Roger Access Control System

PRT12MF-DES / PRT82MF / PRT84MF / PRT84ME Installation Manual

Firmware version: x.0.30.256 and newer

Document version: Rev. D

CE

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

INTRODUCTION

The reader is designed for operation in RACS 4 and RACS 5 systems where it functions as slave reader connected to master access controller via RACS CLK/DTA bus. Alternatively, the reader can be installed in third party systems and connected via Wiegand interface. Factory new reader is configured with RACS mode ID=0 address and in most cases it can be connected to access controller without additional configuration. Detailed configuration of device can be done with computer (RogerVDM software). Reader's operating mode can be changed manually with reader's keypad or proximity card. If reader is configured from computer then connection of RUD-1 interface is necessary.

CONFIGURATION WITH ROGERVDM PROGRAM
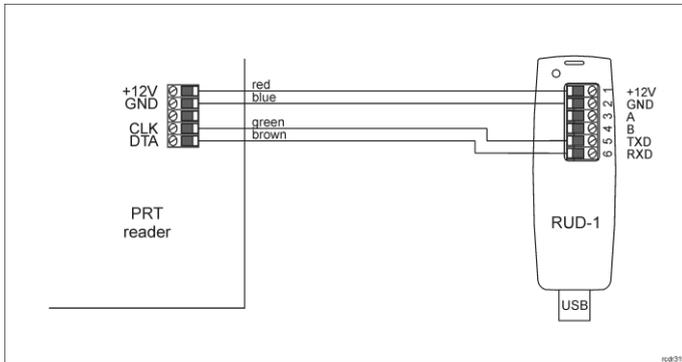
Fig. 1 Connection of reader to RUD-1 interface

Programming procedure:

1. Connect the reader to RUD-1 interface (fig. 1) and connect the RUD-1 to computer's USB port.
2. Place jumper on MEM contacts (fig. 2).
3. Restart the reader (switch power supply off and on or short RST contacts for a moment) and orange LED SYSTEM will pulsate.
4. Start RogerVDM program, select *PRT v1/2.x* device, firmware version, *RS232* communication channel and serial port with RUD-1 interface.
5. Click *Connect,* the program will establish connection and will automatically display *Configuration* tab.
6. Depending on requirements of specific installation configure operating mode, address and other settings.
7. Click *Send to Device* to update the configuration of reader.
8. Optionally make a backup by clicking *Send to File…* and saving settings to file on disk.
9. Remove jumper from MEM contacts and disconnect reader from RUD-1 interface.

Note: Do not read any cards nor press reader keypad when reader is configured with RogerVDM.

MANUAL CONFIGURATION OF READER

The operating mode of reader can be configured manually. In case or RACS mode the address of device on RACS CLK/DTA bus is configured by selection of the mode.

Operating mode configuration procedure:

1. Remove all connections from CLK and DTA lines.
2. Place jumper on MEM contacts (fig. 2).
3. Restart the reader (switch power supply off and on or short RST contacts for a moment) and orange LED SYSTEM will pulsate.
4. Enter 3 digits of operating mode with reader keypad or with any MIFARE proximity card e.g.
   [000] - RACS with ID=0 address,
   [001] - RACS with ID=1 address,
   [100] - typical Wiegand 26bit format.
5. Remove jumper from MEM contacts and restart the reader.

Note: The list of all operating modes is given in the Operating Manual which is available at www.roger.pl.

In case of readers without keypad the operating mode is entered with multiple card readings. In this method, N number of any MIFARE card readings emulates digit. After each series of readings wait for two beeps and proceed with the next digit. Zero digit is emulated with 10 readings.

Example of [001] operating mode programming with multiple card readings:

1. Read card 10 times and wait for two beeps.
2. Read card 10 times and wait for two beeps.
3. Read card 1 time and wait for two beeps

MEMORY RESET PROCEDURE

Memory reset procedure resets all settings to factory default ones including RACS mode with ID=0 address.

Memory reset procedure:

1. Remove all connections from CLK and DTA lines.
2. Place jumper on MEM contacts (fig. 2).
3. Restart the reader (switch power supply off and on or short RES contacts for a moment) and orange LED SYSTEM will pulsate.
4. Press [*] or read any MIFARE card 11 times. The reader will make continuous sound.
5. Remove jumper from MEM contacts and restart the reader.

FIRMWARE UPDATE

The update requires connection of reader to computer with RUD-1 interface (fig. 2) and starting RogerVDM software. The latest firmware file is available at www.roger.pl.

Firmware update procedure:

1. Connect the reader to RUD-1 interface (fig. 1) and connect the RUD-1 to computer's USB port.
2. Place jumper on FDM contacts (fig. 2).
3. Restart the reader (switch power supply off and on or short RST contacts for a moment).
4. Start RogerVDM and close the automatically displayed window with device selection.
5. In the top menu select *Tools->Update firmware*. In the opened window select device type, serial port with RUD-1 interface and path to firmware file (*.hex).
6. Click *Update* to start firmware upload with progress bar in the bottom.
7. When the update is finished, remove jumper from FDM contacts and restart the reader.

Note: After firmware update it may be necessary to start Memory reset procedure.

