

ROGER ACCESS CONTROL SYSTEM





Roger access control solutions

- Code Locks
- Readers
- Access Controllers
- CPR Network Controllers
- Communication Interfaces
- Expanders
- Accessories



SL2000 code locks

Features:

- One relay output and two transistor outputs
- Input for connecting a Door Contact
- 1 Administrator code, 1 Master code and 55 user codes
- Door blocked when code lock is in armed mode
- Input for connecting an Exit Button
- Programmable code length for users
- Three LED indicators and Buzzer
- Tamper



SL2000E



SL2000F



SL2000F-VP



EM 125 kHz proximity readers - PRTxxLT series

Features:

- Operation in terminal mode
- EM 125kHz (UNIQUE) cards
- Programmable output formats: Wiegand 26..66 bit, Magstripe, RACS Clock&Data (Roger)
- Outdoor operation (except for PRT42LT)
- Tamper contact



PRT12LT

PRT62LT

PRT66LT

PRT64LT

EM 125 kHz proximity readers - PRTxxEM series

Features:

- Operation in terminal or standalone mode
- EM 125kHz (UNIQUE) cards
- Programmable output formats: Wiegand 26..66 bit, Magstripe, RACS Clock&Data (Roger)
- Outdoor operation
- Relay output and two transistor outputs
- Two NO/NC inputs
- Operation with XM-2DR I/O expander
- 120 users (standalone mode)
- Log for 1024 events (standalone mode)
- Programmed manually or from PC
- Operation as EM 125kHz proximity card programmer



PRT12EM



PRT62EM



PRT66EM



PRT64EM



PRT64EM-VP



MIFARE® 13.56 MHz proximity readers - PRTxxMF series

Features:

- Operation in terminal or standalone mode
- ISO/IEC 14443A and MIFARE Ultralight, Classic cards
- Output formats: Wiegand 26..66 bit, Magstripe, RACS Clock&Data (Roger)
- Outdoor operation
- Relay output and two transistor outputs
- Two NO/NC inputs
- Operation with XM-2DR I/O expander
- 120 users (standalone mode)
- Log for 1024 events (standalone mode)
- Programmed manually or from PC
- Operation as MIFARE proximity card programmer



PRT12MF

PRT62MF

PRT66MF

PRT64MF

MIFARE® DESFire® proximity reader

Features:

- ISO/IEC 14443A/MIFARE Ultralight, Classic, DESFire EV1, Plus cards
- Reads CSN, MSN or SSN number
- Up to 7 cm reading range (for MIFARE Classic cards)
- Data output formats: RACS CLK/DTA, Wiegand 26-66bit
- Three LED indicators
- LED and Buzzer controlled through separate inputs
- Buzzer loudness and keypad backlight level control
- Two function keys
- Tamper alarm (both enclosure opening and detachment)
- Connecting cable 0,5m
- Configuration with computer (RogerVDM software)
- Outdoor/indoor installation



PRT12MF-DES

MIFARE® 13.56 MHz proximity readers - QUADRUS

Features:

- Operation in terminal mode
- 13.56 MHz ISO/IEC 14443A i MIFARE Ultralight, Classic cards
- Touch keypad with backlight
- Programmable data output formats: Wiegand 26..66 bit, RACS Clock&Data (Roger)
- Indoor operation
- Tamper contact



PRT82MF

PRT84MF



Administrator readers

Features:

- Miniature reader connected to USB port
- Power supplied from USB port
- Operation with proximity cards
- SDK for integration with third party software

RUD-2 application:

- Administrator reader in RACS 4 system for enrollment of EM 125kHz cards by means of PR Master software
- EM125kHz card number reading by means of Roger MiniReader software
- Hardware license key for RCP Master 2 software



RUD-2

Administrator readers

RUD-3/RUD-3-DES application:

- Administrator reader in RACS 4 system for cards enrollment by means of PR Master software
- MIFARE cards reader by means of Roger MiniReader software
- MIFARE cards reader/writer by means of RogerVDM software
- Hardware license key for RCP Master 2 software

where:

- **RUD-3** supports ISO/IEC 14443A/MIFARE Ultralight, Classic cards
- **RUD-3-DES** supports ISO/IEC 14443A/MIFARE Ultralight, Classic, DESFire EV1 cards



RUD-3
RUD-3-DES

RFT1000 fingerprint reader

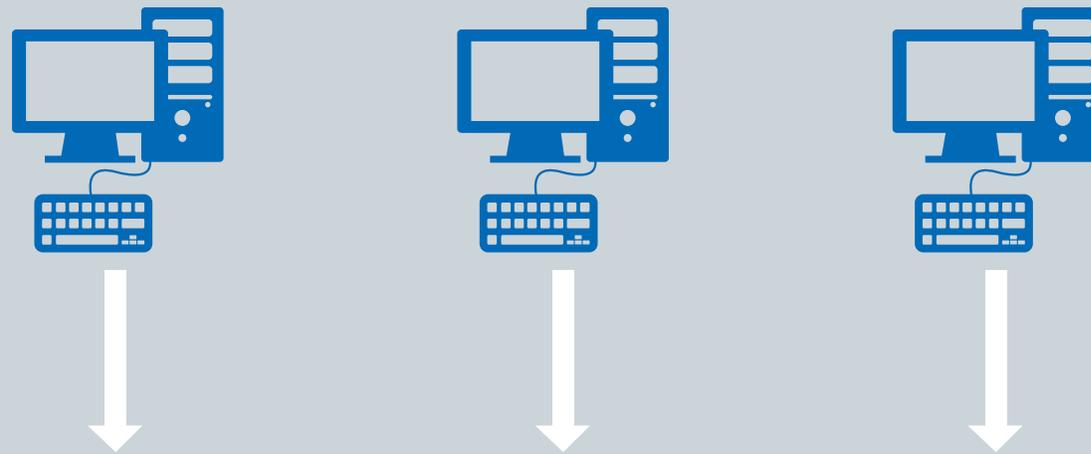
- Optical fingerprint scanner
- Built-in ISO/IEC 14443A MIFARE proximity card reader
- Scanned fingerprint is compared with fingerprint template recorded in proximity card (1:1 mode)
- Scanned fingerprint is compared with fingerprint template recorded in RFT1000 memory (1:N mode)
- Memory for 1900 fingerprint templates in 1:N mode
- RACS Clock&Data and Wiegand interfaces
- Software for configuration and management of fingerprint templates (RogerVDM)
- Management of users by means of PR Master software in RACS 4 system
- Communication protocol encrypted by AES128 CBC standard
- Configuration by RS485 or Ethernet port



RFT1000

RACS 4 structure

Computers with RACS Remote Monitor software



Computer network (LAN or WAN)

Access Network #1

COM, USB or Ethernet

Access Network #2

COM, USB or Ethernet

*Up to 250 networks per individual access system
Up to 32 controllers per network
Up to 1000 controllers per system*

Access Network #250

COM, USB or Ethernet



*Managing computer
with **PR Master** software*



General concept of RACS 4

RACS 4 is a networked access control system based on PR series single door access controllers, PRT series readers, UT and RCI communication interfaces, XM-2DR/XM-8DR expanders, CPR network controllers and PR Master managing software.

