

TPC070, TPC101, TPC156, TPC185

Display and operator panel

Applications

The devices are remote display and control units. They have a color TFT display with a PCAP touchscreen (Projected Capacitive Touch) and are designed for use in the industrial and commercial field.

The devices can be used to operate the **DDC4000e**, **DDC420** and **DDC520** automation stations. They feature an integrated Ethernet interface for communication. A TPC can only access one DDC. It is not possible to operate multiple DDCs directly via a TPC. This can only be done via cross-device operation between DDC4000e devices.



Contents

Applications.....	1
Important information about product safety.....	2
Technical data.....	3
Dimensions.....	4
Mounting recess.....	4
Connection.....	5
Spare parts.....	5
Accessories.....	6
Mounting.....	8
Installation.....	9
Update.....	12



Product description

TPC070, TPC101, TPC156, TPC185

Important information about product safety

Safety instructions

This document contains information on mounting and commissioning. Any person who carries out work on this product must have read and understood this document.

If you have any questions that are not resolved by this document, you can obtain further information from the supplier or manufacturer. If the product is not used in accordance with this document, the protection provided could be impaired. The applicable local regulations must be observed when mounting and using the product. Within the EU, these include: regulations regarding occupational safety and accident prevention as well as those from the VDE (German Association for Electrical, Electronic & Information Technologies). If the device is used outside of the EU, it is the responsibility of the plant engineer or operator to comply with the local regulations. Mounting, installation and commissioning work on the devices may only be carried out by qualified technicians. Qualified technicians are persons who are familiar with the described product and who can assess given tasks and recognize possible dangers based on their technical training, knowledge and experience, as well as their knowledge of the applicable regulations.

Symbol meanings



DANGER

Indicates a hazard of medium risk that may result in death or serious bodily injury if not avoided.



WARNING

Indicates a hazard of low risk that may result in minor or moderate physical injury if not avoided.



CAUTION

Indicates a hazard that may result in material damage or malfunctions if not avoided.

NOTICE

Indicates additional information that can simplify working with the product.



NOTE ON DISPOSAL

In accordance with the applicable laws and directives of the countries of the European Union, the product should not be disposed of with household waste. This ensures environmental protection and sustainable recycling of raw materials. The local and currently applicable laws must be observed.

Private users should contact their local retailer or their local authority for information regarding the environmentally safe disposal of old appliances.

Commercial users should contact their supplier and observe the conditions of the purchase agreement. This device must not be disposed of along with other commercial waste.



SUSTAINABILITY

Identifies energy-saving measures that the user can actively set on the device or in the system to save resources and reduce costs.



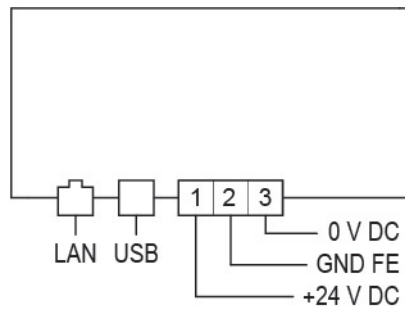
Technical data

TPC070 TPC101 TPC156 TPC185	remote display and operator panel with touch function; 7 inches remote display and operator panel with touch function; 10.1 inches remote display and operator panel with touch function; 15.6 inches remote display and operator panel with touch function; 18.5 inches	
Nominal voltage	24 V DC +/-20 %	
Power consumption	TPC070	16 W
	TPC101	14 W
	TPC156	21.5 W
	TPC185	34.5 W
Displays and operator elements	Green status LED illuminates when the device is in operation LED backlight (dimmable via software) Operation via touchscreen (PCAP touch)	
Resolution	TPC070	1024x600 (WSVGA 17:10)
	TPC101	1280x800 (WXGA 16:10)
	TPC156	1366x768 (HD 16:9)
	TPC185	1920x1080 (FHD 16:9)
Interfaces	USB: 2.0 (type A), 1.5/12/480 Mb/s Ethernet: Gigabit 1000Base-T (RJ45)	
Housing	Front frame TPC070 / TPC101: Plastic front frame TPC156 / TPC185: Aluminum color: matte black, similar to RAL 9055 (deep black)	
Level of contamination	2	
Method of operation	Type 1	
Degree of protection	IP20 reverse side / IP54 front	
Protection class	III	
Ambient temperature	0..55 °C	
Ambient humidity	20..80% r.h., non-condensing	
Mounting	Front installation with counter frame	
Weight (incl. packaging)	TPC070	1154.7 g
	TPC101	1772.9 g
	TPC156	4617.2 g
	TPC185	6427.5 g
Dimensions WxHxD	TPC070	197.1 mm x 136.1 mm x 42.1 mm
	TPC101	270.2 mm x 186.5 mm x 42.1 mm
	TPC156	404 mm x 251 mm x 51 mm
	TPC185	470 mm x 290 mm x 57 mm



