUT LOCKING"	
EN_IN	'Enable' IN		

Terminal X4   - serial port (for connecting Exi Barcode Reader or identification systems)

   - OSD

PIN	Assignment	Colour coding
SS_RxD	Serial port RxD	1
SS_TxD	Serial port TxD	2
SS_US2	Serial port +Us2	3
SS_GND	Serial port GND	4
OSD1	OSD 1	1
OSD2	OSD 2	2
OSD3	OSD 3	3
OSD4	OSD 4	4
GND	OSD GND	5
LED1	OSD LED 1	6
LED2	OSD LED 2	7
PROG	Programming	

5.5.2 Older version REX
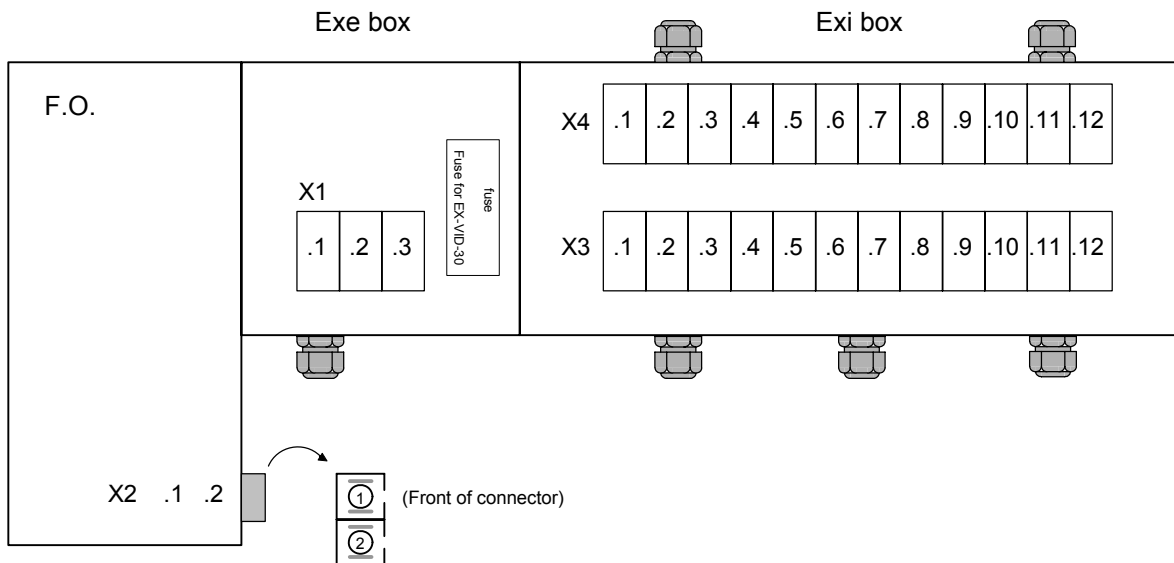
Exe box   Exi box

F.O.

X4 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | .10 | .11 | .12

X1

.1 | .2 | .3

Fuse for EX-VID-30

fuse

X3 | .1 | .2 | .3 | .4 | .5 | .6 | .7 | .8 | .9 | .10 | .11 | .12

X2   .1   .2

① (Front of connector)
②

Terminal X1   Power supply

Pin	24V DC version	100 - 240V AC version
X1.1	+24 V DC	100 - 240 V AC, L
X1.2	GND	100 - 240 V AC, N
X1.3	–	PE

Terminal X2   Optical fibre

Pin	Signal
X2.1	TxD
X2.2	RxD

Terminal X3   Keyboard / mouse / enable

Pin	Assignment	Colour coding for EXTA-K1	Colour coding for EXTA-K3 / -K4
X3.1	Keyboard +Us1	Green	Green
X3.2	Keyboard GND	Yellow	Yellow
X3.3	Keyboard DATA1	Grey	Grey
X3.4	Keyboard CLK1	Brown	Brown
X3.5	Keyboard DATA2		
X3.6	Keyboard CLK2		
X3.7	Mouse +Us1	–	Red
X3.8	Mouse GND	–	Blue
X3.9	Mouse DATA1	–	Pink
X3.10	Mouse CLK1	–	White
X3.11	'Enable' GND	"INPUT LOCKING"	
X3.12	'Enable' IN		

Terminal X4   - Serial port (for connecting Exi Barcode Reader or identification systems)

            - OSD

Pin	Assignment	Colour coding	
X4.1	Serial port RxD	1	
X4.2	Serial port TxD	2	
X4.3	Serial port +Us2	3	
X4.4	Serial port GND	4	
X4.5	OSD 1	White	1
X4.6	OSD 2	Brown	2
X4.7	OSD 3	Blue	3
X4.8	OSD 4	Purple	4
X4.9	OSD GND	Black	5
X4.10	OSD LED 1	Yellow	6
X4.11	OSD LED 2	Green	7
X4.12	Programming		

5.6 EXVID terminal assignment LETO, FERA, AXENA and ORTRA

5.6.1 Actual version: LETO, FERA, AXENA and ORTRA

X1					Sicherung FUSE for EX-VID-30
	.1	.2		.3 ge/gn	

❷

Optical fibre   X2   ❶

①
②

(Front of connector)

❸

	X3			X4
purple	EN_IN	grey / brown	PROG	
black	EN_GND	white / grey	LED2	
red	M_CLK1	yellow / brown	LED1	
blue	M_DATA1	white / yellow	GND	
pink	M_GND	brown / green	OSD4	
grey	M_US1	white / green	OSD3	
	K_CLK2	red / blue	OSD2	
	K_DATA2	grey / pink	OSD1	
yellow	K_CLK1		SS_GND	
green	K_DATA1		SS_US2	
braun	K_GND		SS_TxD	
white	K_US1		SS_RxD	

Strip terminal of the AXENA / LETO / FERA / ORTRA case

Exi Keyboard				
green	.1	Us1 Keyb	white	
yellow	.2	GND Keyb	brown	
grey	.3	Data Keyb	green	
brown	.4	Clk Keyb	yellow	

Exi Mouse				
red	.5	Us1 Maus	grey	
blue	.6	GND Maus	pink	
pink	.7	Data Maus	blue	
white	.8	Clk Maus	red	

Exi Input locking

	.9	GND Enable	black
	.10	IN Enable	purple

Exi OSD

1	.11	1 OSD	grey / pink
2	.12	2 OSD	red / blue
3	.13	3 OSD	white / green
4	.14	4 OSD	brown / green
5	.15	5 OSD	white / yellow
6	.16	6 OSD	yellow/ brown
7	.17	7 OSD	white / grey
	.18	Programm	grey / brown

18 wires ➌

Optional: clamp 23:

With the EXTA-K desktop case the PA have to be connected to clamp 23…

Exi Serial (e.g. Barcode-Reader)

1	.19	RxD Seriell	1
2	.20	TxD Seriell	2
3	.21	Us2 Seriell	3
4	.22	GND Seriell	4

4 wires

.23		PA optional

F.O.connection of the AXENA / LETO case

RxD TxD (from SK-KVM)

1	.1	RxD	1
2	.2	TxD	2

➊

Exe box of the AXENA / LETO case

*) 100-240V AC or 24V DC depends of the display version

24V DC: Uver1 = +24V DC
             Uver2 = GND

100-240V AC: Uver1 = L
             Uver2 = N
             PE   = PE

.1	Uver 1*)	1
.2	Uver 2*)	2
.3	PE*)	ge/gn

➋

5.6.2 Older version: LETO, FERA and AXENA

EXVID Display

F.O. connection

X2
1	.1
2	.2

❶

Exe box

X1
1	.1	
2	.2	yellow / green
3	.3	

❷

Exi box

X3
1	.1	white
2	.2	brown
3	.3	green
4	.4	yellow
5	.5	grey
6	.6	
7	.7	grey
8	.8	pink
9	.9	blue
10	.10	red
11	.11	black
12	.12	purple

X4
1	.1	
2	.2	
3	.3	
4	.4	
5	.5	grey / pink
6	.6	red / blue
7	.7	white / green
8	.8	brown / green
9	.9	white / yellow
10	.10	yellow / brown
11	.11	white / grey
12	.12	grey / brown

❸

❸ 18 wires | 4 wires

Strip terminal of the AXENA / LETO case

Color	Signal	Pin	
green	Us1 Keyb white	.1	
yellow	GND Keyb brown	.2	
grey	Data Keyb green	.3	
brown	Clk Keyb yellow	.4	
red	Us1 Mouse grey	.5	
blue	GND Mouse pink	.6	
pink	Data Mouse blue	.7	
white	Clk Mouse red	.8	
black	GND Enable black	.9	
purple	IN Enable purple	.10	
white/1	1 OSD grey / pink	.11	
brown/2	2 OSD red / blue	.12	
blue/3	3 OSD white /green	.13	
Purple/4	4 OSD brown/green	.14	
Black/5	5 OSD white/yellow	.15	
Yellow/6	6 OSD yellow/brown	.16	
Green/7	7 OSD white / grey	.17	
	Program grey / brown	.18	
1	RxD Serial	.19	
2	TxD Serial	.20	
3	Us2 Serial	.21	
4	GND Serial	.22	
	PA optional	.23	

Keyboard — Mouse — Exi Input locking — OSD — Exi Serial (e.g. Barcode Reader)

F.O. connection of the .23 AXENA / LETO case

Optional: clamp .23:

With the EXTA-K desktop case the PA have to be connected to clamp 23..

❶
TxD 1	.1
RxD 2	.2

1 | 2
RxD | TxD
(from SK-KVM)

❷

Exe box of the AXENA / LETO case

Uver 1*) 1	.1	
Uver 2*) 2	.2	
PE*) ye/gn 3	.3	

*) 100 – 240V AC or 24V DC
depends of the display version
24V DC: Uver1 = +24V DC
Uver2 = GND
100 – 240V AC: Uver1 = L
Uver2 = N
PE = PE

5.6.3 Older version: ORTRA

EXVID Display

Optical fibre connector

X2
| 1 | 1 |
| 2 | 2 |

Exe Box

X1
1	1
2	2
3	ye/gn

Exi Box

X3
white	1
brown	2
green	3
yellow	4
grey	5
pink	6
blue	7
red	8
black	9
lila	10

X4
1	1
2	2
3	3
4	4
grey / pink	5
red / blue	6
white / green	7
brown / green	8
white / yellow	9
yellow / brown	10
white / grey	11
grey / brown	12

❶ ❷ ❸

ORTRA case

Terminal strip ORTRA case

❸
green	Us1 Keyb	1	white
yellow	GND Keyb	2	brown
grey	Data Keyb	3	green
brown	Clk Keyb	4	gelb
red	Us1 Maus	5	grey
blue	GND Maus	6	pink
pink	Data Maus	7	blue
white	Clk Maus	8	red
	GND Enable	9	black
	IN Enable	10	lila

Exi keyboard Exi mouse Exi input junction

❸
white/1	1 OSD	11	grey / pink
brown/2	2 OSD	12	red / blue
blue/3	3 OSD	13	white / green
Lila/4	4 OSD	14	brown / green
Black/5	5 OSD	15	white / yellow
Yellow/6	6 OSD	16	yellow / brown
Green/7	7 OSD	17	white / grey
	Programm	18	grey / brown
1	RxD Serial	19	1
2	TxD Serial	20	2
3	Us2 Serial	21	3
4	GND Serial	22	4

Exi OSD Menue

Exi Seriell (z.B. bar code-reader)

❷

Exe Box ORTRA case
Uver 1*)	1	1
Uver 2*)	2	2
PE*) ye/gn	3

❶

Optical fibre connector ORTRA case
| RxD | 1 | 1 |
| TxD | 2 | 2 |

| 1 | 2 |

RxD TxD (von SK-KVM)

*) 100-240V AC oder 24V DC dependent of the display

24V DC: Uver1 = +24V DC
         Uver2 = GND

100-240V AC: Uver1 = L
              Uver2 = N
              PE   = PE

6 iPC-EX case variants

For **panel mounting** the housing REX with optionally orderable keyboard (described in section 10 TASTEX) is available.

- REX   Panel mounting, suitable for integration in any type of case

Complete **Ex operator terminals** are available in the form of several packages, with a stainless steel surface- and keyboard / mouse mounting case:

- LETO-N   Compact stainless steel case
- FERA-N   Compact stainless steel case
- FERA-T   Compact stainless steel case with desk console
- FERA-H   Compact stainless steel case with heating
- AXENA-N   Stainless steel case with swivel-type display
- AXENA-T   Stainless steel case with swivel-type display with desk console
- AXENA-H   Stainless steel case with swivel-type display and heating
- AXENA-V   Stainless steel case with swivel-type display and cooling
- ORTRA-N   Stainless steel command station
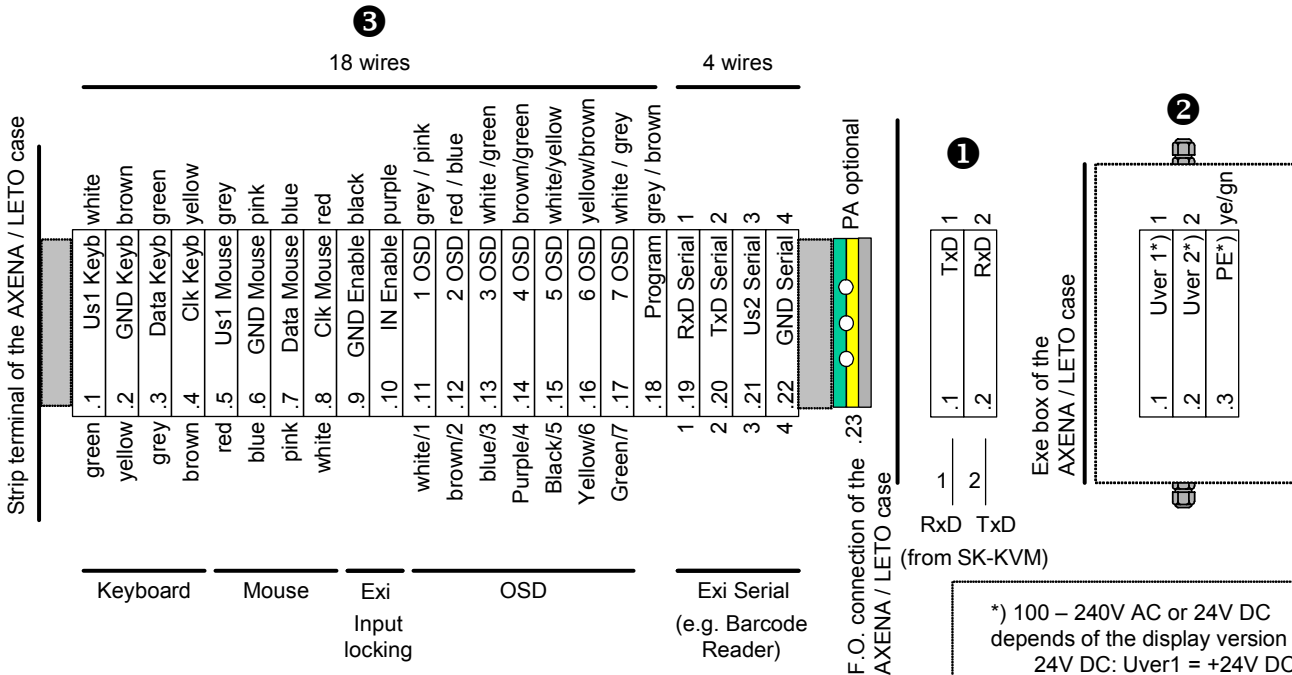
6.1 REX (panel mounting)

Together with the line driver SK-KVM customer specified installation solutions can be generated.
Keyboard and mouse can be ordered separtely, (chap. 10.2 TASTEX)

Dimensioning of the circumferential studs see chap. 4.1.1.2.

All dimensions in mm

PEPPERL+FUCHS

6.2 LETO-N   (compact stainless steel case)

```
     |←――――― 625 ―――――→|              |← 150 →|

625 (width)
15,0"
18,1"
490
750
25
55
Place for
connection              Barcode reader
                        optional        150
80
90
25
50          94
Barcode reader
optional
```
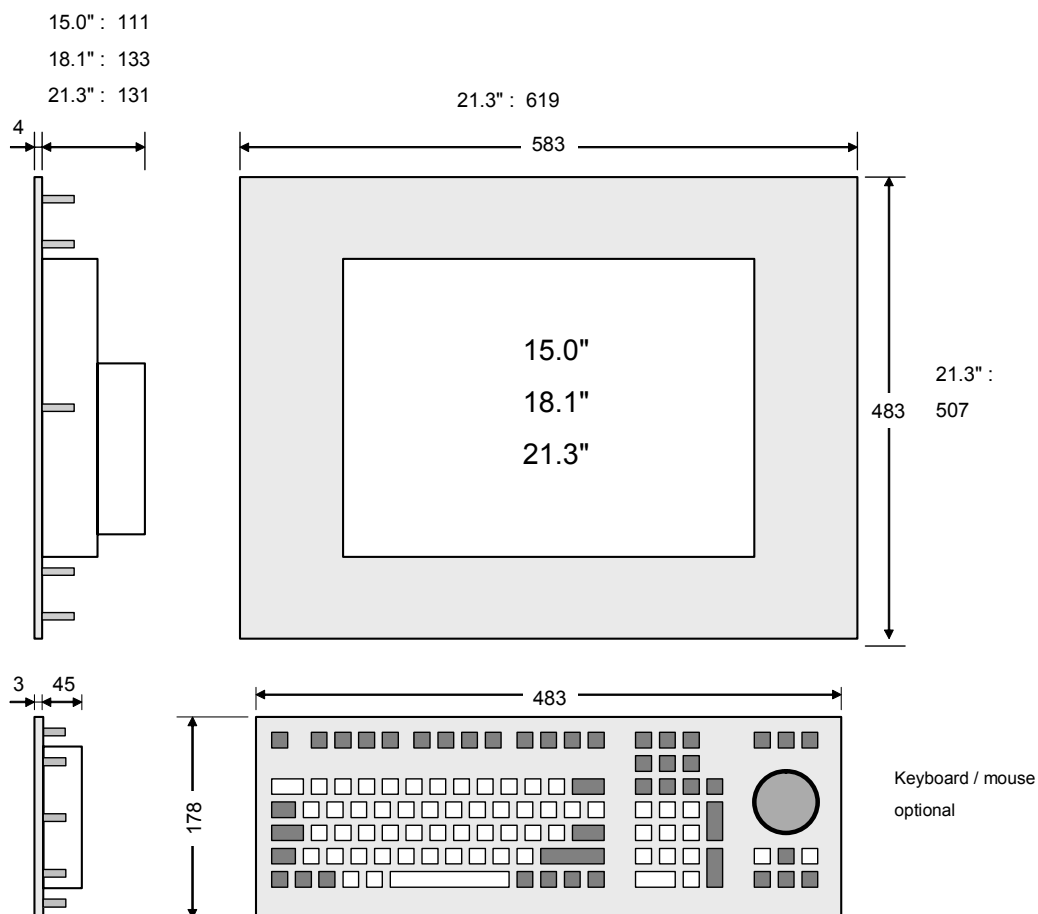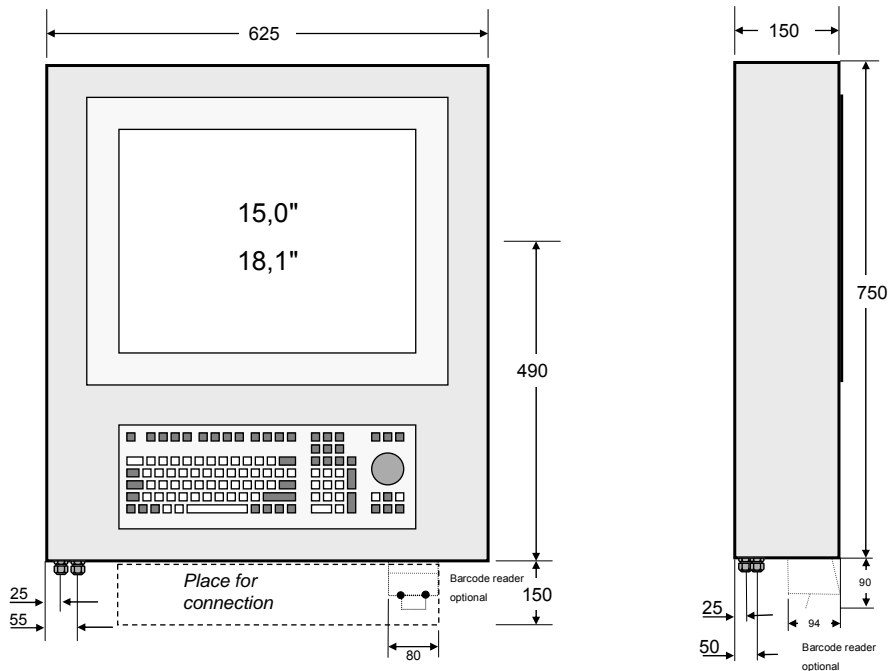
ABG-LETO-N-10   All dimensions in mm

If an order with interface A or S takes place, i.e.
A   serial interface for barcode reader EX-DRAGON-M101 and EX-NANO80A
S   serial interface for barcode reader EX-DRAGON-D101
the holding fixture for the barcode reader is mounted on the housing.

Weight   - Case: approx. 20 kg

Degree of protection (case):   IP 65

Note

This type of case is only available for the assembly of a
15.0" display or 18.1" display.

6.3 FERA-N (compact stainless steel case)
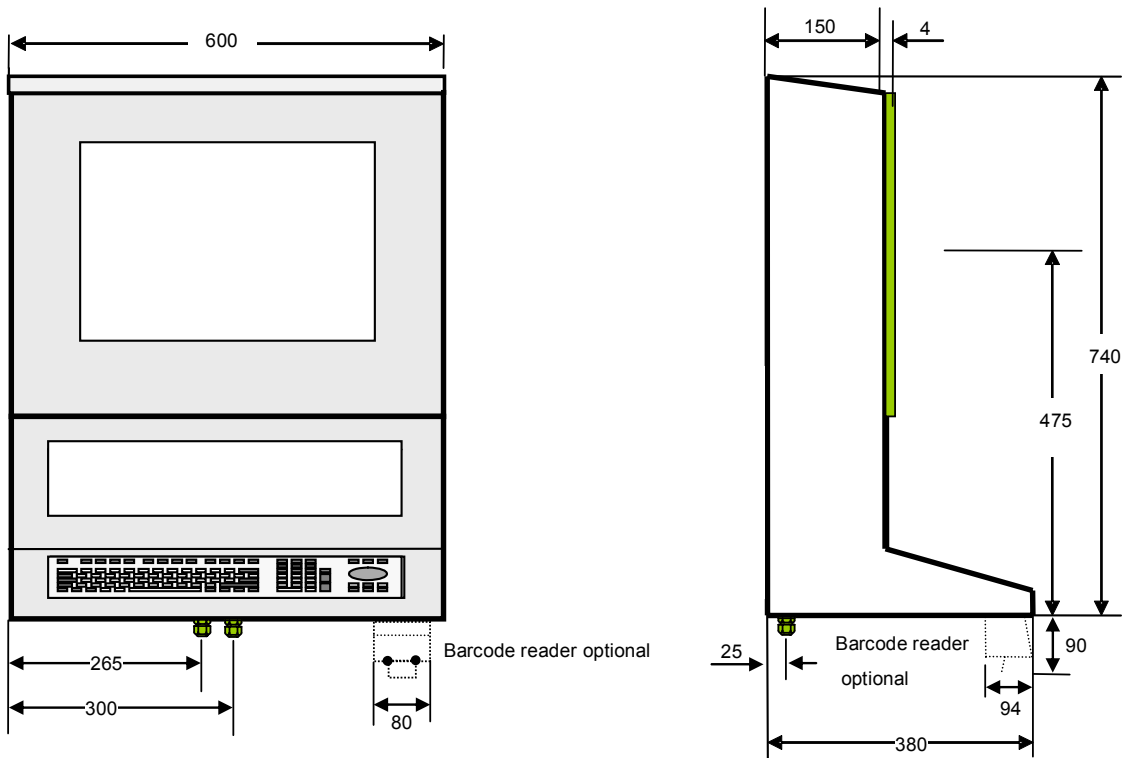
ABG-FERA-N-10

All dimensions in mm

If an order with interface A or S takes place, i.e.
A   serial interface for barcode reader EX-DRAGON-M101 and EX-NANO80A
S   serial interface for barcode reader EX-DRAGON-D101
the holding fixture for the barcode reader is mounted on the housing.