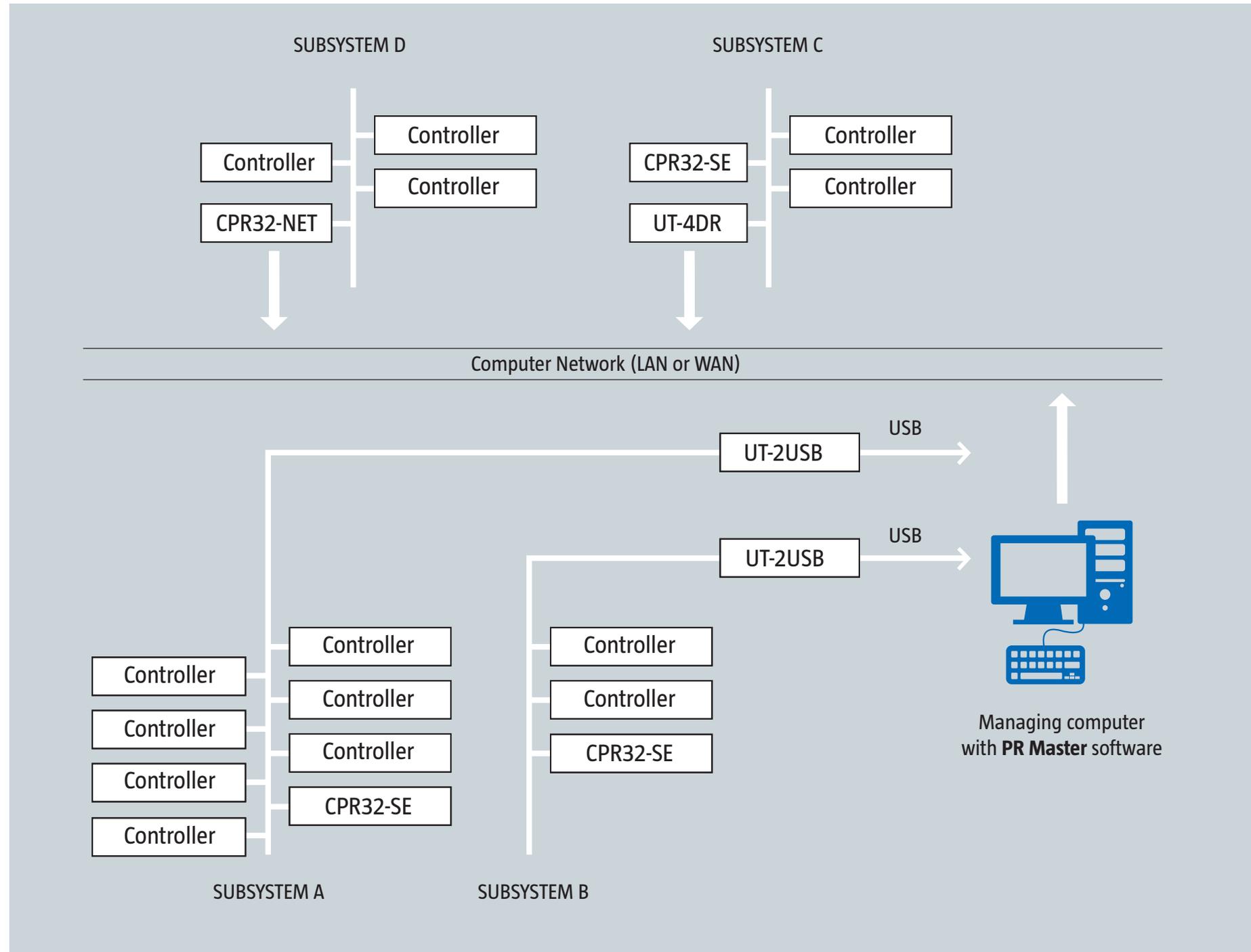
System functionality depends on the type of equipment used in particular installation. RACS 4 can be divided into separate branches which are called subsystems (or networks). Up to 250 of such subsystems can be integrated into access control system. The subsystem may include up to 32 access controllers connected to RS485 communication bus (distance up to 1200m).

General concept of RACS 4

Basic concepts applied in RACS 4:

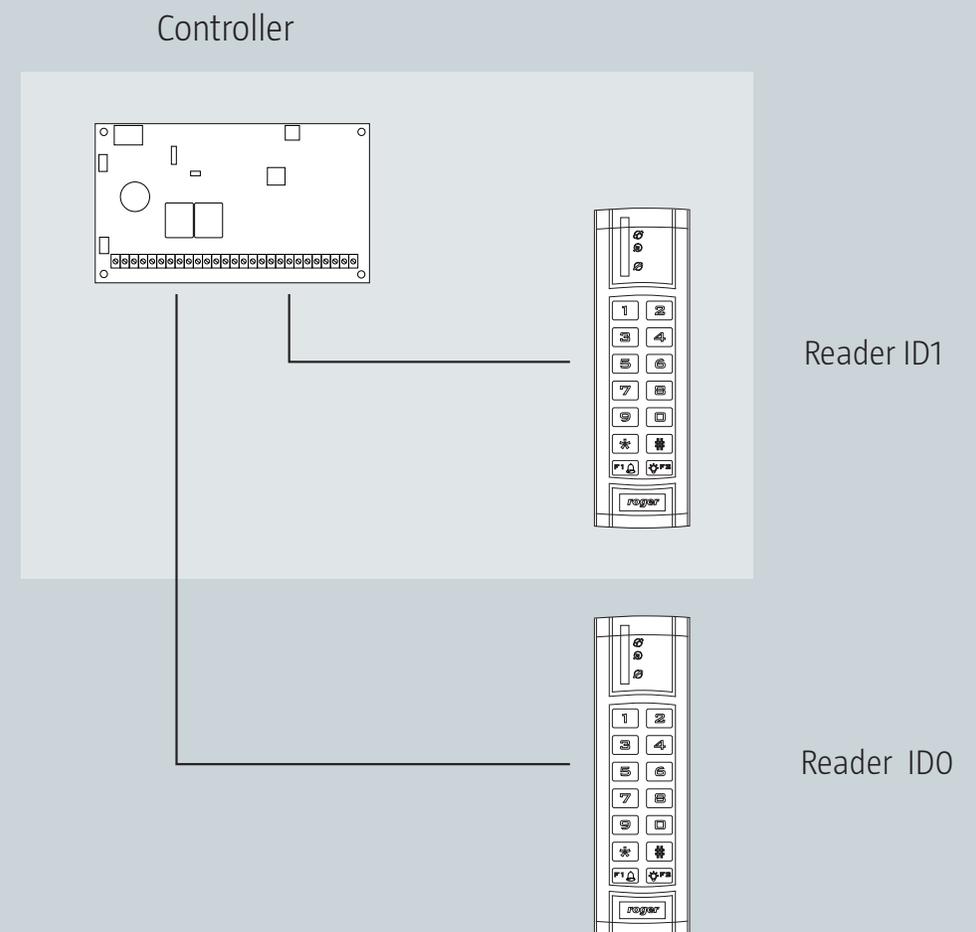
- RACS 4 subsystem is a structure consisting of RS485 bus, communication interface, access controllers, readers and optional CPR network controller
- Following communication buses are used in RACS 4:
 - RS485 external communication bus (two A and B wires)
 - RACS Clock&Data internal communication bus (two CLK and DTA wires)
- Local functions are realized within single access controller
- Global functions require communication between access controllers:
 - Anti-passback Zones
 - Alarm Zones
- On line monitoring enables visualization of access control events on computer monitor in real time

