

MANUAL

**VisuNet GXP
RM-GXP1100 and
RM-GXP1200
System Manual**



With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

1	Introduction.....	4
1.1	Content of this Document	4
1.2	Target Group, Personnel.....	4
1.3	Symbols Used	4
2	Product Description	6
2.1	Overview	6
2.2	Technical Specifications.....	8
2.3	Dimensions.....	10
2.4	Scope of Delivery	10
3	Mechanical Installation	11
3.1	Unpacking.....	11
3.2	System Installation.....	13
3.2.1	Preparing the Pedestal.....	13
3.2.2	Mounting the Housing.....	13
3.2.3	Closing the Housing.....	16
3.2.4	Mounting the Keyboard.....	18
3.2.5	Mounting the Scanner Holder to the Housing	19
3.2.6	Installing the Scanner Cable	21
3.2.7	Dismounting the Display Unit.....	22
3.3	Panel Mount Installation	25
4	Electrical Installation.....	29
4.1	Grounding the Housing to the Pedestal	30
4.2	Grounding the Housing to the Wall-Bracket.....	31
5	Appendix	32
5.1	Accessories	32

1 Introduction

1.1 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.

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
- Additional documents

1.2 Target Group, Personnel

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

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.

1.3 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

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

2 Product Description

2.1 Overview

The Pepperl+Fuchs VisuNet Remote Monitors GXP RM-GXP1100-* and RM-GXP1200-* are explosion-protected apparatuses certified for use in hazardous areas rated according to IECEx & ATEX Zone 1/21 and Zone 2/22 type designations.

The VisuNet GXP serves as a thin-client based operator workstation that uses standard Ethernet technology to transmit process information from a process control or manufacturing execution system into hazardous areas.

The assembly consists of three core devices which can be replaced by the customer:

- The display units DPU1100-* and DPU1200-* are display panels with optionally available 10-finger multi-touch sensors, rated for zones 1/21 and 2/22, respectively. The displays and touch-sensors are optically bonded with the hardened front glass.
- The thin client units TCU1100-* and TCU1200-* are computing units running the latest Pepperl+Fuchs RM shell 4.x firmware. They allow connecting to various sets of host systems in the safe are, using standard Ethernet technology.
- The power supply units PSU1100-* and PSU1200-* provide the above mentioned devices with 24 V DC power. They are available as DC and as wide-range AC versions.

As the standard mounting option, a bezel is available which allows mounting the panel into a system housing or cabinet (mounting kit required). The panel can also be flush-mounted into a cabinet from behind, using additionally available mounting brackets.



2.2 Technical Specifications

Technical Data

Hardware	
Processor	Intel® Atom™ Bay Trail E3827 1.75 GHz
RAM	2 GB DDR3L
Mass storage	32 GByte industrial grade MLC SSD

Supply	
Power consumption	max. 72 W , typ. 55 W

Interface	
Interface type	1 x Ethernet 100/1000BASE-T 1000 MBit/s (Ex e) or fiber optic 1000Base-SX, 1000 MBit/s 1x USB 2.0 (Ex e) 2x USB 1.1 (Ex i; intended for P+F keyboard and mouse) optional: 1x barcode reader interface P+F Pscan-D/B (Ex i) 1x DC or AC power in (via power supply unit)

Software	
Operating system	VisuNet RM Shell 4.x (based on Microsoft Windows Embedded Standard 7) Supports Microsoft DRDP, VNC, and other remote desktop protocols

Ambient conditions	
Operating temperature	0 ... 50 °C (32 ... 122 °F) (normal operation) ; -20 ... 50 °C (-4 ... 122 °F) (after 1 hour of operation)
Storage temperature	-20 ... 60 °C (-4 ... 140 °F)
Relative humidity	93% at 40°C, non-condensating, according to EN60068-2-78
Vibration resistance	10 ... 150 Hz, +/- 0.075 mm , 1g, 10 cycles per axis according to EN60068-2-6

Mechanical specifications	
Degree of protection	IP66 (panel with system housing)
Material	Panel: anodized aluminum (TCU, PSU), powder coated aluminum (DPU) Bezel: stainless steel AISI 304 (1.4301) System housing: stainless steel AISI 304 (1.4301), ceramic blasted

Mechanical specifications	
Mass	Panel (DPU with bezel, TCU, PSU DC): approx. 17.5 kg Panel (DPU with bezel, TCU, PSU AC): approx. 18 kg System housing: approx. 11 kg
Dimensions	Panel (DPU with bezel, TCU, PSU DC): 625x459x120 mm Panel (DPU with bezel, TCU, PSU AC): 625x459x137 mm Panel with system housing: 625x459x173 mm



Note!

For more technical information, please refer to the datasheets of the individual components:

- Display Units DPU1100-J1* and DPU1200-J2*
- AC Power Supply Units PSU1100-J1-AC-N0 and PSU1200-J2-AC-N0
- DC Power Supply Units PSU1100-J1-DC-N0 and PSU1200-J2-DC-N0
- Thin Client Units TCU1100-J1-* and TCU1200-J2-*

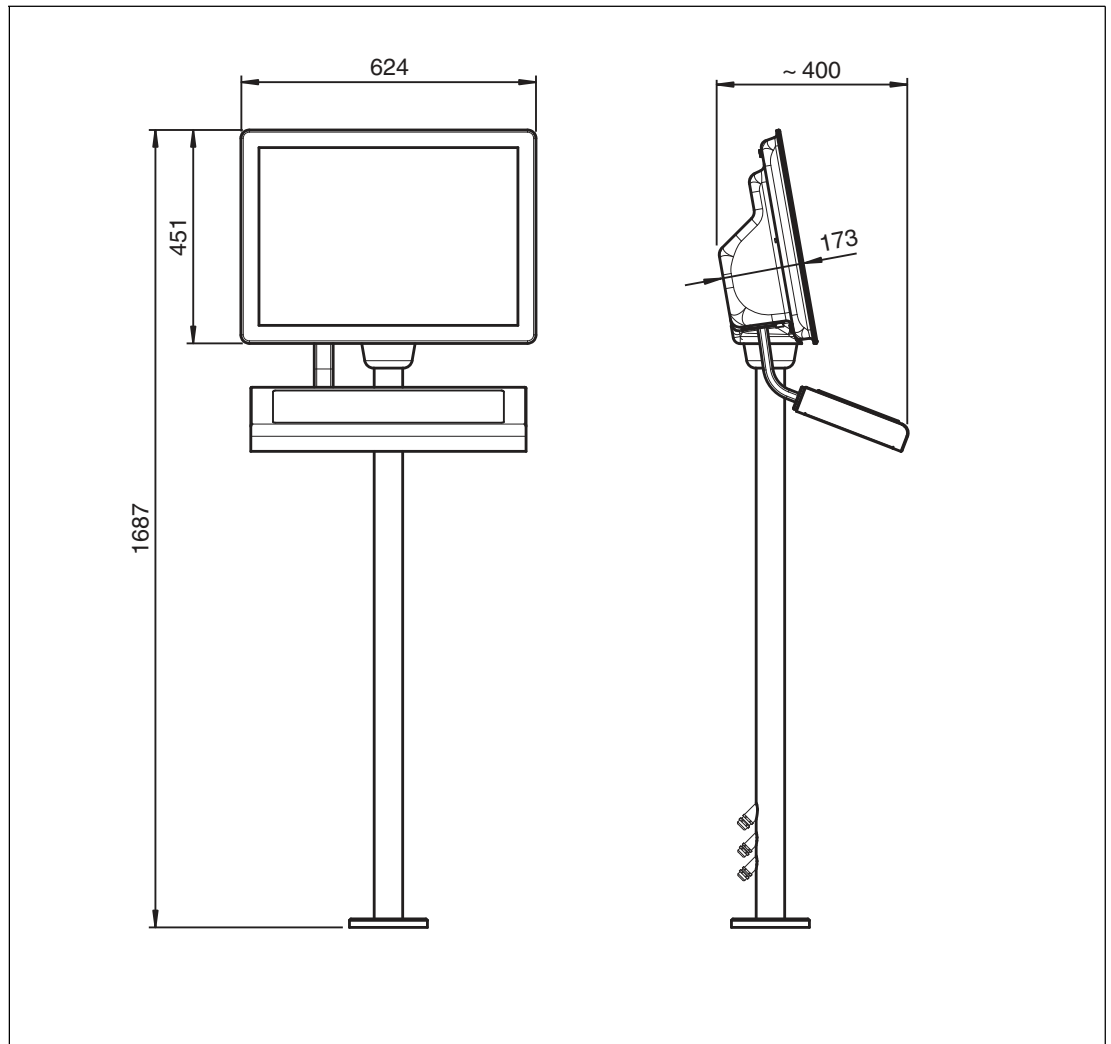
Marking

ATEX	
RM-GXP1100-J1-*	II 2G Ex eb q ib [ib] IIC T4 IP66 Gb II 2D Ex tb [ib] IIIC T85°C IP66 Db
RM-GXP1200-J2-*	II 3G Ex ec [ib] q IIC T4 IP66 Gc II 3D Ex tc [ib] IIIC T85 °C IP66 Dc

IECEX	
RM-GXP1100-J1-*	Ex eb q ib [ib] IIC T4 IP66 Gb Ex tb [ib] IIIC T85°C IP66 Db
RM-GXP1200-J2-*	Ex ec [ib] q IIC T4 IP66 Gc Ex tc [ib] IIIC T85 °C IP66 Dc

2.3 Dimensions

Dimensions



2.4 Scope of Delivery

- 1x Pre-assembled VisuNet RM-GXP Panel
- (Option: Panel mounted into AG-XX00 housing)
- 2x Protective tubes
- Screws for housing

3 Mechanical Installation

3.1 Unpacking



Warning!