Connection

TPC070
TPC101
TPC156
TPC185



NOTICE

The twisting of two conductors is not permitted. Twin conductor end sleeves can be used.

Single-wire / multi-wire conductor

Conductor cross-section:

0.5..1.5 mm²

Stripping:

7 mm

Multi-wire conductor with wire end sleeve and / without plastic collar

Conductor cross-section:

0.5..1.5 mm²

Wire end sleeve length:

8 mm

NOTICE

The functional earth (terminal 2; GND FE), the 0V DC (terminal 3), and the housing of the TPC have the same potential

Spare parts

- Z852KD Connecting plug
3-pin, with screw lock



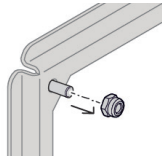
Product description

TPC070, TPC101, TPC156, TPC185

Accessories

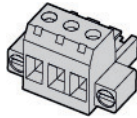
Included in the scope of delivery

- Counter frame including lock nuts



- ▶ for TPC070 and TPC101 M4 / 4 units
- ▶ for TPC156 and TPC185 M5 / 6 units

- Connecting plug 3-pin, with screw lock



Not included in the scope of delivery.

- Adapter frame

The adapter frames are 19" frames made of anodized aluminum. Depending on the item, they have a recess for the TPC070 and TPC101 display and operator panels as well as the extension modules TMU-PO, TMC-PO or TMB-PO.

The adapter frames have a top hat rail on their reverse side to accommodate devices with standard rail mounting (e.g. DDC and IO modules). A usable width of 22 division units is available for each standard rail. The ADRA070-02 does not have a top hat rail.

An adapter frame without a recess is also available.

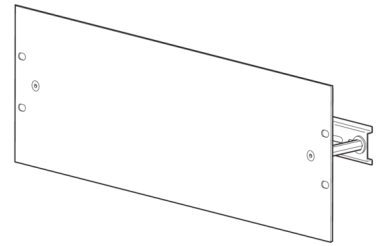
No adapter frames are available for the TPC156 or TPC185 devices.

All in all, there are 5 adapter frames in the portfolio:



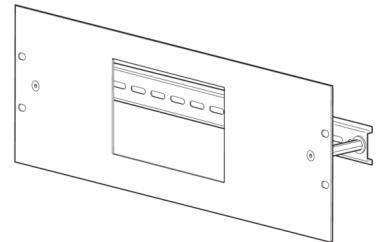
▶ ADRA001-BL

Complete adapter frame,
blind



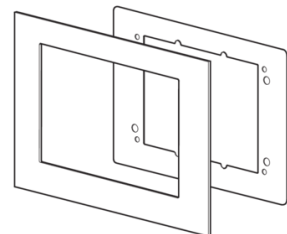
▶ ADRA070

Complete adapter frame,
for TPC070



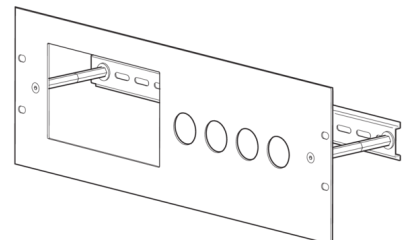
▶ ADRA070-02

Complete adapter frame,
for replacing TPC070
with TPC070



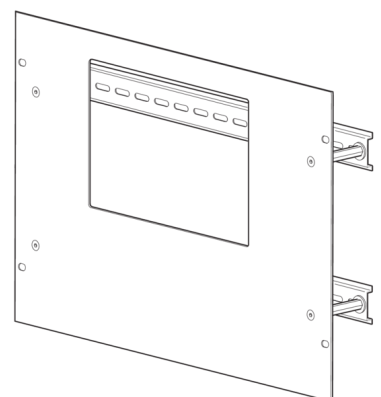
▶ ADRA070-PO

Complete adapter frame,
for TPC070 + 4x TMx-PO



▶ ADRA101

Complete adapter frame,
for TPC101



NOTICE

For more information, refer to the mounting instructions for the TPC Touch Panel or the mounting instructions for the adapter frame.



Product description

TPC070, TPC101, TPC156, TPC185

Mounting

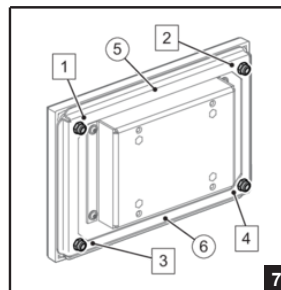
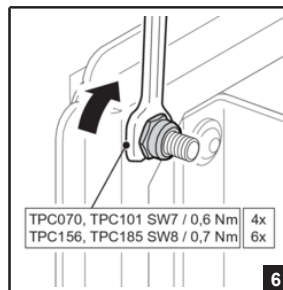
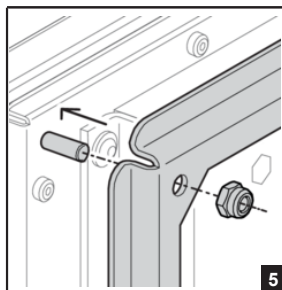
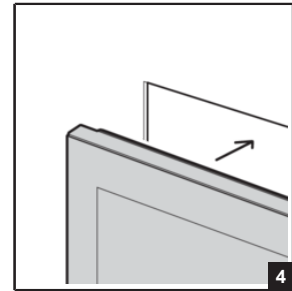
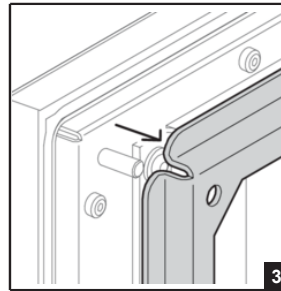
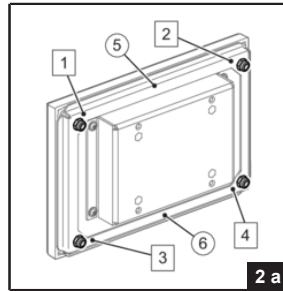
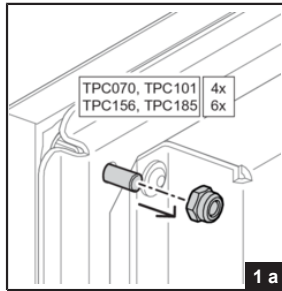


DANGER

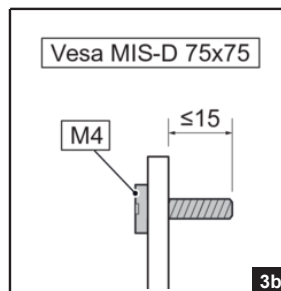
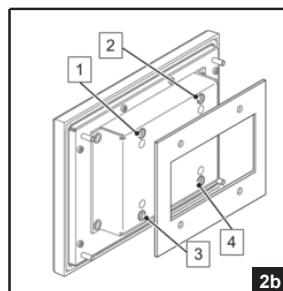
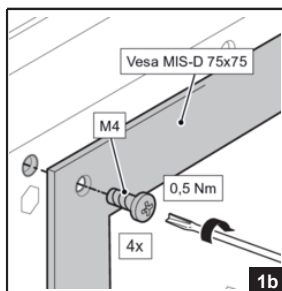
Electrical current

Contact with live parts can cause death by electrocution.

