



Installation and Operating instructions for

CP770x-140x

IP65 Stainless steel Panel PC

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BECKHOFF

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1 Foreword

1.1 Notes on the Documentation

This description is only intended for the use of trained specialists in control and automation engineering who are familiar with the applicable national standards. It is essential that the following notes and explanations are followed when installing and commissioning these components.

The responsible staff must ensure that the application or use of the products described satisfy all the requirements for safety, including all the relevant laws, regulations, guidelines and standards.

1.1.1 Liability Conditions

The documentation has been prepared with care. The products described are, however, constantly under development. For that reason the documentation is not in every case checked for consistency with performance data, standards or other characteristics. In the event that it contains technical or editorial errors, we retain the right to make alterations at any time and without warning. No claims for the modification of products that have already been supplied may be made on the basis of the data, diagrams and descriptions in this documentation.

All pictures shown in the documentation are exemplary. Illustrated configurations can differ from standard.

1.1.2 Trademarks

Beckhoff®, TwinCAT®, EtherCAT®, Safety over EtherCAT®, TwinSAFE® and XFC® are registered trademarks of and licensed by Beckhoff Automation GmbH.

Other designations used in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owners.

1.1.3 Patent Pending

The EtherCAT Technology is covered, including but not limited to the following patent applications and patents: EP1590927, EP1789857, DE102004044764, DE102007017835 with corresponding applications or registrations in various other countries.

The TwinCAT Technology is covered, including but not limited to the following patent applications and patents: EP0851348, US6167425 with corresponding applications or registrations in various other countries.

1.1.4 Copyright

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1.1.5 State at Delivery






All the components are supplied in particular hardware and software configurations appropriate for the application. Modifications to hardware or software configurations other than those described in the documentation are not permitted, and nullify the liability of Beckhoff Automation GmbH & Co. KG.

1.1.6 Delivery conditions

In addition, the general delivery conditions of the company Beckhoff Automation GmbH & Co. KG apply.


1.2 Description of safety symbols

The following safety symbols are used in this operating manual. They are intended to alert the reader to the associated safety instructions.


 DANGER	Acute risk of injury! If you do not adhere the safety advise adjoining this symbol, there is immediate danger to life and health of individuals!
 WARNING	Risk of injury! If you do not adhere the safety advise adjoining this symbol, there is danger to life and health of individuals!
 CAUTION	Hazard to individuals! If you do not adhere the safety advise adjoining this symbol, there is obvious hazard to individuals!
 Attention	Hazard to devices and environment If you do not adhere the notice adjoining this symbol, there is obvious hazard to materials and environment.
 Note	Note or pointer This symbol indicates information that contributes to better understanding.

1.3 Basic safety measures

Before the Industrial PC is switched off, software that is running must be properly closed. Otherwise it is possible that data on the storage medium is lost. Please read the section [Switching the Panel PC on and off](#).

 Warning	Switch off all parts of the equipment, then uncouple Panel PC Before opening the housing, and whenever the Panel PC is not being used for control purposes (such as during functional checks after a repair), all parts of the equipment must first be switched off, after which the Panel PC is to be disconnected from the equipment.
---	---

Disconnect the device by unplugging the connectors on the rear side of the Panel PC. Items of equipment that have been switched off must be secured against being switched on again.

 Warning	Do not exchange any parts when under power When components are being fitted or removed, the supply voltage must be switched off. Fitting work on the Panel PC can result in damage: <ul style="list-style-type: none">• if metal objects such as screws or tools fall onto operating circuit boards.• if connecting cables internal to the Panel PC are removed or inserted during operation.
---	---

1.4 Operator's obligation to exercise diligence

The operator must ensure that

- the product is only used as intended (see chapter [Product Description](#))
- the product is in a sound condition and in working order during operation
- the product is operated, maintained and repaired only by suitably qualified and authorized personnel
- the personnel is instructed regularly about relevant occupational safety and environmental protection aspects, and is familiar with the operating manual and in particular the safety notes contained herein
- the operation manual is in good condition and complete, and always available for reference at the location of the product



Note

Do not open the housing of the Panel PC!

For technical support contact [Beckhoff Service](#).

1.4.1 National regulations

Depending on the type of machine and plant in which the Industrial PC is used, national regulations governing the controllers of such machines will apply, and must be observed by the operator. These regulations cover, amongst other things, the intervals between inspections of the controller. The operator must initiate such inspections in good time.

1.4.2 Procedure in the event of a fault

In the event of faults at the Industrial PC, the list in the section [Troubleshooting](#) can be used to determine the measures to be taken.

1.4.3 Operator requirements

Anyone who uses the Industrial PC must have read these operating instructions and must be familiar with all the functions of the software installed on the Industrial PC to which he has access.

2 Product Description

2.1 Product overview

Front view of CP770x-1400



Front view of CP770x-1401 with USB-port, emergency stop button and electromechanical push-buttons




Thanks to the integrated Intel® Atom™ technology, the CP77xx device series represents a powerful Panel PC that combines operating and control functions in a compact design. On account of its low heat dissipation, the Intel® Atom™ processor is ideally suited for use in stainless steel housings. Two on-board Ethernet ports facilitate the implementation of EtherCAT in applications.

The Stainless steel Panel PCs offer the following benefits:

- Flush mounted touch screen
- Stainless steel housing 1.4301, matt ground with grain size 240, protection class IP65
- Front laminate with slide-in logo
- Flush mounted integrated stainless steel 1.4301-backplane
- 64 MB compact flash type I, extended temperature range
- Connectors in the range of the mounting arm adapter:
 - Two RJ-45-Ethernet-Connectors, 10/100/1000 MBit, IP65
 - One 2-Port-USB-Interface
 - Power Supply
- USB-port, emergency stop button and electromechanical push-buttons in the front (only CP770x-1401)
- Optionally available: Beckhoff stainless steel mounting arm adapter C9900-M177 and C9900-M178.

2.2 Appropriate Use

The CP770x Panel PC is designed for industrial application in machine and plant engineering. In addition to the integrated PC, a TFT display and a touch screen are accommodated in a stainless steel housing. In the front of the Panel PC CP770x-1401, one USB-port, an emergency stop button (S1) and three electromechanical push-buttons (S2-S4) are integrated. A rotatable mounting arm adapter is available.

 Danger	Risk of explosion! The Control Panel must not be used where there is a risk of explosion.
--	---

2.3 Opening the connection area

The connectors of the Panel PC are located at the rear side of the device.

If the Panel PC is fitted with a mounting arm adapter (order-option C9900-M177 or C9900-M178), the connectors are located behind a cover (1). To get access to the connectors, the cover has to be removed:

First loosen the fixing screw (2) with an allen head key.



The cover now can be drawn off in direction of the arrow (see next picture).

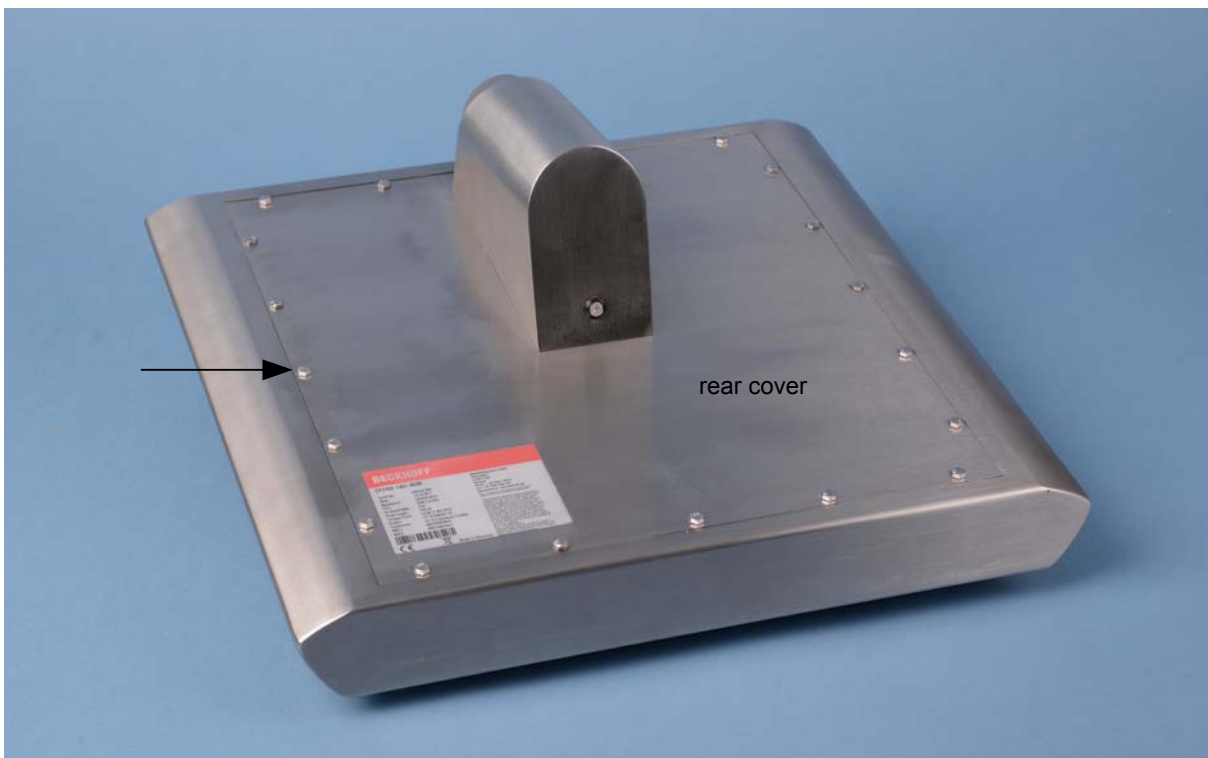


After opening the connection area you have access to the connectors of the Panel PC. The cables with the connectors have to be pulled through the mounting arm tube before connecting them in the connection area.

The installation of the cover takes place in reverse order.