Risk of injuries

Handling the devices with bare hands may cut fingers, hands, or wrists.

Make sure to wear gloves during the installation process at all times.

The VisuNet GXP is sent pre-assembled consisting of the core components Display Unit, Power Supply Unit and Thin Client Unit. If the housing option is chosen, the panel is sent pre-mounted into the housing.



Caution!

Scratches and damages to the devices

The devices may become scratched or damaged if they are placed onto or moved over hard surfaces.

Use the foam brackets enclosed when taking the device out of the box or moving it around. Use these brackets for placing the device and place it face down onto them, i.e. onto the display front.

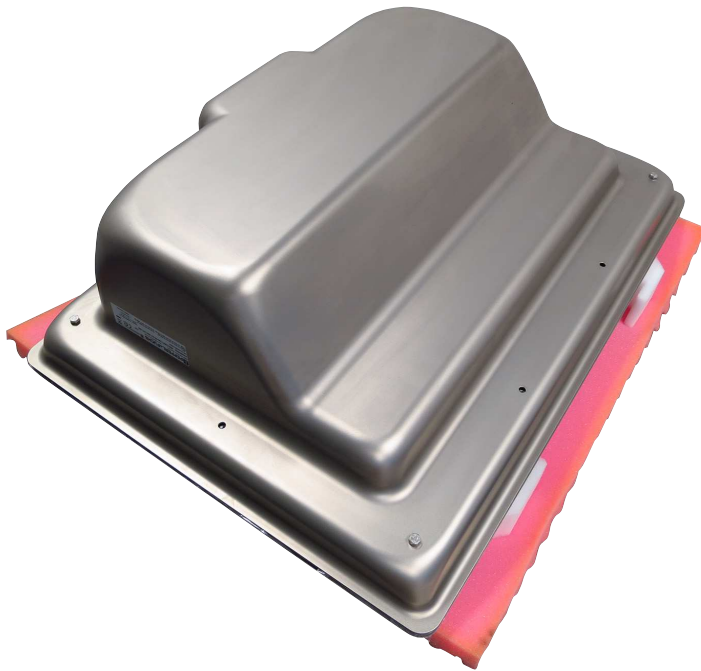
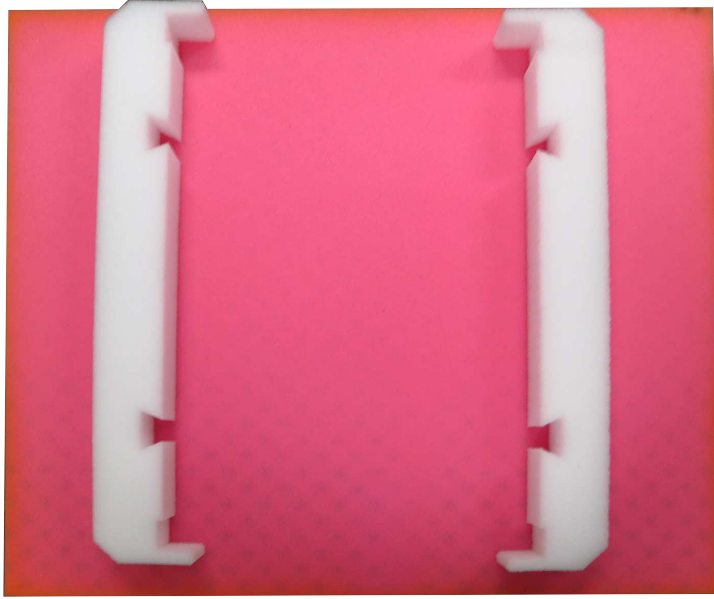


Warning!

Danger resulting from scratched display unit front screen

Scratches in a display unit front screen weaken the glass structure and may thus, in the event of an explosion within the display unit, result in glass breakage. Explosion protection is no longer ensured if a display unit with a scratched screen is used.

NEVER use a display unit with a scratched front screen in a hazardous area. If the surface is damaged in any way, return the display unit to Pepperl+Fuchs at once and replace it with a new one. To this end, remove the display unit. See chapter 3.2.7



3.2 System Installation

3.2.1 Preparing the Pedestal

For floor mounting, the preferred installation option is using PEDESTAL-XX00-*. This is shipped with a pre-installed rotating coupling with four headless screws and a grounding cable which is fixed to the pedestal tube.



Preparing the Pedestal for Connection

1. Bend the grounding cable and place it within the pedestal tube.
2. Route the field installation cables (power cable, Ethernet cable) through the cable glands at the pedestal bottom into the pedestal, through the pedestal tube, and out at the top.
3. Place the O-ring into the channel of the coupling.

↳ The pedestal is now ready for connection.

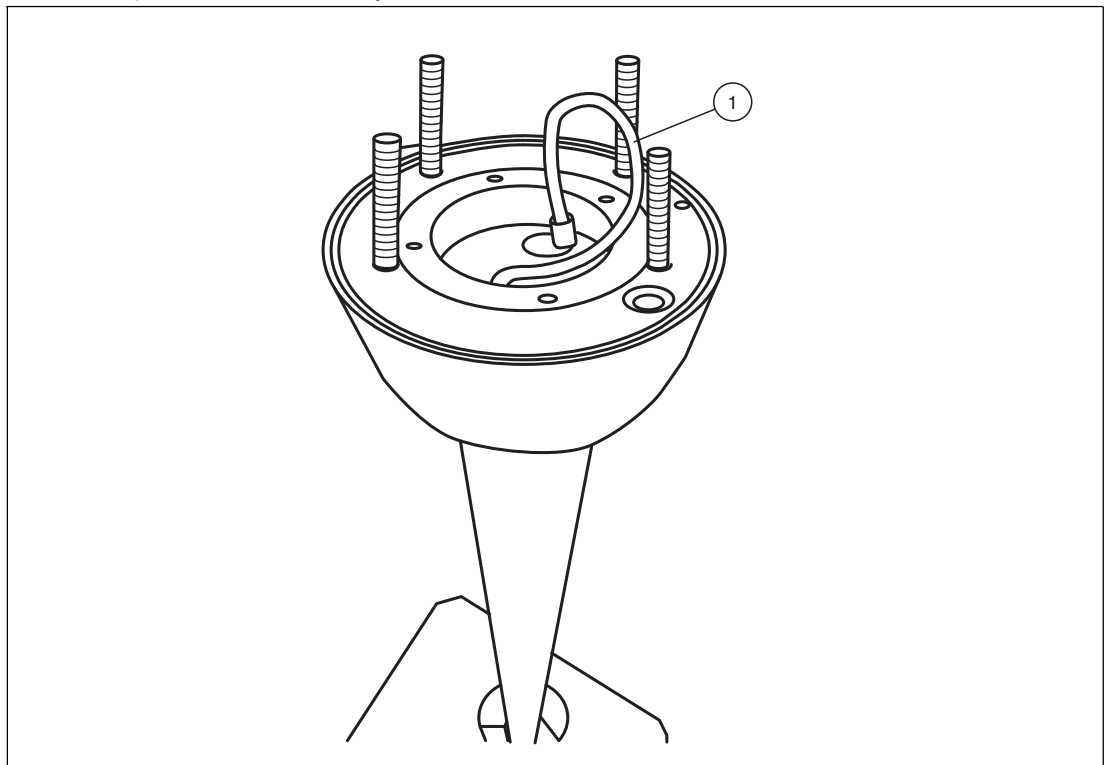


Figure 3.1 Pedestal with PE cable

- 1 PE cable

3.2.2 Mounting the Housing



Warning!

Risk of injuries

Lifting the device on your own may lead to injury.

Do not attempt to lift the device on your own. Use a crane or get another person to help you.



Warning!

Risk of injuries

While the device is resting on the pedestal and the nuts have not yet been fixed to the screws, the device may tip over and fall off the pedestal, become damaged and cause injury.

