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BKT ACBS Access Control Bus System

- the access control system with RS485 bus interface

- installation and configuration manual
- version 7





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1 INTRODUCTION

1.1 General information

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1.2 System characteristics

The access control system is designed to limit the access of unauthorized persons to sensitive parts of data centers, smaller server rooms, as well as to individual cabinets. BKT ACS (Access Control System) is a scalable access control system dedicated to 19" frames. BKT Elektronik offers cabinets that are factory-adapted to the installation of an access control system. These cabinets have doors equipped with appropriate openings for mounting card readers and cable paths for arranging the wires. The BKT ACS system can also be applied to any teleinformation cabinets with a 19" frame. It is then required to make appropriate openings in the door for card readers and to fasten the cables with, for example, cable ties. The BKT ACBS access control system (Access Control Bus System) uses devices (controllers and readers) that communicate using the RS485 bus. The controllers are placed in 1U casings adapted to be mounted in 19" cabinets. A single controller, depending on the version, can supervise the operation of up to 16 doors. The number of controllers in the system is unlimited. In the same system, it is also possible to connect controllers supporting readers with Wiegand interface - BKT ACWS system (Access Control Wiegand System). Both systems use Roger RACS5 devices. This manual contains basic information sufficient to run the BKT ACBS access control system. More technical information about the devices used in the system can be found at <u>www.roger.pl/en</u>.

1.3 Basic system functionality

- Supports unlimited number of cabinets.
- Supports unlimited number of users, subject to a maximum of 8192 per controller.
- Supports different card standards depending on the reader used.
- The system may grant access to the door by presenting a card or entering a PIN code (or may require both actions at the same time). It is also possible to configure the so-called committee entry when two users have to present cards to open the door.
- Depending on the system, the readers may have an integrated keypad (BKT ACBS) or may be integrated in a cabinet handle (BKT ACWS). It is also possible to use any reader with a Wiegand interface.
- Archiving of events in the MS SQL Server/Express.
- Stand-alone operation of the system without connection to a computer with a database. In such situation, up to 8 million events can be saved to the controller's internal memory, which will be sent to the computer during the next connection.
- Independent monitoring of the door status and the status of the handle.
- Free VISO ST application for system configuration and monitoring.
- Encrypted communication on the Ethernet network and on the RS485 bus.
- Email notifications about any chosen event.
- The system devices meet the requirements of security Grade 2 according to the EN 60839-11-1: 2013 standard
- The devices are adapted to be mounted in a 19" frame. They are 1U high.
- Ease and speed of making connections thanks to the use of RJ45 connectors.
- BKT 4DC cabinets are available in a version adapted to the installation of access control devices. They have appropriate openings for the reader and dedicated cable paths on the door.



2 BKT ACBS and BKT ACWS SYSTEMS

The BKT ACS access control system is available in two variants:

- BKT ACBS (Access Control Bus System) system based on the RS485 bus, which is used by controller to communicate with card readers.
- BKT ACWS (Access Control Wiegand System) system that uses the Wiegand interface for communication between the controller and card readers.

Both versions use the same Roger MC16-PAC controller, so they can work in the same system managed by the same VISO ST application. The table below lists the main differences between the system variants.

	System structure	Interface between the controller and the reader	Supported standard of proximity cards	Possibility of connecting a handle with an integrated reader - AL301	Possibility of connecting any third party reader with Wiegand interface	1 controller (1 IP address) for many cabinet doors
BKT ACBS Bus System	RS485	RS485 bus	UNIQUE 125kHz or Mifare 13,56MHz (Ultralight and Classic)	\approx	\approx	Max 16 cabinet doors
BKT ACWS System with Wiegand interface	Wiegand Wiegand	Wiegand	Any standard dependent on the reader			Max 2 cabinet doors



3 BKT ACBS SYSTEM COMPONENTS

3.1 AC100 controller



AC100 - Access controller in 1U 19" enclosure, no power supply unit (122AA100015), no controller pcb (122AC102xxx). Designed to support readers with RS485 interface.

- The controller is the basic device of the system.
- Requires the Roger MC16-PAC-ST-x controller pcb. Depending on the used PCB of the controller, it can support from 1 door (MC16 PAC-ST-1) to 16 doors (MC16-PAC-ST-16)
- The controller has a 1U casing, adapted to be mounted in a 19" cabinet.
- The number of controllers in the system is unlimited.
- The controller enables connection of two door sensors, two door readers, an additional reader for cold/hot aisle containment sliding door, LAN network and RS485 bus connecting slave sets. All connections to the controller are made with cables with RJ45 connectors.
- The controller has two configurable LEDs, which for example, can indicate the status of the front and rear doors of the cabinet.
- Two-way power supply possible.
- Requires one or two 12VDC 1.5A power supplies.

3.1.1 Technical data

Parameter	Value
Power supply voltage	Nominal 12V DC, allowed 12-15V DC
Average current consumption	110 mA
(with controller pcb and no external devices)	
Connectors	8 x RJ45 (for peripheries), 2 x DC 5,5/2,1 (for power supplies)
Dimensions	482 x 132 x 44mm (W x D x H)
Weight	1100g
Package dimensions	265 x 165 x 70mm
Package weight	1200g
Operating conditions	Temperature: 5°C - 40°C, Humidity: 10% - 95% RH (no condensation)
Storage conditions	Temperature: 0°C - 60°C, Humidity: 0% - 95% RH (no condensation)
Housing material	Steel
Housing colour	Black, RAL 9005
Housing protection rating	IP20
Compliance with directives	2014/35/EU (LVD), 2011/65/EU (RoHS)
Part number	122AC001000



3.1.2 Dimensions

482	
465	



3.1.3 AC100 controller accessories

Product	Description	Part number
	MC16-PAC-ST-x - x door controller RACS5	122AC1021xx
	GST18A12-P1J - Power supply 18W 12VDC 1.5A; AC socket C14; DC plug 5.5/2.1; no AC cord	122AA100015
	Power cord, plug IEC 320 C13 10A, plug DIN 49441(unischuko) 16A, 3x1,0 mm2, black, 2m	11480784.2
	Power cord, plug IEC 320 C13 10A, plug IEC 320 C14 10A, 3x1,0 mm2 black, 2m	11480785.2



3.1.4 Controller wiring schematic





3.2 AB101 secondary set



AB101 - Access control secondary set for 2 doors in 1U 19" enclosure, no power supply unit (122AA100015). Works with the AC100 controller.

- The kit includes a connection system for devices for handling 2 doors.
- It has a 1U housing, suitable for mounting in a 19 "rack.
- The set works only with controller AC100.
- Designed for installation in subsequent cabinets.
- It enables connection of two door sensors, two door readers and an additional reader for cold/hot aisle containment sliding door, LAN network and RS485 bus connecting slave sets. All connections to the controller are made with cables with RJ45 connectors
- The controller has two configurable LEDs, which for example, can indicate the status of the front and rear doors of the cabinet.
- Two-way power supply possible.
- Requires one or two 12VDC 1.5A power supplies.

3.2.1 Technical data

Parameter	Value
Power supply voltage	Nominal 12V DC, allowed 12-15V DC
Average current consumption	10 mA
(with no external devices)	
Connectors	7 x RJ45 (for peripheries), 2 x DC 5,5/2,1 (for power supplies)
Dimensions	482 x 44 x 44mm (W x D x H)
Weight	800g
Package dimensions	265 x 165 x 70mm
Package weight	900g
Operating conditions	Temperature: 5°C - 40°C, Humidity: 10% - 95% RH (no condensation)
Storage conditions	Temperature: 0°C - 60°C, Humidity: 0% - 95% RH (no condensation)
Housing material	Steel
Housing colour	Black, RAL 9005
Housing protection rating	IP20
Compliance with directives	2014/35/EU (LVD), 2011/65/EU (RoHS)
Part number	122AB001011



3.2.2 Dimensions





3.2.3 AB101 secondary set accessories

Product	Description	Part number
	GST18A12-P1J - Power supply 18W 12VDC 1.5A; AC socket C14; DC plug 5.5/2.1; no AC cord	122AA100015
	Power cord, plug IEC 320 C13 10A, plug DIN 49441(unischuko) 16A, 3x1,0 mm2, black, 2m	11480784.2
Contraction of the second	Power cord, plug IEC 320 C13 10A, plug IEC 320 C14 10A, 3x1,0 mm2 black, 2m	11480785.2



3.2.4 Secondary set wiring





3.3 Card readers

3.3.1 Dimensions





3.3.2 Card reader accessories

Product	Description	Part number
\mathbf{O}	 AW111 – Reader to controller connection cable, 5m The cable is used to connect the reader AR121, AR122, AR131, AR132 to AC100 controller or AB101 secondary set. Length: 5m, terminated with RJ45 and 10-pin female connectors. 	244AW001110
	 AW113 - Reader to housing sliding door controller connection cable, 5m The cable is used to connect the reader AR122, AR132 to sliding door controller Length: 5m, terminated with RJ45 and 10-pin male connectors. 	244AW001130
	Electrical junction box 86mm x 86mm x 39mm, wall mount, black, IP55	122AA100006
	RUD-1 - USB-RS485 interface/programmer	122AA101000
water management in more	EMC-1 - UNIQUE EM 125 kHz thin proximity card	122AA101004
	MFC-2 - MIFARE Classic 1k 13.56 MHz thin proximity card	122AA101011



3.3.3 AR121 Unique card reader with keypad

Product	Description	Part number
	 AR121 (MCT12E-IO) – Unique 125kHz card reader with keypad for cabinet door Roger MCT12E-IO reader was used Reader adapted to control the cabinet door. It has a 15cm long cable terminated with multi-pin connectors to connect to the lock and cabinet controller. It reads EM Unique 125kHz proximity cards, reading range up to 7 cm. Three LED indicators, buzzer with adjustable sound level, keyboard with backlight, two function buttons, detection of housing opening and detachment from the surface. 12V, 50mA power supply from a controller or a slave set. Dimensions: 153 x 46 x 23 (HxWxD) More information can be found at www.roger.pl 	244AR001210

3.3.4 AR121 card reader wiring schematic





AR122 Unique card reader with keypad 3.3.5

Product	Description	Part number
	 AR122 (MCT12E-IO) - Unique 125kHz card reader with keypad for cabinet housing sliding doors Roger MCT12E-IO reader was used The reader is designed to control the sliding doors of the cabinet housing. It has a 40cm long cable terminated with multi-pin connectors to connect to the sliding door controller and to the system controller. The wiring arrangement is different than in the AR121 reader. It Reads EM Unique 125kHz proximity cards, reading range up to 7 cm. Three LED indicators, buzzer with adjustable sound level, keyboard with backlight, two function buttons, detection of housing opening and detachment from the surface. 12V, 50mA power supply from a controller or a slave set. Dimensions: 153 x 46 x 23 (HxWxD) More information can be found at <u>www.roger.pl</u> 	244AR001220

