

1. INTRODUCTION

1.1 This manual

This manual contains basic information on design and functionality of Input/Output Extension Module XM-8-BRD. Present document includes also typical connection diagram for XM-8-BRD module in RACS4 system.

1.2 Typing conventions

Examples

italics letters

Specific names related to RACS system

with first capital letter

Notes

separated with two lines (upper, lower) from the standard text

2. DESCRIPTION AND SPECIFICATION

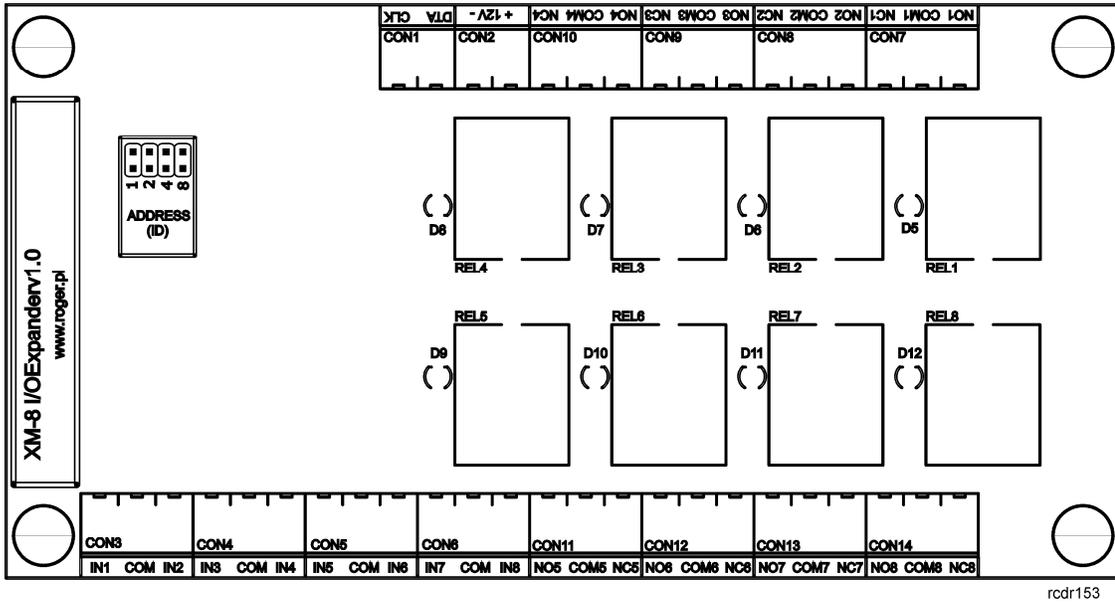
XM-8-BRD module is dedicated to operation with PRxx2 advanced series controllers in order to offer elevator access control. The module has eight NC/NO input lines and eight relay output lines. The latest version of software does not allow to use input lines in RACS4 system, because the XM-8-BRD module is intended to control access in elevators and it does not require input lines for that. XM-8-BRD expander is available without the enclosure and it requires 12VDC Power supply. The module is addressable and it communicates by means of CLOCK and DATA lines (Roger standard). Output lines of XM-8-BRD are fully controlled by master device (access controller), to which it is connected. XM-8-BRD module should be connected to PRxx2 series controller and configured by means of PR Master software, which is available at www.roger.pl. User can connect up to four XM-8-BRD modules to single Prxx2 series controller, which means that elevator with maximum 32 floors can be handled by single controller.

Note: XM-8-BRD module requires PR Master software and PRxx2 series controller for its operations.

Table 1. Specification	
Power supply	12 VDC (11-16 VDC)
Current consumption	up to 400mA (when all relay outputs are activated and supply voltage equals to 12VDC)
Input lines	IN1...IN8 NO/NC inputs, electrically biased to +12V via 15 kΩ resistor, triggering level app. 3.5V (the latest version of software does not allow to use input lines)
Output lines	REL1... REL8 relay outputs with isolated NO/NC contact and 1.5A/24V DC max load each. Activation of output lines is signalled by means of associated LED on module PCB
Max. distance	150m (cable length from controller)
Operating temperature	-30...60°C
Relative humidity	10-95% (without condensation)
Dimensions	152 X 78 mm
Weight	~175g
Certificates	CE

