

## Roger Access Control System

# MC16-RAW-KIT Installation Manual

Firmware version: n/a

Document version: Rev. A



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

### INTRODUCTION

MC16-RAW-KIT is designed to control from one to sixteen doors in RACS 5 system. Doors can be read-in or read-in/out type when equipped with MCT-IO series readers (RS485). The kit includes MC16-RAW module and ME14-40VA metal box with 18VAC/40VA transformer. The box is adapted to installation of 7Ah battery for emergency supply.

In case of MC16-RAW module it is required to order and upload license, which specifies its functionalities including the number of controlled doors. Alternatively, depending on the type of license the module can be operated not only as MC16-PAC door access controller but as any MC16 type controller (e.g. MC16-HRC hotel controller) and when uploaded with new firmware the module can also be operated as expander (e.g. MCX16-AP).

### LICENSE UPLOAD

The license for MC16-PAC type controller is uploaded to the memory card of MC16-RAW module.

#### License upload procedure:

1. Disconnect power supply, press memory card at MC16-RAW module and remove it from the socket.
2. Insert the card into standard reader for FLASH memory cards and connect the reader to computer's USB port.
3. Copy ordered license.cfg file into memory card.
4. Insert memory card into socket of MC16-RAW module.
5. After restoring power supply, the module will work as controller with properties defined by its license.

Note: The MC16 without license or with invalid license is not operated in RACS 5 system.

### CONFIGURATION WITH ROGERVDM PROGRAM

Low level configuration with RogerVDM software mainly concerns MC16 controller. Additionally it is necessary to define individual addresses for MCT series readers according to their installation manuals.

#### MC16 programming procedure with RogerVDM software:

1. Connect the controller to Ethernet network and define the IP address of your computer in the same subnet as the controller with 192.168.0.213 default IP address.
2. Start RogerVDM program, select *MC16 v1.x* device, the latest firmware version and *Ethernet* communication channel.
3. Select from the list or enter manually the IP address of controller, enter 1234 communication key and start the connection with the controller.
4. In the top menu select *Tools* and then *Set communication key* to define your own password for the controller.
5. In the main window specify your own IP address of the controller.
6. Optionally enter comments for controller and its object to facilitate their identification during further configuration of the system.
7. Optionally backup settings clicking *Send to File...*
8. Click *Send to Device* to update the configuration of controller and disconnect by selection of *Device* in the top menu and then *Disconnect*.

### MEMORY RESET

Memory reset procedure resets all settings to default ones and results in 192.168.0.213 IP address and empty communication key.

#### MC16 memory reset procedure:

1. Disconnect power supply
2. Short CLK and IN4 lines.
3. Restore power supply, all LEDs will flash and wait min. 6s.
4. Remove connection between CLK and IN4 lines, LEDs will stop pulsating and LED2 will be on.
5. Wait approx. 1.5 min till LED5+LED6+LED7+LED8 are pulsating.
6. Restart the controller (switch power supply off and on)
7. Start RogerVDM and make low level configuration.

### FIRMWARE UPDATE

New firmware can be uploaded to the controller with RogerVDM software. The latest firmware file is available at [www.roger.pl](http://www.roger.pl).

#### MC16 firmware update procedure:

1. Connect with the controller using RogerVDM software.
2. Backup settings by clicking *Send to File...*
3. In the top menu select *Tools* and then *Update firmware*.
4. Select firmware file and then click *Update*.
5. After firmware update wait till LED8 is pulsating.
6. Make or restore low level configuration in RogerVDM software.

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.

### POWER SUPPLY

The kit is supplied from 18VAC/40VA transformer. The metal box offers space for installation of typical 7Ah backup battery which is connected to BAT+ and BAT- terminals of MC16 module.