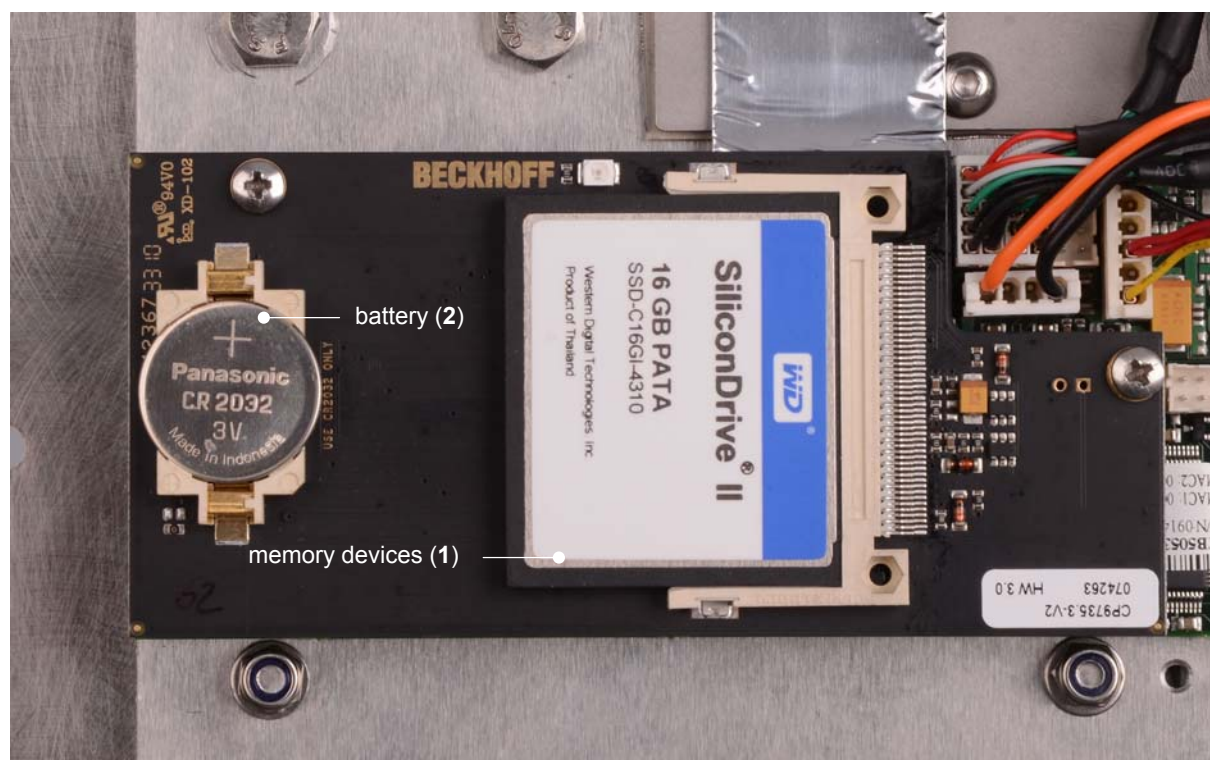
2.4 Access to the memory device and the battery

2.4.1 Removing the rear cover



After unscrewing the screws (see arrows) with a hexagonal socket wrench size 7 the rear cover can be taken off.

Removing the rear cover allows access to the memory devices (1) and the lithium battery of the system clock (2):



The memory device can now be pulled out. Here, changing the lithium battery is also possible.

The installation takes place in reverse order.



Attention

Observe the correct tightening torque

Tighten the screws with a torque of 0.7 Nm.

2.4.2 Replacing the battery

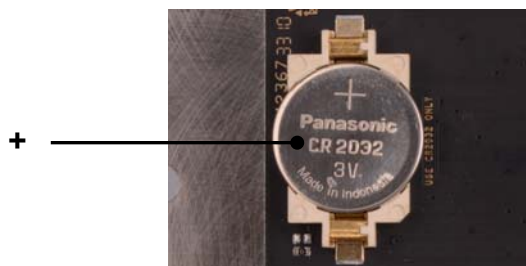


WARNING

Danger of Explosion!

Replace battery only with the identical type or an alternative type recommended by the manufacturer. Notice correct polarity!

Polarity of the battery:



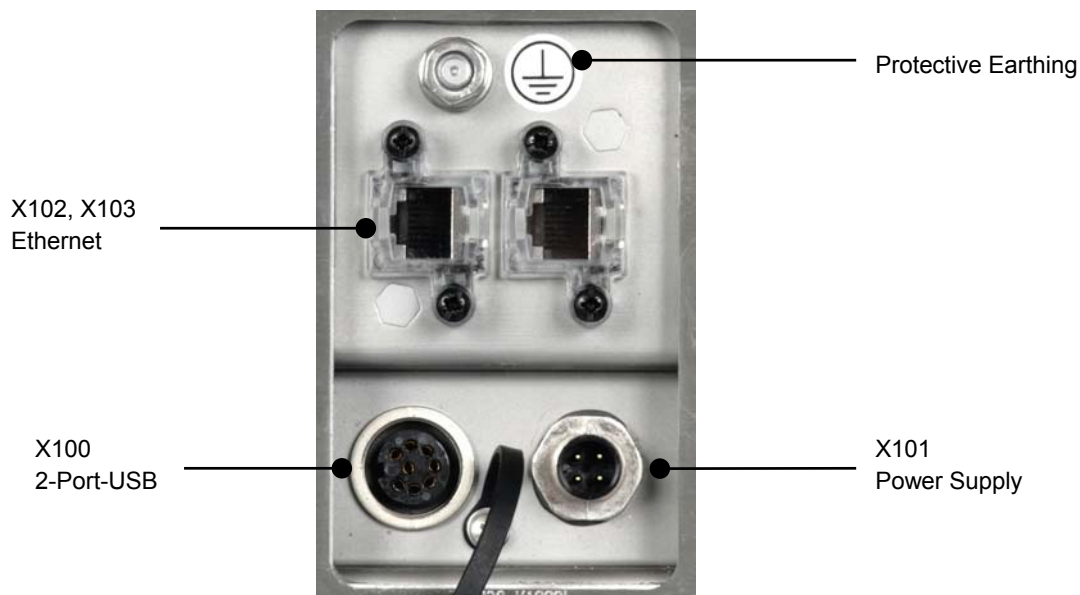
WARNING

Handling of Lithium Batteries

Lithium Batteries should not be recharged, exposed to fire, opened and they should be protected against sunlight and moisture.

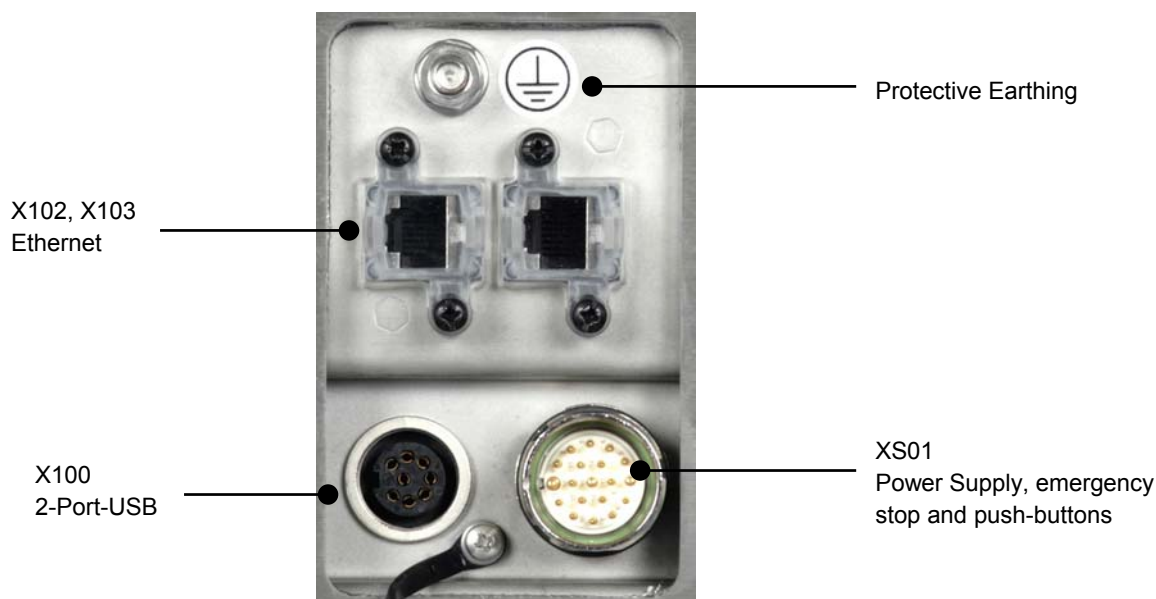
2.5 Connections

CP770x-1400

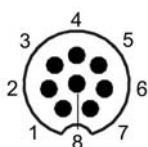


CP770x-1401

with USB-port, emergency stop button and electromechanical push-buttons in the front



2.5.1 2-Port-USB-Interface (X100)



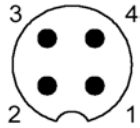
X100

SG 8POL M9 built-in-PCB-sold. IP67 BINDER (BINDER 09-0427-30-08 SERIES 712 M9X0,5)

The Panel PC is equipped with a 2-Port-USB-2.0-interface (**X 100**) for the connection of serial peripheral devices. The protection class of the circular plug-in connector accords to the IP67-standard.

The connection occurs by the provided Y-adapter cable DIN 8-pole to 2 x USB.

2.5.2 Power Supply CP770x-1400 (X101)

**X101**

SG 4POL M12- built-in-PCB-sold. IP67 BINDER (BINDER 09-3431-90-04 SERIES 763 M12X1)

The power supply for the Panel PC is established via the 4-pole M12 socket (**X 101**). The protection class of the circular plug-in connector accords to the IP67-standard.

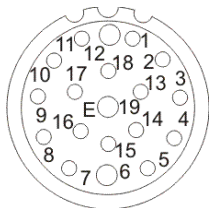
Pin	Signal
1	+ 24V
2	NC
3	GND
4	NC

2.5.3 Power Supply CP770x-1401 (XS01)

In the front of the Panel PC CP770x-1401, an emergency stop button (S1) and three electromechanical push-buttons (S2 - S4) are integrated. The buttons can be connected user-specific.



The power supply connection of the Panel PC and the connection of the emergency stop button and the electromechanical push-buttons are established via the 19-pole M20 (**XS01**) connector in the connection area. The protection class of the circular plug-in connector accords to the IP67-standard. For the accurate connection see chapter [Wiring Diagram](#).

**XS01**

Circular plug-in connector 19-pole M20 built-in linear, IP67, Intercontec (Intercontec A EG A 378 MR93 00 0032 000)

**Warning****Take notice of the ampacity**

The maximum ampacity of the pin for connecting the emergency stop button and the electromechanical push-buttons is 100 mA at max. 35 V AC/ DC.

