Roger Access Control System 5v2

Application note no. 028

Document version: Rev. C

License plate recognition cameras

Note: This document refers to RACS 5 v2.0.6 or higher

Introduction

RACS 5 system enables automatic access granting e.g. at car parks by recognition of vehicle license plates (LPR). In such scenario of operation a camera which is connected to MC16 controller via Wiegand interface is operated as access terminal in RACS 5 system. The integration concerns following cameras:

- ITC237-PU1B-IR-WIEGAND (DAHUA)
- DS-2CD4A26FWD-IZSWG/P (HIK Vision)
- DS-2CD7A26G0/P-IZSWG (HIK Vision)
- DS-2CD7A26G0/P-IZHSWG (HIK Vision)
- iDS-2CD7A26G0/P-IZHSY (HIK Vision)
- iDS-2CD7A46G0/P-IZHSY (HIK Vision)
- Mobotix M73 with LPR add-on (Konica Minolta)
- Mobotix S74 with LPR add-on (Konica Minolta)
- Mobotix Move Mx-VB1A-2-IR-(D)-ALPR (Konica Minolta)

Cameras can be connected to all types of MC16 controllers but usually MC16-PAC and MC16-AZC devices are applied for that purpose.

Note: Some of the listed cameras may require the upload of special firmware which applies hash function (SHA-1) and then upload license plate number via Wiegand bus.

Configuration and installation of cameras

Configure and install cameras according to manufacturer's manuals and enable licence plate recognition.

HIK Vision and Dahua cameras

In case of HIK Vision cameras enable Wiegand 26bit interface with algorithm which generates SHA1 hash and limits the number to LSBs before sending via Wiegand interface. The integration does not require configuration of white and/or black lists for vehicle license plate numbers.

Mobotix cameras

In case of Mobotix cameras it is necessary to upload:

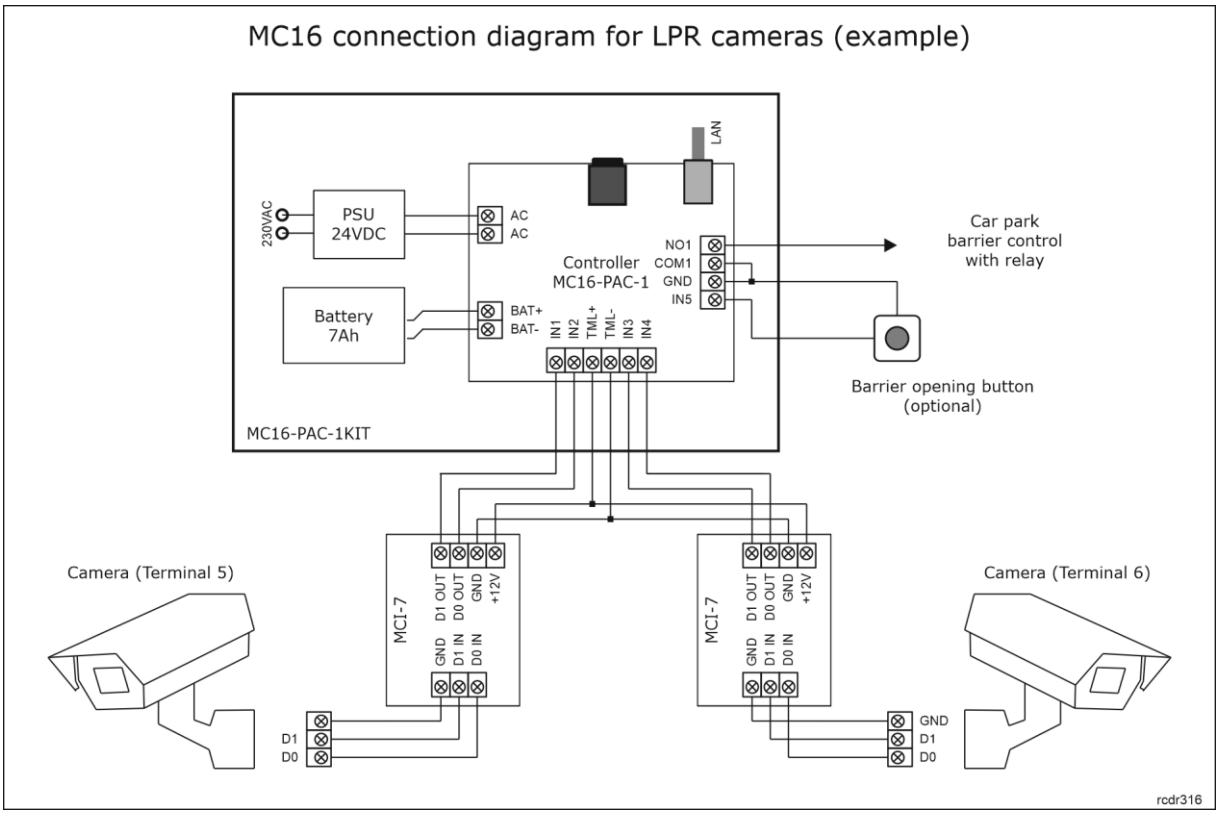
- Firmware MX-System Release 7.3.4.12-r3 lor newer and MX Certified Apps Release 2024-01-04 for series 7 cameras (M73 and S74)
- Firmware mb20230830UX_8G or newer for Move series cameras