3. INSTALLATION

3.1 Terminals and connection diagram



rcdr153

Fig. 1 XM-8-BRD Input/Output extension module

Table 1. XM-8-BRD terminals	
Terminal	Description
CLK	RACS communication bus
DTA	RACS communication bus
-12V	12VDC Power supply
+12V	12VDC Power supply
NC1...8	REL1...8 relay outputs (NC)
COM1...8	REL1...8 relay common terminals
NO1...8	REL1...8 relay outputs (NO)
IN1...8	IN1..8 input lines (disabled)
COM	Common terminal

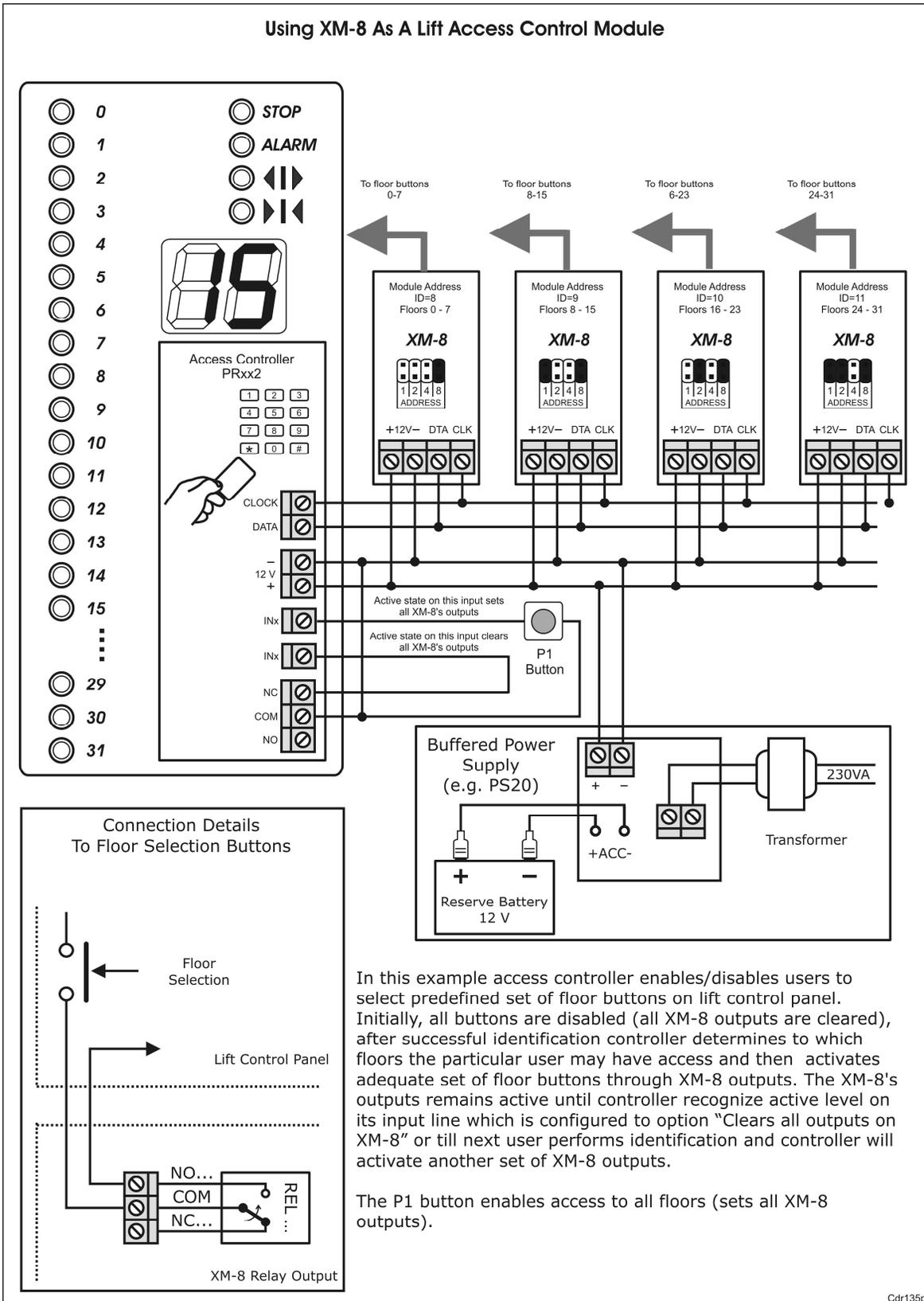


Fig. 2 Typical connection diagram for XM-8-BRD extension module(-s)

3.2 Power supply

The module should be supplied with 12VDC from power supply unit with backup battery (e.g. PS10 or PS20 made by Roger). Average current consumption for XM-8-BRD equals to ~30 mA but it can rise to ~400 mA in case of simultaneous activation of all relays.

