

Roger Access Control System

PR402DR-SET Installation Manual

Product version: v2.3

Firmware version: -

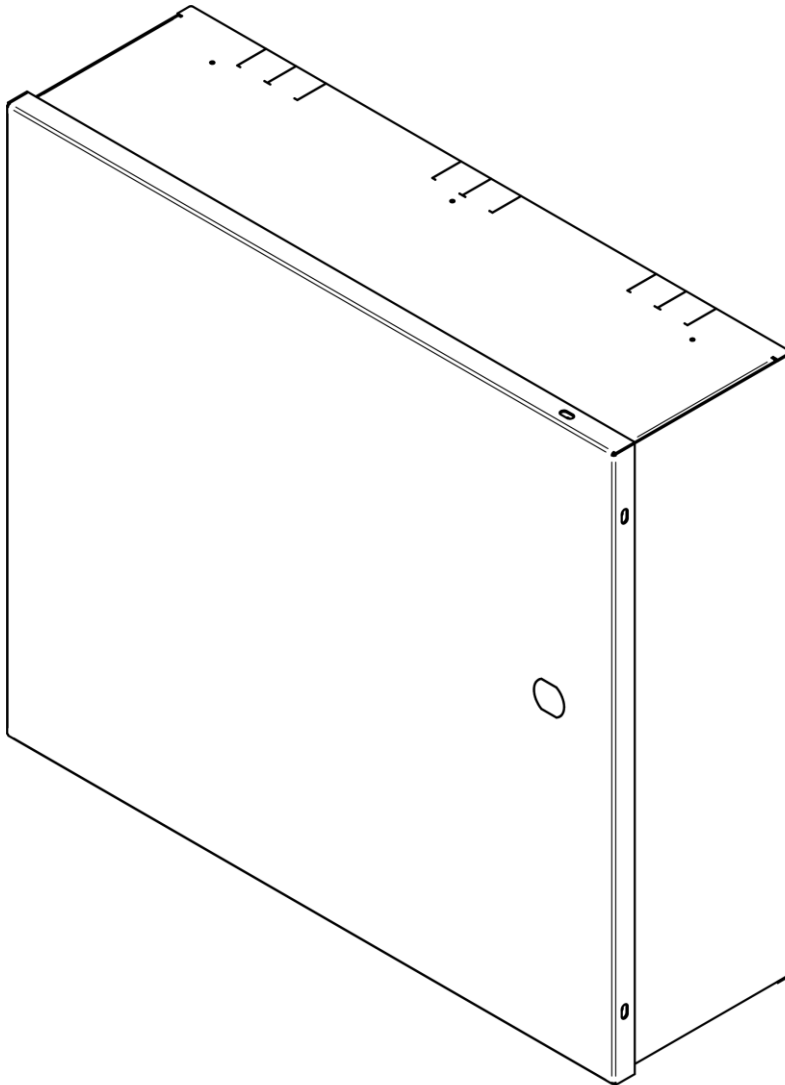
Document version: Rev. A

RoHS

CE



IP20



ATPP-447

This document contains minimum information that is necessary for initial setup and installation of the kit. The detailed description of configuration parameters and functionalities of all components is specified in respective Operating manuals available at www.roger.pl

1. PURPOSE

The PR402DR-SET is designed to control single door in RACS 4 system. The door can be read-in or read-in/out type when equipped with PRT series readers (RACS CLK/DTA), Wiegand interface readers or Magstripe interface readers. The kit includes PR402DR-BRD access controller and ME-40-24V metal box with power supply 24VDC/50W. The box is adapted to installation of 7Ah battery for emergency supply. All elements of controlled door including readers and door lock can be supplied from the kit.

2. INSTALLATION AND ELECTRICAL SUPPLY

1. The KIT shall be installed indoors ensuring nominal environmental conditions as stated in the Specification section of this document.
2. All installation and maintenance work inside the enclosure shall be done with the 230VAC power supply disconnected.
3. The 230VAC power supply should be made with a three-wire cable including green-yellow PE (Protective Earth) wire.
4. The mains power supply cable shall be fed into the enclosure through hole B and fastened to G detail by a cable tie.
5. Connect the mains power cable as shown in the figure below (Fig. 1). L, N, and PE wires should be stripped of insulation for a length of 7 mm and mounted in the terminal in such a way that the insulated part of the wire is inside the terminal.