**Note****Male connector is provided**

The male connector Intercontec A ST A 278 FR91 61 0035 000 is provided with the Panel PC

Pin	Signal	Pin	Signal
1	S1.12	11	LED red K1
2	S1.11	12	PE
3	S1.22	13	S4.14
4	S1.21	14	S4.22
5	S2.14	15	LED white K1
6	GND	16	NC
7	S2.22	17	NC
8	LED green K1	18	NC
9	S3.14	19	+ 24V
10	S3.22		

2.5.4 Network Interfaces (X102, X103)



RJ-45-Connector (Ethernet 10/100/1000 Mbit)

The RJ-45 sockets (**X 102**, **X 103**) enable connection of the Panel PC to an 10/100/1000 Mbit Ethernet network. While using the FBS-RJ45-8-GS-connector (534494, Fa. Festo AG & Co.KG) the protection class accords to the IP67-standard.

Pin	Signal
Housing	Screen
1	TD +
2	TD -
3	RD +
4	NC
5	NC
6	RD -
7	NC
8	NC

2.5.5 Protective Earthing



The low resistance protective earthing connection of the Panel PC is established via the ground bolt, which is located in the connection area.

2.5.6 USB-Port at the Front (CP770x-1401)



The Panel PC CP770x-1401 is provided with an additional USB-2.0-port.

The port is located at the front side of the Panel PC under a screw cap. The protection class accords to the IP67-standard.

2.6 Connecting cables

One USB-adapter cable and one 4-pole or 19-pole power supply connector are provided with the Panel PC.

Optionally prefabricated connection cables for connecting the power supply, the emergency-stop-button and the push-buttons (XS01), as well as RJ45-connectors and prefabricated Ethernet connection cables are available.

2.6.1 Connection Cables for Power Supply, Emergency Stop and Push-Buttons, optional

The following connection cables for the CP770x-1401 are available:

Connection Cables	Cables for connecting Power Supply, Emergency Stop and Push-Buttons
C9900-K604	Plug-in connector 19-pole with connection cable 18 x 0.75 mm ² , second end open, length 10 m
C9900-K593	Plug-in connector 19-pole with connection cable 18 x 0.75 mm ² , second end open, length 20 m
C9900-K558	Plug-in connector 19-pole with connection cable 18 x 0.75 mm ² , second end open, length 30 m

2.6.2 USB-adapter cable

The provided Y-adapter cable enables connecting two peripheral USB devices to the Panel PC.

2.6.3 Optional Ethernet connection cables

The following Ethernet connection cables are available:

Patch cable	Cable CAT 5, RJ45 connector, second end RJ45 IP67
C9900-K605	Patch cable CAT 5, 5 m length
C9900-K606	Patch cable CAT 5, 10 m length
C9900-K607	Patch cable CAT 5, 20 m length
C9900-K608	Patch cable CAT 5, 30 m length
C9900-K609	Patch cable CAT 5, 40 m length
C9900-K610	Patch cable CAT 5, 50 m length

2.6.4 Optional Ethernet connectors

With order option C9900-K557 two RJ45 connectors IP67 can be ordered to configure individual connection cables.


3 Installation

3.1 Transport and Unpacking

The specified storage conditions must be observed (see chapter [Technical Data](#)).

3.1.1 Transport

Despite the robust design of the unit, the components are sensitive to strong vibrations and impacts. During transport, your Control Panel should therefore be protected from excessive mechanical stress. Therefore, please use the original packaging.

 Attention	Danger of damage to the unit If the device is transported in cold weather or is exposed to extreme variations in temperature, make sure that moisture (condensation) does not form on or inside the device.
---	---

Prior to operation, the unit must be allowed to slowly adjust to room temperature. Should condensation occur, a delay time of approximately 12 hours must be allowed before the unit is switched on.

3.1.2 Unpacking

Proceed as follows to unpack the unit:

1. Remove packaging.
2. Do not discard the original packaging. Keep it for future relocation.
3. Check the delivery for completeness by comparing it with your order.
4. Please keep the associated paperwork. It contains important information for handling the unit.
5. Check the contents for visible shipping damage.

If you notice any shipping damage or inconsistencies between the contents and your order, you should notify Beckhoff Service.

4 Mounting

For mounting the Panel PC there are 6 threaded holes M6 x 6 mm in the range of the mounting arm adapter at the rear side of the chassis (also see chapter [Assembly dimensions](#)).

Optionally the Panel PC can be mounted with a mounting arm adapter (order option).

4.1 Mounting arm installation

Depending on the order option the mounting arm can be installed from the bottom or from the top.

Option	Description
C9900-M177	Rotatable mounting arm adapter for Control Panel CP770x-140x Stainless steel 1.4301, matt ground, mounting arm installation from the bottom
C9900-M178	Rotatable mounting arm adapter for Control Panel CP770x-140x Stainless steel 1.4301, matt ground, mounting arm installation from the top

4.1.1 Welding the mounting arm tube

The junction of the mounting arm adapter has to be frozen with the customized mounting arm tube. The picture shows the junction of the mounting arm adapter (1) and a customized mounting arm tube (2), which was accurately frozen with the junction.



Optionally a ready-for-use mounting arm frozen with the mounting arm adapter is available:

Option	Description
C9900-M167	Mounting arm frozen with mounting arm adapter, 150 cm length, Stainless steel 1.4301, matt ground.



Note

Anti-twist protection

The mounting arm adapter is fitted with an anti-twist protection to avoid over winding the Panel PC and damaging the connecting cables.

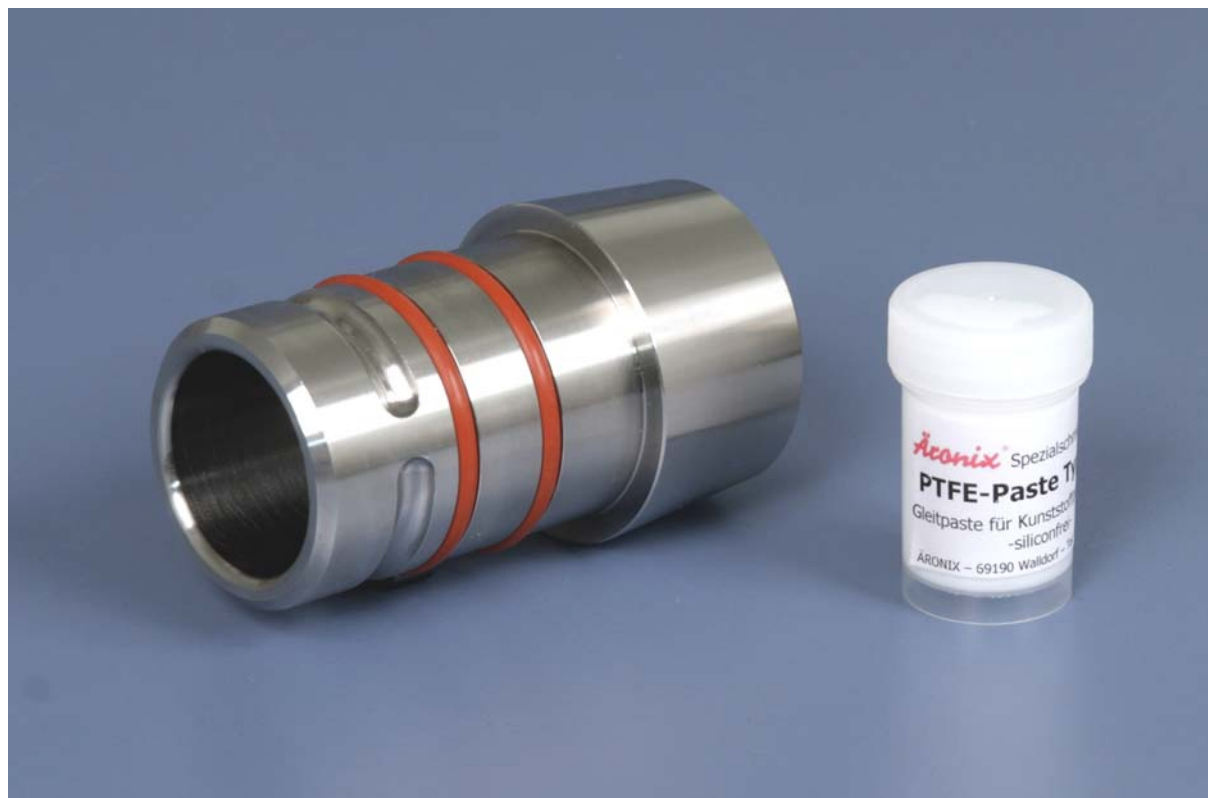
4.1.2 Mounting the O-rings

The junction of the mounting arm adapter has to be fitted with the two red O-rings (see picture).

**Attention****Mounting with PTFE-grease**

Use assembly PTFE-grease for mounting arm installation.

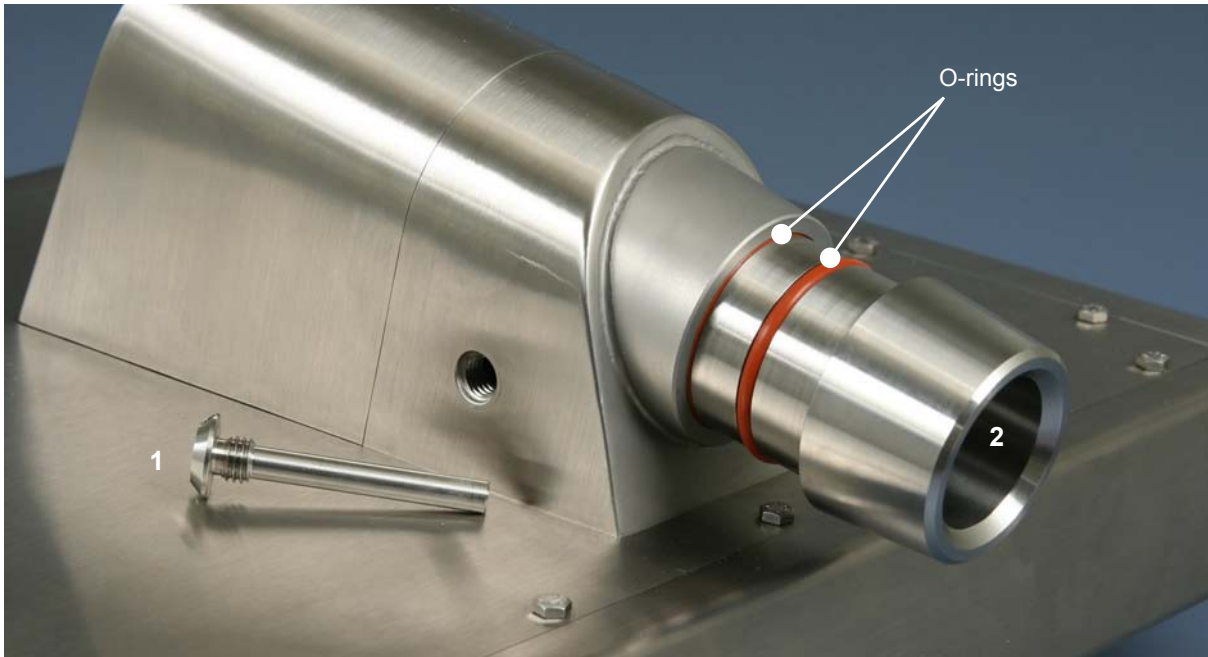
In order to ensure better mobility of the mounting arm adapter, lubricate the O-rings and all parts which have contact with the O-rings with the PTFE-grease. Lubricate a thin film of grease with a palette-knife or a paint brush.

