Roger Access Control System 5

Application note no. 019

Document version: Rev. A

Gates, Two Users mode and random check

Note: This document refers to RACS 5 v2.1.2 or higher

Introduction

RACS 5 system enables additional control at Access Doors such as:

- Gates with entry and exit readers where outputs (relays) are activated depending on which reader is used for identification by user. In practical applications it can be used to control bidirectional turnstile, where user identification at entry reader enables clockwise rotation of arms while user identification at exit reader enables anticlockwise rotation of turnstile's arms or vice versa.
- Two Users mode where access granting requires identification by two users with proper Authorisations (access rights).
- Random check where access controller randomly selects if user who is granted access should be inspected by security.

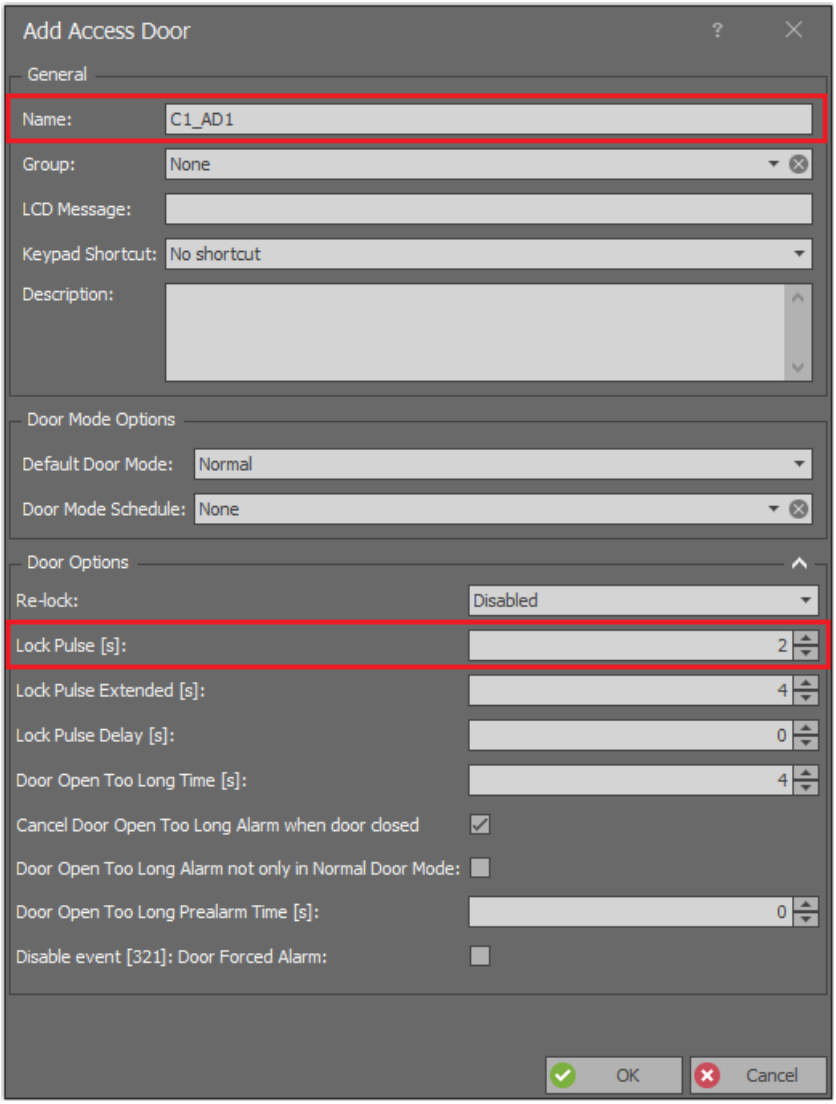
In all further described scenarios it is assumed that preliminary configuration of RACS 5 system was performed in accordance with AN006 application note.

Gates (bidirectional access)

