EXTA4-* Keyboard

(2024 Generation)

Manual



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1 History of the Manual

The following editions of the manual have been released:

Version	Comments
09/2024	First edition
05/2025	Addition of UL certification

2 Introduction

2.1 Content of this Document

This document contains information that you need in order to use your product throughout the applicable stages of the product life cycle. These can include the following:

- Product identification
- Delivery, transport, and storage
- Mounting and installation
- Commissioning and operation
- Maintenance and repair
- Troubleshooting
- Dismounting
- Disposal

Note

This document does not substitute the instruction manual.

Note

For full information on the product, refer to the instruction manual and further documentation on the Internet at www.pepperl-fuchs.com.

Note

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com.

The documentation consists of the following parts:

- Present document
- Instruction manual
- Datasheet

Additionally, the following parts may belong to the documentation, if applicable:

- EU-type examination certificate
- EU declaration of conformity
- Attestation of conformity
- Certificates
- Control drawings
- Functional safety manual
- Additional documents

2.2 Manufacturer

Pepperl+Fuchs Group Lilienthalstraße 200, 68307 Mannheim, Germany
Internet: www.pepperl-fuchs.com

2.3 Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

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Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the product. The personnel must have read and understood the instruction manual and the further documentation.

Prior to using the product make yourself familiar with it. Read the document carefully.

2.4 Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

Depending on the risk level, the warning messages are displayed in descending order as follows:



Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.



Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.



Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Informative Symbols



Note

This symbol brings important information to your attention.



Action

1. This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

2.5 Tolerances for Linear Dimensions

For all dimension drawings (e.g. dimension drawings, etc.) the European dimension standards are valid.

All dimensions are in mm.

Unless otherwise specified, the following general tolerances are valid.

Nominal dimension ranges

Nominal dimension range	General tolerance according to DIN ISO 2768 medium
up to 6 mm	± 0.1 mm
over 6 mm to 30 mm	± 0.2 mm
over 30 mm to 120 mm	± 0.3 mm
over 120 mm to 400 mm	± 0.5 mm
over 400 mm to 1000 mm	± 0.8 mm

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3 Product Description

3.1 Overview

EXTA4-* is a PC keyboard with an optional control element for mouse functions (touchpad, optical trackball, joystick). The keyboard is a USB device for intended use in Zone 1/21 and Zone 2/22 hazardous areas according to ATEX Directive 2014/34/EU and IECEx. Other certifications include UL HazLoc, CCC, JPNEx, UK Ex, KOSHA and INMETRO (partly still in preparation, please refer to the Pepperl+Fuchs website for further details).

The USB interfaces of the keyboard and the control element for mouse functions are included in one intrinsically safe curcuit. The intrinsically safe circuit leds out in one connection cable. The cable has to be secured and effectively protected from damage. The EXTA4-* keyboard cannot be installed in locations where corrosive media may be used.

To avoid discharge processes, the keyboard may only be installed in areas where high electrostatic buildup due to dust is unlikely. To avoid electrostatic charging, the keyboard cannot be covered or glued with foils.

The keyboard cannot be exposed to direct sunlight, unless it is equipped with the UV-resistant foil option.

If circuits with type of protection Ex i are operated with non-intrinsically safe circuits, they must no longer be used as circuits with type of protection Ex i.

EXTA4-* as VisuNet System Accessory

VisuNet GXP 21.5"



Housing option: **F1-** Standard Housing with Mounting Options

- Recommended cable length: **U10** (1 m cable length)
- Connector: **C1-** Cable ends with crimped ferrules
- Mounting Option: **G1-** GXP-One-Arm installation to AG-XXX00
- Backwards compatible to former, EXTA4-* (2020 Generation) and EXTA2-* keyboard

VisuNet GXP 19"



Housing option: **F1-** Standard Housing with Mounting Options

- Recommended cable length: **U20** (2-m cable length)
- Connector: **C1-** Cable ends with crimped ferrules
- Mounting Option: **G2-** GXP-Double-Arm installation to AG1
- Backwards compatible to former, EXTA4-* (2020 Generation) and EXTA2-* keyboard

VisuNet FLX System



Housing options: **F1-** Standard Housing with Mounting Options or F2- Pharma Housing with Mounting Options

- Recommended cable length: **U10** (1 m cable length)
- Connector: **U1-** USB Type A male connector
- Mounting Option 1: **H1-** Hinged Version for VisuNet FLX Systems
- Mounting Option 2: **F1-** One-Arm installation (stainless steel) for VisuNet FLX Systems for F2- Housing

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EXTA4-* as Stand-alone components

Note

Refer to chapter Housing Design Keyboard for detailed information as dimensions.

EXTA4-* Panel Mount



Housing option: **NN-** no housing, panel mounting

- Recommended cable length: **U10** (1 m cable length) or **U50** (5-m cable length)
- Mounting Option: **NP**- Panel Mounting
- Backwards compatible to former, EXTA4-* (2020 Generation) and EXTA2-* keyboard (Mounting pattern unchanged)

EXTA4-* Flush Mount



Housing option: **NF-** no housing, flush mounting

- Recommended cable length: 1m USB Cable is only available with Hinge (**H1** option); 2m USB; or **C1** 5m USB
- Mounting Option: **NF-** Flush Mounting
- Backwards compatible to former EXTA3-* keyboard (Mounting pattern unchanged)

EXTA4-* Desktop Mount



Housing option: **T1-** Desktop housing

- Recommended cable length: **U50** (5-m cable length)
- Mounting Option: **T1-** no mounting option - Desktop housing
- Backwards compatible to former, EXTA4-* (2020 Generation) and EXTA2-* keyboard

EXTA4-* Wall-Mount



Housing option: **F1-** Standard Housing with Mounting Options

- Recommended cable length: **U10** (1 m cable length)
- Mounting Option: **C1-** Cabinet/ horizontal installation
- Backwards compatible to former, EXTA4-* (2020 Generation) and EXTA2-* keyboard

EXTA4-* Mouse Variants	
	**K4 - (Capacitive) Touchpad** • Optimized for pharma gloves • Very good cleanability and chemical resistance
	**K6 - Joystick** • Typically used in heavy (leather) glove operation
	**K8 - (Optical) Trackball** • Fully glove-friendly • Good cleanability

3.2 Reference Documents

Important Instructions and Manuals for Operating the Device

	Documentation	Contents
	You are here: **EXTA4-* manual** (2024 Generation)	• Different keyboard layouts • Technical Data • Available mounting options
	VisuNet FLX System manual	• System installation (mechanical, electrical) • Power connection (DC and AC) • Installing peripherals • Maintenance • Chemical Resistance
	VisuNet GXP 21,5" System manual	• System installation (mechanical, electrical) • Power connection (DC and AC) • Installing peripherals (EXTA4-*) • Maintenance

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	Documentation	Contents
	VisuNet GXP 19" System manual	• System installation (mechanical, electrical) • Power connection (DC and AC) • Installing peripherals (EXTA4-*) • Maintenance
	TCU/PCU Manual	• Cable gland connection • Terminal Compartment
	SK-PC-D2-UU1-10-HS (2024 Generation)	• General Installation Requirements • Intrinsically Safe Wiring and Cable Parameters • Wiring and Grounding the Barrier with EXTA and Host
	SK-PC-Z1D1-UU1-10-HS	• General Installation Requirements • Requirements for Installation in Zone 2 (Gas) • Requirements for Installation in Safe Area Intrinsically Safe Wiring and Cable Parameters

Note

For more information and all manuals, visit the Pepperl+Fuchs website at https://www.pepperl-fuchs.com.

3.3 Function

The EXTA4-* is a keyboard/mouse combination with a USB interface, available in different versions. The intrinsically safe keyboards integrate different mouse systems. The outside dimensions besides individual mounting adapters are the same for all versions. The keyboards are designed for panel mounting or for installation in a housing. The EXTA4-* comes with a 4-pin connection cable or one USB connection cable.

3.4 Technical Data

EXTA4-*-K4*, EXTA4-*-K6*, EXTA4-*-K8*

Supply	
Rated voltage	Ex i, via data line

Indicators/operating means	
Keyboard	105 short stroke keys Keyboard layout: US international, German, French
Trackball	
Diameter	50 mm
Material	Phenolic resin (black)

Interface	
Interface type	USB

Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2021 (Ind loc) EN 61000-6-4:2007+A1:2011 EN 55011:2016+A11:2020 (Class B)
Explosion protection	
Directive 2014/34/EU (ATEX)	EN IEC 60079-0:2018 EN 60079-11:2012
RoHS	
Directive 2011/65/EU (RoHS)	EN IEC 63000:2018-12

Conformity	
Degree of protection[1]	K4- Touchpad Option: IP66 K6- Joystick Option: IP65 K8- Trackball Option: IP66

1. For variants EXTA*-*1-N* (panels mounting) and EXTA*-*1-F* (xyz mounting): Keyboards are suitable for installation in IP rating mentioned above. They have to be attached to a suitable enclosure in a way that at least a degree of protection of IP20 is ensured. For Keyboard types EXTA*-*1-F* assembled in P+F factory the IP ratings mentioned above are ensured.

Ambient conditions	
Operating temperature	K4- Touchpad Option: -20 ... 50 °C (-4 ... 122 °F) K6- Joystick Option: -20 ... 50 °C (-4 ... 122 °F) K8- Trackball Option: 0 ... 50 °C (32 ... 122 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)
Relative humidity	max. 85%, non-condensing

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Mechanical specifications	
Material	anodized aluminum, Polyester foil Regarding hinge material please refer to mouting options.
	
Mass	1.2 kg (no housing)
Dimensions	502 mm x 222 mm x 66 mm
Cut out dimensions	450 mm x 152 mm
Cable length	5 m / 2 m / 1 m

3.5 Certifications and Markings

Equipment

Equipment includes the T1 variant (Desktop Housing) and the F1 variant (Standard Housing with Mounting option).

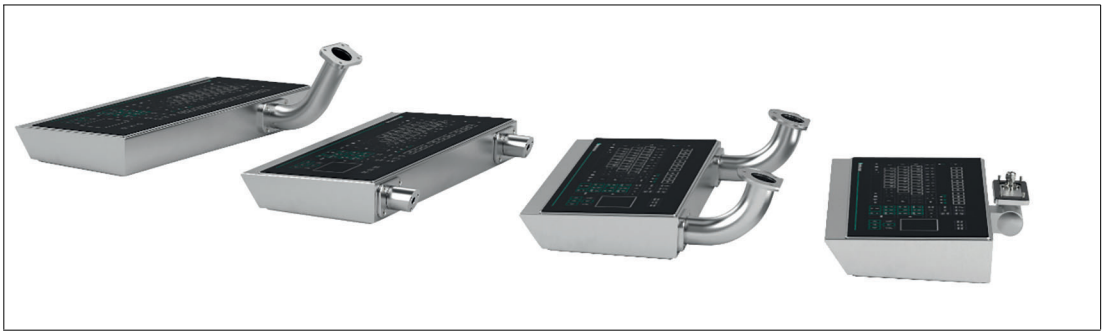


Figure 3.1 EXTA4 as Equipment

Component

Component includes the NN option (Panel Mount) and the NF option (Flush Mount).