**CAUTION****Note safety data sheet!**

Please note the information in the safety data sheet for the PAO-PTFE-assembly grease.

4.1.3 Mounting the mounting arm

Before you can mount the mounting arm at the Panel PC, the screw (1) which fixes the adapter (2) has to be unscrewed and taken out completely.




The picture shows the assembly of the rotatable mounting arm adapter, which first must be frozen with the customized mounting arm (see chapter [Welding the mounting arm tube](#)).


Now the adapter is inserted in direction of the arrow all the way to the stop. Take care not to damage the two red O-rings!



The adapter now has to be fixed with the screw (1).

4.2 Connecting the Panel PC

 Danger	Risk of explosion! The Panel PC must never be connected or disconnected in an area that is subject to explosion hazard!
--	---

 Attention	The mains plug must be disconnected Please read the documentation for the external devices prior to connecting them! During thunderstorms, plug connector must neither be inserted nor removed! When disconnecting a plug connector, always handle it at the plug. Do not pull the cable!
---	---

4.2.1 Connecting cables

The connections are located at the rear of the Panel PC and are documented in the chapter [Connections](#).

When connecting cables to the Panel PC, please adhere to the following order:

- Disconnect the Panel PC from the power supply.
- Connect all cables at the Panel PC and at the devices to be connected.
- Ensure that all screw connections between connectors and sockets are tight!
- Reconnect all devices to the power supply.

4.2.2 Protective Earthing



The low resistance protective earthing connection of the Panel PC is established via the ground bolt, which is located in the connection area.

5 Operating Instructions



5.1 Switching the Panel PC on and off

5.1.1 Switching on

The Panel PC does not have its own mains power switch. As soon as the power supply is switched on the Panel PC is activated.


5.1.2 Shutting down and switching off

Control software, as typically applied in Industrial PCs, enables the assignment of different rights to all users. A user who is not entitled to shut down the software may not switch off the Panel PC as an attempt to shut it down when the software is running could result in the loss of software data on the Compact Flash memory card (CF card).

 <p>Warning</p>	<p>First shut down, then switch off!</p> <p>If the Panel PC is shut down while the software is writing a file onto the CF Card memory card, the file will be destroyed. Control software typically writes something to the CF card every few seconds, so that the probability of causing damage by switching off while the software is running is very high.</p>
 <p>Warning</p>	<p>Switch off power supply</p> <p>When you have shut down the Panel PC, you have to switch off power supply for at least 10 seconds before rebooting the system.</p> <p>After resetting power supply the Panel PC will start booting automatically.</p>

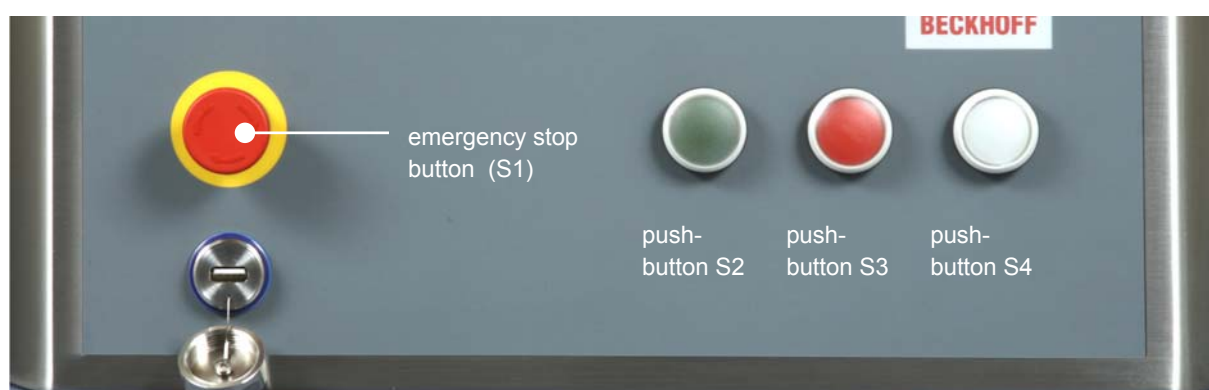
5.2 Operation

The operation of the Panel PC occurs via the Touch Screen.

 <p>Warning</p>	<p>Risk of damaging the Touch Screen</p> <p>The touch screen may only be actuated by finger tips or with the touch screen pen. The operator may wear gloves but there must be no hard particles such as metal shavings, glass splinters embedded in the glove.</p>
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5.2.1 Emergency stop button and electromechanical push-buttons in the front

In the front, the Panel PC CP770x-1401 is equipped with an emergency stop button (S1) and three push-buttons (S2 – S4), which can be connected user-specific.



5.3 Servicing and maintenance

5.3.1 Cleaning

 DANGER	Disconnect power supply Switch off the device and all connected devices, and disconnect the device from the power supply.
--	---


The device can be cleaned with a soft, damp cleaning cloth. Do not use any aggressive cleaning materials, thinners, scouring material or hard objects that could cause scratches.


5.3.2 Maintenance

The Panel PC is maintenance-free.

5.3.3 Replacing the battery of the motherboard

A used battery has to be replaced. See also chapter [Access to the memory device and the battery](#).

 WARNING	Danger of Explosion! Replace battery only with the identical type or an alternative type recommended by the manufacturer. Notice correct polarity!
---	--

 WARNING	Handling of Lithium Batteries Lithium Batteries should not be recharged, exposed to fire, opened and they should be protected against sunlight and moisture.
---	--


The used battery must be disposed of in accordance with national electronics scrap regulations.

5.4 Emergency procedures

In case of fire, the Panel PC should be extinguished with powder or nitrogen.

5.5 Shutting down

5.5.1 Disposal

 Note	Observe national electronics scrap regulations Observe the national electronics scrap regulations when disposing of the device.
--	---

In order to dispose of the device, it must be removed and fully dismantled:

- Housing components (polycarbonate, polyamide (PA6.6)) are suitable for plastic recycling
- Metal parts can be sent for metal recycling
- Electronic parts such as disk drives and circuit boards must be disposed of in accordance with national electronics scrap regulations.

6 Troubleshooting



Note

Pixel errors

Pixel errors in the TFT display are production-caused and represent no complaint-reason!



Note

Anomalies of the Touchscreen

Anomalies of the touchscreen sensor are production-caused and represent no complaint-reason!

Fault	Cause	Measures
No Panel PC function	No power supply to Panel PC Cable not connected	Check power supply cable 1. Correctly connect cable 2. Call Beckhoff Service
Panel PC boots, software starts, but control does not operate correctly	The cause of the error is in the software or in parts of the equipment outside the Panel PC	Call the manufacturer of the machine or the software
The Panel PC has only partial function, or only functions some of the time, for instance the picture is dark or absent	Faulty backlight in the display Defective components in Panel PC	Call Beckhoff Service Call Beckhoff Service

7 Assembly dimensions



Warning

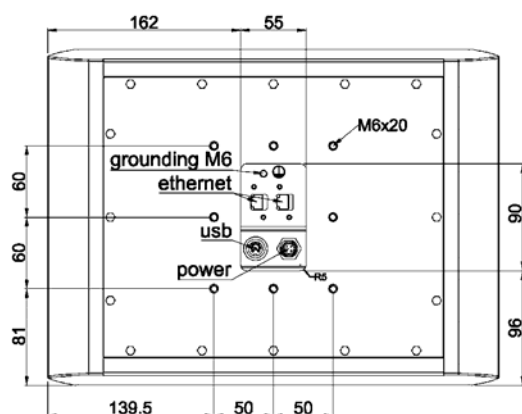
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