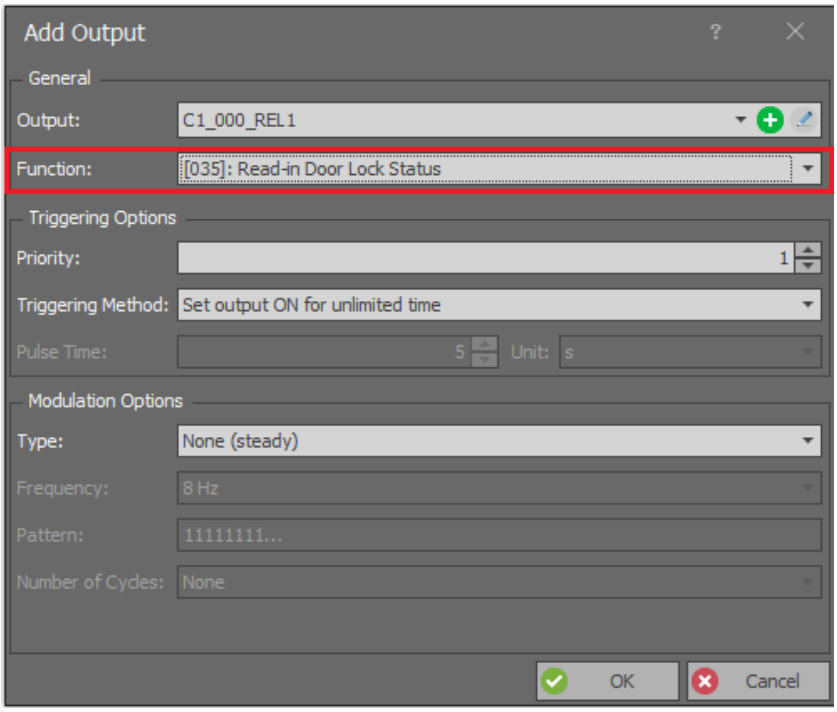
In the following example the MC16-PAC-1 single door access controller with two MCT12M readers was applied. Bidirectional access control can also be achieved with other RACS 5 devices such as multidoor versions of MC16 controller, other types of readers and MCX expanders.

Configuration of Access Door and outputs

- In the navigation tree of VISO software within particular controller double click *Access Doors* command.
- In the opened window select *Add* button.
- In the next window enter optional name for Access Door, define opening time (turnstile release) in the field *Lock Pulse* and then confirm with *OK* button.

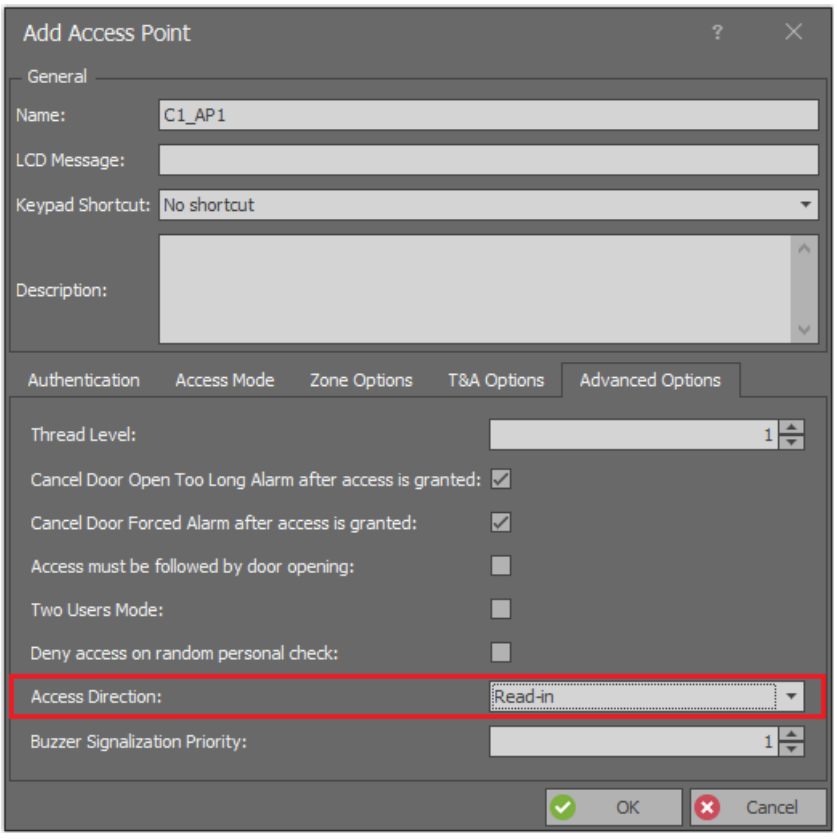


- In the bottom select *Outputs* tab and then *Add* button.
- In the newly opened window click the button  in order to select output.
- In the next window in the *Name* field of *Object* area select REL1 output of MC16 controller and close the window with *OK* button.
- Select the function *[035]: Read-in Door Lock Status* and then close with *OK* button.
- Similarly configure another output selecting REL2 output of MC16 controller and assigning it with the function *[036]: Read-out Door Lock Status.*



