Roger Access Control System

MCT12E / MCT64E / MCT66E Installation Manual

Product version: 1.1

Firmware version: 1.0.2 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 MCT reader is designed to operate in RACS 5 system as peripheral device connected to RS485 bus of MC16 access controller. Factory new reader is configured with default settings including ID=100 address. Before connecting to controller, the reader should be assigned with unoccupied address in range of 100-115. Programming of other parameters depends on the individual requirements and is not obligatory. Addressing of the reader can be done from computer by means of RogerVDM program or manually within memory reset procedure. Configuration of the reader with RogerVDM requires RUD-1 interface.

CONFIGURATION WITH ROGERVDM PROGRAM

The configuration requires connection of reader to computer with RUD-1 interface (fig. 1) and starting RogerVDM software.
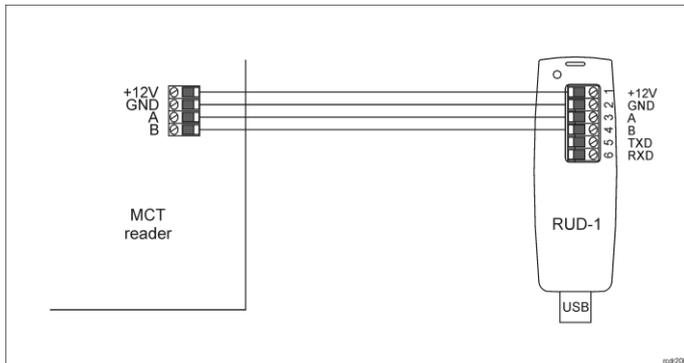

Fig. 1 Connection of MCT reader to RUD-1 interface

Programming procedure with RogerVDM:

1. Connect the reader to RUD-1 interface (fig. 1) and connect the RUD-1 to computer's USB port.
2. Start RogerVDM program, select *MCT* device, firmware version, *RS485* communication channel and serial port with RUD-1 interface.
3. Click *Connect,* the program will establish connection and will automatically display *Configuration* tab.
4. Enter unoccupied RS485 address in range of 100-115 and other settings according to requirements of specific installation.
5. Click *Send to Device* to update the configuration of reader.
6. Optionally make a backup by clicking *Send to File…* and saving settings to file on disk.
7. In the top menu select *Device->Disconnect.*
8. Disconnect reader from RUD-1 interface.

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

MEMORY RESET PROCEDURE

Memory reset procedure enables configuration of RS485 address and resets all other settings to factory default ones.

Memory reset procedure:

1. Remove all connections from A and B lines.
2. Connect CLK and DTA lines.
3. Restart the reader (switch power supply off and on or short RST contacts for a moment).
4. When red LED STATUS, green LED OPEN and orange LED SYSTEM are on then disconnect CLK and DTA lines.
5. When orange LED SYSTEM is on then enter 3 digits of RS485 address in range of 100-115 with reader keypad or with any EM125kHz proximity card.
6. When the third digit is defined then the reader will restart with the new address.

Readers without keypad can be addressed with multiple card readings where the N number of readings emulates digit of the address. Three series of readings with any EM125kHz proximity card are necessary to set the address. After each

series wait for two beeps and proceed with the next digit. Zero digit is emulated with 10 readings.

Example:
Programming of ID=101 address with card readings:

1. Read card 1 time 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.
4. Wait till reader is restarted with the new address and other default settings.

FIRMWARE UPDATE

The update requires connection of reader to computer with RUD-1 interface (fig. 1) and starting RogerISP 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 RogerISP program.
5. Select serial port with RUD-1 interface and *USB-RS485 Converter* option.
6. Specify path to firmware file (*.hex).
7. Click *Program* and proceed according to displayed messages.
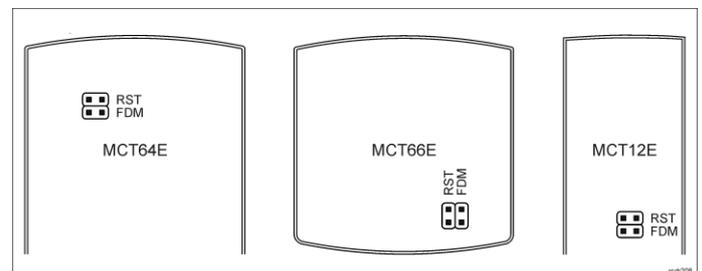8. Remove jumper from FDM contacts and restart the reader.