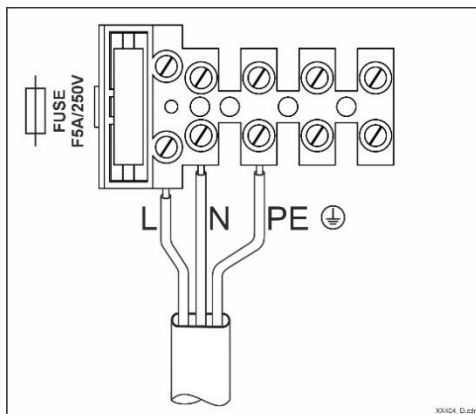


Fig. 1 Mains power connection to the terminal block

6. The protective conductor H connected to terminal block A (Fig. 2) must be connected to the PE electric shock protection (connector F) located on the enclosure door.
7. Connection cables for installed devices must be fed into the enclosure through C holes.
8. The power supply used in the enclosure is intended for continuous operation.
9. To organize the cables routed into the enclosure, they should be fastened to the loops G using cable ties. To use the loops G, they must first be pried up (e.g., with a screwdriver) and bent into a vertical position, then secured using a cable tie.
10. If you wish to route cables into the enclosure from the top or bottom panel, use the cutouts indicated in Fig. 4.
11. After completing the installation and commissioning procedures, the enclosure must be closed.
12. End users of the system must be informed about the procedures for disconnecting the electrical circuit used to power the device.

The SPR402DR-SET is powered by a 24VDC/2.2A power supply. It includes space for a standard 7Ah battery, which is connected to the BAT+ and BAT- terminals of the PR402DR-BRD controller.

