

Roger Access Control System 5

Application note no. 044

Document version: Rev. A

Fire alarm system integration

Note: This document refers to RACS 5 v1.6.6 or higher

Introduction

RACS 5 system offers universal integration with fire alarm systems from various manufacturers. The connection between systems is a hardware connection by means of inputs and outputs. RACS 5 offers following functionalities in regard of fire alarms:

- Automatic opening of evacuation doors when alarm is raised.
- Monitoring of users in building.
- Evacuation Report i.e. list of users and their locations in zones. The report can be automatically created and sent to email addresses and/or printer.
- Fire alarm notifications and warnings which can be automatically send by email or mobile text to users.

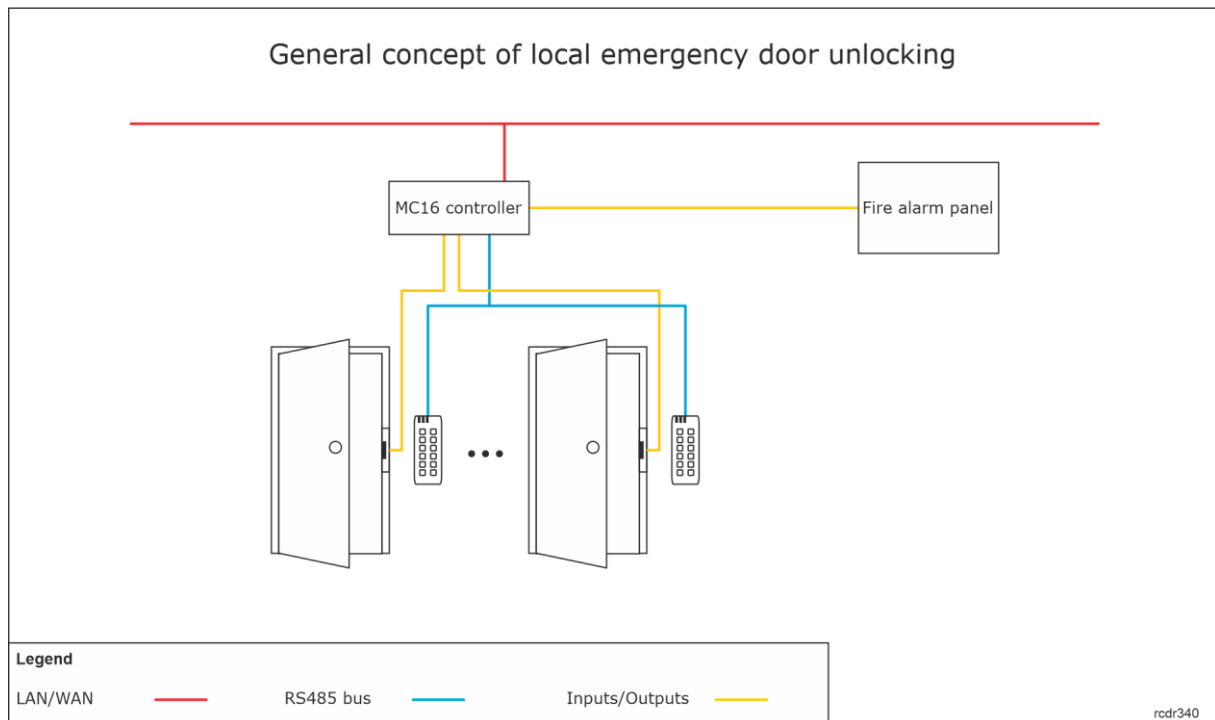
Preliminary configuration of RACS 5

Configure the system in regard of low level configuration, database, services and high level configuration according to AN006 application note. The installation of recommended centralized database is explained in AN017 application note.


Local emergency door unlocking


Local door unlocking concerns doors on the level of particular MC16 access controller and it is triggered by means of input line of the controller or its peripheral device on RS485 bus (e.g. MCX2-BRD). Such input line is connected to fire alarm panel output line (relay, transistor type) which is configured with fire alarm signalling.








The method which is described in this section can be copied to other controllers in RACS 5 system using their inputs.



In order to configure local emergency door unlocking for MC16 controller:

- In the navigation tree of VISO software within particular MC16 access controller double click *Access Doors* command.
- Assuming that Access Door are already configured, for example by means of relevant wizard, for the Access Door that must be unlocked in case of evacuation, in the bottom select *Inputs* tab and then *Add*.
- In the opened window select the button  to indicate location of input.
- In the next window, in the *Name* field of *Object* area select particular input which must be connected to the output of fire alarm panel and such output must be configured to signal started fire alarm. In the example, IN5 input on MC16 board will be used.
- Expand the area *Additional Options*, enable the option *Multifunction* and define *Function limit* according to the total number of Access Doors which will be unlocked by this MC16 controller in case of emergency. Close the window with *OK* button.
- In the opened window select the function *[121]: Set Emergency Door Unlocked Mode*. Close the window with *OK* button.