Figure 3.2 EXTA4 as Component

	EXTA4-* Equipment and Component Zone 1/21					
		K4	K6	K8	Certificate	Marking
	ATEX Zone 1/21	✓	✓	✓	BVS 07 ATEX E 163 X	II 2G Ex ib IIC T4 Gb II 2D Ex ib IIIB T135°C Db
	IEXEx Zone 1/21	✓	✓	✓	IECEx BVS 08.0022X	Ex ib IIC T4 Gb Ex ib IIIB T135°C Db
	INMETRO Zone 1/21		pending		See Peppel+Fuchs website	
	KOSHA Zone 1/21		pending		See Peppel+Fuchs website	
	CCC Zone 1/21		pending		See Peppel+Fuchs website	
	JPNEx ZONE 1/21	✓	✓	✓	See Peppel+Fuchs website	

Figure 3.3

	EXTA4-* Equipment and Component Zone 2/22					
		K4	K6	K8	Certificate	Marking
	ATEX Zone 2/22	✓	✓	✓	BVS 21 ATEX E 009 X	II 3G Ex ic IIC T4 Gc II 3D Ex ic IIIB T135°C Dc
	IEXEx Zone 2/22	✓	✓	✓	IECEx BVS 08.0022X	Ex ic IIC T4 Gc Ex ic IIIB T135°C Dc
	North America Class I, Div 2 Class II, Div 2 Class III	✓	✓	✓	116-0357E	Class I Div 2, Gr A, B, C, D; T5 Class II, Div 2; Gr F, G; T5 Class III Class I, Zone 2; Gr IIC; T5 Class II, Zone 22; Gr IIIB; T85°C Class III, Zone 22; Gr IIIA; T85°C
	INMETRO Zone 2/22		pending		See P+F website	
	KOSHA Zone 2/22		pending		See P+F website	
	CCC Zone 2/22		pending		See P+F website	
	JPNEx ZONE 2/22	✓	✓	✓	See P+F website	

Figure 3.4

3.6 Labels and Dimensions

Labels

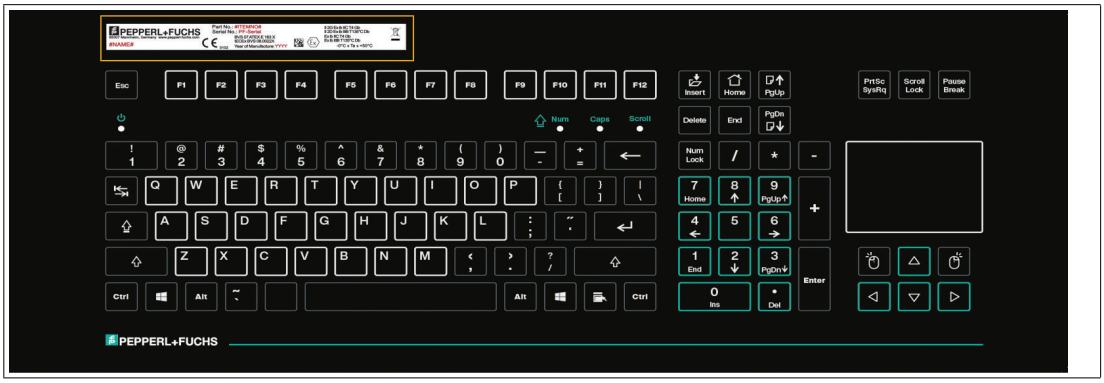


Figure 3.5

Sample label for Zone 1/21

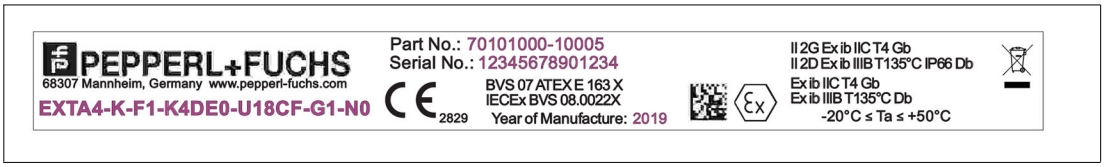


Figure 3.6

Dimensions

Desktop Housing

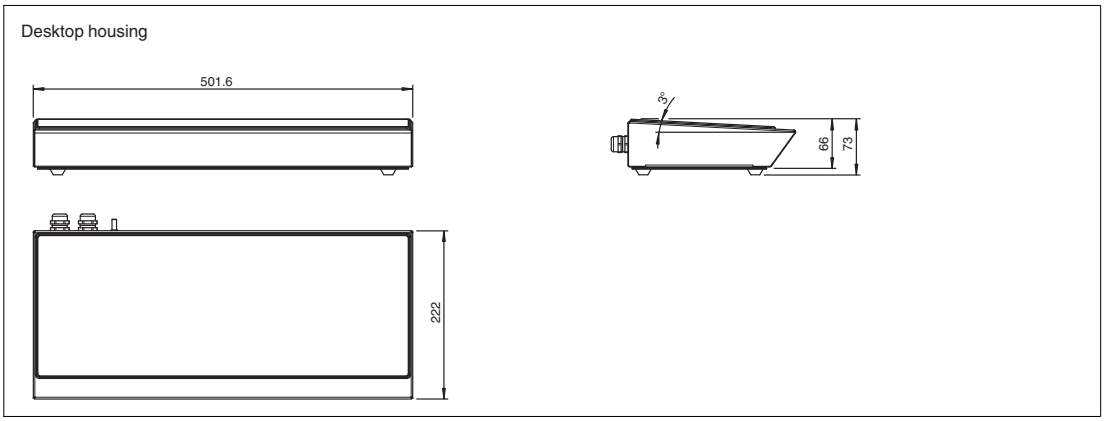


Figure 3.7

Standard housing with mounting options – sample VisuNet GXP One-Arm Installation

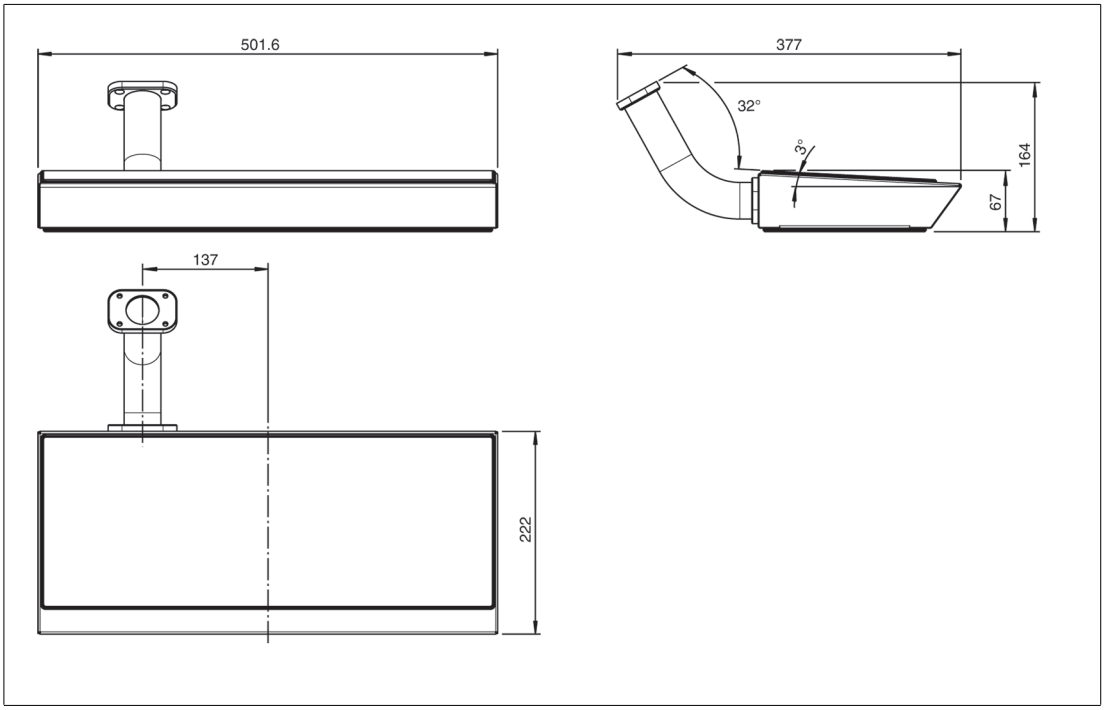


Figure 3.8

Panel Mounting

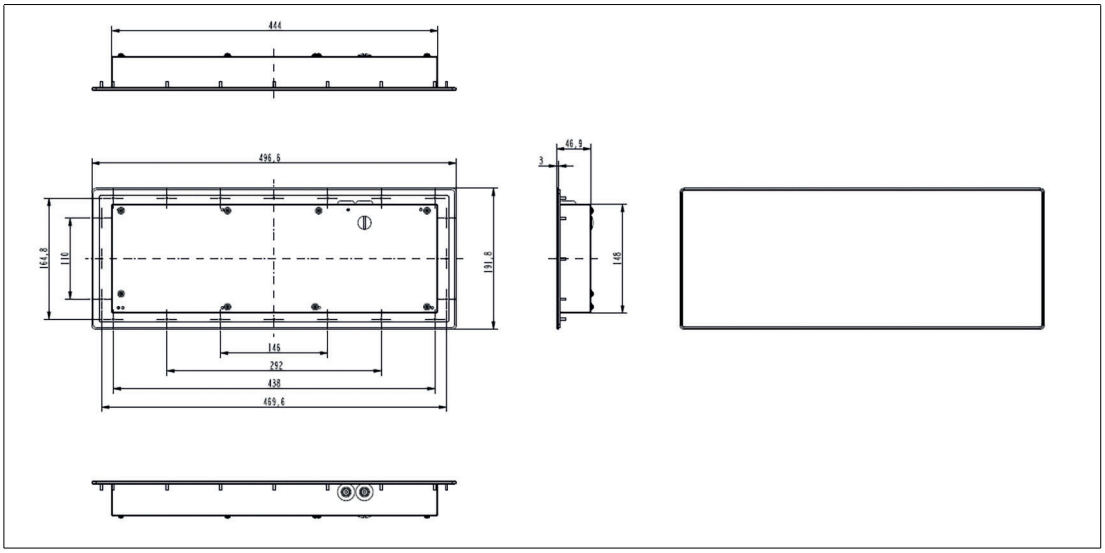


Figure 3.9

Note

For further information regarding dimensions refer to chapter **Housing Design Keyboard**.