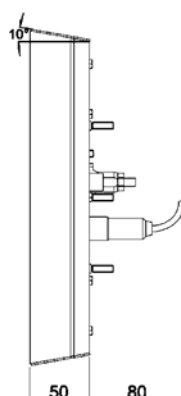
CP7701-1400

main dimensions and
fixing points

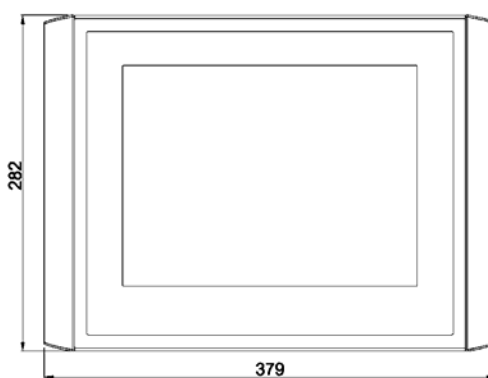
dimensions in mm



rear view



right view

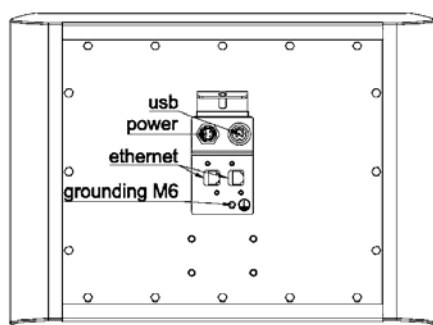


front view

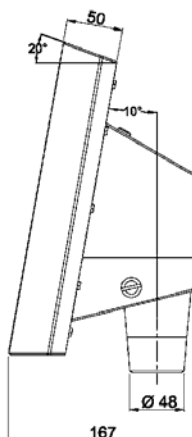
CP7701-1400-M177

main dimensions and
fixing points

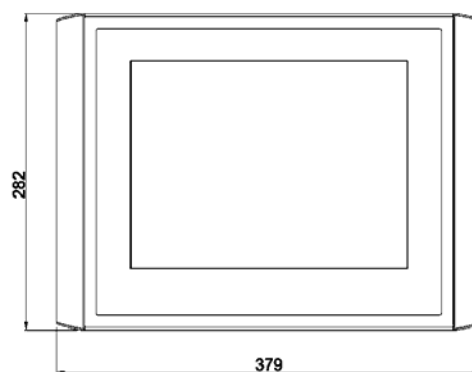
dimensions in mm



rear view



right view



front view



Warning

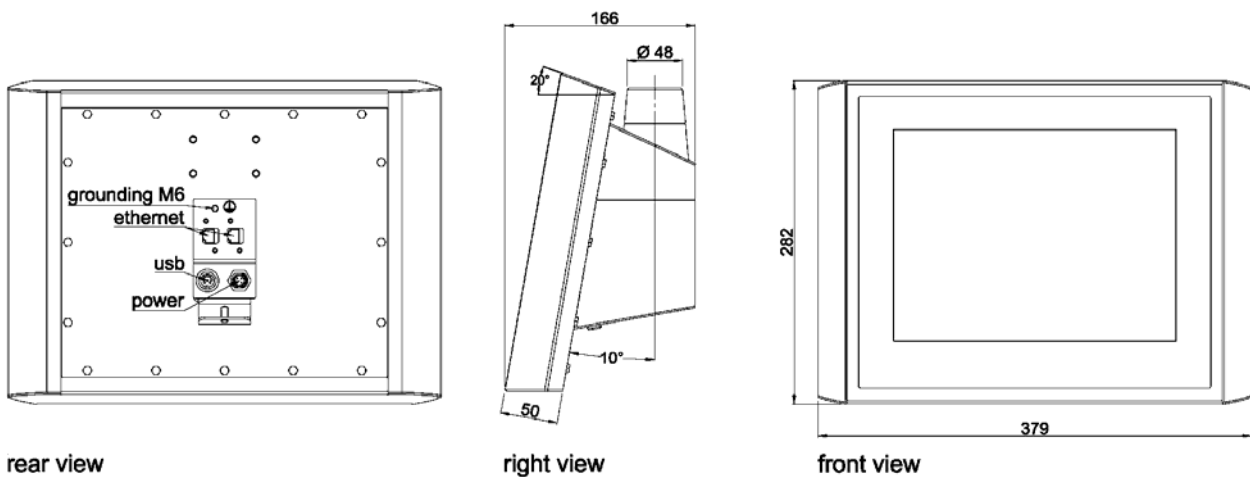
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

CP7701-1400-M178

main dimensions and
fixing points

dimensions in mm



rear view

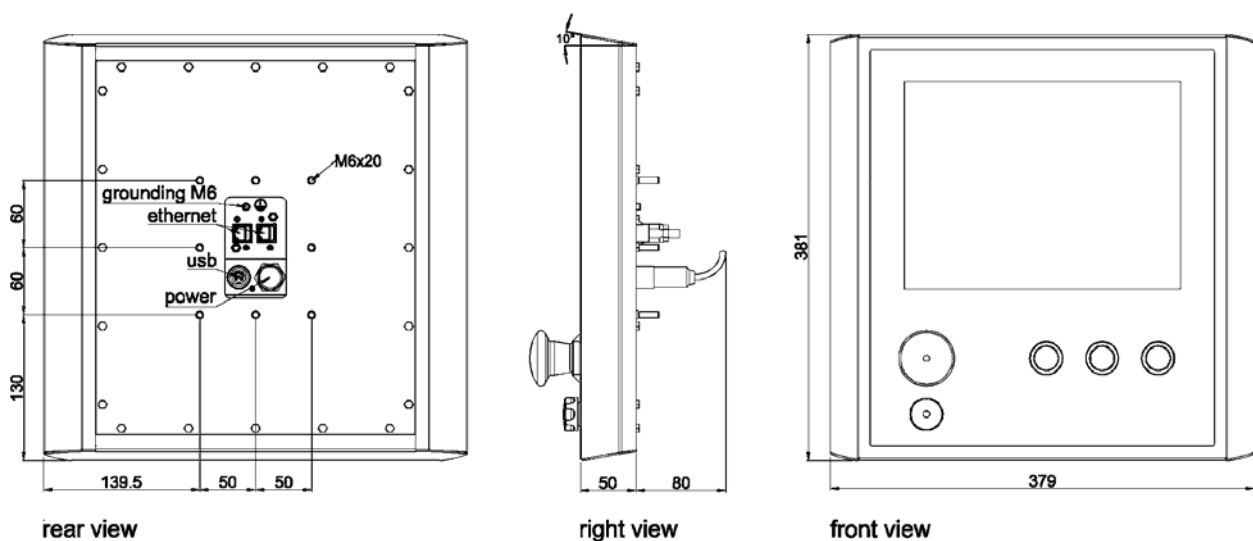
right view

front view

CP7701-1401

main dimensions and
fixing points

dimensions in mm



rear view

right view

front view



Warning

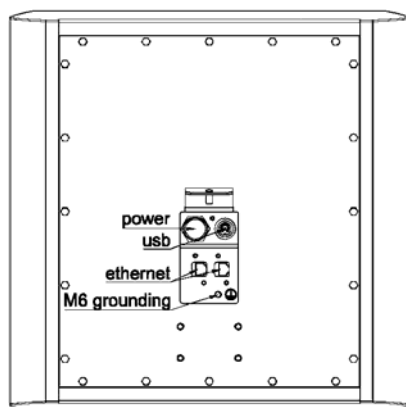
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

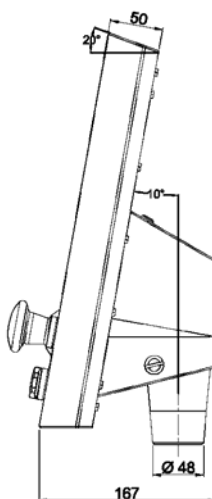
CP7701-1401-M177

main dimensions and
fixing points

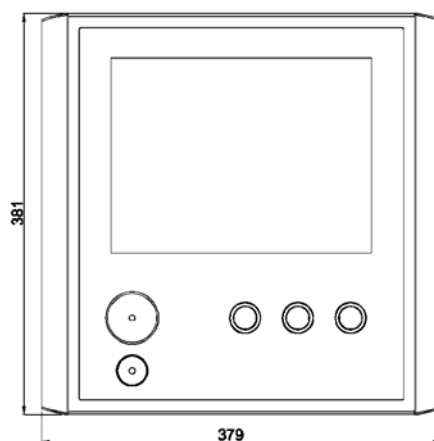
dimensions in mm



rear view



right view

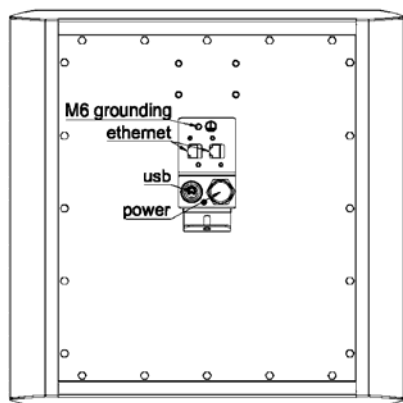


front view

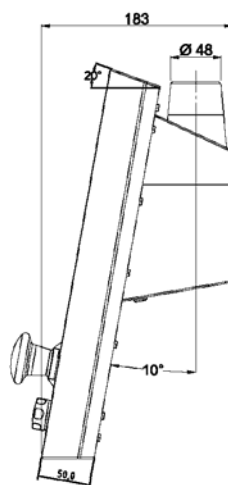
CP7701-1401-M178

main dimensions and
fixing points

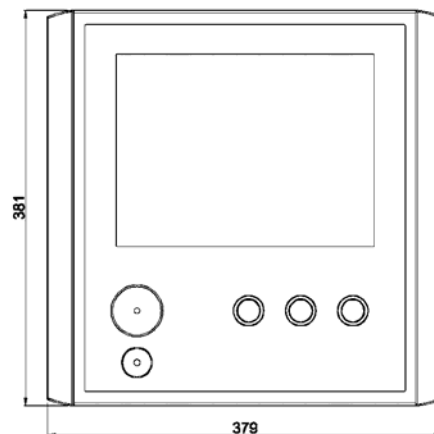
dimensions in mm



rear view



right view



front view



Warning

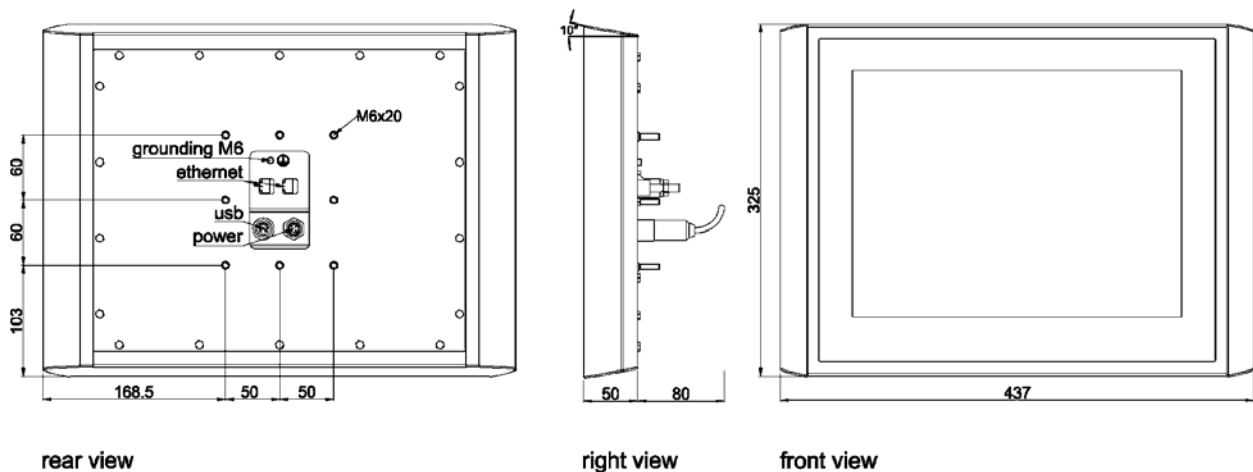
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