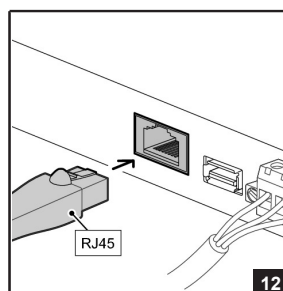
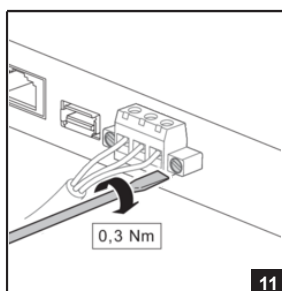
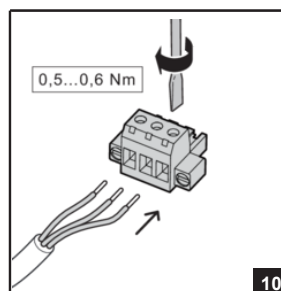
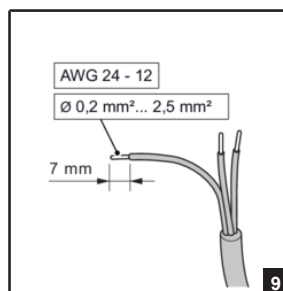
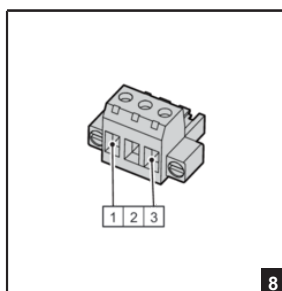
Only carry out the mounting work when the power is switched off.



a: Mounting in
switch cabinet
door with mounting
recess



b: Mounting with
Vesa adapter





Installation

Accessing the Setup menu

The device is delivered with a preconfigured default setting.

During commissioning and after each device restart, the default settings can be adjusted before the countdown timer has expired.

Changes to the default settings can be saved (temporarily) in the Setup menu without exiting the Setup menu (and/or to be able to subsequently make additional settings).

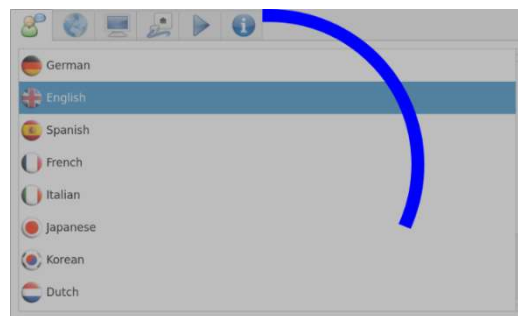
To exit the Setup menu after adjusting the settings and/or to go to the browser view, press "Save and continue".

If no changes need to be made in the Setup menu, the web session will be started automatically after the countdown timer (closed blue circle) has expired without touching the display.

To enter the Setup menu while the system is in use, it is necessary to restart the device.

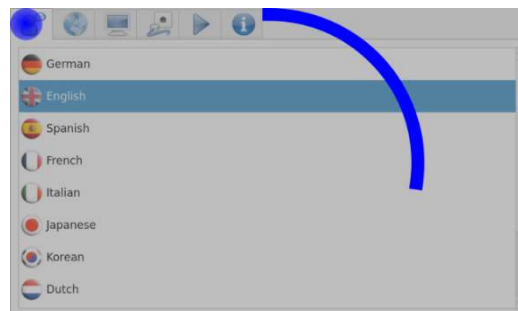
First of all, the higher-level machine/ plant has to be switched on.
The web panel initializes, and after the Kieback&Peter boot logo, the countdown timer (blue circle) appears after a short time.

- ▶ Touch anywhere on the display before the blue circle is closed (the countdown timer expires).