- In case of other evacuation Access Door do not define dedicated inputs with the button  but assign already created *C1_000_IN5A* input and then select the function *[121]*.
- Similarly, for the same Access Doors define another multifunction input which must be connected to the output of fire alarm panel and such output must be configured to signal finished fire alarm. This time, assign the function *[123]: Clear Emergency Door Mode*. When this input is activated then the access control system will revert to normal operation. In the example, IN6 input on MC16 board will be used.

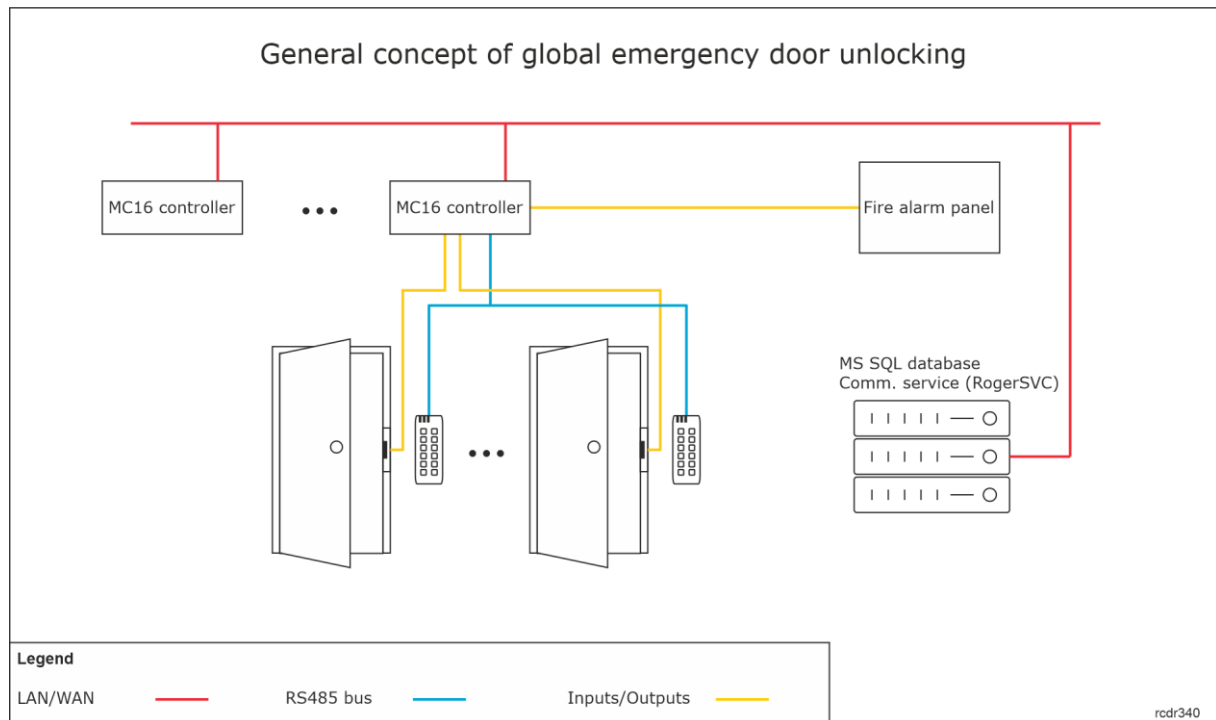
Details				
Main Inputs Outputs Function Keys Local Commands				
 Add  Edit  Select All  Delete  Refresh  Report				
	ID	Input	Function	Register even
		<i>= Search...</i>	<i>= Search...</i>	
	2	C1_000_IN5A input	[121]: Set Emergency Door Unlocked Mode	<input checked="" type="checkbox"/>
	4	C1_000_IN6A input	[123]: Clear Emergency Door Mode	<input checked="" type="checkbox"/>

- Synchronise settings, for instance by right clicking *Networks* command in the navigation tree of VISO software.

Note: Emergency door unlocking can also be achieved with single input and the function *[137]: Emergency Unlocked Door Mode Toggle*. In case of this function, Access Doors will be unlocked as long as the input is triggered by fire alarm panel.

Global emergency door unlocking

Global door unlocking concerns doors on the level of the whole system and not only particular MC16 access controller. The unlocking can be triggered by any event registered in the system and it is executed by communication service from RogerSVC software package which is installed on RACS 5 server. The simple and practical method to generate such event is to trigger access controller input by the output of fire alarm panel when alarm is raised.