4 Installation and Commissioning

4.1 Installation

Prior to mounting, installation, and commissioning of the device you should make yourself familiar with the device and carefully read the instruction manual.

Installing alongside Intrinsically Safe Circuits

The intrinsically safe circuit of the devices may be installed in hazardous areas. In such cases, it must be securely isolated from all non-intrinsically safe circuits.

The intrinsically safe current circuit must be installed in accordance with the applicable installation regulations.

If intrinsically safe field devices are connected to the intrinsically safe circuit in associated devices, the respective maximum values of these field devices and the associated devices must be observed to ensure explosion protection (verification of intrinsic safety). EN 60079-14/IEC 60079-14 must be taken into account. The "National Foreword" (Nationale Vorwort) of DIN EN 60079-14/VDE 06165 Part 1 must be observed if the device is used in Germany.

The nameplate must not be removed.

The device must be de–energized during installation and servicing. The keyboard/mouse must not be connected to the supply voltage until the mounting and connection processes have been fully completed.

Individually accessible non-grounded metal parts can become electrostatically charged. The determined capacitance exceeds the required value according to IEC/EN 60079-0. The determined capacitance is specified in the technical data.

Information on electrostatic hazards can be found in the technical specification IEC/TS 60079-32-1.

4.2 Mounting the Keyboard Connecting Cable (Connector Option -C1) to a VisuNet System e.g. VisuNet GXP

Connecting the Keyboard to a PC via the Keyboard Connecting Cable

1. Connect the wires of the keyboard connecting cable as shown in the following table.

Keyboard and Mouse (EXTA4-*1-*-K*) Core Assignment

	Assignment	Color coding
Keyboard and mouse	Us	Red
	D-	White
	D+	Green
	GND	Black

4.3 Mounting the Keyboard Connecting Cable (Connector Option -U1) to a VisuNet FLX

Connecting the Keyboard to a PC via the Keyboard USB Type A Connector

1. Plug the USB connector the of keyboard into the intended USB port. If installing the VisuNet FLX system connect the USB cable as shown in below graph:

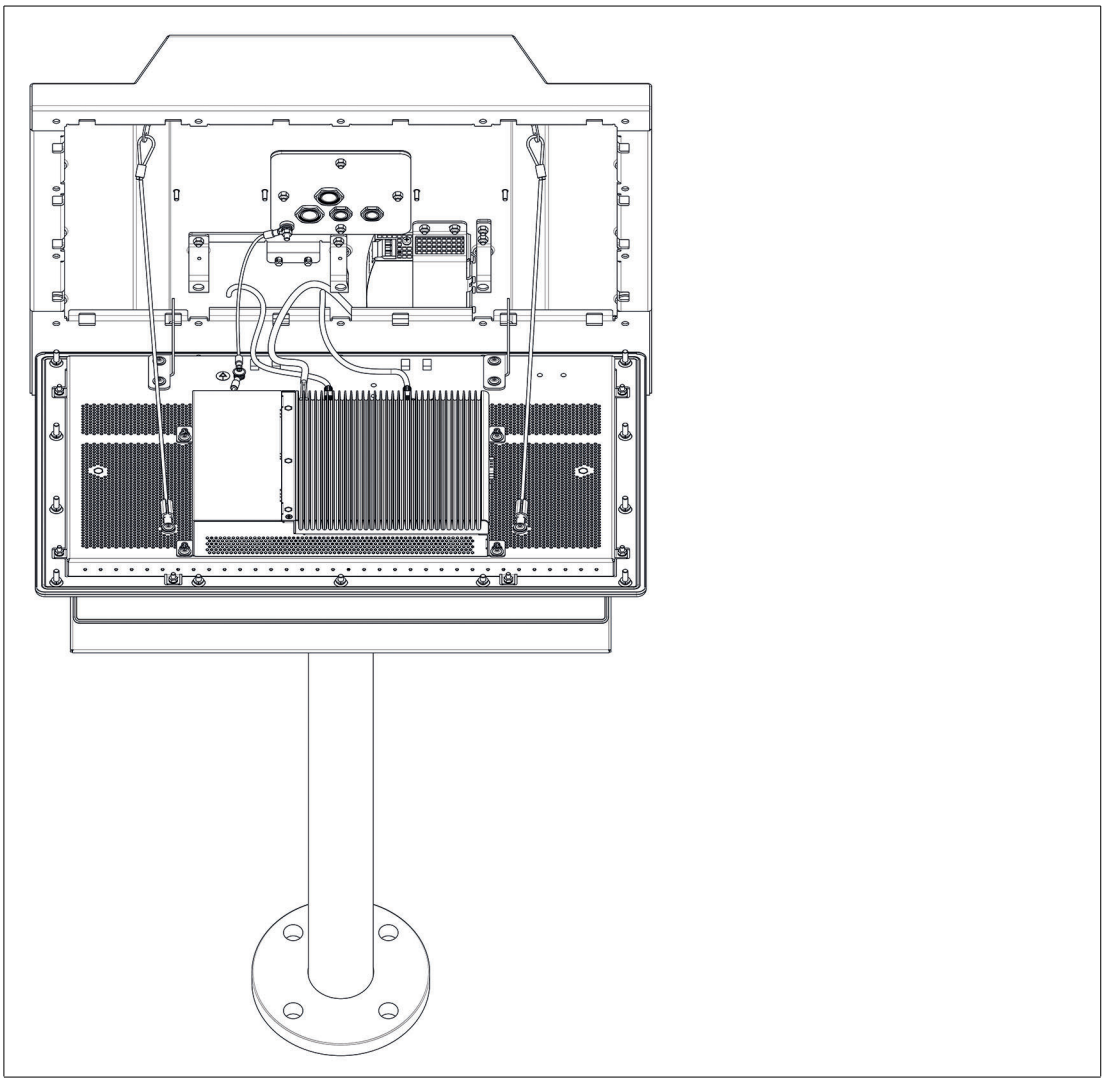


Figure 4.1

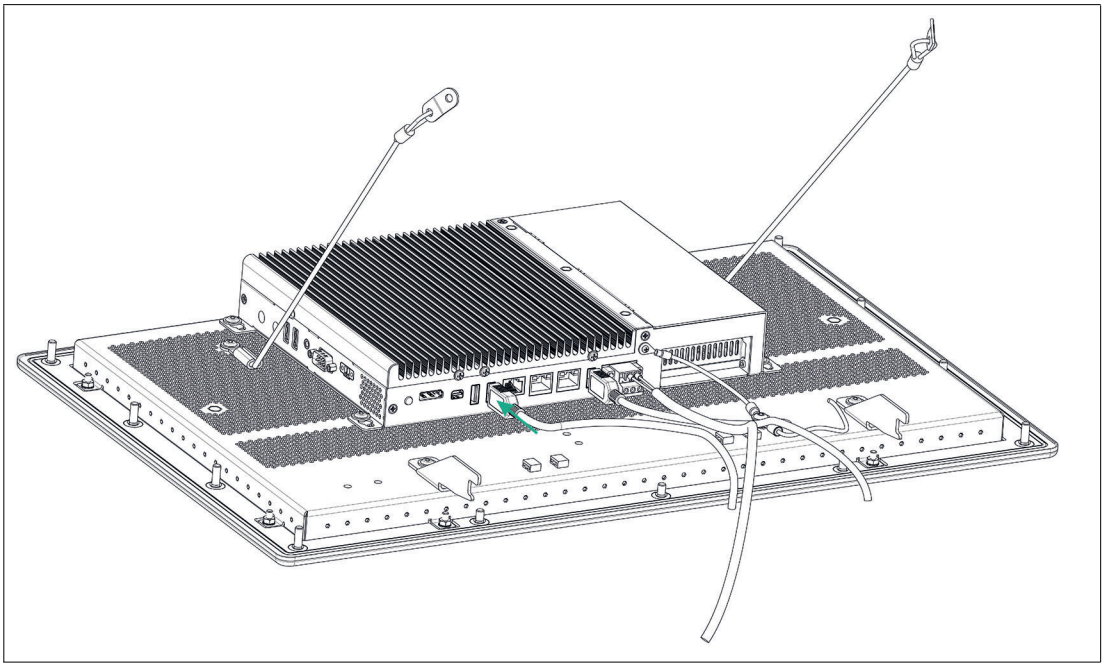


Figure 4.2

Warning!

The Interface must have a strain relief in Ex-operation.

This can be achieved with the ATEN Locks (#548400)

4.4 Connecting the Keyboard to a PC via a Barrier

Connecting the Keyboard to a PC via Barrier SK-PC-Z1D1-UU1-10-HS for Stand-alone Applications

Note

For this installation the connector option C1- is required.

1. Connect the plugs of the keyboard cable to the port of the barrier. Use the port on the face labeled with "intrinsically safe."
2. Plug the plug of the **enclosed** USB cable into the port of the barrier. Use the port on the face labeled with "not intrinsically safe."

