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User Manual

UM EN OPC 7015 / OPC 7022

Panel-PC with Touchscreen and Software-Keyboard,
15“,22”-Display with the front-sided protection IP65

AUTOMATION

User Manual

Panel-PC with Touchscreen and Software-Keyboard, 15“,22”-
Display with the front-sided protection IP65.

02/2011

Description: UM EN OPC 7015/OPC 7022

Revision: 00

This Manual is valid for
the Panel PCs OPC 7015/OPC 7022

PxC Description

2700763	OPC 7015 S EXP
2700764	OPC 7015 S W7U
2700765	OPC 7015 S
2700766	OPC 7015 P W7U
2700767	OPC 7015 P
2700768	OPC 7022 S W7U
2700769	OPC 7022 S
2700770	OPC 7022 P W7U
2700771	OPC 7022 P

Please observe the following notes

In order to ensure the safe use of the product described, you have to read and understand this manual. The following notes provide information on how to use this manual.

User group of this manual

The use of products described in this manual is oriented exclusively to qualified electricians or persons instructed by them, who are familiar with applicable standards and other regulations regarding electrical engineering and, in particular, the relevant safety concepts.

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Explanation of symbols used and signal words



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Danger:

This indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Warning:

This indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Caution:

This indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

The following types of messages provide information about possible property damage and general information concerning proper operation and ease-of-use.



Note:

This symbol and the accompanying text alerts the reader to a situation which may cause damage or malfunction to the device, either hardware or software, or surrounding property.



Note:

This symbol and the accompanying text provides additional information to the reader. It is also used as a reference to other sources of information (manuals, data sheets, literature) on the subject matter, product, etc.

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1 REMARKS

1.1 RELEVANT DOCUMENTATION FOR THE DEVICE

The following documents are essential for setting up and operating this device:

USER MANUAL (THIS DOCUMENTATION):

Contains information for installation, commissioning and operating the device along with technical data of the device hardware.

1.2 DATA, FIGURES AND MODIFICATION

All texts, data and figures are non-binding. All these materials are subject to modification due to technological advances. Our products comply with all provisions and requirements of the legislation at the point in time when the products leave our company premises. The operator/operating company bears sole responsibility for the compliance with any consecutive new technological requirement and adherence to any consecutive new legislative provision, as well as for the observance of their obligation as the operator/operating company.

1.3 TRADE MARKS

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1.4 ENVIRONMENTAL CONDITIONS

The device may be operated under the following conditions. Failure to observe these specifications will terminate any warranty for this device. Phoenix Contact cannot be held liable for any damages arising due to improper use and handling.

- Temperature for OPC7008
In operation -20 ... +55°C*
(* only with Flash SSD)
for storage -30 ... +75°C
- Temperature for devices OPC 7013/7015
In operation + 5 ... + 45°C
In operation -20 ... +60°C*
(* valid only with Flash SSD, Automotive HDD or 2,5" Industrial SSD)

for storage -30 ... + 65°C
for storage -30 ... + 75°C*
(* valid only with Flash SSD, Automotive HDD or 2,5" Industrial SSD)
- Temperature for device OPC 7022
In operation + 5 ... + 45°C
for storage -20 ... + 60°C
- Humidity:
In operation 10 ... 85% without condensate
For storage 10 ... 85% without condensate
- Vibration resistance
In operation 1 G, 10 ... 500 Hz
(DIN EN 60068-2-6)
- Shock resistance
In operation 5 G, with a half-wave of 30 ms duration
(DIN EN 60068-2-27)

1.5 STANDARDS

This device complies with the requirements and protective aims of the following EC regulations:

- This device meets the test requirements for granting the CE sign according to the European test standards EN 61000-6-4 and EN 61000-6-2.
- This device complies with the test requirements in accordance with EN 60950 (VDE0805, IEC950) "Safety of Information Technology Equipment"
- The device meets the EN 60068-2-6 standard test requirements (sinus excitation).
- The device meets the EN 60068-2-27 standard test requirements (shock resistance test).



Note:

A respective conformity declaration for the authority in charge is available at the manufacturer and may be viewed on request.

All connected components, as well as cable connections must also meet these requirements for compliance with the EMC legislation. For this reason, screened bus and LAN cables including screened connectors must be used and installed according to the instructions in this user manual.