The case FERA-N is always supplied with a enclosed distance plate. This is only necessary if the mounting option of the cases ABG-Wall mounting is selected.

Weight   - Case: approx. 22 kg

Degree of protection (case):   IP 65
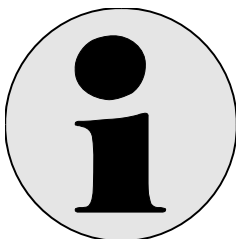
Note

This type of case is only available for the assembly of a 15.0" display or 18.1" display.

6.4 FERA-N-18SX-D   (Version Dust)

⚠ Warning Care - Attention	**Warning:** To guarantee the thightness of the cases the povided screws have to be used for locking. Safety depends on the thightness of the case.
⚠ Warning Care - Attention	**Warning:** To guarantee the thightness of the cases the sealings have to be absolutely inserted.

6.4.1 Mounting

Mounting version 1

mounting plate

with PA-bolt and cable gland

sealing

600

150   4

265

300

740

475

25

380
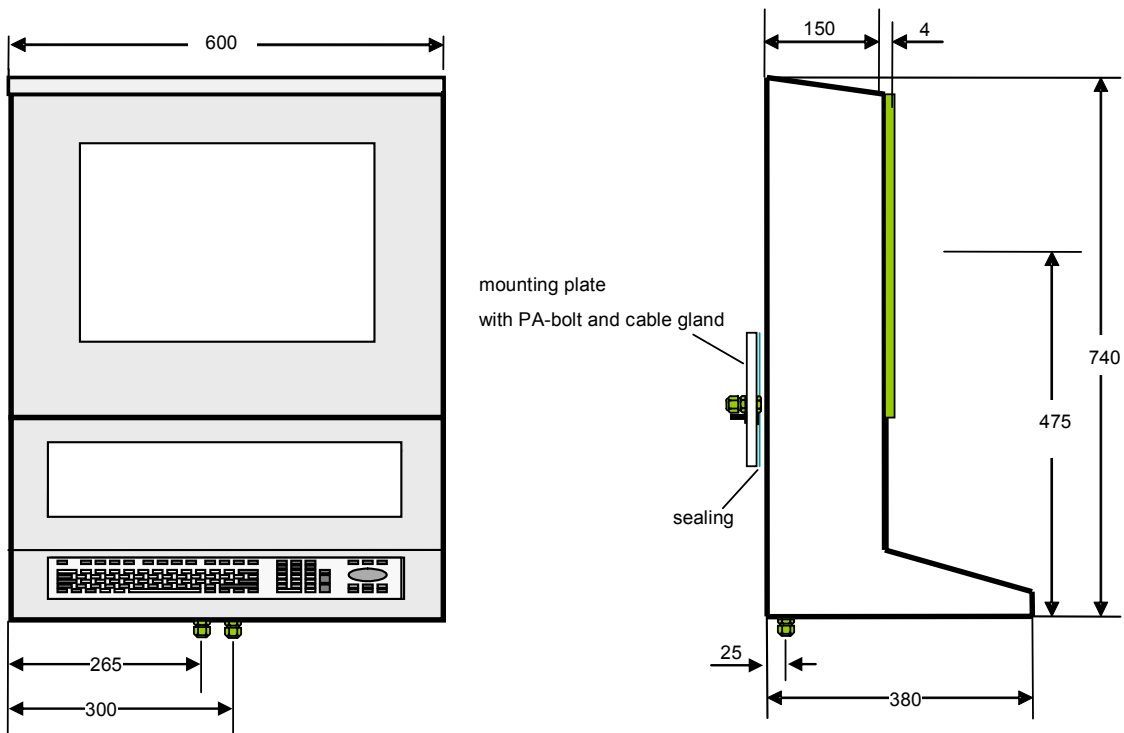
Mounting version 2: wall mounting

600

500

520

250

210

270

115

115

55

6x
ø8

Stud bolt M8

150

4

740

475

90

2x sealing

Distance plate 5mm

Wall bracket 22 mm

Wall mounting: ABG-wall-bracket
Weight: ABG-wall bracket: approx.: 2kg
Distance plate: mustn't be ordered separately, is contained in the scope of supply of the FERA case.

Mounting version 3: ABG-TRAGARM

600

520

350°

A

B

110

ø 60

150

4

Sealing

380
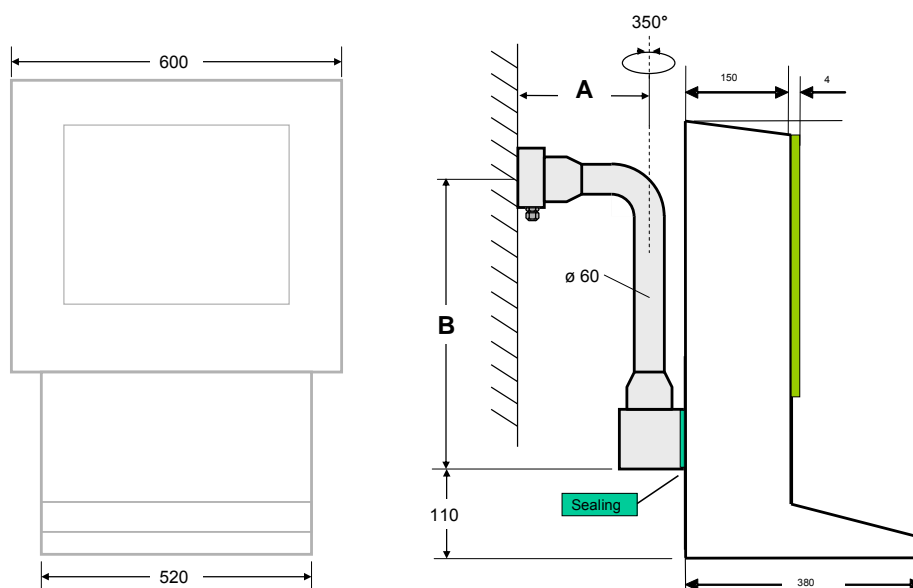
Mounting version 4: ABG-STANDFUSS

6.5 FERA-T (compact stainless steel case with desk console)

Desk console
4 x Ø 7
For the
attatchment
at the desk
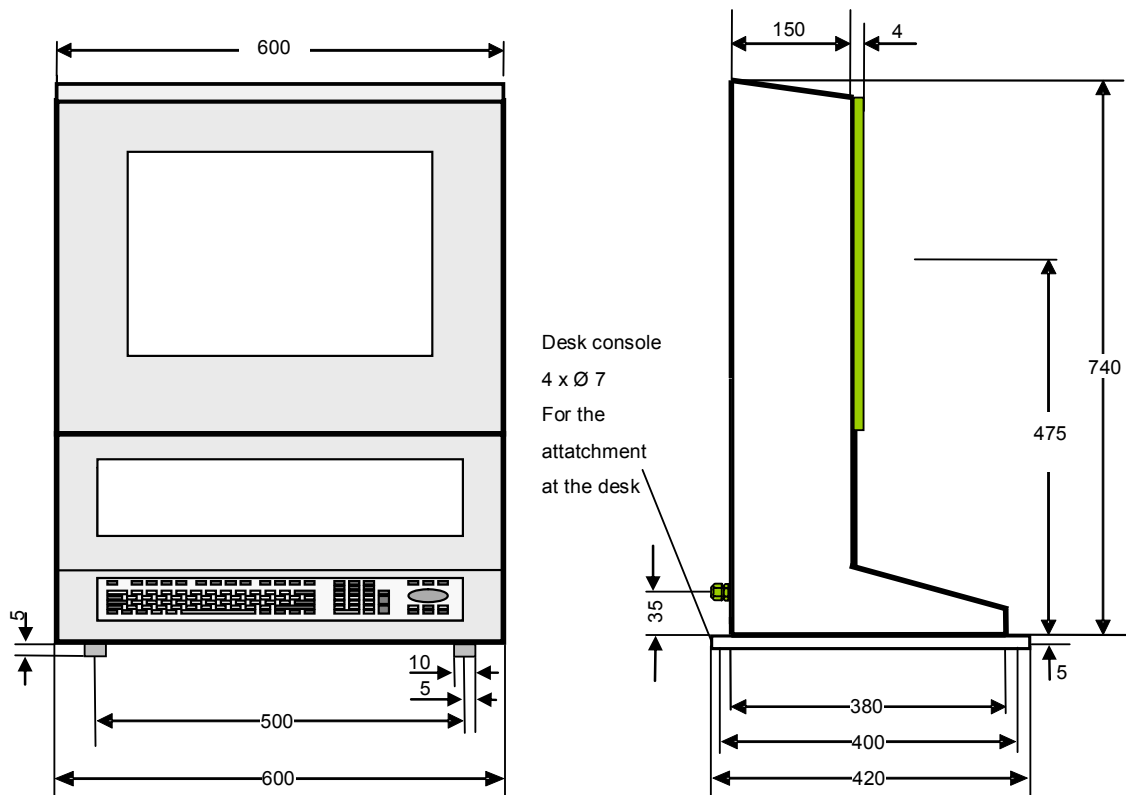
ABG-FERA-T

All dimensions in mm

Weight - Case: approx. 22 kg
        - desk console: approx. 0,5 kg

Degree of protection (case):   IP 65
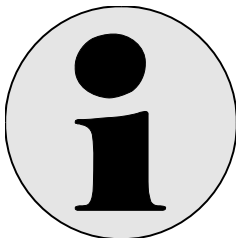
Note

This type of case is only available for the assembly of a 15.0" display or 18.1" display.

6.6 AXENA-N (stainless steel case with swivel-type display)

15,0", 18,1" : 600
21,3" : 636

500

15,0"

18,1"

21,3"

6° 6°

21,3"
750

15,0", 18,1"
475

15,0"
18,1"
725

21,3"
490

225

M25
M20

260

80

Barcode reader optional

520

20

120

350

Barcode reader optional

94

Abdeckplatte für Anschlussraum
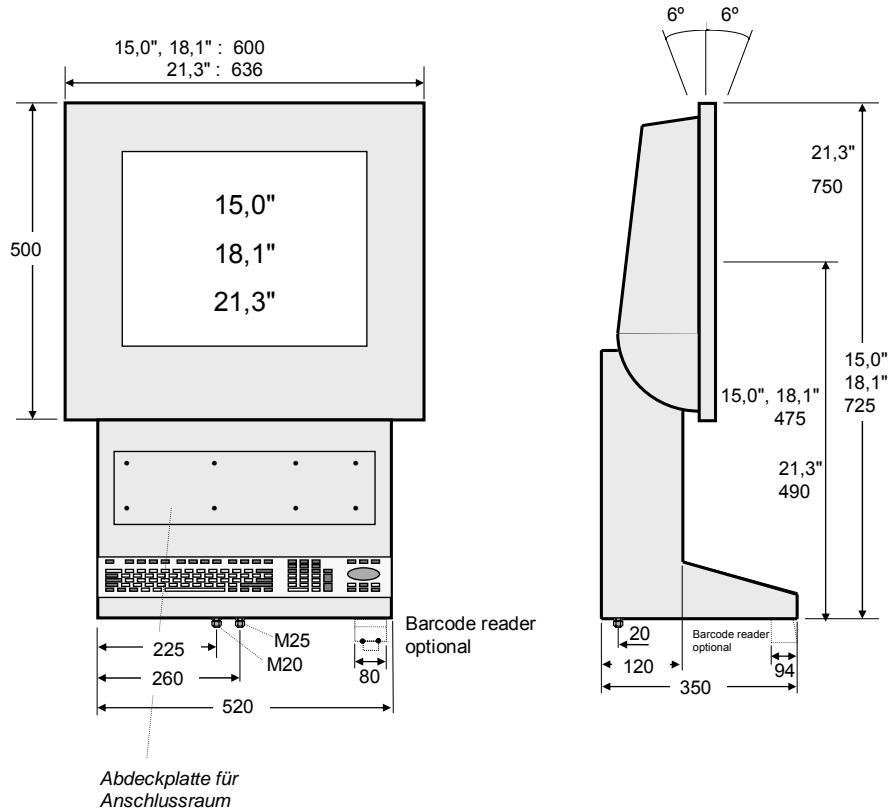
ABG-AXENA-N

All dimensions in mm

If an order with interface A or S takes place, i.e.
A serial interface for barcode reader EX-DRAGON-M101 and EX-NANO80A
S serial interface for barcode reader EX-DRAGON-D101
the holding fixture for the barcode reader is mounted on the housing.

Weight - Case: approx. 22 kg
Degree of protection (case): IP 65

Swivel-type display:

Hold displayframe on top
and bottom to turn to
required inclination.

Attenion!

Do not touch backside
while inclination is
changed.

Attention!

Finger could be
squeezed !

6.7 AXENA-T (stainless steel case with swivel-type display)

15,0", 18,1" : 600
21,3" : 636

500

15,0"

18,1"

21,3"

5

10

20

500

520

*Covering plate for
connecting room*

6º 6º

21,3"
750

15,0", 18,1"
475

15,0"
18,1"
725

21,3"
490

Desk console
4 x Ø 7
For the
attattchment at
the desk

120

350

370

390

5

5
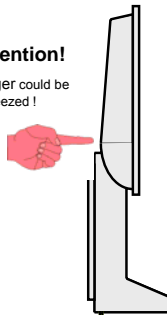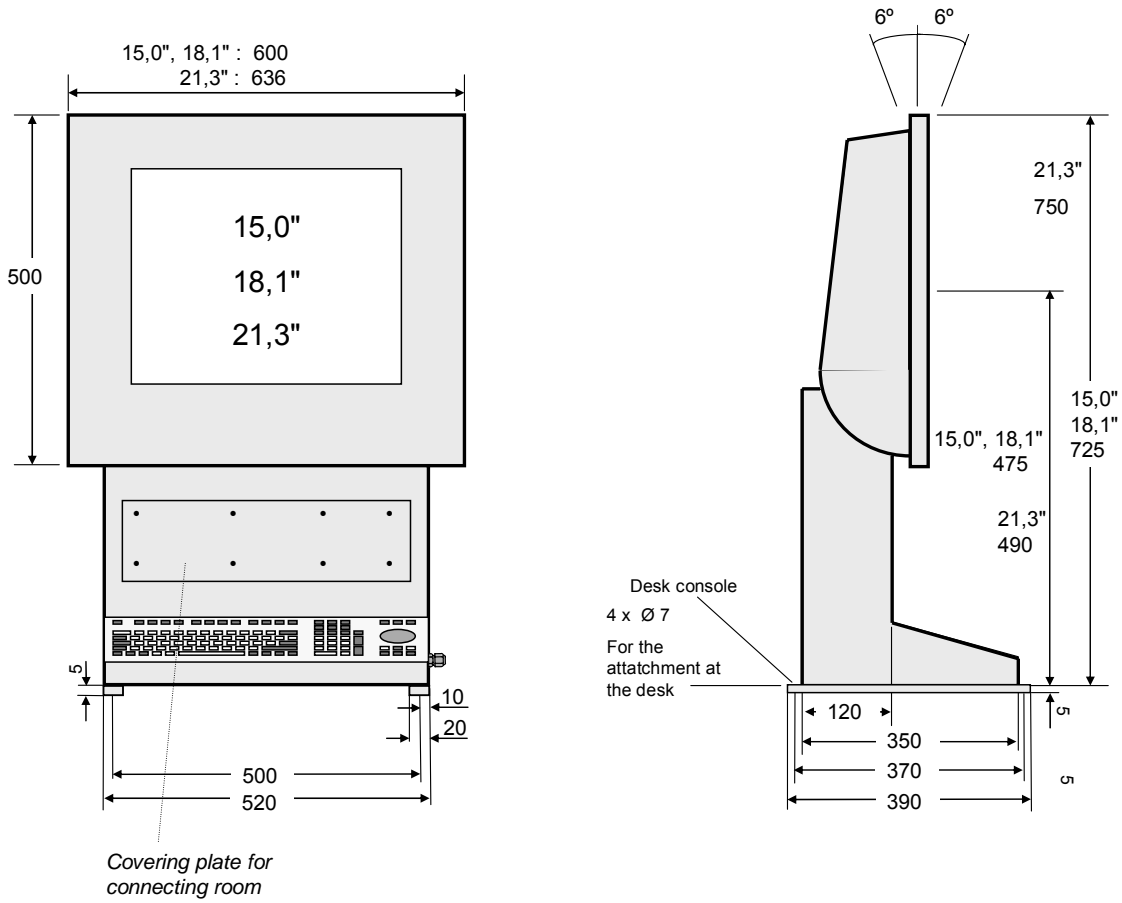
ABG-AXENA-T

All dimensions in mm

Weight - Case: approx.: 22 kg
         - Desk console: approx.: 0,5 kg
         Degree of protection (case):   IP 65

Swivel-type display:

Hold displayframe on top
and bottom to turn to
required inclination.

Attenion!
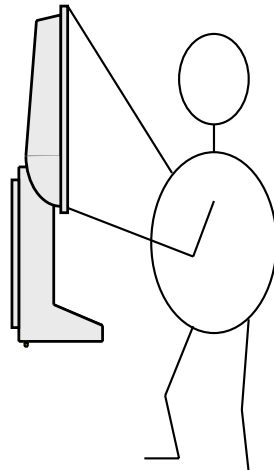
Do not touch backside
while inclination is
changed.

Attention!

Finger could be
squeezed !

6.8 ORTRA-N (stainless steel command station)
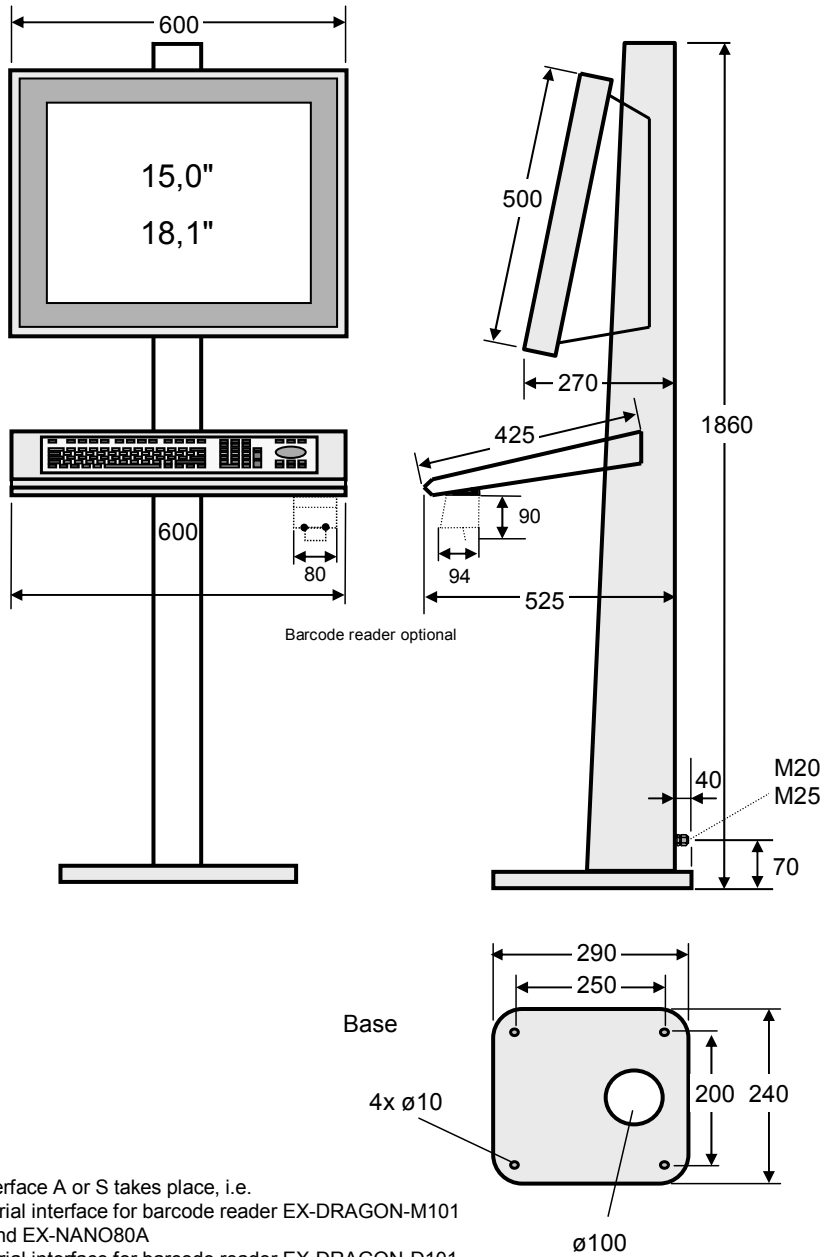
600

15,0"

18,1"

500

270

425

1860

600

90

80

94

525

40

M20
M25

70

Barcode reader optional

Base

290

250

4x ø10

200   240

ø100

If an order with interface A or S takes place, i.e.
A   serial interface for barcode reader EX-DRAGON-M101
               and EX-NANO80A
S   serial interface for barcode reader EX-DRAGON-D101
the holding fixture for the barcode reader is mounted on the housing .

ABG-ORTRA-N   All dimensions in mm

Weight of case with base: approx. 48 kg

Degree of protection (case):   IP 65
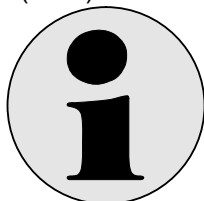
Note

This type of case is only available for the
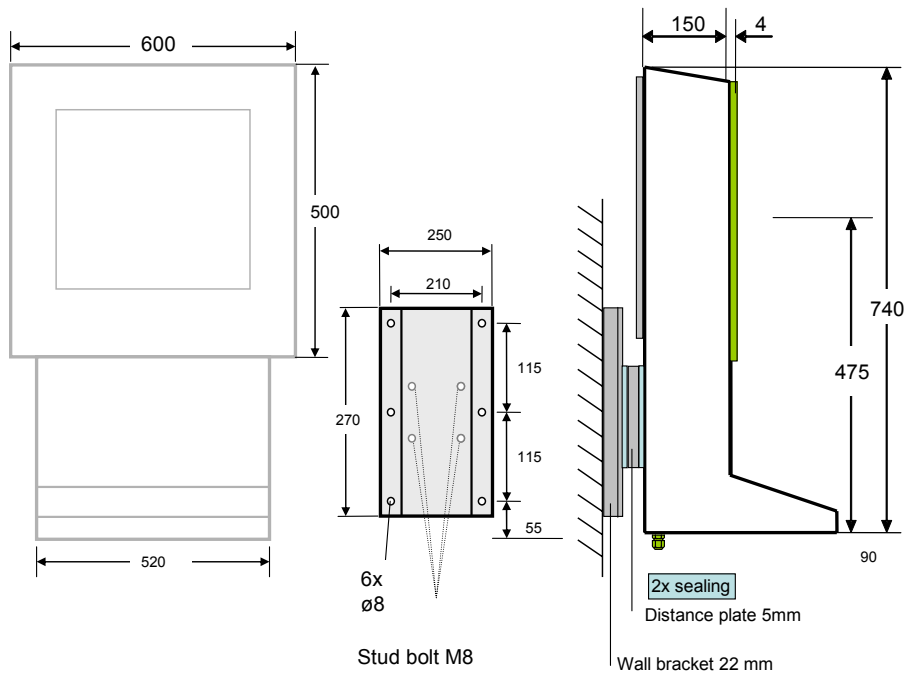assembly of a 15.0" display or 18.1" display.