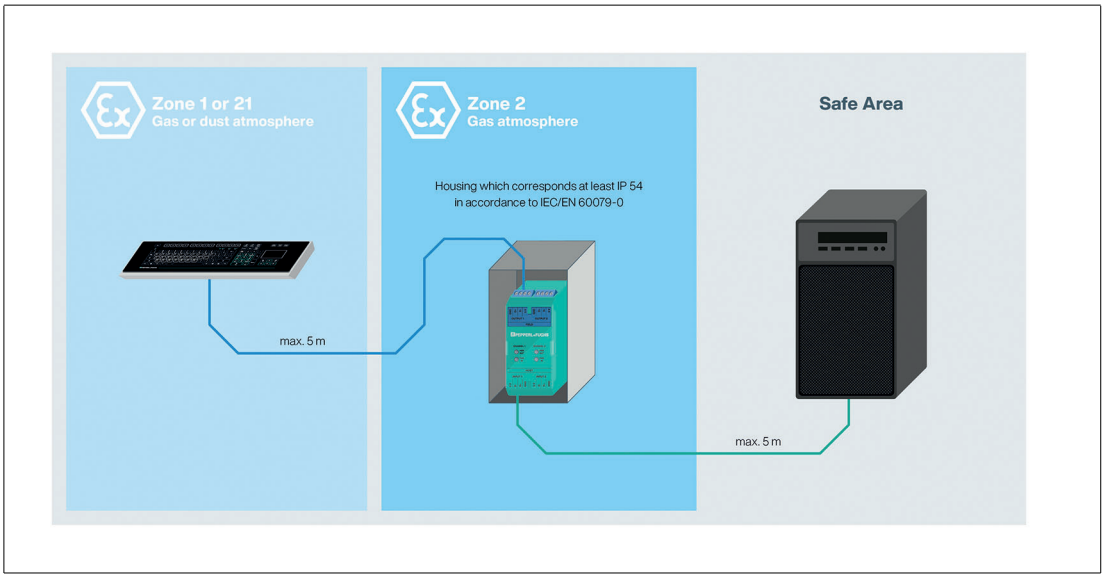


Figure 4.3 Installation requirements for the barrier in Zone 2 (gas) option 1

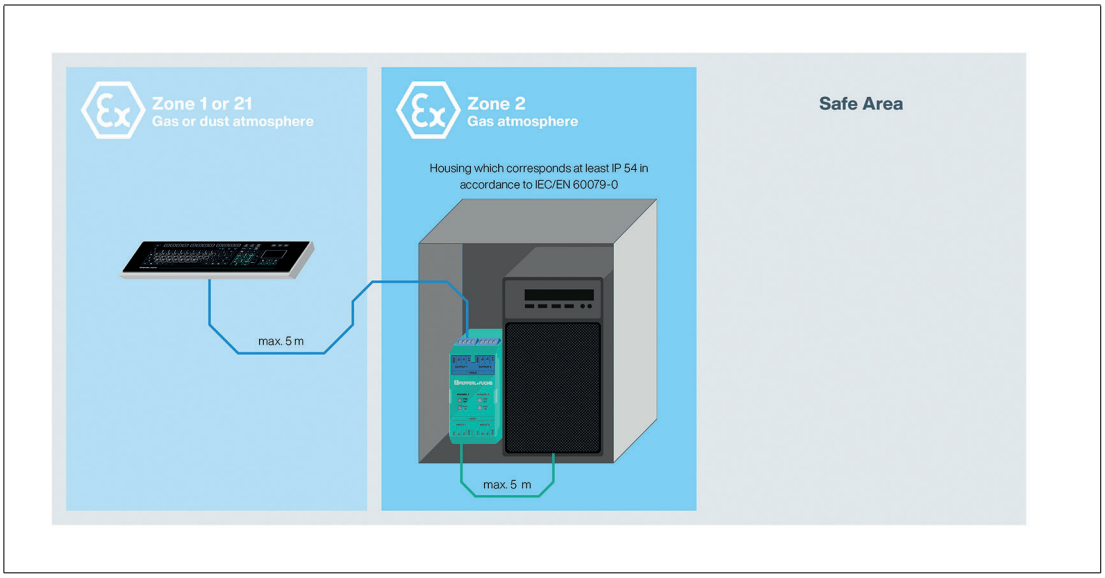


Figure 4.4 Installation requirements for the barrier in Zone 2 (gas) option 2

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Note

For further information on how to install the Keyboard in Stand-alone applications via Barrier SK-PC-Z1D1-UU1-10-HS refer to the SK-PC-Z1D1-UU1-10-HS manual.

4.5 Additional Barrier

If you use the EXTA4-* as a stand-alone keyboard, an additional barrier is required.

Zone 1/21 Applications:

Model number	Description	Part No.
SK-PC-Z1D1-UU1-10-HS	2-channel Barrier with intrinsically safe USB outputs for mouse & keyboard Approval: ATEX / IECEx Zone 1/21 Input: USB 2.0 Output: USB 2.0 Ex	548307

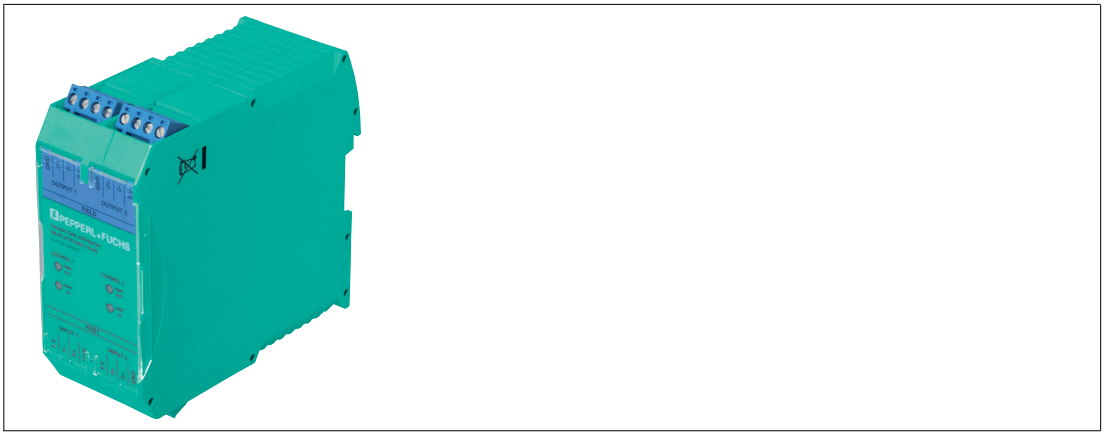


Figure 4.5

Note

For further information on installing the EXTA4-* Keyboard with the SK-PC-Z1D1-UU1-10-HS barrier, refer to the SK-PC-Z1D1-UU1-10-HS manual at https://www.pepperl-fuchs.com.

Zone 2/22 Applications:

Model number	Description	Part No.
SK-PC-D2-UU1-10-HS	1- or 2-channel Division 2 non-incendive barrier Division 2 / Zone 2 mountable USB or PS2 interface for Ex-rated keyboard or mouse Inputs: USB 1.1 or PS2 Mounting: DIN rail	70187527



Figure 4.6

Note

For further information on installing the EXTA4-* Keyboard with the SK-PC-D2-UU1-10-HS barrier, refer to the SK-PC-D2-UU1-10HS manual at https://www.pepperl-fuchs.com.

4.6 Equipotential Bonding

Danger!

Explosion Hazard

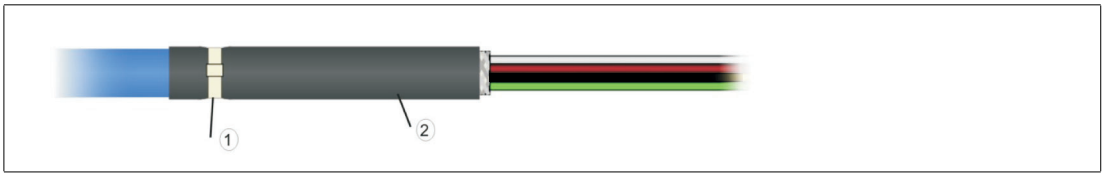
Risk of fatal injury and severe property damage.

The housing must always be connected to the PE. There are 2 possibilities:
Connection via cable shielding of the connecting cable.
Built into a metal housing that is connected to the PE.

Procedure

1. The shielding of the keyboard cable must be connected in the cable gland of the PC/display (VisuNet) (refer to VisuNet manual). Before doing this, open the cable clip (1) and remove the cable protective tube (2).

End of the Keyboard Cable (Attached to the Keyboard)



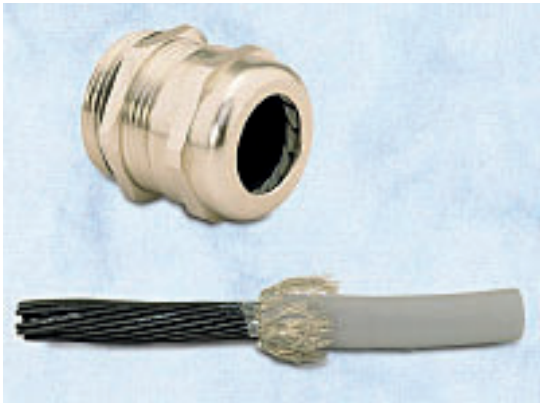
- (1) cable clip
- (2) cable protective tube

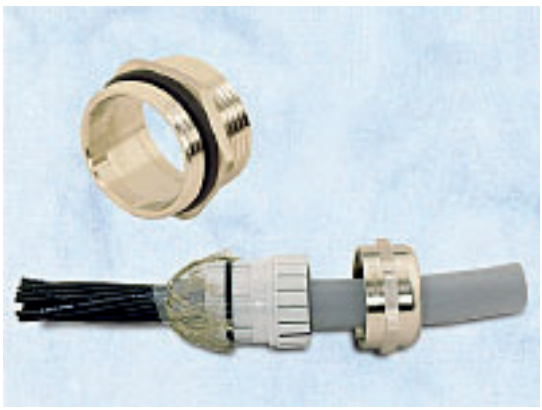
2. Install the keyboard in a metal housing that is connected to PE.

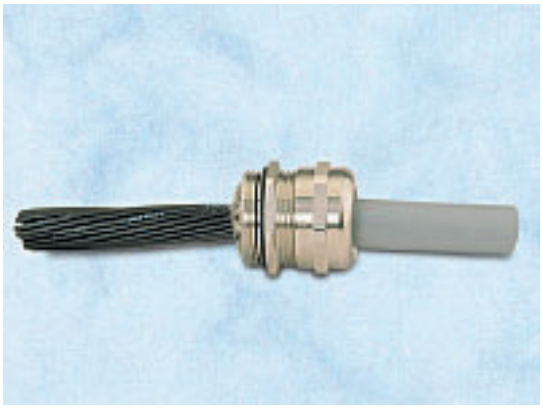
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4.7 Installation Instructions for Hazardous-Location EMC Cable Glands

Power supply cables for the Ex e Ethernet and the RS-485 or TTY Ex e data interface, the Ex i keyboard, and the Ex i scanner must be shielded to ensure sufficient immunity to interference (EMC). Connect the cable shielding to the VisuNet RM/PC according to the following installation instructions:

Step 1	
	• Isolate the cable. • Expose the braid. • Remove the braid and insulation little by little. • With thin cables, the braid can be folded back over the insulation sheath. • Insert the cable into the gland until the braid reaches the contact point. • Tighten the cable gland.

Step 2	
	• Guide the cable through the lock nut. • Guide the cable into the terminal insert. • Fold the braid over the insert. • The braid must overlap the O-ring by about 2 mm

Step 3	
	• Fit the terminal insert into the intermediate gland. • Assemble the cable gland.

	Internal view of the assembled cable gland.

Note

For specifications regarding the tightening of the cable glands please refer to TCU or PCU manual.

5 Housing Design Keyboard

There are different possibilities to mount the keyboards.