Configuration of Access Terminals and Access Points

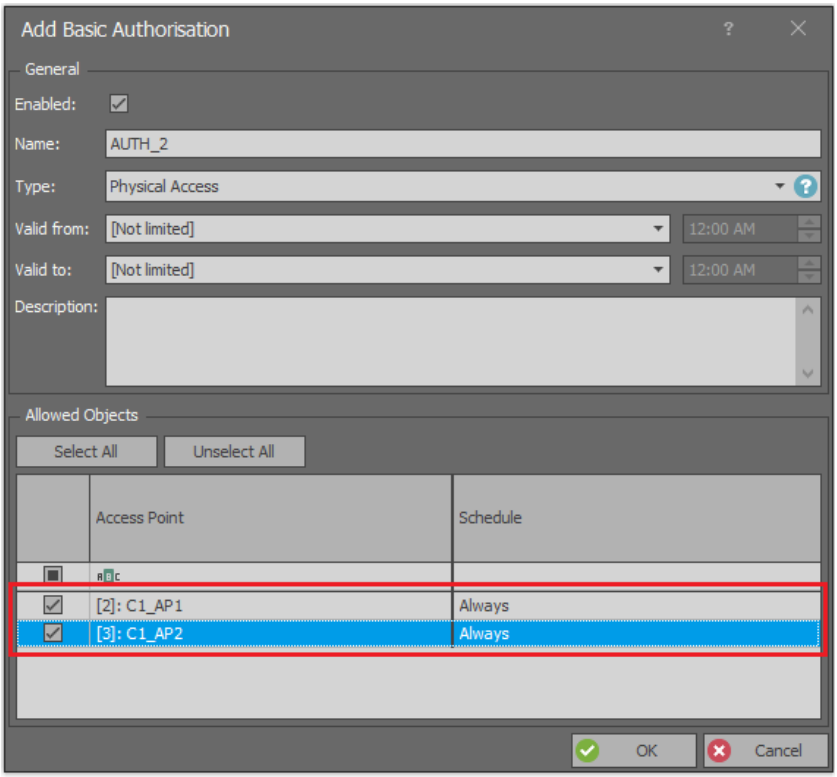
- In the navigation tree of VISO software within the same controller double click *Access Points* command.
- In the opened window select *Add* button.
- In the newly opened window select *Advanced Options* tab and in the field *Access Direction* select *Read-in* so this point could be used for activation of REL1 output with the function [35]. Close the window with *OK* button.



- In the bottom select *Access Terminals* tab and then *Add* to assign reader to the Access Point. Close the window with *OK* button.
- In the bottom select *Access Door* tab and then *Assign* button in order to link *C1_AP1* Access Point with previously created *C1_AD1* Access Door.
- Similarly configure another Access Point using the option *Read-out* in *Advanced Options* tab.
- Assign reader and link the Access Point with the same Access Door *C1_AD1*.

Configuration of Authorization and user enrolment

- In the navigation tree of VISO software expand *Authorizations* command and then double click *Standard Authorizations* command.
- In the opened window select *Add* button.
- In the next window name the Authorization and select both Access Points from the list. Such Authorizations will allow to get through the turnstile in both directions. It is also possible to create two Authorization i.e. one for each direction and it is possible to create and assign Schedule to limit access to certain hours. General Purpose Maintained Schedule can be defined by means of the *Schedules* command in the navigation tree of VISO software. Close the window with *OK* button.
- Upload settings to the controller.



- In the top menu of VISO software select *Wizards* and then *Add Person Online*. Assign previously created Authorizations when user is enrolled.

