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	9...30 V DC
Nominal supply voltage	24 V DC
Power consumption, max.	8 W
Digital inputs	
Number	6
Nominal supply voltage	24 V DC
Maximum permissible supply voltage	30 V DC
Digital / Analog inputs	
Number	6
Fast digital inputs	
Number	4
Digital outputs	
Number	8
Type	Relay (NO)
Analog outputs	
Number	2
Signal type	4...20 mA, 0...10 V
General	
Mounting	DIN-rail (35 mm)
Dimensions	123 × 90 × 58 mm
IP Code	IP20
Weight	approx. 600 g
Average service life	8 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	-40…+55 °C
Relative humidity	up to 80 % (at +35 °C, non-condencing)
Transportation and storage temperature	-25…+55 °C
Transportation and storage relative humidity	up to 80 %
Attitude	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

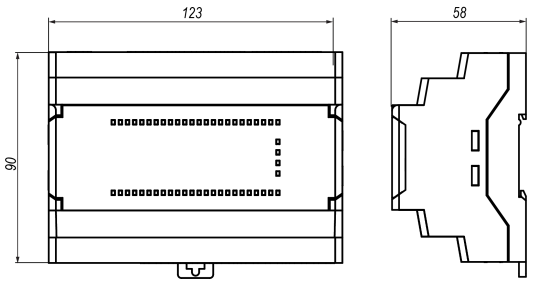


Fig. 1 – Dimensions

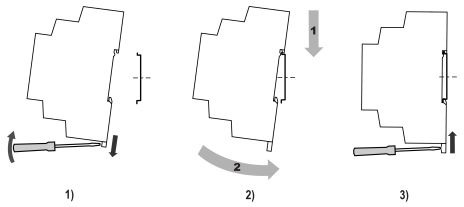


Fig. 2 – Installation

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.

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

4. Digital inputs

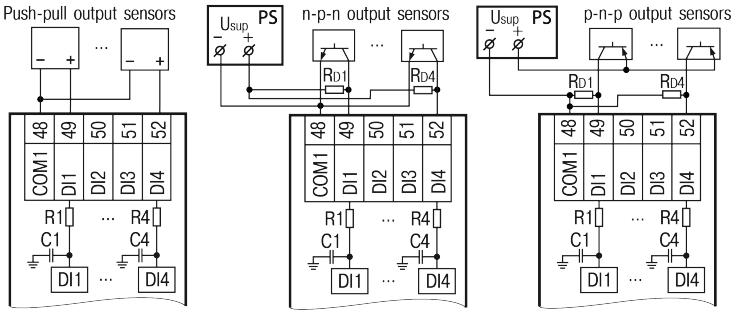


Fig. 3 – Digital inputs wiring

5. Analog inputs

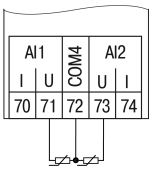


Fig. 4 – RTD sensors wiring

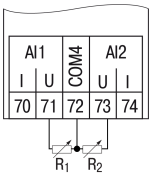


Fig. 5 – Resistance sensors wiring

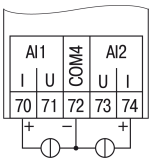


Fig. 6 – Current sensors wiring

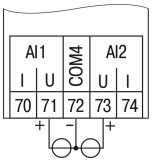


Fig. 7 – Voltage sensors wiring

6. Fast digital inputs

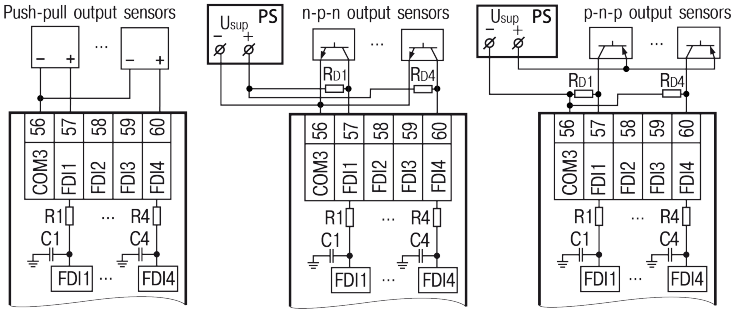


Fig. 8 – Fast digital inputs wiring

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7. Output wiring

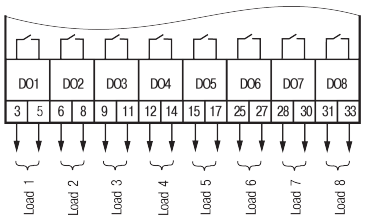


Fig. 9 – Relay outputs

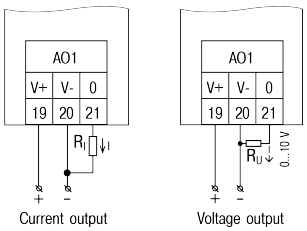


Fig. 10 – Analog outputs

8. Extension modules

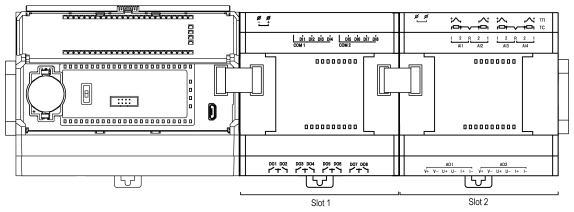


Fig. 11 – Extension modules connection

9. RS485 interface

Use terminating resistors if necessary.