In order to configure global emergency door unlocking for RACS 5 system:

- In the top menu of VISO software select *Event Log* and then *Event Types*. In the opened window select *Add* and define two own event types.

Add Event Type

General

Code: 1000

Name: Fire alarm - start

Description:

Severity: Low

Category: (none)

Sound: ☐

Alarm: ☐

Display Options

Font: Font style: Font size:

Font color:

Font background color:

Reset

OK Cancel

Add Event Type

General

Code: 1001

Name: Fire alarm - end

Description:

Severity: Low

Category: (none)

Sound: ☐

Alarm: ☐

Display Options

Font: Font style: Font size:

Font color:

Font background color:

Reset


OK Cancel







- According to previous assumptions, events will be generated as a result of activation/deactivation of MC16 controller input by fire alarm panel output. The input will be configured on the level of Automation Node. Therefore, in the navigation tree of VISO software within particular MC16 access controller connected to fire alarm panel, double click *Automation Node* command.
- In the opened window select *Add*, name the node and assign previously created events. Close the window with *OK* button.

The screenshot shows the 'Add Automation Node' dialog box. The 'Events' tab is active, showing options to register events when the node is switched ON or OFF. The 'Node ON Event' is set to '[1000]: Fire alarm - start' and the 'Node OFF Event' is set to '[1001]: Fire alarm - end'. The 'OK' button is highlighted with a green checkmark icon.

- In the bottom select *Input* tab, then *Add*, indicate the location of input and assign the function *[166]: Set Node ON Toggle*. In case of this function, the node will be activated as long as the input is triggered. In the example, IN7 input on MC16 board will be used. Close windows with *OK* buttons.

Note: Alternatively, the node can be activated and deactivated with two individual inputs respectively assigned with such functions as [161]: *Set Node ON instantly* and [163]: *Set Node OFF Instantly*. Such inputs must also be properly connected to fire alarm panel.

- In the top menu of VISO software select *Configuration* and then *Access Doors*.
- For the Access Door which is supposed to be unlocked when fire alarm is started and reverted to normal operation when fire alarm is finished, in the bottom select *Local Commands* tab and then *Add*.
- Using the button  define two Local Commands, one with the function [121]: *Set Emergency Door Unlocked Mode* and the other with the function [123]: *Clear Emergency Door Mode*.

Details					
Main Inputs Outputs Function Keys Local Commands					
 Add  Edit  Select All  Delete  Refresh  Report					
ID	Comment	Function	Register event	Logic Function	
1	C1_LC_Door_1 - unlocking	[121]: Set Emergency Door Unlocked Mode	<input checked="" type="checkbox"/>	None	
2	C1_LC_Door_1 - normal state	[123]: Clear Emergency Door Mode	<input checked="" type="checkbox"/>	None	

- Define Local Commands in the same way for remaining evacuation doors.
- In the navigation tree of VISO software double click *Global Commands*.
- In the opened window select *Add*, name the command and close the window with *OK* button.
- In the bottom select *Local Commands* tab and then assign all previously defined Local Commands with the function [121].
- Create another Global Command but this time assign all previously defined Local Commands with the function [123].
- In the top menu of VISO software select *Event Log* and then *Event Types*.
- Select previously created event [1000], in the bottom select *Actions* tab and then *Add*.
- In the opened window select *Execute Global Command* and assign adequate previously created command.

The screenshot shows the 'Add Action' dialog box with the following settings:

- Action:** Active: ☒
- Type:** Execute Global Command
- Execution Site:** Server Site Action
- Description:** Execute Global Command when event occurred
- Filter:** None
- Event validity time:** None
- Parameters:** Global Command: Fire ALARM - unlock doors

- Similarly, for previously defined event [1001] assign the other Global Command.
- Synchronise settings, for instance by right clicking *Networks* command in the navigation tree of VISO software.

As a result of entered settings when input with the function [166] is activated by fire alarm panel, then MC16 triggers its Automation Node and registers the event [1000], which is automatically collected by communication service to database and respective Global Command is started, which based on its Local Commands unlocks all associated Access Doors. When the input with function [166] is deactivated by fire alarm panel then the controller deactivates the Automation Node and registers the event [1001], which is further processed by communication service in order to restore normal mode on all relevant Access Doors.

Users monitoring

Users monitoring in company premises can be ensured by means of tools which are available in VISO software. The monitoring is based on Attendance Zones, Time and Attendance Reports, Attendance Monitor and T&A Status Monitor which are available after selection of *Time and Attendance* command in the top menu of VISO software. The configuration of mentioned tools is explained in AN016 application note.