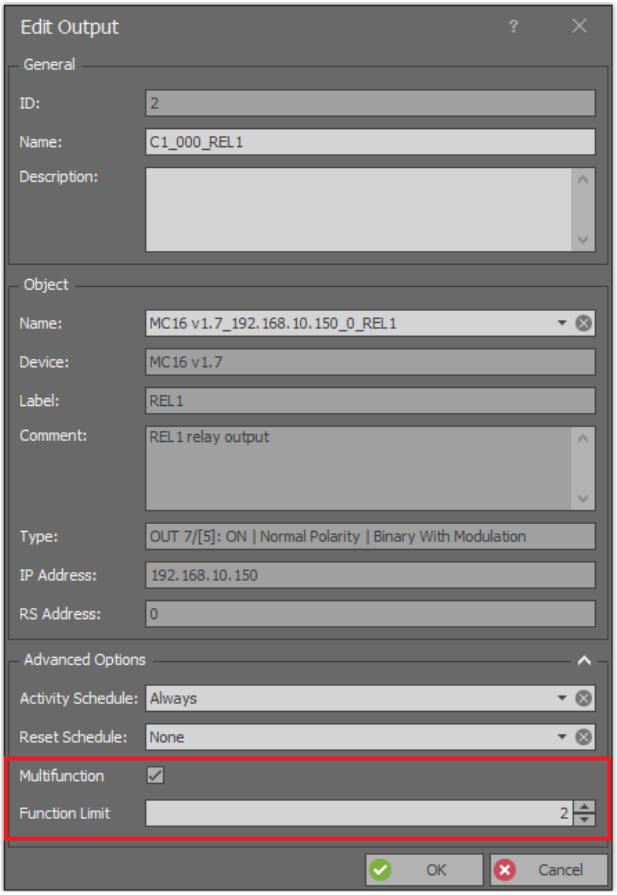
When the configuration is completed then access granting at *C1_AP1* Access Point shall activate REL1 output and access granting at *C1_AP2* Access Point shall activate REL2 output. These two relays can be further connected to turnstile in order to release its arms in respective directions.

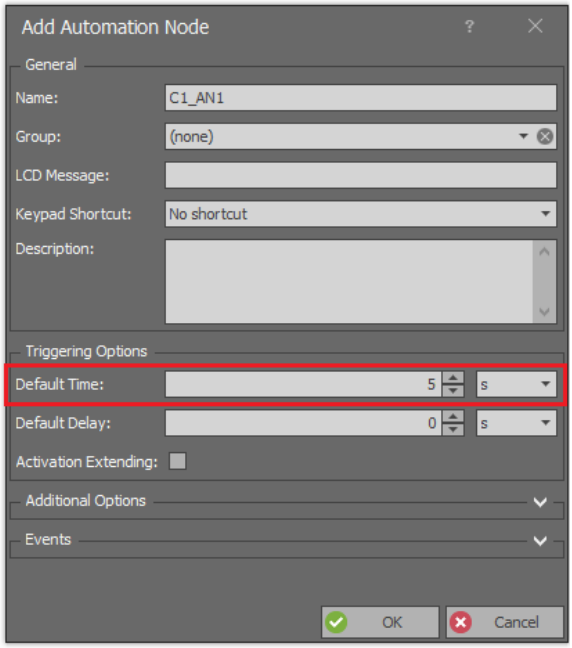
Opening with button

It is possible to control the access not only with readers but also with button connected to controller input. In practical applications such button can be used by guard to release turnstile for visitor or other person without Authorization(s) for opening.

In order to additionally control REL1 output using IN1 input of MC16 controller:

- In the navigation tree of VISO software within the same controller double click *Outputs* command.
- In the opened window select previously created REL1 output and then *Edit* button.
- In the newly opened window enable the option *Multifunction* and set *Function limit* = 2 as this output shall be used for two purposes. Close the window with *OK* button.





- In the navigation tree of VISO software within the same controller double click *Automation Nodes* command
- In the opened window select *Add* button, enter optional name and set node *Default Time* for 5 sec. This will be the activation time of node and consequently also REL1 output used for turnstile releasing. Close the window with *OK* button.
- In the bottom select *Inputs* tab and then *Add* button.
- In the newly opened window click the button  in order to select input.
- In the next window in the *Name* field of *Object* area select IN1 input of MC16 controller and close the window with *OK* button.
- Select the function *[162]: Set Node ON with Default Time Settings* and then close the window with *OK* button.
- In the bottom select *Outputs* tab and then *Add* button.
- In the newly opened window select REL1 output and in the field *Function* select the function *[021]: Node Status*.
- Synchronize controller settings with VISO software.