1.6 EQUIPMENT VERSIONS

The system is available in two equipment versions:

Platform including a Flash SSD:

Without any rotating mass storage device (hard disk, etc.) and including an embedded operating system (Windows CE / XP embedded) for stationary use.

Platform including a hard disc:

Equipped with a hard disk for stationary use with a standard operating system, e.g. for applications in the manufacturing department.

1.7 SCOPE OF DELIVERY

Please check that all of the following components are contained in the packaging:

- 1 x device
- With 24 V DC devices: 3-pin lead-through plug from Phoenix Contact, 3-pin 3.81 OPC7 with a screw connection (already connected with device socket)
- Service CD

Optional delivery scope

- Operating system

2 OPERATING INSTRUCTIONS

This device contains electrical voltages and extremely sensitive components. User intervention is restricted to plugging in additional cards only. The manufacturer or a service partner authorised by the manufacturer should be consulted if you plan to make further modifications. For this type of work, the device must be switched off at the mains and the power lead must be disconnected. Suitable measures for avoiding electrostatic discharge towards parts of the components when touching the equipment must be taken. If the device is opened by an unauthorised person, hazards for the user might arise and any warranty claim will cease.

General instructions:

- All users must read this manual and have access to it at all times.
- Installation, commissioning and operation may only be carried out by trained and qualified staff.
- The security instructions and the manual itself must be observed by all persons who work with this device.
- At the location of use the valid guidelines and regulations for accident prevention must be observed.
- The manual contains the most important instructions on how to use this device in a safe way.
- Appropriate storage, proper transport, installation and commissioning, as well as careful operation are prerequisites for ensuring safe and proper operation of the device.

**Warning:**

Any leads (e.g. power leads, interface cables) may only be connected if the device is switched off in order to avoid damaging the device.

2.1 OPERATING LOCATION

The control system is designed for use inside a switching cabinet. You must ensure compliance with the specified environmental conditions. Using the device in non-specified environments, for example, on board ships, or in areas that might contain explosive gases or in extreme heights is prohibited.

**Warning:**

The device may only be switched on after acclimatising to the ambient temperature in order to avoid condensate accumulation. The same applies if the device has previously been exposed to extreme temperature variations.

To avoid overheating: The device must not be exposed to direct radiation by sunlight or any other light or heat source.

If the device is integrated in a panel, casing or similar enclosures, you must ensure that no heat accumulation builds up. The maximum permissible environmental temperature must never be exceeded.

2.2 DAMAGE DUE TO IMPROPER USE

If the control system shows any obvious damage, e.g. caused by improper operating or storage conditions or by improper use or handling, you must immediately put the device out of operation and protect it from being accidentally switched on.

2.3 WARRANTY / REPAIR

During the warranty period, any repair must be carried out by the manufacturer or by persons duly authorised by the manufacturer only.

2.4 TREATMENT AND DISPOSAL OF LITHIUM BATTERIES

This device contains a lithium battery for supplying the system clock with power as long as the supply voltage is not connected. The battery has a life cycle of 3 - 5 years depending on which load is applied.

**Note:**

The more the battery is exposed to higher temperatures, the faster it ages.

**Warning:**

There is an acute risk of explosion should the wrong type of battery be used.

**Warning:**

Do not put lithium batteries into a fire, do not solder on the cell body, do not recharge them, open them, short-circuit them, do not reverse their polarity or heat them up over 100°C; dispose of them properly and protect lithium batteries from direct sun light, humidity and condensation.

Lithium batteries may only be replaced by the same type, or by a type recommended by the manufacturer.

The lithium battery must be disposed of according to the local legislation at the end of its life cycle.

3 INSTALLATION

3.1 INSTALLATION OPTION

This device is intended for integration into switch panels or switching cabinets. In order to allow for a safe installation and operation (connector access), these switch panels or control desks must be accessible from the back. The device can be integrated into switching cabinets with a wall thickness of 2 to 13 mm. We recommend **a minimum of 3 mm for correct installation with an IP65 front protection class.**

**Warning:**

To avoid overheating in operation: The device must not be exposed to direct radiation by sunlight or any other light or heat source.

If the device is integrated in a panel, casing or similar enclosures, you must ensure that no heat accumulation builds up. The maximum permissible environmental temperature must never be exceeded.