Make sure to prevent the housing from tipping over by **securing it manually** (e.g. holding on to it) until the nuts have been firmly attached to the screws and the housing is securely attached to the pedestal.



Mounting the AG-XX00 Housing onto the Pedestal

1. Align the rotatable coupling of the pedestal to match the hole pattern of the housing.
2. **With the help of a crane or another person**, place the housing onto the pedestal in such a way that the screws align with the key slot hole and the housing rests on the pedestal.

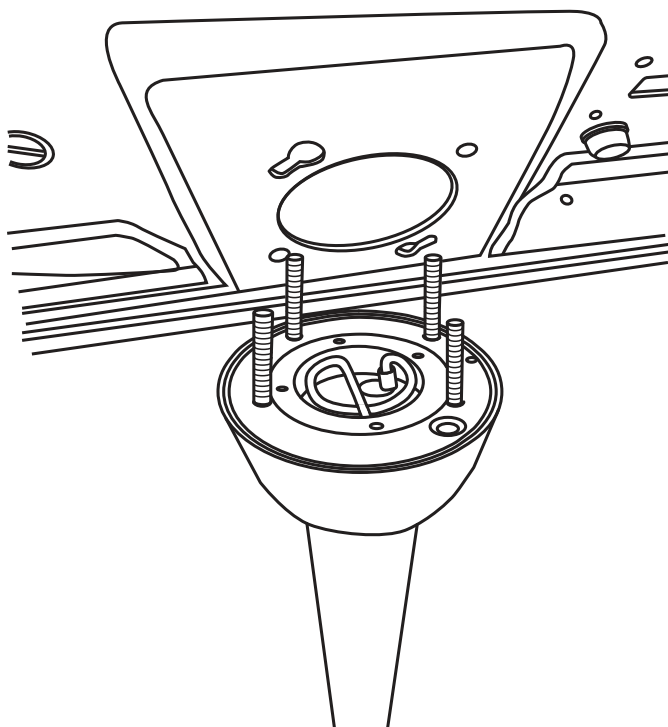


Warning!

Damage to the PE cable

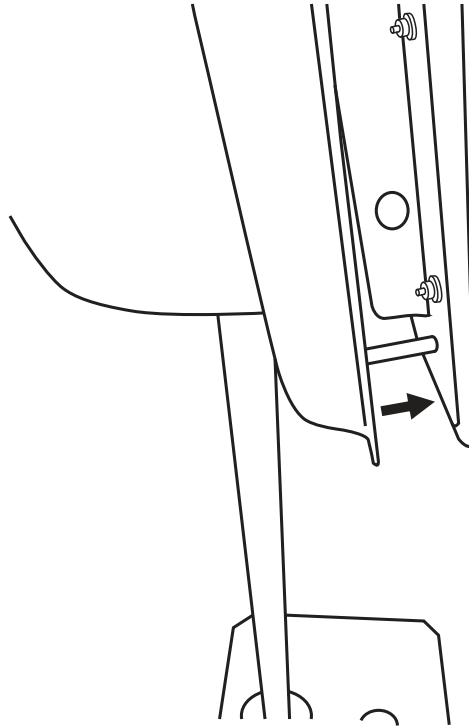
The PE cable may become damaged if it gets stuck between the pedestal and the housing.

Bend the PE cable in such a way that it does not get stuck between the pedestal and the housing.



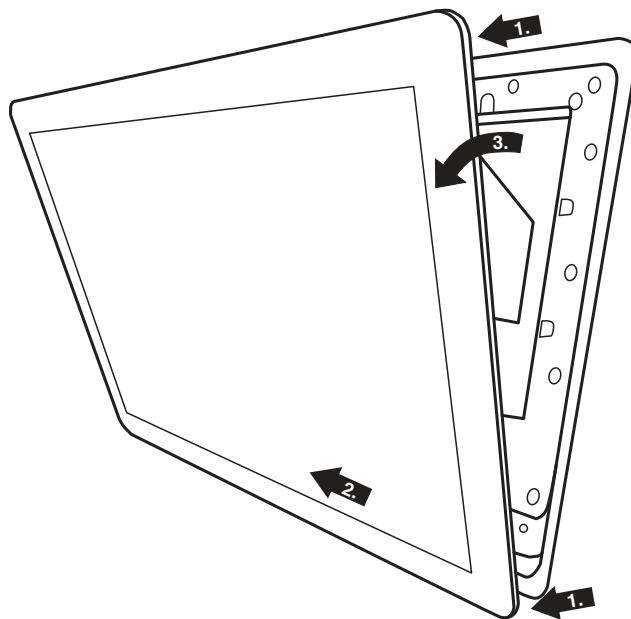


1. While **manually securing the housing** (e.g. by holding on to it), remove all screws from its back.
2. While **manually securing the housing** (e.g. by holding on to it), slowly pull on both lower corners of the display bezel until the display slides out of the housing completely.
3. While **manually securing the housing** (e.g. by holding on to it), slide the display panel about 8 mm to the left to unlock the panel mechanism securing the display.
4. While **manually securing the housing** (e.g. by holding on to it), open the housing by moving the display away from it.

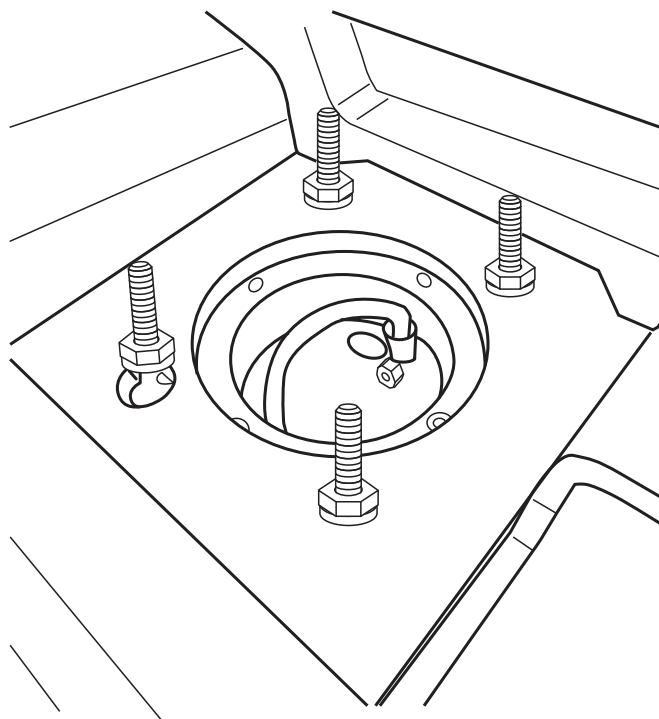




While **manually securing the housing** (e.g. by holding on to it), tip the display panel towards you until the display comes to rest in its fully openend position, hanging down at an angle from its tightened strings.



Place the washers onto the screws and then use a tightening torque to attach the nuts to the headless screws using a torque of 7.5 Nm.



Tip

Secure the screws with a medium strength bolt adhesive (e.g. Loctite® Threadlocker Blue 242®)

3.2.3 Closing the Housing



Warning!

Risk of finger injury

Fingers can become squeezed in and stuck when the display is moved backed into the housing.

Wear protective gloves, hold the display panel by the frame when moving it and mind your fingers.



Warning!

Risk of cable damage

The cables may become squeezed in during the closing process.

Make sure to properly fix all the cables, place them in a protective tube and push that tube into the pedestal before closing the housing.

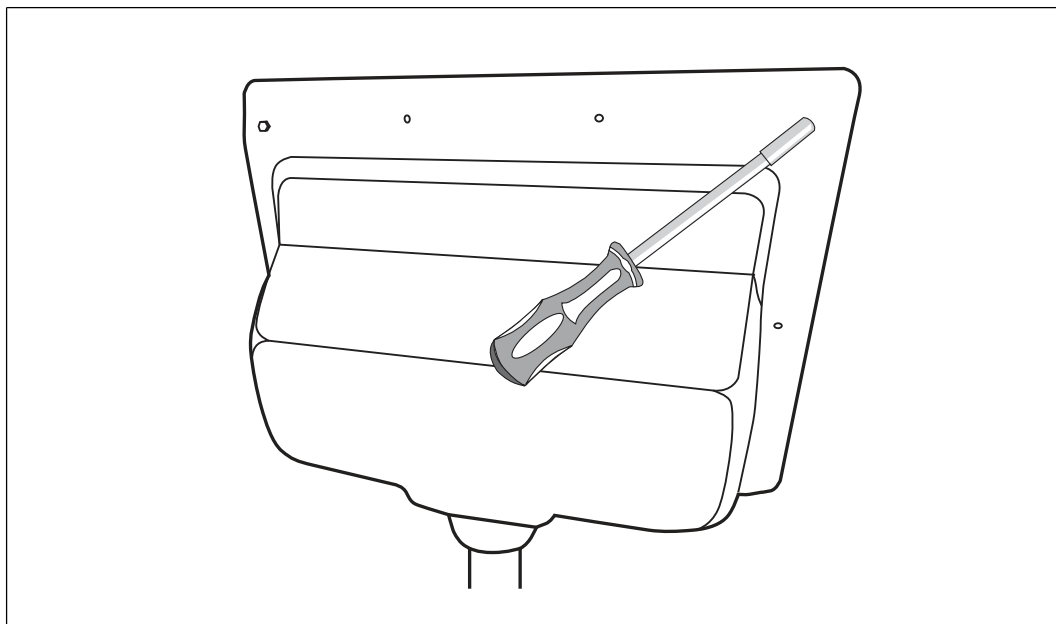


Closing the AG-XX00 Housing

1. To close the housing, put the display in an upright position by slowly moving it backwards until the bolts touch the inner frame of the housing and the panel is in its parking position.
2. To unlock the display panel, slide it about 8 mm to the right until the bolts match with the cut-out holes of the inner frame.
3. Slowly and evenly push both lower corners of the display panel into the housing.