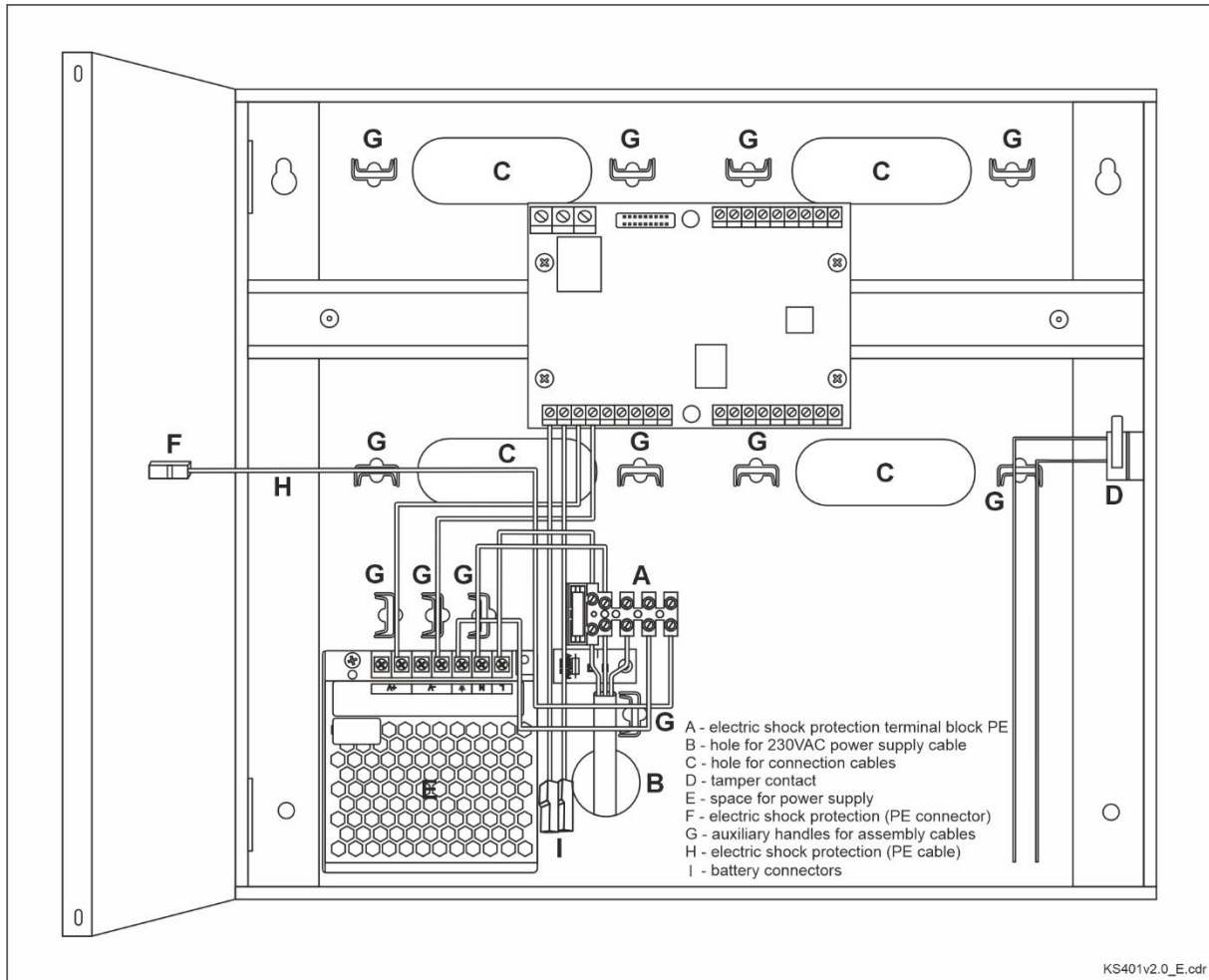


Fig. 2 The view of the PR402DR-SET interior with the power supply installed

	<p style="text-align: center;">Note</p> <p>Installation may only be carried out by a qualified person holding the appropriate permits and authorizations to connect to and work on the 230 VAC mains network.</p>
	<p style="text-align: center;">Note</p> <p>The power circuit supplying the device must be equipped with an installation switch with a nominal current of 6A. Before performing any service tasks inside the device, it must be disconnected from the 230 VAC network.</p>
	<p style="text-align: center;">Note</p> <p>The electric shock protection circuit must be installed carefully and effectively. It is not permissible to use the device without a properly installed and technically functional PE electric shock protection circuit.</p>
	<p style="text-align: center;">Note</p> <p>Follow the instructions provided in the user manual and/or technical data sheet. Failure to comply with this recommendation may result in equipment damage, electric shock, fire, injury, or other consequences.</p>