AR122 Card reader wiring schematic 3.3.6



To controller

controller

10 pin female connector/



3.3.7 AR131 Mifare card reader with keypad

Product	Description	Part number
	AR131 (MCT12M-IO) - Mifare 13,56 MHz card reader with kepad for cabinet door	244AR001310
	 Roger MCT12M-IO reader was used 	
	• Reader adapted to control the cabinet door. It has a 15cm long cable terminated with	
34	multi-pin connectors to connect to the lock and cabinet controller.	
56	 It reads Mifare 13.56MHz proximity cards, reading range up to 7 cm. 	
78	• Three LED indicators, buzzer with adjustable sound level, keyboard with backlight, two	
* #	function buttons, detection of housing opening and detachment from the surface.	
TA QFR	• 12V, 85mA power supply from a controller or a slave set.	
[Panar]	• Dimensions: 153 x 46 x 23 (HxWxD)	
	 More information can be found at <u>www.roger.pl</u> 	

3.3.8 AR131 Card reader wiring schematic



3.3.9 AR132 Mifare card reader with keypad

Product	Description	Part number
	AR132 (MCT12M-IO) - Mifare 13.56MHz card reader with keypad for cabinet housing sliding doors	244AR001320
12	Roger MCT12M-IO reader was used	
34	• The reader is designed to control the sliding doors of the cabinet housing. It has a	
56	40cm long cable terminated with multi-pin connectors to connect to the sliding door	
7 8	controller and to the system controller. The wiring arrangement is different than in the	
* #	AR121 reader.	
FIG (QF2)	• It reads Mifare 13.56MHz proximity cards, reading range up to 7 cm.	
[rain	• Three LED indicators, buzzer with adjustable sound level, keyboard with backlight, two	
	function buttons, detection of housing opening and detachment from the surface.	
	• 12V, 85mA power supply from a controller or a slave set.	
	• Dimensions: 153 x 46 x 23 (HxWxD)	
	 More information can be found at <u>www.roger.pl</u> 	

3.3.10 AR132 Card reader wiring schematic





3.4 Cabinet swinghandles

3.4.1 AL200 swinghandle

Product	Description	Part number
	AL200 - Electronic locking & monitoring swinghandle with mechanical override	122AL002000
	 Installation in a standard 150x25mm cut out. 	
	 Can be installed in a single and multi-point locking system. 	
North Control of Contr	• Three-color LED signalling the operation status of the swinghandle.	
	Monitoring the status of the handle and the ability to transfer information to the	
	access control system.	
	Emergency key override.	
and a second sec	 Nominal current consumption during lock operation: 180mA 	
	Quiescent current consumption: 30mA	
	• Dimensions: 177 x 37 x 51 (H x W x D)	

3.4.2 AL200 Dimensions



3.4.3 AL200 connectors

	[8000000	8-pin socket (53047-0810)
	1	GND	Power supply input: GND.
	2	+12V	Power supply input: +12V.
53047-0810	3	STATUS	Handle status (active low, when handle open)
	4	CTRL	Handle control (+12V or GND to open the handle)
	5	SENSOR	Do not connect
	6	GND	Do not connect
	7	CANL	Do not connect
	8	CANH	Do not connect
WIEGANDO 3			4-pin socket (53047-0410)
-WIEGAND1 4 8 CANH	1	GND	Do not connect
	2	+12V	Do not connect
	3	WIEGAND 0	Do not connect
	4	WIEGAND 1	Do not connect

3.4.4 AL200 accessories

Product	Description	Part number
S	 AW212 - AL200 swinghandle to AR121 or AR131 reader connection cable, 0.55m The cable is used to connect the reader AR121, AR131 to AL200 swinghandle. Length: 0.55m, terminated with 10-pin male and 8-pin female connectors. 	122AW002120



3.4.5 AL300 swinghandle

Product	Description	Part number
	 AL300 (H3-EM-60-100) - Electronic locking & monitoring swinghandle with mechanical override Standard 150x25mm mounting cutout. Supports single and multi-point locking. Opening signalled by a built-in LED. Monitored status of the handle and the ability to pass information to the access control system. The lock can be opened with a key in the event of a power failure. Nominal current consumption during lock operation: 200mA Quiescent current of the handle: 50mA Dimensions: 168 x 37 x 50 (HxWxD) 	122AL103001

3.4.6 AL300 Dimensions



3.4.7 AL300 connectors



3.4.8 AL300 accessories

Product	Description	Part number
	 AW112 – AL300 swinghandle to AR121 or AR131 reader connection cable, 0.55m The cable is used to connect the reader AR121, AR131 to AL300 swinghandle. Length: 0.55m, terminated with 10-pin male and 6-pin female connectors. 	244AW001120
b		



3.5 Door sensors

3.5.1 AD101 Single leaf door sensor

Product	Description	Part number
	 AD101 – Single leaf door reed sensor with 5m cable Sensor normally open (NO) 5m long wire terminated with an RJ45 plug to connect to the controller. The set has a metal bracket that fixes the reed switch to the cabinet frame. 	244AD001010

3.5.2 AD101 Door sensor wiring



3.5.3 AD102 - Double leaf door sensor

Product	Description	Part number
0	 AD102 – Double leaf door reed sensor with 5m cable Sensors normally open (NO) 5m long wire terminated with an RJ45 plug to connect to the controller. The set has a two metal brackets that fixes the reed switches to the cabinet frame. 	244AD001020

3.5.4 AD102 Door sensor wiring





3.6.1 AW111 cable

Product	Description	Part number
\mathbf{Q}	 AW111 – Reader to controller connection cable The cable is used to connect the reader AR121, AR122, AR131, AR132 with the AC1xx controller. 5m long, terminated with RJ45 plug and a 10-pin female connector. 	244AW001110

3.6.2 AW111 cable wiring

	10-pin female connector				
			/	RJ45	plug
1	(white-orange)	(white-orange)	1		
	(orange)	(orange)	M		
	(white-green)	(white-green)	M		
	(blue)	(blue)	M		
	(white-blue)	(white-blue)	M		
	(green)	(green)	Ы		
	(white-brown)	(white-brown)	Ы		
	(brown)	(brown)	6		
000			M		

3.6.3 AW113 cable

Product	Description	Part number
	AW113 - Reader to housing sliding door controller connection cable	244AW001130
	• The cable is used to connect the reader AR121, AR122, AR131, AR132 with the	
	cold/hot aisle containment sliding door controller.	
	 5m long, terminated with RJ45 plug and male 10-pin connector. 	

3.6.4 AW113 cable wiring

	10-pin male connector			RJ45	plug	
Ē	(white-orange)	(white-orange)	F			
6	(orange)	(orange)	0	M		
K	(white-green)	(white-green)				
K	(blue)	(blue)	M			
	(white-blue)	(white-blue)	M			
	(green)	(green)	M			
	(white-brown)	(white-brown)	Ы			
	(brown)	(brown)	6			
000						

www.bkte.pl



3.6.5 AW112 cable

Product	Description	Part number
	 AW112 - AL300 swinghandle to AR121 or AR131 reader connection cable, 0.55m The cable is used to connect the reader AR121, AR131 to AL300 swinghandle. Length: 0.55m, terminated with 10-pin male and 6-pin female connectors. 	244AW001120

3.6.6 AW112 cable wiring



3.6.7 AW212 cable

Product	Description	Part number
Ó	 AW212 - AL200 swinghandle to AR121 or AR131 reader connection cable, 0.55m The cable is used to connect the reader AR121, AR131 to AL200 swinghandle. Length: 0.55m, terminated with 10-pin male and 8-pin female connectors. 	244AW002120

3.6.8 AW212 cable wiring





3.7 System software

VISIO ST on workstations	Regret SVC services and CL database on server
	 RogerSVC is a free package of Windows system services, the main task of which is to: Communicate with access controllers Perform configured system tasks Save system events to the database Requires continuous operation, if events are to be written to the database online, otherwise the events will be saved in the controllers memory and will be transferred to the database after RogerSVC is restarted.
	 The software is available for download at <u>www.roger.pl</u> Hardware requirements for RogerSCV: Systems for up to 5 controllers 4GB RAM, Intel Core i3 / i5 (2 cores) or equivalent, 500 MB HDD Systems from 5 to 50 controllers Systems of over 50 controllers BGB RAM, Intel XEON (8 cores) or equivalent, 500 MB HDD
	VISO is a Windows application for configuring and managing the access control system. It is available in two versions VISO ST (Standard, also as a free version up to 16 doors) and VISO EX (Enterprise for installations over 128 doors). Basic program functions:
	 MS SQL Express / Server database Management from multiple workstations Encrypted communication with system devices and system servers Configurable rights for system operators Operator's actions recorded in logs. Unlimited number of system users Monitoring the current operation of the system in text (table) and graphical (maps) modes Monitoring of any state of the facility with the use of automation nodes Configurable event types for selected logical automation nodes System control using remote commands Automatic system reactions for selected events Configurable alerts for selected events E-mail notifications Support for system administrator reader Wizards for quick system configuration The software is available for download at <u>www.roger.pl</u>
	Hardware requirements for VISO ST: RAM: 4 GB (8 GB for systems with more than 50 controllers), CPU: Intel Core i5 or equivalent (Core i7 for systems with more than 50 controllers), HDD: 500 MB for VISO, minimum screen resolution 1280x1024



3.7.1 Software versions and licenses

Version comparison

Parameter	VISO ST		VISO EX	
	Free version	Maximum version	Maximum version	
Controller supported	MC16-PAC-ST	MC16-PAC-ST	MC16-PAC-EX	
Number of doors	16	128	Unlimited	
Number of users	500	Unlimited	Unlimited	
Operator stations	1	3	Unlimited	
USB dongle for license	Not required	RUD-6-LKY	RUD-6-LKY	

VISO ST licenses

VISO ST licenses	Part number
LIC-VISO-START-ST - License for the management program for the RACS 5 system; starter version; no license or dongle required; free version limitations: - up to 16 doors - up to 500 users - 1 operator station	122AS102100
RUD-6-LKY - USB dongle for license	122AS102099
LIC-VISO-BASE-ST - License for the management program for the RACS 5 system; basic version; requires a license and dongle; basic version limitations: - up to 32 doors (max 128) - up to 1000 users (max unlimited) - 1 operator station (max 3)	122AS102101
LIC-VISO-ST-16AD -License for additional 16 doors (VISO-ST Standard system)	122AS102102
LIC-VISO-ST-32AD -License for additional 32 doors (VISO-ST Standard system)	122AS102103
LIC-VISO-ST-64AD -License for additional 64 doors (VISO-ST Standard system)	122AS102104
LIC-VISO-ST-100U - License for additional 100 users (VISO-ST Standard system)	122AS102111
LIC-VISO-ST-500U - License for additional 500 users (VISO-ST Standard system)	122AS102112
LIC-VISO-ST-1000U - License for additional 1000 users (VISO-ST Standard system)	122AS102113
LIC-VISO-ST-1WS- License for 1 additional operator station of VISO program (VISO-ST Standard system)	122AS102121
LIC-VISO-ST-WEB- License for VISO Web application (VISO-ST Standard system)	122AS102122
LIC-VISO-ST-MOB- License for the VISO Mobile application (VISO-ST Standard system)	122AS102123

VISO EX licenses

VISO EX licenses	Part number
RUD-6-LKY - USB dongle for license	122AS102099
LIC-VISO-BASE-EX - License for the management program (VISO-EX Enterprise) for the RACS 5 system; basic version, includes a license to use VISO Web and VISO Mobile; requires a license and dongle; Basic version limitations: - up to 32 doors (max unlimited) - up to 1000 users (max unlimited) - 2 operator stations (max unlimited)	122AS102201
LIC-VISO-EX-16AD -License for additional 16 doors (VISO-EX Enterprise system)	122AS102202
LIC-VISO-EX-64AD -License for additional 64 doors (VISO-EX Enterprise system)	122AS102204
LIC-VISO-EX-128AD -License for additional 128 doors (VISO-EX Enterprise system)	122AS102205
LIC-VISO-EX-100U - License for additional 100 users (VISO-EX Enterprise system)	122AS102211
LIC-VISO-EX-500U - License for additional 500 users (VISO-EX Enterprise system)	122AS102212
LIC-VISO-EX-1000U - License for additional 1000 users (VISO-EX Enterprise system)	122AS102213
LIC-VISO-EX-1WS- License for 1 additional operator station of VISO program (VISO-EX Enterprise system)	122AS102221



4 BKT ACBS SYSTEM STRUCTURE

4.1 System structure in a single cabinet

The figure below shows the connections between system components in one cabinet. Each cabinet in the system has a controller or a slave set in a 1U 19" enclosure that powers the devices. The 1U 19" enclosure has a set of RJ45 sockets allowing connection of two door sensors, two cabinet door readers and an optional cold/hot aisle containment sliding door reader. Connections are made using dedicated wires terminated from the controller's side with RJ45 plugs.





