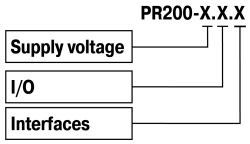
WARNING
Installation may only be performed when the relay and all connected devices are powered off.
Voltage on the terminals can be dangerous!

CAUTION
It is necessary to observe the polarity while connecting 24V DC power supply! Voltage reversal can damage the device.

CAUTION
Installation and maintenance may only be carried out by specialist personnel using the correct tools!

NOTICE
It is recommended to configure and program the device prior to installation and wiring.

1. Ordering information



Supply voltage
230 – 230 (94…264) V AC
24 – 24 (19…30) V DC
I/O
1 – 8 DI, 6 DO
2 – 8 DI, 4 AI, 8 DO, 2 AO (4-20 mA)
3 – 8 DI, 4 AI, 8 DO
4 – 8 DI, 4 AI, 8 DO, 2 AO (0-10 V)
5 – 8 DI, 4 AI, 8 DO, 4 K
Interfaces
0 – none
1 – RS485
2 – 2 × RS485

2. Specifications

Table 1 General specification

Parameter	Value		
	230.1.X	230.2/3/4/5.X	24.X.X
Power supply	230 (94…264) V AC; 50 (47…63) Hz		24 (19…30) V DC
Power consumption	10 VA	17 VA	10 W
Galvanic isolation	2830 V		1780 V
Integrated voltage source	—	24±3 V DC, 100 mA	—
Galvanic isolation	—	1780 V	—
IP Code	IP20		
Dimensions	123 × 108 × 58 mm		
Mounting	DIN rail (35 mm)		
Weight	approx. 600 g		

Table 2 Digital inputs (DI)

Parameter	Value	
	230.X.X	24.X.X
Input voltage	230 V AC	24 V DC
Input voltage, max.	264 V AC	30 V DC
HIGH level	159…264 V / 0.75…1.5 mA	8.5…30 V / 2…15 mA
LOW level	0…40 V / 0…0.5 mA	-3…+5 V / 0…15 mA
Pulse length, min.	50 ms	2 ms
Response time, max.	100 ms	30 ms
Galvanic isolation against other circuits	2830 V	

Table 3 Analog inputs (AI)

Parameter	Value
ADC resolution	12 bit
Analog mode	
Input signal	0-10 V, 4-20 mA, 0-4 kΩ
Input resistance (for 0-10 V)	61 kΩ
Shunt resistance (for 4-20 mA)	121 Ω
Basic error	±0.5 %
Temperature influence	±0.5 % / 10 °C
Digital mode	
HIGH/LOW threshold (adjustable in ALP)	1…8 V
LOW/HIGH threshold (adjustable in ALP)	2…9 V
Pulse length, min.	5 ms
Signal frequency, max.	100 Hz

Table 4 Digital outputs (DO)

Parameter		Value
Type		relay (NO)
Switching capacity	AC	5 A, 250 V AC (resistive load)
	DC	3 A, 30 V DC
Load current at 5 V DC, min.		10 mA
Service life, electrical	AC	200,000 switching cycles
	DC	100,000 switching cycles
Galvanic isolation against other circuits		2830 V, in groups of 2
Galvanic isolation between output groups		1780 V

Table 5 Transistor outputs (K)

Parameter	Value
Type	NPN
Switching current, max.	200 mA
Switching voltage, max.	60 V
Galvanic isolation against other circuits	2830 V

Table 6 Analog outputs (AO)

Parameter	Value
Output signal	4-20 mA (X.2/3/5.X), 0-10 V (X.3/4/5.X), 0-4000 Ω (X.3/5.X)
External voltage supply	15…30 V
Basic error, max.	±0.5%
Temperature influence	±0.05% / 10°C
Inductive load, max (for 4-20 mA)	50 µH
Signal conversion time	100 ms
DAC resolution	10 bit
Galvanic isolation against other circuit	2830 V

3. Operating conditions

The device is designed for natural convection cooling.
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 7 Operating conditions

Condition	Permissible range
Ambient temperature	-20…+55 °C
Transportation and storage	
Relative humidity	up to 80 % (at +25 °C, non-condencing)
Attitude	up to 2000 m above sea level
IP code	IP20
EMC immunity	conforms to IEC 61000-6-2
EMC emission	conforms to IEC 61000-6-4

4. Installation

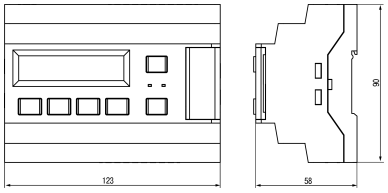


Fig. 1 – Dimensions

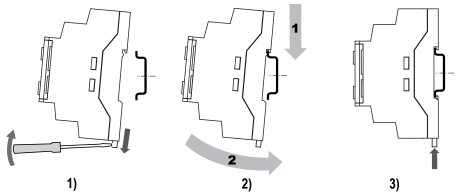


Fig. 2 – Installation

Installation:
1. Place the device on a DIN rail as shown in *Fig. 2*.
2. Press the device firmly against the DIN rail in the direction of arrow 2 until the latch locks.
3. Wire the device using the supplied terminal blocks.