4. Press together display panel and housing at the top end of the system and place a screw each in the holes at the upper left and upper right corners of the housing back.



5. Fasten the the two screws with a torque of 6 Nm.
6. Repeat the last step with all other screws following a diagonal pattern.

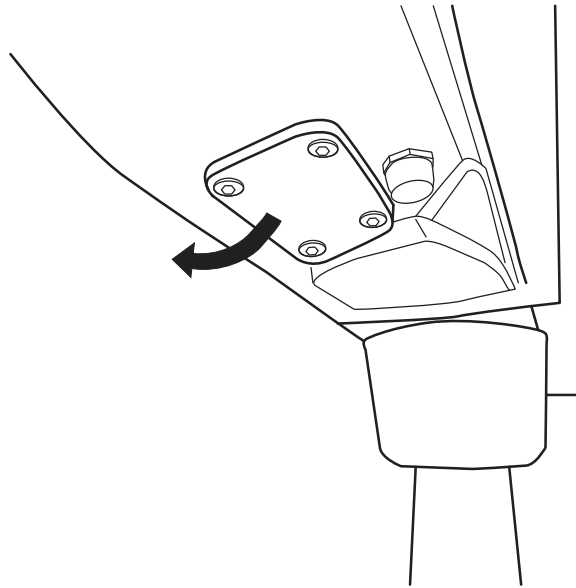
3.2.4 Mounting the Keyboard

The TASTEX EXTA 2 keyboard is the system keyboard available with a mounting option for the VisuNet GXP housing AG-XX00.

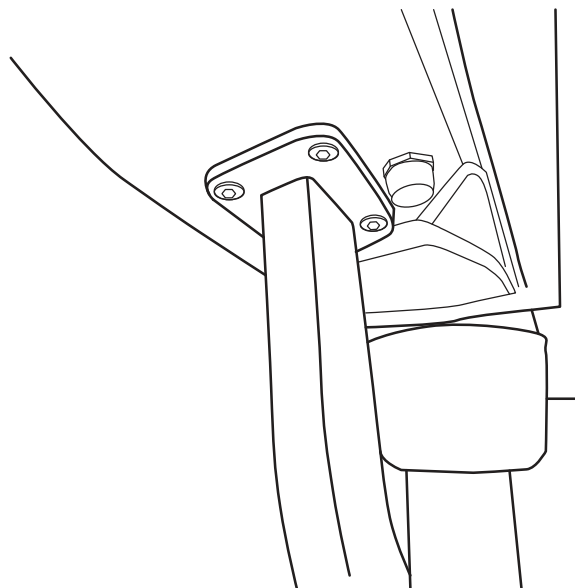


Mounting the EXTA2-* -G-* Keyboard to Housing AG-XX00

1. Open and remove the four cover plate screws on the left side of the AG-XX00 housing bottom.
2. Route the keyboard cable with the protective tube through the hole of the AG-XX00.



1. Using the screws delivered with the EXTA2-* -G-* keyboard, attach the keyboard to the AG-XX00 housing.
2. Fasten the the four screws with a torque of 6 Nm.



Tip

Secure the screws with a medium strength bolt adhesive (e.g. Loctite® Threadlocker Blue 242®)

3.2.5 Mounting the Scanner Holder to the Housing

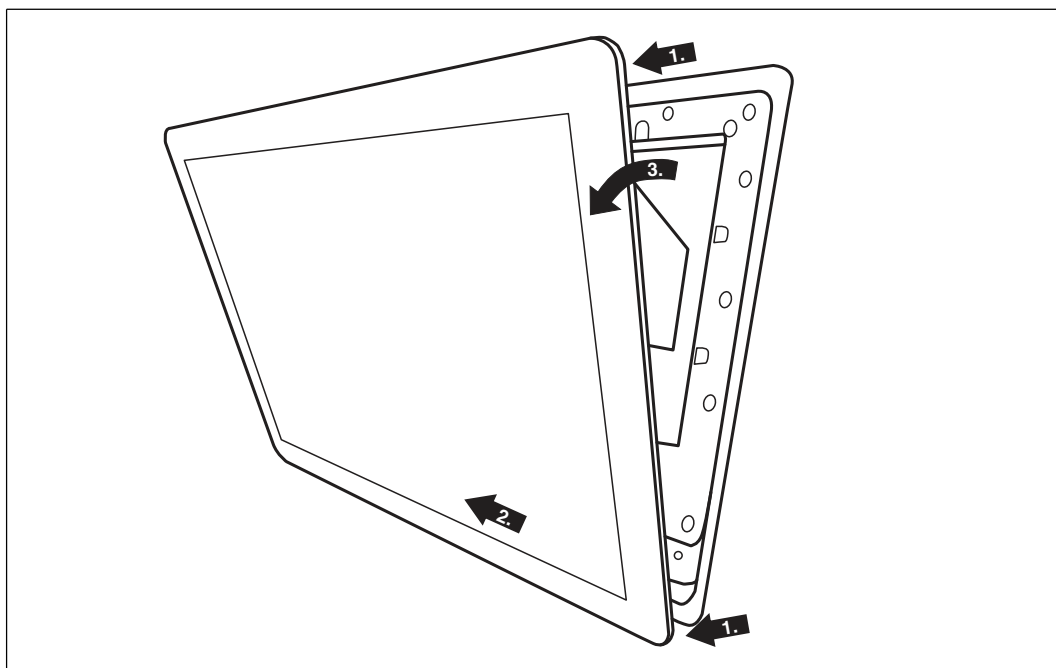
The SCANNER-HOLDER-PSCAN-XX00-N0 (#548121) is a scanner holder for the PSCAN-* scanner family that is compatible with the VisuNet GXP housing AG-XX00.

We recommend using the following tools for the installation:

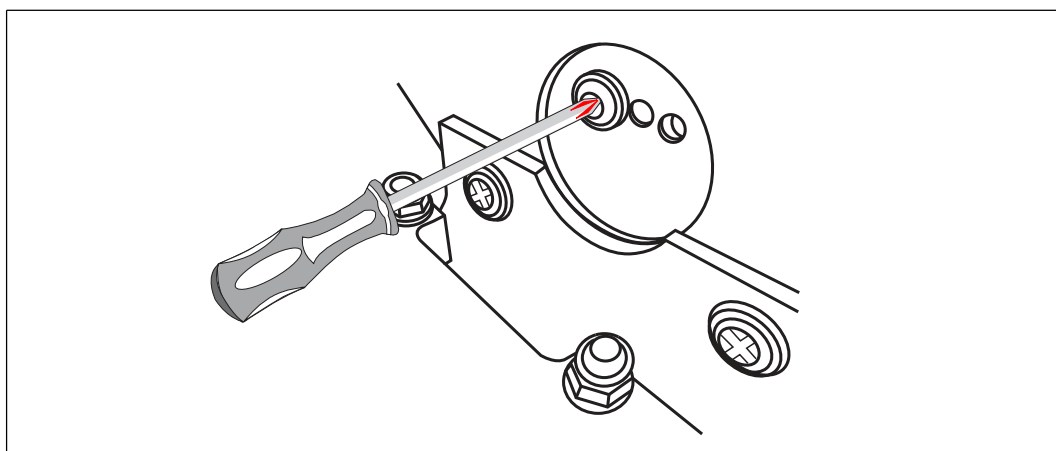
- Split socket pliers
- Gloves
- Hex key drivers (2.5 mm and 3 mm)
- Flat wrench (10 mm)