APPENDIX
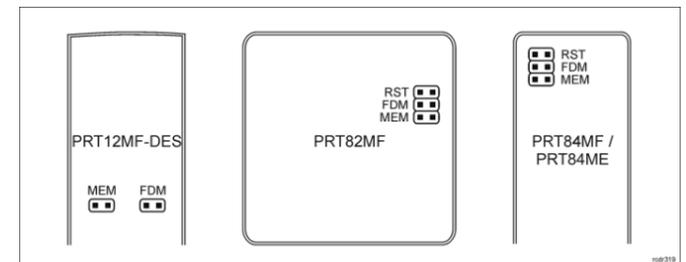
Fig. 2 Service contacts
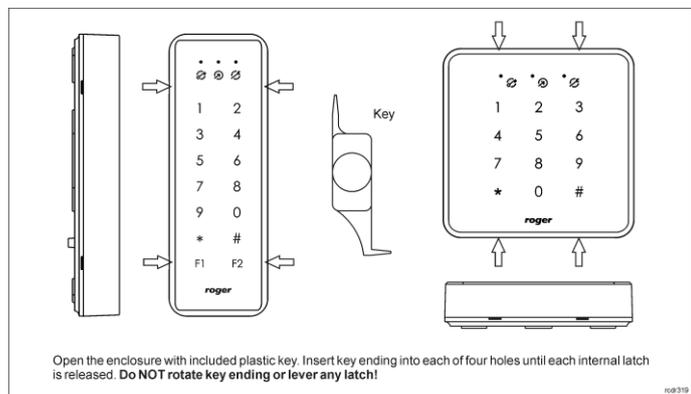
Fig. 3 PRT82 and PRT84 enclosure opening

Table 1. Terminals and wires

Screw terminal	Wire colour	Description
12V	Red	Supply plus
GND	Black	Ground
IN1	Yellow	IN1 input line
IN2	Pink	IN2 input line
CLK	Green	CLK line
DTA	Brown	DTA line
TMP	White	Tamper switch
TMP	Grey	Tamper switch

Table 2. Specification

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Supply voltage	Nominal 12VDC, min./max. range 10-15VDC
Current consumption (average)	PRT12MF-DES: ~70 mA PRT12MF-DES-BK: ~50 mA PRT82MF: ~60 mA PRT82MF-BK: ~45 mA PRT84MF: ~65 mA PRT84MF-BK: ~50 mA PRT84ME: ~65 mA
Inputs	Two (IN1..IN2) NO/NC inputs, approx. 3.5 triggering level
Tamper protection	Isolated 50mA/24V contacts, shorted when enclosure is closed
Proximity cards	PRT12MF-DES/PRT12MF-DES-BK: 13.56MHz MIFARE Ultralight, Classic, DESFire EV1 and Plus PRT84ME 13.56MHz MIFARE Ultralight, Classic and EM 125 kHz UNIQUE Remaining PRT readers: 13.56MHz MIFARE Ultralight, Classic
Reading range	Up to 5 cm. Note: Reading distance is defined for good quality proximity cards placed in optimal position against the reader. For all readers the optimal position for card reading is in the front of the device (card surface parallel to the front).
Distances	150m maximal cable length for RACS CLK/DTA bus between controller and reader
IP Code	PRT12MF-DES: IP65 PRT82MF/PRT84MF/PRT84ME: IP30 Note: The IP65 is guaranteed assuming that the enclosure adheres tightly to the surface on which the device is installed. In the case of an uneven surface, the installer must use additional sealing, e.g., in the form of a plastic mass between the bottom part of the enclosure and the surface on which lit is mounted.
Environmental class (according to EN 50133-1)	Class IV, outdoor general conditions, temperature: -25°C to +60°C, relative humidity: 10 to 95% (no condensation) Class II, indoor conditions, temperature: -10°C to +50°C, relative humidity: 10 to 95% (no condensation) PRT12MF-DES: Class IV PRT82MF/PRT84MF/PRT84ME: Class II
Dimensions H x W x D and weight	PRT12MF-DES: 152,5 x 46 x 23(35) mm; 150g PRT82MF: 85 x 85 x 22 mm; 100g PRT84MF: 130 x 45 x 22 mm; 100g PRT84MF: 130 x 45 x 22 mm; 110g
Certificates	CE
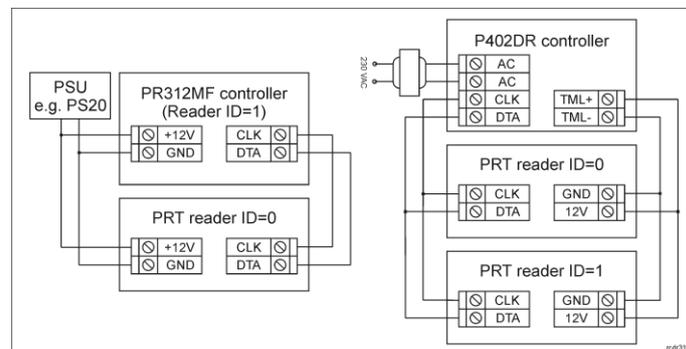
Fig. 4 Connection of PRT readers in RACS 4 system
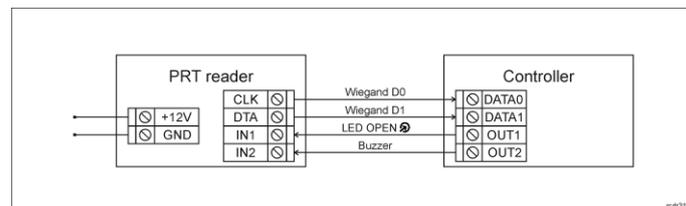
Fig. 5 Connection of reader to controller via Wiegand interface
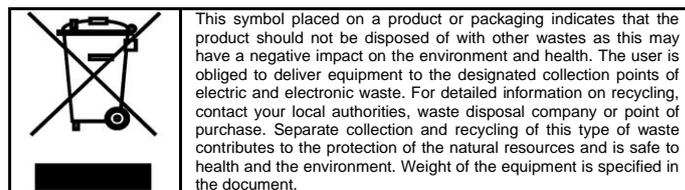
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