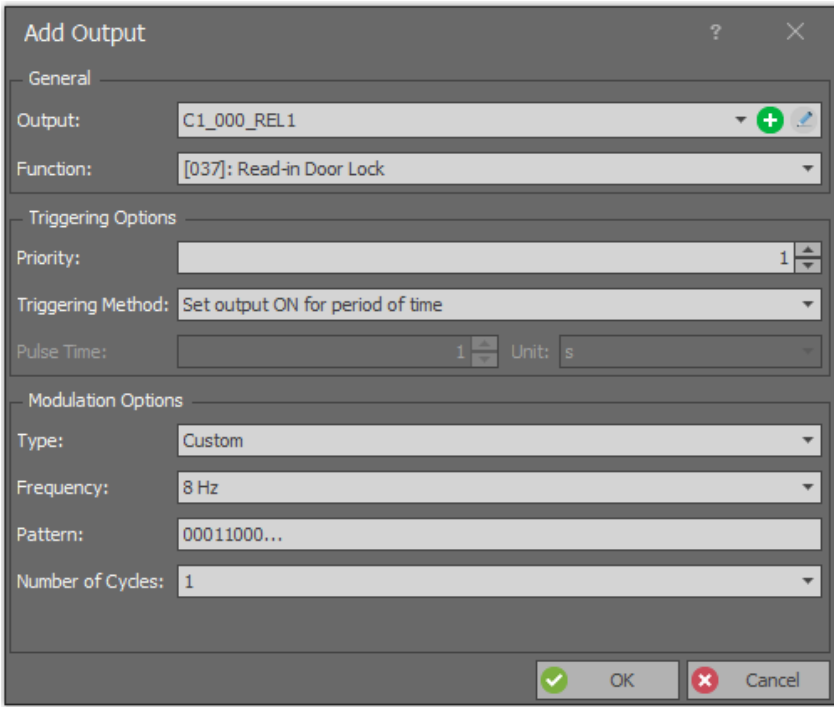
When the configuration is completed then turnstile in entry direction (REL1) can be released not only by identification at the reader but also with button connected to input IN1 of MC16 controller. It is also possible to create two Automation Nodes in order to control REL1 and REL2 outputs with individual buttons or both outputs can be assigned to the same Automation Nodes so they could be activated simultaneously with single button.

Remote opening

VISO software enables opening/releasing with remote command. Such command can be called by right clicking previously created Automation Node in navigation tree or on map. Remote command can be used only by operator with proper rights. Such rights are defined by assignment of operator to user with Advanced Authorization(s) for function *[162]* at particular Automation Node. Such association of user and operator is done in the properties of user in the tab *Remote Management* in the field *Operator*. The most simple method to grant all Authorizations to operator is to assign such operator to user with Access Credential with enabled *Master exemption* option. Operators and their authorisations are explained in AN040 application note.

Output line signalling

It might be necessary to control turnstile with short pulses (below 1 s) and not with signals lasting one or more seconds. In such case it is necessary to apply output functions *[37]* and *[38]* instead of functions *[35]* and *[36]* on the level of Access Door and when they are assigned to outputs REL1 and REL2 modulation must be defined. For example if pulse below 0,5 s must be used to control turnstile then apply parameters as in figure below. In such case previously defined opening time in *Lock pulse* field within Access Door does not affect the output (relay) anymore.



Two Users mode

Basic functionality of Two Users mode is available in all versions of RACS 5 system and when enabled then access can be granted at Access Point (reader) only after identification of two users with proper Authorisations. Advanced functionality of Two Users mode is available from VISO 2.1.2 or newer and MC16 firmware 1.7.4.666 or newer and when enabled it offers exceptions for the mode.

Basic functionality

In order to start basic functionality of Two Users mode:

- In the navigation tree of VISO software within particular controller double click *Access Points*.
- In the opened window add new Access Point or edit existing one.
- In the next window in *Advanced Options* tab enable the option *Two Users Mode*.
- Synchronize controller settings with VISO software.

Switching of basic Two Users mode

As mentioned in MC16 Operating manual the Two Users mode can be switched on the level of Access Point by inputs with following functions:

[199]: Set Two Users Mode Toggle

[204]: Set Two Users Mode ON

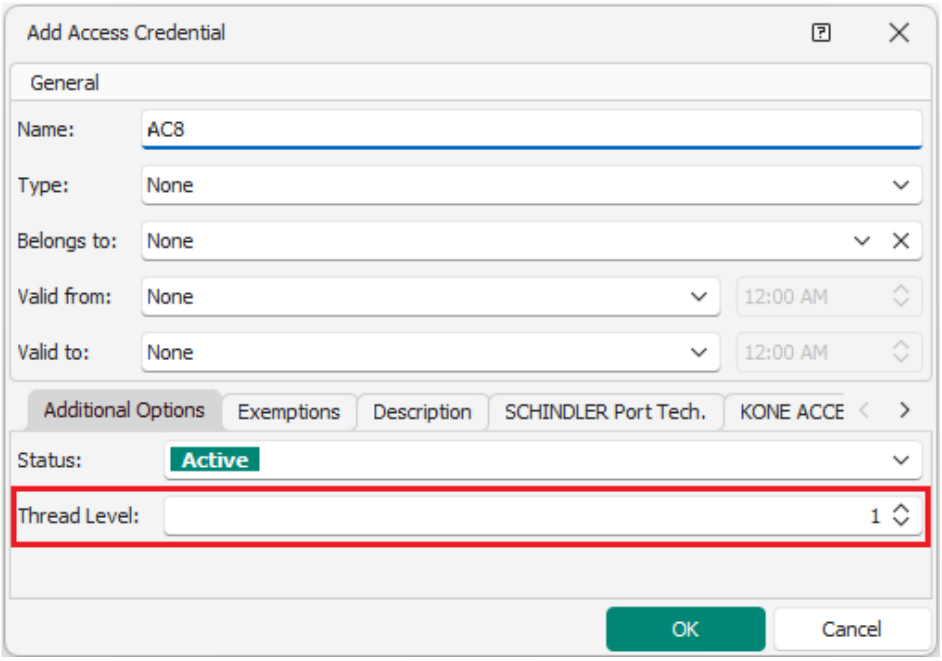
[205]: Set Two Users Mode OFF

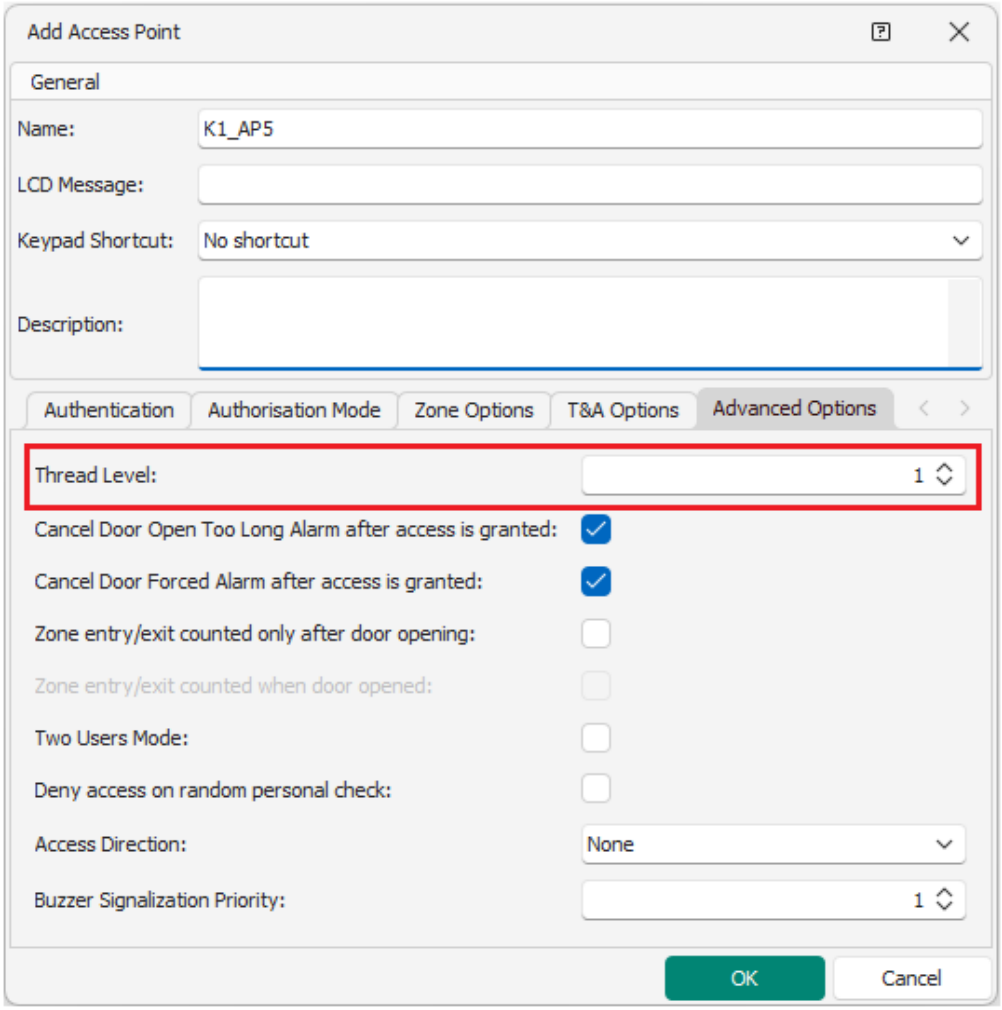
Advanced functionality

Advanced functionality is available when TAM parameter is enabled for particular MC16 access controller as below:

- Start RogerVDM program.
- Select MC16 access controller, enter its IP address and password. Connect with device.
- In the top menu select *Tools->Config File*.
- In the opened window enable the parameter *Additional Functionalities for Two User Mode (TAM)*.
- Send settings to device and then select *Device->Disconnect*.