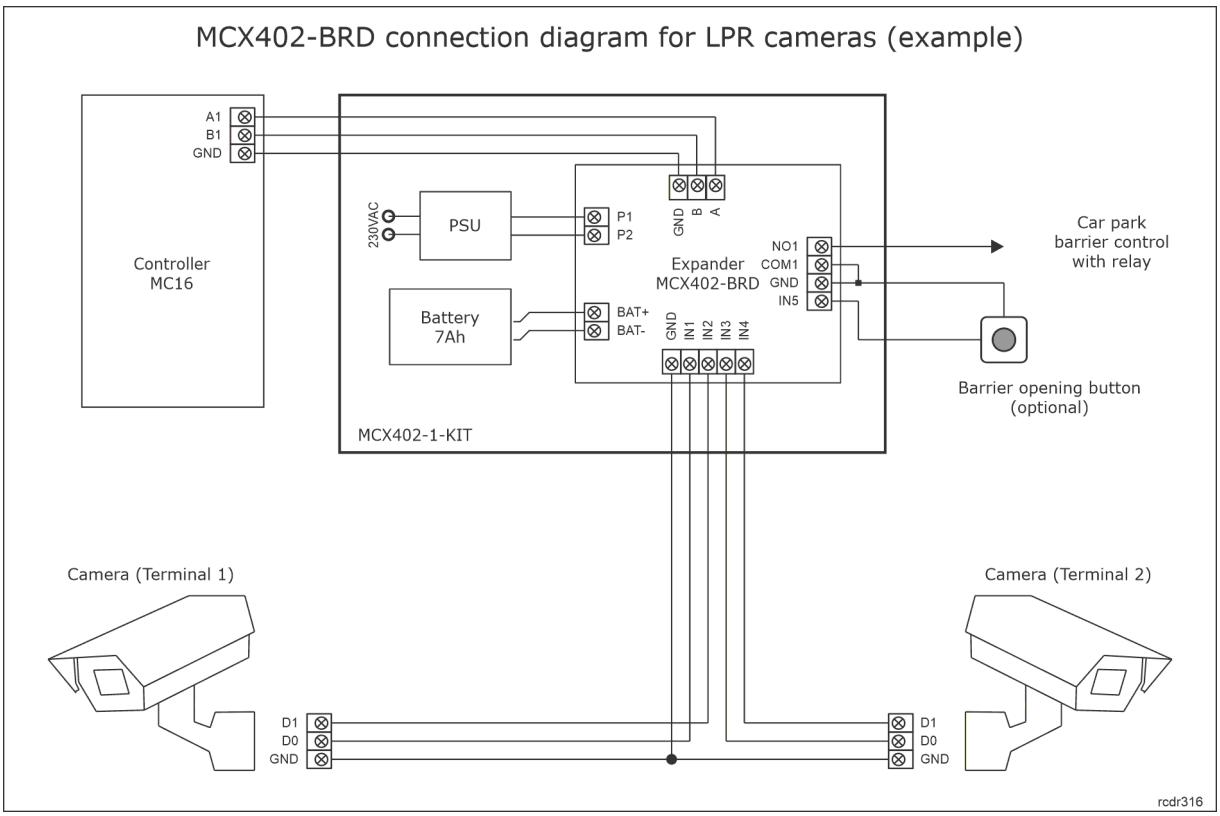
Additionally it is necessary to connect Mobotix compatible module. More information on this subject can be acquired from Konica Minolta Poland.