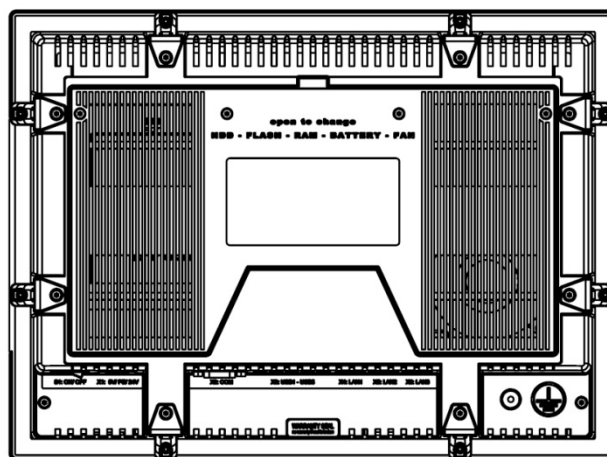
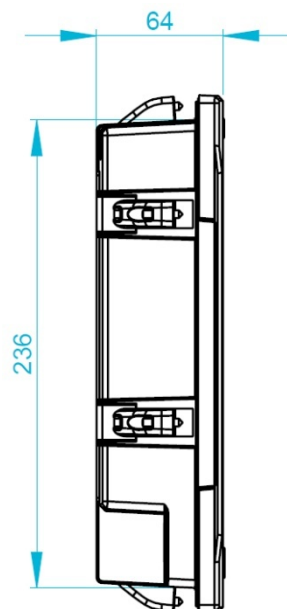
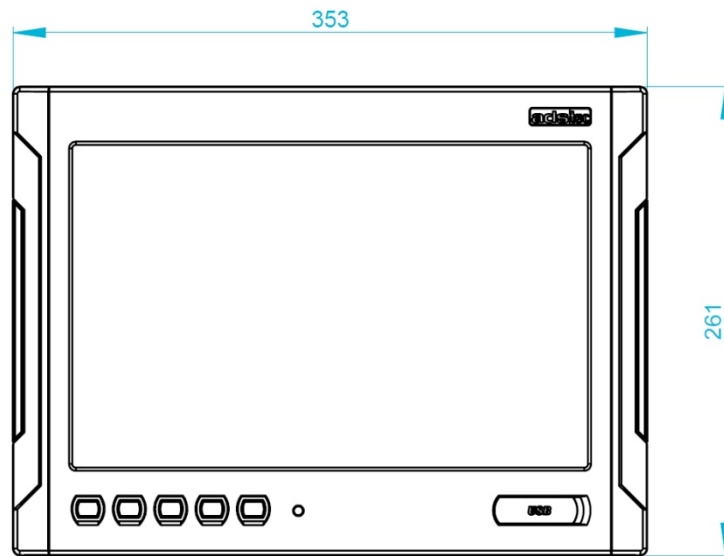
Devices including a data drive must only perpendicularly be integrated. Any deviation must be agreed with Phoenix Contact.

The IP65 protection class is only achieved after correct installation.