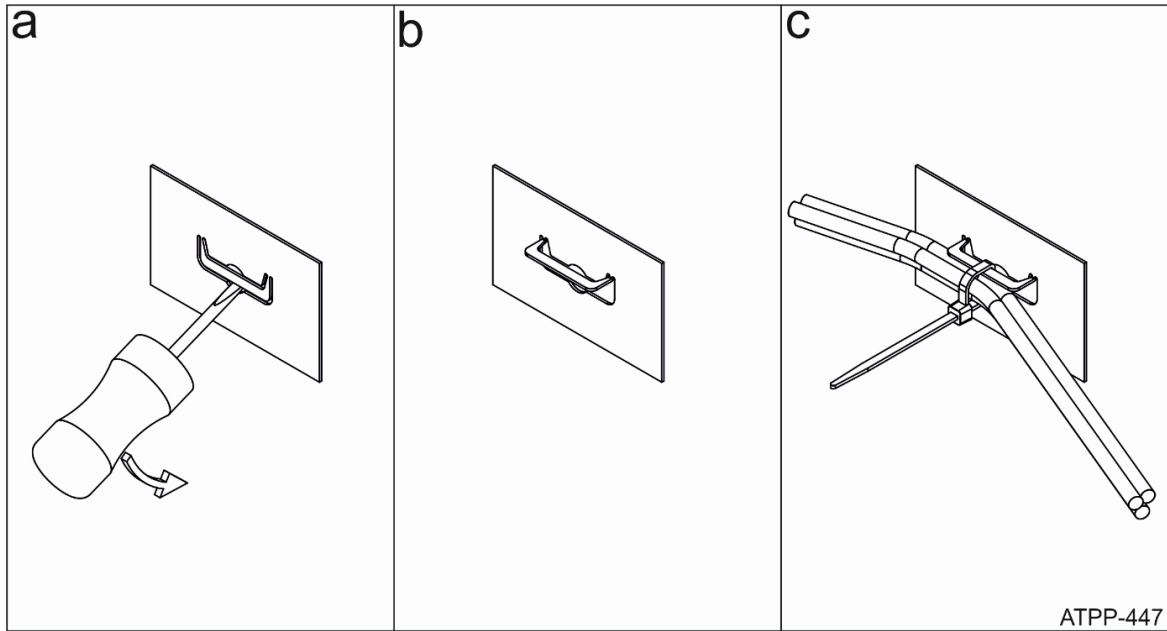


Fig. 3 Forming a loop for securing wires inside the enclosure

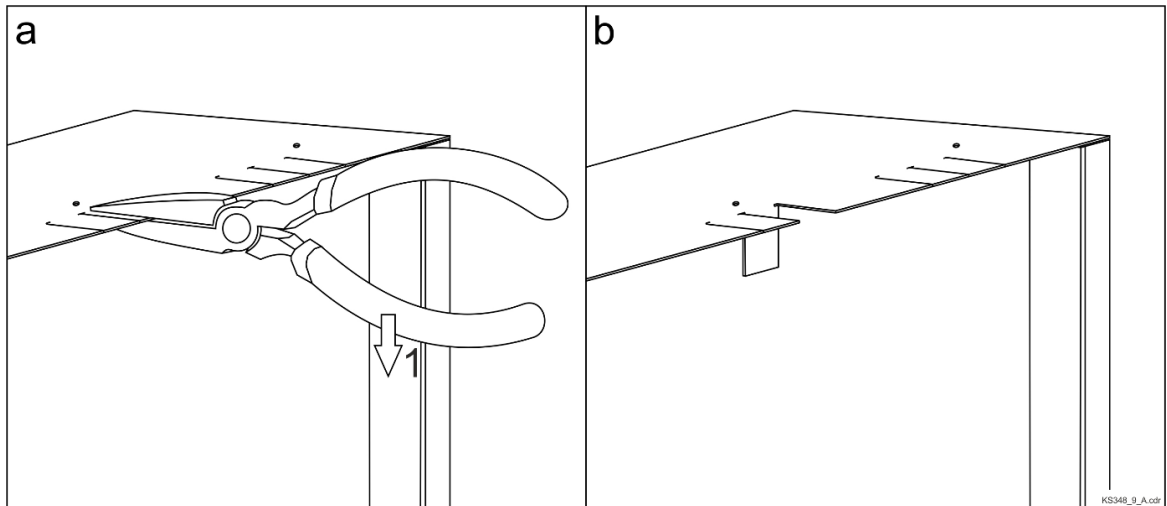


Fig. 4 Forming cutouts for routing cables from the bottom or top panel of the enclosure

3. PRELIMINARY CONFIGURATION

Preliminary configuration requires addressing of the controller on RS485 bus in range of 00-99. All controllers on this bus must have unique addresses. It is recommended to configure the address of controller by means of jumpers. Other methods are explained in controller’s manual.