CP7702-1400

main dimensions and
fixing points

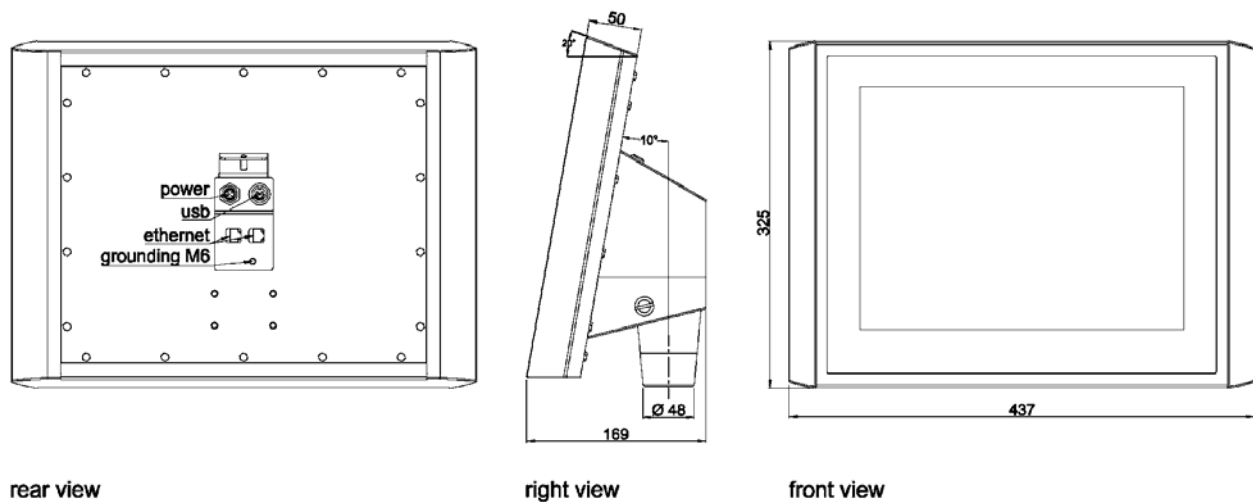
dimensions in mm



CP7702-1400-M177

main dimensions and
fixing points

dimensions in mm





Warning

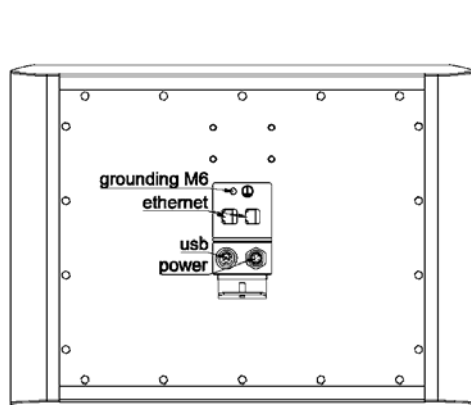
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

CP7702-1400-M178

main dimensions and
fixing points

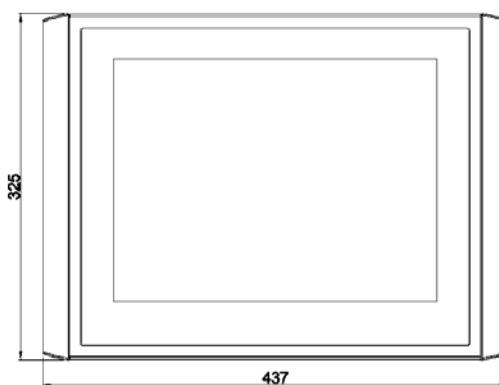
dimensions in mm



rear view



right view

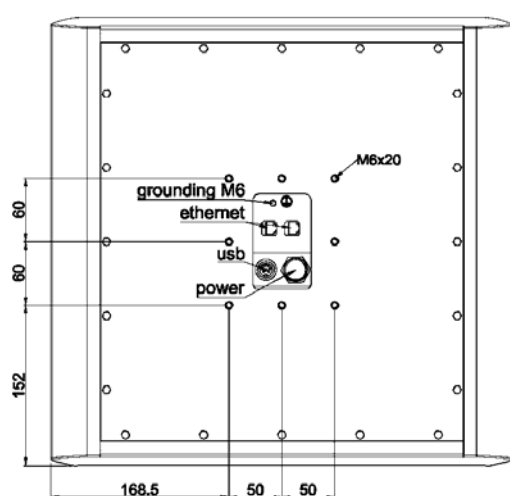


front view

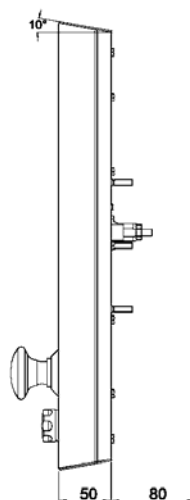
CP7702-1401

main dimensions and
fixing points

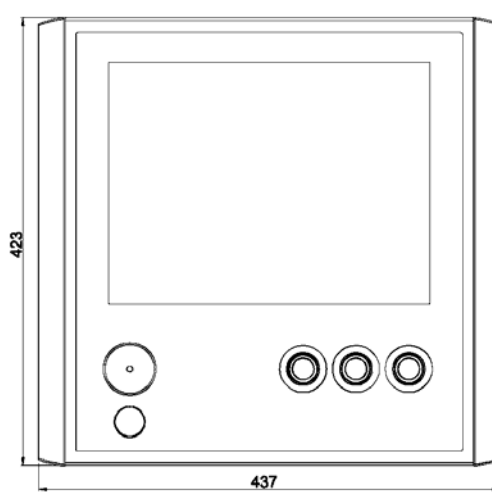
dimensions in mm



rear view



right view



front view



Warning

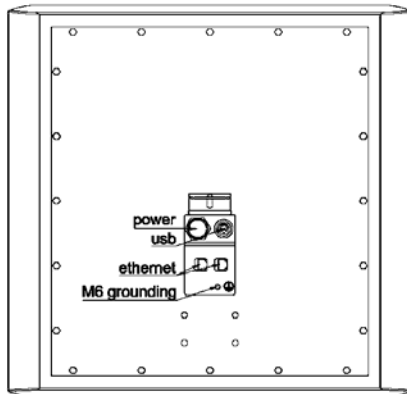
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

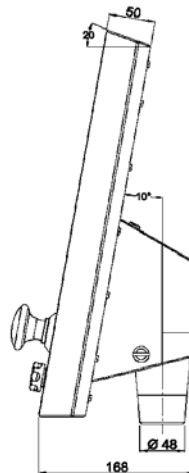
CP7702-1401-M177

main dimensions and
fixing points

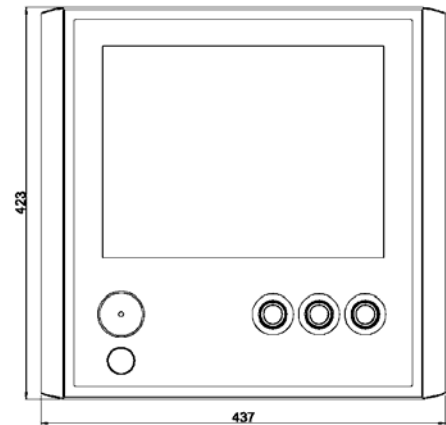
dimensions in mm



rear view



right view

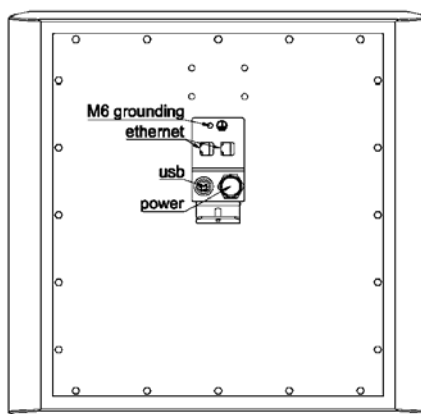


front view

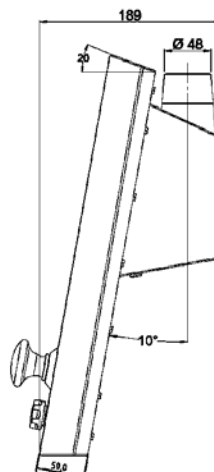
CP7702-1401-M178

main dimensions and
fixing points

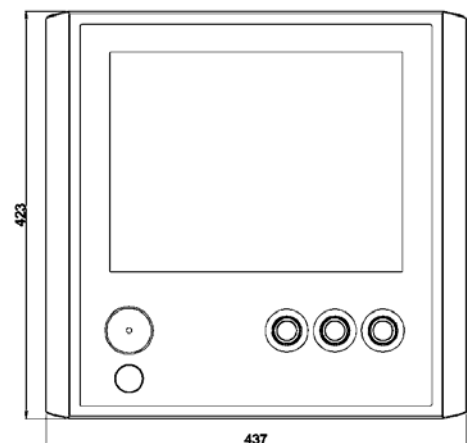
dimensions in mm



rear view



right view



front view



Warning

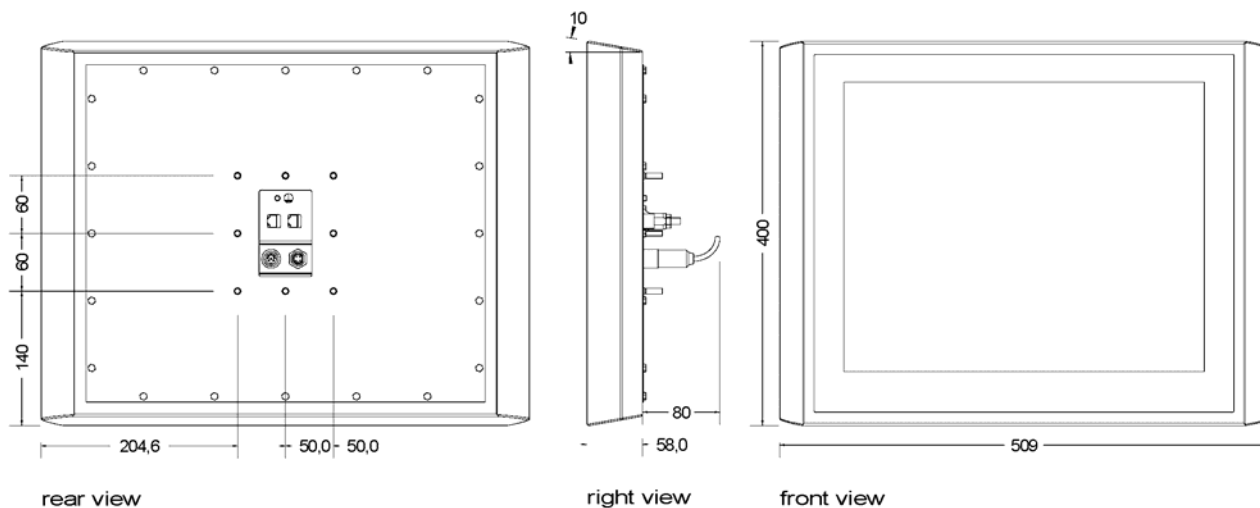
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