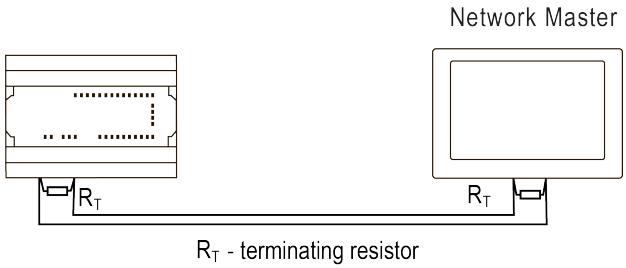


Fig. 12 – PR103 as Slave

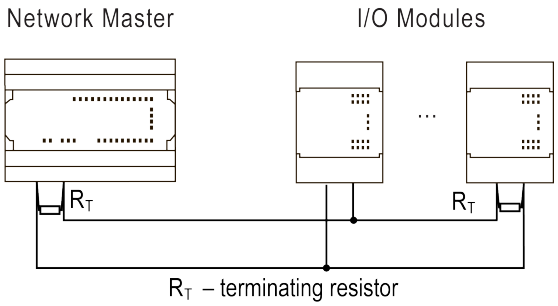


Fig. 13 – PR103 as Master

10. Ethernet interface

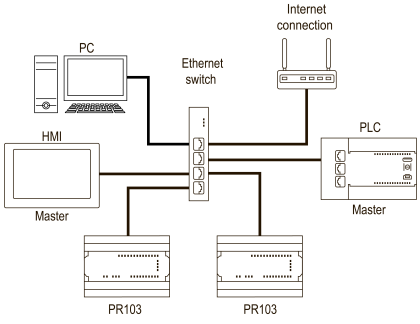


Fig. 14 – Star topology

11. Controls and interfaces

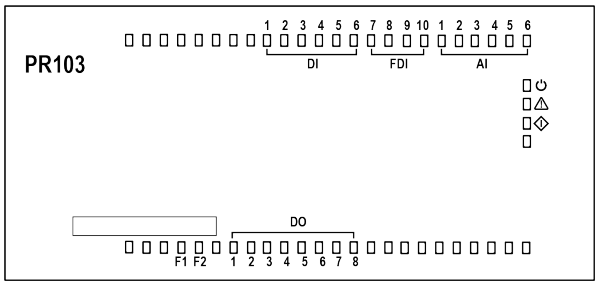


Fig. 15 – Front view

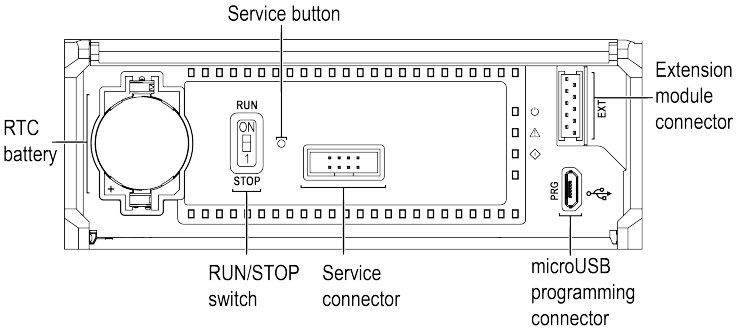


Fig. 16 – Front cover open

Table 3 Indicators

LED	Color	State	Description
⏻	green	ON	Power on — supply voltage applied to the power terminals
⚠	red	ON	Fatal error if ◈ LED simultaneously flashing
		flashing	RTC battery discharged if ◈ LED simultaneously flashing
F1	green	—	To be assigned by user's program
F2	red	—	
DI1...DI6	green	ON	Logic HIGH on input
FDI1...FDI4	green		
AI1...AI6	green	ON	Logic HIGH on input (only when the digital input mode is set)
DO1...DO08	green	ON	Output is on
◈	red green	OFF flashing	The RUN/STOP switch is in the STOP position. PR103 operates in the I/O mode
	red green	OFF OFF	User's program is not loaded. PR103 is not configured
	red green	ON OFF	No supply voltage applied to the power terminals. PR103 is powered from USB port
	red green	OFF ON	The RUN/STOP switch is in the RUN position. User's program is running
	red green	flashing OFF	PR103 is not configured. RTC battery discharged if ⚠ LED simultaneously flashing.
	red green	OFF flashing	The RUN/STOP switch is in the STOP position. RTC battery discharged if ⚠ LED simultaneously flashing.
	red green	flashing with delay ON	Error if ⚠ LED is simultaneously ON.
	red green	ON ON	Expecting for the start of the firmware boot
	red green	flashing flashing	Firmware boot is in progress

NOTE
For more details as to operation of the device indicators please refer to the PR103 User Guide available on the homepage *www.akytec.de*

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