The configuration of advanced Two Users mode is made by means of Thread Levels which can be defined on the level of Access Points and Access Credentials belonging to users. Additionally users must be assigned with typical access Authorisations (access rights).





Manager

Manager is an Access User Person who can be granted access at Access Point by themself despite the Two Users Mode i.e. no additional identification by another Person is required. The Person becomes Manager when Thread Level for their Access Credential equals to 99.

Senior employee

Senior employee is an Access User Person who can be granted access at Access Point when accompanied by Manager, another Senior employee or Junior Employee. The Person becomes Senior Employee when Thread Level for their Access Credential is equal or higher than Thread Level for Access Point with Two Users mode.

Junior employee

Junior employee is an Access User Person who can be granted access at Access Point when accompanied by Manager or Senior Employee but not when accompanied by another Junior employee. The Person becomes Junior employee when Thread Level for their Access Credential is lower than Thread Level for Access Point with Two Users mode.

Switching of advanced Two Users mode

As mentioned in MC16 Operating manual the Two Users mode can be switched on the level of Access Point by inputs with following functions:

[270]: Disable Thread Levels for Two Users Mode

[271]: Enable Thread Levels for Two Users Mode

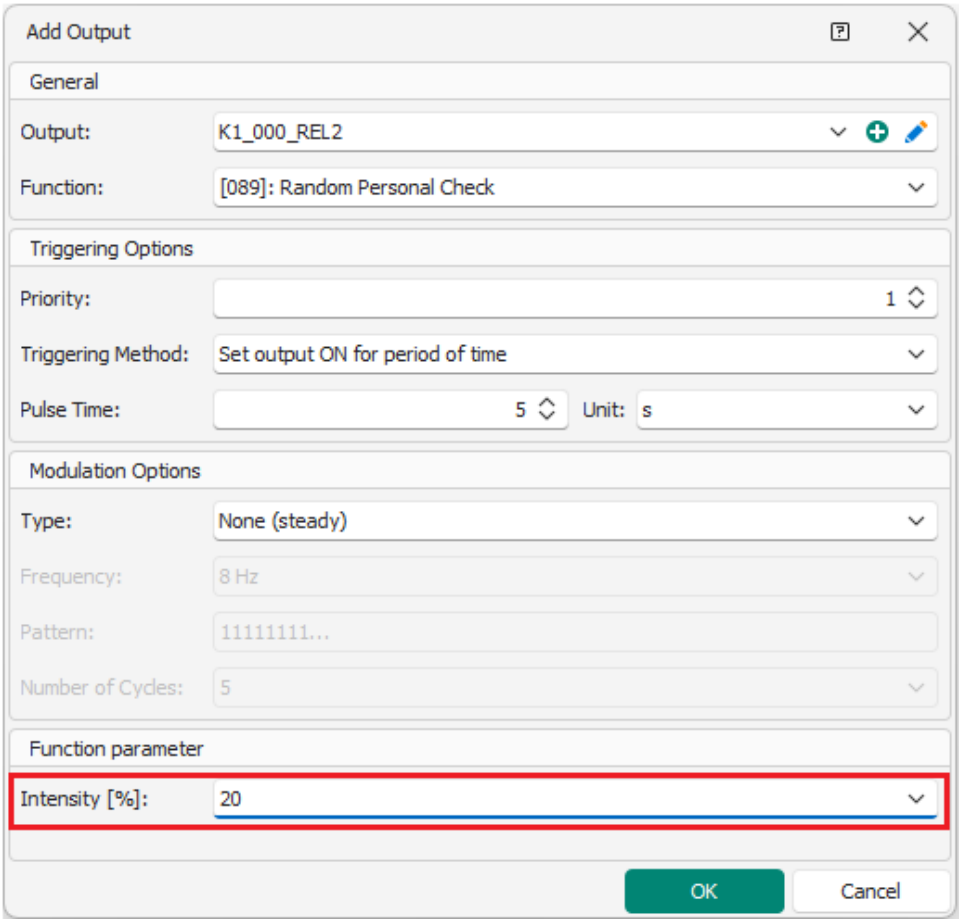
[272]: Set Alternately Thread Levels for Two Users Mode