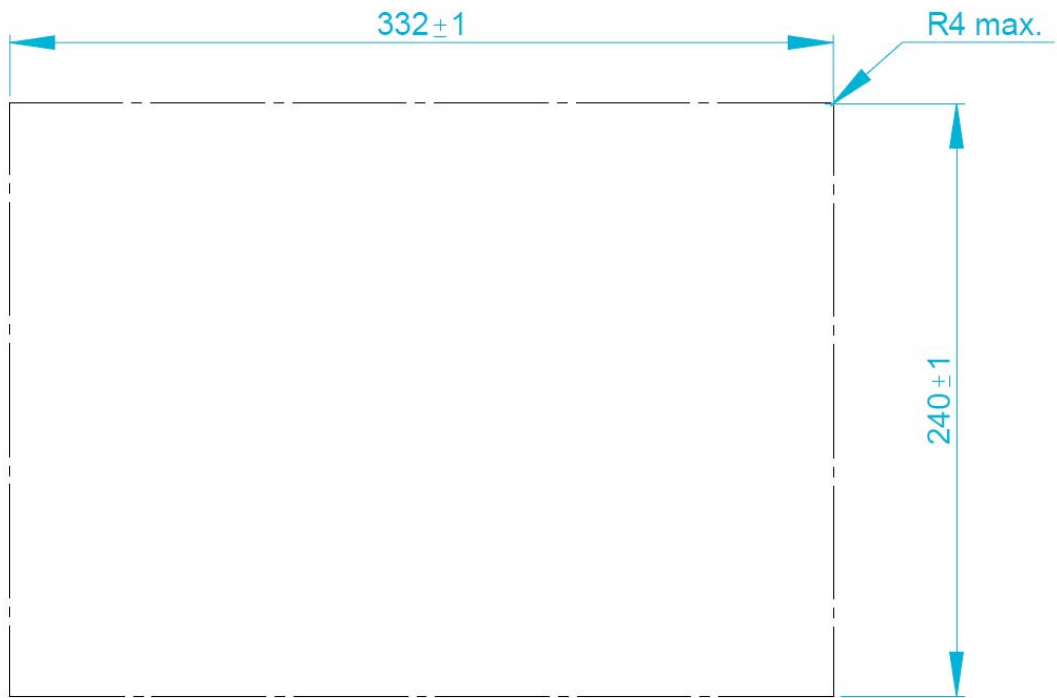
**Note:**

When selecting the enclosure for integration, the power dissipation total of the system including that of all integrated PCBs must be taken into account. The enclosure must be calculated in such a way that the maximum environmental temperature is not exceeded in any case.

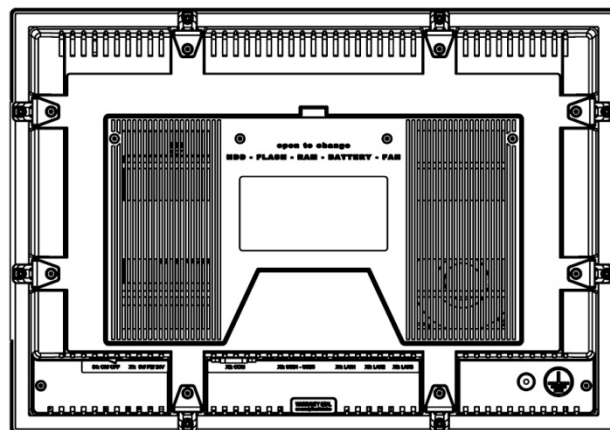
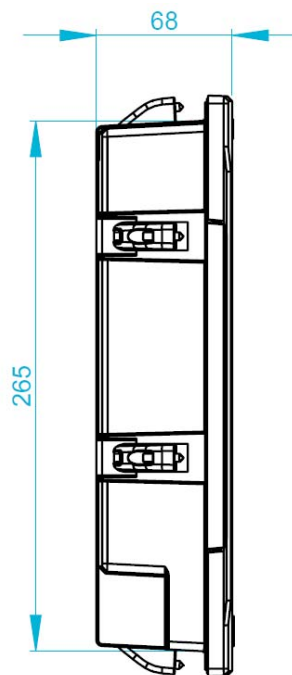
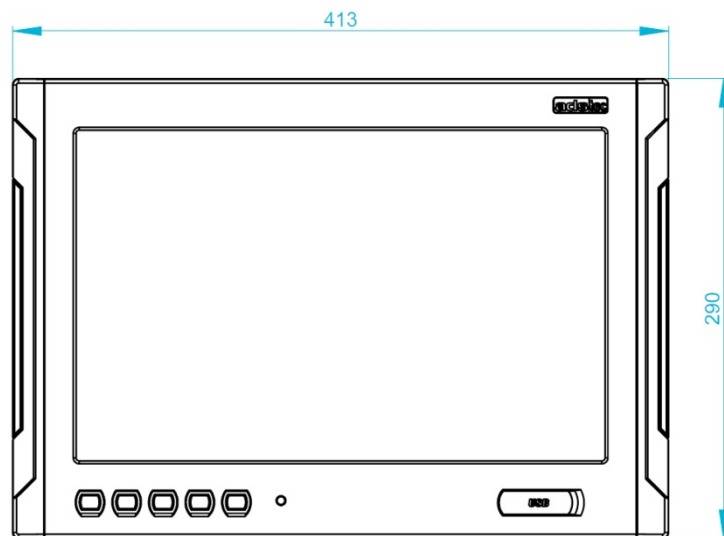
3.2 EXTERNAL DIMENSIONS OF THE OPC 7013 MODEL