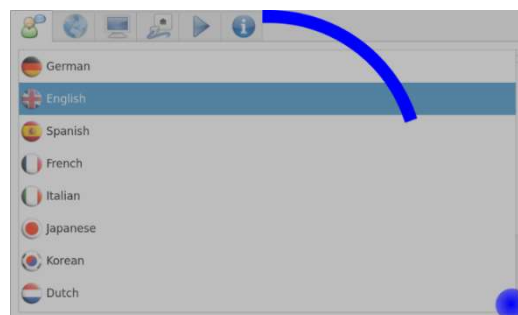
A blue dot appears in the upper left-hand corner of the display.

- ▶ Touch the blue dot.



A blue dot appears in the lower right-hand corner of the display.

- ▶ Touch the blue dot. You are now in the Setup menu.





Product description

TPC070, TPC101, TPC156, TPC185

Configure network

Tap the 'Network settings' icon in the Setup menu.

- ▶ Make the required network settings manually.

eth0 Reload

DHCP
☒

IP-Address
192 168 20 129

Subnet Mask
255 255 0 0

Configure the IP address and subnet mask:

- ▶ Enter the IP address, the broadcast address of the device as well as the netmask and the gateway.
- ▶ Use the virtual keyboard to enter the values.

Default settings:

- TPC IP address: 169.254.19.28
- IP address of the automation station: 169.254.19.27

eth0 Reload

IP-Address
[] [] [] []

Subnet Mask
[] [] [] []

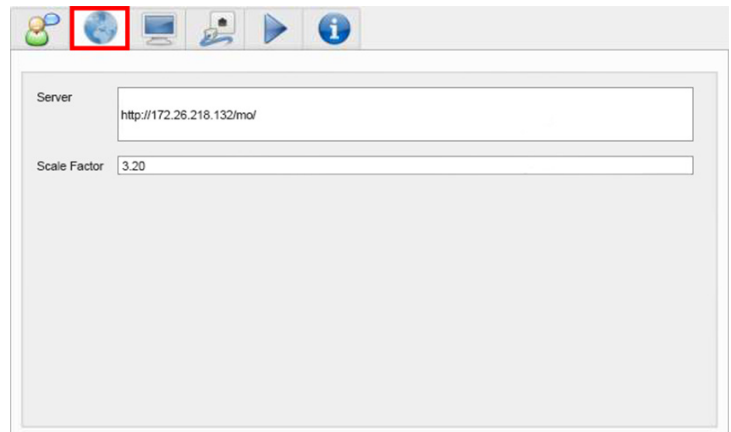
Virtual keyboard: 7 8 9, 4 5 6, 1 2 3, 0 .



Configure server

Tap the 'Server settings' icon in the Setup menu.

- ▶ Next to the "Server" item, use the virtual keyboard to enter the address of the DDC to be operated.
- ▶ With a DDC4000e, the address is as follows: **http://[IP address]/check_browser.html**
- ▶ With a DDC420, the address for the mobile view of the customer level is as follows: **http://[IP address]/mo/**
- ▶ If the DDC520 is to be operated with the Web HMI, the address must be as follows: **https://[IP address]**
- ▶ If the DDC520 is to be operated with the DDC4000e inventory HMI, the settings of the DDC4000e must be made.
- ▶ For [IP address], enter the appropriate IP address for the DDC.
- ▶ Next to the "Scale Factor" item, enter the corresponding scaling factor from the table below.



Scaling factor for operation

To achieve the optimum resolution on the respective touch panel, it is necessary to set a scaling factor according to the DDC which is installed. These values have to be entered in the dialog under "Scale Factor". Refer to the table below as required.