Connection of cameras

According to AN001 and AN002 application notes, Wiegand interface terminals can be directly connected to MC16 controller (max. 4 terminals) or indirectly via MCX402DR expanders (max. 2 terminals per expander). In case of direct connection to MC16 controller the MCI-7 interface must be installed on Wiegand communication line.

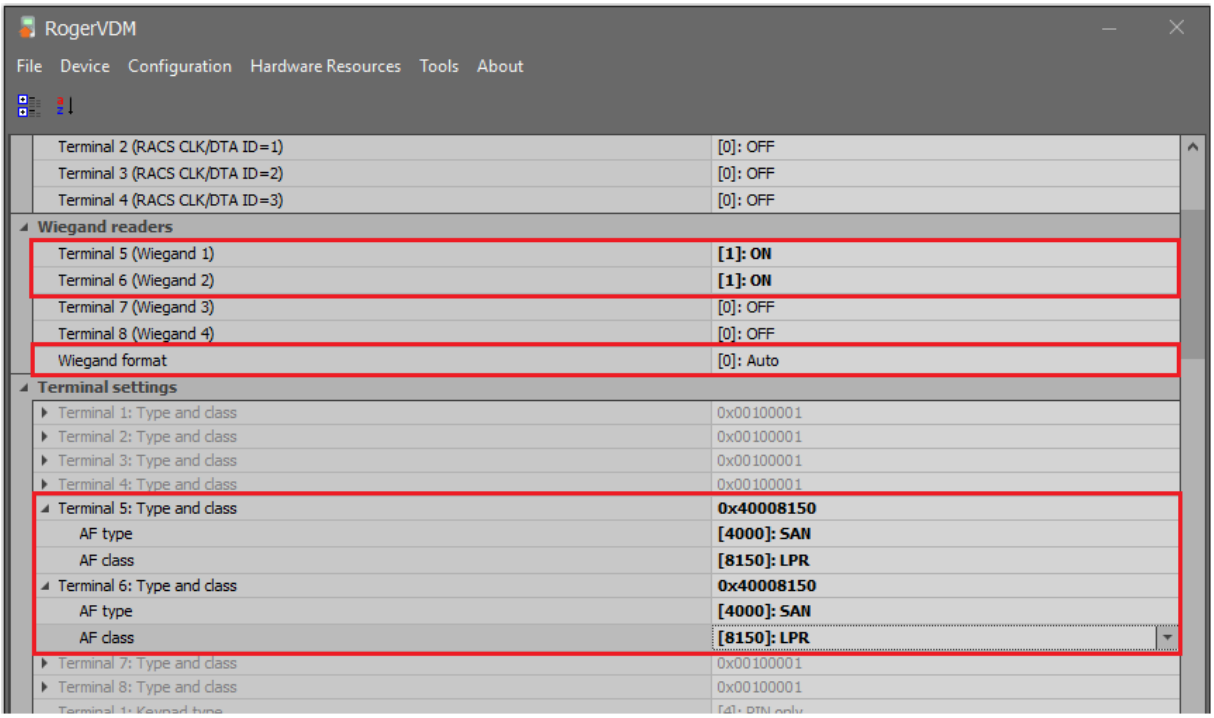
Note: MCI-7 interface is a successor of previously offered PR-GP-BRD module.