4.2 System structure in cold/hot aisle containment

One controller can handle up to 16 doors. It should be installed in one of the cabinets. The controller should be connected to the local network via the LAN connector. Other cabinets are equipped with AB101 secondary sets, also in 1U 19" enclosures. The secondary sets are connected to the controller using UTP Cat5e patch cords, which form the RS485 bus for the subsystem of a maximum of sixteen doors. The RS485 bus can be up to 1000m long.

The figure below shows an example of the connection layout for a cold/hot aisle containment made of six cabinets. The system has been divided into two identical subsystems, one for each row of cabinet - a subsystem for cabinets 1 - 3 and a subsystem for cabinets 4 - 6. One of the cabinets has an AC100 controller installed with the MC16-PAC-ST-7 controller pcb that supports up to 7 doors. The remaining cabinets are equipped with AB101 secondary sets. The secondary sets are connected to the controller with UTP kat5e patchcords, which form the RS485 bus for the 7-door subsystem. Two card readers and handles are connected to the AC100 controller or the AB101 set in each cabinet. Additionally, a third reader for the cold/hot aisle containment sliding door is connected directly to the controller. The controller is connected to the local LAN network, which is accessed by a computer with system configuration and management software.





5 INSTALLATION OF CABINET DOOR DEVICES

Note: The installation of the devices should be performed by a skilled person or a person instructed by a skilled person.

5.1 AC100 controller installing

5.1.1 Package contents



5.1.2 Controller pcb mounting

Before installing the controller in the cabinet, install the Roger MC16-PAC-ST-x pcb, where "x" means the number of doors supported by the controller. Versions are available from MC16-PAC-ST-1 (for one door) to MC16-PAC-ST-16 (for 16 doors). The assembly of the pcb board should be performed in an environment free from electrostatic charges. Hold the board only by its edges. More information about the controller pcb itself can be found on the website <u>www.roger.pl</u>





Carefully tighten the connectors on the terminal block. It is enough to tighten only the connectors with the white description on the pcb, the others are not used.



Put the housing cover and tighten the screws.

Connect the LAN connection patchcord.





5.1.3 Installing in the cabinet





Install the AC100 controller in the rack. Suggested position - at the top at the back of the cabinet.



grounding bar to the device housing.

Connect the power supply cables to the power strips in the rack. Pay attention to the proper connection to Rail A and Rail B.

Make connections of the other devices according to 5.1.4 Connecting devices to the AC100 controller.



5.1.4 Connecting devices to the AC100 controller



5.2 AB101 secondary set installing

5.2.1 Package contents

Obudowa AB101 housing	1U 19" bracket	Power supplies bracket	Bolts set	Quick Start Guide



5.2.2 Installing in the cabinet

Install the set in the same way as the controller (see 5.1.3 Installing in the cabinet).

5.2.3 Connecting devices to the AB101 set





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5.3 AR121, AR131 readers installing

5.3.1 Package contents



NOTE: Before installing the AR131 reader (Mifare) you need to perform a low-level configuration (see chapter 7.2 Card reader low level configuration)

5.3.2 Installing on the cabinet door

Install the AR121 (Unique) or AR131 (Mifare) reader on the cabinet door in a designated place. If the cabinet does not have a door dedicated to access control, make the mounting holes as shown in the picture on the right.

Open the reader casing by unscrewing the screw at the bottom.





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Attach the reader base to the outside of the door using the three provided M3 screws. The screw head should be on the inside of the door.

Then close the reader casing by tightening the screw unscrewed earlier from the bottom.



Connect the reader with the controller and the door handle (see 5.7 *Installation of cabinet door wiring*)

5.4 AL200 swinghandle installing

5.4.1 Package contents



5.4.2 Installing on the cabinet door

If the cabinet does not have an AL200 electronic handle preinstalled, install it in place of the mechanical handle. Depending on the type of mechanical handle used, additional mechanical elements may be required. More information on this subject can be found in the AL200 handle manual available on the website <u>www.bkte.pl</u>.





Unscrew the cam, cylinder housing, and then the cogwheel mechanism and remove the handle.



Pull out the rods so that in the closed position of the handle, the rods are extended to the maximum. Then place the electronic handle in the cut-out in the door. Screw in all the elements you just unscrewed.



Check if the handle mechanically closes the door properly.



5.5 AL300 swinghandle installing

Installation of the AL300 handle is similar to the AL200 handle. Additional mechanical components, including a cogwheel mechanism, may be required.





5.6 Door sensors installing

Install the door sensors on the upper part of the cabinet frame by screwing the metal holders that secure the reed switches. Attach the reed switch magnets to the cabinet door using the enclosed selfadhesive double-sided tape. The end of the cable should be connected to the door sensor socket in the AC100 controller or the AB101 set. The door sensor cable can be shortened to the required length and reterminated with an RJ45 plug or its spare rolled up and fixed in such a way that it does not interfere with other devices in the cabinet.




the door to be opened.

5.7 Installation of cabinet door wiring

Connect the reader to the controller with the AW111 cable. On the door, hide the cable in dedicated cable paths. Fix the cables in the cabinet using cable ties.





The AW111 reader cable can be shortened to the required length and reterminated with an RJ45 plug or its spare rolled up and fixed in such a way that it does not interfere with other devices in the cabinet.

Connect the AL200 handle to the reader using the AW212 cable or the AW112 cable (for the AL300 handle).

Connect the cables to the reader and arrange them carefully. Secure them with electrical tape.





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Screw on the reader connector cover.





5.8 Diagram of functional circuits for operating the cabinet door

Wiring diagram for operating the cabinet door





6 INSTALLATION OF COLD/HOT AISLE CONTAINMENT SLIDING DOOR DEVICES

Note: The installation of the devices should be performed by a skilled person or a person instructed by a skilled person.

6.1 AC100 controller installing

The controller already installed in the cabinet should be used - see chapter 5.1 AC100 controller installing.

6.2 AR122, AR132 readers installing

6.2.1 Package contents



NOTE: Before installing the AR132 reader (Mifare) you need to perform a low-level configuration (see chapter 7.2 Card reader low level configuration)

6.2.2 Installing reader next to the sliding door

Install the AR122 or AR132 reader in a dedicated place on the side wall of the cold/hot aisle containment. If the containment wall does not have dedicated holes, make the mounting holes as shown in the picture on the right. Make sure that the reader installation location will not interfere with the sliding doors.

Connect the reader to the AC100 controller or the AB101 set located in the nearest cabinet. Use the AW111 cable. The cable must be connected to the "SLIDING DOOR READER + LOCK" socket of the controller (see 5.1.4 Connecting devices to the AC100 controller.). Install the electrical junction box inside the cabinet and hide the reader connectors in it.



6.3 Installing exit button and emergency button

Fix the buttons in dedicated places on the beam above the sliding door, as shown in the photo, or on the optional frame installed behind the sliding doors.





6.4 Installing optional exit buttons

The wireless exit button and / or foot exit button must be connected in parallel with the exit button above the sliding door.



6.5 Installing sliding doors wiring

Connect the AW113 cable (see 3.6.3 AW113 cable) to the sliding door reader, and then route it (without cutting it) to the emergency button, exit button, and sliding door controller. Cut and terminate only the wires of the cables that need to be connected to the device. Place and clamp the ferules on the ends of the cables before connecting them. Make connections as shown in the diagram 6.6 Connection diagram of sliding kiosk door control devices.





6.6 Connection diagram of sliding kiosk door control devices





6.7 Diagram of functional circuits for operating the sliding door

Wiring diagram for operating the sliding door











7 DEVICE LOW LEVEL CONFIGURATION

Before starting the configuration in the VISO ST software, the devices must be pre-configured. Roger VDM software is used for a low-level configuration. Roger VDM software can be downloaded from <u>www.roger.pl</u>.

7.1 Controller low level configuration

Connecting to the controller

- Connect the LAN port of the controller to the computer from which the configuration will be performed. Remember to configure the network parameters of the computer properly.
- 2. Run the Roger VDM software.
- 3. In Roger VDM, select Device->New.
- 4. Select the device model (MC16 v1.x), firmware version, communication channel (Ethernet).
- 5. Enter the IP address of the MC16 (factory default IP address: 192.168.0.213).
- 6. Enter the communication key (factory default password is "1234"). In controllers with version older than 1.4, the factory password is empty.
- 7. Click *Connect*, the program will connect to the controller and automatically go to the *Configuration* tab.

Firmware update

- Make sure that the device has the newest firmware. The version currently installed on the device is displayed in the bottom bar of the application window. The latest versions of firmware can be downloaded from the website <u>www.roger.pl</u>
- 2. To run the firmware update on your device, select *Tools-> Update firmware* from the menu.



RogerVDM The Device Conference Technology	Ab					- ×
Update Firmware	About					
Set communication key Event Log			192.168.0	00.213	_	^
Default gateway Subnet mask			192.168.00	00.001 55.000		_
RS485 encryption			[0]: No			
RS485 encryption key RACS CLK/DTA readers			Unknown			_
Terminal 1 (RACS CLK/DTA ID=0) Terminal 2 (RACS CLK/DTA ID=1)			[0]: OFF [0]: OFF			
Terminal 3 (RACS CLK/DTA ID=2) Terminal 4 (RACS CLK/DTA ID=3)			[0]: OFF [0]: OFF			
✓ Wiegand readers Terminal 5 (Wiegand 1)			[0]: OFF			
Terminal 6 (Wiegand 2) Terminal 7 (Wiegand 3)			[0]: OFF [0]: OFF			
Terminal 8 (Wiegand 4) Wiegand format			[0]: OFF [0]: Auto			v
🕤 Load Defaults 🚺	Read from File	🛃 Send to F	ie 🛃	Read from Device	₽.	Send to Device
Device: MC16 v1.x fv1.6 (192.168.0	0.213:0)	Signature: MC16	v1.6 fv1.6.6.566		₂ Status: 0	Inline

Configuring the controller

It is recommended to start a new configuration from restoring all default values.