![Pepperl+Fuchs logo]

6.9 Mounting options of the cases LETO, and AXENA

6.9.1 ABG-Wall mounting for ABG-LETO and ABG-AXENA
Optional wall bracket for ABG-LETO and ABG-AXENA
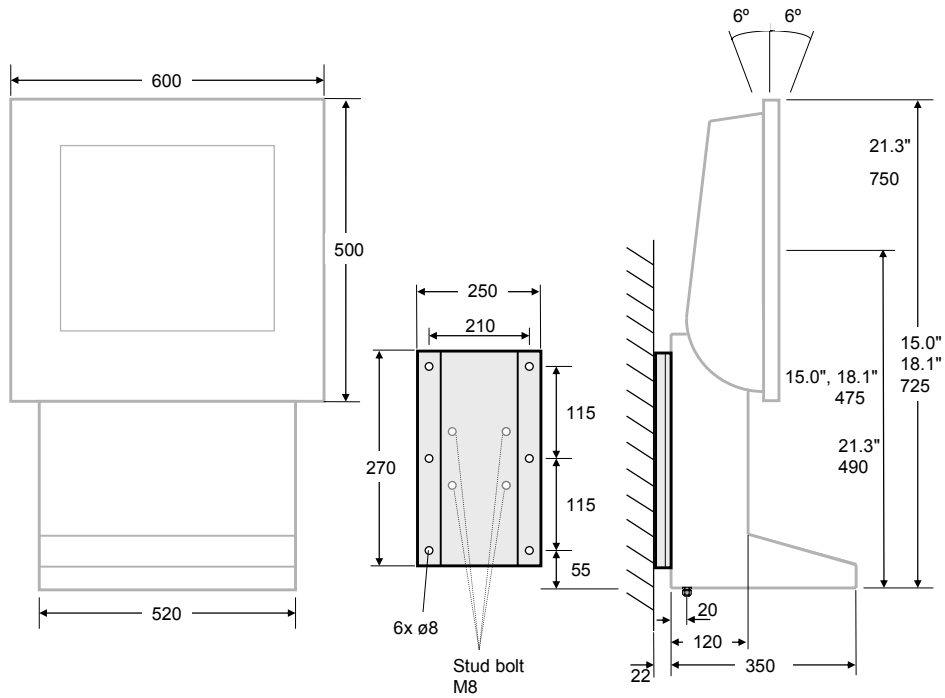
Alle dimensions in mm

ABG-Wall bracket

Weight: ABG-wall bracket: approx.: 2 kg

Version:EXIPC_4_239_TH_E.DOC / 23.07.08

6.9.2 ABG-Wall mounting for ABG-FERA
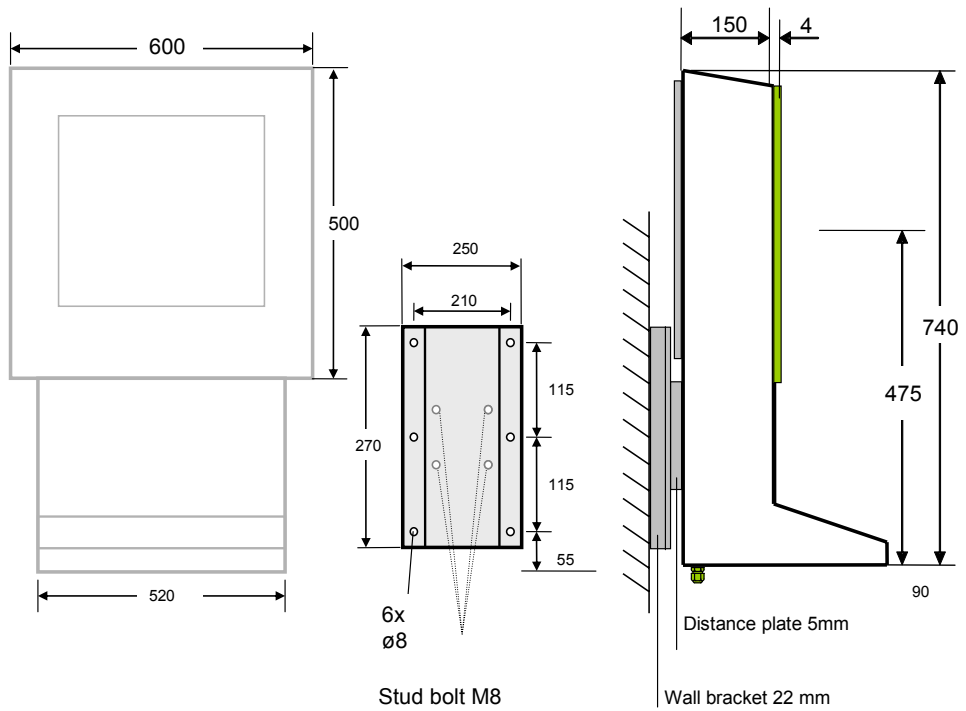
Wall mounting: ABG-wall-bracket
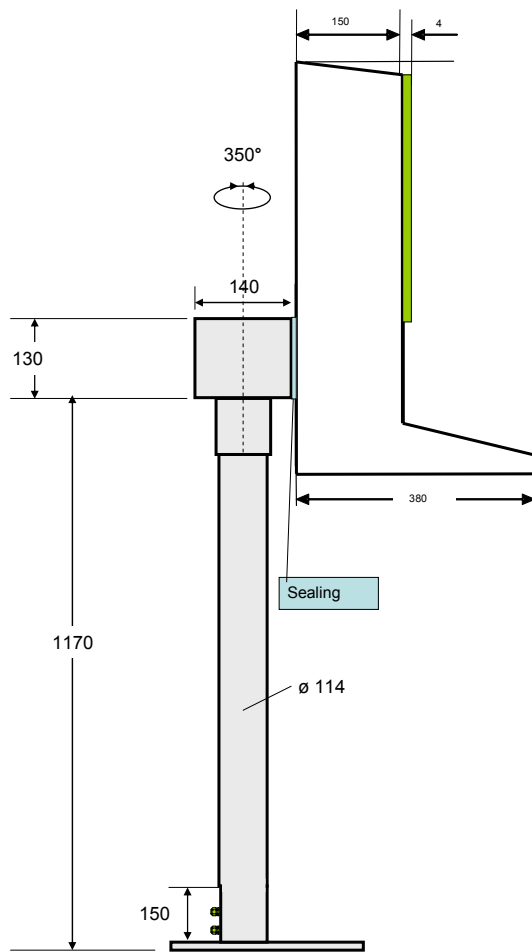
Weight: ABG-wall bracket: approx.: 2kg

Distance plate: mustn't be ordered separately, is contained in the scope of supply of the FERA case.

6.9.3 ABG-STANDFUSS-1

Optional stand for ABG-AXENA ABG-LETO and ABG-FERA, turnable
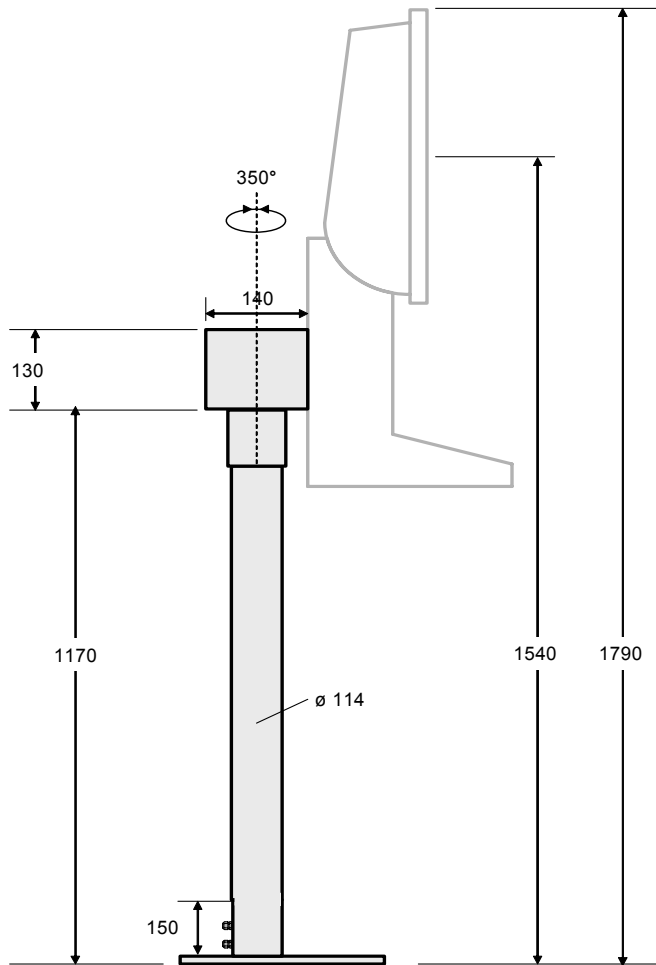
Weight of case with base approx. 17 kg

Base
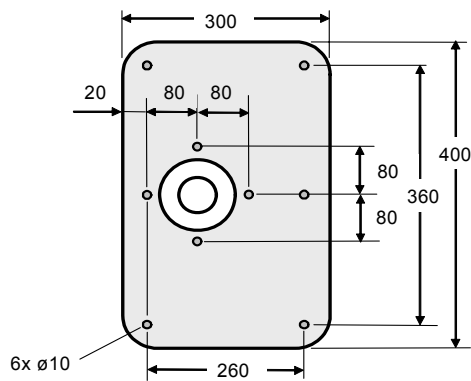
Fig. 6-1: ABG-STANDFUSS-1

All dimensions in mm

6.9.4 ABG-STANDFUSS-2

Optional stand for ABG-AXENA, ABG-LETO and ABG-FERA, not turnable.
Same structural shape as ABG-STANDFUSS-1.

6.9.5 ABG-TRAGARM-1-1

For connection cable gland 2 x M20
Optional bracket for ABG-AXENA, ABG-LETO and ABG-FERA

Drilling pattern for
wall-mount
(increased)
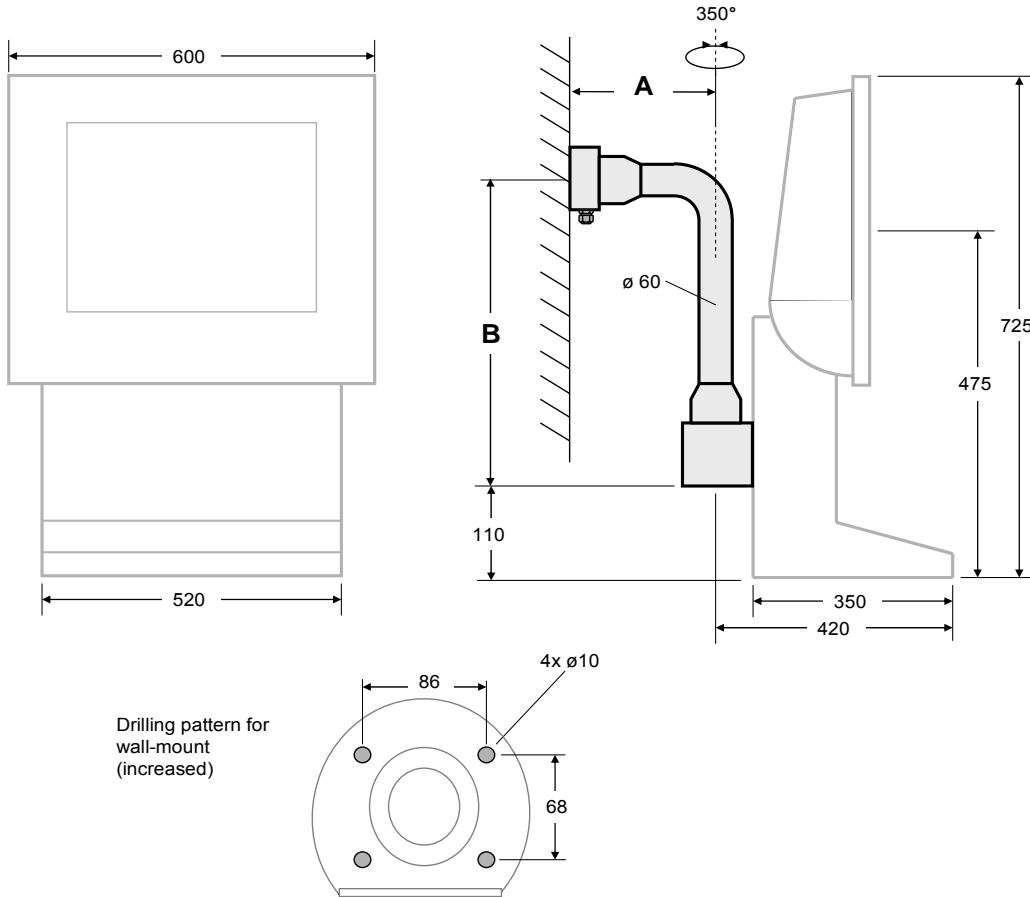
ABG-TRAGARM-1-2   All dimensions in mm

Weight of case: TRAGARM-1-1 approx. 11 kg

Amin = 355 mm
Bmin = 645 mm

Note:

Unless otherwise indicated in the order,
the ABG-TRAGARM-1-1 is supplied with the minimum
dimensions: Non-standard dimensions must be
explicitly specified.

6.9.6 ABG-TRAGARM-1-2

For connection cable gland 1 x M25 and 3 x M20
Optional bracket for ABG-AXENA, ABG-LETO and ABG-FERA
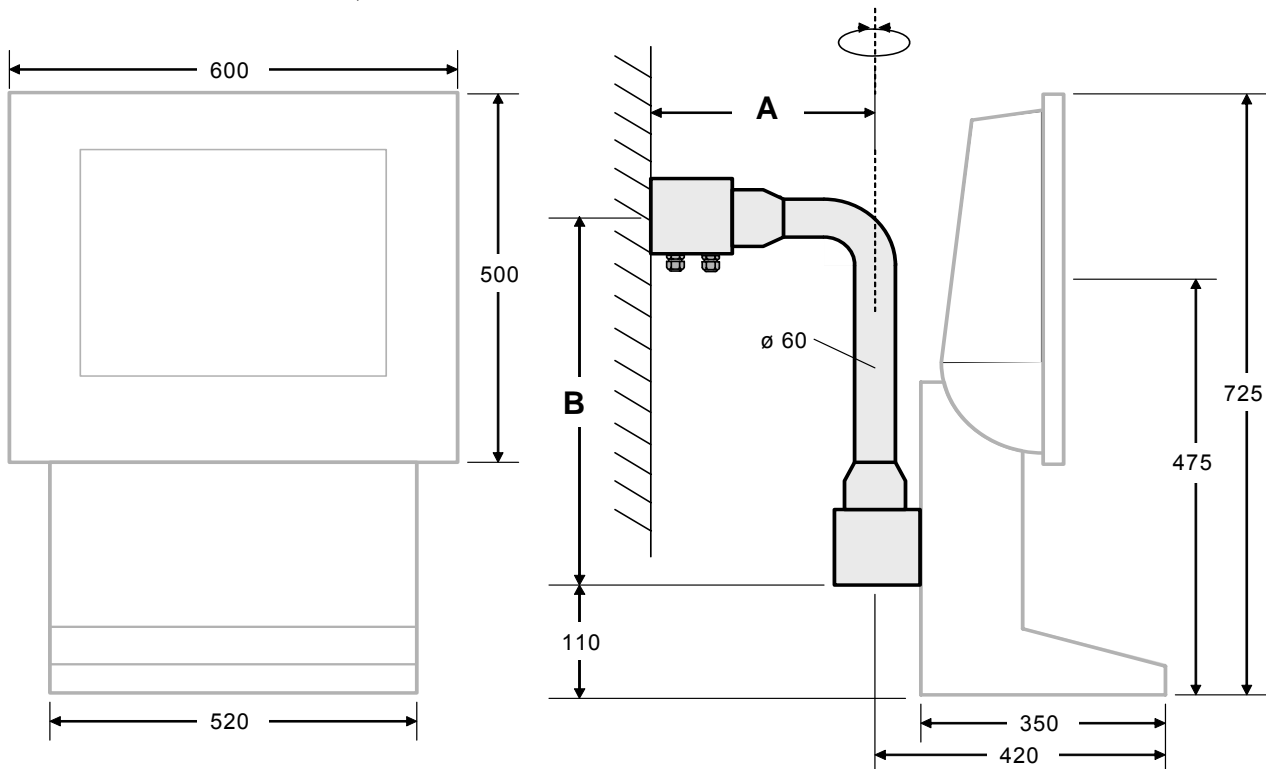
Mounting plate for
wall mount
(increased)
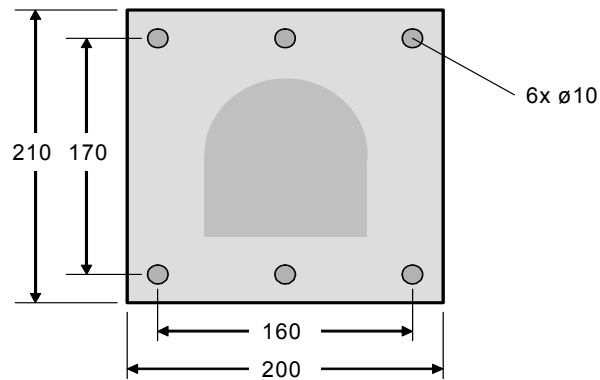
ABG-TRAGARM-1-2

All dimensions in mm

Weight of case: TRAGARM-1-2 approx. 11 kg

Amin = 455 mm
Bmin = 645 mm
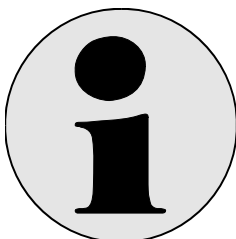
Note:

Unless otherwise indicated in the order,
the ABG-TRAGARM-1-2 is supplied with the minimum
dimensions: Non-standard dimensions must be
explicitly specified.

6.9.7 ABG-TRAGARM-2-1

For connection cable gland 2 x M20
Optional bracket for ABG-AXENA, ABG-LETO and ABG-FERA

350°

600

500

520

B

ø 60

110

350

420

725

475
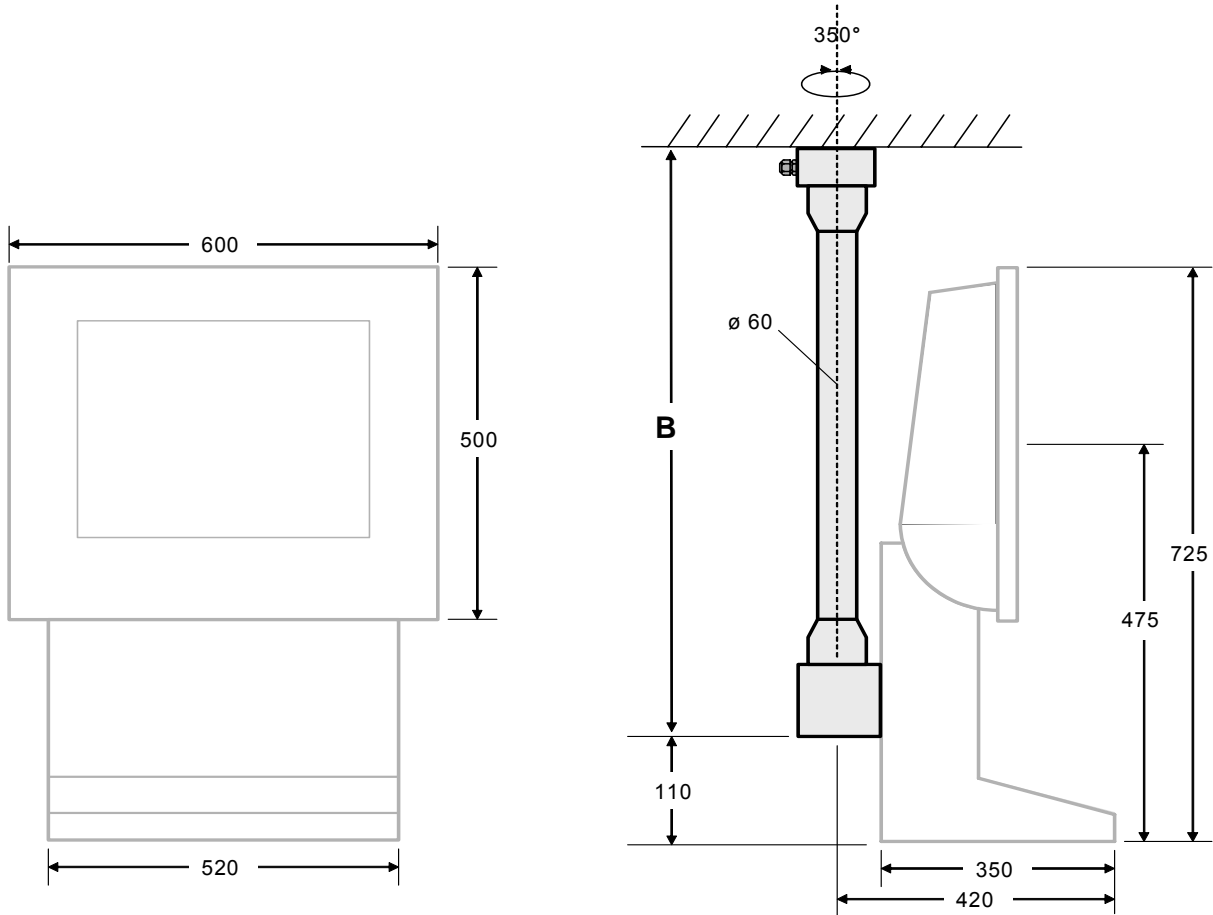
Drilling pattern for
ceiling mount
(increased)

4x10

86

68
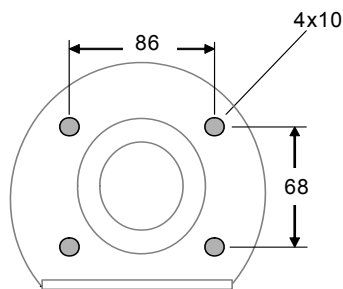
ABG-TRAGARM-2-1
Weight of case: TRAGARM-2-1 approx. 11 kg
Bmin = 700 mm
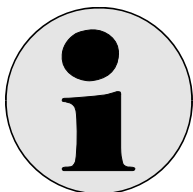
Note:

Unless otherwise indicated in the order,
the ABG-TRAGARM-2-1 is supplied with the minimum
dimensions: Non-standard dimensions must be
explicitly specified.