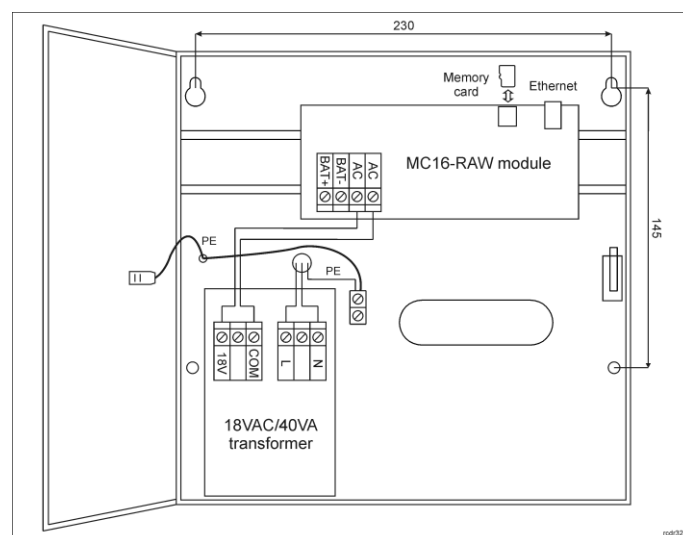


Fig. 1 MC16-RAW-KIT

	The installation can be done only by qualified person with all necessary certificates concerning connection and maintenance of 230VAC and low voltage networks.
	Prior to starting the installation it is necessary to ensure that 230 VAC circuit is disconnected. All works inside the box must be carried out with 230VAC supply voltage disconnected.
	It is forbidden to use the kit without properly executed and operational earthing system.

### TAMPER DETECTOR

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 within high level configuration of the system.

### APPENDIX

Table 1. MC16 screw terminals	
Name	Description
BAT+, BAT-	Backup battery
AC, AC	18VAC input power supply
AUX-, AUX+	12VDC/1.0 output power supply (for door lock)
TML-, TML+	12VDC/0.2A output power supply (for readers)
IN1-IN8	Input lines
GND	Ground
OUT1-OUT6	15VDC/150mA transistor output lines
A1,B1	RS485 bus
CLK, DTA	RACS CLK/DTA bus
A2,B2	Not used

NO1, COM1, NC1	30V/1.5A DC/AC (REL1) relay
NO2, COM2, NC2	30V/1.5A DC/AC (REL2) relay

Name	Description
LED1	Normal mode
LED2	Service mode
LED3	Pulsating: Low level configuration error ON: High level configuration error
LED4	No memory card or memory card error
LED5	Event log error
LED6	License error
LED7	Not used
LED8	Pulsating: Proper functioning of the controller

Supply voltage	230VAC, 50/60Hz (-15%+10%)
Transformer	TRP40 18VAC/40VA
Short circuit and overload protection	Transformer fuse
Metal box	DC01 0.7mm metal sheet, white colour (RAL9003)
Tamper protection	NO/NC detector, 50VDC/50mA
Distances	Up to 1200 m between kit and readers
IP Code	IP20
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	255 x 255 x 90 mm
Weight	3 kg
Certificates	CE

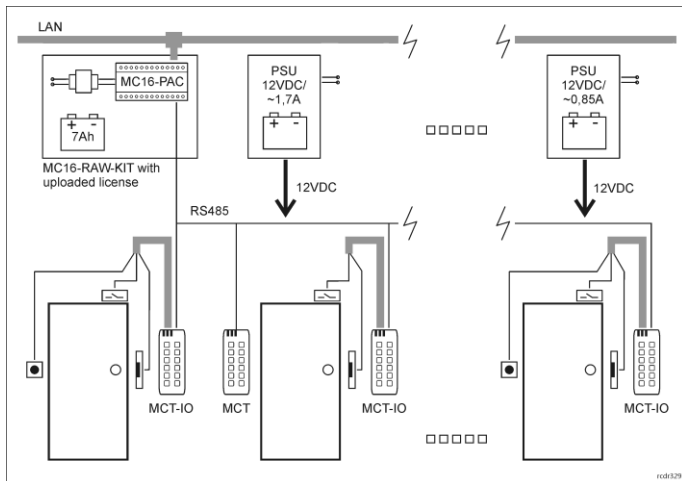
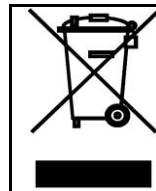


Fig. 2 Typical door control with MC16-RAW-KIT and MCT-IO readers

Notes:

- MC16-RAW-KIT depending on uploaded license can control from 1 to 16 doors on condition that the maximum number of MCT readers on its RS485 bus cannot exceed 16.
- All MCT readers connected to the RS485 bus must have unique addresses in range of 100-115.
- Inputs and outputs for door control are available at MCT-IO readers.
- In case of read-in/out door, except for MCT-IO reader (e.g. MCT82M-IO) additionally MCT reader (e.g. MCT82M) is connected to RS485 bus of the controller.
- Depending on applied concept, the power supply can be provided with multiple buffer PSUs or single buffer PSU considering at least 0.85A current per door.
- Other installation scenarios are presented in AN002 application note which is available at [www.roger.pl](http://www.roger.pl).



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 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 to health and the environment. Weight of the equipment is specified in the document.

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