1. Panel mounting (Housing version NN-)
2. Flush mounting (Housing version NF-)
3. The keyboard is mounted in a desktop housing. (Housing version T1-)
4. Different Mounting Options (Housing version F1-)

5.1 Keyboard for Panel Mounting (Housing Version NN-)



Figure 5.1

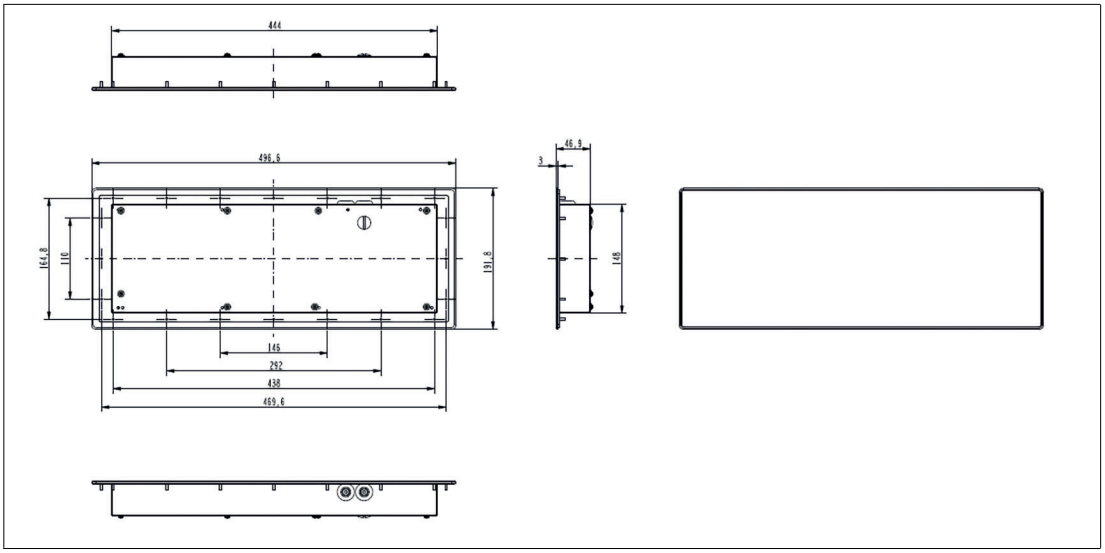


Figure 5.2

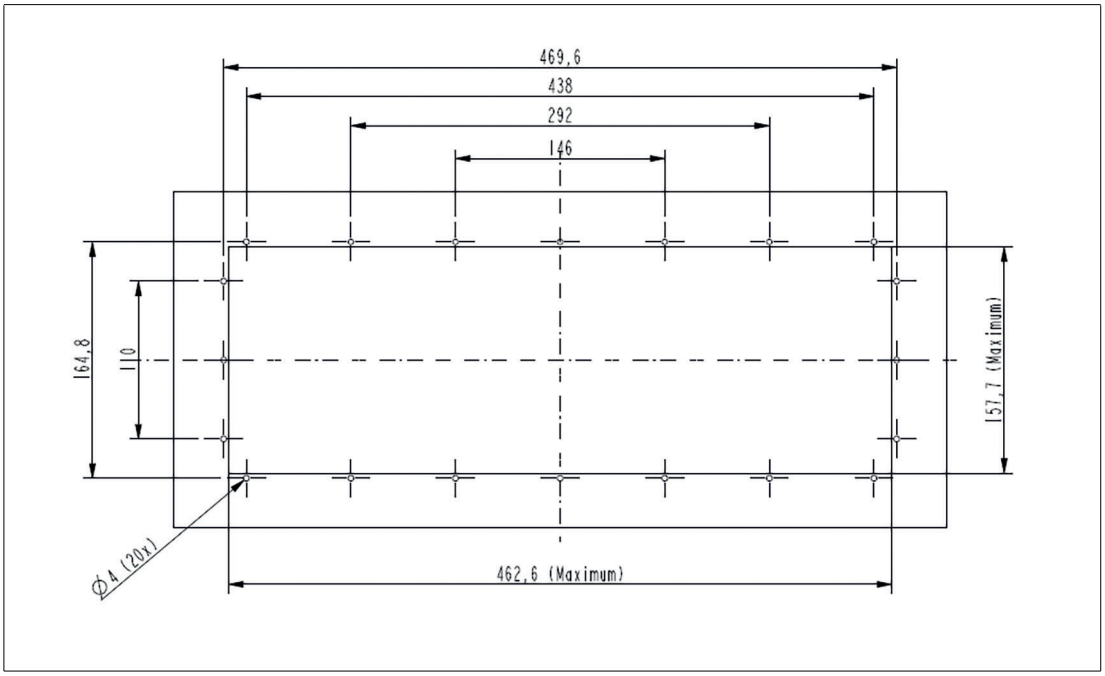


Figure 5.3

Assembly of the keyboard with cover at the back: Cutout

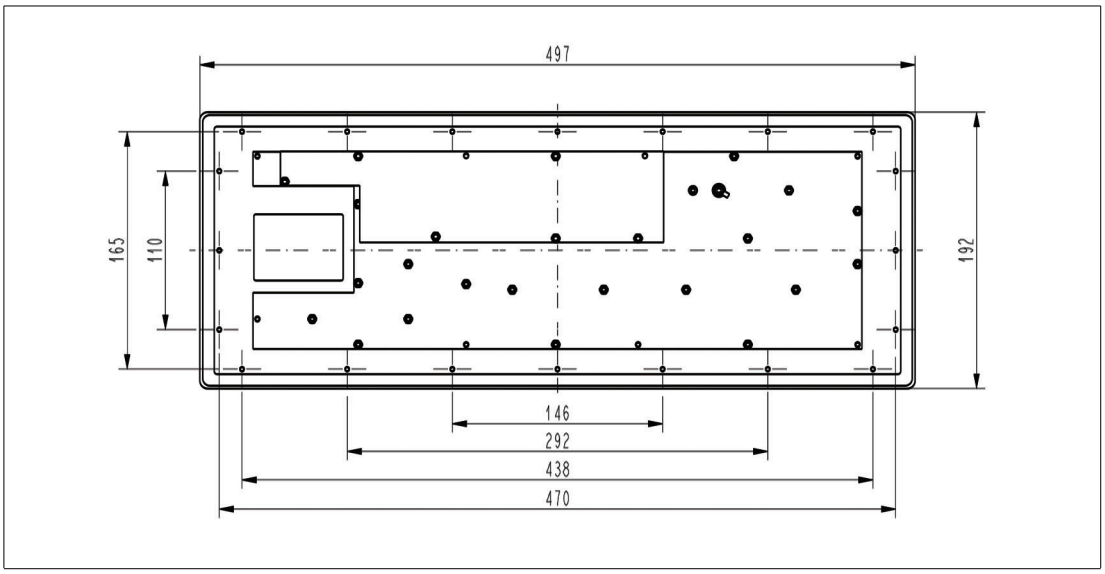


Figure 5.4

Note

Torque Specifications

Torque the screws for the EXTA4-* keyboard and housing interface to 0.4 Nm (3.5 in lb).

5.2 Keyboard for Flush Mounting (Housing Version NF-)



Figure 5.5

The following instructions are valid for all EXTA4 type flush mount keyboards (K4, K6, K8). For proper fit and sealing of keyboard gasket, mechanical cut-out and weld stud pattern should be followed as shown below (), and integrated into installed panel. Weld studs are required for installation of metal brackets which hold the keyboard in place, and to compress the keyboard gasket to enclosure.

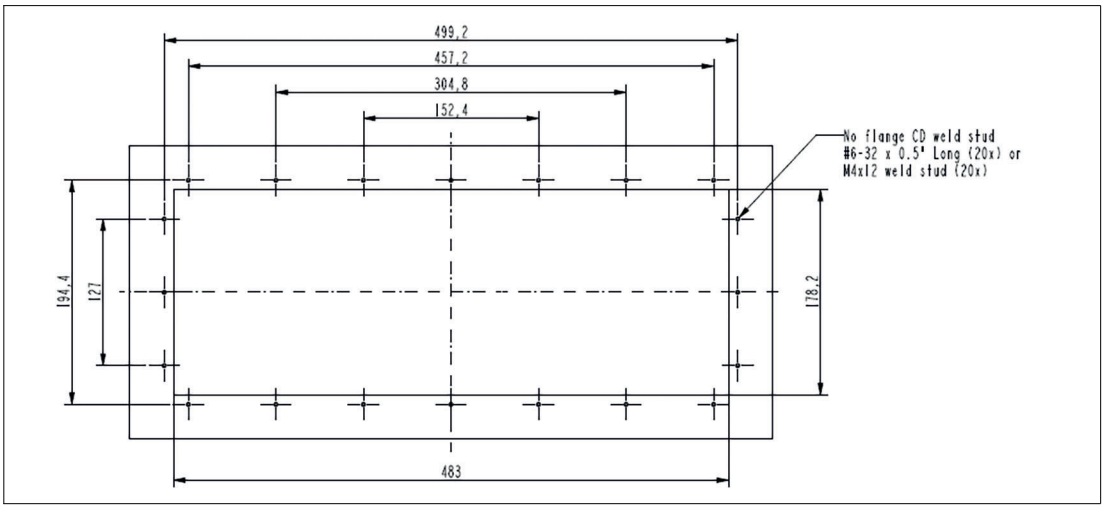


Figure 5.6 Top View (dimensions in mm)

1. Cut-out for keyboard should be 19.016" x 7.016" (48,3cm x 17,82cm).

2. Weld studs (no flange, 6-32 thread x .50 LG) must be inserted around the cut-out as shown in dimensional drawing.
3. Keyboard should be installed from the rear of the cutout, lining up the gasket evenly around the perimeter of the cut-out.
4. Vertical and horizontal mounting brackets are included to secure keyboard into cutout.

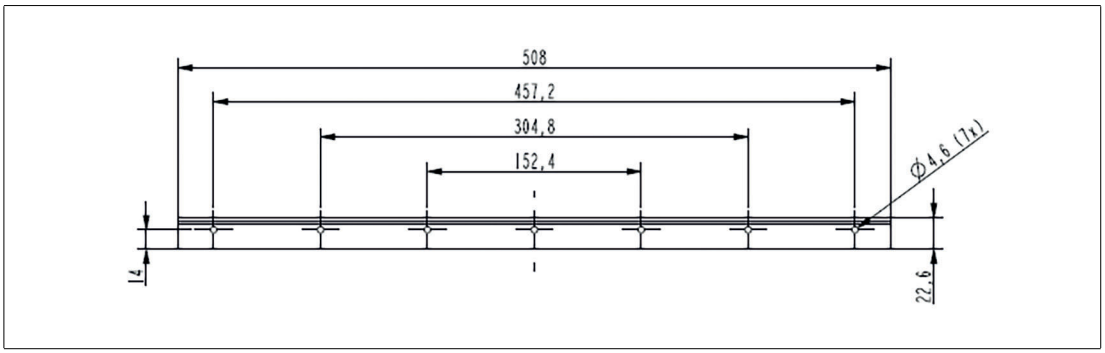


Figure 5.7 Horizontal bracket (dimensions in mm)

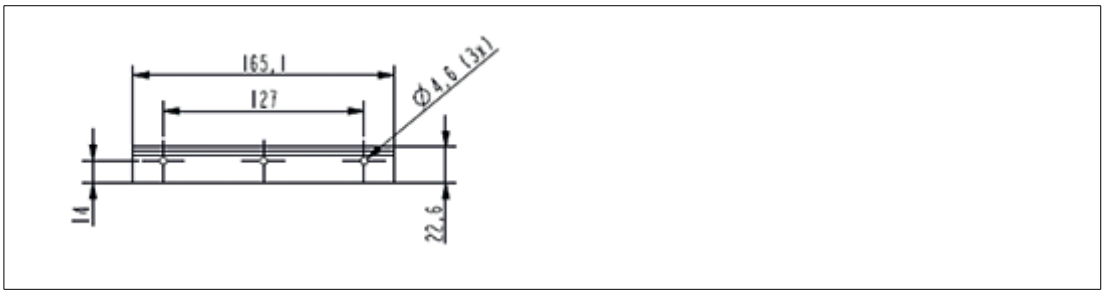


Figure 5.8 Vertical bracket (dimensions in mm)

5. Install mounting brackets with mounting hardware to secure keyboard in place. Initially, only tighten nuts with fingers.

