

## Roger Access Control System

# MCT88M-IO Installation Manual

Firmware version: 1.0.2.97 and newer

Document version: Rev. E



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](http://www.roger.pl).

### INTRODUCTION

The terminal is designed to operate in RACS 5 system as peripheral device connected to RS485 bus of MC16 access controller. Alternatively the device can communicate with virtual controller via Ethernet (LAN) and operate as PoS terminal or assets management terminal. Factory new terminal is configured with default settings including ID=100 address. Before connecting to MC16 controller, the device should be assigned with unoccupied address in range of 100-115. Programming of other parameters depends on the individual requirements and is not obligatory. Configuration of the terminal with RogerVDM requires RUD-1 interface.

### CONFIGURATION WITH ROGERVDM PROGRAM

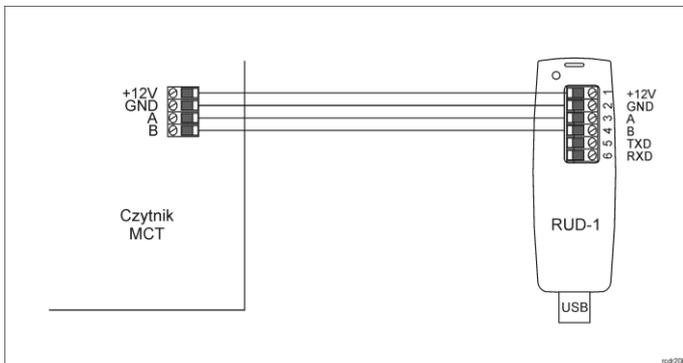


Fig. 1 Connection of the terminal to RUD-1 interface for configuration

#### Programming procedure with RogerVDM software:

1. Place jumper on MEM contacts (fig. 3).
2. Connect the device to RUD-1 interface according to fig. 1 and connect RUD-1 to computer's USB port. The terminal will display CONFIG MODE text and orange LED SYSTEM will pulsate.
3. Start RogerVDM program, select *MCT* device, *v1.0* firmware version, *RS485* communication channel and serial port with RUD-1 interface.
4. Click *Connect*, the program will establish connection and will automatically display *Configuration* tab.
5. Select RS485 communication interface and specify unoccupied RS485 address in range of 100-115 or select Ethernet communication interface and specify IP address. Configure other low level configuration parameters as needed.
6. Click *Send to Device* to update the configuration of device.
7. Optionally make a backup by clicking *Send to File...* and saving settings to file on disk.
8. Remove jumper from MEM contacts and disconnect device from RUD-1 interface.

Note: If the USB port does not offer enough current then supply the terminal from external 12VDC PSU min. 200mA power output.

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

### MANUAL ADDRESSING

Manual addressing procedure enables configuration of new RS485 address with all other settings unchanged.

#### Manual addressing procedure:

1. Remove all connections from A and B lines.
2. Place jumper on MEM contacts (fig. 3).
3. Restart the device (switch power supply off and on). The terminal will display CONFIG MODE text and orange LED SYSTEM will pulsate.
4. Enter 3 digits of RS485 address in range of 100-115 with keypad.
5. Wait till device starts to emit continuous sound.
6. Remove jumper from MEM contacts and restart the device.

### MEMORY RESET PROCEDURE

Memory reset procedure resets all settings to factory default ones including ID=100 address.

#### Memory reset procedure:

1. Remove all connections from A and B lines.
2. Place jumper on MEM contacts (fig. 15).
3. Restart the device (switch power supply off and on). The terminal will display CONFIG MODE text and orange LED SYSTEM will pulsate.
4. Read any MIFARE card 11 times.
5. Wait till device confirms reset with continuous sound.
6. Remove jumper from MEM contacts and restart the device.

### FIRMWARE UPDATE

New firmware can be uploaded to the terminal by means of included memory card. The latest firmware file is available at [www.roger.pl](http://www.roger.pl).

#### Firmware update procedure:

1. Disconnect power supply.
2. Press and remove memory card from socket (fig. 3).
3. Using memory card reader, copy main firmware (\*.frg) to the card and rename it as FW.BUF. Copy additional firmware (\*.cyacd) for keypad and BLE and rename it as KBDWF.CYA.
4. Insert the card into socket.
5. Connect power supply and wait till device completes starting procedure. The progress of additional firmware uploading is shown on the display.
6. Disconnect power supply when additional firmware KBD is 100% uploaded.
7. Connect power supply and wait till device completes starting procedure.
8. Start RogerVDM and perform low level configuration.

Note: During the firmware update process, it is necessary to ensure continuous and stable power supply for the device. If interrupted the device may require repair by Roger.