Example of RACS 4 system with four subsystems



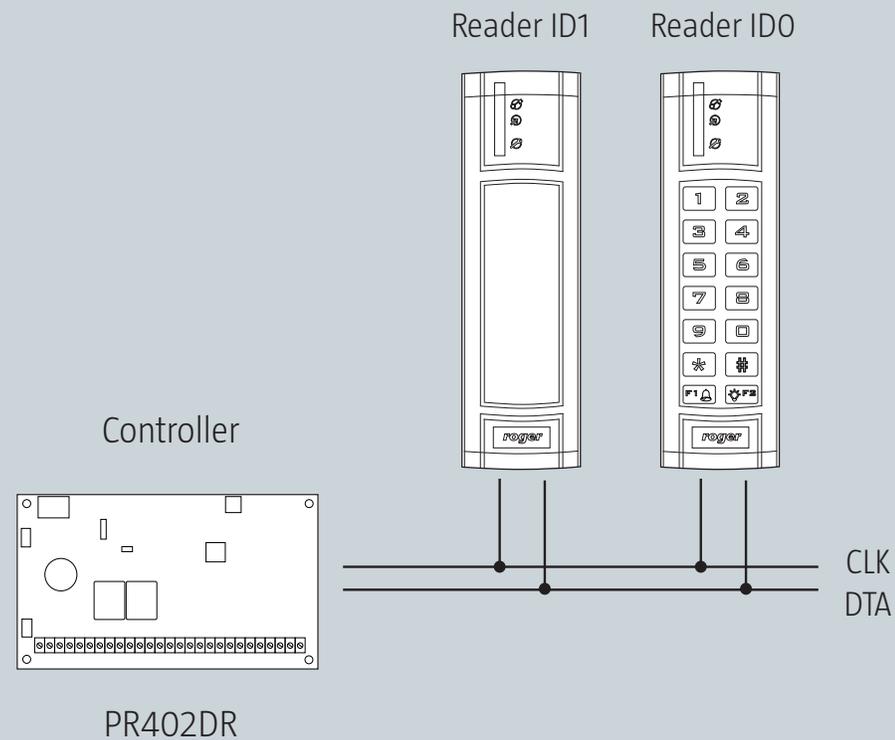
General concept of PR series access controllers

- Division into logic unit (controller) and ID0/ID1 terminals (readers)
- Some controllers require connection of external reader(s) (e.g. PR402DR)
- Some controllers are equipped with built-in ID1 terminal (e.g. PR602LCD-DT)

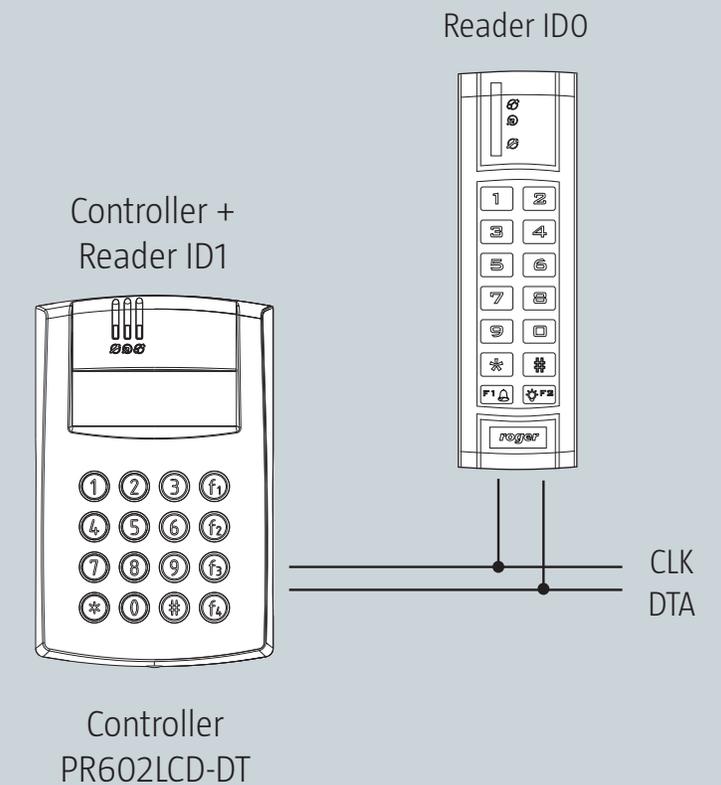


General concept of PR series access controllers

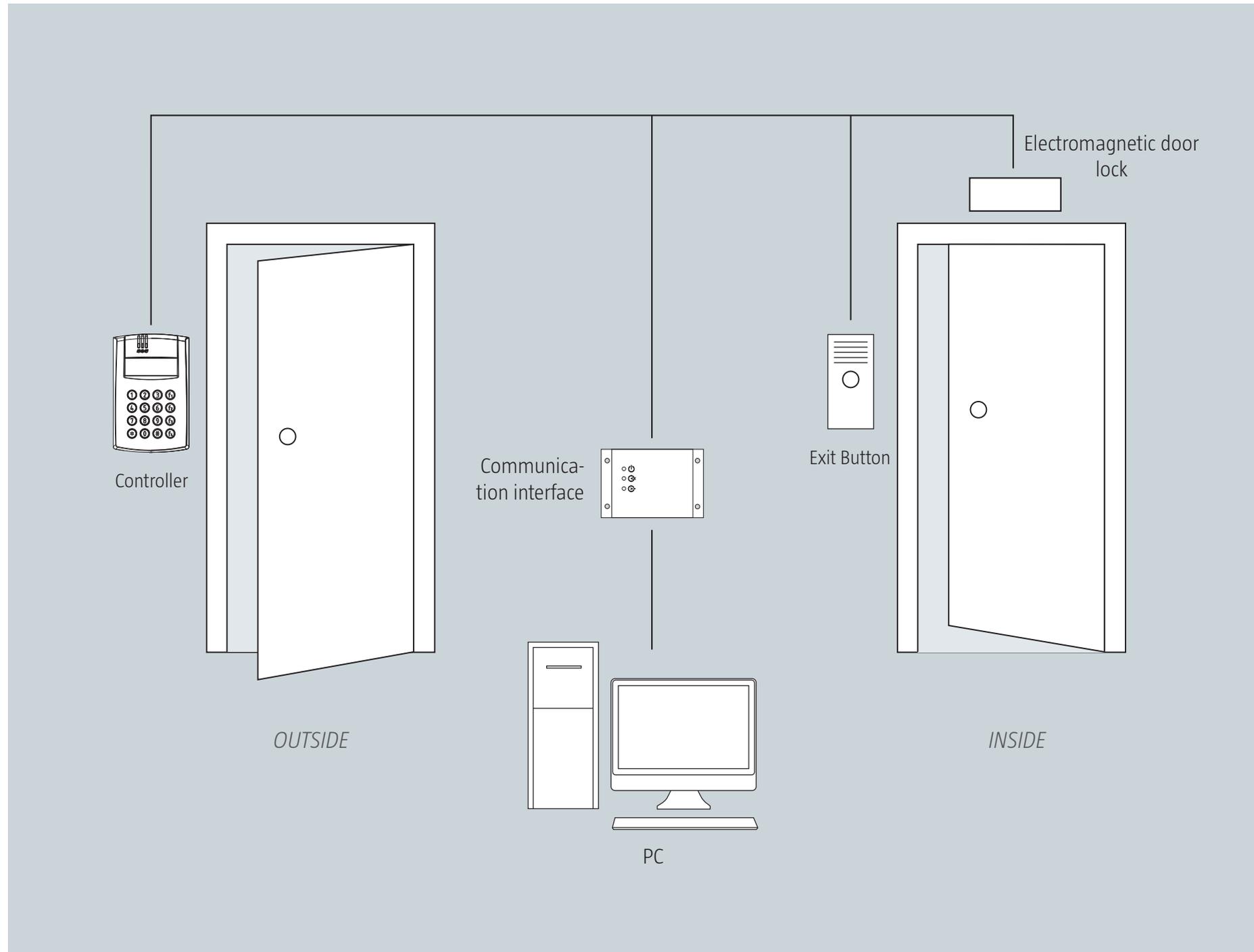
Access controller without built-in reader