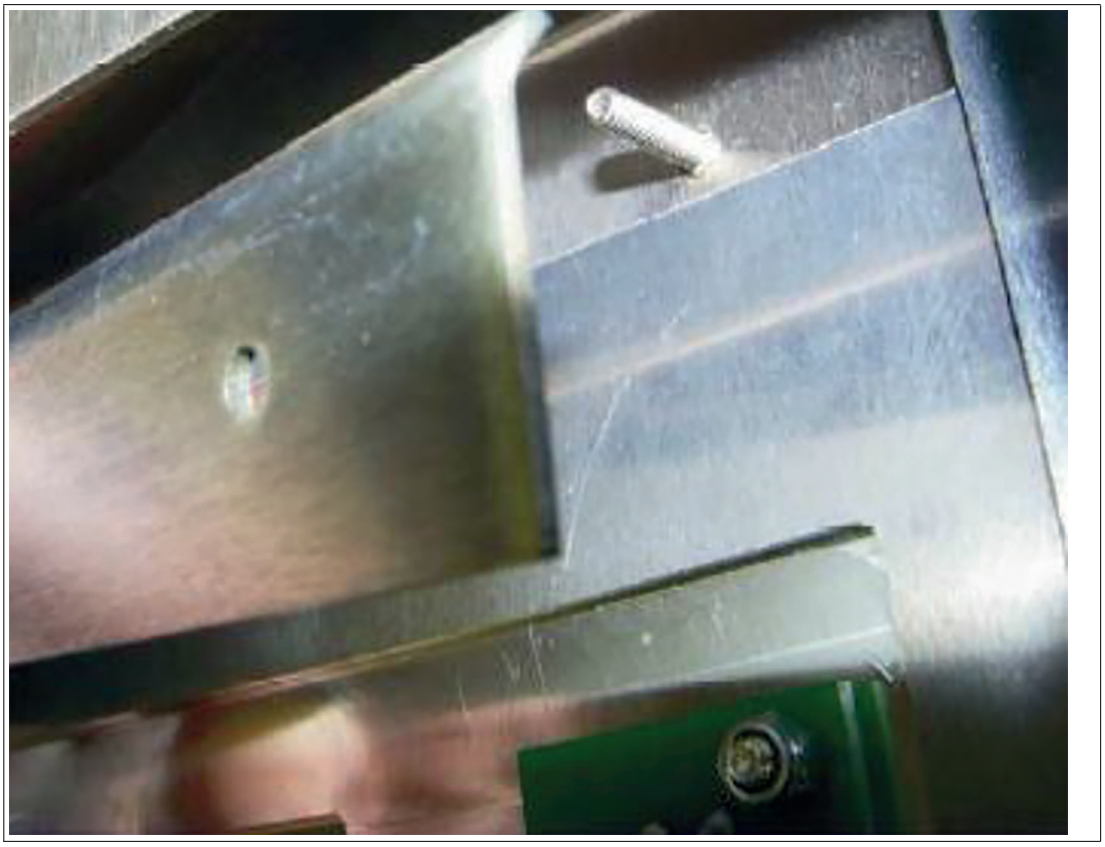


Figure 5.9

6. Before fully tightening nuts to lock bracket in place, check the front side to make sure there are no gaps, and that the keyboard is centered properly into the cut-out.

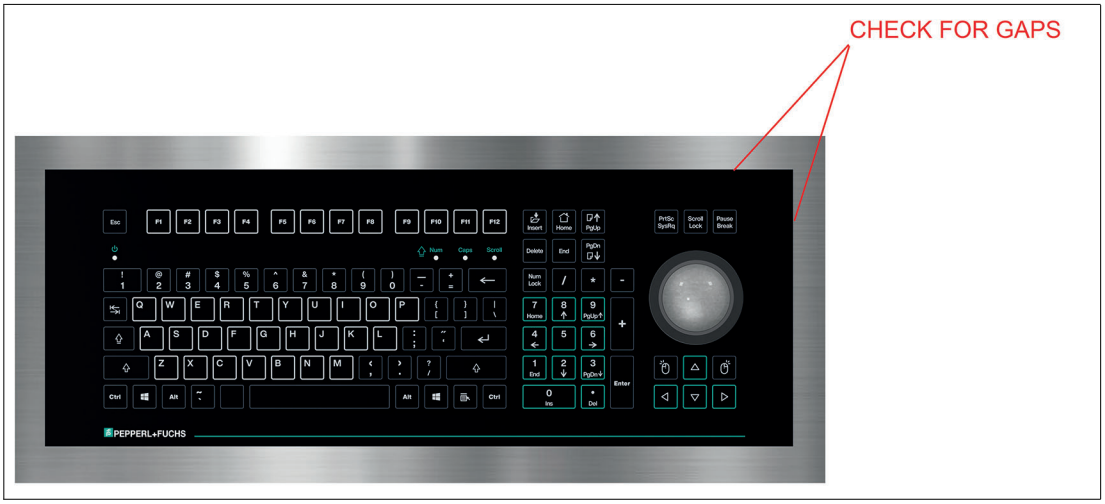


Figure 5.10

7. Tighten with Nutdriver, by hand with 0,7Nm.**DO NOT OVER-TIGHTEN!**

All keyboard wiring must be internal wiring in the enclosure that the keyboard is mounted in. Enclosure used must be suitable for the type of environment of the installation.

5.3 Desktop Keyboard for Housing Version T1- (e. g., for VisuNet)



Figure 5.11

The USB variant comes with one cable routed with a cable gland whereas the serial connection cable is routed through one cable gland and an additional cable is closed with a blind plug.

Dimensions

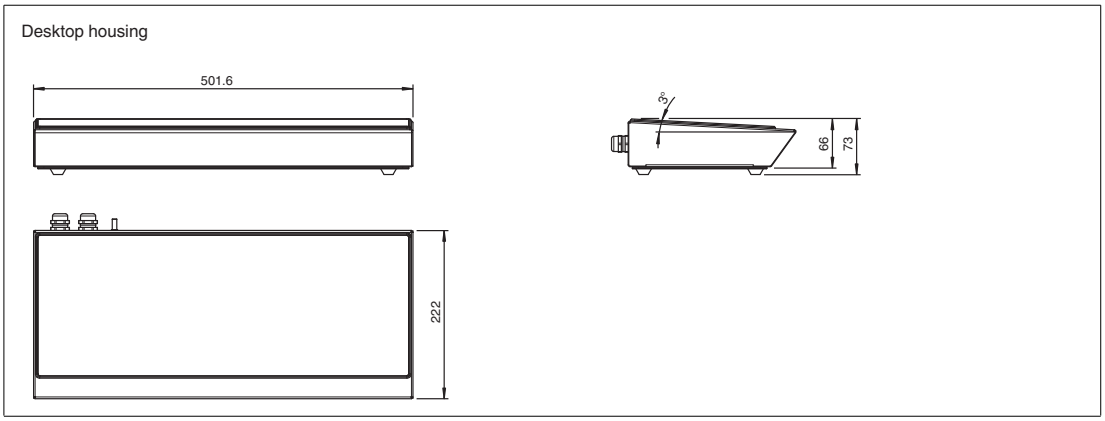


Figure 5.12

Grounding the Desktop Keyboard

1. Ground the Keyboard Housing with the protective earth bolt. Use the following grounding concept. (The PE wire is not included in the scope of delivery and must be provided in the right length.)

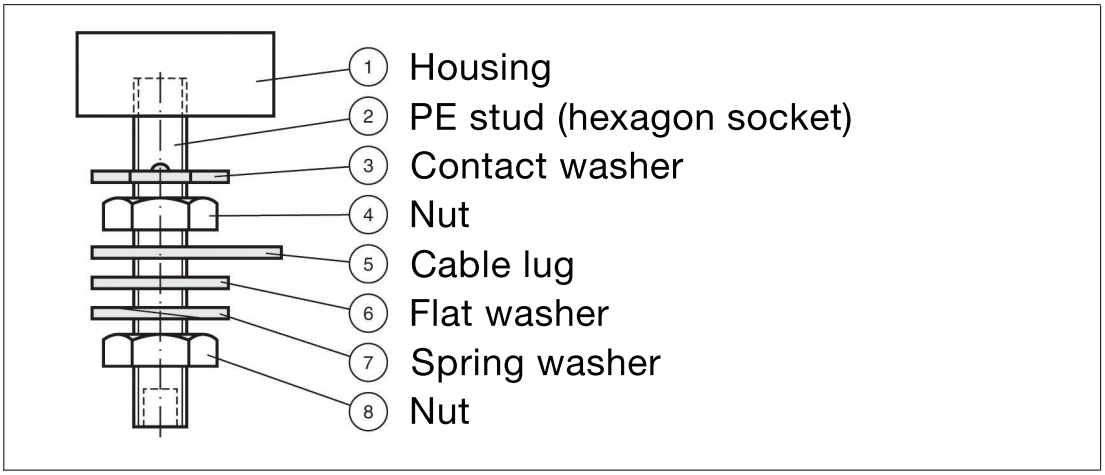


Figure 5.13

2. Fasten the hardware with a torque of 7.5 Nm.

5.4 Keyboard Mounting Options for Housing Version -F1

Mounting Option G1- (GXP One-Arm to AG-XX00)