Mounting SCANNER-HOLDER-PSCAN-XX00-N0 to Housing AG-XX00

1. Open the housing.



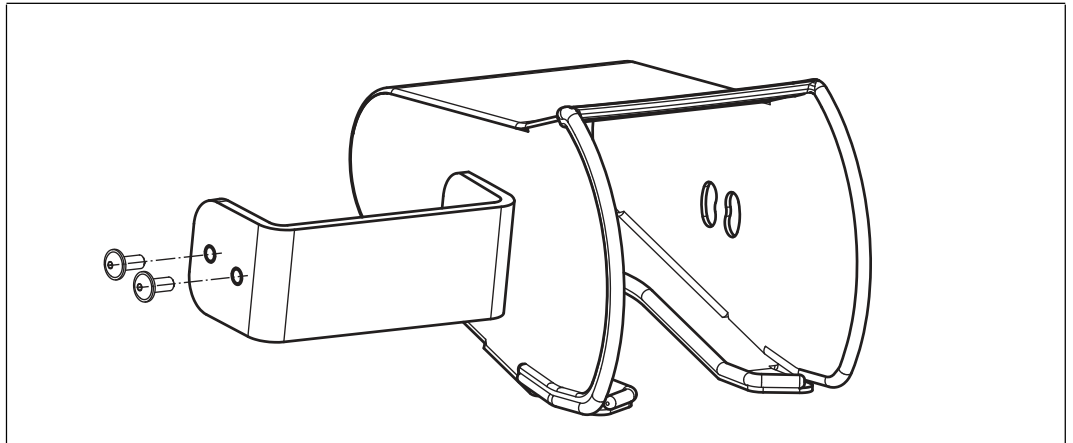
2. Remove the cover plate on the right side of the AG-XX00 housing by opening the wing screw which is located within the housing.



3. Affix the scanner holder with the first screw that is contained in the scope of delivery of the scanner holder.
4. Use a hex key to put the first screw (with lock washer and sealing washer) through the drilled hole at the left side of the AG-XX00 housing.

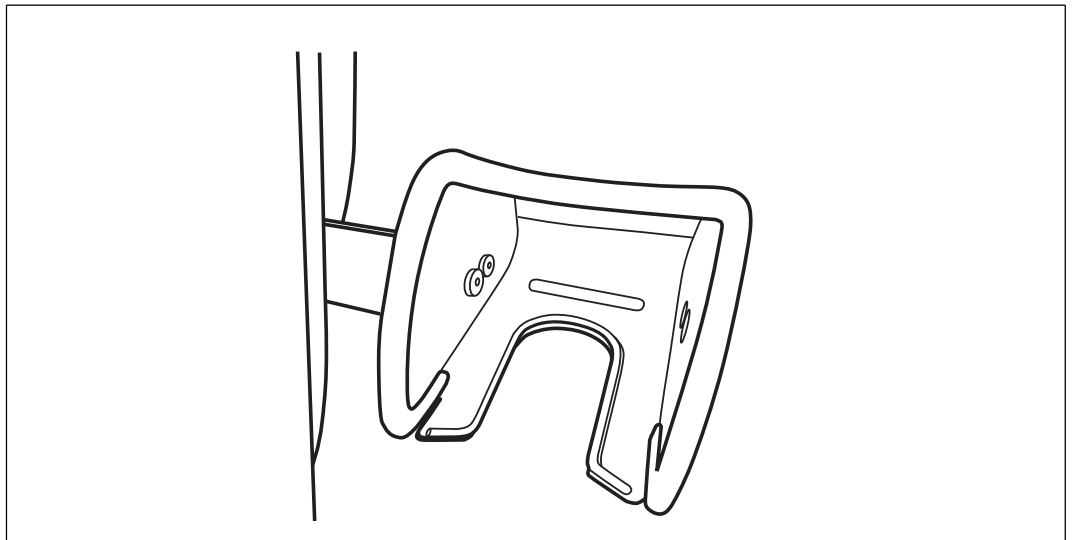
302041 2017-05

5. Press the scanner holder against the housing from the outside and fasten the screw using a torque of 6 Nm.



6. Use the hex key to put the second screw (with lock washer and sealing washer) through the drilled hole at the right side of the AG-XX00 housing and fasten the screw using a torque of 6 Nm.

↳ The scanner holder is now fixed to the housing.





3.2.6 Installing the Scanner Cable

The DATL-PSCAN-D-XX00-N0 (#548133) is a cable for the installation of the PSCAN-D barcode reader to the VisuNet GXP RM/PC. The scanner cable is compatible with the VisuNet GXP housing AG-XX00 and allows to install the scanner interface plug into the housing.



Installing Scanner Cable DATL-PSCAN-D-XX00-N0

1. Open the housing.
2. To remove the plug at the bottom right side of the housing, hold its screw steady from below using a screwdriver, while unwinding the screw from above using a wrench.
3. Put the cable through the hole with its open wire ending facing forward.
4. Add the M16 counter nut over the end of the cable.
5. Pull the socket into the housing and tighten it with the M16 counter nut. Tighten the screw with a torque of 5 Nm.
6. Protect the cable from mechanical damage by fixing it with a cable tie.
7. Route the cable into the computing unit by using the cable gland of the computing unit (TCU or PCU). Install the cable ends as per the table below.

Wire Colors and Signals

Wire Color	Signal
Yellow	US
White	TxD
Green	RxD
Brown and Gray	GND



Note!

For more information regarding electrical installation, please refer to the computing unit (TCU or PCU) manual or the PSCAN barcode reader manual.



Connect the plug of the PSCAN-D* barcode reader to the socket and tighten it firmly.



Note!

The plug is secured with a nose. Ensure to match the nose with the socket during installation.

3.2.7 Dismounting the Display Unit



Note!

For repair purposes, the display unit can be dismantled from the computing unit (TCU or PCU) and be replaced individually.



Warning!

Danger of Explosion

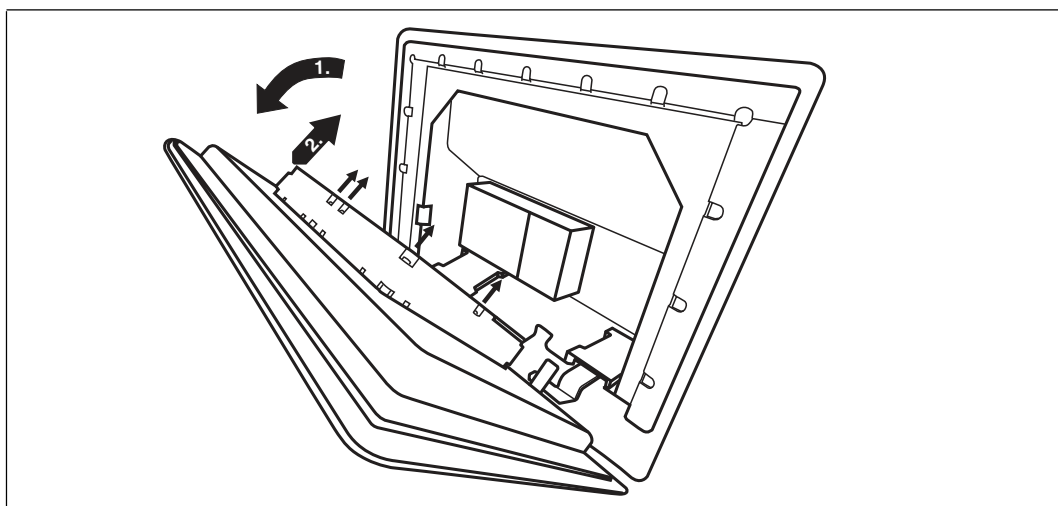
An ignition may be triggered if the computing unit is still energized when its compartment room is opened.

Make sure the computing unit is switched off and wait 3 minutes after de-energizing before opening the compartment room of the computing unit.

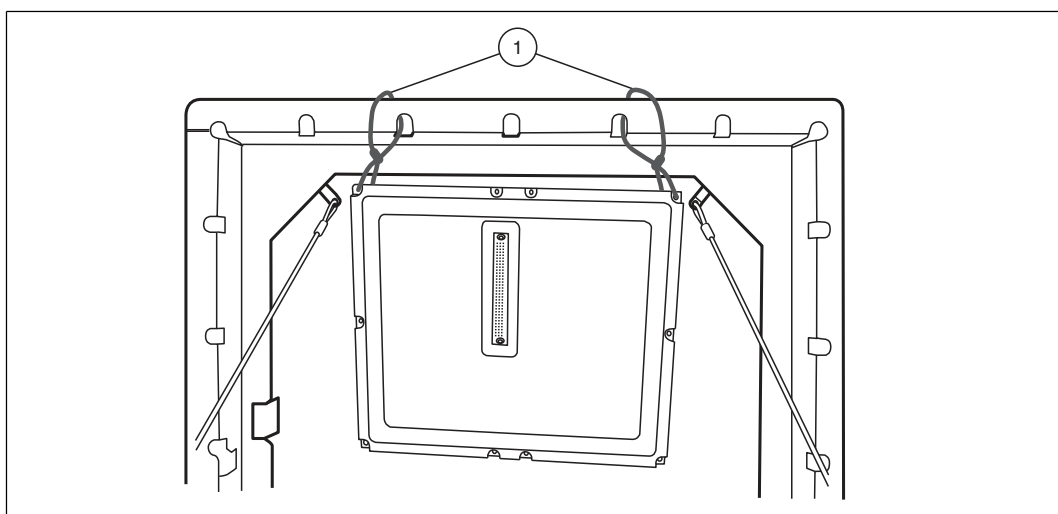


Dismounting the Display Unit

1. Open the housing (1). After de-energizing (see above), open the compartment room of the computing unit. Then, remove all 10 screws from the back of the computing unit and take the computing unit off from the display unit (2).