Device	Resolution	Format	Scaling factor for DDC4000e	Scaling factor for DDC420	Scaling factor for DDC520
TPC070	1024x600	17:10	1.25	2.5	1,0
TPC101	1280x800	16:10	1.60	3.3	1,0
TPC156	1366x768	16:9	1.60	3.2	1,0
TPC185	1920x1080	16:9	2.25	4.5	1,0



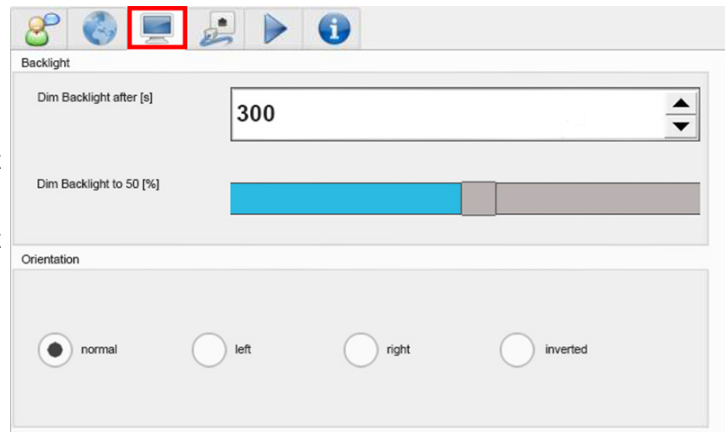
Product description

TPC070, TPC101, TPC156, TPC185

Display settings

Tap the 'Display Settings' icon in the Setup menu.

- ▶ Dim the backlight as required in the "Backlight" dialog.
- ▶ The default setting for "Dim Backlight after [s]" is 300s.
- ▶ The default setting for "Dim Backlight to 50 [%]" is 50%.
- ▶ The alignment can be set via the "Orientation" dialog.
- ▶ The factory-adjusted alignment is set to "normal" and should not be changed. A horizontal installation position according to the reading direction of the Kieback & Peter logo on the touchscreen glass is therefore recommended.
- ▶ In addition, the scaling factor is only intended for this "normal" installation position. The "left" and "right" installation positions are not supported with this factor.



SUSTAINABILITY

You can reduce the display brightness to 0% for the hibernation mode and set a short timeframe for the automatic disabling of the lighting. The device continues to run – this is indicated by the green status light.

NOTICE

If a change of alignment is necessary, it is necessary for this to be saved, however. You can do this by clicking on the "Save Settings" dialog before you exit the "Restart" Setup menu. A change of alignment only takes effect after restarting the device.

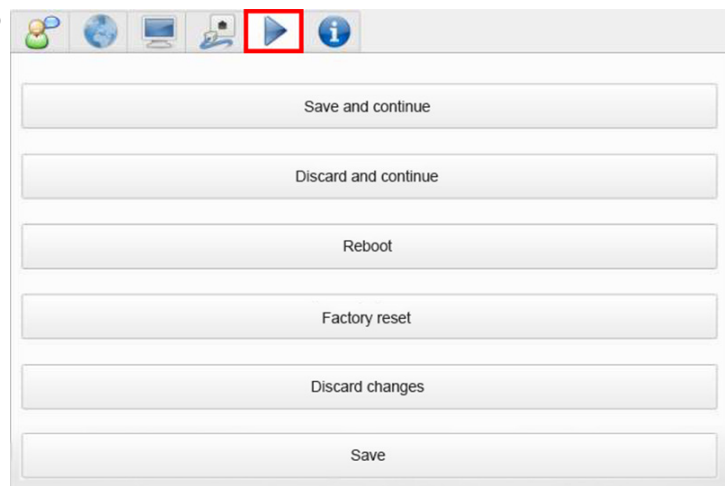
Save settings

Tap the 'Save Settings' icon in the Setup menu.

- ▶ To save all settings: Tap "Save".
- ▶ To change the settings and start the web session automatically: Tap "Save and continue".

In this dialog, you can also carry out a factory reset.

- ▶ To clear all previous settings: Tap "Factory reset." A confirmation prompt then appears.



Update

- ▶ Insert a USB flash drive containing a signed update image into the device.
- ▶ Unplug the device from the power source. Plug the device back in.



- ▶ The device will automatically detect the update and execute the installation. The progress is shown on the display.
- ▶ Once the update is completed, a message will appear indicating that the USB flash drive can be removed.
- ▶ Remove the USB flash drive. The device will then restart automatically, and the update is complete.