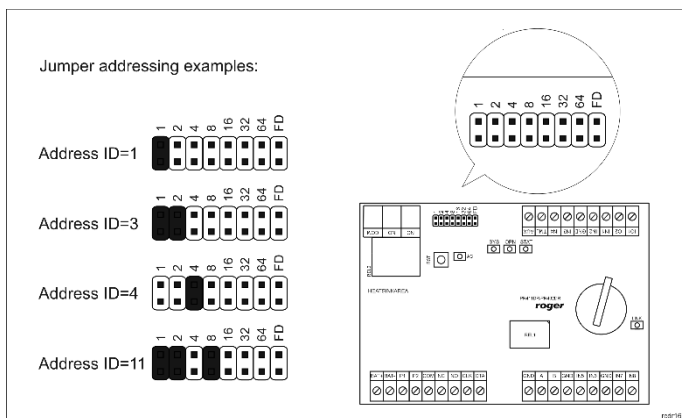


Fig. 5 Addressing with jumpers

4. CONFIGURATION WITH PR MASTER PROGRAM

Configuration with PR Master enables to define the logic of controller including users and access rights. More information is given in PR Master manual. The communication with controller requires connection to computer via communication interface (e.g. UT-4DR, UT-2USB, RUD-1) or via CPR32-NET network controller.

5. MEMORY RESET

Memory reset procedure resets all settings to default ones. RS485 address which is configured with jumpers remains unchanged.

Memory reset procedure:

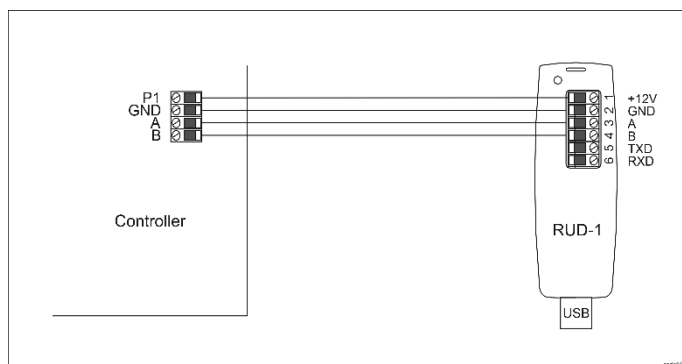
1. Disconnect power supply from controller.
2. Short CLK and IN1 lines.
3. Restore power supply - LED OPEN (green) will start to pulsate.
4. Disconnect CLK and IN1.
5. After a few seconds the controller will restart automatically and switch to normal mode.

6. FIRMWARE UPDATE

New firmware can be uploaded to the controller with RogerISP software. The latest firmware file is available at www.roger.pl.

Firmware update procedure:

1. Connect the device to RUD-1 interface (fig. 6) and connect the RUD-1 to computer's USB port.
2. Place jumper on FD contacts (fig. 5).
3. Restart the device (switch power supply off and on or press RST button) – LED SYS (orange) indicator will be switched on.
4. Start RogerISP software, select serial port with RUD-1 interface port, select the option USB to RS485 Converter and indicate path to firmware file (*.hex).
5. Click Update to start firmware upload with progress bar displayed.
6. When the update is finished, remove jumper from FDM contacts and restart the device.



Rys. 6 Connection of the controller to RUD-1 interface for firmware update

1. If the controller does not function properly after completing the firmware upload procedure and the SYS LED indicator lights up orange, a memory reset procedure should be performed.
2. If the firmware upload fails for any reason, it should be repeated.
3. Instead of the RUD-1, the UT-2USB interface can be used for firmware uploading.

7. TAMPER DETECTION

The metal box is equipped with door contact which can be connected to one of the inputs (e.g. IN8) and GND terminal of the controller. The anti-sabotage function can be assigned to the input with PR Master software.

8. NOTES AND RECOMMENDATIONS

The following section presents various possible controller operation scenarios along with key cabling guidelines. Adhering to these recommendations will ensure correct and trouble-free system operation from the very first startup.

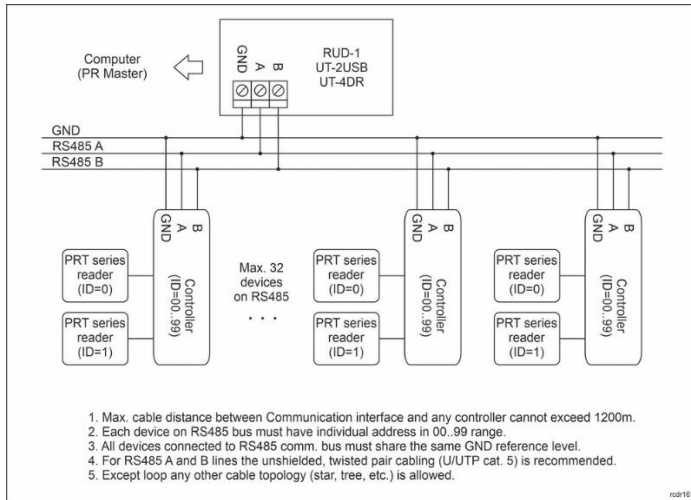


Fig. 7 Connection of controllers within the subsystem without CPR32 control panel