6.9.8 ABG-TRAGARM-2-2

For connection cable gland 1xM25 and 3xM20
Optional bracket for ABG-AXENA, ABG-LETO and ABG-FERA

350°

600

500

ø 60

B

520

725

475

110

350

420
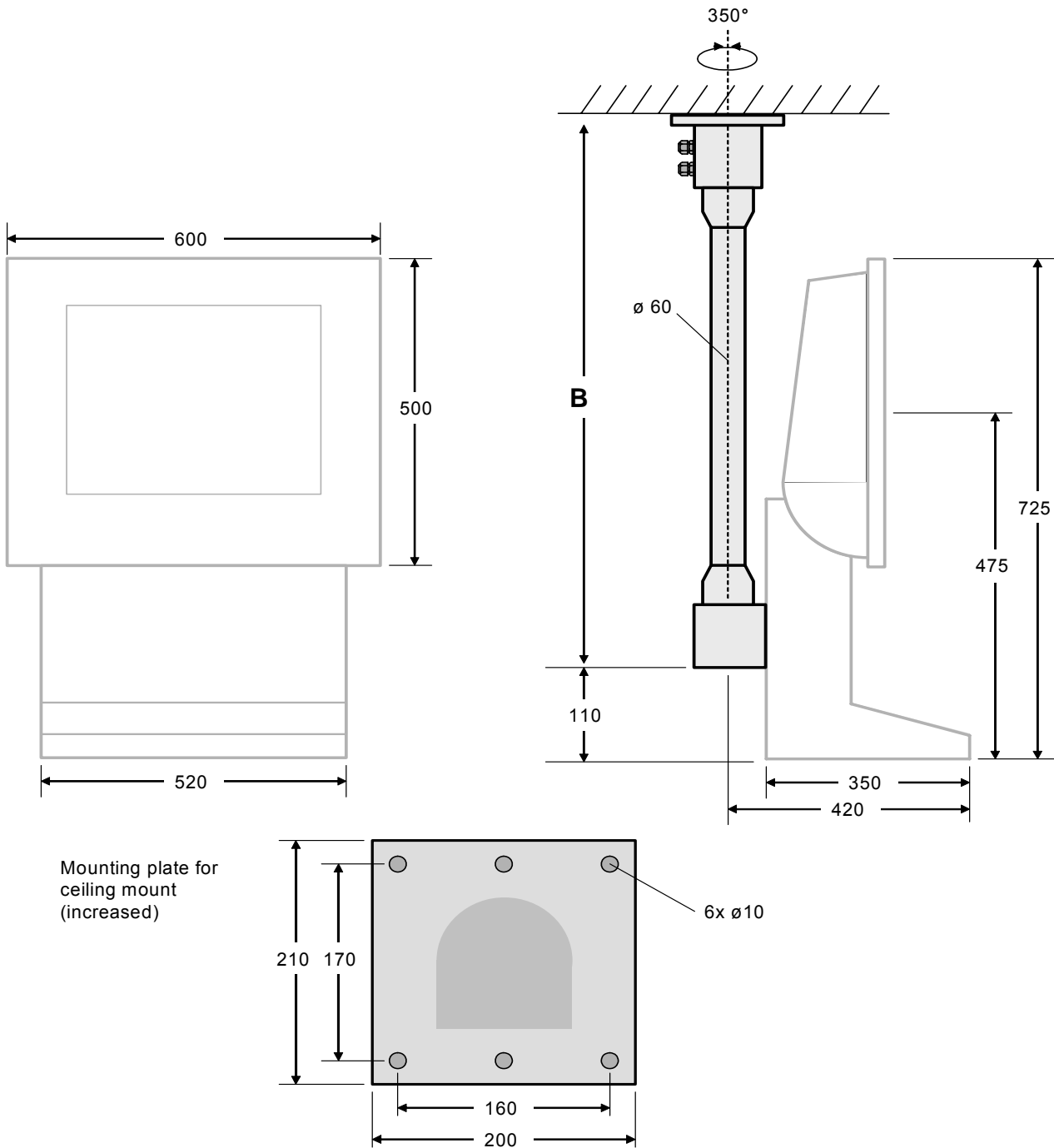
Mounting plate for
ceiling mount
(increased)

6x ø10

210 170

160

200

Fig. 6-6: ABG-TRAGARM-2-2   All dimensions in mm
Weight of case: TRAGARM-2 approx. 11 kg

For ABG-AXENA and ABG-FERA:
Bmin= 800 mm

For ABG-LETO:
Bmin.= 850 mm
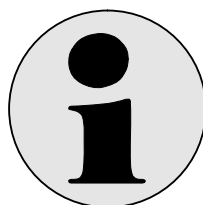
Note:
Unless otherwise indicated in the order
the ABG-TRAGARM-2-2 is supplied with
the minimum dimensions: Non-standard
dimensions must be explicitly specified.

7 Special equipment with heating

A heating can be built into the housings AXENA-H and FERA-H.

The ambient temperature sinks on under 0 °C necessarily becomes a heating

The heating EX MINITHERM DBA T4 ATEX is placed under the keyboard type TASTEX.
The display heats itself by dissipated heat to -20°C* themselves.

Technical Data EX MINITHERM DBA T4 ATEX

Ignition protection class:	II 2 GD EEx d II C T4
Temperature Class:	T4
EC Type-examination certificate:	PTB 02 ATEX 1116 X
Nominal voltage:	110 bis 265 V
Nominal power:	50 W
Ambient temperature range:	- 50 - +180 °C
Protection degree:	IP 68, NEMA 4X
Material:	seawater-proof aluminium, black anodized

* The temperatures lower than -20 °C the following is to be considered:

In no case the display may be switched on at an internal device temperature of lower than -20°C.
The display must be warmed up in warmer environment by at least -20°C , for 3 hours. Only then the display may be switched on.
Power supply should be feeded in this case continuously.

8 Special equipment with a cooling system

A cooling system can be built into the housing AXENA-V.

For application with high ambient temperatures a cooling system can be supplied. Thus the EXVID can be operated in an ambient temperature upto max. +50°C (instead of +40°C).
This limit (max. +50°C) is given in the EC-Type Examination Certificate as maximum temperature for safe operation in ⟨Ex⟩ area. The cooling system cannot shift this limit upward!
In the non EX area the VID can be operated upto max. +60°C.

Type:	Fa. VORTEC: VORTEX 711
Operational principle:	Fluid air that rotates to cool, compressed air operated

Diagram of the system:

Cooler
Particle filter
Compressed air supply
3-5 hPa

AXENA-V
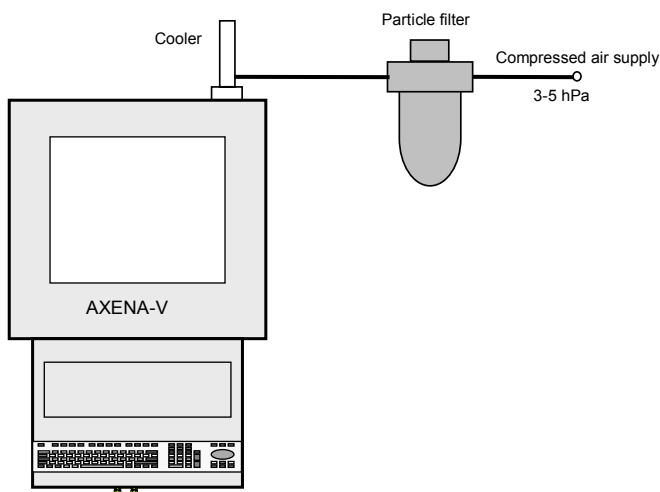
(The particle filter is not a component of the scope of supply)

Maximum values given by Pepperl+Fuchs:
(Values for the safe operation of the cooling system itself)

Max. Ambient temperature Ta	60° C	
Max. Supply air temperature	40° C	dry
Max. Supply air pressure	5 hPa	
Max. Particle size of the supply air	5 µm	

Marking: II 2G EEx c II T4

Important conditions for a safe operation:

Warning
Care - Attention

Warning

An air cleaner must be connected in series.
The max. pressure must be kept.
The max. supply air temperature must be kept.

Housing AXENA-V:

160

Cooling tube

PA-Cable

PA-Bolt

Air supply port
1/8" NPT

Air outlet

Back view

warm air
exit

870

725
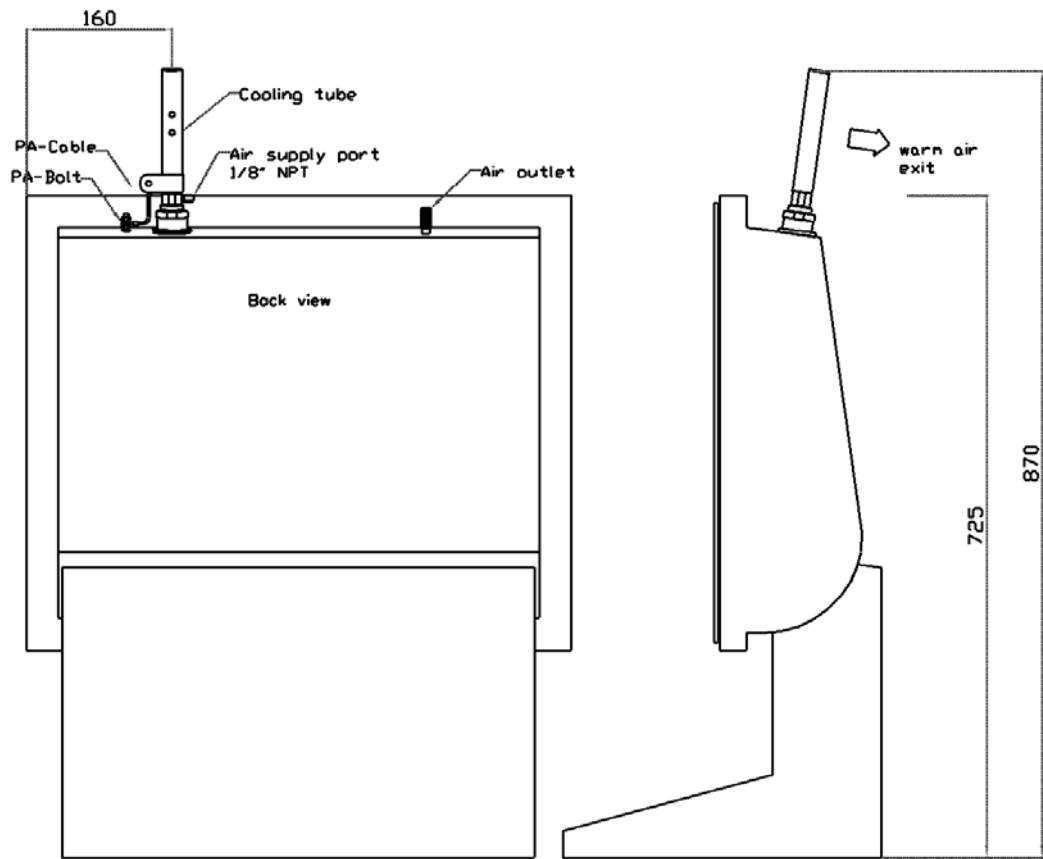
All dimensions in mm

9   Connecting cables

The following cables are required to operate the EXPC operator terminals:

9.1   EXTA-K keyboard + mouse to EXVID display

The keyboard is supplied with a cable end. The cable end can be connected to the front end by means of screw terminals.

- Please refer to the section 4.1.6 entitled 'EXVID terminal assignment' and the section 4.2.6 'EXTA terminal assignment' for details of these connections.
- Length: Approx. 1.8 m

9.2   DATL-LWL4-2-2SC / DATL-LWL4-3-2SC / DATL-LWL-4-4-2SC

The connection between the SK-KVM-10 and the Ex Monitor is made by 2 wire fibre optic cable.
One is for receive (Rx), the other is for transmit of data (Tx).
- The Rx of the SK-KVM has to be connected with the Tx of the Ex-Monitor.
- The Tx of the SK-KVM has to be connected with the Rx ot the Ex-Monitor.
-

- Optical fibre cable, Type 50 / 125 µm, gradient fibre, 2 wires
- 4 x SC – connectors
- Length customized (typical 500 m, maximum 750 m)
  (if the cable type 62.5 / 125 µm is used on the part of customers the maximum length reduces to typical 250 m, maximum 375 m)
- Bending radius: 20 x cable diameter
- Traction power: max. 500 N
- Operation temperature: -20°C ... +50°C
- Installation temperature: -5°C ... +60°C
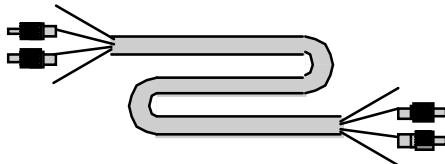
If you take the wire which is connected to a Tx sender, you can see a dimmed red light if you look into the corresponding connector on the other side of the cable: take the open end's connector in your fist to dim the ambient light and look straight into the connector. With this method can be easily checked if the fibre optic cable is not broken.

The cable length is limited by the loss of the connectors and the loss of the cable itself.
The maximum allowed loss between the Linedriver SK-KVM and the iPC-EX monitor (REX) connection is 5.0 dBm.
If the cable is installed with too small radius, the loss of the cable will increase over months and years
- The loss of the connectors is much higher than the loss of the cable
- 100 m cable has a loss of about 0.27 dBm.
- one connector has a loss of 0.2 to 0.5 dBm, 0.2-0.3 dBm should be achieved
- a connection point of 2 cables therefore has 2 connectors => 0.4 to 1 dBm
- it is very important that the connectors are good made and have a loss off about 0.2- 0.3 dBm.
- because of inner F.O. cables, the maximum loss for a F.O. linked to a LETO, FERA, AXENA or
  ORTRA housing is 4.5 dBm

The SC connectors have to be plugged into their connection points with a hear- and noticeable 'click'.

9.3 DATL-A3-1,5-0

Power supply cable for the 100 – 240V AC version of EXVID-xx
- 3 x 1.5 mm^2, cable diameter approx. 8 mm
- for firmly rooting
- for terminal connection

9.4 DATL-A3-2,5-0

Power supply cable for the 100 – 240V AC version of EXVID-xx
- 3 x 2,5 mm^2, cable diameter approx. 9 mm
- for firmly rooting
- for terminal connection

9.5 DATL-A4-3

Connection cable to EXOM-DRAGON-10-20 (Productgroup SCANEX)

```
For fix mounting                                    Plug connector with socket hub
Clamping assembly                                              female
    (Tx)   1 O─────────╲  ╱─────────O 1  Rx
    (Rx)   2 O──────────╳──────────O 2  Tx
    (Us)   3 O─────────────────────O 3  Us
   (GND)  4 O─────────────────────O 4  GND
```
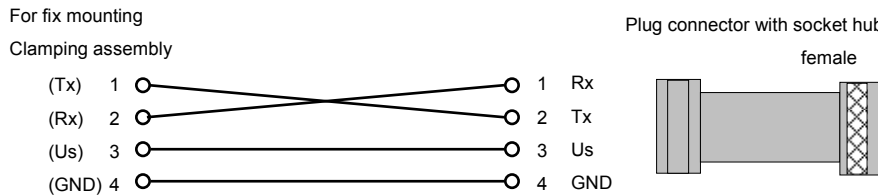
9.6 DATL-A4-0

Connecting cable to EX-DRAGON-D101-10-20 (Productgroup SCANEX)

```
                Tx   1 O─────────────────O  Rx
                Rx   2 O─────────────────O  Tx
 Jack-4W  +     Us   3 O─────────────────O  Us   iPC-4
               GND   4 O─────────────────O  GND
```
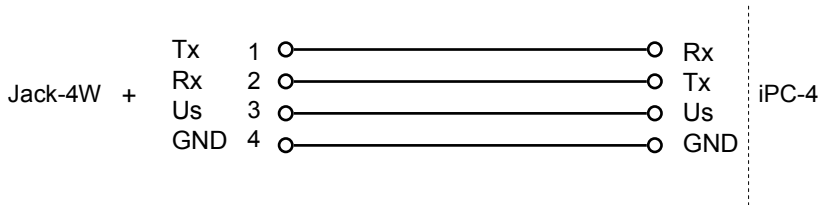
When assembling the case REX the connecting cable DATL-A4-0 and the jack-4W is attached.
When assembling all other cases the conncecting cable DATL-A4-0 and the jack-4W is pre-mounted.

9.7 S-KVM-M15-PS2-PS2

3 in 1 interface cable SK-KVM to PC.
- for video signal, keyboard (PS/2) and mouse (PS/2)
- Length: Approx. 1.8 m

2/x
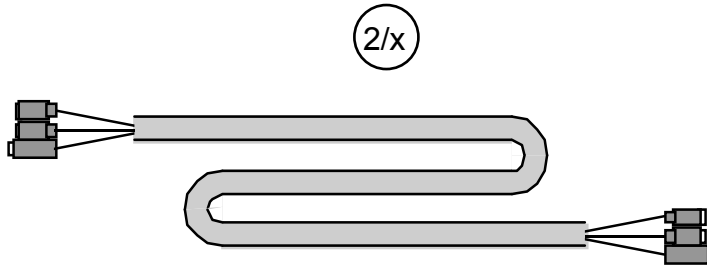
9.8 S-TERM/ RS232-PC-M9-F9

Serial standard cable SK-KVM to PC (COM) for optional serial port and / or Touch screen connection.
- Length: Approx. 1.8 m

1

9pol SubD
male

9pol SubD
female
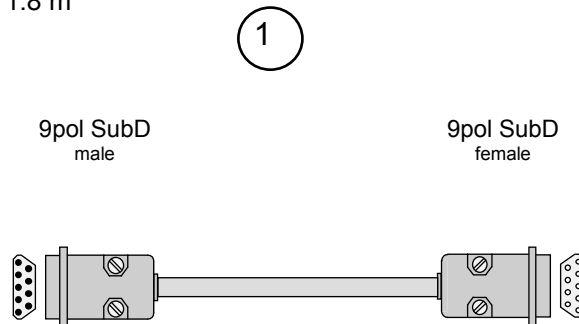
Assignment: all pins are wired 1 to 1, pin to pin.

10 Order designations

10.1 iPC-EX   operator terminals

Gehäuse	Display Größe	Ex-Zulassungen	Glas	Power supply	Schnittstelle	Tastatur/Maus	Tastatur Layout					

Gehäuse

REX	Schalttafeleinbau
LETO-N	Kompaktes Edelstahlgehäuse
FERA-N	Edelstahlgehäuse mit Tastaturkonsole
FERA-T	Edelstahl-Tisch-Gehäuse mit Tastaturkonsole
AXENA-N	Edelstahlgehäuse mit verstellbarer Displayneigung
AXENA-T	Edelstahl-Tisch-Gehäuse mit verstellbarer Displayneigung
AXENA-H	Edelstahlgehäuse mit verstellbarer Displayneigung und Heizung
AXENA-V	Edelstahlgehäuse mit verstellbarer Displayneigung und Kühlung
ORTRA-N	Edelstahl Command Station

Display Größe

15X	15.0'' XGA (1024 x 768 pixel),
18SX	18.1'' SXGA (1280 x 1024 pixel),

Ex Zulassung

C	ATEX II 2 G, EEx qe[ib] IIC T4
N	Non-Ex version

Glas

CL	CLear klare Scheibe
ED	Edched, geätzte Scheibe
TO	Touch Screen

Power supply

AC	Power 100-260 V AC. 50-60 Hz
DC	Power 24 V DC

Schnittstelle

N	Keine Exi Schnittstelle
A	Serielle Exi Schnittstelle f. Barcodeleser EX-DRAGON-M-101, EXNANOxxx
S	Serielle Exi Schnittstelle f. Barcodeleser EX-DRAGON-D-101

Tastatur/Maus

K0	Ohne Tastatur
K1	Tastatur ohne Maus
K3	Tastatur mit Trackball Maus
K4	Tastatur mit Touchpad Maus
K5	Tastatur mit optischem Trackball

Tastatur Layout

L0	Ohne Layout
SW	Schwedisches Layout
US	US internationales Layout
DK	Dänisches Layout
FR	Französisches Layout
GER	Deutsches Layout
RU	US-Kyrillisches Layout
KOR	Koreanisches Layout
CN	Chinesisches Layout
JP	Japanisches Layout

For example
AXENA-N-18SX-C-CL-AC-A-K3-GER

10.2 TASTEX Keyboards/mouse

Type	Connection	Mouse Type	Ex protection	Housing / Cover	Cable length	Keaboard layout	

Type							
EXTA	Keyboard/Mouse in EX version						
TA	Keyboard/Mouse in Non-EX version						

	Connection						
	P	PS2 interface					

		Keyboard Type					
		K1	Keyb. without mouse				
		K3	Keyboard with mechanical Trackball Mouse, 50mm diameter				
		K4	Keyboard with Touch-Pad Mouse, 50x60 mm				
		K5	Keyboard with optical Trackball Mouse, 50mm diameter				

			Ex protection				
			C	ATEX II 2 G, EEx ib IIC T4			
			N	Non-Ex solution, only available as TA			

				Housing / Cover			
				C0	keyboard for flush mounting, IP65 front (only for K1,K4), with steel housing on rear side, IP20		
				ABG	Keyboard with Stainless Steel desktop housing, 1.4301 - 316		

					Cable length		
					1,8	1.8 meter cable, keyboard for iPC…	

						Keyboard layout	
						US	International layout
						GER	German layout
						FR	French layout
						SW	Swedish layout
						DK	Danish layout
						RU	US-Cyrillic layout
						CN	Chinese layout
						JP	Japanese layout
						KOR	Korean layout

10.3 Additional designations

SK-KVM   line driver

```
SK-KVM- [___] - [___] - [___]
                         |  10        Version 1.0
                    |  AB      Desk-type case
                |  PC          PC version
                |  MM          PC version and with colour composite video (FBAS) input
                               and with S-VHS video input
```
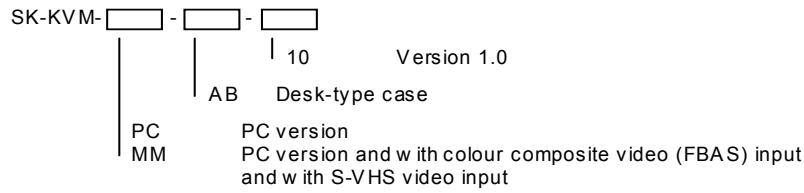
COVER19K-KVM-10   line driver

```
COVER19K- [___] - [___]
                    |  -1         1x SK-KVM
                    |  -2         2x SK-KVM
                |  SK-KVM-10      SK-KVM-10
```
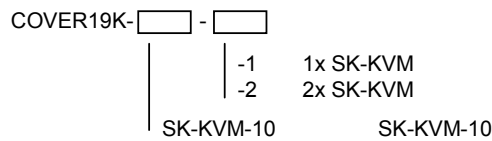
ABG additional components

```
ABG- [_____]
       |  ABG-wall-bracket     wall mounting
       |  STANDFUSS-1          turnable
       |  STANDFUSS-2          not turnable
       |  TRAGARM-1-1          turnable, for wall mount, for cable gland 1xM25 or 2xM20
       |  TRAGARM-1-2          turnable, for wall mount, for cable gland 1xM25 and 3xM20
       |  TRAGARM-2-1          turnable, for ceiling mount, for cable gland 1xM25 or 2xM20
       |  TRAGARM-2-2          turnable, for ceiling mount, for cable gland 1xM25 and 3xM20
```

Data cables

```
DATL-LWL4- [___] -2SC
             |  2         4 connector ready-made
             |  6         6 connector ready-made
             |  8         8 connector ready-made
```

Power supply cables

DATL-A3-1,5-0
DATL-A3-2,5-0

Interface cables to PC

S-KVM-M15-PS2-PS2   SK-KVM <-> PC compatible (1x Video, 2x PS/2)
S-TERM/RS232-PC-M9-F9   SK-KVM <-> PC, COM port (Touch Screen, Barcode Reader)

Plug-in power supply unit for SK-KVM in desktop case

BN-24/1500-AC   Input voltage: 100 - 240V AC / 50 - 60 Hz
                                 Output voltage: 24V DC / 1.5 A

Fiber optic Cleaning Set

(containing: cleaning fluid, cleaning swabs, air spray)

Fuses for EXVID displays

Fuse designation	Order number
FUSE for EXVID-30-50-ATH (Power supply Type DC, Fuse T 5 A 250V, II 2 G EEx me)	210336
FUSE for EXVID-30-20-ATH (Power supply Type AC, Fuse T 2 A 250V, II 2 G EEx me)	210334

11 Rating plate

Warning

The information specified on the rating plate refers to the maximum values for the hazardous area. Compliance with the maximum electrical values is necessary to ensure reliable operation of the device (see also "Technical data").