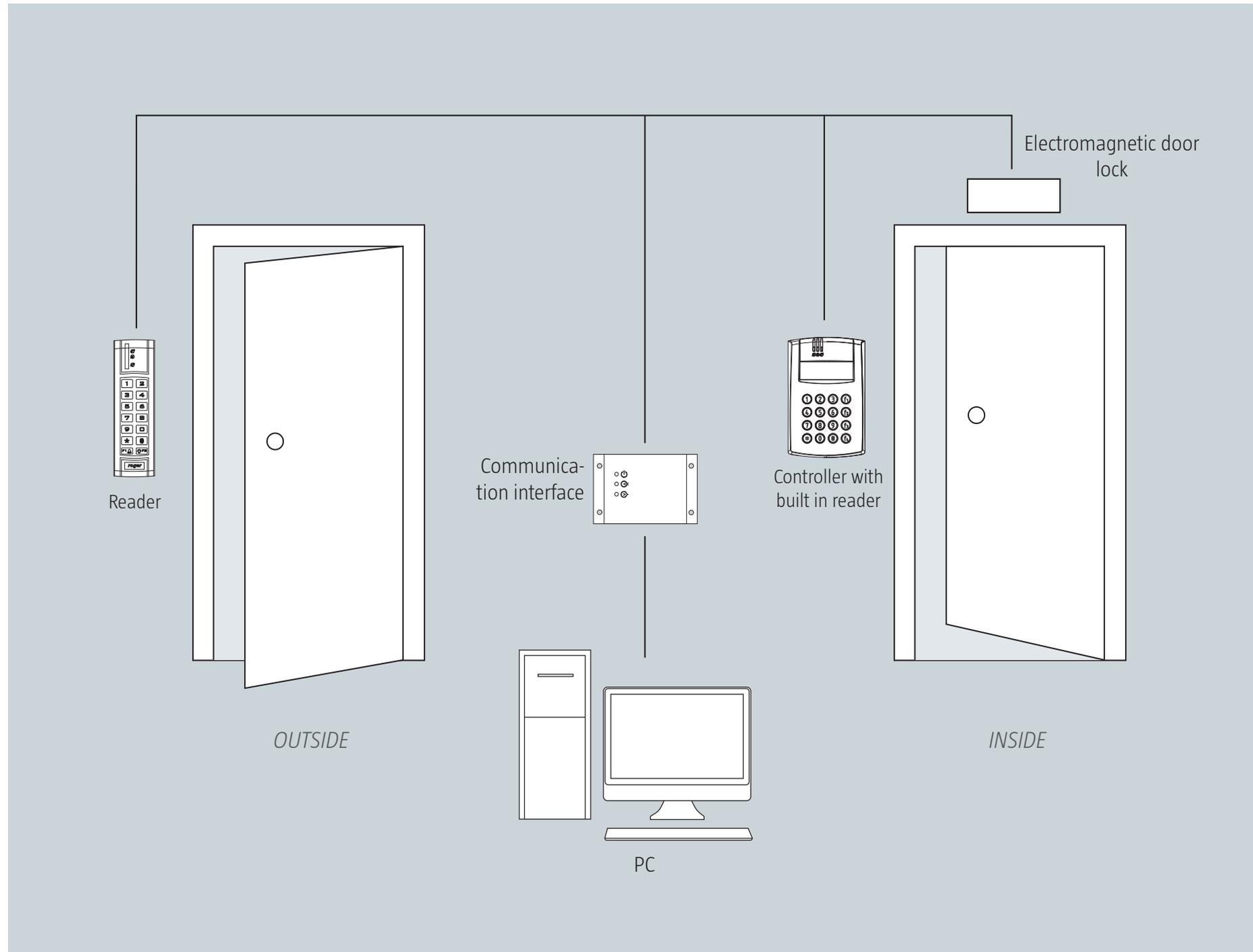
Access controller with built-in reader



Read in only access control based on PR602LCD-DT controller

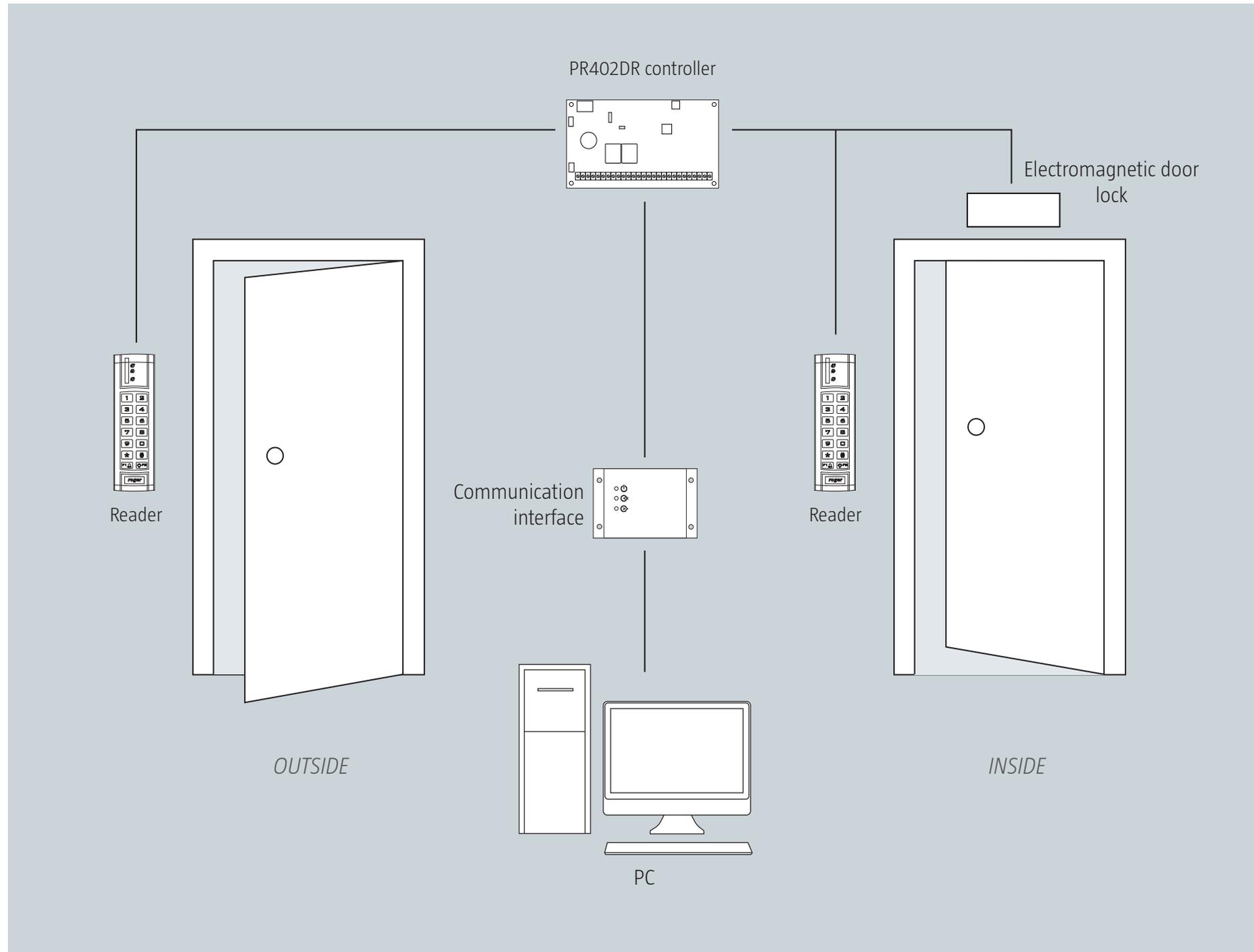


Read in and out access control based on PR602LCD-DT controller