RogerVDM	
File Device Configuration Tools About	
4 Communication	
IP address	192.168.000.213
Default gateway	192.168.000.001
Subnet mask	255.255.255.000
RS485 answer timeout [ms]	250
RS485 encryption	[0]: No
RS485 encryption key	Unknown
A RACS CLK/DTA readers	
Terminal 1 (RACS CLK/DTA ID=0)	[0]: OFF
Terminal 2 (RACS CLK/DTA ID=1)	[0]: OFF
Terminal 3 (RACS CLK/DTA ID=2)	[0]: OFF
Terminal 4 (RACS CLK/DTA ID=3)	[0]: OFF
✓ Wiegand readers	
Terminal 5 (Wiegand 1)	[0]: OFF
Terminal 6 (Wiegand 2)	[0]: OFF
Terminal 7 (Wiegand 3)	[0]: OFF
Terminal 8 (Wiegand 4)	[0]: OFF
Wiegand format	[0]: Auto
IP address	
🕤 🛛 Load Defaults 📄 🚺 Read from File	🔀 Send to File 🛃 Read from Device 💽 Send to Device
Device: MC16 v1.x fv1.6 (192.168.0.213:0)	Signature: MC16 v1.6 fv1.6.6.566



Set the controller's network parameters.	RogerVDM × File Device Configuration Tools About 192.166.000.213 Peddress 192.166.000.01 Definition gateway 192.166.000.01 Subnet mask 255.255.200 R5485 anower threout [mg] 101.100 R5485 encryption lay 101.000 R5485 encryption lay 101.000 R5485 encryption lay 101.00F Terminal 2 (RAS CLK/DTA ID=0) 101.00F Terminal 3 (RAS CLK/DTA ID=0) 101.00F Terminal 3 (RAS CLK/DTA ID=0) 101.00F Terminal 5 (Wegand 1) 101.00F Terminal 5 (Wegand 2) 101.00F Terminal 8 (Wegand 3) 101.00F Terminal 8 (Wegand 4) 101.00F Wegand format 101.00F
	D Load Defaults Read from File Read from File Read from Device Read from Device Image: Device: Device: MC16 v1.x fv1.6 (192.168.0.213.0) Signature: MC16 v1.6 fv1.6.6566 Image: Device:
 It is necessary to set the communication key. This is a kind of password to access the controller. Select <i>Tools->Set communication key</i> from menu. Enter key. You can use only hex signs (0-9, A, B, C, D, E, F). Write the key down, as it will be needed at high level configuration of the system. Click <i>Set key</i> button. Click <i>Close</i> button. 	RogerVDM - × File Device MCI6 v1x fv1.6 (192.166.001.213) - × File Device MCI6 v1x fv1.6 (192.166.001.213) - × File Device MCI6 v1x fv1.6 (192.166.001.213) - ×
Send settings to the device - click <i>Send to Device</i> button.	RogerVDM
Ending the controller low level configuration	
1. In Roger VDM menu select Device-> Disconnect.	

2. The controller will be rebooted.



7.2 Card reader low level configuration

Connecting the reader

For low-level configuration, the reader should be connected to the computer via the RUD-1 interface. If the reader is already installed on the cabinet door, then:

- 1. Disconnect the reader's AW111 cable from the controller by unplugging the RJ45 connector.
- 2. Connect the RJ45 plug of the AW111 cable to the RUD-1 interface as shown in the figure below.



Putting the reader into the service mode

AR121 and AR122 readers (UNIQUE readers) do not require any additional steps.

In AR131 and AR132 readers (Mifare readers) you should:

- 1. Remove the MEM jumper on the reader
- 2. Restart the reader (turn off and turn on the power or short RST jumper for a moment) - orange LED SYSTEM reader will start to flash
- 3. Within 5 seconds put back the MEM jumper reader orange LED SYSTEM will start to flash
- 4. The reader is ready for low-level configuration





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Connecting to the reader

- 1. Run the Roger VDM software.
- 2. In Roger VDM, select *Device->New*.
- 3. Select the device model, firmware version, communication channel COMx (RUD-1).
- 4. Click *Connect*, the program will connect to the reader and automatically go to the *Configuration* tab.

Device				
Device:	MCT v1.x			
Firmware version:	v1.1			
Communication Channel:	RS485			•
Connection Parameters				
Serial Port:	COM5 (RUD-1 v1.0)	_	_	Ŧ
Connection Info				
Communication Channel:	RS485			
Device:	MCT v1.x fv1.1			

Firmware update

- Make sure that the device has the newest firmware. The version currently installed on the device is displayed in the bottom bar of the application window. The latest versions of firmware can be downloaded from the website <u>www.roger.pl.</u>
- To run the firmware update, disconnect (Device-> Disconnect), and then select Tools-> Update Firmware from the menu. For the UNIQUE readers (AR121 and AR131) to update firmware use RogerISP software available at <u>www.roger.pl.</u>

s S
5 5
s s
is S
5 S
3
5
15
:S
0FF
s OFF

Configuring the reader

It is recommended to start a new configuration from restoring all default values.

RS485 communication timeout [c] 10 # General settings Card reading synchronisation input 0 Card reading synchronisation output 0 Single key press Single key press [1]: Yes Min. PIN length 4 Max. PIN kergith 8 [1]* Ves [1]: Yes Time between keys in PIN [g] 20 PIN followed by [g] key [1]: Yes Long key press options 000500FF Baddght level [Sq] 20	imeout [g] 10 isation input 0 isation output 0 [1]: Yes 4 4 6 er [1]: Yes 20 20 y [1]: Yes 31 00500FF 20 20	R5485 communication tim Card reading syndromes Card reading syndromes Card reading syndromes Single key press Min. PIN length Miss. PIN length [1] key dears PIN buffer Time between keys in PIN PIN followed by [#] key Long key press time [s] I key press options Backlight level [%]	eout [s] ton input tion output [s]	10 0 [1]: Yes 4 8 [1]: Yes 20		
A General settings Cod reading syndromisation input 0 Cod reading syndromisation input 0 0 Cod reading syndromisation input 0 0 Graphic key press [1]: Yes 10 Min. PRI length 4 4 Max. PRI length 8 [1]: Yes [1] The set Nbuffer [1]: Yes 11 Time between keys in PNPI [6] 20 20 PRI followed by [#] key [1]: Yes 11 Long key press the [6] 31 1 Nergers states [%] 20 20	isation input 0 isation output 0 []]: Yes 4 er []]: Yes 1N[s] 20 y []: Yes 31 0005000FF 20 20	General settings Gard reading synchronisa Gard reading Min. PRV length [1] key cleans PRV buffer Time between keys in PIN PIN followed by (#) key Long key press sime [0] Key press options Backdipit Evel [%]	tion input tion output [5]	0 0 [1]: Yes 4 8 [1]: Yes 20		
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Card reading syndronisation output 0 Single key press [1]: Yes Min. PDI kingth 4 Max. PDI kingth 8 [1]: Yes [1]: Yes Time between keys in PDI [6] 20 PDI followed by [#] key [1]: Yes Long key press time [6] 31 > Key press options 000300FF Backlight Hey [Yei] 20	0 [1]: Yes 4 8 er [1]: Yes 1N [s] 20 y [1]: Yes 20 20	Card reading synchronisa Single key press Min. PIN length Max. PIN length [1] key clears PIN buffer Time between keys in PIN PIN followed by [1] key Long key press time [3] Key press options Backlight level [%]	[s]	0 [1]: Yes 4 8 [1]: Yes 20		
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[¹] key clears PIN Iu/fer [1]: Yes Time between keys in PIN [s] 20 PIN followed by [s] key [1]: Yes Long key press time [s] 31 ▶ Key press options 000500FF Backlight keve [Ye] 20	er []: Yres 20 yr [g] 20 y [1]: Yres 31 000500FF 20	[*] key clears PIN buffer Time between keys in PIN PIN followed by (≠] key Long key press time [s] ▶ Key press options Backlight level [%]	[5]	[1]: Yes 20		
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▶ Key press options 000500FF Backlight level [%] 20	000500FF 20	Key press options Backlight level [%]		31		
Backlight level [%] 20	20	Backlight level [%]		000500F	F	
				20		



Each reader connected to the same controller (also via secondary sets AB101) must have a unique address. Each reader should be given an individual address in the range of 100 - 115, which gives the maximum number of 16 readers connected to the controller.

Set the IN1, IN2 and IN3 input type. Depending on the reader, these inputs are for the door sensor, tamper, door handle sensor, exit button and escape button sensor for the sliding door. See these diagrams:

5.8 Diagram of functional circuits for operating the cabinet door 6.7 Diagram of functional circuits for operating the sliding door

AR121 & AR131 – for	AR122 & AR132 – for cold/hot
cabinet door	aisle containment sliding door
Input IN1 – NC	Input IN1 – NC
Input IN2 – NC	Input IN2 – NC
Input IN3 – NO	Input IN3 – NO

Describe the reader's inputs and outputs. These descriptions will be visible in the high-level VISO ST software, which can help you navigate between inputs and outputs during system configuration.

AR121 & AR131 – for cabinet door Input IN1 – door sensor Input IN2 – tamper Input IN3 – handle sensor Output REL – lock Output IO1 - LED

AR122 & AR132 – for cold/hot aisle containment sliding door Input IN1 – door sensor Input IN2 – emergency Input IN3 – exit button Output REL – lock Output IO1 - LED