Removing:
1. Take off the terminal blocks without disconnecting wires.
2. Insert a screwdriver into the eyelet of the slide interlock.
3. Loosen the slide interlock and then remove the relay from the DIN rail.

PR200 is equipped with plug-in terminal blocks which enable quick replacement of the device without disconnecting the existing wiring.

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5. Analog inputs modes

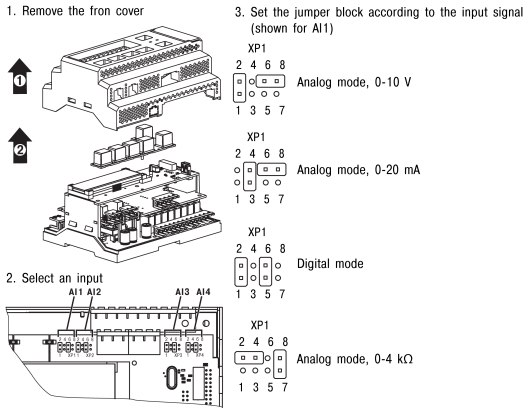

Fig. 3 – AI mode selection

6. Service modes

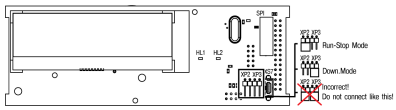

Fig. 4 – Jumpers of service modes

7. Digital inputs wiring

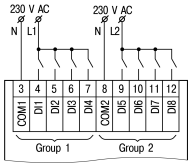

Fig. 5 – Digital inputs wiring (230 V AC)

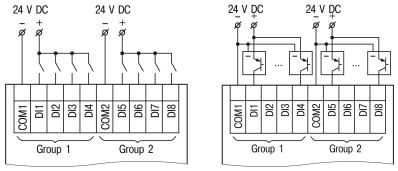

Fig. 6 – Digital inputs wiring (24 V AC)

8. Analog inputs wiring

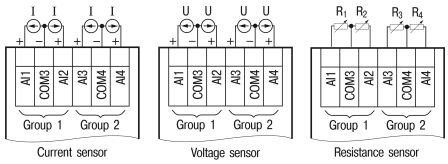

Fig. 7 – Analog inputs wiring

9. Outputs wiring

NOTICE

The output voltage of an external voltage source may not exceed 30 V. Higher voltage can damage the device.

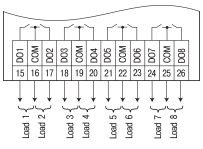

Fig. 8 – Digital output wiring

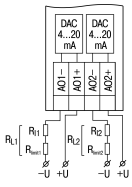

Fig. 9 – Current output wiring

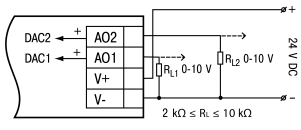

Fig. 10 – Voltage output wiring

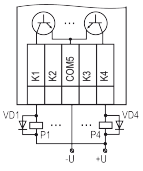

Fig. 11 – Transistor optocoupler output wiring

10. Controls and indication

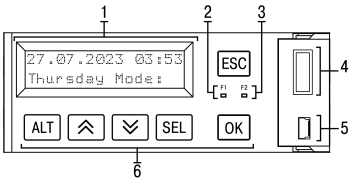

Fig. 12 – Face plate

1. Two-line 16-digit LCD display
2. Green LED
3. Red LED
4. Extension module connector (under cover)
5. Programming connector (under cover)
6. Buttons

Table 8 Buttons

Button	Description
[▲] [▼]	Menu navigation / Parameter value editing
[ALT]	Used in combination with other buttons
[SEL]	Parameter selection / changed value saving
[ESC]	Cancel change (reset to original value) / exit edit mode
[OK]	Applying changes
[ESC]	Exit / Cancel
[ALT] + [▲] or [ALT] + [▼]	Changing the position of the cursor / moving through the digits

11. Device menu

PR200 has a user menu and a system menu.

The user menu can be programmed in ALP using one or more display forms. To switch between two display forms, jump conditions have to be created. Jump condition can be an event of a function button or of a variable. For further details about display programming, see ALP Help.

The system menu allows you to view the most important parameters of the device and perform a quick configuration without connection to ALP. The system menu is always present in the device, even if it does not contain a user program.

The display can be used in **view** or **edit** mode. The edit mode is only for editable display elements available.

When the edit mode is activated, the last changed parameter will be displayed.

12. Time/Date settings

To set time and date using the device system menu:

1. Hold [ALT] button for 3 seconds to access the menu.
2. Press [OK] button to enter **Device** menu.
3. Use [▼] button to reach **Clock** menu
4. Press [OK] button to enter **Time/Date** parameter.
5. Press [SEL] button to enter edit mode. The first digit starts flashing.
6. Use [▲] and [▼] buttons to change the value. To move between characters use [ALT] + [▼] combination .
7. Press [OK] button to move to the next editable parameter or hold [ESC] button for 3 seconds to exit edit mode.

13. Still have questions?

Please feel free to check our latest materials about this product:

Product page | Full user guide | FAQs

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