[273]: Thread Levels for Two Users Mode Toggle

Random check

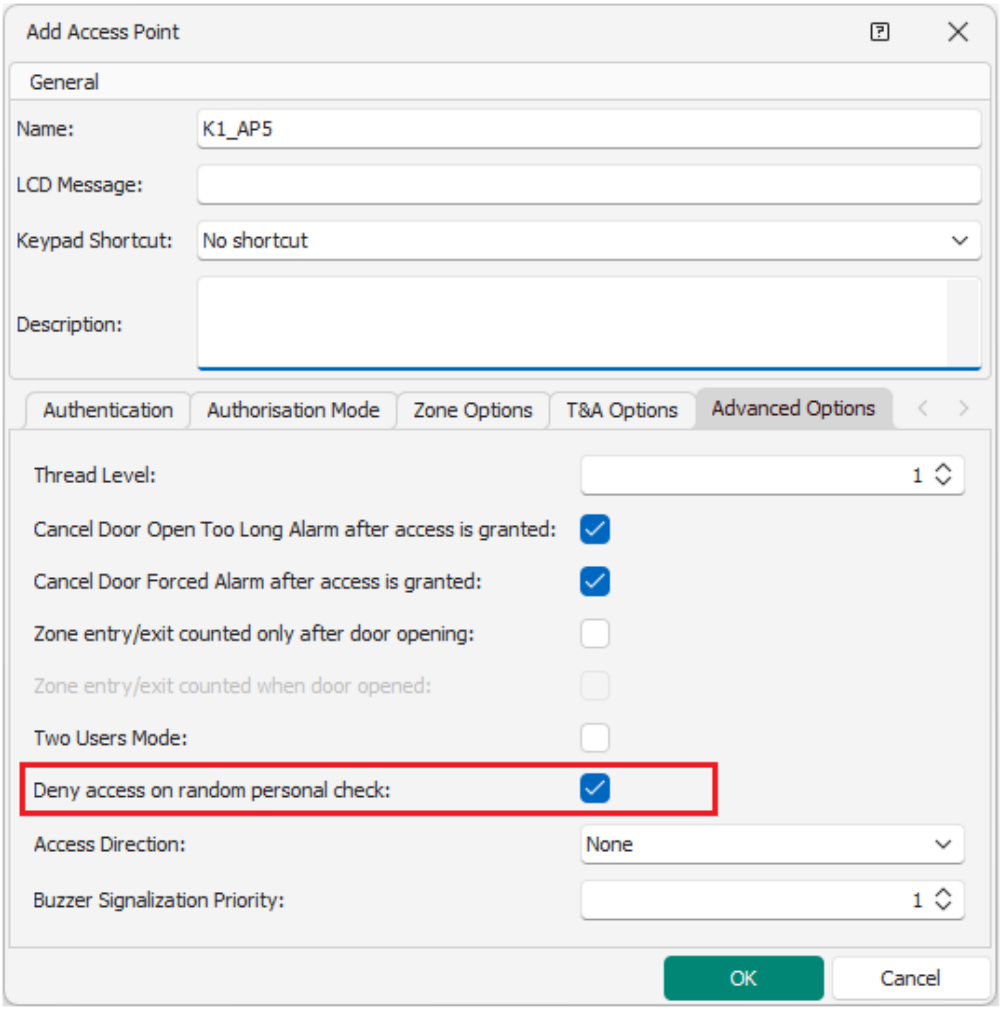
In case of random check functionality, the MC16 controller can randomly select users for inspection when access is granted. To configure it:

- In the navigation tree of VISO software within particular controller double click *Access Points*.
- In the opened window add new Access Point or edit existing one.
- In the bottom select *Outputs* tab and then *Add*.
- In the opened window indicate output for random check signalling e.g. REL2 relay at MC16 access controller and assign the function *[089]: Random Personal Check.* Visual and/or audible indicator can be connected to such output to inform security personnel that Person is randomly selected for inspection.



- In the same window indicate the probability of random selection by means of the parameter *Intensity [%]*. For example when intensity is 20 it means that it will concern on average 20% of access granting i.e. on average every 5th Person who is granted access.
- Synchronize controller settings with VISO software.

If the option *Deny Access on Random Personal Check* is enabled, then not only the output with function *[089]* will be activated but also Person who is randomly selected for inspection will be denied access. The option is defined on the level of Access Point.



On the level of Access Point, it also possible to define input with the function *[269]: Activate Personal Check*. When activated (e.g. with connected button) then the next Person at the Access Point will be selected for personal check.

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