No. 55 storests 100 Control Status 0 Control Status 0 Control Status 0 Sequences 101 is is More Policy 0 Sequences 101 is is More Policy 0 Sequences 101 is is More Policy 101 is is Intermediation is in Policy 101 is is is in Policy Intermediation is in Policy 101 is is is in Policy Intermediation is in Policy <	Communication settings	
Central solutions Control solutions and nucleus Control solutions Control solutions Control solutions Control solutions Control solution Control Control solution Control C	RS485 address RS485 communication timeout [s]	100
Ced reading synchroneston rupt. Ced reading synchroneston rupt. Ced reading synchroneston rupt. Ced reading synchroneston rupt. Else rupt.	General settings	
Single kay press [], Yes Me, PN length 6 Me, PN length 6 The between kay in PN [6] 20 PN followed [V] [6] 20 Long key press the [6] 20 New System State 20 Definition States 20 Read from File © Send to File Device MCTV1 key 10 (COM5/0) Signature MCT12:10 v1 key 10 A259 Device Configuration Tools About 1 Phat [], Hornal pointry P1 Phat P1	Card reading synchronisation input Card reading synchronisation output	0
Mer, Rilvegh Mer, Rilvegh Mer, Rilvegh Mer, Rilvegh Mer, Stever Preteres option Besochtere Besochtere Mer, Rilvegh Mer,	Single key press	[1]: Yes
[1] Yes [1] Yes [1] Yes 0 [2] Yes 0 [3] Yes [3] Yes [4] Yes [3] Yes [5] Yes 000000F Bodyht Yes [3] Yes Bodyht Yes 000000F Bodye	Min. PIN length Max. PIN length	8
The Extension of PAB (g)	[*] key dears PIN buffer	[1]: Yes
Lich grup yres ten (s) Key pes softs Beddyt twe (%) 20 SK455 address Warneter (drives doors address on 15:05 bus. Range: 100-115. SK455 address Portice MCTV1.4:010 (COM50) Signiture MCT12E-10 v1a:01.01.4259 Portice Configuration Tools About Portice Configuration Tools About Portice Configuration Tools About Portice formerets PA1 P0 Contrast polentity R01 10 Contrast contenents P1 P0 P0 P0 P0 P0 P0 P0 P0 P0 P0	Time between keys in PIN [s] PIN followed by [#] key	20 [1]: Yes
	Long key press time [s]	31
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Lad Defaults Read from File Send to File Read from Device Send to Device Perice: MCT v1x k1.0 (COMX/0) Signature: MCT12E-10 v1x k1.0.4.259 Send to Device RegerVOM Image: Send to Send to V1x k1.0.4.259 Send to Device Prit Prit Send to Send to V1x k1.0.4.259 Send to Device Prit Prit Send to Device Send to Send to V1x k1.0.4.259 Prit Prit Send to Send to V1x k1.0.4.259 Send to Device Prit Prit Send to Device Send to	R5485 address Parameter defines device address on R5485 bus. Range: 100-115.	
Device: MCTV1x fv1.0 (COM50) Signature: MCT12E-10 v1x fv1.0.4.293 RogerVDM	O Load Defaults 🔀 Read from File	😞 Send to File 🛃 Read from Device 💽 Send to I
RogerVDM In Device Configuration Tools About I paut types N1 N2 N3 I paut types RE1 N1 N2 N3 I Dit N4	Device: MCT v1.x fv1.0 (COM5/0) S	gnature: MCT12E-IO v1.x fv1.0.4.259
Input types N1 N2 Input comments N1 N2 IN1 N2 IN1 N2 IN1 N2 IN1 N2 IN1 N2 IN1 N2 Output pointly RE1 IO1 Column consents RE1 Input comments M1 RE1 IO1 Input comments M2 Input comments M1 M2 M3 Output polently RE1 IO1 IO2 Output polently <t< td=""><td>RogerVDM ile Device Configuration Tools About</td><td>-</td></t<>	RogerVDM ile Device Configuration Tools About	-
Pil [1]: #C Pi2 [1]: #C Pi3 [1]: #C Poivee MCTv1x fv1.0 (COM3/0) Signature: MCT12: IO V1x fv1.0.4259 Poivee MCTv1x fv1.0 (COM3/0) Signature: MCT12: IO V1x fv1.0.4259 Poivee Configuration Toput comments Pi3 Poitput polarity RE1 Pi3 Poiput Comments RE1 Pi3 Poiput Comments Pi3 Poiput Comments Pi3 Poiput Comments Pi3 Pi3 <td>Input types</td> <td></td>	Input types	
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Input comments PN1 PN2 PN3 Output polarity RE.1 D1 D2 O2 O1 C01 Participation Participation Participation Participation O1 O2 O1 Participation Participatine </td <td>IN2 IN3</td> <td>[1]: WC [0]: NO</td>	IN2 IN3	[1]: WC [0]: NO
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	IN3	
D1 0]: Normal polarity D2 0[]: Normal polarity Output comments RE.1 D1 0]: Normal polarity OI 0]: Normal polarity Device: MCTV1x fv1.0 (COM3/0) Signature: MCT12:IO V1x fv1.0.4259 RegetVDM	REL1	[0]: Normal polarity
102 (0): Normal polarity 4 oblight comments RE, 1 101 101 102 Send to File 103 Send to File 104 comments Read from File 105 Read from File 106 Send to File 107 Send to File 108 Read from File 109 Device: MCTV1x fv1.0 (COM5/0) 100 Signature: MCT12:10 v1.x fv1.0.4239 101 Comments 102 Comments 103 Comments 104 Comments 105 Count 106 Count of the sensor 107 Count of the sensor 108 Count of the sensor 109 Count of the sensor 101 Count of the sensor 102 Count of the sensor 103 Count of the sensor 104 Count of the sensor 105 Count of the sensor 106 Count of the sensor 107 Count of the sensor 108 Count of th	IO1	[0]: Normal polarity
RE.1 D1 IDENTIFY Powice Configuration Tools About Input comments P1 P2 Parameter defines any text or comment which corresponds to the abject. It is later displayed in VEO program. Powice MCTV1x fv1.0 (COM3/0) Signature: MCT12E-IO v1x fv1.0.4259 RogerVDM Image: Configuration Tools About Image: Configuration Tools About <t< td=""><td>IO2</td><td>[0]: Normal polarity</td></t<>	IO2	[0]: Normal polarity
101 001 Previous any fact or comment which corresponds to the object. It is later displayed in VIDO program. Isod Defaults Read from File Device: MCTV1x K10.0(COM5/0) Signature: MCT12E-IO v1x K10.04239 RogerVDM	REL1	
01 Persenter defines any text or comment which corresponds to the object: It is later displayed in VISO program. Isad Defaults Read from File Read from Device Send to Device Device: MCTV1x K10.0(COM5/0) Signature: MCT12E-IO v1x K11.0.4239 Read from Device Send to Device Reget/VDM	101	
Lad Defaults Read from He Read from He Read from Device Read from Device Device: MCTv1x fv1.0 (COMS/0) Signature: MCT12E-IO v1.x fv1.0.4.259 Control control RegetVDM	101 Parameter defines any text or comment which corresponds to the of	yect. It is later displayed in VISO program.
Pevice: MCTV1 x fv1.0 (COM5/0) Signature: MCT122-10 v1 x fv1.0.4239 RegerVDM RegerVDM A pevice: Configuration Tools: About I prout comments Regret Data Regret	D Load Defaults Read from File	Send to File Read from Device 💽 Send to I
RegetVDM Input comments N1 N2 N3 Output polarity RE.1 101 102 Output comments EV DEV	Device: MCT v1.x fv1.0 (COM5/0) S	gnature: MCT12E-IO v1.x fv1.0.4.259
Levice Comparison room About Toput comments P1 P2 P3 Comparison Output comments RE.1 C0: Normal polarity C0:	RogerVDM	-
Ipple comments door sensor tamper IN3 PV2 tamper Inadle sensor 0 utput polarity [0]: Hormal polarity 101 [0]: Hormal polarity 102 [0]: Hormal polarity 0 utput comments [0]: Hormal polarity	ne bevice configuration roots About	
IN2 both States IN2 tamper IN3 tamper handle sensor desensor 0 duput polarity (I): Normal polarity IO1 (I): Normal polarity IO2 (I): Normal polarity 0 duput comments Ick RE1 Ick IO1 UED IO2 UED Object comments IED DEV Internal Terminal ID1	Input comments IN1	door sensor
Install Install Install NEL1 [0]: Normal polarity 101 [0]: Normal polarity 102 [0]: Normal polarity 4 Output comments [0]: Normal polarity 101 [0]: Normal polarity 102 [0]: Normal polarity 0 Output comments [0]: Normal polarity 101 [0]: Normal polarity 102 [0]: Normal polarity 103 [0]: Normal polarity 104 [0]: Normal polarity 105 [0]: Normal polarity 106 [0]: Normal polarity 107 [0]: Normal polarity 108 [0]: Normal polarity 109 [0]: Normal polarity 101 [0]: Normal polarity 102 [0]: Normal polarity	IN2	tamper
RE.1 [0]: Normal polarity 101 [0]: Normal polarity 102 [0]: Normal polarity 4 Output comments [0]: Normal polarity 101 [0]: Normal polarity 102 [0]: Normal polarity 103 [0]: Normal polarity 104 [0]: Normal polarity 105 [0]: Normal polarity 106 [0]: Normal polarity 107 [0]: Normal polarity 108 [0]: Normal polarity 109: Normal Terminal ID1 [0]: Normal polarity	Output polarity	nandle sensor
101 (0): Normal polarity 102 [0]: Normal polarity 4 Output comments Iock 101 Ick 102 Object comments DEV Internal Terminal ID1	REL1	[0]: Normal polarity
Output comments RE.1 Iock Io Oper comments DEV Internal ID1	IO1 IO2	[0]: Normal polarity [0]: Normal polarity
RE.1 lock 101 LED 0 bject comments CEV Internal Terminal ID1 CZ	Output comments	
102 • Object comments DEV • Internal Terminal ID1 02	REL1 IO1	lock LED
0 Upper Comments DEV Internal Terminal ID1 02	102	
02	DEV	
02	Internal Terminal ID1	



Send settings to the device - click Send to Device button.	📕 RogerVDM — 🛛 👋
5	File Device Configuration Tools About
	▲ Input comments
	IN1 door sensor
	IN2 tamper
	4 Output polarity
	REL1 [0]: Normal polarity
	IO1 [0]: Normal polarity
	IO2 [0]: Normal polarity
	4 Output comments
	KELL DOCK
	102
	✓ Object comments
	DEV
	Internal Lemma IDI
	103
	102 December defines any text or communit which community is the abient. This lates dealward in 1970 memory
	r an aincear activitization of continents while near exponent to the object a training length year in ratio program.
	🖸 Load Defaults 🚺 🔂 Read from File 🕼 Send to File 🔛 Read from Device 🕻 🙀 Send to Device
	■ Device: MCT v1.x fv1.0 (COM5/0) Signature: MCT12E-IO v1.x fv1.0.4.259 ■ Context Context
Ending the reader low level configuration	
1 In Pager VDM many salect Davise > Disconnect	

- In Roger VDM menu select Device-> Disconnect.
 Put the MEM jumper on the reader (only in AR131 and
- AR132)
- 3. Connect the reader back to the controller or slave set in the cabinet.

8 SOFTWARE

The Roger SVC software must be installed for the system to function properly. Once installed, the software runs as Windows service. The software is responsible for communication with system controllers and writing information to the database. The service package must be installed only on one computer, e.g. on a server.

8.1 SVC software installation

Download from <u>http://www.roger.pl/en/</u> and run the file RogerSVCSetup.exe. Then follow the windows that appear.	Setup- RogerSVC Welcome to the RogerSVC Setup Wind instal RogerSVC 1.4.2.14400 on your computer. This will i
It is necessary to select Install communication service Installing: • Licence service • Integration service • Virtual controller service is not needed.	Wetty - RogerSVC — × Communication Service installation Evolution Evolution De you want to install Communication Service? Evolution Evolution Manual Communication Service installation Evolution Evolution Evolution Install Communication Service Imaging information Service provides data link between RACS 5 physical devices and managing information Service should be installed in the system. If communication Service is already installed on some other computer or you plan to install it on another PC machine.