CP7703-1400

main dimensions and
fixing points

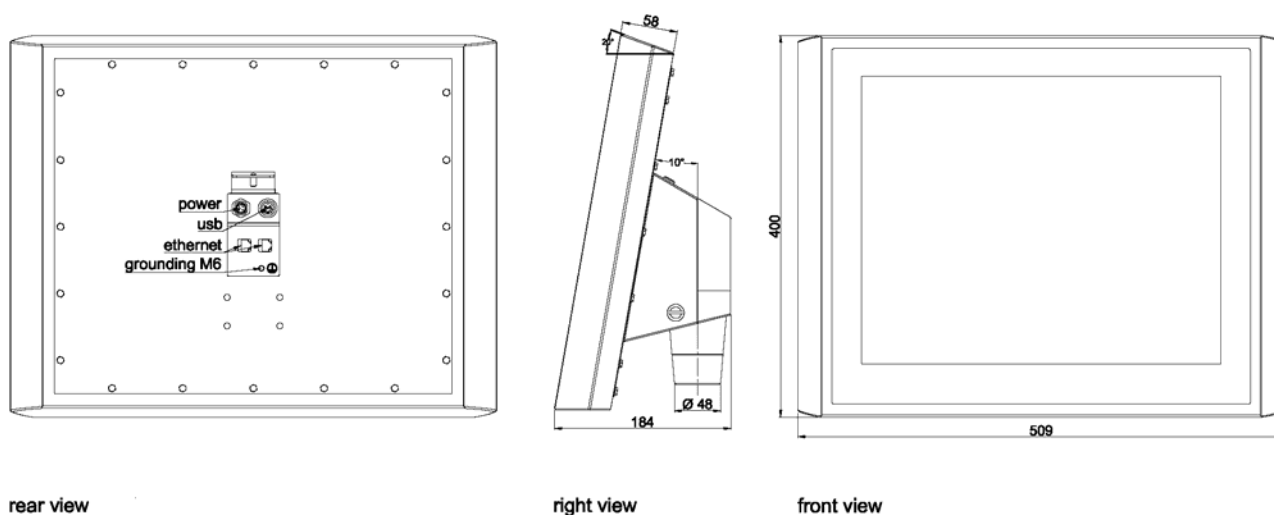
dimensions in mm



CP7703-1400-M177

main dimensions and
fixing points

dimensions in mm



CP770x-140x



Warning

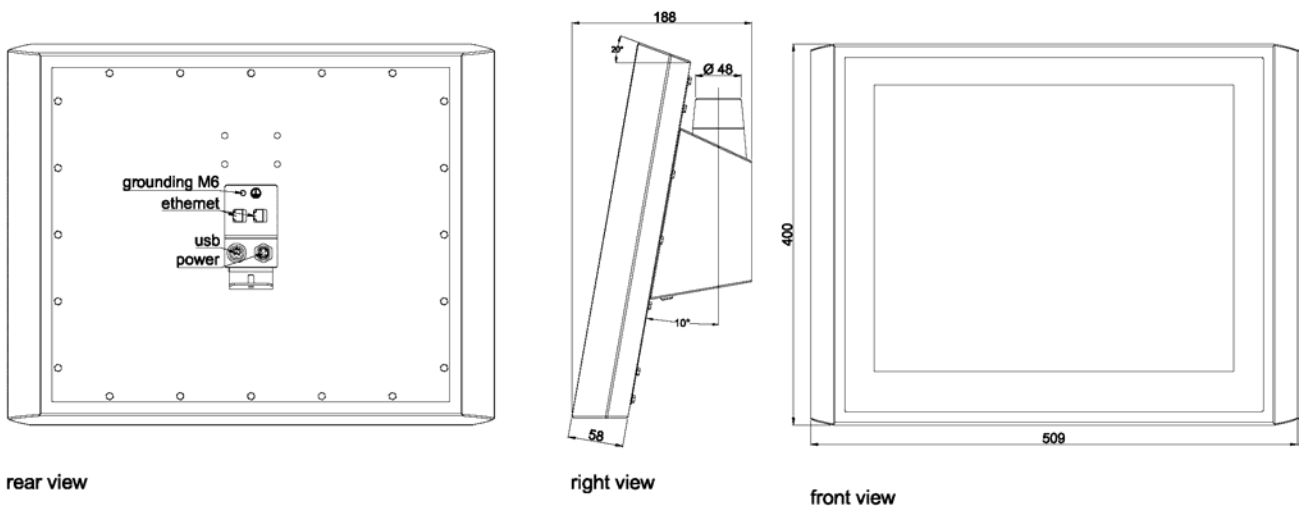
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

CP7703-1400-M178

main dimensions and
fixing points

dimensions in mm



rear view

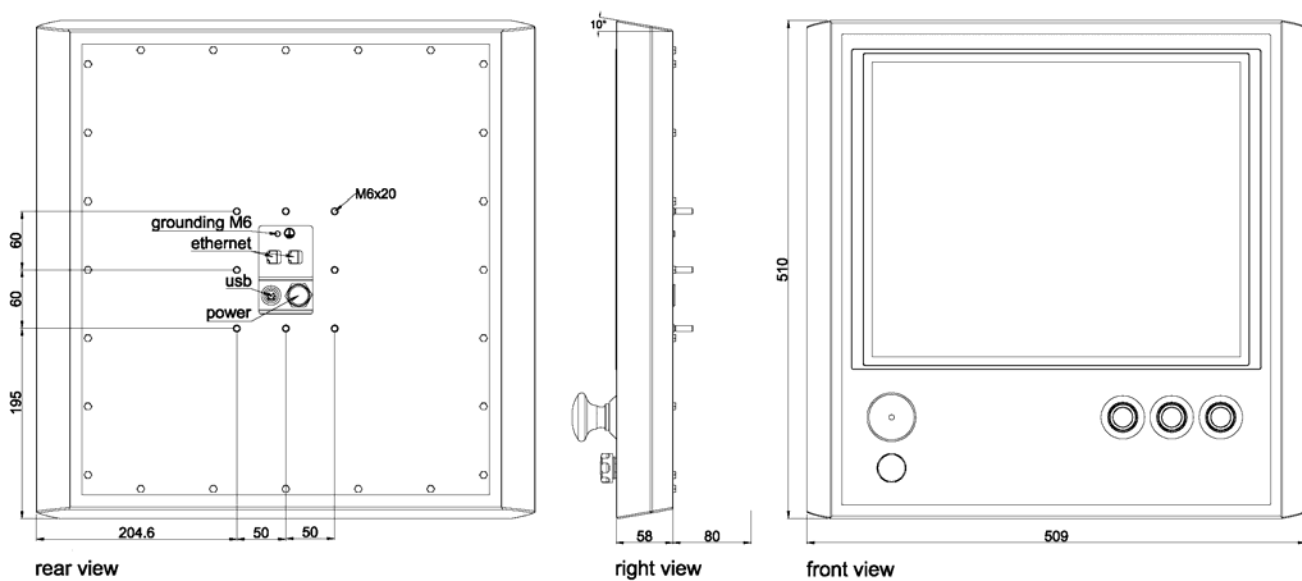
right view

front view

CP7703-1401

main dimensions and
fixing points

dimensions in mm



rear view

right view

front view



Warning

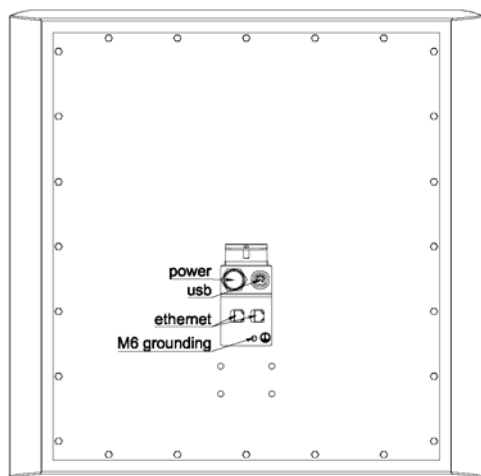
Notice mounting orientation

The assembly of the unit must take place with the orientation diagrammed here.