Negative power supply terminal of XM-8-BRD should be connected to negative power supply terminal of the controller. Due to relative high current consumption during activation of all relays, it must be ensured that in case of such activation, drop of module supply voltage does not exceed 1V. Greater drop of supply voltage signifies faulty power supply installation and such fault must be eliminated.

All electrical connections and jumpers configuration must be performed with power supply off.

3.3 CLK/DTA communication bus

CLK/DTA communication bus is used for communication between XM-8-BRD modules and host device i.e. PRxx2 series controller. There are no restrictions for types of cables used for CLK/DTA lines, both unshielded and shielded cables can be used (e.g. twisted pair). The maximum cable length may not exceed 150 meters.

3.4 Installation guidelines

Within the module set there are available four nylon studs, for fixing the module in desired place. Mounting holes are available in the corners of XM-8-BRD module. The module can be installed inside dedicated indoor metal enclosures, which are available in Roger offer i.e. ME-1 and ME-2-S or inside any other enclosure with proper dimensions. The module can be operated in temperature range of -30°C to +60°C, which means that it can be installed outdoors if it is protected against moisture.

Note: The XM-8-BRD module should be installed in place, where it is protected against water, heat and moisture as well as in minimal distance of 1,5m from inductive loads and strong electromagnetic interferences.

Installer must always install general purpose diode (e.g. 1N4007) when relay contacts are used to switch inductive loads (e.g. door lock).

4. CONFIGURATION

4.1 Configuration of XM-8-BRD in RACS4 system

Access control in lifts can be configured by means PR Master software, which can be downloaded from www.roger.pl. The configuration can be started after installation of the software and connection of XM-8-BRD module with PRxx2 series controller (see fig. 2) as well as connection of the controller with PC by means of communication interface (UT-2USB, UT-4, UT-2).

1. Choose particular controller on the list in the main window of PR Master software
2. In controller window select Options tab and then in Extension modules area select the number of elevator, which shall be supervised by the controller.
3. Close controller window and return to PR Master main window. Update of controller settings can be cancelled as all configuration settings can be send later.
4. Select Groups option in the main window of PR Master software.
5. In the opened window define new Group(-s) by means of Add button or open one of already existing Groups by means of Edit button.
6. In the next window select Elevators button.
7. In the opened window select, which floors can be accessed by previously selected Group of users.
8. Confirm settings by means of OK button.
9. Return to main window of PR Master software.
10. Select Users option in the main window of PR Master in order to Edit certain users and assign them to particular Group(-s).

11. Select Update system now in the main window of PR Master software and transmit all settings to the controller.

4.2 Address setting

XM-8-BRD module, connected to PRxx2 series controller in RACS4 system by means of CLK/DTA communication bus should have address ID=8. The method of address setting is shown in fig. 2. Maximum four (4) XM-8-BRD modules can be connected to single controller (which enables access control to maximum 32 floors). The range of addresses for the modules is ID=8...11.

5. ORDERING INFORMATION

Table 2. Ordering information	
XM-8-BRD	Input/output addressable extension module, which provides eight NO/NC inputs (disabled) and eight relay outputs. The module is dedicated for operations with PRxx2 series controllers as elevator access control module.
PR402DR	PR402 controller in plastic enclosure adapted to installation on DIN 35mm rail
PR402DR-BRD	PR402 controller without enclosure – PCB module
UT-4	Communication interface: Ethernet-RS485.
UT-2USB	Communication interface: USB-RS485.
UT-2	Communication interface: RS232-RS485.
RUD-1	Portable communication interface USB-RS485 with 12VDC output, which can supply connected controller.



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.

Contact:
Roger sp.j.
82-400 Sztum
Gościszewo 59
Tel.: +48 55 272 0132
Fax: +48 55 272 0133
Tech. support.: +48 55 267 0126
Tech. support (GSM): +48 664 294 087
E-mail: biuro@roger.pl
Web: www.roger.pl