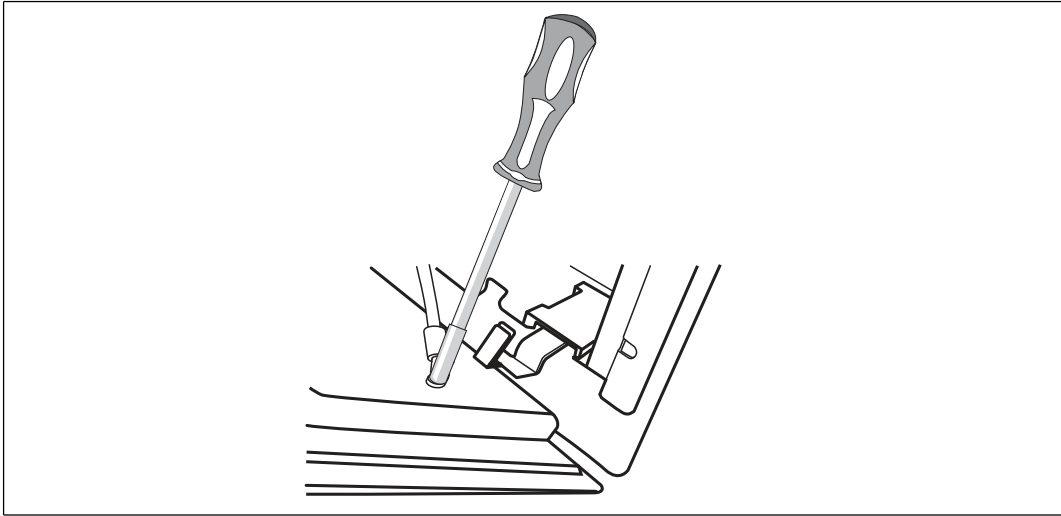


2. To ease the replacement of the display unit, temporarily affix the computing unit, e.g. by using cable ties. To this end, put a cable tie through either mounting hole at its top left and top right, and hang the computing unit from the top of the enclosure frame.

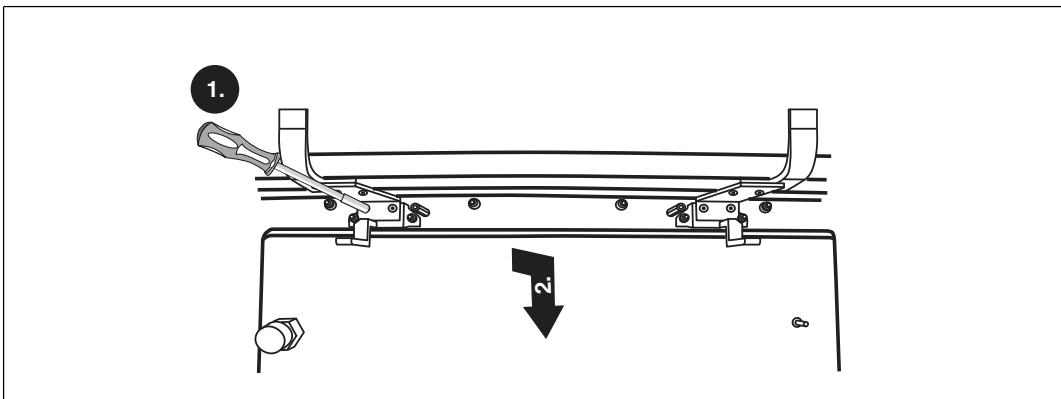


1 Cable Ties

3. Remove the grounding cable from the grounding bolt at the back of the display unit.¹

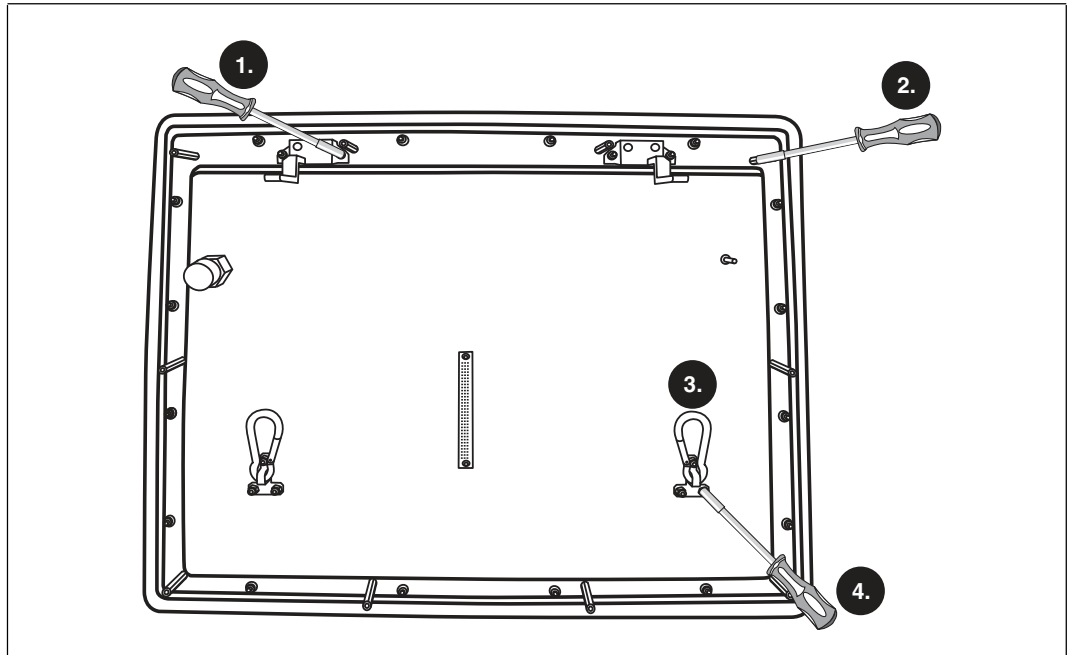


4. Now the display unit can be removed from the enclosure completely. During the removal process, make sure to hold the display unit steady so it cannot fall down, preferably with the help of another person, and to place it on an upholstered and even surface after removal. To remove the display unit from the enclosure, take the two strings out of the carabiners and remove the 4 screws with which the 2 angle brackets are attached to the display unit (1). Then remove the display unit from the housing (2).



1. Please use a torque of 4 Nm for tightening the grounding bolt during the display unit reassembly process where these steps are performed in reverse order.

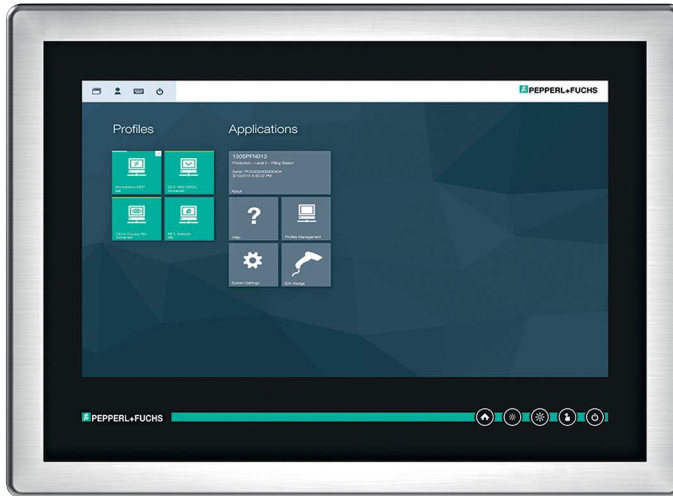
5. Remove the two brackets (1) as well as the 10 bolts at the top, sides, and bottom of the display unit (2). Then, remove the carabiners (3) from their brackets, take out the six bracket screws (4), and remove the carabiner brackets.



Note!

To mount the new display unit, perform all of the above steps in reverse, mounting the items you dismantled.

3.3 Panel Mount Installation



If the Panel Mount Option is chosen, you will receive a pre-assembled package consisting of a display unit, a computing unit, and a power supply unit.

