**WARNING**
Switch off the supply voltage before working on the relay or connecting or disconnecting it with other devices or PC. Switch the supply voltage on only after all works have been completed.

**CAUTION**
Observe power supply polarity when connecting the relay to 24 V DC power source. Reverse polarity may cause the relay damage.

**CAUTION**
The program loaded to the relay runs immediately after switching the relay ON or the relay reset. It is highly recommended to make sure all connections to peripheral device are safe. Otherwise make sure that all peripheral devices are disconnected from relay outputs before loading the program.

## 1. Specifications

*Table 1 General specification*

| Parameter | Value |
|---|---|
| **Power supply** | |
| Voltage range | ~90…264 V AC |
| Nominal supply voltage | ~230 V AC, 50 Hz |
| Power consumption, max. | 15 VA |
| Galvanic isolation (between the power input and other circuitry parts) | 2300 V |
| **Digital inputs** | |
| Number | 8 |
| Nominal supply voltage | 230 V AC |
| Maximum permissible supply voltage | 264 V AC |
| **Digital / Analog inputs** | |
| Number | 4 |
| Signal type | 4...20 mA, 0...10 V, 0...300 kΩ |
| **Digital outputs** | |
| Number | 8 |
| Type | Relay (NO) |
| **Analog outputs** | |
| Number | 2 |
| Signal type | 4...20 mA and 0...10 V |
| **Network interfaces** | |
| Types | Ethernet and RS485 |
| **General** | |
| Mounting | In a control board |
| Dimensions | 100 × 100 × 71 mm |
| IP Code | IP20 |
| Weight | approx. 500 g |
| Average service life | 10 years |

## 2. Operating conditions

The device is designed for natural convection cooling that should be taken into account when choosing the installation site.

The following environmental conditions must be observed:

- clean, dry and controlled environment, low dust level
- closed non-hazardous areas, free of corrosive or flammable gases

*Table 2 Environmental conditions*

| Condition | Permissible range |
|---|---|
| Ambient temperature | -20…+55 °C |
| Relative humidity | up to 80 % (at +35 °C, non-condencing) |
| Transportation and storage temperature | -25…+55 °C |
| Altitude | up to 2000 m above sea level |
| EMC immunity | conforms to IEC 61000-6-2 |
| EMC emission | conforms to IEC 61000-6-4 |

## 3. Installation

To install the device:

1. Prepare an installation cut-out in the control board (see *Fig. 2*).
2. Make sure that the gasket is not damaged and seated properly on the device housing.
3. Insert the device into the installation cut-out.
4. Insert the supplied brackets into the holes on the upper and lower surfaces of the device.
5. Screw the supplied screws into the holes of each bracket so that the device is firmly and evenly pressed against the front side of the board.

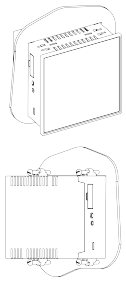


*Fig. 1 – Installation*

Reverse the procedure to dismantle the device.