Figure 5.14

Dimension

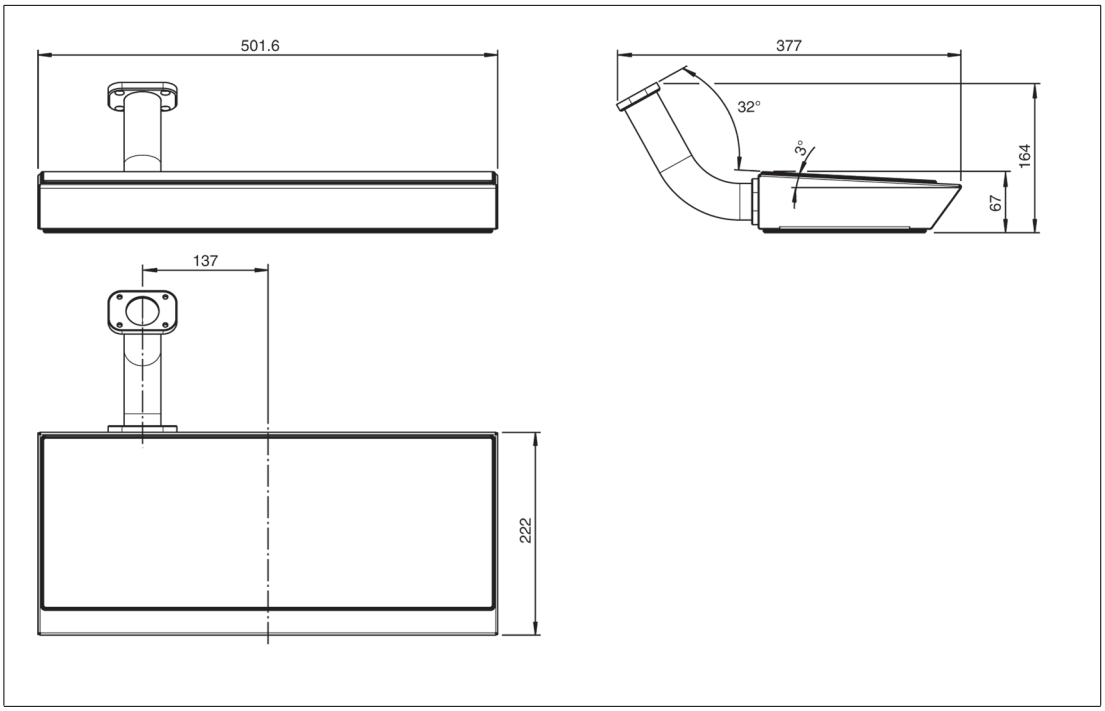


Figure 5.15 Dimensions

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Mounting Option G2- (GXP Double-Arm to AG1)



Figure 5.16

Dimension

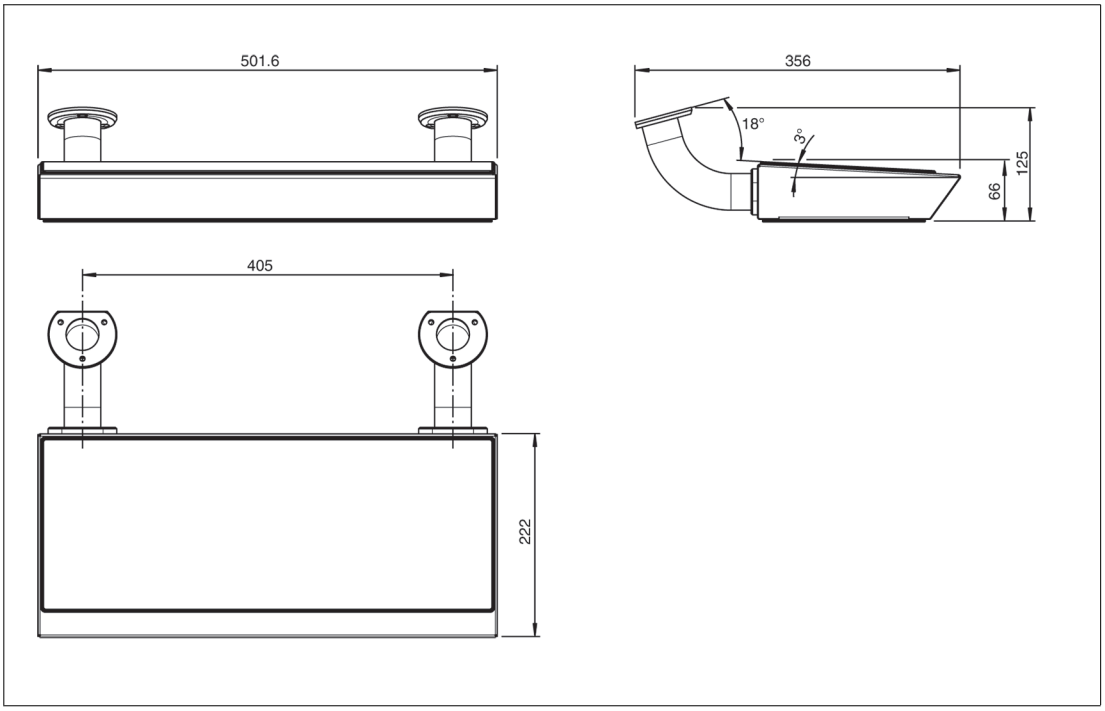


Figure 5.17 Dimensions

Mounting Option H1- (Hinged version for VisuNet FLX)



Figure 5.18

Dimension

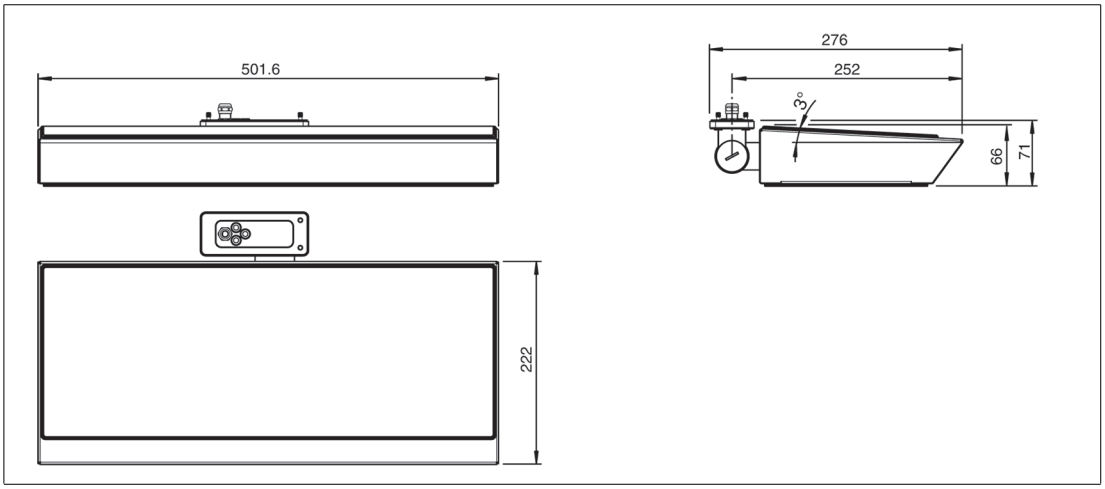


Figure 5.19 Dimensions

Note

When mounting the EXTA4 to a VisuNet FLX with the hinge, tighten the screws to a torque of 4 nm as shown in the diagram.

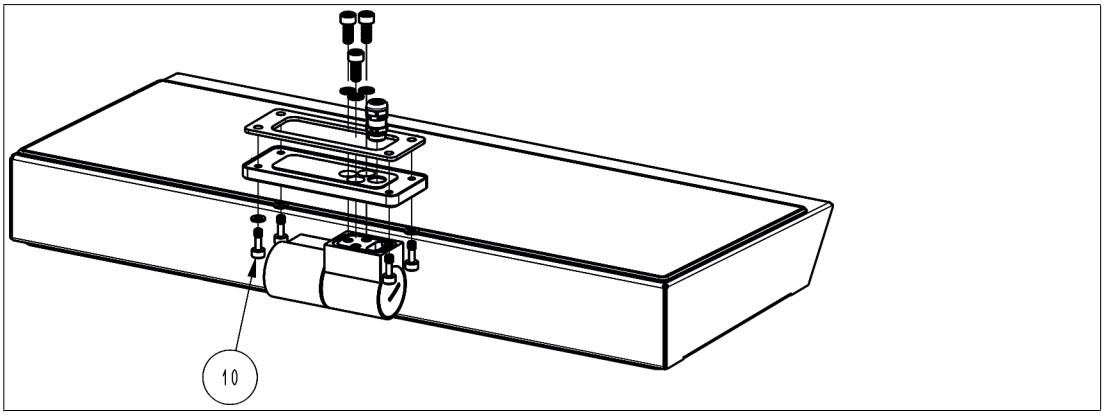


Figure 5.20

Note

The hinge material for the VisuNet FLX fixation is made of nickel-plated aluminum.

Note

In case the keyboard tilts too easily, the hinge needs to be tightened. Tighten the nut with the torque wrench to 60 Nm.

Mounting Option F2- (One-Arm installation for VisuNet FLX)

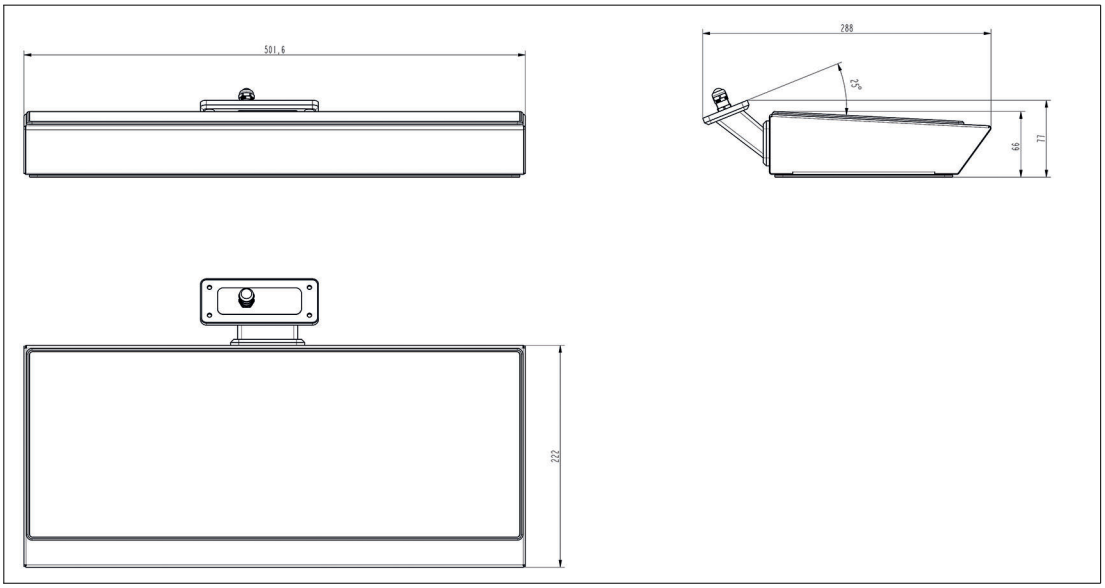


Figure 5.21

Note

When mounting the EXTA4 to a VisuNet FLX with one arm, tighten the screws to a torque of 4Nm.

Note

The material for the VisuNet FLX F2- Mounting Option is made of stainless-steel.