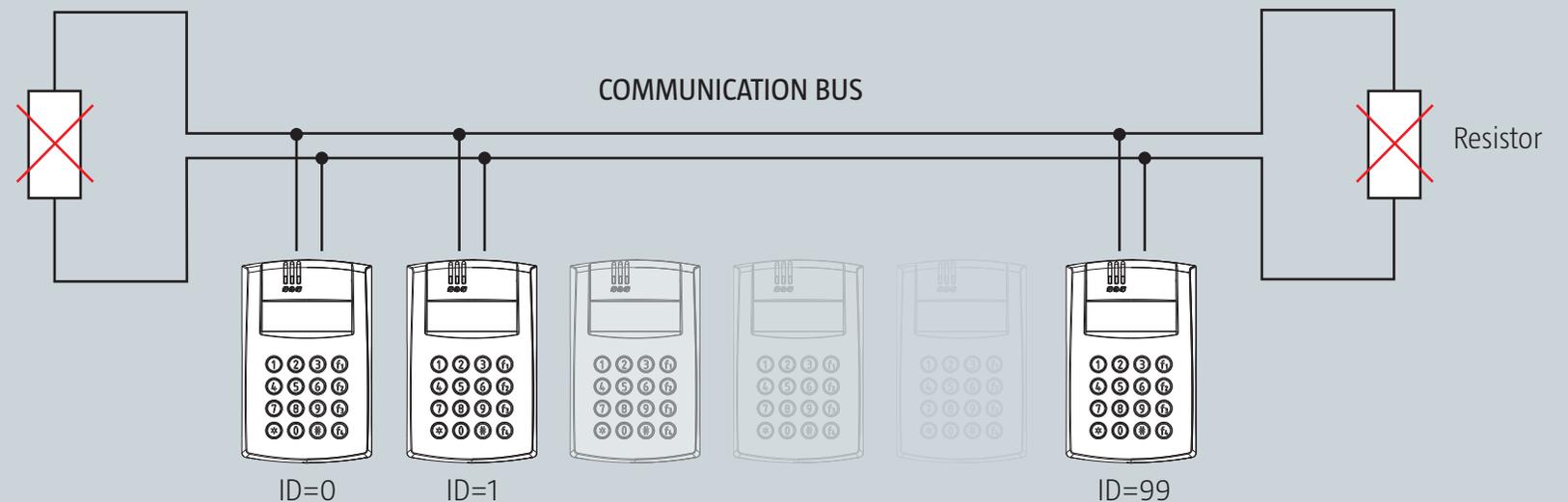


Read in and out access control based on PR402DR controller



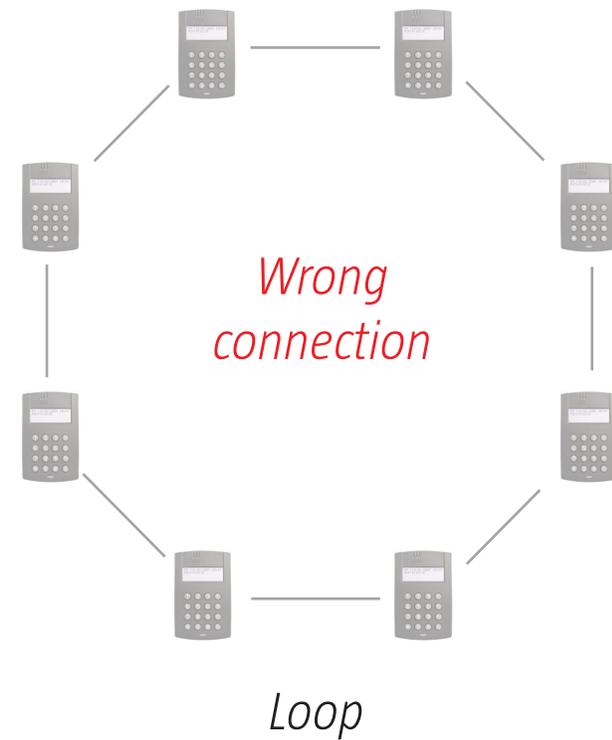
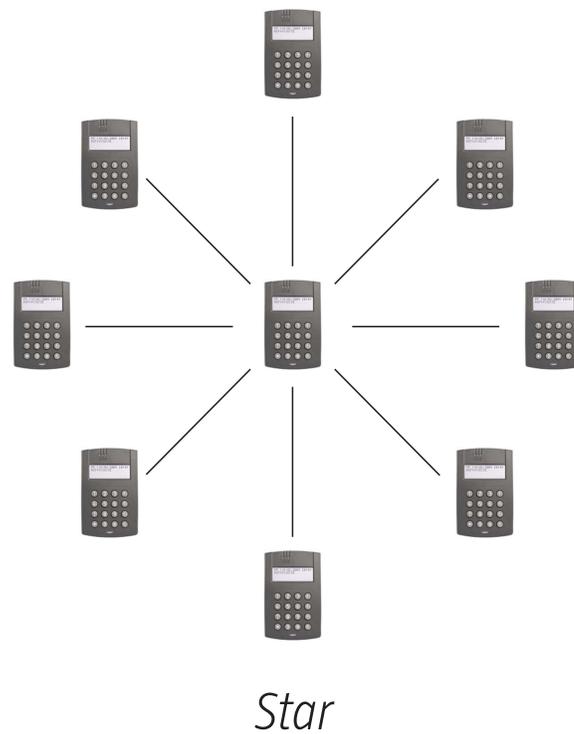
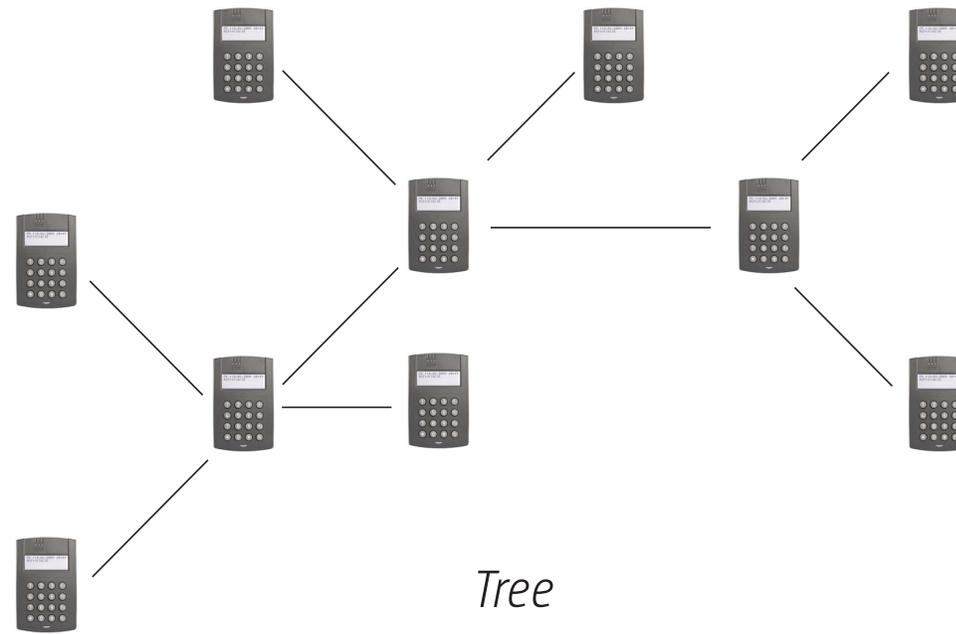
RS485 external communication bus