Evacuation Report

Similarly as in case of global door unlocking, automatic Evacuation Report is ensured by means of action on event and RACS 5 system communication service. This functionality enables to automatically generate and send Evacuation Report which includes list of users and their current location in Attendance Zones. It is also possible to define evacuation zone and evacuation points. Access granted events which are used for location of users in zones are limited to the latest 24h because the default value of *Backward Monitoring Time [h]* parameter for each Attendance Zone is 24h. The list of users can be sent by email (PDF attachment) or sent to printer. In order to define reporting:

- In the top menu of VISO software select *Time and Attendance* and then *Attendance Zones*.
- In the opened window select *Add* to create zones. Some of them can be named as evacuation zones.
- In the bottom, in *Entry Points* and *Exit Points* tab assign Access Points (readers) from the ones already created in the system. Access granted events on this points will be used to determine location of particular user in a zone.

- In the top menu of VISO software select *Tools* and then *SMTP Accounts*.
- In the opened window select *Add* to define SMTP server which will be used by RACS 5 system for emails sending. Close the window with *OK* button.
- If user list is supposed to be automatically printed then in the top menu of VISO select *Tools* and then *Printers*.
- In the opened window select *Add* to indicate one available printers in the system.
- In the top menu of VISO software select *Configuration* and then *Access User Persons*.
- Edit users who are supposed to receive emails and for each such user enter valid email address in *Contact Information* tab. If emails are to be sent to a recipient who is not RACS 5 user then you can create new user in VISO software and enter valid email address without assigning any Access Credential, Authorisation(s) nor Authentication Factors (cards, PINs).
- In the top menu of VISO software select *Event Log* and then indicate event which will cause automatic email sending by RACS 5 system. According to previous settings it would be the event *[1000]*.
- In the bottom select *Actions* tab and then *Add*.
- In the opened window select *Send email with Evacuation Report* or *Print Evacuation Report*. In both cases it is possible to define *Delay*. For example, if the delay equals to 10 minutes then the list will be created 10 minutes after alarm event *[1000]* occurred to reflect current attendance in zones. Close the window with *OK* button.

The 'Add Action' dialog box is shown with the 'Type' set to 'Send email with Evacuation Report'. The 'Execution Site' is 'Server Site Action'. The 'Description' field contains a detailed text about the report, including a list of variables like \$EventID, \$EventCode, \$CategoryID, \$LocationType, \$LocationID, \$SourceType, \$SourceID, \$AccessCredentialID, \$OptionType, \$Option, \$Function, \$ActionStatus, \$LoggedOn, \$Details, \$Comment, \$ControllerID, \$PersonID, \$GroupID, \$AssetID, \$UserExternalIdentifier, and \$UserName. The 'Filter' is set to 'None' and 'Event validity time' is 'None'. Under 'Parameters', 'SMTP Settings' shows 'SMTP account1'. 'Message Settings' includes 'Delay' (10 min), 'From' (RACS5@system.com), 'To' (Garland Masha), 'Subject' (Evacuation Report), and 'Text' (List of users in Attendance Zones. Alarm event registered at: \$LoggedOn).

The 'Add Action' dialog box is shown with the 'Type' set to 'Print Evacuation Report'. The 'Execution Site' is 'Server Site Action'. The 'Description' field contains a detailed text about the report, including a list of variables like \$EventID, \$EventCode, \$CategoryID, \$LocationType, \$LocationID, \$SourceType, \$SourceID, \$AccessCredentialID, \$OptionType, \$Option, \$Function, \$ActionStatus, \$LoggedOn, \$Details, \$Comment, \$ControllerID, \$PersonID, \$GroupID, \$AssetID, \$UserExternalIdentifier, and \$UserName. The 'Filter' is set to 'None' and 'Event validity time' is 'None'. Under 'Parameters', 'Delay' is set to '10 min' and 'Printer' is set to 'Printer1'.

Note: Multiple actions can be defined for single event. Therefore it is possible for instance to define Evacuation Report to be automatically created and sent every 5 minutes after alarm event.

Alerts and notifications

RACS 5 system can display alerts and send notifications (email, mobile text) as a reaction for events registered in the system. It can be for instance used for automatic warnings displayed on VISO operator panel and for mobile text warnings sent to users in case of emergency.

More information on alerts and notifications is given in AN041 application note.

Contact:
Roger sp. z o.o. sp.k.
82-400 Sztum
Gościszewo 59
Tel.: +48 55 272 0132
Fax: +48 55 272 0133
Tech. support: +48 55 267 0126
E-mail: support@roger.pl
Web: www.roger.pl