The following kit for panel mounting can be ordered separately:

- 2x L-shaped panel mount brackets (1 left, 1 right)
- 1 rectangular stiffener frame
- 14x M5x25 socket head cap screw (torque: 1.8 Nm)
- 10x M5 lock nut (torque: 4 Nm)

For ordering details, see chapter 5.1



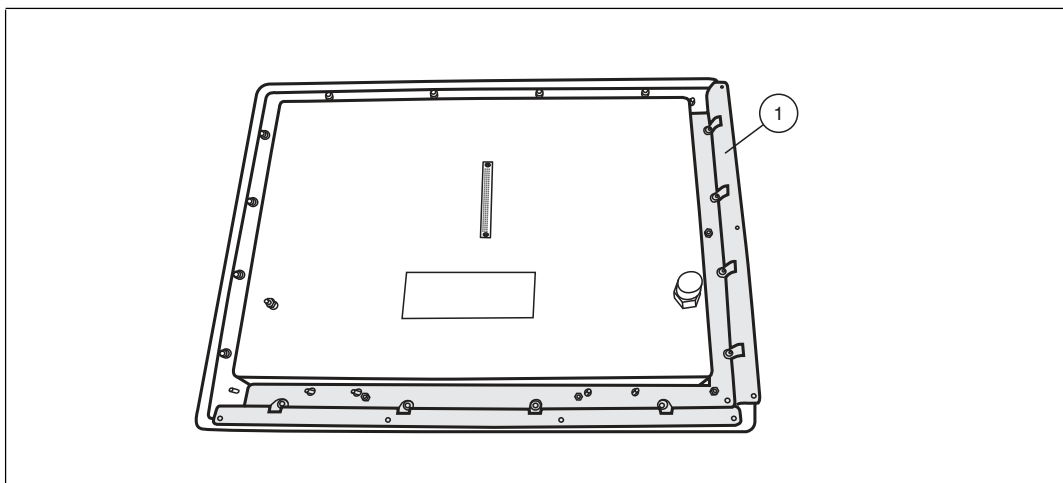
Note!

Please note that the mounting brackets are not identical, but two different items.



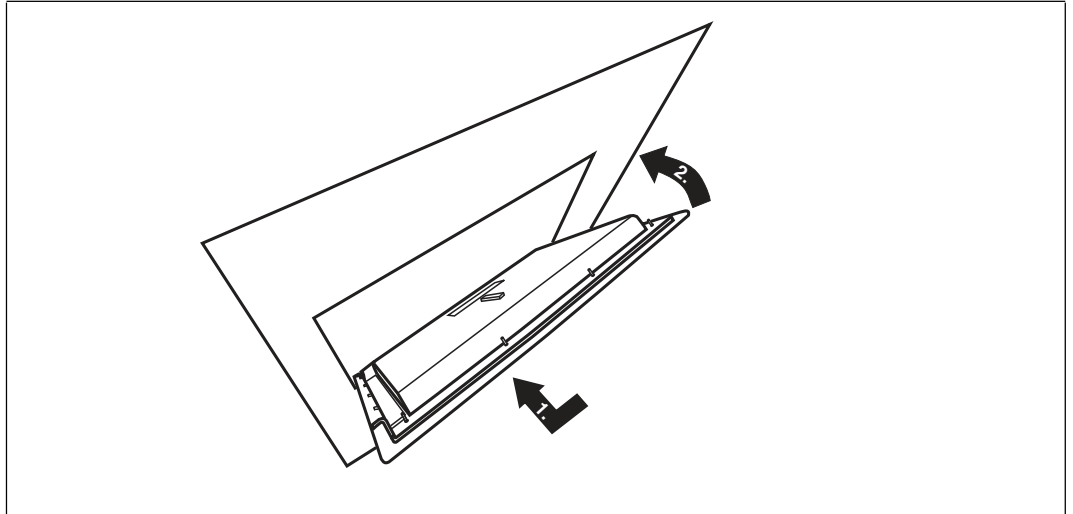
Panel Mounting the RM-GXP

1. Mount the first L-shaped bracket to the back of the display unit. Make sure to use the bracket with the four extra holes at the bottom.

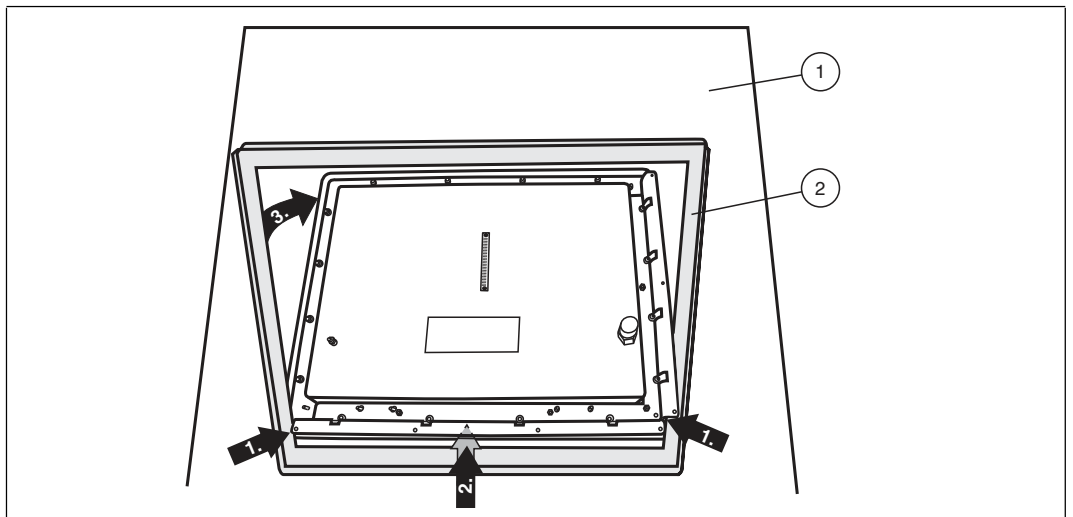


- 1 L-shaped bracket with extra holes at the bottom

2. From the front, place the panel in the cabinet cutout hole (1) and move it to an upright vertical position (2).

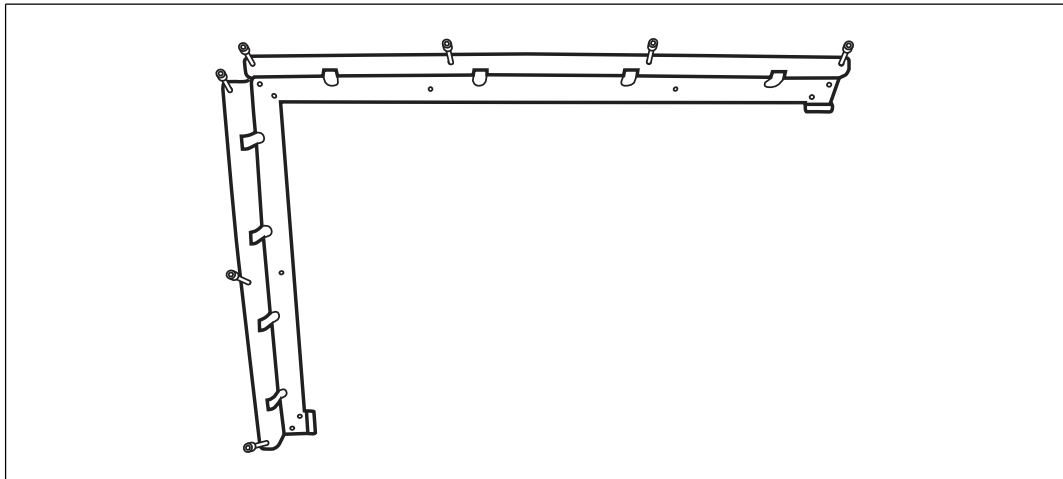


3. From inside the cabinet, add the stiffener frame, position it (1)-(3), and press it against the back of the cabinet wall.

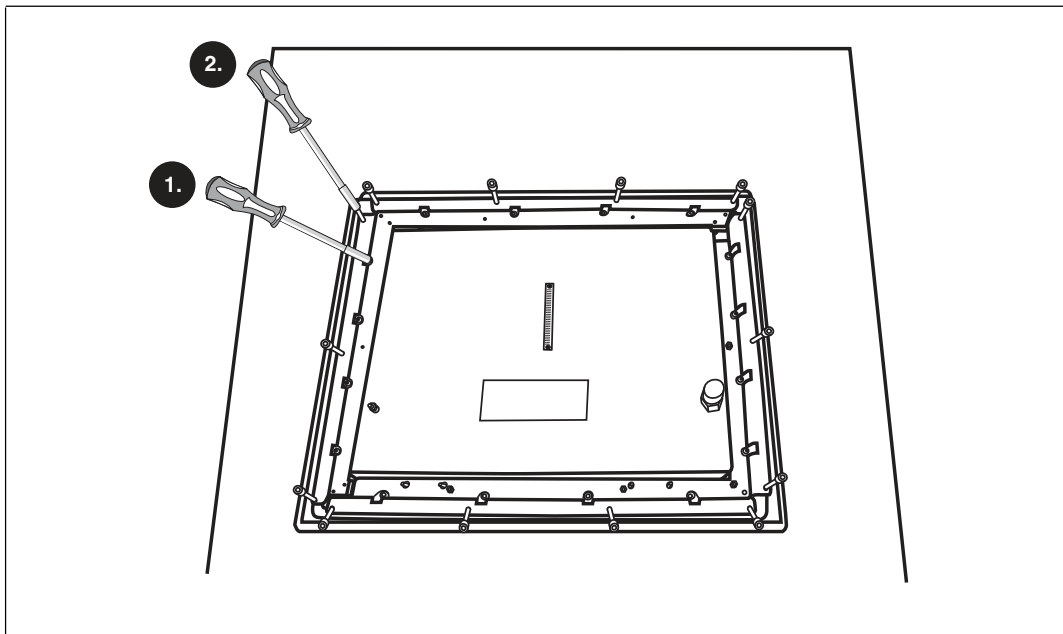


- 1 Cabinet wall (back)
- 2 Stiffener Frame

4. Prepare the other L-shaped bracket with the mounting screws.



5. Mount the prepared L-shaped bracket to the display unit housing (1), then affix both L-shaped brackets with all screws to the stiffener frame (2).