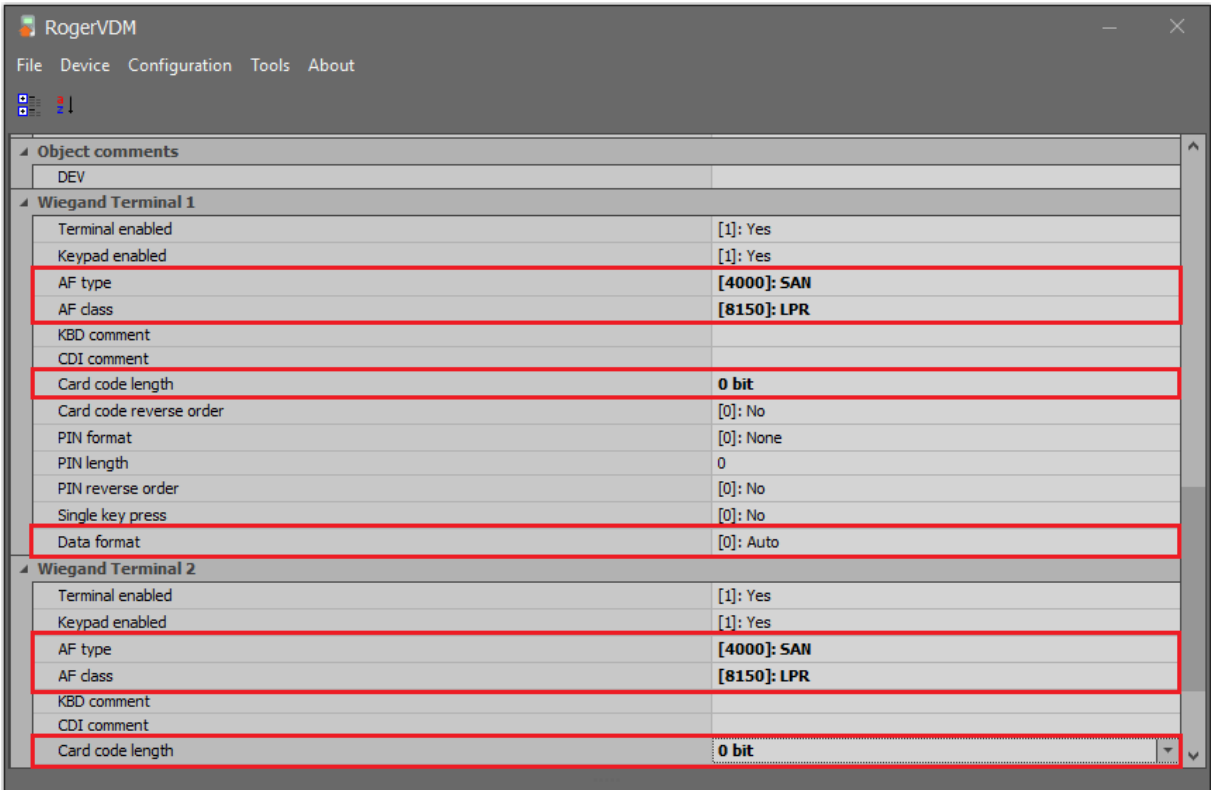


Preliminary configuration

Configure the MC16 controller with RogerVDM or VISO v2 software in regard of typical low level configuration i.e. IP address and communication key according to AN006 application note. Additionally enable Wiegand terminals and define data format i.e. AF type and class as below.