Power supply depends of the Selected display type:

-24 V DC
- 100 – 240 V AC

PEPPERL+FUCHS *iPC EX*
68301 Mannheim Germany
www.pepperl-fuchs.com

CE 0102 (Ex) II 2 G

Wichtige Hinweise / Notice:

Dieses Gerät ist werksseitig verschlossen. Nicht öffnen!
Do not open this device !

Versorg. / Supply: 18-36 V DC
Umgeb. / Ambient Temp: 0°C…+40 °C

Ex Display
Type: EXVID-15XC-ED-DC-N-10
EEx qe [ib] IIC T4
IBExU 01 ATEX 1099
Herstellungsjahr / Year of manufacture: 2006
Fertigungs-Nr. / Serial number: 20232
-20°C ≤ T_a ≤ +50 °C

Part No. 520xxx

SWVer:	1.5.2A
DispVer:	15/10

PEPPERL+FUCHS
68301 Mannheim Germany / www.pepperl-fuchs.com

12 Applied harmonized standards of the applicable directives

This is an addition to Pepperl+Fuchs Declaration of Conformity in accordance with EN 45014:1998 in the appendix.

Directives		Applied harmonized standards
EC-directives	94/9EC (ATEX)	EN 50014 EN 50017 EN 50019 EN 50020
Directives	89/336/EWG (EMV)	EN 55011 EN 61000-6-2 EN 61000-4-2 … EN 61000-4-6
Directive	73/23/EEC (Low voltage Directive)	EN 60950

13 Fiber optic loopback test

The fiber optic loopback test represents a simple method of diagnosing errors on fiber optic conductors. It enables both transmission errors on the fiber optic transmit and receive cables and temporary front end failures to be detected. The test allows faults to be identified and pinpointed quickly and easily.

The fact that a loopback test can be performed "online" makes this method particularly attractive, i.e. the IPC4 system can continue to operate normally while the fiber optic connection is being tested in the background (restriction: scanner data can only be supplied to the PS/2 port if the German keyboard layout is installed).

No additional wiring is necessary to run the test, because the error states can be read off directly by means of the LEDs on the KVM.

Prerequisites

A KVM and a front end, connected together by a fiber optic cable, are required to perform the loopback test. The only other prerequisite is a minimum of firmware version V1.50 on both the front end and the KVM.

Procedure

The test is started with the DIP switches on the rear of the KVM:
1. Deenergize the KVM
2. Set the following DIP switch combination on the KVM: 1.4=ON, 1.6=ON
3. Switch on the KVM again

The green Rx LED lights up if the FO connection is working correctly; Tx, S1 and S2 flicker.

The LED states only change if a fault occurs (or after a user input).

Error states

Error states are indicated by means of the green Rx/Tx LEDs and the yellow S1/S2 LEDs. Their meanings are explained in the tables below (see Appendix: FO loopback test error states

Rx	Current state of the fiber optic connection to the front end
ON	Connection to the front end OK
OFF	No connection to the front end

Tx	State of the fiber optic connection during the complete test period
Blinking	Connection to the front end throughout the entire test period (Rx was always ON)
OFF	Connection to the front end temporarily interrupted during the test (Rx was intermittently OFF)

S1/S2	Error states on the fiber optic transmit and receive cables
Blinking	No error on the transmit or receive cable. Test still active
OFF	No error on the transmit or receive cable. Test no longer active
ON	Error on the transmit or receive cable (S1=receive, S2=transmit)

14 Assembly instruction fiber optic cable

Take through a cable gland.

Please note the cable designation on the SCD-Clip!

Seperate the SCD-clip from the plug.
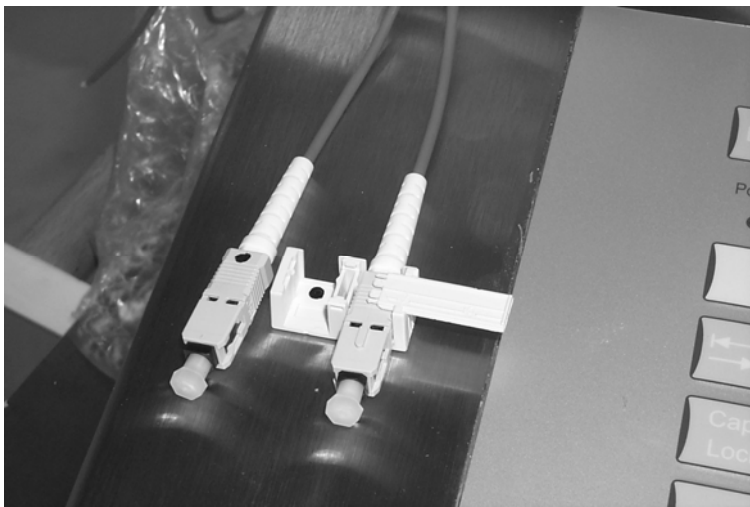
Take through the cable.
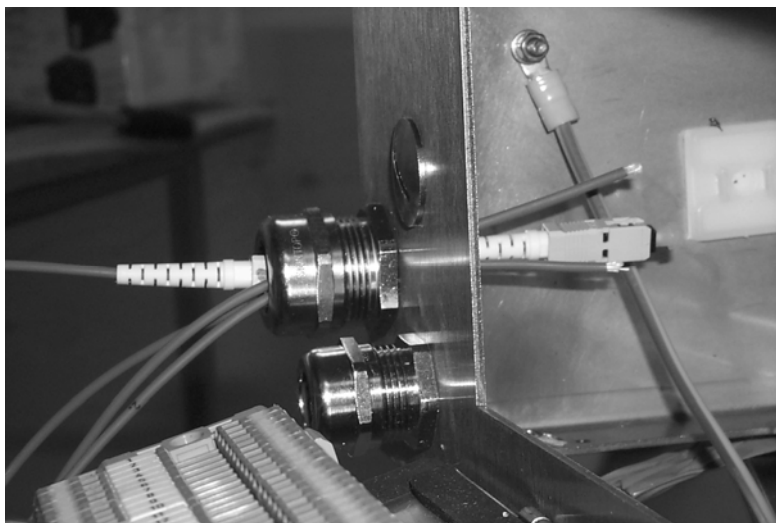
When assembling, please note the cable designation!

15 Cleaning fiber optic connectors

Fiber optic connectors are extremely intolerant of dirt. Dirt particles in the air are similar in size to the diameter of a fiber core. If they are not removed, a massive increase in attenuation is likely.

The instructions below should be heeded when handling or cleaning fiber optic connectors:

- Fit the ends of the connectors with suitable dust caps to protect them from dirt whenever they are unplugged.

- Only clean fiber optic connectors when absolutely necessary (visible dirt, malfunctioning), because merely cleaning the connector surface can cause minor damage.

- Always use the enclosed cleaning fluid and a lint-free cloth or special polyurethane foam swabs to clean connectors. **Caution:** Unsuitable cleaning agents may attack the adhesives in the plug connector or leave deposits. The connector will then be susceptible to contamination. Cotton cloths cause streaking.

- Avoid all pressure on the connector ferrule or the fiber end when cleaning. If the dirt cannot simply be wiped off, it should be soaked for a while in cleaning fluid or isopropyl alcohol.

- Never use a cleaning cloth or swab for more than 3 or 4 plug connectors, depending on the degree of contamination, because the dirt from the first connector is always transferred via the cloth to the next connector.

Procedure for cleaning with the Pepperl+Fuchs cleaning set:

Important! The air spray and cleaning fluid contain harmful substances. Please read the material safety sheet!

1. Always blow out both parts of the connector with an air can before cleaning it mechanically with a cloth or swabs. This removes coarser particles that could otherwise damage the connector when you wipe the end face. Remember to hold the air can vertically, to prevent propellant from dripping into the connector.

2. The pin side of the connector should be wiped with a cloth that has been slightly moistened with cleaning fluid.
   Alternatively, the connector end face can simply be rinsed with cleaning fluid. To do so, point the end face of the connector into the funnel of the pump can and spray it once or twice.

3. Dirt that has accumulated on female contacts must be removed from the socket using cleaning swabs. To do so, moisten the tip of a swab with cleaning fluid and wipe the socket in a circular motion outwards from the fiber.
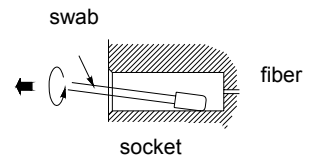
16 Replace a blown prefuse in the EEx-e Box

Fuse	Order number
FUSE for EXVID-30-50-ATH Power supply DC	210336
FUSE for EXVID-30-20-ATH Power supply AC	210334

Fuse old
Till 05.2004

Fuse new
since 06.2004
FUSE for EXVID-30-50ATH
FUSE for EXVID-30-20ATH
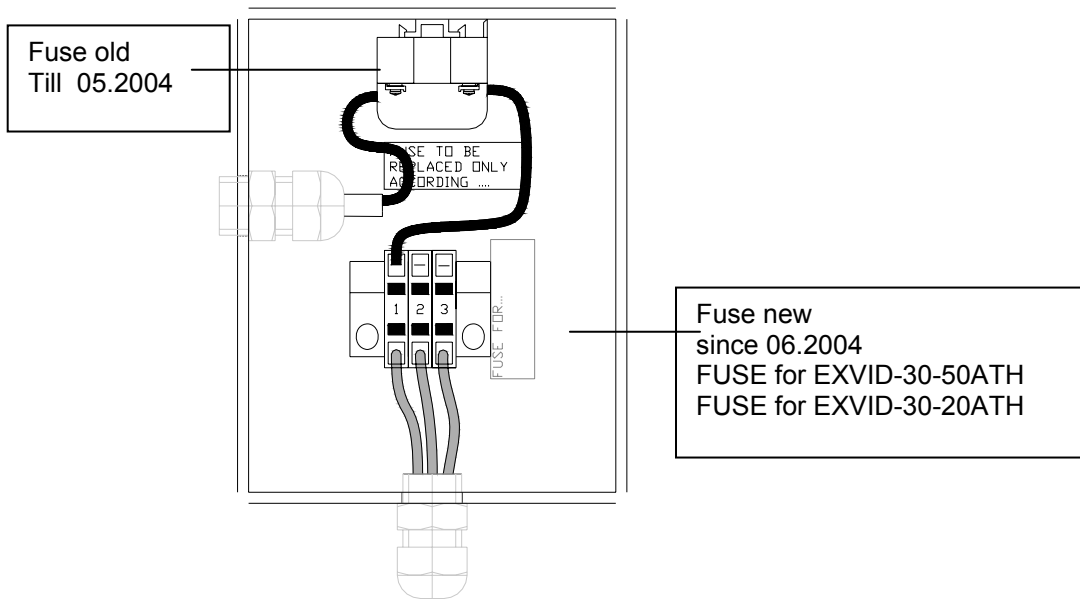
Before beginning of the work:

- **Switch off power supply**
- **Secure against restarting**
- **Before open the EEx-e Box wait minimum 5 minutes.**

Warning Care - Attention	**Warning:** Never open the cable gland to the EX-VID-30! (laterally the clamps) With coming out of the filler the explosion prevension is no longer ensured!

If it is the new fuse "FUSE for EX-VID-30" in the EEx e box (see graphic above), replace blown fuse against a new identically.

If it is the old fuse in the EEx e box (see graphic above) please follow the work instruction.

Work instruction:

To replace an old blown fuse with the new fuse "Fuse for EX-VID-30".

Circuitry:

```
Existing                    Inserted
Fuse                        FUSE FOR EX-VID-30


 PE    ___gn-ye___ ___      PE    ___gn-ye___ ___
                      |                          |
 N     __bl__        |      N     __bl__         |
                     |                           |
 L     __br__        |      L     __br__         |
                     |                           |

   X1.1    .2   .3          X1.1        .2   .3

 EEx e                      FUSE
 Fuse                       FOR
                            EX-VID-30-...


   EX-VID-30                    EX-VID-30
```

![PEPPERL+FUCHS]
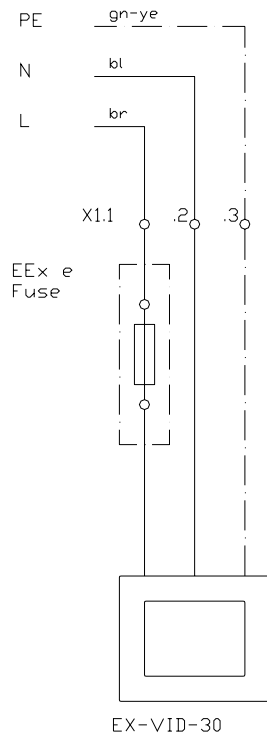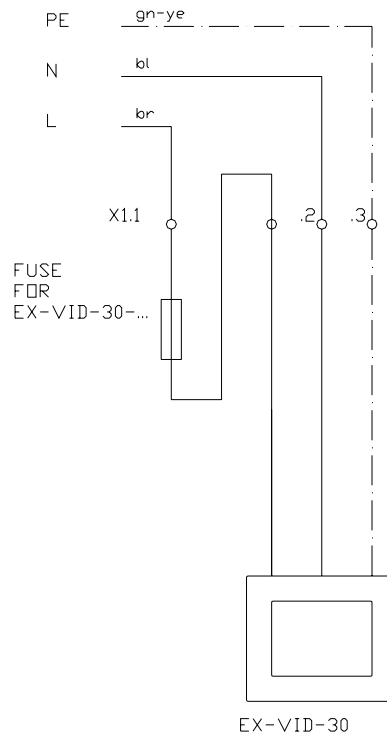
1.
Disconnect old fuse. Remove the wire between the fuse and clamp 1.
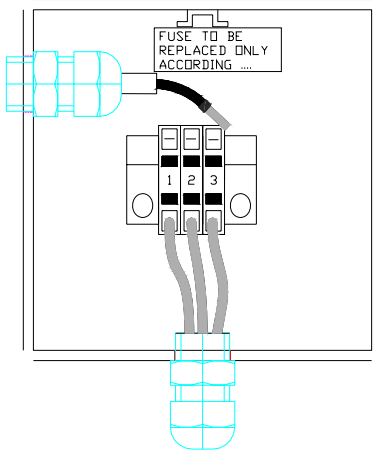
2.
Insert the povided clamp between clamp 2 and clamp 3.
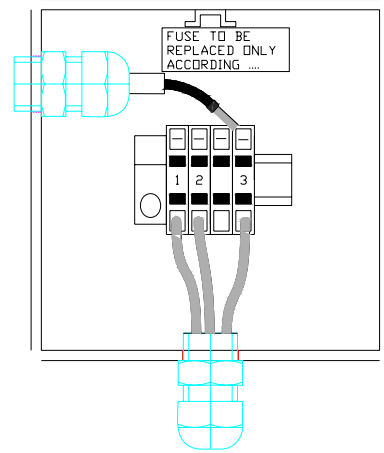
3.
Screw in the new fuse. Connect the new fuse to clamp 1 above and the new inserted clamp below..
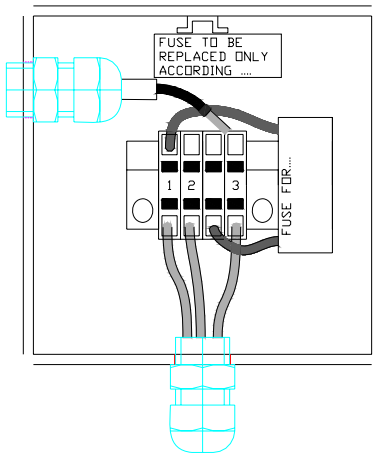
4.
Connect L1 from EX-VID to the new inserted clamp above..
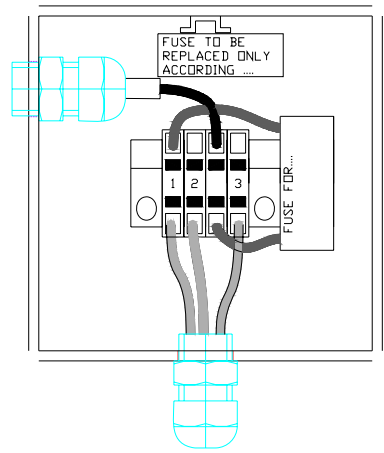
17 Appendix: FO loopback test error states

Rx	Tx	S1	S2	State	Reasons
ON	Blinking	Blinking	Blinking	Connection to the front end OK. No errors detected so far. Test active.	
			ON	Connection to the front end OK. Data packets lost on the transmit cable, however. Test active.	• Faulty fiber optic connection from the KVM to the front end
		OFF	ON	Connection to the front end OK. Data packets lost, however. Test no longer active.	• Faulty fiber optic connection from the KVM to the front end
			OFF		• Faulty fiber optic connection • EMC problems
		ON	Blinking	Connection to the front end OK. Data packets lost on the receive cable, however. Test active.	• Faulty fiber optic connection from the front end to the KVM
			OFF	Connection to the front end OK. Data packets lost, however. Test no longer active.	• Faulty fiber optic connection
			ON	Connection to the front end OK. Data packets lost on the transmit and receive cables, however.	
	OFF	Blinking	Blinking	Connection to the front end temporarily interrupted. Test active.	• Reset tripped by the front end • Front end temporarily disconnected • Faulty fiber optic connection • EMC problems
			ON	Connection to the front end temporarily interrupted. Data packets also lost on the transmit cable. Test active.	
		OFF	ON	Connection to the front end temporarily interrupted. Data packets also lost. Test no longer active.	
			OFF		
		ON	?	Connection to the front end temporarily interrupted. Data packets also lost on the receive cable.	• Faulty fiber optic connection
OFF	Blinking	?	?	Connection to the front end currently interrupted.	• Front end disconnected • No fiber optic connection

18 Appendix

18.1 Errors and Failures iPC-EX4

18.2 Repair and send back form (in case of a repair)

18.3 EEx Certifications

Declaration of Conformity Pepperl+Fuchs

DMT 01 ATEX E 177 (6 pages English, 4 pages German)

IBExU01ATEX1099 (5 pages English, 5 pages German)

1. Ergänzung zu IBExU01ATEX1099 (2 pages German, 2 pages English)

2. Ergänzung zu IBExU01ATEX1099 (2 pages German, 2 pages English)

3. Ergänzung zu IBExU01ATEX1099 (2 pages German, 2 pages English)

18.4 Russian certificates

GOST-R certificate devices

GOST-R certificate

Permission Nadsor

18.5 TIIS certificates

TIIS certificates (EXTA-K4)

18.6 Declaration of Conformity, use in Zone 22

Please refer to the following pages.

Please complete this questionnaire if you wish to notify an error. If you prefer to report the error by calling us directly, please make sure you have all the relevant information handy.

Your contact address:

Company /Country:
Contact name:
Telephone number:
email:

End customer:

Company /Country:
Contact name:
Telephone number:
email:

System Information:

PC-Vendor:
Operating system/SP:
SK-KVM S/N:
Ex-Keyboard S/N:
Characteristics in the structure (ie. cascading):

Error description:

Faulty Device: ❑Display ❑Touch Screen
❑Mouse ❑Keyboard ❑Barcodereader

Since when does the error arise?
Is the error reproducible? ❑Yes ❑No
Supply Voltage EX-VID? _____ V (only DC)

How can the error be solved?

Repower SK-KVM? ❑Yes ❑No
Repower display EXVID? ❑Yes ❑No
Reconnect F.O connection? ❑Yes ❑No
Reboot the PC? ❑Yes ❑No
Other: _____

Which LEDs are on/blinking at the SK-KVM?

(X=on, o=blinking, –=off)

without operating the input devices				
S1	Rx	S	ML	KL
S2	Tx	T	M	K

when using the defective device				
S1	Rx	S	ML	KL
S2	Tx	T	M	K

Which result supplies the Loopback-Test?

(see technical manual; since SerNr. 27017)

results of the LWL-Loopbacktest				
S1	Rx	S	ML	KL
S2	Tx	T	M	K

Detailed description of the error:

_____
_____
_____
_____

	local mouse at KVM	local key-board at KVM	EXVID mouse	EXVID keyboard	Touch Screen	Barcode-reader
permanent error						
sporadic error						
jumping around / wrong characters						

How can the error be reproduced?

_____
_____

Rücksendung Reparatur / Repair send back form

Please make absolutely sure to include it with the shipping documents, or – even better –
attach it to the outside of the packaging

PEPPERL+FUCHS
CONNECTING YOUR PROCESS

Kunde / Customer	Firmenname / Company Name:	Abteilung / Department
Adresse / Address	**Ansprechpartner / Contact person**	**Telefon / Phone Number**
	Fax / E-Mail	**Ihre Auftragsnummer / Your Order No.**

Gerät / Device	Typ / Type	Seriennummer / serial number	
Fehlerbeschreibung / error description (compulsory):		**sporadisch/ sporadic**	**permanent/ constant**
Konfigurationsdetails / configure details (e.g. bar code scanner: baudrate, code family)			

Erklärung zur Kontamination und Reinigung
Declaration of Contamination and cleaning

Aufgrund der gesetzlichen Vorschriften und zum Schutz unserer Mitarbeiter und Betriebseinrichtungen, benötigen wir die unterschriebene "Erklärung zur Kontamination", bevor ihr Auftrag bearbeitet werden kann. Legen Sie diese unbedingt den Versandpapieren bei oder bringen Sie sie idealerweise außen an der Verpackung an.
Because of legal regulations and for the safety of our employees and operating equipment, we need the "declaration of contamination" with your signature, before your order can be handled. Please make absolutely sure to include it with the shipping documents, or – even better – attach it to the outside of the packaging.

Warnhinweise zum Medium
Medium and warnings

Medium/Konzentration Medium/concentration	identification CAS no.	entzündlich flammable	giftig toxic	ätzend corrosive	Gesundheits-Schädlich/ reizend harmful/irritant	sonstiges * other *	unbedenklich harmless
Medium im Prozess Process medium /							
Medium zur Prozessreinigung Medium for process cleaning /							
Medium zur Endreinigung Returned part cleaned with /							

Zutreffendes bitte ankreuzen; trifft einer der Warnhinweise zu, Sicherheitsdatenblatt und ggf. spezielle Handhabungsvorschriften beilegen.
Please tick should one of the above be applicable, include security sheet, if necessary, special handling instructions.

Hiermit bestätigen wir, dass die zurückgesandten Teile sorgfältig gereinigt wurden und nach unserem Wissen frei von Rückständen in gefahrbringender Menge sind.
We hereby certify that the returned parts have been carefully cleaned. To the best of our knowledge they are free from any residues in dangerous quantities.