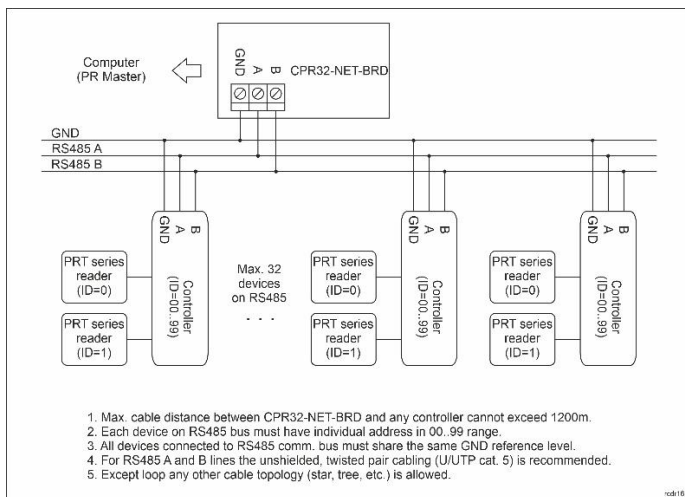


Fig. 8 Connection of controllers within the subsystem with the CPR32-NET control panel

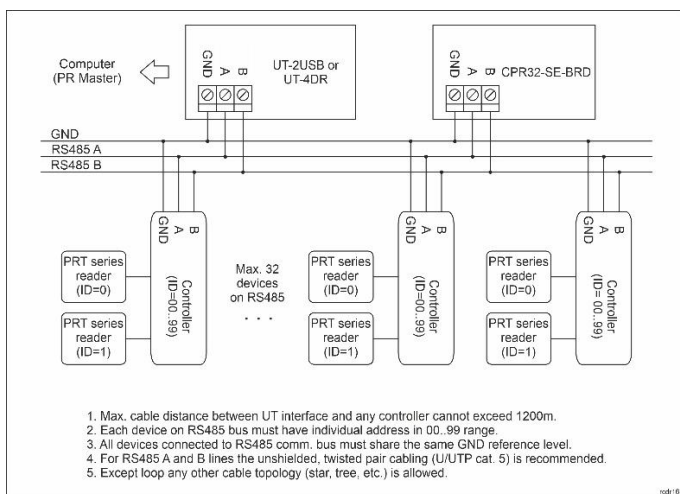


Fig. 9 Connection of controllers within the subsystem with the CPR32-SE control panel

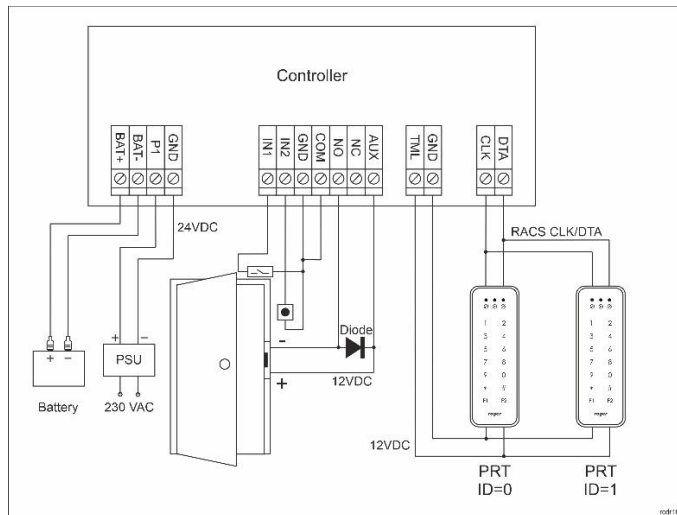


Fig. 10 Typical door access control with the PR402DR-SET

Notes:

1. In case of read-in door, single reader is connected to the controller and then such PRT reader can have default ID=0 address. If two PRT readers are connected to the controller for the purpose of read-in/out door then one of the readers must be addressed as ID=1 according to its manual.
2. Pre-programmed EM125kHz MASTER proximity card is included with PR402DR-SET. It can be used at PRT reader to open door.
3. PR controller configuration from computer with PR Master software requires UT series interface or CPR32-NET-BRD network controller.
4. Diagram includes door with electric strike. In case of electromagnetic lock, the NC terminal of relay is used instead of NO terminal.
5. Diagram includes exit button. In case of read-in/out doors it can be used for emergency door opening.

Recommendations:

1. Power supply cables should be selected so that the voltage drop during maximum current draw does not exceed 0.5V.
2. For communication over RS485, CLK/DTA, and Wiegand lines, any unshielded signal cables may be used. It is recommended to use UTP unshielded twisted pair computer cable.

9. APPENDIX

Table 1. Screw terminals PR402DR-BRD	
Name	Descriptions
BAT+, BAT-	Backup battery
P1	Input supply 24VDC – Positive power pole
P2	Input supply 24VDC – Negative power pole
NO1, COM1, NC1	Relay (REL1) 30V/1,5A DC/AC
CLK, DTA	RACS CLK/DTA Bus
GND	GND (Ground)
A, B	RS485 Bus
IN1-IN8	Input lines
IO1, IO2	Transistor outputs OC (open collector type) 15VDC/1A
TML	12VDC/0,2A output power supply (for readers)
AUX	12VDC/1,0A output power supply (for door lock)

NO2, COM2, NC2	Relay (REL2) 30V/5A DC/AC
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Table 2. PR402DR-BRD LED indicators

Name	Description
AC	AC supply
SYS	Various signaling functions
OPN	Door unlock
STA	Current arming mode
LINK	RS-485 data transmission indicator

Table 3. Technical specification


Power voltage	230VAC, 50/60Hz (-15%÷+10%)
Short circuit and overload protection	5A/250VAC fuse disconnect switch located on the terminal block
Power supply	LRS-50-24 24VDC/50W
DIN Rail	396 mm
Material	Metal sheet 0,8mm; anti-corrosion protection with powder coating
Tamper Protection	Tamper Contact NO/NC; 50VDC/50mA
Distances	RS485: 1200m CLK/DTA: 150m Wiegand: 100m
IP Code	IP20
Operational environment	Indoor general conditions, temperature: +5°C to +40°C, relative humidity: 10 to 95% (no condensation)
Dimensions (S × W × G)	405 x 365 x 121 mm
Weight	3,7 kg
Compliance	CE; RoHS

9. ORDERING INFORMATION

Product	Description
PR402DR-SET	Standard version of the product

10. PRODUCT HISTORY

Version	Date	Description
PR402DR-SET v2.1	03/2025	Product version 2.1
PR402DR-SET v2.2	06/2025	REL2 output ratings changed
PR402DR-SET v2.3	12/2025	Product version 2.3

	<p>This symbol placed on a product or packaging indicates that the product should not be disposed of with other wastes as this may have a negative impact on the environment and human health. The user is obliged to deliver equipment to the designated collection points of electric and electronic waste. For detailed information on recycling, contact your local authorities, waste disposal company, or point of purchase. Separate collection and recycling of this type of waste contributes to the protection of the natural resources and is safe for human health and the environment. Weight of the equipment is specified in the document.</p>
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Roger Sp. z o. o. sp. k.

82-400 Gościszewo 59

Tel.: +48 55 272 0132

Fax: +48 55 272 0133

Technical Support: +48 55 267 0126

Technical Support (GSM): +48 664 294 087

E-mail: biuro@roger.pl

Web: www.roger.pl