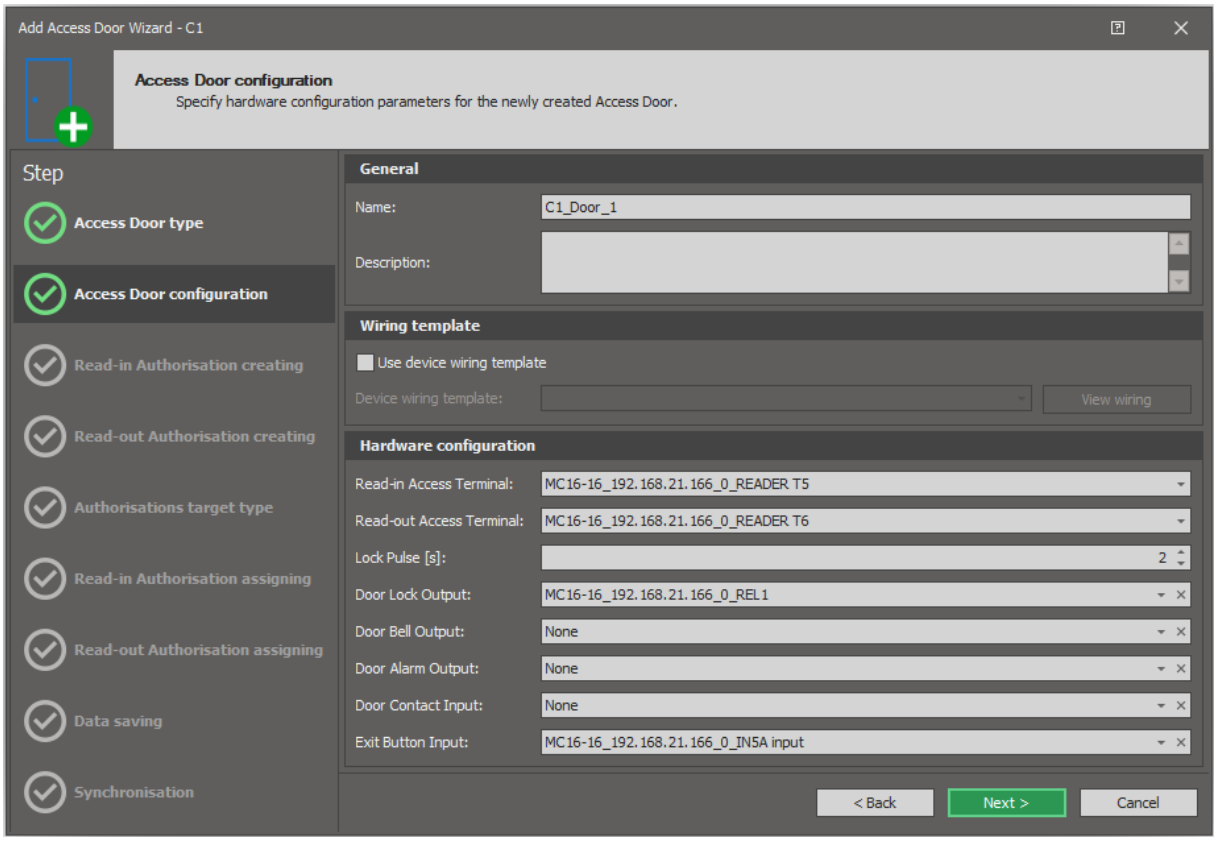
While in case of MCX402-BRD expander, configure its address on RS485 bus of MC16 controller and enable Wiegand terminals as below.