_____
(Ort, Datum / Place, date)

_____
(Firmenstempel und rechtsverbindliche Unterschrift)
(Company stamp and legally binding signature)

Konformitätserklärung / Declaration of Conformity
nach EN 45014:1998 / in accordance with EN 45014:1998

Diese Konformitätserklärung gilt nur in Zusammenhang mit dem gültigen Pepperl+Fuchs Datenblatt und Betriebsanleitung für alle Pepperl+Fuchs Produkte, die unter die Richtlinie 73/23/EWG (Niederspannungsrichtlinie), 89/336/EWG (EMV) und 94/9/EG (ATEX) fallen.

This Declaration of Conformity is only valid in connection with the valid datasheet and instruction of Pepperl+Fuchs, for all Pepperl+Fuchs products that are relevant to the EC-directive 73/23/EWG (Low Voltage Directive), 89/336/EWG (EMV) and 94/9/EG (ATEX)

Die Pepperl+Fuchs GmbH in 68301 Mannheim erklärt hiermit in alleiniger Verantwortung, daß alle richtlinienrelevanten Produkte mit den angegebenen Normen oder normativen Dokumenten übereinstimmen und, wenn notwendig, von einer zuständigen Stelle freigegeben wurden.

We, Pepperl+Fuchs GmbH at 68301 Mannheim hereby declare under our sole responsibility that all directive relevant products are in accordance with the listed harmonized standards or normative documents and, where necessary, a competent body has been released.

Angewandte harmonisierte Normen :
Applied harmonized standards

> **Siehe gültiges Datenblatt und Betriebsanleitung**
> **See valid datasheet and instruction**

Benannte Stelle für QS-Überwachung :
Notified body for QA-Assessment

> **PTB Physikalisch-Technische Bundesanstalt Nr.: 0102**

DIN EN ISO 9001
Reg. Nr. 14 760-02

Hersteller Unterschrift :
Signature of manufacturer

Funktion des Unterzeichners :
Function of the signer

Datum / date : September 2003

Dr. Adolphs

Geschäftsführer
Managing Director

Dr. Kegel

Geschäftsführer
Managing Director

PEPPERL+FUCHS

EG-Baumusterprüfbescheinigung

(1)

(2) ## - Richtlinie 94/9/EG -
**Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung
in explosionsgefährdeten Bereichen**

(3) ## DMT 01 ATEX E 177

(4) **Gerät:** Tastatur Typ EXTA-K*-***-**-**

(5) **Hersteller:** EX TEC Oesterle GmbH

(6) **Anschrift:** D 73730 Esslingen

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Baumusterprüfbescheinigung festgelegt.

(8) Die Zertifizierungsstelle der Deutsche Montan Technologie GmbH, benannte Stelle Nr. 0158 gemäß Artikel 9 der Richtlinie 94/9/EG des Europäischen Parlaments und des Rates vom 23. März 1994, bescheinigt, dass das Gerät die grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie erfüllt.
Die Ergebnisse der Prüfung sind in dem Prüfprotokoll BVS PP 01.2125 EG niedergelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 50014:1997 + A1 – A2 Allgemeine Bestimmungen
EN 50020:1994   Eigensicherheit ´i´

(10) Falls das Zeichen „X" hinter der Bescheinigungsnummer steht, wird in der Anlage zu dieser Bescheinigung auf besondere Bedingungen für die sichere Anwendung des Gerätes hingewiesen.

(11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf die Konzeption und die Baumusterprüfung des beschriebenen Gerätes in Übereinstimmung mit der Richtlinie 94/9/EG.
Für Herstellung und Inverkehrbringen des Gerätes sind weitere Anforderungen der Richtlinie zu erfüllen, die nicht durch diese Bescheinigung abgedeckt sind.

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

⟨Ex⟩ II 2G EEx ib IIC T4

Deutsche Montan Technologie GmbH
Essen, den 27. Dezember 2001

_____   _____
DMT-Zertifizierungsstelle   Fachbereichsleiter

Seite 1 von 2 zu DMT 01 ATEX E 177
Dieses Zertifikat darf nur unverändert weiterverbreitet werden.
Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

(13)   Anlage zur

(14)   # EG-Baumusterprüfbescheinigung

DMT 01 ATEX E 177

(15)   15.1 Gegenstand und Typ

Tastatur Typ EXTA-K*-***-**-**

Anstelle der *** werden in der vollständigen Benennung Buchstaben und Ziffern eingefügt, die unterschiedliche Ausführungen kennzeichnen:

Typ EXTA-K*-***-**-**

— Versionsnummer

Gehäuseausführung
AB = Aufbaugehäuse
FP = Frontplatteneinbau

Schnittstelle

Ziffer für Ausführung
1 = Tastatur
3 = Tastatur mit Rollkugelmaus
4 = Tastatur mit Mauspad
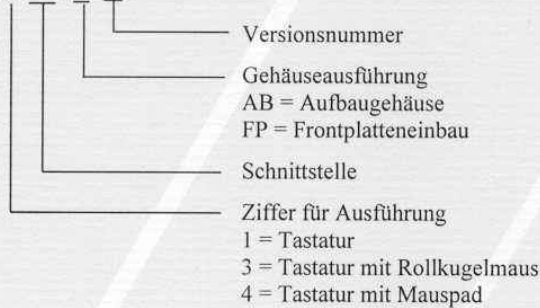
15.2 Beschreibung
Die Tastatur dient in Verbindung mit einer Verarbeitunseinheit zur Eingabe von Daten und zur Steuerung von Abläufen.

Die Tastatur Typ EXTA-K*-***-FP-** ist zum Einbau in Gehäuse (Z. B. Pulte, Schalttafeln) vorgesehen.

15.3 Kenngrößen

Spannung	U_i	DC	6	V
Stromstärke	I_i		350	mA
Leistung	P_i			
für -20 °C ≤ T_a ≤ +40 °C			1,3	W
für -20 °C ≤ T_a ≤ +60 °C			1,2	W
für -20 °C ≤ T_a ≤ +70 °C			1,1	W
wirksame innere Induktivität	L_i	vernachlässigbar		
wirksame innere Kapazität	C_i			
bei Typ EXTA-K1-***-**-**			14	µF
bei Typ EXTA-K3-***-**-**			32	µF
bei Typ EXTA-K4-***-**-**			38	µF

Umgebungstemperaturbereich T_a
in Abhängigkeit des Speisegerätes entsprechend folgender Tabelle

Leistung des Speisegerätes	Umgebungstemperaturbereich
1,1 W	-20 °C bis +70 °C
1,2 W	-20 °C bis +60 °C
1,3 W	-20 °C bis +40 °C

(16)   Prüfprotokoll
BVS PP 01.2125 EG, Stand 27.12.2001

(17)   Besondere Bedingungen für die sichere Anwendung
Entfällt

Seite 2 von 2 zu DMT 01 ATEX E 177
Dieses Zertifikat darf nur unverändert weiterverbreitet werden.
Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

1. Nachtrag

(Ergänzung gemäß Richtlinie 94/9/EG Anhang III Ziffer 6)

zur EG-Baumusterprüfbescheinigung
DMT 01 ATEX E 177

Gerät:	Tastatur Typ EXTA-K*-***-**-**
Hersteller:	Pepperl+Fuchs - EXTEC GmbH
Anschrift:	73730 Esslingen

Beschreibung

Die Tastatur kann auch nach den im zugehörigen Prüfprotokoll aufgeführten Prüfungsunterlagen gefertigt werden. Grund des Nachtrages ist Änderung des Firmennamens auf Pepperl+Fuchs – EXTEC GmbH

Die grundlegenden Sicherheits- und Gesundheitsanforderungen der geänderten Ausführung werden erfüllt durch Übereinstimmung mit

EN 50014:1997 + A1 – A2   Allgemeine Bestimmungen
EN 50020:1994   Eigensicherheit 'i'

Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

⟨Ex⟩ II 2G EEx ib IIC T4

Besondere Bedingungen für die sichere Anwendung bzw. Verwendungshinweise
Entfällt
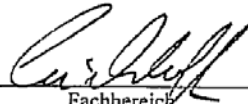
Prüfprotokoll
BVS PP 01.2125 EG, Stand 19.07.2005

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, den 19. Juli 2005

_____
Zertifizierungsstelle

_____
Fachbereich

Seite 1 von 1 zu DMT 01 ATEX E 177 / N1
Dieses Zertifikat darf nur unverändert weiterverbreitet werden.
Dinnendahlstraße 9   44809 Bochum   Telefon 0234/3696-105   Telefax 0234/3696-110
(bis 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen)

2. Nachtrag

(Ergänzung gemäß Richtlinie 94/9/EG Anhang III Ziffer 6)

zur EG-Baumusterprüfbescheinigung
DMT 01 ATEX E 177

Gerät:	Tastatur Typ EXTA-K*-***-**-**
Hersteller:	Pepperl+Fuchs - EXTEC GmbH
Anschrift:	73730 Esslingen

<u>Beschreibung</u>

Die Tastatur kann auch nach den im zugehörigen Prüfprotokoll aufgeführten Prüfungsunterlagen gefertigt werden. Für die Schnittstelle gibt es auch die Variante USB und die Schaltung der Tastatur Typ EXTA-K4-***-**-** kann geändert werden.

Die grundlegenden Sicherheits- und Gesundheitsanforderungen der geänderten Ausführung werden erfüllt durch Übereinstimmung mit
EN 50014:1997 + A1 – A2 Allgemeine Bestimmungen
EN 50020:1994   Eigensicherheit 'i'

Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

⟨Ex⟩ II 2G EEx ib IIC T4

<u>Besondere Bedingungen für die sichere Anwendung bzw. Verwendungshinweise</u>
Entfällt
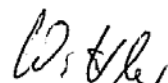
<u>Prüfprotokoll</u>
BVS PP 01.2125 EG, Stand 28.11.2006

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, den 28. November 2006

_____   _____
Zertifizierungsstelle   Fachbereich

Seite 1 von 1 zu DMT 01 ATEX E 177 / N2
Dieses Zertifikat darf nur vollständig und unverändert weiterverbreitet werden.
Dinnendahlstraße 9   44809 Bochum   Telefon 0234/3696-105   Telefax 0234/3696-110   E-mail ZS@bg-exam.de
(bis 31.05.2003: Deutsche Montan Technologie GmbH   Am Technologiepark I 45307 Essen)

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

[1] **EG-BAUMUSTERPRÜFBESCHEINIGUNG**

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

[3] EG-Baumusterprüfbescheinigungsnummer: **IBExU01ATEX1099**

[4] Gerät oder Schutzsystem: Ex-q LCD-Display Typ EXVID-15X, EXVID-18SX

[5] Hersteller: EXTEC Oesterle GmbH

[6] Anschrift: Schorndorfer Str. 55
D-73730 Esslingen

[7] Die Bauart dieses Gerätes oder Schutzsystems 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 oder Schutzsystem die in Anhang II der Richtlinie festgelegten grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau des Gerätes oder des Schutzsystems zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen erfüllt.
Die Prüfergebnisse sind in dem vertraulichen Prüfbericht IB-01-466 vom 24.01.02 festgehalten.

[9] Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit EN 50014:1997, EN 50017:1998, EN 50019:2000 und EN 50020:1994.

[10] Falls das Zeichen „X" hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes oder Schutzsystems 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 oder Schutzsystems. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes oder Schutzsystems.

[12] Die Kennzeichnung des Gerätes oder Schutzsystems muß die folgenden Angaben enthalten:

⟨Ex⟩ II 2G EEx qe [ib] IIC T4
$-20\ °C \leq T_a \leq +50\ °C$

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

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Lösch

(Dr. Lösch)

- Siegel -
(Kenn-Nr. 0637)

Freiberg, 25.01.2002

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

Anlage

[13]   **Anlage**

[14]   **zur EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099**

[15]   **Beschreibung des Gerätes oder Schutzsystems**

Das LCD-Display dient zum visuellen Darstellen und Bearbeiten von Prozessdaten. Es befindet sich in einem sandgefülltem Metallgehäuse und wird über einen e-Anschlußraum gespeist. Das Gerät enthält Baugruppen mit getrennten eigensicheren Ausgängen zum Anschluß von Peripheriegeräten (Touchscreen, Tastatur, Maus, Scanner, OSD-Keyboard). Die Videosignale werden über LWL-Anschlüsse angekoppelt.

Technische Daten

Typbezeichnung:	EXVID-15X
	EXVID-18SX

Umgebungstemperaturen	-20 °C bis +50 °C
Schutzart des Gehäuses:	IP 54

Nennspannung 230 V Version:	230 V ±20% AC
24 V Version:	18 - 32 VDC

Sicherheitstechn. Maximalwert:	U_m = 276 VAC

Eigensichere Ausgänge in Zündschutzart EEx ib IIC

Ausgang **+US1**

U_O	6,0 V
I_O	205 mA
P_O	0,6 W
C_O	39,5 µF
L_O	0,2 mH

Ausgang **+US2**

U_O	9,0 V
I_O	133 mA
P_O	1,2 W
C_O	4,7 µF
L_O	0,2 mH

Ausgang **OSD**

U_O	13,0 V
I_O	90 mA
P_O	0,6 W
C_O	1 µF
L_O	0,2 mH

Eigensichere Stromkreise und Gehäuse sind nicht galvanisch getrennt (Gnd = PA). Beim Anschluß von eigensicheren Betriebsmitteln an die Ausgangsklemmen +US1, +US2 sowie OSD ist ein durchgehender Potentialausgleich sicherzustellen.

[16]   **Prüfbericht**

Die Prüfergebnisse sind in dem vertraulichen Prüfbericht IB-01-466 vom 24.01.02 festgehalten.

Zusammenfassung der Prüfergebnisse:

Das LCD-Display erfüllt die Anforderungen des Explosionsschutzes für die Gerätegruppe II und Kategorie 2G, Temperaturklasse T4 der Zündschutzart Sandkapselung. Es stellt 3 externe eigensichere Stromkreise der Kategorie ‚ib' für Explosionsgruppe IIC zur Verfügung.

Prüfunterlagen

Die Prüfunterlagen sind im Anhang zu dieser Bescheinigung aufgeführt.

[17] **Besondere Bedingungen für die sichere Verwendung**
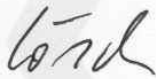
Keine

[18] **Grundlegende Sicherheits- und Gesundheitsanforderungen**

Erfüllt durch Einhaltung von Normen (siehe [9]).

Im Auftrag

Freiberg, 25.01.2002

(Dr. Lösch)

Anhang

Anhang

zur EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099

Prüfunterlagen

(1) Einreichung zu EXVID-15X /-18SX (47 Blatt) vom 23.01.2002

(2) EPBP5 (Backplane):	unterschrieben am 23.01.02
EPBP5 Schaltplan (6 Blätter)	(Zeichn.-Nr. 8140 00000707)
EPBP5 Layout Bestückungsseite (L1)	(Zeichn.-Nr. 8140 00000710)
EPBP5 Layout Lötseite (L2)	(Zeichn.-Nr. 8140 00000711)
EPBP5 Bestückungsplan Bestückungsseite	(Zeichn.-Nr. 8140 00000708)
EPBP5 Stückliste	(Zeichn.-Nr. 8140 00000709)
(3) EPDCDC1-10 (24V-Modul):	unterschrieben am 23.01.02
EPDCDC1-10 Schaltplan	(Zeichn.-Nr. 8140 00000776)
EPDCDC1-10 Layout BS (L1)	(Zeichn.-Nr. 8140 00000779)
EPDCDC1-10 Layout LS (L2)	(Zeichn.-Nr. 8140 00000780)
EPDCDC1-10 Bestückungsplan	(Zeichn.-Nr. 8140 00000777)
EPDCDC1-10 Stückliste	(Zeichn.-Nr. 8140 00000778)
(4) EPLWL3 (LWL/LCD-Ansteuerung):	unterschrieben am 23.01.02
EPLWL3 Schaltplan	(Zeichn.-Nr. 8140 00000712)
EPLWL3 Layout BS (L1)	(Zeichn.-Nr. 8140 00000715)
EPLWL3 Layout 1. Zwischenlage (L2)	(Zeichn.-Nr. 8140 00000716)
EPLWL3 Layout 2. Zwischenlage (L3)	(Zeichn.-Nr. 8140 00000717)
EPLWL3 Layout LS (L4)	(Zeichn.-Nr. 8140 00000718)
EPLWL3 Bestückungsplan	(Zeichn.-Nr. 8140 00000713)
EPLWL3 Stückliste	(Zeichn.-Nr. 8140 00000714)
(5) EXTA-OSD-... (OSD-Tastatur):	unterschrieben am 23.01.02
EXTA-OSD Schaltplan	(Zeichn.-Nr. 8140 00000798)
EXTA-OSD Layout BS (L1)	(Zeichn.-Nr. 8140 00000799)
EXTA-OSD Layout LS (L2)	(Zeichn.-Nr. 8140 00000810)
EXTA-OSD Bestückungplan	(Zeichn.-Nr. 8140 00000802)
EXTA-OSD Stückliste	(Zeichn.-Nr. 8140 00000801)
(6) EPTS1 (Versorgungsplatine für Touchscreen):	unterschrieben am 23.01.02
EPTS1 Schaltplan	(Zeichn.-Nr. 8140 00000805)
EPTS1 Layout BS (L1)	(Zeichn.-Nr. 8140 00000808)
EPTS1 Layout LS (L2)	(Zeichn.-Nr. 8140 00000809)
EPTS1 Stückliste	(Zeichn.-Nr. 8140 00000807)
EPTS1 Bestückungplan	(Zeichn.-Nr. 8140 00000806)
(7) EPEXI3 (Platine im Exi - Raum):	unterschrieben am 23.01.02
EPEXI3 Schaltplan	(Zeichn.-Nr. 8140 00000720)
EPEXI3 Layout BS (L1)	(Zeichn.-Nr. 8140 00000723)
EPEXI3 Layout LS (L2)	(Zeichn.-Nr. 8140 00000725)
EPEXI3 Stückliste	(Zeichn.-Nr. 8140 00000722)
EPEXI3 Bestückungplan	(Zeichn.-Nr. 8140 00000721)

(8) Mechanische Zeichnungen - Gesamtgerät - 18":   unterschrieben am 23.01.02

EXVID-18SX Zusammenbau	(Zeichn.-Nr. 7140 00001071)
EXVID-18SX Rückteil Schweissnähte	(Zeichn.-Nr. 7140 00001115)
EXVID-18SX Schnitte Gehäuse	(Zeichn.-Nr. 7140 00001120)
EXVID-18SX Gehäuse - Rückteil	(Zeichn.-Nr. 7140 00001070)
EXVID-18SX Winkel für Display	(Zeichn.-Nr. 7140 00001101)
EXVID-18SX Display	(Zeichn.-Nr. 7140 00001077)
EXVID-18SX Zwischenplatte	(Zeichn.-Nr. 7140 00001068)
EXVID-18SX Dichtung für Gehäuse	(Zeichn.-Nr. 7140 00001123)
EXVID-18SX Grundwanne	(Zeichn.-Nr. 7140 00001069)
EXVID-18SX Dichtung für Glasscheibe	(Zeichn.-Nr. 7140 00001065)
EXVID-18SX Frontplatte	(Zeichn.-Nr. 7140 00001062)
EXVID-18SX Dichtung für Frontplatte	(Zeichn.-Nr. 7140 00001066)
EXVID-18SX Frontglasscheibe	(Zeichn.-Nr. 7140 00001064)
EXVID-18SX Kabelführung	(Zeichn.-Nr. 7140 00001132)
EXVID-18SX Frontplatte mit Touch	(Zeichn.-Nr. 7140 00001136)
EXVID-18SX Stückliste	(Zeichn.-Nr. 6440 00001677)

(9) Mechanische Zeichnungen - Gesamtgerät - 15":   unterschrieben am 23.01.02

EXVID-15X Zusammenbau	(Zeichn.-Nr. 7140 00001112)
EXVID-15X Rückteil Schweissnähte	(Zeichn.-Nr. 7140 00001125)
EXVID-15X Schnitte Gehäuse	(Zeichn.-Nr. 7140 00001121)
EXVID-15X Gehäuse - Rückteil	(Zeichn.-Nr. 7140 00001106)
EXVID-15X Winkel für Display	(Zeichn.-Nr. 7140 00001107)
EXVID-15X Display	(Zeichn.-Nr. 7140 00001084)
EXVID-15X Zwischenplatte	(Zeichn.-Nr. 7140 00001113)
EXVID-15X Dichtung für Gehäuse	(Zeichn.-Nr. 7140 00001124)
EXVID-15X Grundwanne	(Zeichn.-Nr. 7140 00001105)
EXVID-15X Dichtung für Glasscheibe	(Zeichn.-Nr. 7140 00001111)
EXVID-15X Frontplatte 15"	(Zeichn.-Nr. 7140 00001108)
EXVID-15X Dichtung für Frontplatte 15"	(Zeichn.-Nr. 7140 00001110)
EXVID-15X Frontglasscheibe	(Zeichn.-Nr. 7140 00001109)
EXVID-15X Kabelführung	(Zeichn.-Nr. 7140 00001133)
EXVID-15X Frontplatte mit Touch	(Zeichn.-Nr. 7140 00001137)
EXVID-15X Stückliste	(Zeichn.-Nr. 6440 00001698)

(10) Mechanische Zeichnungen - Gesamtgerät: unterschrieben am 23.01.02

EXVID-* Kühlkörper für Netzteil	(Zeichn.-Nr. 7140 00001122)
EXVID-* Dichtung für Ex-e / Ex-i - Box	(Zeichn.-Nr. 7140 00001100)
EXVID-* Bestückung Ex-e - Box	(Zeichn.-Nr. 7140 00001126)
EXVID-* Winkel-1	(Zeichn.-Nr. 7140 00001139)
EXVID-*Detail Kabeleinführung Touch	(Zeichn.-Nr. 7140 00001141)
EXVID-*Bestückung Ex-I-Box	(Zeichn.-Nr. 7140 00001142)

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

[1]   **1. Ergänzung zur**

EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099

[2]   Gerät oder Schutzsystem: Ex-q LCD-Display Typ EXVID-15X, EXVID-18SX

[3]   Hersteller: EXTEC Oesterle GmbH

[4]   Anschrift: Schorndorfer Str. 35
                     D-73730 Esslingen

[5]   **Ergänzung/Änderung**

Zusätzlicher Typ EXVID-21UX.

Die äußeren Abmessungen sind gegenüber den Abmessungen der unter [2] genannten Typen geändert worden.

[6]   **Prüfunterlagen**

siehe Anhang

[7]   **Prüfergebnis**

Die bescheinigten elektrischen Werte bleiben unverändert. Der Nachweis des Explosionsschutzes des LCD-Displays ist im vertraulichen Prüfbericht IB-02-3-422 vom 30.07.2002 dokumentiert.