Mounting Option C1- (Cabinet / Horizontal Installation)



Figure 5.22

Dimension

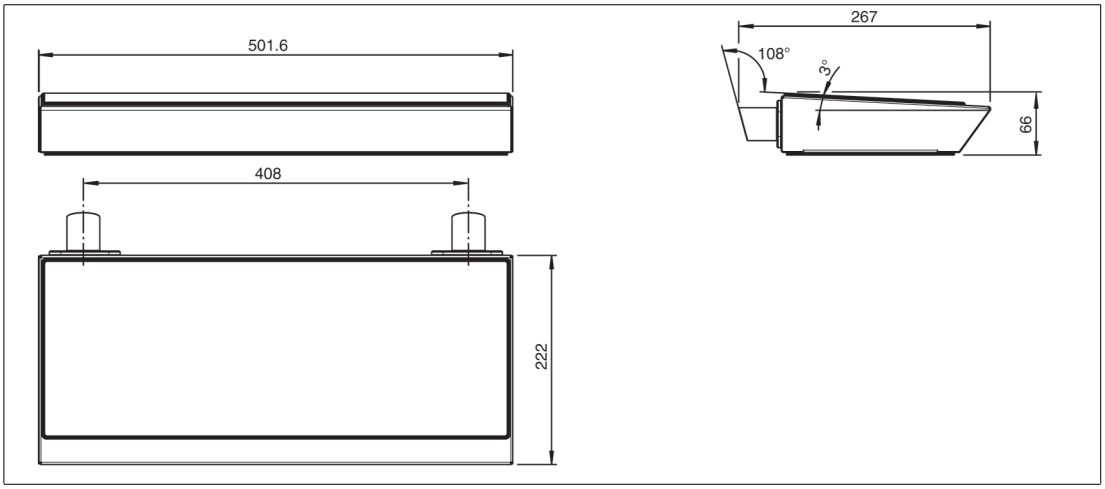


Figure 5.23 Dimensions

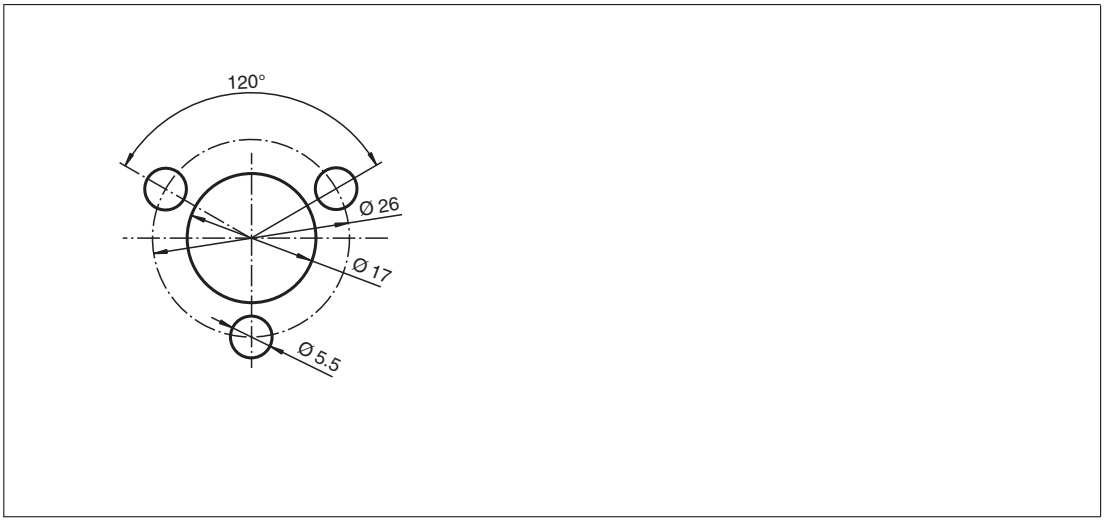


Figure 5.24 Drilling pattern for the wall

Attaching the EXTA4 keyboard to the wall/cabinet

1. Use the drilling pattern shown in Figure 4.20.
2. Tighten the enclosed screws with 2.3 Nm.

6 Chemical Resistances

6.1 Chemical Resistance of Keyboard Foil

Warning!

Not all models are resistant to UV light!

Destruction of keyboard foil.

Unless the keyboard is equipped with the UV-resistant foil option, do not expose the keyboard foil to direct sunlight. EXTA4-* UV models have a UV-resistant foil and are suitable for outdoor use. See the typecode.

Antimicrobial resistance of keyboard foil



Figure 6.1

The keyboard foil is manufactured from a biaxially alignned polyester-based material and therefore has a greater resistance to solvents. The foil is stronger and more durabe than other standard foils used on keyboards and front panels, such as polycarbonate and PVC.

The keyboard foil is resistant against the following substances (Test method: DIN42115):

Alcohols	Hydrocarbons
Dilute acids	Ketones
Dilute alkalis	Household cleaners
Esters	

The keyboard foil is resistant against the following substances (Test method: AATCC test method 100)::

- Staphyloccus aureus (MRSA)
- Escherichia coli 0157
- Listeria monocytogenes
- Pseudomonas aeruginosa
- Salmonella enteritidis
- Bacillus cereus
- Streptococcus faecalis
- Klebsiella pneumoniae
- Aspergillus niger
- Penicillium purpurogenum
- Phoma violacea
- Saccharmyyces cerevisiae

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6.2 Chemical resistance of the trackball, keyboard variant EXTA4-K8

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

6.3 Gloves Tested for Touch Sensitivity

This section lists selected gloves and their touch sensitivity with the EXTA4-* K4 Option (Capacitive Touchpad). This test was conducted by Pepperl+Fuchs.

Note

It is the end user's responsibility to choose appropriate gloves.

The below list is not exhaustive, and it only deals with touch sensitivity. The ratings do not indicate, for example, whether a glove has chemical resistance.

To improve the touch detection rate with gloves, touch with the flat side of your finger and not with your finger tip.

Rating Scale

Scale	Description
+++	High touch sensitivity easy to operate the touchpad.
++	Some touch sensitivity, possible to operate the touchpad.
+	Little touch sensitivity, difficult to operate the touchpad.

The following gloves have been tested for use with the display unit.

Latex Gloves

Product	Rating Touchpad Sensitivity
Accutech Sterile Coated 91-250	+++
KCL GmbHDermatril P 743	+++
Comsec Solvaplus	++
Emperor ME107	+

7 Cleaning

Please refer to chapter 5 regarding chemical resistant of cleaning agents.

7.1 Cleaning the optical trackball

Removing the optical trackball for cleaning

1. Remove plastic ring cover for fixation of the optical trackball by moving the fixation counterclockwise and pull the fixation upwards.



Figure 7.1

2. Now you can remove the optical trackball.

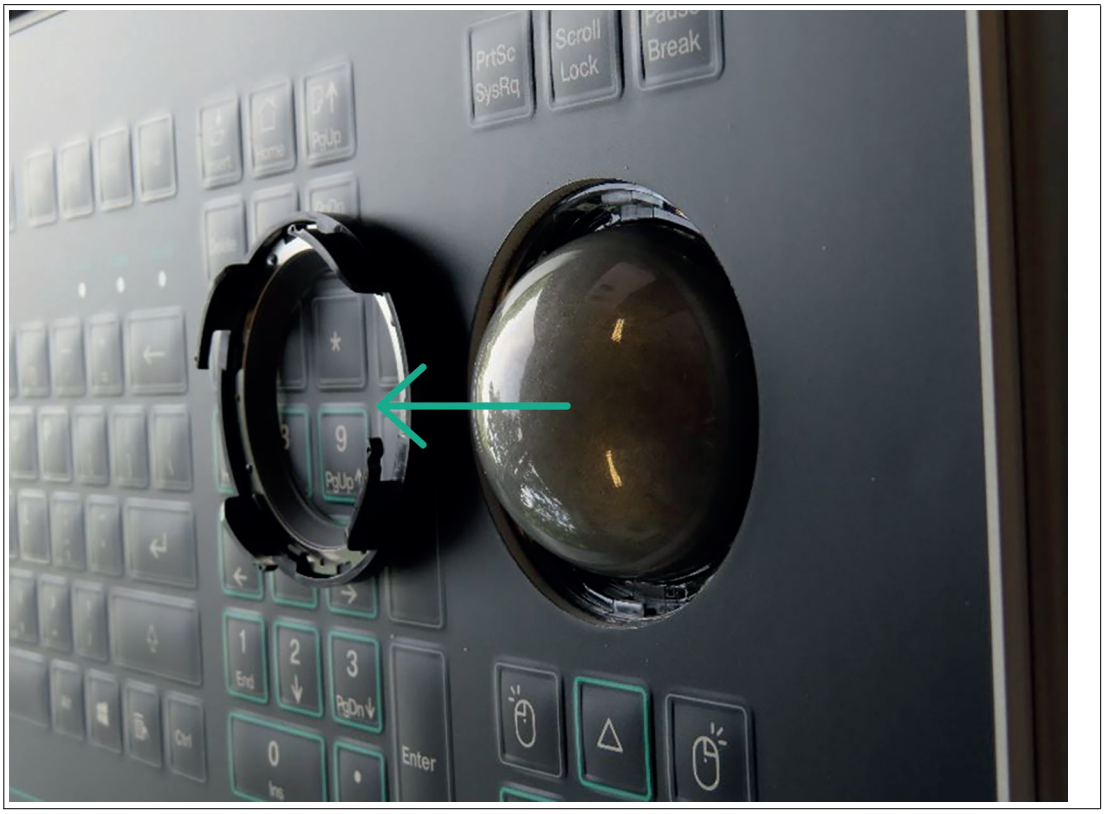


Figure 7.2



Figure 7.3

Instructions for cleaning the trackball

1. Only use damp cloth to avoid ingress of cleaning fluid.
2. Clean carefully, beware of applying pressure.
3. Wipe the cleaning fluid off.
4. Insert the trackball back into the housing and the secure the ball with the plastic ring cover by closing it clockwise. Make sure that the lugs are engaged.

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8 Dismounting and Disposal

To uninstall, carry out the installation steps from Chapter 4 in reverse order. Depending on which installation variant is used, please perform the respective installation steps in inverse order for disassembly. If necessary, keep the board in case it is needed as a spare part.

9 Appendix

9.1 Accessories

Note

If you use the EXTA4-* as a stand-alone keyboard, an additional barrier is required.

Part No.	Order code	Description
548307	SK-PC-Z1D1-UU1-10-HS	2-channel Barrier with intrinsically safe USB outputs for mouse & keyboard Approval: ATEX / IECEx Zone 1/21 Inputs: 2x USB 2.0 Outputs: 2x USB 2.0 Ex

Note

For further information on installing the EXTA4-* Keyboard with the SK-PC-Z1D1-UU1-10-HS barrier, refer to the SK-PC-Z1D1-UU1-10-HS manual at https://www.pepperl-fuchs.com.

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- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
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