3.3 INSTALLATION LAYOUT FOR OPC 7013



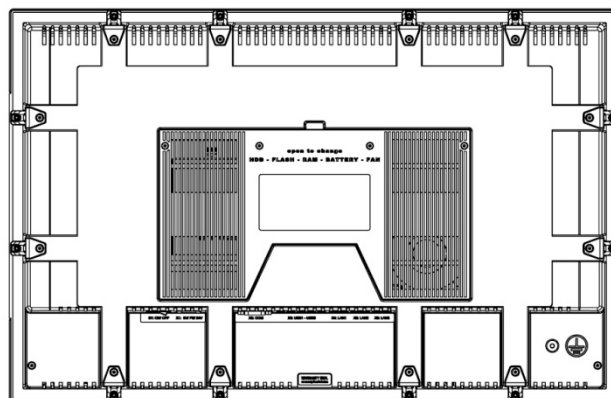
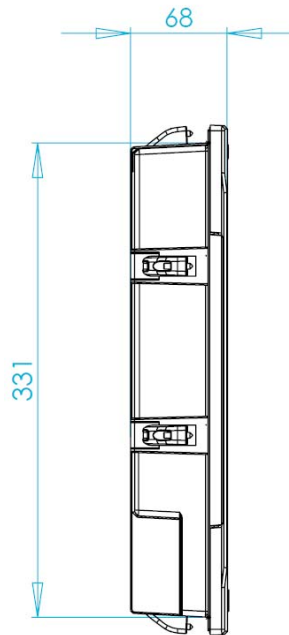
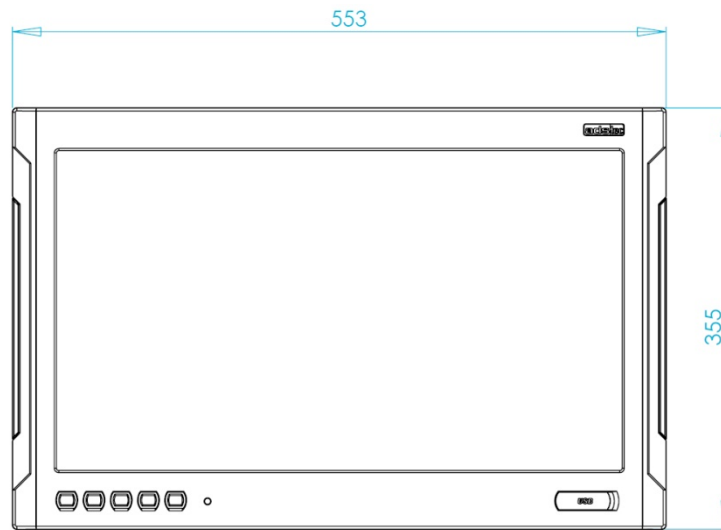
3.4 EXTERNAL DIMENSIONS OF THE OPC 7015 MODEL