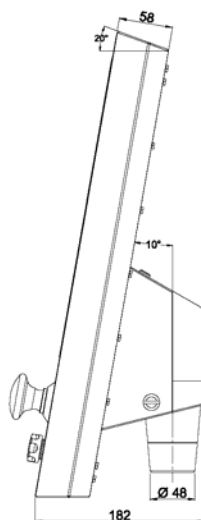
CP7703-1401-M177

main dimensions and
fixing points

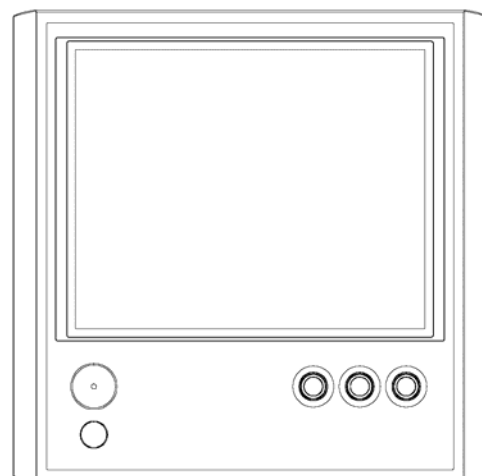
dimensions in mm



rear view



right view

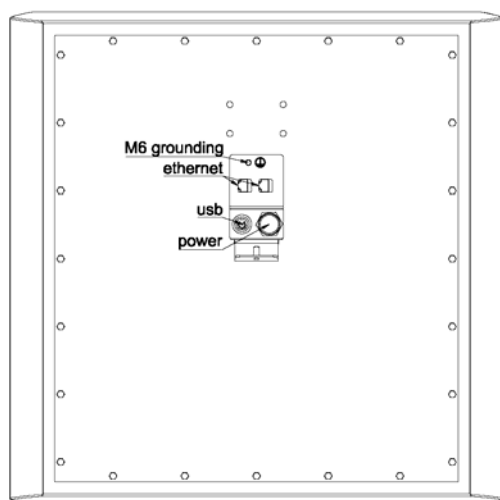


front view

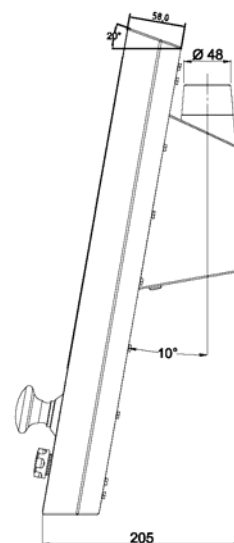
CP7703-1401-M178

main dimensions and
fixing points

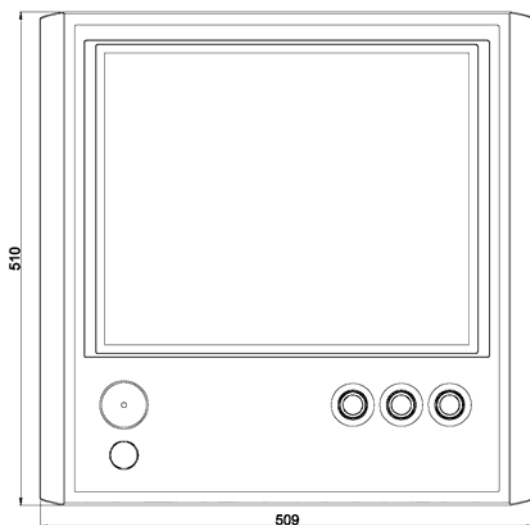
dimensions in mm



rear view



right view

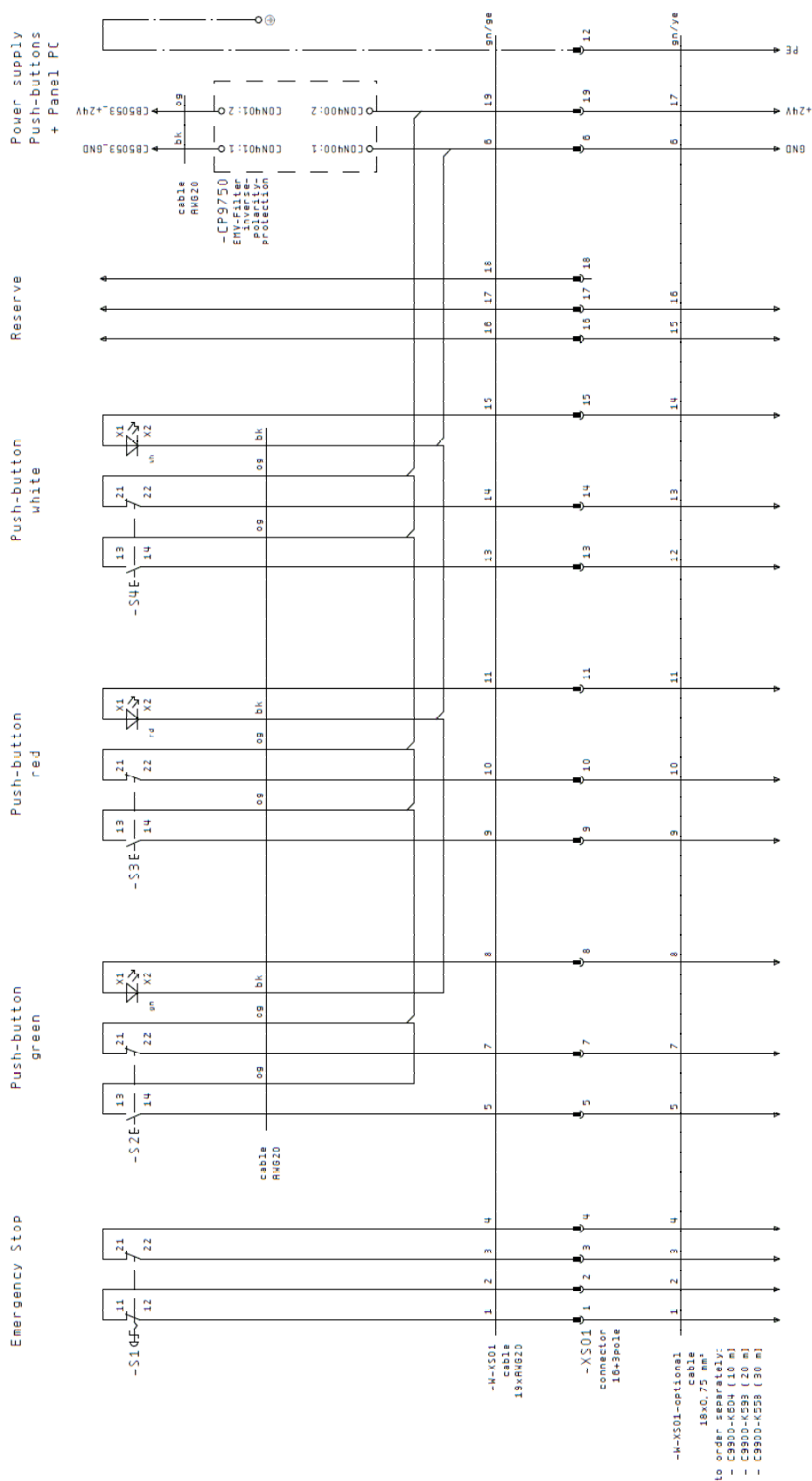


front view

CP770x-140x

8 Wiring Diagram

Emergency stop button and electromechanical push-buttons



9 Technical Data

**Danger****Risk of explosion!**

Do not use the Panel PC in areas of explosive hazard!

**Note****Pixel errors**

Pixel errors in the TFT display are production-caused and represent no complaint-reason!

**Note****Anomalies of the Touchscreen**

Anomalies of the touchscreen sensor are production-caused and represent no complaint-reason!

Product name	CP770x-140x
Dimensions (B x H x T)	see chapter Assembly dimensions
Weight without/ with mounting arm adapter	CP7701-1400: 5.3 kg/ 7.2 kg CP7701-1401: 7.0 kg/ 8.9 kg CP7702-1400: 7.2 kg/ 9.1 kg CP7702-1401: 8.9 kg/ 10.8 kg CP7703-1400: 10.6 kg/ 12.5 kg CP7703-1401: 12.3 kg/ 14.2 kg
Supply voltage	24 V _{DC} (20,4 – 28,8 V _{DC})
Power consumption	app. 22 W with 12" Display app. 33 W with 15" Display app. 40 W with 19" Display
UL-compliance	<ul style="list-style-type: none"> Using a power supply class 2 or Fuse protection with 4 A, according to UL 60950.2 chapter 2.5, table 2C
Interfaces CP770x-1400	2 x RJ-45 Ethernet 10/100/1000 Mbit 2-Port-USB 2.0
Interfaces CP770x-1401	2 x RJ-45 Ethernet 10/100/1000 Mbit 2-Port-USB 2.0 Additional: USB-port, emergency stop button and electromechanical push-buttons in the front
Protection class	IP65
Shock resistance (Sinusoidal vibration)	EN 60068-2-6: 10 to 58 Hz: 0,035 mm 58 to 500 Hz: 0,5 G (~ 5 m/ s ²)
Shock resistance (Shock)	EN 60068-2-27: 5 G (~ 50 m/ s ²), duration: 30 ms
EMC compatibility	Resistance to interference conforms to EN 61000-6-2
EMC compatibility	Emission of interference conforms to EN 61000-6-4
Permissible ambient temperature	0°C to +45°C (operation) -25°C to +65°C (transport/ storage)
Permissible relative humidity	to 95%, no condensation
Transport and storage	The same values for atmospheric humidity and shock resistance are to be observed during transport and storage as in operation. Suitable packaging of the Panel PC can improve the resistance to impact during transport.
Certifications	CE, UL

10 Appendix

10.1 Beckhoff Support and Service

Beckhoff and their partners around the world offer comprehensive support and service, making available fast and competent assistance with all questions related to Beckhoff products and system solutions.

10.1.1 Beckhoff branches and partner companies

Please contact your Beckhoff branch office or partner company for [local support and service](#) on Beckhoff products!

The contact addresses for your country can be found in the list of Beckhoff branches and partner companies: www.beckhoff.com. You will also find further [documentation](#) for Beckhoff components there.

10.1.2 Beckhoff company headquarters

Beckhoff Automation GmbH & Co. KG
Huelshorstweg 20
33415 Verl
Germany

Phone: + 49 (0) 5246/963-0
Fax: + 49 (0) 5246/963-198
E-mail: info@beckhoff.de
Web: <http://www.beckhoff.de/>

Beckhoff Support

Support offers you comprehensive technical assistance, helping you not only with the application of individual Beckhoff products, but also with other, wide-ranging services:

- world-wide support
- design, programming and commissioning of complex automation systems
- and extensive training program for Beckhoff system components

Hotline: + 49 (0) 5246/963-157
Fax: + 49 (0) 5246/963-9157
E-mail: support@beckhoff.com

Beckhoff Service

The Beckhoff Service Center supports you in all matters of after-sales service:

- on-site service
- repair service
- spare parts service
- hotline service

Hotline: + 49 (0) 5246/963-460
Fax: + 49 (0) 5246/963-479
E-mail: service@beckhoff.com

If servicing is required, please quote the **project number** of your product.

10.2 Approvals for USA and Canada

10.3 FCC Approvals for the United States of America

FCC: Federal Communications Commission Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**Note****Technical modifications**

Technological changes to the device may cause the loss of the FCC approval.

10.4 FCC Approval for Canada

FCC: Canadian Notice

This equipment does not exceed the Class A limits for radiated emissions as described in the Radio Interference Regulations of the Canadian Department of Communications.