- Each controller connected to RS485 bus must have unique address in range ID=00-99
- Controller address can be assigned manually or by means of software
- Up to 32 access controllers can be connected to single RS485 bus
- Any signal cables can be used for RS485 bus, but standard unshielded twisted pair (UTP cat.5) is applied most often in practical applications
- Shielded cables can be applied only in case of strong electromagnetic interferences
- RS485 bus can be executed in any combination of star and tree topologies
- All devices connected to the same bus should have common ground i.e. their supply negative terminals should be connected





RS485 communication bus topologies in RACS 4



RACS Clock&Data internal communication bus

- Two CLK and DTA communication lines
- Any signal cables can be used for RACS Clock&Data bus
- Dedicated to communication with external readers or expanders
- Each device connected to RACS Clock&Data bus must have unique address in range ID=0-15
- Possible connection of Magstripe or Wiegand readers
- Maximum guaranteed distance between controller and device connected to CLK and DTA lines equals to 150m
- Practically tested length of RACS Clock&Data bus is up to 500m
- All devices connected to the same bus should have common ground i.e. their supply negative terminals should be connected



Devices communicating by RACS Clock&Data bus

- Primary reader (Terminal ID0) at the entry
- Primary reader (Terminal ID1) at the exit
- Additional reader at the entry (High Security mode)
- Additional reader at the exit (High Security mode)
- XM-2DR I/O expander
- XM-8DR I/O expanders



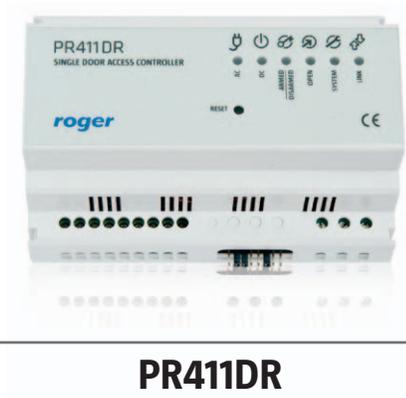
Standard access controllers - PRxx1 series

- Read in and out access control for single door
- Standalone or networked operation
- 1000 users
- Configured manually or by means of PC (PR Master software)
- 250 access groups
- 99 schedules*
- Event buffer*
- Quick configuration (approx. 15s)
- Quick user update (approx. 5s)

() available only if CPR network controller is installed in subsystem*



Standard access controllers - PRxx1 series



PR411DR



PR411DR-BRD



PR311SE



PR611



PR611-VP



PR621





Access controllers - PRxx2 series

- Read in and out access control for single door
- Standalone or networked operation
- 4000 users
- 250 access groups
- 99 schedules
- 32 000 local event buffer
- Local Anti-passback (two readers required)
- Global Anti-passback (CPR network controller required)
- Elevator access control (XM-8DR expander(s) required)
- Wide range of advanced functions
- Quick user update (approx. 5s)
- Full controller configuration requires approx. 1 min