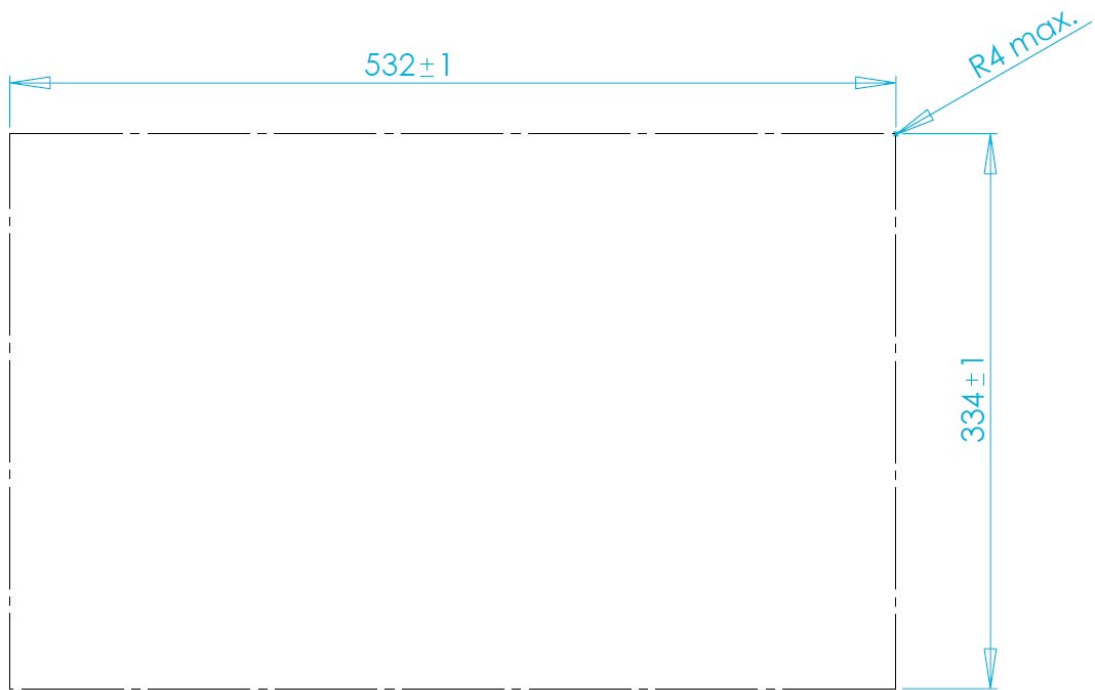
3.5 INSTALLATION LAYOUT FOR OPC 7015



3.6 EXTERNAL DIMENSIONS OF THE OPC 7022 MODEL



3.7 INSTALLATION LAYOUT FOR OPC 7022



3.8 ORDER OF INSTALLATION

INTEGRATING THE DEVICE IN AN INSTALLATION RECESS

**Warning:**

The PC must be switched off before connecting or disconnecting any cables in order to prevent damage to the electronics!

The device may only be switched on after acclimatising to the ambient temperature in order to avoid condensate accumulation.

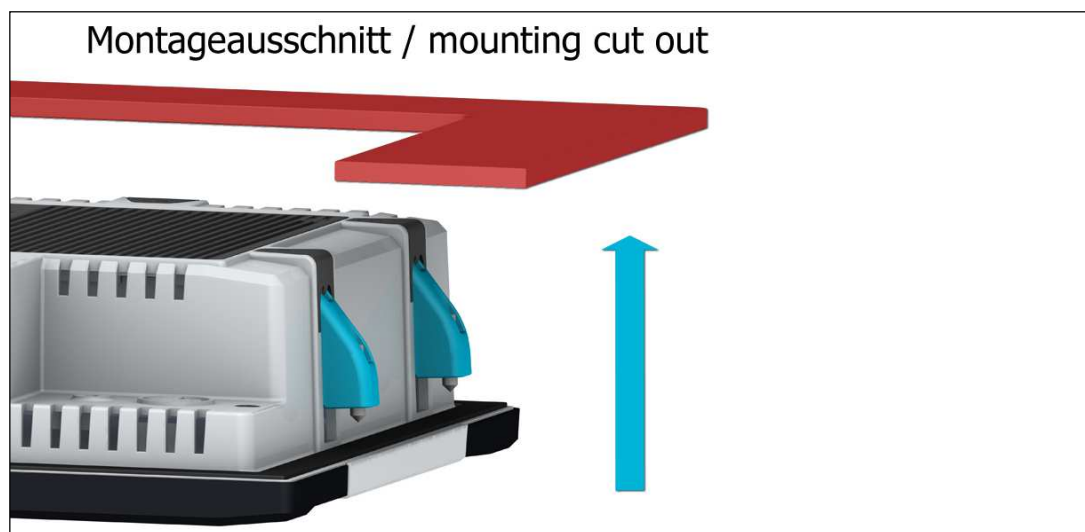
Make sure to meet the permissible voltage requirements for this device.

After switching off and before switching on you must wait for at least 5 seconds.