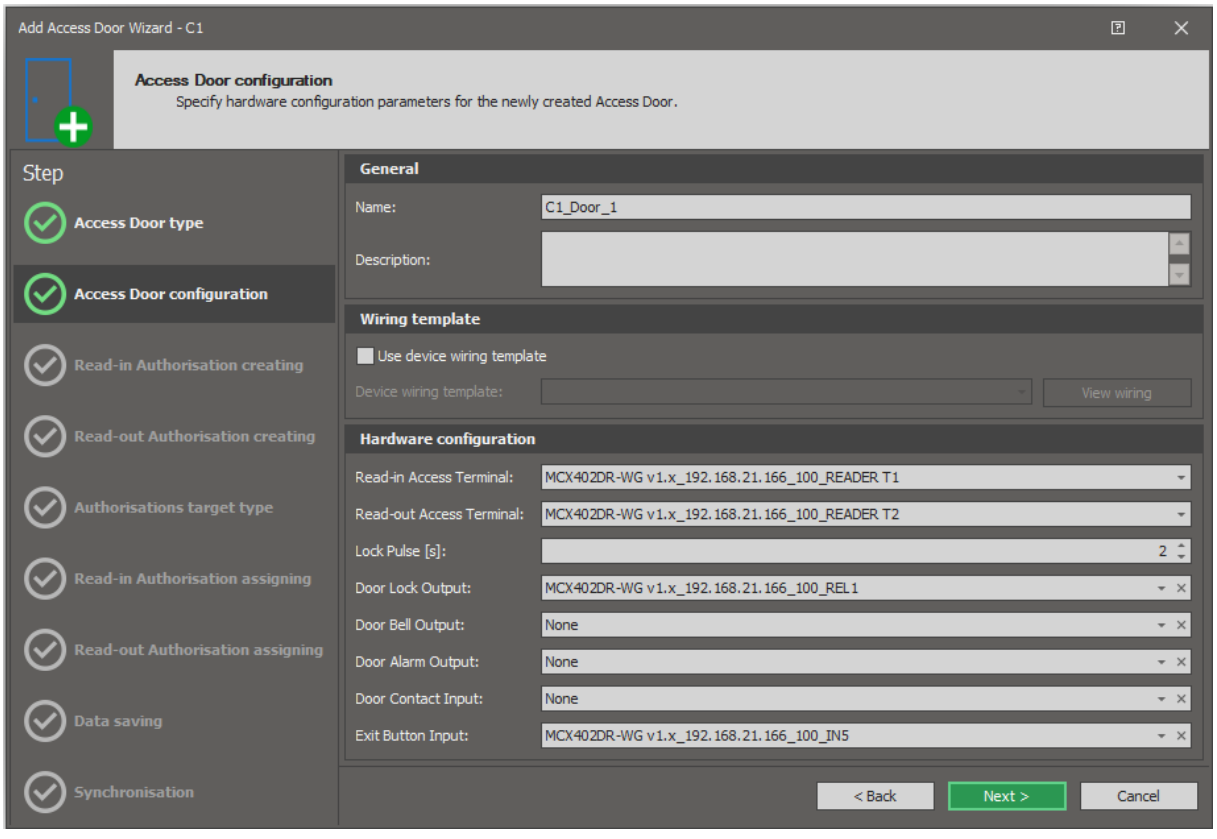
Then configure the system in regard of database and servers according to AN006 application note. Detect MC16 controller and its resources selecting *Wizards* in the top menu of VISO software and then *Add Access Controller*.

Access Door

It is recommended to configure the door with Add Access Door wizard after selection of *Wizards* in the top menu of VISO software. When hardware is indicated then select Wiegand terminals within MC16 properties, select REL1 relay for car park barrier opening and optionally select IN5 input for barrier opening button.



While in case of MCX402-BRD expander indicate terminals as well inputs and outputs on the level of the expander.

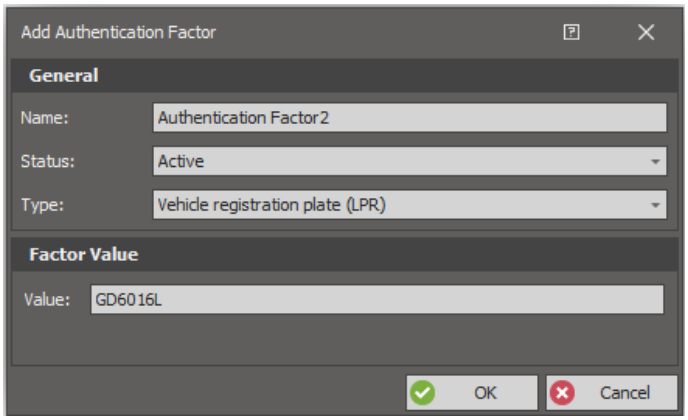


It is possible to define the portal in such way that positive identification of vehicle at camera 1 will activate REL1 relay and consequently will open barrier 1 (entry), while positive identification of vehicle at camera 2 will activate REL2 relay and consequently will open barrier 2 (exit). This would be bidirectional access control which is explained in AN019 application note.

Inductive loops can be connected to MC16 controller or MCX402-BRD expander to block barrier opening when vehicle is not detected in vicinity of barrier. Inputs with function *[132]* on the level of Access Door or functions *[158]* or *[259]* on the level of Access Point can be used for such purpose.

Users

It is recommended to define, modify and delete users by means of wizards which are available after selection of *Wizards* in the top menu of VISO software as explained in AN006 application note. In case of LPR cameras, the user is vehicle with its license plates. Therefore when Authentication Factor is configured for user then it must be defined as *Vehicle registration plate (LPR)* type instead of default *40bit proximity card*.



Note: It might happen that camera does not read the whole registration plate for particular vehicle. In such situation it is recommended to verify what camera reads by logging into it via web browser and using available testing tools.

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