Alle weiteren Angaben der EG-Baumusterprüfbescheinigung gelten unverändert für diese Ergänzung.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7   D-09599 Freiberg
Tel.: 03731 3805.0   Fax: 03731 23650

Zertifizierungsstelle
-Explosionsschutz-

Freiberg, 30.07.2002

Im Auftrag

Lösch

(Dr. Lösch)

- Siegel -
(Kenn-Nr. 0637)

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

Anhang

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

Anhang

zur 1. Ergänzung EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099

Prüfunterlagen

<u>Zeichnungen zu zusätzlichen oder geänderten el. Baugruppen</u>	unterschrieben am 10.06.02
Schaltplan CFLEN1	(Zeichn.-Nr. 8140 00000833)
Layout CFLEN1	(Zeichn.-Nr. 8140 00000834)
Stückliste CFLEN1	(Zeichn.-Nr. 8140 00000835)
Bestückungsplan CFLEN1	(Zeichn.-Nr. 8140 00000836)

<u>Mechanische Zeichnungen - Gesamtgerät - 21":</u>	unterschrieben am 10.06.02
EXVID-21UX Zusammenbau	(Zeichn.-Nr. 7140 00001181)
EXVID-21UX Frontplatte 21"	(Zeichn.-Nr. 7140 00001190)
EXVID-21UX Frontplatte 21" Touch	(Zeichn.-Nr. 7140 00001191)
EXVID-21UX Dichtung für Frontplatte 21"	(Zeichn.-Nr. 7140 00001192)
EXVID-21UX Frontglasscheibe	(Zeichn.-Nr. 7140 00001193)
EXVID-21UX Dichtung Glasscheibe / Display	(Zeichn.-Nr. 7140 00001194)
EXVID-21UX Dichtung Glasscheibe / Gehäuse	(Zeichn.-Nr. 7140 00001195)
EXVID-21UX Grundwanne	(Zeichn.-Nr. 7140 00001196)
EXVID-21UX Gehäuse – Rückteil (2 Blatt)	(Zeichn.-Nr. 7140 00001197)
EXVID-21UX Winkel für Display 21"	(Zeichn.-Nr. 7140 00001198)
EXVID-21UX Dichtung für Gehäuse	(Zeichn.-Nr. 7140 00001199)
EXVID-21UX Zwischenplatte	(Zeichn.-Nr. 7140 00001200)
EXVID-21UX Display LTM21	(Zeichn.-Nr. 7140 00001201)
EXVID-21UX Rückteil Schweissnähte	(Zeichn.-Nr. 7140 00001189)
EXVID-21UX Kabelführung	(Zeichn.-Nr. 7140 00001202)
EXVID-21UX Schnittzeichnung Gehäuse	(Zeichn.-Nr. 7140 00001182)
EXVID-21UX Stückliste	(Zeichn.-Nr. 6440 00001846)

<u>Mechanische Zeichnungen - Gesamtgerät - 21":</u>	unterschrieben am 10.06.02
EXVID-21UX Detail Displaybefestigung	(Zeichn.-Nr. 7140 00001183)
EXVID-21UX Detail Kühlkörper / Netzteil	(Zeichn.-Nr. 7140 00001184)
EXVID 21UX Detail CFL-Displaybeleuchtung	(Zeichn.-Nr. 7140 00001185)
EXVID-21UX Bestückung Ex-e - Box	(Zeichn.-Nr. 7140 00001186)
EXVID-21UX Detail Kabeldurchführung Netzteil	(Zeichn.-Nr. 7140 00001187)
EXVID-21UX Detail LWL-Kabelführung	(Zeichn.-Nr. 7140 00001188)

IBExU Institut für Sicherheitstechnik GmbH

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[1] **2. Ergänzung zur**
EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099
gemäß Richtlinie 94/9/EG, Anhang III

[2] Gerät: Ex-q LCD-Display Typ EXVID-15X / -18SX / -21UX

[3] Hersteller: EXTEC Oesterle GmbH

[4] Anschrift: Schorndorfer Str. 55
D-73730 Esslingen

[5] **Ergänzung/Änderung**

Für den eigensicheren Ausgang +US2 (Scanner/Decoder) werden zusätzliche elektrische Ausgangs-werte festgelegt.

[6] **Prüfunterlagen**

Ergänzung zu EXVID-15 /-18SX/-21UX (Ident-Nr. 6140 00002546) 4 Blatt

[7] **Prüfergebnis**

Die bescheinigten elektrischen Werte sind im Anhang aufgelistet. Der Nachweis des Explosions-schutzes des LCD-Displays ist im Prüfbericht IB-04-3-243/D vom 05.07.2004 dokumentiert.

Alle weiteren Angaben der EG-Baumusterprüfbescheinigung gelten unverändert für diese Ergänzung.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7   D-09599 Freiberg
Tel.: 03731 3805.0   Fax: 03731 23650

Zertifizierungsstelle Explosionsschutz
Im Auftrag

(signature)

(Dr. Lösch)

- Siegel -
(Kenn-Nr. 0637)

Freiberg, 05.07.2004

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

Anhang

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

Anhang

zur 2. Ergänzung EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099

eigensichere Stromkreise in Zündschutzart EEx ib IIC
Ausgang +US2

U_O [V]	I_O [mA] bei $P_O = 1,1$ W	I_O [mA] bei $P_O = 1,2$ W	I_O [mA] bei $P_O = 1,3$ W	I_O [mA] bei $P_O = 1,4$ W	C_O [µF]	L_O [mH]
5,2	211	230	250	269	77	0,2
5,3	208	226	245	264	8,2	0,2
5,4	204	222	241	259	8,2	0,2
5,5	200	218	236	255	8,2	0,2
5,6	196	214	232	250	8,2	0,2
5,7	193	211	228	246	8,2	0,2
5,8	190	207	224	241	8,2	0,2
5,9	186	203	220	237	8,2	0,2
6	183	200	217	233	8,2	0,2
6,1	180	197	213	230	8,2	0,2
6,2	177	194	210	226	8,2	0,2
6,3	175	190	206	222	8,2	0,2
6,4	172	188	203	219	8,2	0,2
6,5	169	185	200	215	8,2	0,2
6,6	167	182	197	212	8,2	0,2
6,7	164	179	194	209	8,2	0,2
6,8	162	176	191	206	8,2	0,2
6,9	159	174	188	203	8,2	0,2
7	157	171	186	200	8,2	0,2
7,1	155	169	183	197	8,2	0,2
7,2	153	167	181	194	8,2	0,2
7,3	151	164	178	192	8,2	0,2
7,4	149	162	176	189	8,2	0,2
7,5	147	160	173	187	8,2	0,2
7,6	145	158	171	184	8,2	0,2
7,7	143	156	169	182	8,2	0,2
7,8	141	154	167	179	8,2	0,2
7,9	139	152	165	177	8,2	0,2
8	137	150	162	175	8,2	0,2
8,1	136	148	160	173	4,7	0,2
8,2	134	146	159	171	4,7	0,2
8,3	133	145	157	169	4,7	0,2
8,4	131	143	155	167	4,7	0,2
8,5	129	141	153	165	4,7	0,2
8,6	128	140	151	163	4,7	0,2
8,7	126	138	149	161	4,7	0,2
8,8	125	136	148	159	4,7	0,2
8,9	124	135	146	157	4,7	0,2
9	122	133	144	155	4,7	0,2

IBExU Institut für Sicherheitstechnik GmbH

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[1] **3. Ergänzung zur**
EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099
gemäß Richtlinie 94/9/EG, Anhang III

⟨Ex⟩

[2] Gerät: Ex-q LCD-Display Typ EXVID-15X / -18SX

[3] Hersteller: EXTEC Oesterle GmbH

[4] Anschrift: Schorndorfer Str. 55
D-73730 Esslingen

[5] **Ergänzung/Änderung**

Das unter [2] genannte Gerät kann auch nach den geänderten Unterlagen, die im Detail im Prüfbericht IB-04-3-336 und hier im Anhang aufgeführt sind, gefertigt werden.

[6] **Prüfergebnis**

Der Gewährleistung des Explosionsschutzes der LCD-Displays ist im Prüfbericht IB-04-3-336 vom 10.11.2004 dokumentiert.

Alle weiteren Angaben der EG-Baumusterprüfbescheinigung IBExU01ATEX1099 vom 25.01.2002 gelten unverändert für diese Ergänzung.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7   D-09599 Freiberg
Tel.: 03731 3805.0   Fax: 03731 23650

Zertifizierungsstelle Explosionsschutz
Im Auftrag

Freiberg, 10.11.2004

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

(Dr. Lösch)

- Siegel -
(Kenn-Nr. 0637)

Anhang

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

Anhang

zur 3. Ergänzung EG-BAUMUSTERPRÜFBESCHEINIGUNG IBExU01ATEX1099

Prüfunterlagen

EPLWL3 (LWL/LCD-Ansteuerung):   unterschrieben am 20.10.04
EPLWL3 Schaltplan   (Zeichn.-Nr. 8140 00001141)
EPLWL3 Layout BS (L1)   (Zeichn.-Nr. 8140 00001142)
EPLWL3 Layout 1. Zwischenlage (L2)   (Zeichn.-Nr. 8140 00001143)
EPLWL3 Layout 2. Zwischenlage (L3)   (Zeichn.-Nr. 8140 00001144)
EPLWL3 Layout LS (L4)   (Zeichn.-Nr. 8140 00001145)
EPLWL3 Bestückungsplan   (Zeichn.-Nr. 8140 00001146)
EPLWL3 Stückliste   (Zeichn.-Nr. 8140 00001147)

EPEXI4 (Platine im Exi - Raum):   unterschrieben am 20.10.04
EPEXI4 Schaltplan   (Zeichn.-Nr. 8140 00001148)
EPEXI4 Layout BS (L1)   (Zeichn.-Nr. 8140 00001149)
EPEXI4 Layout LS (L2)   (Zeichn.-Nr. 8140 00001150)
EPEXI4 Stückliste   (Zeichn.-Nr. 8140 00001151)
EPEXI4 Bestückungplan   (Zeichn.-Nr. 8140 00001152)

Mechanische Zeichnungen - Gesamtgerät - 18":   unterschrieben am 20.10.04
EXVID-30-...18,1 Rückteil zu Gehäuse   (Zeichn.-Nr. 7140 00001489)
EXVID-30-...18,1 Gehäuse EX-VID-30   (Zeichn.-Nr. 7140 00001495)

Mechanische Zeichnungen - Gesamtgerät - 15":   unterschrieben am 20.10.04
EXVID-30-...-15,0 Rückteil zu Gehäuse   (Zeichn.-Nr. 7140 00001488)
EXVID-30-...-15,0 Display   (Zeichn.-Nr. 7140 00001565)

Mechanische Zeichnungen – Gesamtgerät - 15" und 18":   unterschrieben am 20.10.04
EXVID-30-... Gehäuse für Netzteil   (Zeichn.-Nr. 7140 00001490)
Kühlplatte für Netzteil EX-VID-30...   (Zeichn.-Nr. 7140 00001491)
EXVID-30-... Kühlkörper für Netzteil   (Zeichn.-Nr. 7140 00001492)
EXVID-30-... Gehäuse Ex-e – Box   (Zeichn.-Nr. 7140 00001493)
EXVID-30-... Gehäuse Ex-i – Box   (Zeichn.-Nr. 7140 00001494)
EXVID-30-... LWL-Dfurchführung   (Zeichn.-Nr. 7140 00001495)
EXVID-30-... Dichtung für LWL-Durchführung   (Zeichn.-Nr. 7140 00001496)

Ex   **DMT**

(1)   **EC Prototype Test Certificate**

(2)   **- Directive 94/9/EC -**
                    Equipment and protective systems for usage to the intended purpose
                                in potentially explosive atmospheres

(3)   **DMT 01 ATEX E 177**

(4)   **Equipment:**   Keyboard Type EXTA-K*-***-**-**

(5)   **Manufacturer:**   EXTEC Oesterle GmbH

(6)   **Address:**   D 73730 Esslingen

(7)   The design of this equipment and the various permissible variants are specified in the Appendix to this Prototype Test Certificate.

(8)   The certification body of Deutsche Montan Technologie GmbH, accredited as body no. 0158 in accordance with Article 9 of Directive 94/9/EC of the European Parliament and the Council dated March 23rd 1994, hereby certifies that the equipment conforms with the basic safety and health requirements relating to the design and construction of equipment and protective systems for usage to the intended purpose in potentially explosive atmospheres in accordance with Appendix II of the same Directive.
        The results of the test are recorded in test certificate no. BVS PP 01.2125 EG.

(9)   The basic safety and health requirements are satisfied through conformance with:

        EN 50014:1997 + A1 - A2   General requirements
        EN 50020:1994   Intrinsic safety 'i'

(10)   If the mark "X" appears after the certificate number, it means that this equipment is subject to the special conditions for safe usage specified in the Appendix to this certificate.

(11)   This EC Prototype Test Certificate only refers to the design of, and the prototype test for, the equipment described here in conformance with Directive 94/9/EC.
        The manufacture and introduction into circulation of the equipment are subject to other Directive requirements, which are not covered by this certificate.

(12)   The mark on the equipment must include the following information:
        Ex II 2G EEx ib IIC T4
                              Deutsche Montan Technologie GmbH
                                   Essen, December 27th 2001

(Signature illegible)   (Signature illegible)
DMT certification body   Department head
                           Page 1 of 2 of DMT 01 ATEX E 177
              This certificate is only allowed to be passed on to others in unmodified form.
         Am Technologiepark 1, D-45307 Essen, Phone +49 (0)201/172-1416, Fax +49 (0)201/172-1716

---

(13)   **Appendix to**
(14)   **EC Prototype Test Certificate**
                DMT 01 ATEX E 177

(15)   <u>15.1 Object and type</u>
        Keyboard Type EXTA-K*-***-**-**
        In the full designation the ** are replaced by letters and numbers which identify the different variants
        and have the following meanings:
        Type EXTA-K*-***-**-**

                                          Version number
                                          Type of casing
                                          AB = Casing for surface-mounting
                                          FP = Front-panel mounting
                                          Interface
                                          Digit to indicate type
                                          1 = Keyboard
                                          3 = Keyboard with trackball
                                          4 = Keyboard with mouse pad

        <u>15.2 Description</u>
        The keyboard is used in combination with a processing unit to enter data and to control sequences of
        operations.
        The type EXTA-K*-***-FP-** keyboard is intended for installation in a casing (e.g. a desk or a panel).
        <u>15.3 Characteristics</u>

Voltage	U_i	DC	6	V
Current	I_i		350	mA
Power	P_i			
for -20 °C ≤ Ta ≤ +40 °C			1.3	W
for -20 °C ≤ Ta ≤ +60 °C			1.2	W
for -20 °C ≤ Ta ≤ +70 °C			1.1	W
Effective internal inductance	L_i		negligible	
Effective internal capacitance	C_i			
for type EXTA-K1-***-**-**			14	µF
for type EXTA-K3-***-**-**			32	µF
for type EXTA-K4-***-**-**			38	µF
Ambient temperature range	T_a			

        dependent on the supply unit in accordance with the following table

Output power of supply unit	Ambient temperature range
1.1 W	-20 °C to +70 °C
1.2 W	-20 °C to +60 °C
1.3 W	-20 °C to +40 °C

(16)   <u>Test report</u>
        BVS PP 01.2125 EC, dated 27.12.2001

(17)   <u>Special conditions for safe usage</u>
        Not applicable

Page 2 of 2 of DMT 01 ATEX E 177
This certificate is only allowed to be passed on to others in unmodified form.
Am Technologiepark 1, D-45307 Essen, Phone +49 (0)201/172-1416, Fax +49 (0)201/172-1716

EXAM
BBG Prüf- und Zertifizier GmbH

Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 01 ATEX E 177

Equipment:	Keyboard type EXTA-K*-***-**-**
Manufacturer:	Pepperl+Fuchs - EXTEC GmbH
Address:	73730 Esslingen

Description

The keyboard can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.

Reason for the supplement is the change of the company name into Pepperl+Fuchs – EXTEC GmbH

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 50014:1997+A1-A2   General requirements
EN 50020:2002   Intrinsic safety 'i'

The marking of the equipment shall include the following:

⟨Ex⟩ II 2G EEx ib IIC T4

Special conditions for safe use
None

Test and assessment report
BVS PP 01.2125 EG as of 19.07.2005

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 19. July 2005

Signed: Dr. Jockers

_____
Certification body

Signed: Dr. Eickhoff

_____
Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 18.07.2005
BVS-Schu/Mi   A 20050399

EXAM BBG Prüf- und Zertifizier GmbH

_____   _____
Certification body   Special services unit

Page 2 of 2 to DMT 01 ATEX E 177 / N1
This certificate may only be reproduced in its entirety and without change.
Dinnendahlstrasse 9   44809 Bochum   Germany   Phone +49 234/3696-105   Fax +49 234/3696-110
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1   45307 Essen Germany)

EXAM
BBG Prüf- und Zertifizier GmbH

Translation

2nd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 01 ATEX E 177

Equipment:	**Keyboard type EXTA-K*-***-**-****
Manufacturer:	**Pepperl+Fuchs - EXTEC GmbH**
Address:	**73730 Esslingen, Germany**

Description
The keyboard can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report. For the interface the variation USB is available and the circuitry of the keyboard type EXTA-K4-***-**-** can be modified.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:
EN 50014:1997+A1-A2   General requirements
EN 50020:2002   Intrinsic safety 'i'

The marking of the equipment shall include the following:

⟨Ex⟩ II 2G EEx ib IIC T4

Special conditions for safe use
None

Test and assessment report
BVS PP 01.2125 EG as of 28.11.2006

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 28. November 2006

Signed: Dr. Eickhoff

Certification body

Signed: Dr. Wittler

Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 28. November 2006
BVS-Schu/Kw   A 20060779

EXAM BBG Prüf- und Zertifizier GmbH

_____   _____
Certification body   Special services unit

Page 2 of 2 to DMT 01 ATEX E 177 / N2
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(until 31.05.2003: Deutsche Montan Technologie GmbH   Am Technologiepark 1   45307 Essen   Germany)

IBExU Institut für Sicherheitstechnik GmbH
Accredited Institute of TU Mining Academy Freiberg

Ex

(1) **EC PROTOTYPE TEST CERTIFICATE**

(2) Equipment and protective systems for usage to the intended purpose in potentially explosive atmospheres, **Directive 94/9/EC**

(3) EC Prototype Test Certificate no.: **IBExU01ATEX1099**

(4) Equipment or protective system   Ex-q LC Display Type EXVID-15X, EXVID-18SX

(5) Manufacturer: EXTEC Oesterle GmbH
(6) Address: Schorndorfer Str. 55
                               D 73730 Esslingen

(7) The design of this equipment or protective system and the various permissible variants are specified in the Appendix to this EC Prototype Test Certificate.

(8) IBExU Institut für Sicherheitstechnik GmbH, ACCREDITED AS BODY No. 0637 in accordance with Article 9 of Directive 94/9/EC of the European Parliament and the Council dated March 23rd 1994, hereby certifies that this equipment or protective system conforms with the basic safety and health requirements relating to the design and construction of equipment and protective systems for usage to the intended purpose in potentially explosive atmospheres in accordance with Appendix II of the same Directive.
The results of the test are recorded in the confidential test report no. IB-01-466 dated 24.01.02.

(9) The basic safety and health requirements are satisfied through conformance with EN 50014:1997 EN 50017:1998, EN 50019:2000 and EN 50020:1994.

(10) If the mark "X" appears after the certificate number, it means that this equipment or protective system is subject to the special conditions for safe usage specified under [17] in the Appendix to this EC Prototype Test Certificate.

(11) This EC Prototype Test Certificate only refers to the design and construction of the specified equipment or protective system. The manufacture and introduction into circulation of this equipment or protective system are subject to other Directive requirements.

(12) The mark on the equipment or protective system must include the following information:
Ex II 2G EEx qe [ib] IIC T4
-20 °C ≤ Ta ≤ 50 °C

IBExU Institut für Sicherheitstechnik GmbH
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Explosion Protection Certification Body
By order   Freiberg, 25.01.2002
(Signature illegible)
(Dr. Lösch)   (Seal)   Certificates without a signature or
             Explosion Protection Certification Body   without a seal are not valid.
             Identification no. 0637   Certificates are only allowed to be
Appendix   IBExU Institut für Sicherheitstechnik GmbH   passed on to others in unmodified
                                              form.

CERTIFIED TRANSLATION

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(13) **Appendix**

(14) **to EC PROTOTYPE TEST CERTIFICATE IBExU01ATEX1099**

Description of the equipment or protective system

The LC display is used to visualize and edit process data. It is installed in a powder-filled metal casing and supplied via an electrical terminal compartment. The equipment contains assemblies with isolated, intrinsically safe outputs for connecting peripheral devices (touchscreen, keyboard, mouse, scanner, OSD keyboard). The video signals are connected by means of optical fiber terminals.

Technical data

Type designation:	EXVID-15X
	EXVID-18SX
Ambient temperatures:	-20 °C to +50 °C
Degree of protection of casing:	IP 54
Rated voltage of 230 V version:	230 V ±20% AC
24 V version:	18 - 32 V DC
Safe maximum value:	$U_m = 276$ V AC

Intrinsically safe outputs have EEx ib IIC type of protection

+US1 output

U_o	6.0 V
I_o	205 mA
P_o	0.6 W
C_o	39.5 μF
L_o	0.2 mH

+US2 output

U_o	9.0 V
I_o	133 mA
P_o	1.2 W
C_o	4.7 μF
L_o	0.2 mH

OSD output

U_o	13.0 V
I_o	90 mA
P_o	0.6 W
C_o	1 μF
L_o	0.2 mH

The intrinsically safe circuits and the casing are not electrically isolated (Gnd = equipotential bonding). If intrinsically safe equipment is connected to the output terminals +US1, +US2 or OSD, continuous equipotential bonding must be provided.

Test report

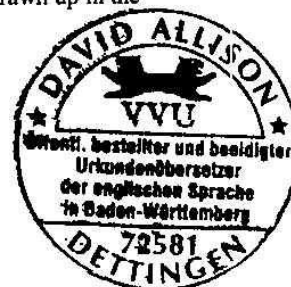The results of the test are recorded in the confidential test report no. IB-01-466 dated 24.01.02.

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Summary of test results:

The LC display fulfils the explosion protection requirements for equipment group II and category 2G, temperature class T4, type of protection "powder filling". It makes three external, intrinsically safe circuits (category 'ib') available for explosion group IIC.

Test documentation

The test documents are listed in the Addendum to this certificate.

Special conditions for safe usage

None

Basic safety and health requirements

Fulfilled through conformance with standards [see (9)].