### APPENDIX

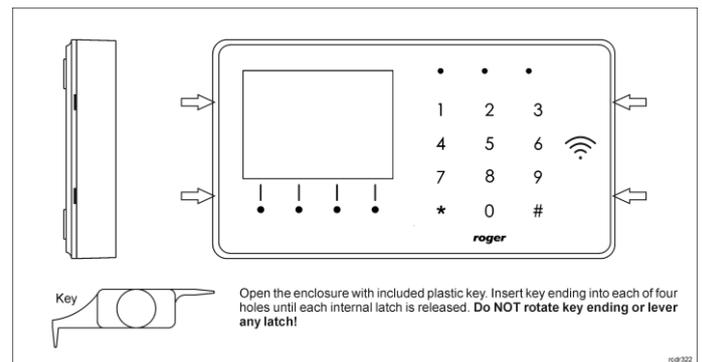


Fig. 2 Enclosure disassembly

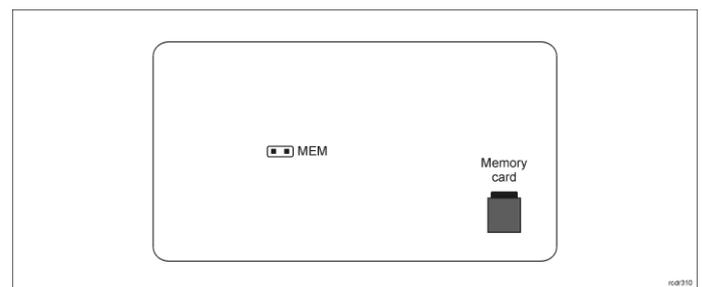


Fig. 3 Service contact and memory card

Table 1. Screw terminals	
Screw terminal	Description
+12V	12VDC power supply
GND	Ground
A	RS485 bus, line A
B	RS485 bus, line B
COM	REL relay common terminal
NC	REL relay output (NC)
NO	REL relay output (NO)
IN1	IN1 input line
IN2	IN2 input line
IN3	IN3 input line
OUT1	OUT1 output line
OUT2	OUT2 output line
1,2,3,4,5,6,7,8	Ethernet port

Table 2. Specification	
Supply voltage	Nominal 12VDC, min./max. range 10-15VDC
Current consumption (average)	~110 mA
Inputs	Three parametric inputs internally connected to the power supply plus (+12V) through a 5.6kΩ resistor, approx. 3.5V triggering level when configured as NO or NC.
Relay output	Relay output with single NO/NC contacts, rated 30V/1.5A
Transistor outputs	Two (IO1,IO2) open collector outputs, 15VDC/1A rated
Tamper protection	Enclosure opening reported to access controller
Identification methods	ISO/IEC14443A MIFARE Ultralight, Classic, Desfire EV1 and Plus proximity cards Mobile device (Android, iOS) compatible with NFC Mobile device (Android, iOS) compatible with Bluetooth Low Energy v4.1
Reading range	Up to 7 cm for MIFARE and NFC Up to 10 m for BLE – depends on ambient conditions and particular mobile device. Terminal's radio power can be increased within low level configuration.
Distances	Up to 1200 m between controller and terminal (RS485)
IP Code	IP41
Environmental class (acc. to EN 50133-1)	Class I, indoor general conditions, temperature: +5°C to +40°C, relative humidity: 10 to 95% (no condensation)
Dimensions H x W x D	85 x 155,5 x 21,5 mm
Weight	190g
Certificates	CE

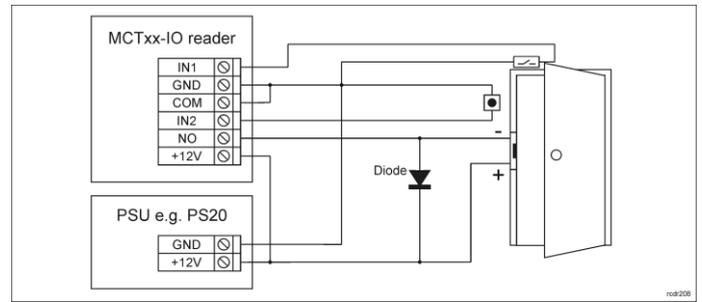


Fig. 6 Connection of door lock, door contact and exit button to MCTxx-IO reader

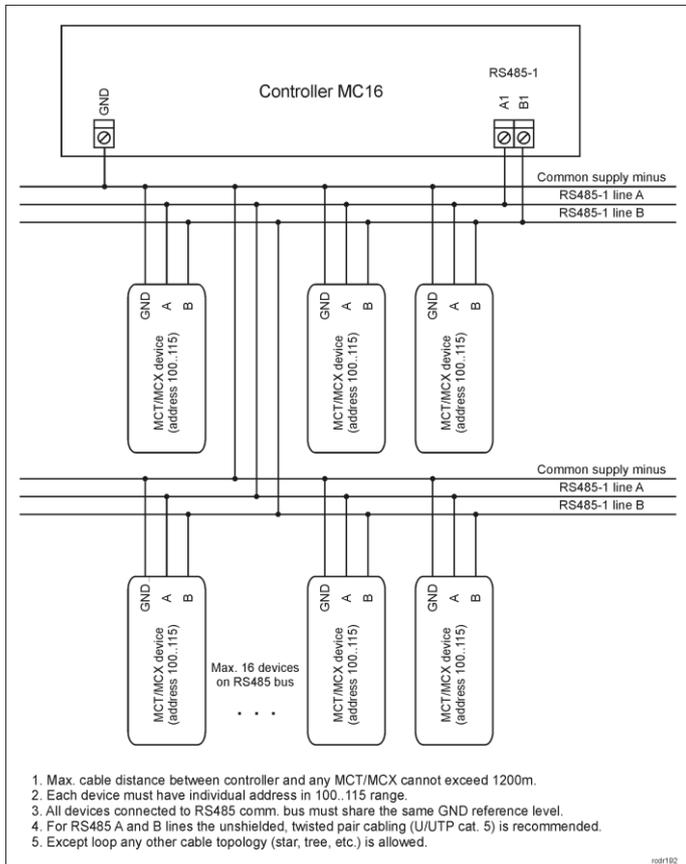


Fig. 5 Connection of readers and expanders to MC16 access controller



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