8.2 SVC software configuration

Open the service management application from the taskbar shortcut.	R ^Q √ □ □ (c q × ENG 12:04 PLP 21.02.2018 □
Click on Database connection.	<page-header><text><section-header></section-header></text></page-header>
Click on <i>Configure connection</i> .	<page-header> Variable Water (14.2.14400) </page-header>
Click on <i>Select database.</i>	Connection configuration K Finter information to connect to the selected data source or click "Change" to choose a different data source Name: VISO Data source: Microsoft SQL Server Compact 4.0 Change Connect to database Select a database: D1:Test_crythikow_AR121_AR122_AR131_AR132.sdf Select Security Enter password to existing database or enter password to protect a new database Password: Test connection OK Cancel



www.bkte.pl









8.3 VISO ST software installation

Roger VISO ST software is used to configure and manage the RACS5 access control system. In the case of multi-user work, the software must be installed on every computer from which the system will be managed



8.4 Database configuration

The database stores information including system configuration, system users data and events occurring during system operation.

NOTE: from version 2.0, the VISO program works only with the MS SQL Express/Server database.







8.5 Migration from file to server database

It is possible to transfer data from a file database to an MS SQL server database. This procedure is described in the application note AN-017 available on the website <u>www.roger.pl</u>.



9 SYSTEM CONFIGURATION

9.1 Controller configuration

• Click Next.

• Click Next.

The system configuration should be started by adding a new controller.

• Choose Wizards->Add Access Controller.









All system readers connected to the controller should appear in the system tree view.

• In the tree view, expand System->Networks-> ->DataCenter->C1->Hardware Resources



The above configuration should be sent to the controller. See chapter 9.3 Data synchronising.

9.2 Changing the controller IP address

Changing the IP address of the controller is done in two stages. First you need to change the address during low level programming and then update it in the VISO application.

Carry out low-level configuration of the controller using	RogerVDM	– ×
RogerVDM software. Enter a new IP address. Follow the	File Device Configuration Tools About	
instructions in the chapter 7.1 Controller low level configuration.	✓ Communication	^
	IP address	192.168.000.213
	Default gateway	192.168.000.001
	Subnet mask	255.255.255.000
Make sure that the configuration process has been completed by	RS485 answer timeout [ms]	250 [0]: No
restarting the device. To do this:	RS485 encryption key	Unknown
In Depend (DM collect Device & Discourse of	A RACS CLK/DTA readers	
• In Rogerv Divi, select <i>Device->Disconnect</i> .	Terminal 1 (RACS CLK/DTA ID=0)	[0]: OFF
• The controller will restart	Terminal 2 (RACS CLK/DTA ID=1)	[0]: OFF
• The controller will restart.	Terminal 3 (RACS CLK/DTA ID=2)	[0]: OFF
	Terminal 4 (RACS CLK/DTA ID=3)	[0]: OFF
	Wiegand readers	fel err
	Terminal 5 (Wiegand 1)	
	Terminal 7 (Wegand 2)	[0]: OFF
	Terminal 8 (Wegand 3)	[0]: OFF
	Wiegand format	[0]: Auto
		P.D
	Device: MC16 v1.x fv1.6 (192.168.0.213:0) Signature: MC16 v1.4	6 fv1.6.6.566
Update the data in the VISO program. For this purpose:	System Configuration Exception System Monitors Administration CCTV Mass Time and Attendance	Remate Access Waards Taols Superiorisation
• In the tree view, right dick		
• In the tree view, right click	Event Clear Event Filters Event	
System->Networks->DataCenter->C1->Edit	Log EventLog Types Categories	^
System + Networks + Datacenter + e1 + Ean	*E Navigation Tree View a × Strona startowa	
	Configuration	Accord environmentation and building Automation system
	Favourites	
	⊿ 🗠 System	
	Access Users Maccess Credentials	
	🖾 Card Box	
	Contracts Schedules	
	Authorisations Add Person Dnine Edit Person Online	
	Of Authentication Factor Types	
	Global Commands Perimeter Zones	
	R Fingerprint Readers	
	Add Oredential Online	
	Partual Controlers Den	
	🖉 Edit	
	Move	
	Delete ntcation	
	Configuration	
	Event Log	Favourtes v
	Event Log Database: bit_acws.sdf 🧇 Communication Server: 127.0.0.1:8890 🧇 Serwer licencji: Serwer lice	ncji nie jest wymagany. 🥑 🤗 👖 Operator: Admin 📲 🚥







9.3 Data synchronising

 In the pop up window, you can select the controllers to participate in the synchronisation. Then click Start. Then click Start. 	 Data synchronisation is an uploading to the system controllers the configuration created in the VISO software. For this purpose: Choose Synchronisation tab. Then click Synchronise. 	Image:
Correctly completed process of data synchronisation with controllers is indicated by a green field next to each of them. • Click <i>Close</i> .	 In the pop up window, you can select the controllers to participate in the synchronisation. Then click <i>Start</i>. 	Device Synchronisation ? Cick (Start) button to synchronice selected devices. Device Private Reload dynamic data: Reload objects states: Reload dynamic data: Reload objects state: Reload dynamic data: Reload objects state: Rame Address Port Status Reload objects state: Progress C1 192.168.0.213 List synchronisation: Altinown Device Synchronisation Process V
H4 H4 4 Record lof 1 +	Correctly completed process of data synchronisation with controllers is indicated by a green field next to each of them.Click <i>Close</i>.	Device Synchronisation ? × Click [Start] button to synchronise selected devices. Perices Perices Reload dynamic data: ? Reload objects states: Name Address Port Status Progress Reload dynamic data: ? Reload objects states: ? Name Address Port Status Progress Progress Resolve Resolve Resolve Port Switching configuration: success. Resolve Port



9.4 Cabinet door configuration





 Drop down the <i>Door Lock Output</i> list and select <i>REL1</i> from the appropriate card reader. Drop down the Door Contact Input list and select <i>IN1</i> from the appropriate card reader. 	Hardware configuration Read-in Access Terminal: Lock Pulse [s]: Door Lock Output: Door Bell Output: Door Contact Input: Exit Button Input: Hardware configuration Read-in Access Terminal: Lock Pulse [s]: Door Lock Output: Door Bell Output:	MCT 12E-10 v1.x None RS Address V = V 000: HG V 100 100 100 100 MCT 12E-10 v1.x None	192. 168.0. 213_100_REA Type #[]c 192. 168 v1.6 112E-10 v1.x OUT 3/[5]: ON . OUT 3/[5]: ON . OUT 3/[5]: ON . OUT 4/[1]: ON . 192. 168.0. 213_100_REA 192. 168.0. 213_100_REA	ADER	Comment a[]c lock LED	
	Door Alarm Output: Door Contact Input: Exit Button Input: er: 127.0.0.1:8890 🗸 L	None RS Address	Type •]c •10 v1.6 T12E-10 v1.x INP 1/[2]: NC INP 3/[1]: NO	Description n c IN1 IN2 IN3	Comment #]c door sensor tamper handle sensor	
 Set the time to unlock the lock for 6s. This is the optimal unlocking time for cabinet electronic handles. Click <i>Next</i> 	Add Access Door + C1 Step Access Door knet Access Door Knet Access Door Knet Access Door Ynet Access Door Ynet Access Door Configuration Cares of Authoresation accessing Cares of Authoresation Accessin	Figuration ware configuration parameters and the second parameters and	ters for the newly created Access D C1_Cab-01-frant C1_	507. 102.164.0.213_100_244.061 102.164.0.213_100_244.061 102.164.0.213_100_244.1	2 New wing	X Vergebe
Create a new access authorization for this door. This authorization you will later be able to assign to a user group, so they could open that door. The program will suggest a name (C1_Cab-01- front_IN_AUTH). • Choose <i>Create new Authorisation</i> . • Click <i>Next</i> .	Add Access Door - C1 Door - C1 Basel Authons Sect free Construction	ation creating read-in Authorisation will be addited Authorisati Beachin Authorisati Oriente Neme: Description - Access 5d Schedule:	e created or it will be included in ex on Comp Authon casco thoreadorn C1_cab-01-front_IILA edule Aniays	usting Authorisation.		

Boo Next Cancel







 Click on the door, which just has been added to the system – <i>C1_Cab-01-front</i>. Choose <i>Inputs</i> tab. Click <i>Add</i>. 	Interface Configuration State Configuration Configurati
In the pop up window:Click on + in the field <i>Input</i>.	Add Input ? × General Input: Input: None Function: None Parameter: Imput: Register event: Imput: Logic Function: None Authorisation Options V
 In the next pop up window select the input line where the swinghandle sensor is connected. Click on the drop down list in the field <i>Object->Name</i>. Select <i>IN3</i> input of the card reader MCT12x-IO which belongs to currently configured door. 	Add Input ? × General Name: ICD Message: Keypad Shortout: Description: Object Name: Device: RS Address Type: P Address: RS Address: RS Address: RS Address: RS Address:
The program will propose a name for the selected objectConfirm the suggestion by clicking <i>Yes</i>	Confirmation Automatically apply default name for the object? Remember my choice Yes No







Cold/hot aisle containment sliding door configuration 9.5

To start the door configuration::	spiter Centrality System Monitors AdviceStation CCTV Maga The and Astronome Results AdviceStation CCTV AdviceStation CCTVV AdviceStation CCTVVV AdviceStation CCTVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV
Choose Wizaras->Add Access Door.	Add Auro Add Arean of Stramon Ordinational Add All Marco Parlie Matter Add Creater Add Cre
	*ENargation Tree View • x
	Congueacon Congueacon Management and Monitoring Application for RACS 5 Physical Access Control and Building Version 1.6.6.27900
	Cardina Carloran Carloran
	Addressends Addressends Addressends Addressends Addressends Addressends Eddressends Eddressends
	Revenue Zone Report Random A Networks
	Constraint Constraint
	Reg Configuration
	📄 Event Log 🖥 Database: Mt_acs_dhaff 🔗 Communication Server: 127.8.1.1.8890 😵 Licensing Server: Not required 🛞 🤗 🖪 Operator: Admin. 👔 📾
In the pop up windows:	Add Access Door - C1 ? X
Choose Read-in only (the door with card reader on one side).	Access Door type Select if the newly created Access Door will be controlled on one (read-in) or two sides (read-in)read-out).
• Click Next.	Step Rest in only
	Access Door type Read-in and Read-out Access Door Configuration
	Cull Cleate access Automations for the newy oreated Access Door
	 Read-out Authorisation creating Data soving
	Synchronication
	Rest Next Carcel
- Enter the dear name of C1 Aide 01 front	Add Access Door - C1 ? X
• Enter the door name eg. C1_Aisie-01-Jront	Access Door Configuration Specify landware configuration agreements for the peoply created Access Door.
	Sten General
	Access Door type CLAde OLfort
	Access Door Configuration Read in Authorization creating Descriptione
	Read out Automation creating
	Image: Spindrovisation Image: Use device wing template
	Derko wing tendate:
	Read-in Access Terminal: None 1 Look Pulse (g): 2 1 1
	Door Lock Output: None • O Door Bell Output: None • O
	Door Aam Output: None 💌 🖸
	Evit Button Input: None
	Bock Next Q Cancel
The hardware configuration of the door should be assigned: door	Hardware configuration
reader, door sensor, door lock control relay and exit button. For	Lock Pulse [5]: RS Address Type Description Comment
this purpose it is necessary to know which address has the reader	Door Lock Output:
reader with address 100 is displayed.	Door Bell Output: 100 CDI 1//10485781 READER T1 Door Alarm Output: 100 CDI 2/[1048578] READER T1
• Drop down the <i>Read-in Terminal</i> list and select <i>READER</i> from	Door Contact Input:
the appropriate card reader.	Exit Button Input:



• Drop down the <i>Door Lock Output</i> list and select <i>REL1-lock</i> from the appropriate card reader.	Hardware configuration Read-in Access Terminal: Lock Pulse [s]: Door Lock Output: Door Bell Output: Court New Output:	MCT12E-IO v1.x_192.	168.0.213_100_READ	Description	Comment #Tr	
	Door Alam Cuput: Door Contact Input: Exit Button Input:	000: MC16 v 100: MCT12E 100 100 100 100 100	1.6 -IO v1.x OUT 1/[5]: ON OUT 2/[5]: ON OUT 3/[5]: ON OUT 4/[1]: ON	REL1 IO1 IO2 BUZZER T1	lock	-
 Drop down the <i>Door Contact Input</i> list and select <i>IN1-door</i> sensor from the appropriate card reader. 	Hardware configuration Read-in Access Terminal: Lock Pulse [s]: Door Lock Output: Door Bell Output: Door Alarm Output: Door Contact Input:	MCT12E-IO v1.x_192 MCT12E-IO v1.x_192 None None None	. 168.0.213_100_REA . 168.0.213_100_REL	NDER	_	2 * * ⊗ * ⊗ * ⊗
	Exit Button Input:	RS Address ? = > 000: MC16 v 4 100: MCT12 100 100 100	Type nllic v1.6 IE-IO v1.x INP 1/[2]: NC INP 2/[2]: NC INP 3/[1]: NO	Description	Comment R C door sensor emergency exit button	>
• Drop down the <i>Exit Button Input</i> list and select <i>IN3-exit button</i> from the appropriate card reader.	- Hardware configuration Read-in Access Terminal: Lock Pulse [s]: Door Lock Output: Door Bell Output: Door Alarm Output: Door Contact Input: Exit Button Input:	MCT12E-IO v1.x_192. MCT12E-IO v1.x_192. None MCT12E-IO v1.x_192. None RCT12E-IO v1.x_192. None RS Address ♥ = ♥ = ♥ 000: MC16 v ▲ 100: MCT12E	168.0.213_100_READ 168.0.213_100_REL1 168.0.213_100_IN1 168.0.213_100_IN1 17ype 40 40 1.6 E-10 v1.x	DER	Comment NEC	
	r: 127.0.0.1:8890 📿 🖬	100 100	INP 2/[2]: NC INP 2/[2]: NC INP 3/[1]: NO	IN2 IN3	emergency exit button	
• Click Next.	Rut ALCES DOU'L L Step Access Door Co Step Access Door Configuration Configu	orfiguration Owner configuration parameters for Rement Description: De	the newly created Access Doo C1_Add=01-front C1_Add=01-front c1_Add=01-	r. 2. 168. 0. 213_100_FEADER 2. 168. 0. 213_100_FE.1 2. 168. 0. 213_100_FE.1 2. 168. 0. 213_100_FN 2. 168. 0. 213_100_FN3 2. 168. 0. 213_100_FN3	at The second	1 × 1 × 1 × 2 ± 1 ÷ 2 ± 2 ± 2 ± 2 ± 2 ± 2 ± 2 ± 2 ±





The cold/hot aisle containment sliding door has been configured and should appear in the system tree view.

• In the tree view expand System->Networks-> ->DataCenter->C1->Access Doors

9.6 Permanent opening of the cold/hot aisle containment sliding door

The use of the F1 button has been. The above configuration should be sent to the controller. See chapter *9.3 Data synchronising*. After synchronization the controller will restart and it will be possible to use this functionality.

9.7 User identification by card and PIN code

By default, each door can be opened with a card or a PIN code. The system may require the user to hold the card and enter the PIN code at the same time to open the door.

This function is assigned to the access point (reader), which means that the door configured in this way can only be opened by holding the card and entering the PIN code at the same time.

To start configuration:

- In the system tree right click
 System->Networks->DataCenter->C1->Access Points and select
 Open
- Select the identification point (reader) to be configured as an input with two-factor identification
- Choose Main tab
- Select Edit

In the popup window:

- Choose Authentication tab
- Select *Card and PIN* from the *Default Authentication Policy* drop-down list.
- Click OK

The door with the C1_Aisle-01-front_IN access point (reader) has been configured to be opened with a two-factor mode (card + PIN code).

The configuration made above should be sent to the controller. See chapter *9.3 Data synchronising*.

General						
	5	_				
Name:	C1_Aisle-01-front_	_IN				
LCD Message:						
	No shortcut				Ŧ	
					^	
Description:					~	
		_		_	_	
and the second second second second						
Authenticatio	Access Mode	Zone Optio	ns T&A Options Advi	anced Options		
Authenticatio	Access Mode	Zone Optio	ns T&A Options Advi	anced Options		
Authenticatio Default Authen Authentication	Access Mode tication Policy: Policy Schedule:	Zone Optio <mark>Any</mark> ID	ns T&A Options Adv.	anced Options		
Authenticatio	Access Mode tication Policy: Policy Schedule:	Zone Option	ns T&A Options Adv Name Any Card or PTN	anced Options	.	
Authenticatio Default Authen Authentication Failed Attempts	Access Mode tication Policy: Policy Schedule: : Time [s]:	Zone Option	ns T&A Options Adv. Name Any Card or PIN Card and PIN	anced Options	^	
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode tication Policy: Policy Schedule: : Time [s]: : Limit:	Zone Optio Any ID 1 2 3 4	ns T&A Options Adv Name Any Card or PIN Card and PIN PIN Ony	anced Options	^	
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode Bication Policy: Policy Schedule: Time [s]: Limit:	Zone Optio	ns T&A Options Adv Name Any Card on PTM Card and PTM PIN Only Card Only	anced Options		
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode tication Policy: Policy Schedule: s Time [s]: s Limit: s Blocking Time [min]:	Zone Option	INSTRA Options Advo	anced Options		
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode tication Policy: Policy Schedule: Time [s]: : Limit: : Elocking Time [min]:	Zone Option Any ID 1 2 3 4 5 6 7	ns T&A Options Adv Name Any Card on RIM Card on RIM Card Only Fingerprint Only Card and Fingerprint	anced Options	· ·	
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode tication Policy: Policy Schedule: Time [s]: : Limit: : Elocking Time [min]:	Zone Option Any ID 1 2 3 4 5 6 7 X	ns T&A Options Adv Name Any Card on BTA Card ond PTN PIN Cray Engerprint Only Card only Fingerprint	anced Options	· · · ·	
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode Bication Policy: Policy Schedule: : Time [s]: : Einit: : Biocking Time [min]:	Zone Option	IN TEA Options Advi Name Card on PIN Card on PIN PIN Only Card Only Fingerprint Only Card ond Fingerprint	anced Options	• • •	
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode Station Policy: Policy Schedule: : Time [s]: : Emit: : Biocking Time [min]:	Zone Optio Any ID 1 2 3 4 5 6 7 7	ns T&A Options Advi Name Any Card or DN Card or DN Card on PIN Pilk Only Card Only Fingerprint Only Card and Fingerprint	anced Options	· ·	
Authenticatio Default Authen Authentication Failed Attempts Failed Attempts	Access Mode tication Policy: Policy Schedule: : Time [s]: : Limit: : Blocking Time (min):	Zone Optio Any ID 1 2 3 4 5 6 7 X	Name Advi Name Any Crust as ZBM Card and PIN PIN CRY Card Only Card Only Car	anced Options	▼ 	

9.8 Two user entry







9.9 Open door signalling with LED

The system enables configuration of signalling LEDs located on the AC100 controller and the AB101 secondary set enclosures. These LEDs are connected to reader outputs

- LED1 output OUT1 (IO1) of front door card reader
- LED2 output OUT1 (IO1) of rear door card reader

Please see 5.8 Diagram of functional circuits for operating the cabinet door.



The LED1 will be configured as an indication that the front door of the cabinet is not closed. Similarly, LED2 may be configured to indicate that the rear door of the cabinet is not closed. The input lines of the reader will be used to check the door status: IN1 - door sensor, IN3 - door handle sensor. Since these lines have already been assigned in the configuration of the door, in order to be able to use them again, you need to change their properties to the multifunctional lines. For this purpose:

- In the system tree, right-click on System->Networks-> ->DataCenter (configurable name)->C1 (configurable controller name)->Inputs and select Open.
- Select input C1_100_IN1

• Click Edit









A new automation node should be created that will be responsible for controlling the LED:

• Click Add

the LED1:













- In the field Function select [021]: Node Status
- Select Triggering Method: Set output ON for unlimited time
- Select Modulation Type: None (steady)
- Click OK



The LED1 of the controller has been configured. The created automation node that supports the diode should appear in the system tree.

The above configuration should be sent to the controller. See chapter *9.3 Data synchronising*. After synchronization, the controller will restart and the LED1 should light up when the door or handle is open.

Similarly, configure the LED2, which will signal the opening of the rear door of the cabinet.



9.10 Tamper signalling

Opening the controller box, the slave set box or the reader casing can be monitored in the system as a sabotage. In order for the sabotage condition to be saved to the database and at the same time to be signalled by sound and led on the reader, the so-called automation nodes must be used:

In the system tree, right-click on System->Networks->
->DataCenter (configurable name)->C1 (configurable controller
name)-> Automation Nodes and select Open.