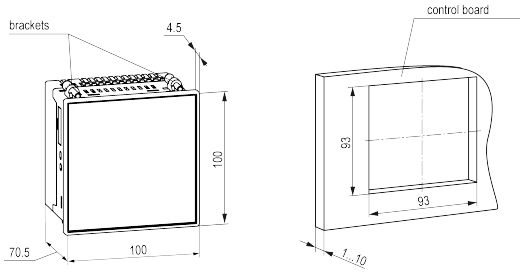



*Fig. 2 – Overall and cut-out dimensions*

## 4. Digital inputs

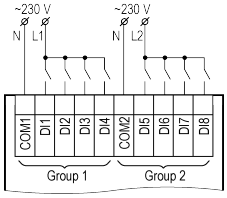



*Fig. 3 – Switch contacts wiring (230 V AC)*

## 5. Analog inputs

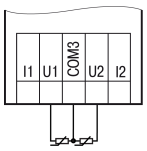



*Fig. 4 – RTD sensors wiring*

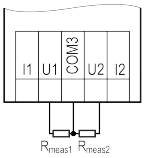



*Fig. 5 – Resistance sensors wiring*

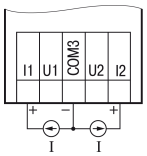



*Fig. 6 – Current sensors wiring*

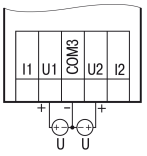



*Fig. 7 – Voltage sensors wiring*

## 6. Output wiring

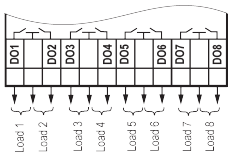



*Fig. 8 – Relay outputs*

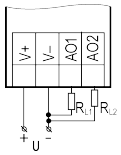



*Fig. 9 – Current output wiring*

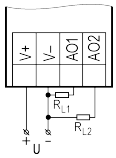



*Fig. 10 – Voltage output wiring*

## 7. Ethernet interface

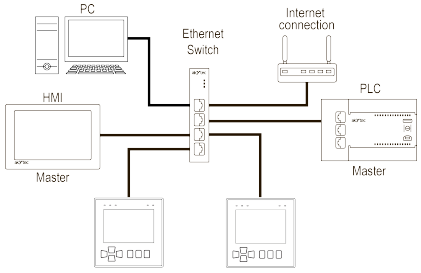



*Fig. 11 – Star topology*

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## 8. RS485 interface

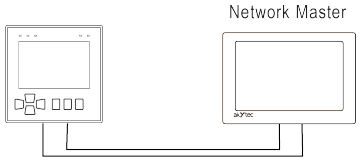



*Fig. 12 – PR225 as Slave*

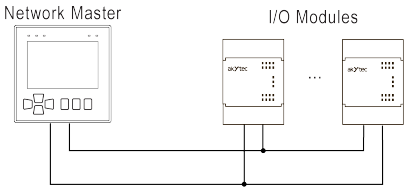



*Fig. 13 – PR225 as Master*

## 9. Controls and interfaces




*Fig. 14 – Front panel*

*Table 3 Buttons*

| Button | Description |
|---|---|
| **View mode** | |
| and | Screen navigation.<br>Move to the next screen when the selected area is on the border of the current screen. |
| OK | Press and hold for 6 seconds to enter the system menu. |
| ESC | Press and hold for 6 seconds to exit the system menu. |
| SEL + ESC | Move to the Error panel. |
| **Edit mode** | |
| SEL | Enter the edit mode on the current screen.<br>When pressed, the first editable element on the screen becomes available for editing and starts flashing.<br>Apply a value and move to the next parameter. |
| and | Change the parameter value.<br>Press and hold to accelerate the value change. |
| and | Move to a higher level. When moving to the maximum level, it jumps to the lowest one. |
| + | Move to a lower level. |
| + | Move to a higher level. |
| ESC | Exit the edit mode without saving the edited value. |
| OK | Exit the edit mode and save the edited value. |

*Table 4 Functional assignment of LED indicators*

| LED | Color | Status | Description |
|---|---|---|---|
| ⏻ | green | ON | Power is on |
| ⚠ | red | ON | Failure in the device. Contact the service center |
| | | Flashing | |
| **F1** | green | — | To be defined by user's program |
| **F2** | red | | |
| ⏀ | red<br>green | OFF<br>Flashing | The RUN/STOP switch is in the **STOP** position |
| | red<br>green | ON<br>OFF | No power on terminals 13 and 14.<br>Powered by USB |
| | red<br>green | OFF<br>ON | The RUN/STOP switch is in the **RUN** position |
| | red<br>green | Flashing*<br>ON | The RUN/STOP switch is in the **RUN** position |
| | red<br>green | OFF<br>Flashing* | The RUN/STOP switch is in the **STOP** position |
| | red<br>green | Flashing with a period<br>ON | Error |
| | red<br>green | Flashing<br>Flashing | Boot is in progress |

* Flashing together with ⚠ means that the RTC battery is discharged.

Side surfaces of the device include:

1. RTC battery slot
2. Run/Stop switch (see *Table 5*)
3. Service button (see *Table 6*)
4. Ethernet connector
5. USB type-C port for programming the device

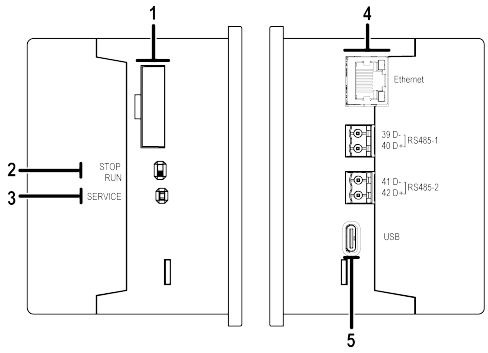



*Fig. 15 – Side surfaces*

*Table 5 RUN/STOP switch*

| Position | Function |
|---|---|
| RUN | When the device is powered on, the user program starts. |
| STOP | When the device is powered on, it functions as an I/O module. The user program is stopped. |

*Table 6 Service button*

| Duration of pressing | Function |
|---|---|
| 12 s | Restoration of the device factory settings |

## 10. Device menu

The device has a user menu and a system menu. The user menu is created in ALP with the help of **Display Manager**. To specify "jumps", use buttons or change a variable. The system menu is always present in the device, even if there is no user program written to it.

It is possible to work with the menu in View and Edit modes. In the **View** mode, you can view the device parameters or the user menu. In the **Edit** mode, you can edit the device parameters in the system menu or the user program from the front panel without stopping the device. When you re-enter the Edit mode, the last edited element is selected.


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