Access controllers - PRxx2 series



PR102DR



PR102DR-BRD



PR402DR



PR402DR-BRD



PR402DR-12VDC



PR402DR-BRD-12VDC



Access controllers - PRxx2 series



PR612



PR622



PR312EM/PR312MF



PR602LCD-DT-I

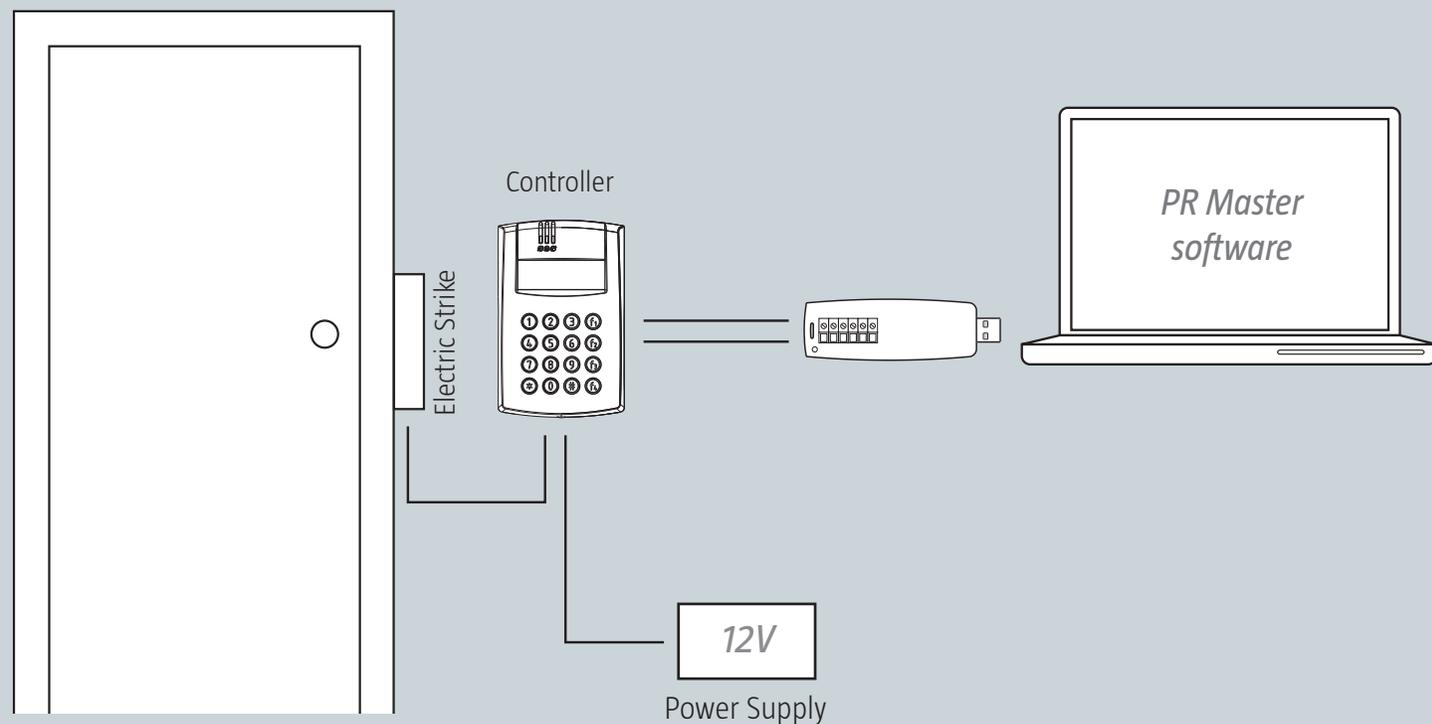


PR602LCD-DT-O



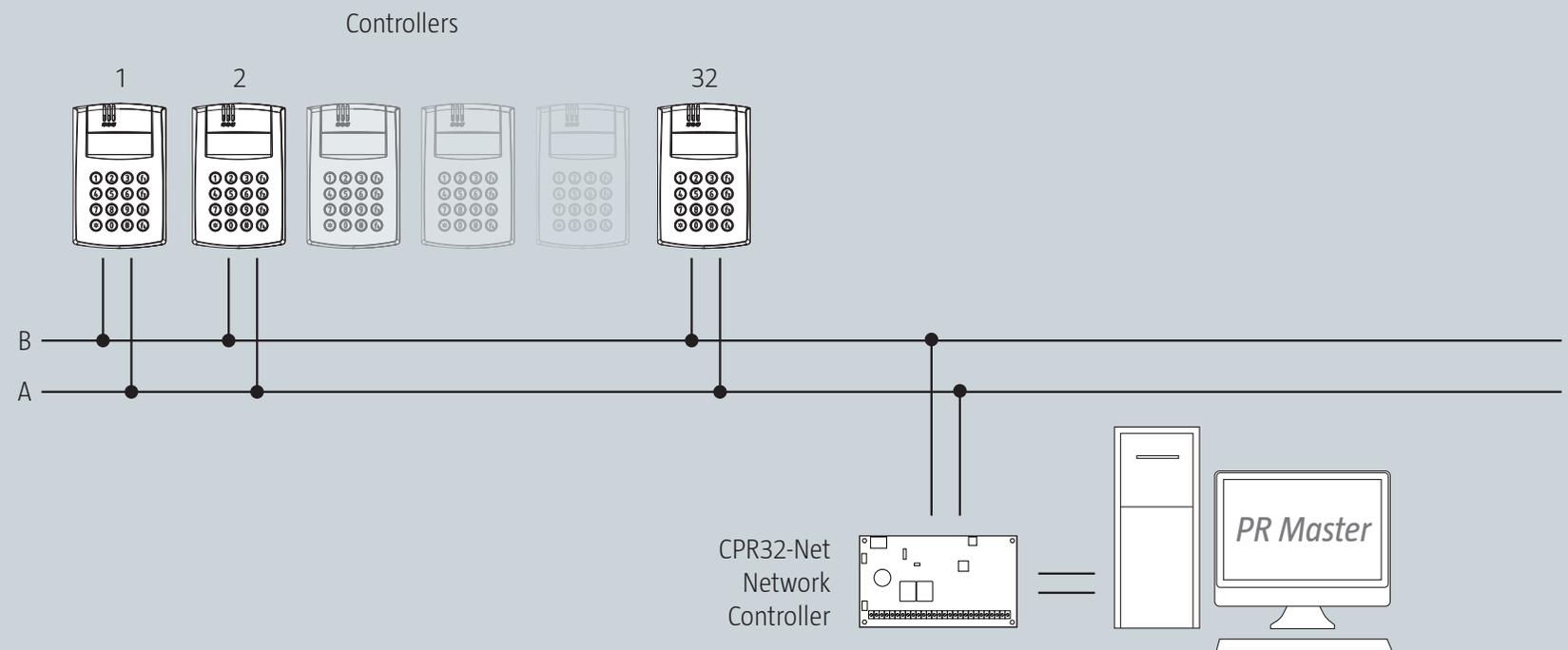
Standalone access control system

- Access controller operates as standalone device
- No CPR network controller in the system
- Connection with computer and PR Master software is required only for configuration and event downloading



Network access control system

- All controllers are connected to RS485 communication bus and the system is equipped with CPR network controller
- Connection with computer and PR Master software is required for configuration, event downloading and online monitoring





Access control sets

The set includes:

- Access controller PR402DR or PR411DR
- Transformer PS-10ACDR
- Metal enclosure with sight glass, tamper contact and DIN 35mm rail

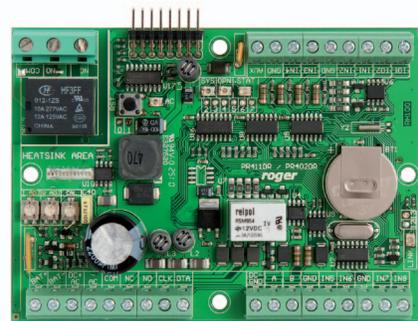


The battery shown in the photo is not included in the set.

PR402DR-SET/PR411DR-SET

CPR32-SE network controller

- Collects and stores events (250 000 event buffer)
- Synchronizes clocks of devices in subsystem
- Provides global functionalities (Alarm zones, Global Anti-passback)
- Provides time related functions (e.g. schedules) for PRxx1 series controllers
- Operates with back battery with control of charging current and battery monitoring



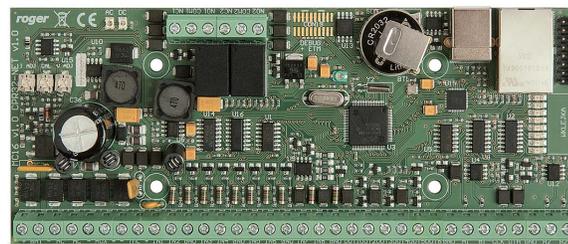
CPR32-SE-BRD



CPR32-SE module with power supply and battery installed in a metal enclosure

CPR32-NET network controller

- Provides the same functionalities as CPR32-SE
- Built-in Ethernet-RS485 communication interface
- Operation with NTP servers
- Optional event buffer on memory card (33 million events)
- Communication protocol with AES128 CBC encryption standard
- Integration with Integra (Satel) series alarm control panels based on license
- Integration with Aperio (Assa Abloy) wireless door locks based on license
- More NO/NC inputs and transistor outputs in relation to CPR32-SE