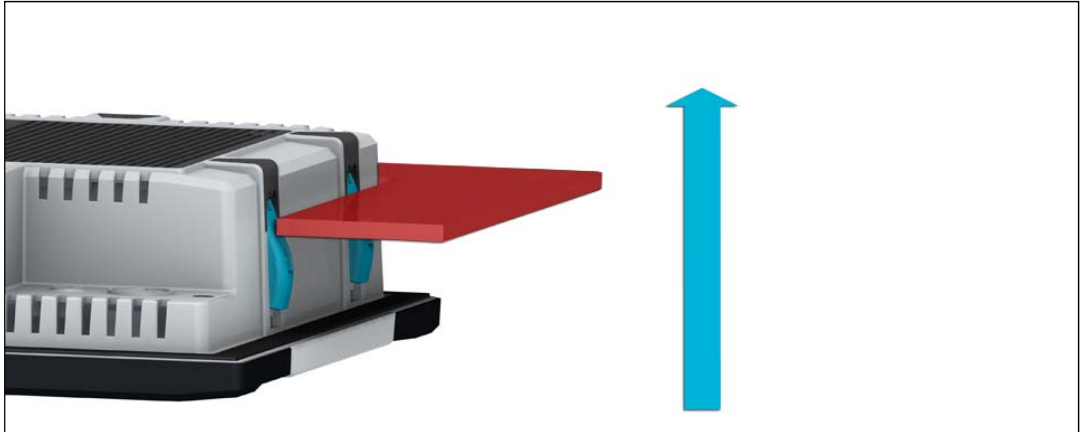
**Note:**

The device is connected with the power supply network by using the enclosed power cable or by using a lead-through terminal incl. a screw connection. Establishing a separate earthing connection is not required since the earthing is done via the protective earth connection of the device plug / power supply connector. If additional earthing is provided, a wire cross section of at least 2.5mm² must be used.

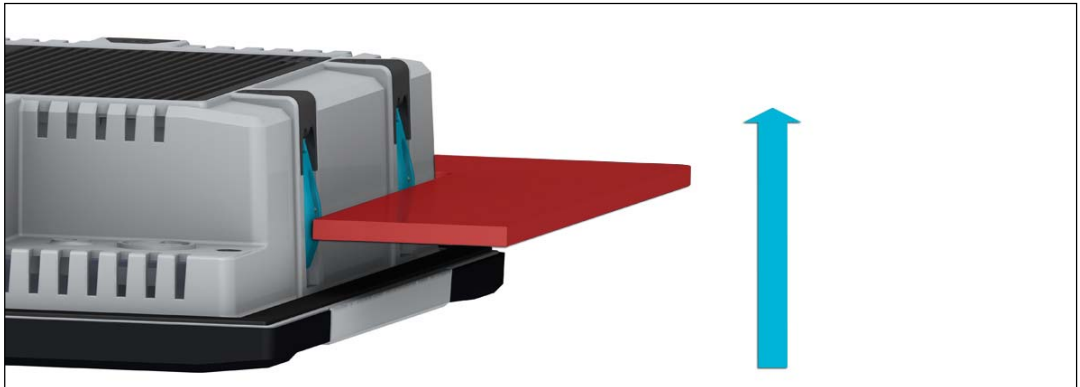
- 1) Cut out the recess from the switch board or switching cabinet door in accordance with the installation layout.
The fixing screws for the tensioners must be installed.
The screws can be loosened by using a screw driver of size TX8.



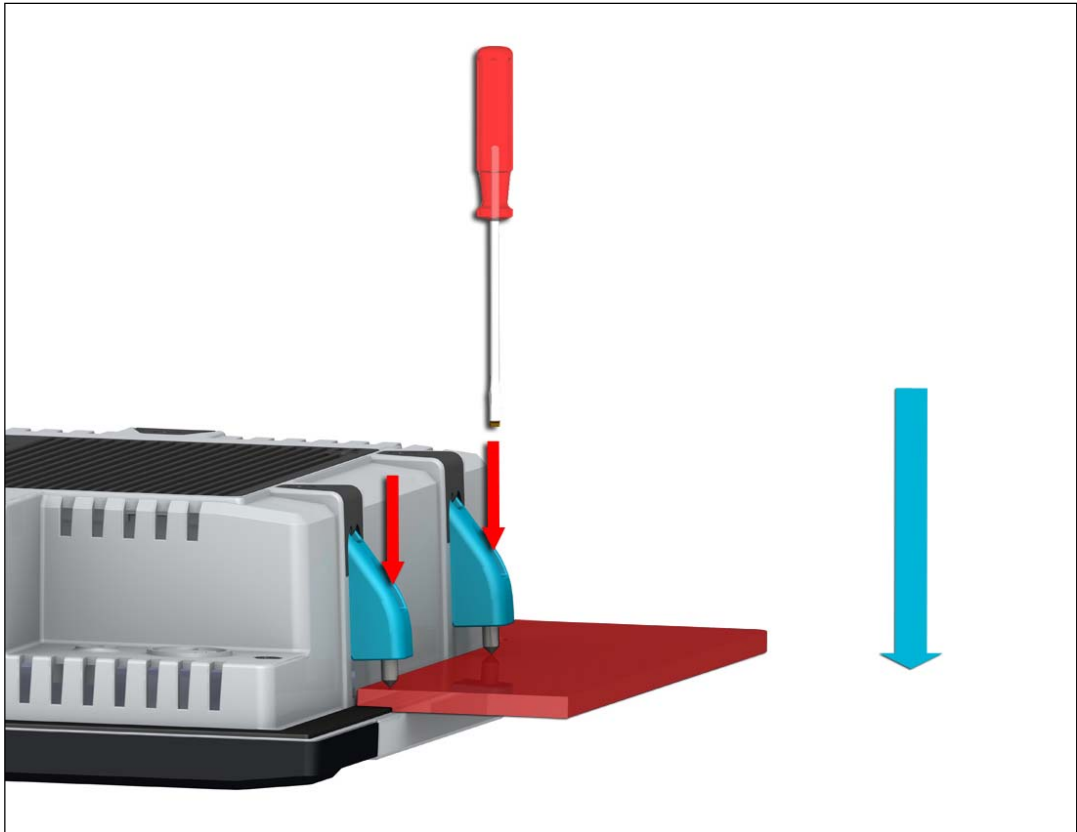
- 2) Then insert the device into the recess created in the described way. The tensioners will snap back.