APPENDIX

Fig. 2 Service contacts

| Table 1. Terminals and wires			
Screw terminal	Wire colour (MCTxxE-IO)	Wire colour (MCTxxE)	Description
12V	Red	Red	Supply plus
GND	Black	Blue	Ground
IN1	Pink		IN1 input line
IN2	Blue		IN2 input line
IN3	White-yellow		IN3 input line
RS485 A	Brown	Brown	RS485 bus, line A
RS485 B	Green-white	White	RS485 bus, line B
CLK	White	Green	CLK line
DTA	Green	Yellow	DTA line
TMP	Yellow	Pink	Tamper switch
TMP	Grey	Grey	Tamper switch
IO1	Yellow-brown		IO1 output line
IO2	Green-brown		IO2 output line
REL1-NC	Grey-pink		REL1 relay output (NC)
REL1-COM	Red-blue		REL1 relay common terminal
REL1-NO	Violet		REL1 relay output (NO)
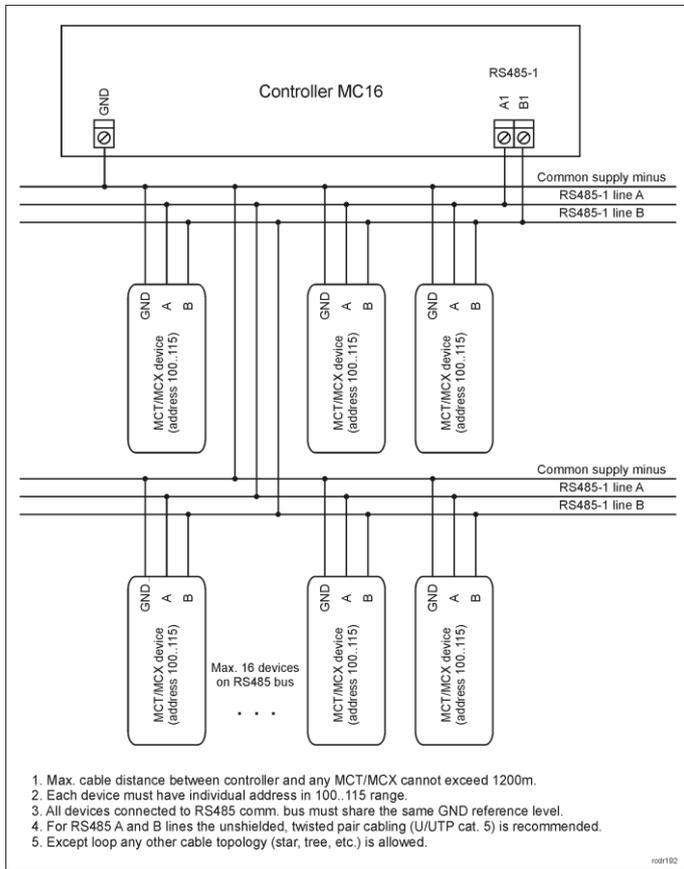
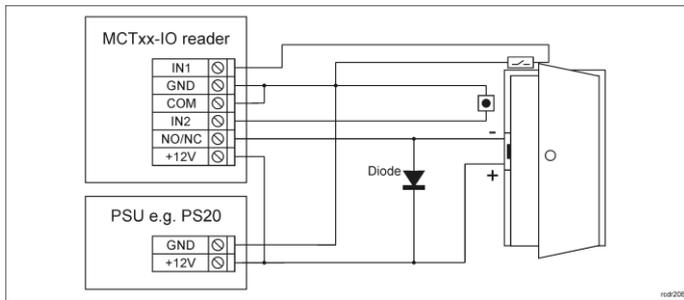Fig. 3 Connection of readers and expanders to MC16 access controller

Fig. 4 Connection of door lock, door contact and exit button to MCTxx-IO reader

Table 2. Specification	
Supply voltage	Nominal 12VDC, min./max. range 10-15VDC
Current consumption (average)	MCT12E/MCT12E-IO: ~50 mA MCT12E-BK/MCT12E-BK-IO: ~40 mA MCT64E-IO: ~50 mA MCT66E-IO: ~40 mA
Inputs	Three inputs (IN1..IN3) electrically connected internally to +12V through a 5.6 kΩ resistor. NO and NC lines approx. 3.5V triggering level
Relay output	Relay output (REL1) with single NO/NC contact, 30V/1.5A DC/AC max. load
Transistor outputs	Two (IO1, IO2) open collector outputs, 15VDC/1A max. load
Tamper protection	Isolated 50mA/24V contacts, shorted when enclosure is closed
Proximity cards	EM 125 kHz UNIQUE according to EM4100/4102
Reading range	Up to 7 cm
Distance	1200m maximal cable length for RS485 bus between controller and reader
IP Code	MCT12E: IP65 MCT64E-IO: IP64 MCT66E-IO: IP64
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)
Dimensions H x W x D	MCT12E: 152,5 x 46 x 23(35) mm MCT64E-IO: 115 x 80 x 35 mm MCT66E-IO: 85 x 85 x 27 mm
Weight	~150g
Certificates	CE; RoHS

Note: The ingress protection rating is guaranteed if the bottom of the housing is tightly adhered to the surface on which the device is installed. It is the installer's responsibility to seal the space between the bottom of the housing and the surface on which the device is mounted.