By order   Freiberg, 25.01.2002

(Signature illegible)

(Dr. Lösch)

Addendum

CERTIFIED TRANSLATION

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Addendum
to EC PROTOTYPE TEST CERTIFICATE IBExU01ATEX1099

Test documentation

(1) Submission for EXVID-15X/-18SX (47 sheets) dated 23.01.2002

(2) EPBP5 (backplane):	Date of signature: 23.01.02
EPBP5 Circuit diagram (6 sheets)	(Drawing No. 8140 00000707)
EPBP5 Layout of component side (L1)	(Drawing No. 8140 00000710)
EPBP5 Layout of solder side (L2)	(Drawing No. 8140 00000711)
EPBP5 Component mounting diagram of component side	(Drawing No. 8140 00000708)
EPBP5 List of components	(Drawing No. 8140 00000709)
(3) EPDCDC1-10 (24 V module):	Date of signature: 23.01.02
EPDCDC1-10 Circuit diagram	(Drawing No. 8140 00000776)
EPDCDC1-10 Layout of component side (L1)	(Drawing No. 8140 00000779)
EPDCDC1-10 Layout of solder side (L2)	(Drawing No. 8140 00000780)
EPDCDC1-10 Component mounting diagram	(Drawing No. 8140 00000777)
EPDCDC1-10 List of components	(Drawing No. 8140 00000778)
(4) EPLWL3 (optical fiber/LCD control):	Date of signature: 23.01.02
EPLWL3 Circuit diagram	(Drawing No. 8140 00000712)
EPLWL3 Layout of component side (L1)	(Drawing No. 8140 00000715)
EPLWL3 Layout of 1st intermediate layer (L2)	(Drawing No. 8140 00000716)
EPLWL3 Layout of 2nd intermediate layer (L3)	(Drawing No. 8140 00000717)
EPLWL3 Layout of solder side (L4)	(Drawing No. 8140 00000718)
EPLWL3 Component mounting diagram	(Drawing No. 8140 00000713)
EPLWL3 List of components	(Drawing No. 8140 00000714)
(5) EXTA-OSD-... (OSD keyboard):	Date of signature: 23.01.02
EXTA-OSD Circuit diagram	(Drawing No. 8140 00000798)
EXTA-OSD Layout of component side (L1)	(Drawing No. 8140 00000799)
EXTA-OSD Layout of solder side (L2)	(Drawing No. 8140 00000810)
EXTA-OSD Component mounting diagram	(Drawing No. 8140 00000802)
EXTA-OSD List of components	(Drawing No. 8140 00000801)
(6) EPTS1 (supply pc board for touchscreen):	Date of signature: 23.01.02
EPTS1 Circuit diagram	(Drawing No. 8140 00000805)
EPTS1 Layout of component side (L1)	(Drawing No. 8140 00000808)
EPTS1 Layout of solder side (L2)	(Drawing No. 8140 00000809)
EPTS1 Component mounting diagram	(Drawing No. 8140 00000807)
EPTS1 List of components	(Drawing No. 8140 00000806)
(7) EPEXI3 (pc board in Exi compartment):	Date of signature: 23.01.02
EPEXI3 Circuit diagram	(Drawing No. 8140 00000720)
EPEXI3 Layout of component side (L1)	(Drawing No. 8140 00000723)
EPEXI3 Layout of solder side (L2)	(Drawing No. 8140 00000725)
EPEXI3 Component mounting diagram	(Drawing No. 8140 00000722)
EPEXI3 List of components	(Drawing No. 8140 00000721)

LEGAL CERTIFICATION

I hereby certify that this is a complete and correct translation of the original document drawn up in the German language
Date: February 27. 2002

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the English language at the Regional Court of Stuttgart
in Baden-Württemberg. Federal Republic of Germany.

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(8) Mechanical drawings - complete instrument 18":
EXVID-18SX Assembly
EXVID-18SX Back panel, welds
EXVID-18SX Sections, casing
EXVID-18SX Casing, back panel
EXVID-18SX Bracket for display
EXVID-18SX Display
EXVID-18SX Barrier
EXVID-18SX Seal for casing
EXVID-18SX Trough
EXVID-18SX Seal for glass faceplate
EXVID-18SX Front plate
EXVID-18SX Seal for front plate
EXVID-18SX Glass faceplate
EXVID-18SX Cable routing
EXVID-18SX Front plate with touchscreen
EXVID-18SX List of components

Date of signature: 23.01.02
(Drawing No. 7140 00001071)
(Drawing No. 7140 00001115)
(Drawing No. 7140 00001120)
(Drawing No. 7140 00001070)
(Drawing No. 7140 00001101)
(Drawing No. 7140 00001077)
(Drawing No. 7140 00001068)
(Drawing No. 7140 00001123)
(Drawing No. 7140 00001069)
(Drawing No. 7140 00001065)
(Drawing No. 7140 00001062)
(Drawing No. 7140 00001066)
(Drawing No. 7140 00001064)
(Drawing No. 7140 00001132)
(Drawing No. 7140 00001136)
(Drawing No. 6440 00001677)

(9) Mechanical drawings - complete instrument 15":
EXVID-15X Assembly
EXVID-15X Back panel, welds
EXVID-15X Sections, casing
EXVID-15X Casing, back panel
EXVID-15X Bracket for display
EXVID-15X Display
EXVID-15X Barrier
EXVID-15X Seal for casing
EXVID-15X Trough
EXVID-15X Seal for glass faceplate
EXVID-15X Front plate 15"
EXVID-15X Seal for front plate 15"
EXVID-15X Glass faceplate
EXVID-15X Cable routing
EXVID-15X Front plate with touchscreen
EXVID-15X List of components

Date of signature: 23.01.02
(Drawing No. 7140 00001112)
(Drawing No. 7140 00001125)
(Drawing No. 7140 00001121)
(Drawing No. 7140 00001106)
(Drawing No. 7140 00001107)
(Drawing No. 7140 00001084)
(Drawing No. 7140 00001113)
(Drawing No. 7140 00001124)
(Drawing No. 7140 00001105)
(Drawing No. 7140 00001111)
(Drawing No. 7140 00001108)
(Drawing No. 7140 00001110)
(Drawing No. 7140 00001109)
(Drawing No. 7140 00001133)
(Drawing No. 7140 00001137)
(Drawing No. 6440 00001698)

(10) Mechanical drawings - complete instrument:
EXVID-* Heat sink for power supply unit
EXVID-* Seal for Ex-e / Ex-i box
EXVID-* Components of Ex-e box
EXVID-* Bracket-1
EXVID-* Details of cable entry for touchscreen
EXVID-* Components of Ex-i box

Date of signature: 23.01.02
(Drawing No. 7140 00001122)
(Drawing No. 7140 00001100)
(Drawing No. 7140 00001126)
(Drawing No. 7140 00001139)
(Drawing No. 7140 00001141)
(Drawing No. 7140 00001142)

CERTIFIED TRANSLATION

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[1]   **1st Amendment to**

EC TYPE EXAMINATION CERTIFICATE IBExU01ATEX1099   **Ex**

[2]   Equipment or protective system: Ex-q LC Display Type EXVID-15X, EXVID-18SX

[3]   Manufacturer: EXTEC Oesterle GmbH

[4]   Address: Schorndorfer Str. 35
                                           D - 73730 Esslingen

[5]   **Amendment/modification**

        Additional type EXVID-21UX.

        The outside dimensions of the types specified in [2] have been modified.

[6]   **Test documentation**

        Refer to Appendix

[7]   **Test results**

        The certified electrical values have not been modified. The verified explosion protection of the LC display is
        documented in confidential Test Report IB-02-3-422 dated July 30, 2002.

        All other information contained in the EC Type Examination Certificate is also valid for this amendment.

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- Explosion Protection -
Certification Body

pp.   Freiberg, July 30, 2002
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Appendix
to 1st Amendment to EC PROTOTYPE TEST CERTIFICATE IBExU01ATEX1099

Test documentation

Drawings of additional or modified electrical assemblies	Date of signature: 10.06.02
CFLEN1 Circuit diagram	(Drawing No. 8140 00000833)
CFLEN1 Layout	(Drawing No. 8140 00000834)
CFLEN1 List of components	(Drawing No. 8140 00000835)
CFLEN1 Component mounting diagram	(Drawing No. 8140 00000836)

Mechanical drawings - complete instrument 21":	Date of signature: 10.06.02
EXVID-21UX Assembly	(Drawing No. 7140 00001181)
EXVID-21UX Front plate 21"	(Drawing No. 7140 00001190)
EXVID-21UX Front plate 21", touch screen	(Drawing No. 7140 00001191)
EXVID-21UX Seal for front plate 21"	(Drawing No. 7140 00001192)
EXVID-21UX Glass faceplate	(Drawing No. 7140 00001193)
EXVID-21UX Seal for glass faceplate / display	(Drawing No. 7140 00001194)
EXVID-21UX Seal for glass faceplate / case	(Drawing No. 7140 00001195)
EXVID-21UX Trough	(Drawing No. 7140 00001196)
EXVID-21UX Case, back panel (2 sheets)	(Drawing No. 7140 00001197)
EXVID-21UX Bracket for display 21"	(Drawing No. 7140 00001198)
EXVID-21UX Seal for case	(Drawing No. 7140 00001199)
EXVID-21UX Barrier	(Drawing No. 7140 00001200)
EXVID-21UX LTM21 display	(Drawing No. 7140 00001201)
EXVID-21UX Back panel, welds	(Drawing No. 7140 00001189)
EXVID-21UX Cable routing	(Drawing No. 7140 00001202)
EXVID-21UX Section, case	(Drawing No. 7140 00001182)
EXVID-21UX List of components	(Drawing No. 6440 00001846)

Mechanical drawings - complete instrument 21":	Date of signature: 10.06.02
EXVID-21UX Details of display mounting	(Drawing No. 7140 00001183)
EXVID-21UX Details of heat sink / power supply unit	(Drawing No. 7140 00001184)
EXVID-21UX Details of CFL display lighting	(Drawing No. 7140 00001185)
EXVID-21UX Components of Ex-e box	(Drawing No. 7140 00001186)
EXVID-21UX Details of cable entry for power supply unit	(Drawing No. 7140 00001187)
EXVID-21UX Details of fiber optic cable routing	(Drawing No. 7140 00001188)

LEGAL CERTIFICATION

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Date: March 29, 2005

David Allison
Officially appointed and sworn document translator for the English language at the Regional Court of Stuttgart in Baden-Württemberg, Federal Republic of Germany.

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[1]   **2nd Amendment to**

EC TYPE EXAMINATION CERTIFICATE IBExU01ATEX1099
In accordance with Directive 94/9/EC, Annex III

Ex

[2]   Equipment: Ex-q LC Display Type EXVID-15X / -18SX / -21UX

[3]   Manufacturer: EXTEC Oesterle GmbH

[4]   Address: Schorndorfer Str. 35
                         D - 73730 Esslingen

[5]   **Amendment/modification**

Additional electrical output values are specified for the +US2 intrinsically safe output (scanner/decoder).

[6]   **Test documentation**

Amendment to EXVID-15 / -18SX / -21UX   (ID No. 6140 00002546) 4 sheets

[7]   **Test results**

The certified electrical values are listed in the Appendix. The verified explosion protection of the LC display is documented in Test Report IB-04-3-243/D dated July 5, 2004.

All other information contained in the EC Type Examination Certificate is also valid for this amendment.

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Appendix
to 2nd Amendment to EC PROTOTYPE TEST CERTIFICATE IBExU01ATEX1099

Intrinsically safe circuits with the EEx ib IIC type of protection
+US2 output

U_0 [V]	I_0 [mA] for $P_o = 1.1$ W	I_0 [mA] for $P_o = 1.2$ W	I_0 [mA] for $P_o = 1.3$ W	I_0 [mA] for $P_o = 1.4$ W	C_o [µF]	L_o [mH]
5.2	211	230	250	269	77	0.2
5.3	208	226	245	264	8.2	0.2
5.4	204	222	241	259	8.2	0.2
5.5	200	218	236	255	8.2	0.2
5.6	196	214	232	250	8.2	0.2
5.7	193	211	228	246	8.2	0.2
5.8	190	207	224	241	8.2	0.2
5.9	186	203	220	237	8.2	0.2
6	183	200	217	233	8.2	0.2
6.1	180	197	213	230	8.2	0.2
6.2	177	194	210	226	8.2	0.2
6.3	175	190	206	222	8.2	0.2
6.4	172	188	203	219	8.2	0.2
6.5	169	185	200	215	8.2	0.2
6.6	167	182	197	212	8.2	0.2
6.7	164	179	194	209	8.2	0.2
6.8	162	176	191	206	8.2	0.2
6.9	159	174	188	203	8.2	0.2
7	157	171	186	200	8.2	0.2
7.1	155	169	183	197	8.2	0.2
7.2	153	167	181	194	8.2	0.2
7.3	151	164	178	192	8.2	0.2
7.4	149	162	176	189	8.2	0.2
7.5	147	160	173	187	8.2	0.2
7.6	145	158	171	184	8.2	0.2
7.7	143	156	169	182	8.2	0.2
7.8	141	154	167	179	8.2	0.2
7.9	139	152	165	177	8.2	0.2
8	137	150	162	175	8.2	0.2
8.1	136	148	160	173	4.7	0.2
8.2	134	146	159	171	4.7	0.2
8.3	133	145	157	169	4.7	0.2
8.4	131	143	155	167	4.7	0.2
8.5	129	141	153	165	4.7	0.2
8.6	128	140	151	163	4.7	0.2
8.7	126	138	149	161	4.7	0.2
8.8	125	136	148	159	4.7	0.2
8.9	124	135	146	157	4.7	0.2
9	122	133	144	155	4.7	0.2

_____

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Regional Court of Stuttgart in Baden-Württemberg, Federal Republic of Germany.

Öffentl. bestellter und beeidigter
Urkundenübersetzer
der englischen Sprache
in Baden-Württemberg
72581
DETTINGEN

IBExU Institut für Sicherheitstechnik GmbH

Accredited Institute of TU Mining Academy Freiberg

[1] **3rd Amendment to**

EC TYPE EXAMINATION CERTIFICATE IBExU01ATEX1099

Ex

In accordance with Directive 94/9/EC, Annex III

[2] Equipment: Ex-q LC Display Type EXVID-15X / -18SX

[3] Manufacturer: EXTEC Oesterle GmbH

[4] Address: Schorndorfer Str. 35
D - 73730 Esslingen

[5] **Amendment/modification**

The device mentioned in [2] can also be manufactured in accordance with the modified documentation specified in detail in Test Report IB-04-3-336 as well as in the Appendix to this Amendment.

[6] **Test results**

The warranted explosion protection of the LC display is documented in Test Report IB-04-3-336 dated November 10, 2004.

All other information contained in EC Type Examination Certificate IBExU01ATEX1099 dated January 25, 2002 is also valid for this amendment.

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Explosion Protection Certification Body

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(Dr. Lösch)   (Seal)
Explosion Protection Certification Body
Identification No. 0637
Appendix   IBExU Institut für Sicherheitstechnik GmbH

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Freiberg, November 10, 2004

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Appendix
to 3rd Amendment to EC PROTOTYPE TEST CERTIFICATE IBExU01ATEX1099

Test documentation

EPLWL3 (optical fiber/LCD control):
EPLWL3 Circuit diagram
EPLWL3 Layout of component side (L1)
EPLWL3 Layout of 1st intermediate layer (L2)
EPLWL3 Layout of 2nd intermediate layer (L3)
EPLWL3 Layout of solder side (L4)
EPLWL3 Component mounting diagram
EPLWL3 List of components

Date of signature: 20.10.04
(Drawing No. 8140 00001141)
(Drawing No. 8140 00001142)
(Drawing No. 8140 00001143)
(Drawing No. 8140 00001144)
(Drawing No. 8140 00001145)
(Drawing No. 8140 00001146)
(Drawing No. 8140 00001147)

EPEXI4 (PC Board in Exi compartment):
EPEXI4_Circuit diagram
EPEXI4_Layout of component side (L1)
EPEXI4_Layout of solder side (L2)
EPEXI4_List of components
EPEXI4_Component mounting diagram

Date of signature: 20.10.04
(Drawing No. 8140 00001148)
(Drawing No. 8140 00001149)
(Drawing No. 8140 00001150)
(Drawing No. 8140 00001151)
(Drawing No. 8140 00001152)

Mechanical drawings - complete instrument 18":
EXVID-30-...18,1 Back panel for case
EXVID-30-...18,1 EXVID-30 case

Date of signature: 20.10.04
(Drawing No. 7140 00001489)
(Drawing No. 7140 00001495)

Mechanical drawings - complete instrument 15":
EXVID-30-...15,0 Back panel for case
EXVID-30-...15,0 Display

Date of signature: 20.10.04
(Drawing No. 7140 00001488)
(Drawing No. 7140 00001565)

Mechanical drawings - complete instrument 15" and 18":
EXVID-30-... Case for power supply unit
EXVID-30-... Cooling plate for power supply unit
EXVID-30-... Heat sink for power supply unit
EXVID-30-... Case for Ex-e box
EXVID-30-... Case for Ex-i box
EXVID-30-... Fiber optic cable entry
EXVID-30-... Seal for fiber optic cable entry

Date of signature: 20.10.04
(Drawing No. 7140 00001490)
(Drawing No. 7140 00001491)
(Drawing No. 7140 00001492)
(Drawing No. 7140 00001493)
(Drawing No. 7140 00001494)
(Drawing No. 7140 00001495)
(Drawing No. 7140 00001496)

СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ГОССТАНДАРТ РОССИИ

№ 0687623 ✳

ПРИЛОЖЕНИЕ 1

К сертификату соответствия № _____ РОСС DE.ME92.В00457

Перечень конкретной продукции, на которую распространяется
действие сертификата соответствия

код ОК 005 (ОКП) код ТН ВЭД СНГ	Наименование и обозначение продукции, ее изготовитель	Обозначение документации, по которой выпускается продукция
40 3300 8471 60 900 0	Взрывозащищенный терминал оператора серии iPC-Ex в составе:	EN 50014, EN50017, EN 50019, EN50020

Дисплей EXVID типов:
- EXVID-15X   15.0'' XGA
- EXVID- 18SX   18.1'' SXGA
- EXVID-21UX   21.3''UXGA

Клавиатура/мышь EXTA типов:
- EXTA-K1 – клавиатура без мыши
- EXTA-K3 – клавиатура с шаровой мышью
- EXTA-K4 – клавиатура с сенсорной мышью
- ABG-EXTA-K – настольное исполнение для клавиатур EXTA-K1, EXTA-K3, EXTA-K4

Линейный формирователь SK-KVM

Кабель передачи данных DATL-LWL

Монтаж терминала оператора iPC-Ex:
- REX – терминал на панели, встраивается в любой тип кожуха;
- LETO – терминал в компактном кожухе из нержавеющей стали;
- FERA – терминал в компактном кожухе из нержавеющей стали (для EXVID-15X и EXVID-18SX);
- AXENA – терминал в кожухе из нержавеющей стали на шарнире;
- ORTRA- управляющая станция из нержавеющей стали (для EXVID-15X и EXVID- 18SX)

Руководитель органа _____ А.Н. Шатило_____
                          подпись   инициалы, фамилия

Эксперт _____ В.Н. Воеводин
                     подпись   инициалы, фамилия

М.П.

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СИСТЕМА СЕРТИФИКАЦИИ ГОСТ Р
ГОССТАНДАРТ РОССИИ

СЕРТИФИКАТ СООТВЕТСТВИЯ

№   РОСС DE.ME92.B00457

Срок действия с 29.09.2004   **по** 28.09.2007

6467057

ОРГАН ПО СЕРТИФИКАЦИИ   РОСС RU.0001.11ME92
НЕГОСУДАРСТВЕННЫЙ ФОНД "МЕЖОТРАСЛЕВОЙ ОРГАН СЕРТИФИКАЦИИ "СЕРТИУМ"
Юридический адрес: Россия, 117910, г. Москва, Ленинский проспект, 29.
Адрес ОС: 140004, г. Люберцы ул. Электрификации, 26; телефон/факс 554 44 88, 554 44 03.

ПРОДУКЦИЯ   Взрывозащищенный терминал оператора
серии iPC-Ex в составе согласно Приложению 1
EN 50014, EN50017, EN 50019, EN50020,
Серийный выпуск

код ОК 005 (ОКП):
40 3300

СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ НОРМАТИВНЫХ ДОКУМЕНТОВ
ГОСТ Р51330.0-99; ГОСТ Р 51330.6-99; ГОСТ Р 51330.8-99;
ГОСТ Р 51330.10-99; Правил устройства электроустановок (гл.7.3)

код ТН ВЭД России:

8471 60 900 0

ИЗГОТОВИТЕЛЬ   Фирма "EXTEC Oesterle GmbH"
Schorndorfer Straße 55 D-73730 Esslingen, Германия

СЕРТИФИКАТ ВЫДАН   Фирме "EXTEC Oesterle GmbH"
Schorndorfer Straße 55 D-73730 Esslingen, Германия

НА ОСНОВАНИИ
Протокола №106-2004 от 28.09.2004 г.экспертизы технической документации, проверок
конструкции и сертификационных испытаний (НФ "МОС "Сертиум", ИЛ взрывозащищенного и
рудничного электрооборудования, аттестат аккредитации №РОСС RU.0001.21ГБ05 от 03.02.04 г.);
Акта обследования производства (НФ "МОС "Сертиум", ОС взрывозащищенного и рудничного
электрооборудования)

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ   Схема сертификации - 1а
Знак соответствия проставляется в документации и наносится на каждое изделие
по ГОСТ Р 50460-92. Сертификат действителен с Приложениями 1 и 2.

Руководитель органа _____ — А.Н.Шатило
подпись   инициалы, фамилии

Эксперт _____ В.Н.Воеводин
подпись   инициалы, фамилия

М.П.

Сертификат имеет юридическую силу на всей территории Российской Федерации

Федеральная служба по технологическому надзору

РАЗРЕШЕНИЕ

№ РРС 00-14378

На применение

Оборудование (техническое устройство, материал):
Взрывозащищенный терминал оператора серии iPC-Ex.

Код ОКП (ТН ВЭД): 40 3300 (8471 60 900 0)

Изготовитель (поставщик): Фирма "EXTEC Oesterle GmbH" (Германия).

Основание выдачи разрешения: Сертификат соответствия МОС "Сертиум" № РОСС DE.ME92.В00457 от 29.09.2004 г.

Условия применения:
1. Применять на поднадзорных производствах и объектах в соответствии с Руководством по эксплуатации, а также требованиями главы 7.3 ПУЭ.
2. Внесение изменений в техническую документацию и конструкцию технических устройств возможно только по согласованию с аккредитованной испытательной организацией и Федеральной службой по экологическому, технологическому и атомному надзору.

Срок действия разрешения   до 11.11.2007

ВРИО Руководителя
А.Б. Малышев

Дата выдачи   11.11.2004

004544

防爆構造電気機械器具型式検定合格証

申　請　者	Schorndorfer Str.55 73730 Esslingen, Germany Pepperl+Fuchs-EXTEC GmbH
製　造　者	Schorndorfer Str.55 73730 Esslingen, Germany Pepperl+Fuchs-EXTEC GmbH
品　　　名	ＰＣ用キーボード
型　式　の　名　称	ＥＸＴＡ－Ｋ４－ＰＳ２－ＦＰ－１０－ＵＳ （同一型式は別表のとおり）
防　爆　構　造　の　種　類	本質安全防爆構造（ｉｂ）
対象ガス又は蒸気の 爆発等級及び発火度	ⅡＣＴ４
定　　　　　格	本安回路許容電圧　　６Ｖ 本安回路許容電流　　３５０ｍＡ 本安回路許容電力　　１．３Ｗ 内部インダクタンス　　無視できる値 内部キャパシタンス　　３８μＦ
使　用　条　件	
型式検定合格番号	第　ＴＣ１７６５３　号
有　効　期　間	平成１８年　　６月２２日　から　平成２１年　　６月２１日まで
	平成　　年　　月　　日　から　平成　　年　　月　　日まで
	平成　　年　　月　　日　から　平成　　年　　月　　日まで
	平成　　年　　月　　日　から　平成　　年　　月　　日まで

機械等検定規則による型式検定に合格したことを証明する。

平成１８年　　６月２２日

型式検定実施者　　社団法人　産業安全技術協会長

型式の名称	定	格	備 考
EXTA-K4-PS2-FP-10-US	本安回路許容電圧 6V 本安回路許容電流 350mA 本安回路許容電力 1.3W 内部インダクタンス 無視できる値 内部キャパシタンス 38μF		英語配列
EXTA-K4-PS2-FP-10-GER			ドイツ語配列
EXTA-K4-PS2-FP-10-SW			スェーデン語配列
EXTA-K4-PS2-FP-10-FR			フランス語配列
EXTA-K4-PS2-FP-10-DK			デンマーク語配列
EXTA-K4-PS2-FP-10-KOR			韓国語配列
EXTA-K4-PS2-FP-10-JP			日本語配列

備考；表中の ☐ は、検定機器品名を示す。

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