• Click <i>Add</i>	COS DI CLA LA 2000 Lacenda for Materiagende Lingure ja 2 4 a. ja k. http://www.moreidie Stef Organie Teer Lag System Honiz Advertaging CT With The ad Altariage Breek Altary Teer Teer Altary Stef Teer Altary St
 Enter the automation node name eg. C1_Cab-01-tamper 	Add Automation Node ? ×
• Click <i>OK</i>	Name: C1_Cab-01-tamper Group: (rone) UcD Message: Keypad Shortcut: Nod Shortcut: Node OFE event: GS7]: Automation Node Switched OFF
 Make sure the proper automation node is selected. 	🛔 "d 1000 ST v 1.4.6.2790. Learned for Not registered. Rays rp. z.e., p. k.; http://www.rays.rd — X
• Click on <i>Inputs</i> tab.	Add Access Add Access Add Person Deter Person Add Person Per
• Click Add.	Consider Door Online Construction Management Confine New Construction Co
	Configuration Image: State State Image: State State State Image: State State State State Image: State State State State Image: State State State



In the pop up window: • Click on + in <i>Input</i> field	Add Input: ? General input: Input: None Functon: None Parametric Time [g]: None Parametric Delay [g]: None Register event: Image: Compared to the second
 In the next opened window, select the IN2 - tamper line of the card reader, which is installed on the door of the configured cabinet: Drop down <i>Object->Name</i> list and select input <i>IN2</i> of the card reader of the configured door 	Add Input ? × General Name: Input5 LCD Message:
The program will propose a name for the selected objectConfirm the suggestion by clicking <i>Yes</i>.	Confirmation Automatically apply default name for the object? Remember my choice Yes No
Confirm the input line by clicking <i>OK</i> .	Add Input ? General Name: LCD Message:











Additional tamper LED signaling

To additionally indicate the tamper state by the LED on the reader, add the appropriate output lines: Add Access Add Person Edt Person e**n** • Click Add. O CL A In the pop up window: • Click on + in Output field -5 🖨 Unit: Ŧ s . 📀 OK 😢 Cance In the next opened window, select the LED of the cabinet door reader: • Drop down the Object->Name list and select LED_SYSTEM output of the reader. (-)Тур -8 a Di ▶ 000: MC16 v1.6 ▲ 100: MCT12E-IO v1.x 100 OUT 3/[5]: ON |... IO2 OUT 4/[1]: ON |... BUZZER T1 OUT 5/[1]: ON |... LED SYSTEM T1 OUT 6/[1]: ON |... LED OPEN T1 100 DUTT 7/[1]: ON RS Addre OUT A/[5]: ON LED OPEN OUT B/[5]: ON I... LED ARMED OUT C/[5]: ON ... LED DISARM 100 100 The program will propose a name for the selected object • Confirm the suggestion by clicking Yes. ? apply default na l R Yes No







9.11 Emergency button use signalling

The use of the emergency exit button in the cold/hot aisle containment can be monitored in the system. In order to save status of this button into the database and simultaneously indicate the use of it by sound and LED on the reader, the automation node has to be used:

In the system tree, right-click on System->Networks->
->DataCenter (configurable name)> C1 (configurable controller
name)> Automation Nodes and select Open



Click Add	System Configuration EventLog	v130 ST v1.6.4.27978. Lorensed for Nort registered. Roger (p. 1.6.a. ep. k.) http://www.noger.pl — — — X g. System Monitors: Administration: CCTV: Mapo. Time and Attendance: Remote Access: Wounds: Tools: CSprintmoniton: O
	Synchronise Tools *ENavigation Tree View	* X Distribute CL, Automator Hoder X *
	Configuration Configuration Automation Automation Configuration Configuratio	Add A
	Configuration Event Log Event Log Event Log Event Log	Commentication Server: 127.8.0.18870 Location Server: 127.8.0.18870 Location Server: 187.8.0.18870 Location Server: 18
• Enter the name of automation node eg. C1_Aisle-	Ad	vid Automation Node ? ×
front_emergency	- Ge	Seneral
• Click OK	Gro	oup: (none)
	LCC	D Message:
	Key	eypad Shortcut: No shortcut
	Des	escription:
	— Tr	Triggering Options
	Def	efault Time: 0 🙀 s 💌
	Def	efault Delay:
	Act	tovation Extending:
	Def	efault State: OFF
	Acti	stvity Schedule: None
	— Ev	Events .
	Reg	egister event when node is switched ON:
	[65	657]: Automation Node Switched ON
	Reg	egister event when node is switched OFF:
		ode OFF Event: 658]: Automation Node Switched OFF







• Confirm the input line by clicking <i>OK</i> .	Add Input ? General Name: C1_100_IN2 LCD Message: Keypad Shortcut: No shortcut Description: Object: Name: MCT12E-10 v1.x_192.168.0.213_100_IN2 Device: MCT12E-10 v1.x_192.168.0.213_100_IN2 Paddress: 192.168.0.213 RS Address: 100 Address: 100 Address: 100
 In the Function field, select the function [166]: Automation Node On Toggle Click OK This configuration is sufficient to log the use of the emergency button. The data must be only synchronize (see chapter 9.3 Data synchronising). 	Events Imput ? X General Imput: C1_100_TN2 Function: [156]: Set Node ON Topple Imput Parametric Time [3]: Imput Imput Register event: Imput Imput Logic Function: CR Imput Authorisation Options Imput Imput Imput: C1_100_TN2 Imput Parametric Time [3]: Imput Imput Parametric Time [3]: Imput Imput Parametric Time [3]: Imput Imput Cogic Function: CR Imput Cogic Function: CR Imput Cogic Function: CR Imput Imput Cogic Function: Imput Imput Imput Cogic Function: Imput Imput Imput Imput Cogic Function: Imput Imput Imput Imput Imput Imput Cogic Function: Imput Imput
Additional acoustic signaling	

In order to indicate the emergency button use with buzzer and/or LED, the appropriate output lines should be added:

- Click Outputs tab.
- Click Add.





In the pop up window:	Add Output ? X General
• Click on + in <i>Output</i> held	Output: None
	Function: None
	Priority:
	Triggering Method: Set output ON for period of time
	Pulse Time: Signi Unit: s
	Type: None (steady)
	Frequency: 8 Hz
	Pattern: 111111 Number of Civiles: 5
	OK Cancel
In the next opened window, select the buzzer (BUZZER) of the	Add Output ? ×
aisle sliding door reader:	General
 Drop down the Object->Name list and select BUZZER output of 	Name: Output9 Description:
the reader, which controls aisle door.	Default the
	Object Object
	Device: N3 Houress Type Description Commente q. = Filter nille Filter nille Filter nille Filter
	Ladel: > 000: MC16 v1.6
	100 OUT 2/[5]: ON IO1 LED
	100 OUT 3/[5]: ON 102 Type: 100 OUT 4/[1]: ON BUZZER T1
	IP Address: 100 OUT 5/[1]: ON LED SYSTEM T1
	RS Address: 100 OUT 7/[1]: ON LED ARMED T1
	Additional Options 1100 OUT 9/[5]: 0N BUZZER 100 OUT 9/[5]: 0N LED SYSTEM
	100 OUT A/[5]: ON LED OPEN 100 OUT B/[5]: ON LED ARMED
The program will propose a name for the selected object	Confirmation
• Confirm the suggestion by clicking Yes.	
	Automatically apply default name for the object?
	Remember my choice
	Yes No
· Confirm the input line buglishing OK	Add Output 2 V
• Confirm the input line by clicking Ok.	General
	Name: C1_100_BUZZER
	Description:
	✓
	Object Name: MCT12E-IO v1.x_192.168.0.213_100_BUZZER V
	Device: MCT12E-IO v1.x
	Labe: BUZZER
	Comment:
	Type: OUT 8/[5]: ON Normal Polarity Binary With Modulation
	RS Address: 100
	Additional Options
	Activity Schedule: Always
	Reset Schedule: None
	Function Limit:
	Circle Circle Circle



Unit

- In the field *Function* select [021]:Automation Node Status
- Select Triggering Method: Set output ON for unlimited time
- Select Modulation Type: Two Short Pulses repeated every 1s
- Click OK

This configuration is sufficient to log the use of the emergency button and to indicate with buzzer. The data must be only synchronize (see chapter *9.3 Data synchronising*).



Additional LED signaling

To additionally indicate the evacuation state by the LED on the reader, add the appropriate output lines:

• Click Add.



• Click on + in Output field

In the next opened window, select the LED of the cold/hot aisle containment sliding door reader:

• Drop down the *Object->Name* list and select *LED_SYSTEM* output of the reader, which controls aisle door.









10 SYSTEM MANAGEMENT

10.1 Adding user group

• Enter the name of user group.

• Click OK

It is convenient to start adding users from creating a group of users who will have the rights to open a defined group of doors. Any user who belongs to such group will have the rights of this group.

+

• In the system tree view click with the right button on Access Users and select Add Group.

You must assign authorisations that were created during the door configuration to just created group.

• In the system tree view click with the right button on just created user group and select *Open*





Click on Authorisations.	stou si vi Lo. L. visu Lucimente dir intercitigamente logie sp. 2 a.o. p. 4, interpluiwan logie sp. 4,
• Click on Assign.	Syndrame
	Tools Administrators x
	Configuration Setals V Man Acces Credentia Autoritation Fersons Vietors Assets
	- Contraction - Steel All Cont
	▲ E de la d
	E Andre Vereine C Carl der □ Calendar □ Calendar □ Calendar
	Conclusion C
	Automatication report Code Commands Prometer Zones Prometer Zones
	A Transition A Remote A Remote A Remote
	King Dig Cit Cit King Man Board King Access Doors
	O Access Ports O
	See Configuration
	Evert Log Evert Log
In the pop up window, you should see the authorisations for all	Select ? ×
doors previously configured in the system.	Enter text to search Find Glear
• Select authorisations, which you want to assign to this group	ID Name Type Description
of users. Use CTRL key.	3 C1_Cab01-front_IN_AUTH Main
• Click OK	4 C1_Asle-01-front_IN_AUTH Main
	E Select Al E Unselect Al Cancel
A group of users with permissions to open dedicated doors has	🛓 🐮 🍙 VICIO ST 14.6.6.27000. Loomeed for Net registered. Roper op. 2 o.s. op. k.; http://www.coper.pl
been created.	
The above configuration should be sent to the controller. See	Tools
chapter 9.3 Data synchronising.	*tcNavigBdon Tree View a x @ Start Page Administrators x * Configuration Configuration
	Ram Acotso Drefentali: Auffortations Personi l'infors Assets I Assign I Setter al 20 Assign I Setter al 20 Assets
	La Acces Ordentale 4 C1_Ade+01-Mont_31LAUTH Nam (25 Can Autoris 20 Carlo Sox 10 Candos
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	B □ □ C B Mentoard 1 Access Doors
	P ⊕ Access Points
	Configuration
	Event Log

10.2 Adding user to group

In order to add a new user:

• Choose Wizards->Add person Online.





 In the opened window: Enter user name. Select the user group to which user should belong - in this way the user will be given the rights to open the doors that has been assigned to the group. If there is no group, go to the chapter <i>10 SYSTEM MANAGEMENT</i> <i>Adding</i> user group. Click <i>Next</i>. 	Add Access User Person Online 0 X Image: Second
 You must assign a credential to the user: Select <i>Create new Access Credential.</i> Click <i>Next</i>. 	Add Access User Person Online Constant part and and a subject of a Access User Person.
 The credential name can be edited here. Click <i>Next</i>. 	Add Access User Person Onine 2 Access Credential detaall Enter Access Credential detaal and dok [Next] to continue. Steps Reson detaal Access Credential detaal Image: Access Credential detaal and dok [Next] to continue. Access Credential detaal Image: Access Credential detaal Access Credential detaal Image: Access Credential detaal Address Credential detaal Image: Access Credentaal detaal



In the next two windows it is possible to assign permissions directly to the user. Since the user being added at this moment has already been granted permissions from the user group to which he belongs, these two configuration windows should be left out without making any changes.











10.3 Event viewer

VISIO allows viewing all events taking place in the system

• From the menu, select Event Log and then Event Log







11 DOCUMENT REVISIONS

Version	Changes	Date
1	Initial version	June 2018
2	Added communication key setting in the controller low-level configuration.	July 2018
3	Added comparison to the BKT ACWS system. Small updates have been made.	November 2018
4	Added two user entry configuration	February 2019
5	Updated with new AC100 controller and AB101 secondary set	June 2022
6	Modified 3.7, added 9.2, 9.7, 10.3	September 2022
7	Updated 3.7.1, 8.4 with new Roger RACS v2.0 features (SQL Server only, licenses)	June 2023