- 3) Please make sure to insert the device carefully into the switching cabinet. After that, the tensioners will snap back to the front. Now, the device is safely fixed in the installation recess.



- 4) Tensioners must be fastened hand-tight.



4 COMMISSIONING



Warning:

The PC must be switched off before connecting or disconnecting any cables in order to prevent damage to the electronics!

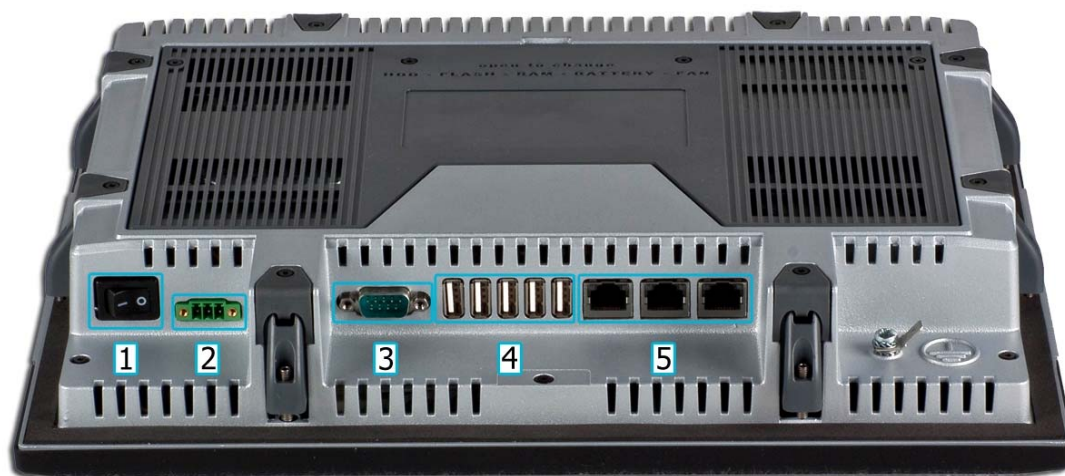
The device may only be switched on after acclimatising to the ambient temperature in order to avoid condensate accumulation.

Make sure to meet the permissible voltage requirements for this device.

After switching off and before switching on you must wait for at least 5 seconds.

4.1 AVAILABLE INTERFACES

The devices have the following interfaces by default:



1 Power On /Off

2 24V DC

3 COM

4 USB

5 LAN



Note:

The screen of a data cable must always be connected with the connector housing (EMC).

Under the embedded operating system, interfaces must explicitly be enabled and required drivers must be installed in order to be able to use them.

4.2 CABLE INSTALLATION

The interfaces as well as power supply plugs for the device are accommodated in the device service slot.

4.3 ORDER OF STEPS DURING COMMISSIONING

- With 24 V DC devices: Connect the power supply cable with the terminals by using cable end sleeves
- Connect cable for serial / parallel data transmission and fasten the screws between the connector plug and socket
- Plug in all other required cables and protect from accidental disconnection

4.4 CHECK FOR OPERATIONAL READINESS

Check the device for any hidden damage potentially caused by improper transport, operating or storage conditions or by improper use or handling (e.g. smoke development from the device, etc.). If any damage is detected, the device must be put out of service immediately and protected from accidental switch-on.