6. Finally, tighten all the screws in a criss-cross pattern using 1.8 Nm torque for the 14x M5x25 socket head cap screws and 4 Nm for the 10x M5 lock nuts.

4 Electrical Installation



Warning!

Danger of Explosion

Disconnecting cables too quickly may trigger an ignition, as device-internal cable capacitances need some time to discharge.

After de-energizing, wait 3 minutes before opening the compartment room or disconnecting the device from the display unit.



Warning!

Danger of Explosion

Cable insulation may become damaged if cables and connection lines are not used in adequate temperature ranges. Thus, short circuits within the cable may occur which in turn may give rise to sparks and/or surface temperatures capable of triggering an ignition.

Only use cables and connection lines which are suitable to be used within a temperature rating of 80 °C if the system components are used within an ambient operating temperature of $T_a > 40$ °C.



Note!

Please refer to the manuals of the individual components for further information on electrical installation and wiring.



Danger!

Explosion hazard from wrong or missing grounding

Wrong or missing grounding can cause sparks. This can ignite the surrounding potentially explosive atmosphere.

- Ground the device. Observe the grounding requirements.
- Ensure that external ground connections exist, are in good condition, and are not damaged or corroded.



Warning!

Risk of electric shock or property damage from inadequate grounding

If you do not ground the device correctly, this could result in potential equalization currents. These currents could hurt operating personnel or cause property damage.

Ground the device via the grounding bolt. Ensure that a correct potential equalization is guaranteed at all times.

When installing the VisuNet GXP system, always ensure a proper grounding of all components including housing and mounting parts (e.g. pedestal, wall-bracket) with an area of at least 4 mm² according to IEC 60079-14.

The VisuNet GXP is shipped with the following PE wiring connections, if the housing option is selected:

- PE wire from the display unit grounding bolt to the housing AG-XX00 grounding bolt.
- PE wire from the power supply unit grounding bolt to the housing AG-XX00 grounding bolt.

4.1 Grounding the Housing to the Pedestal



Grounding the AG-XX00 Housing to PEDESTAL-XX00-*

1. Connect the pre-installed PE wire of the pedestal to the grounding bolt of the AG-XX00 housing.
2. Ground the pedestal with the grounding stud on the bottom plate of PEDESTAL-XX00-*
3. Fasten the screw with a torque of 7.5 Nm.

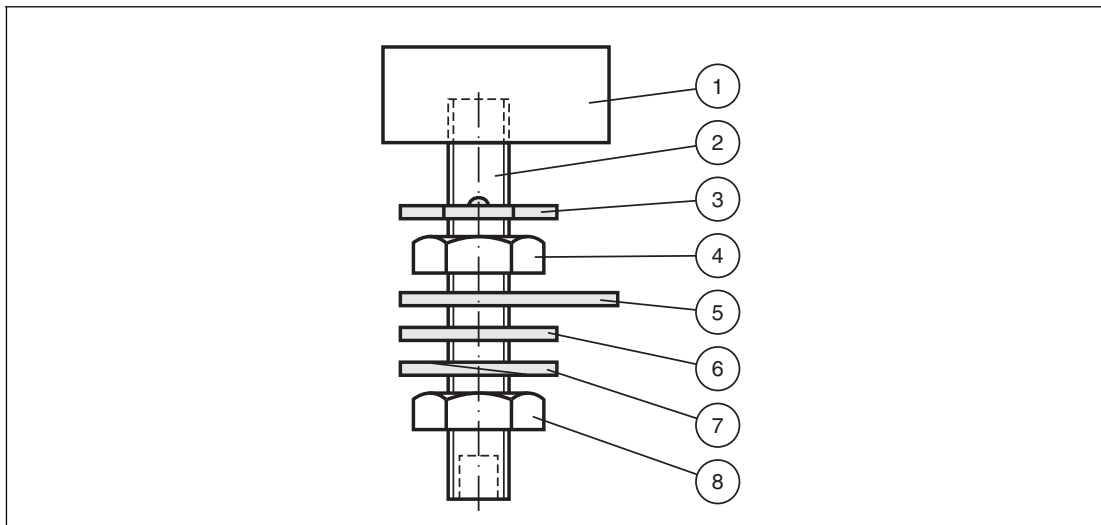
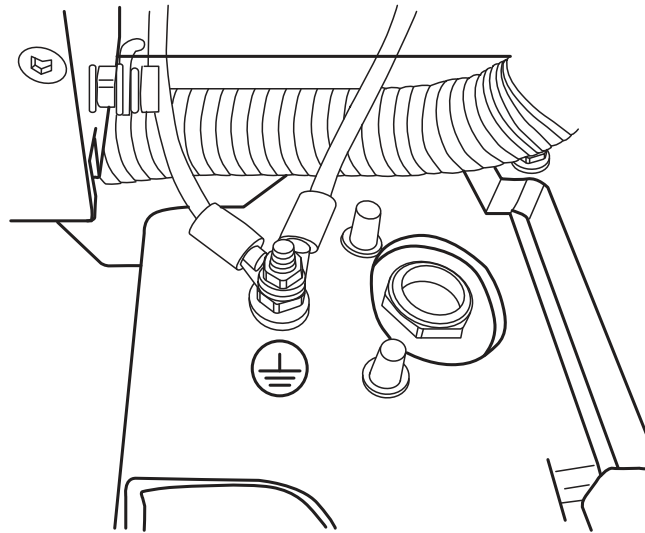


Figure 4.1 Grounding Concept

- | | |
|---|------------------------------|
| 1 | Housing |
| 2 | Ground bolt (hexagon socket) |
| 3 | Contact washer |
| 4 | Nut |
| 5 | Cable lug |
| 6 | Flat washer |
| 7 | Spring washer |
| 8 | Nut |

4.2 Grounding the Housing to the Wall-Bracket



Grounding the AG-XX00 Housing to WALL-BRACKET-XX00-*

1. Ground the wall bracket with the grounding bolt on the bottom of the WALL-BRACKET-XX00-*
2. Fasten the screw with a torque of 6 Nm.



Note!

The AG-XX00 housing is grounded indirectly via the wall bracket. It does not require an additional PE wire between housing and wall bracket.

5 Appendix

5.1 Accessories

Mounting and Installation

Item Number	Name	Description
#548003	PEDESTAL-XX00-124-3-304-TRN-N0	Turnable pedestal, floor mount Compatible with AG-XX00-* housing
#548071	WALL-BRACKET-XX00-3-304-N0	Adapter for wall mounting installation Compatible with AG-XX00-* housing
#548004	KIT-PM-XX00-22F-304-N0	Kit for panel mounting Compatible with 21.5" display unit (option 22F)

Barcode Reader

Item Number	Name	Description
#548121	SCANNER-HOLDER-PSCAN-XX00-N0	Scanner holder for PSCAN-D/PSCAN-M barcode reader Compatible with AG-XX00-* housing
#548133	DATL-PSCAN-D-XX00-N0	Connector cable for PSCAN-D barcode reader Compatible with AG-XX00-* housing



Note!

For more options and accessories, please contact your local Pepperl+Fuchs sales representative.

PROCESS AUTOMATION – PROTECTING YOUR PROCESS



Worldwide Headquarters

Pepperl+Fuchs GmbH
68307 Mannheim · Germany
Tel. +49 621 776-0
E-mail: info@de.pepperl-fuchs.com

For the Pepperl+Fuchs representative
closest to you check www.pepperl-fuchs.com/contact

www.pepperl-fuchs.com

 **PEPPERL+FUCHS**
PROTECTING YOUR PROCESS

Subject to modifications
Copyright PEPPERL+FUCHS • Printed in Germany

302041 / DOCT-5482
05/2017