CPR32-NET



CPR32-NET module with power supply unit and backup battery inside metal enclosure



Communication interfaces



RCI-2
USB - RS485



UT-2USB
USB - RS485



UT-4
RS232/RS485/
RS422 - Ethernet



UT-4DR
RS485 - Ethernet

RUD-1 communication interface

Features :

- USB to RS485 portable interface
- Communication with RACS 4 system
- Configuration and management of PR series access controllers from PR Master software
- Configuration and management of PRTxxEM and PRTxxMF series readers from RARC software
- Firmware update in PR series access controllers and PRTxxEM/ PRTxxMF series readers
- Power supplied from USB port



RUD-1

Expanders

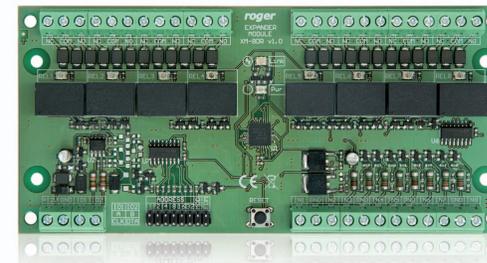
- XM-2DR – Input/Output expander: two NO/NC inputs and two relay outputs
- XM-8DR-BRD - Input/Output expander: eight relay outputs, can be used with PRxx2 controllers as an elevator access control module



XM-2DR



XM-2DR-BRD



XM-8DR-BRD



Accessories

- ME-1 - metal enclosure equipped with 40VA transformer, DIN 35mm rail, tamper contact
- ME-2-D - metal enclosure in set with 3.5A/13.8VDC power supply unit, three DIN 35mm rails, tamper contact
- ME-5-S - metal enclosure in set with 11A/13.8VDC power supply unit, four DIN 35 mm rails and tamper contact



ME-1



ME-2-D



ME-5-S

Devices and backup batteries are not included in the set

Controllers and backup battery are not included in the set



Accessories



AX-1
Metal spacer



AX-9
Memory card



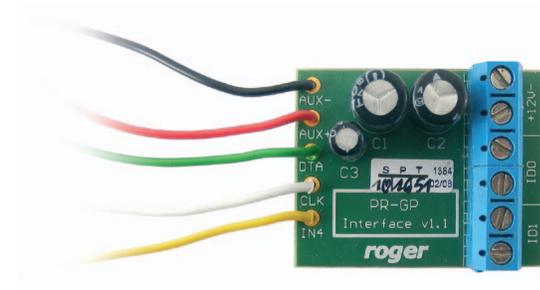
AX-12
RS485 protection bus



ASCD-1
LED matrix display with clock



ML-1
Mechanical lock



PR-GP-BRD
Adaptor module

Alarm sirens

- 12V DC external supply
- 110db/1m sound level
- LED/2Hz pulsed alarm light
- Backup battery 1.2A/12V (optional, ASP110S v2.0 only)
- Timer for siren (ASP110S v2.0 only)



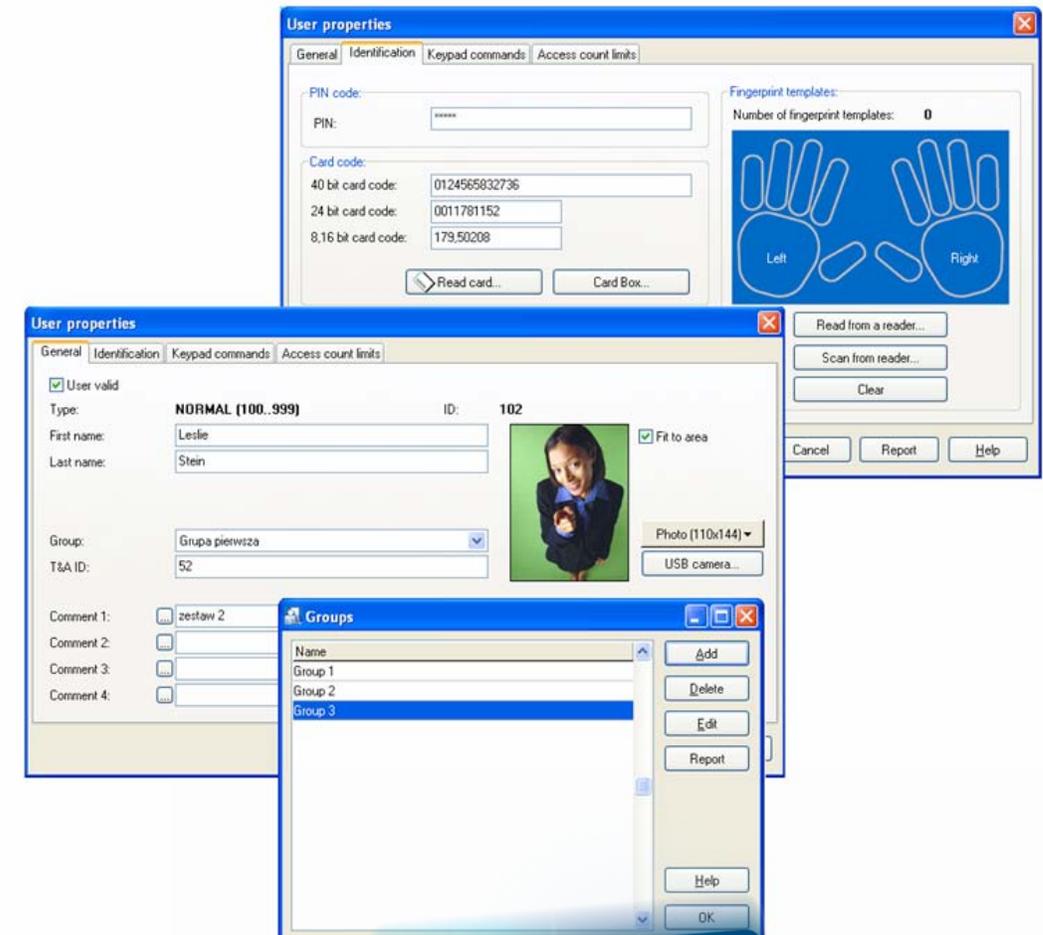
ASP110LC



ASP110S v2.0

Basic concepts of access control

- Users
- Access Groups
- Access Zones
- Schedules
- Identification Modes
- Door Modes



User types

User Types

<i>Name</i>	<i>ID</i>	<i>Description</i>
MASTER	ID=000	User has the highest privileges in the system and is allowed both door accessing and arming/disarming of controllers.
SWITCHER Full	ID=001-049	Users are allowed both normal accessing and arming/disarming of controllers.
SWITCHER Limited	ID=050-99	Users are only allowed arming/disarming of controllers, they are not allowed door accessing.
NORMAL	ID=100-3999	Users are only allowed door accessing, they are not allowed arming/disarming of controllers but users in range ID=1000-3999 can be granted Local SWITCHER attribute so they could arm/disarm selected controllers.



Access groups

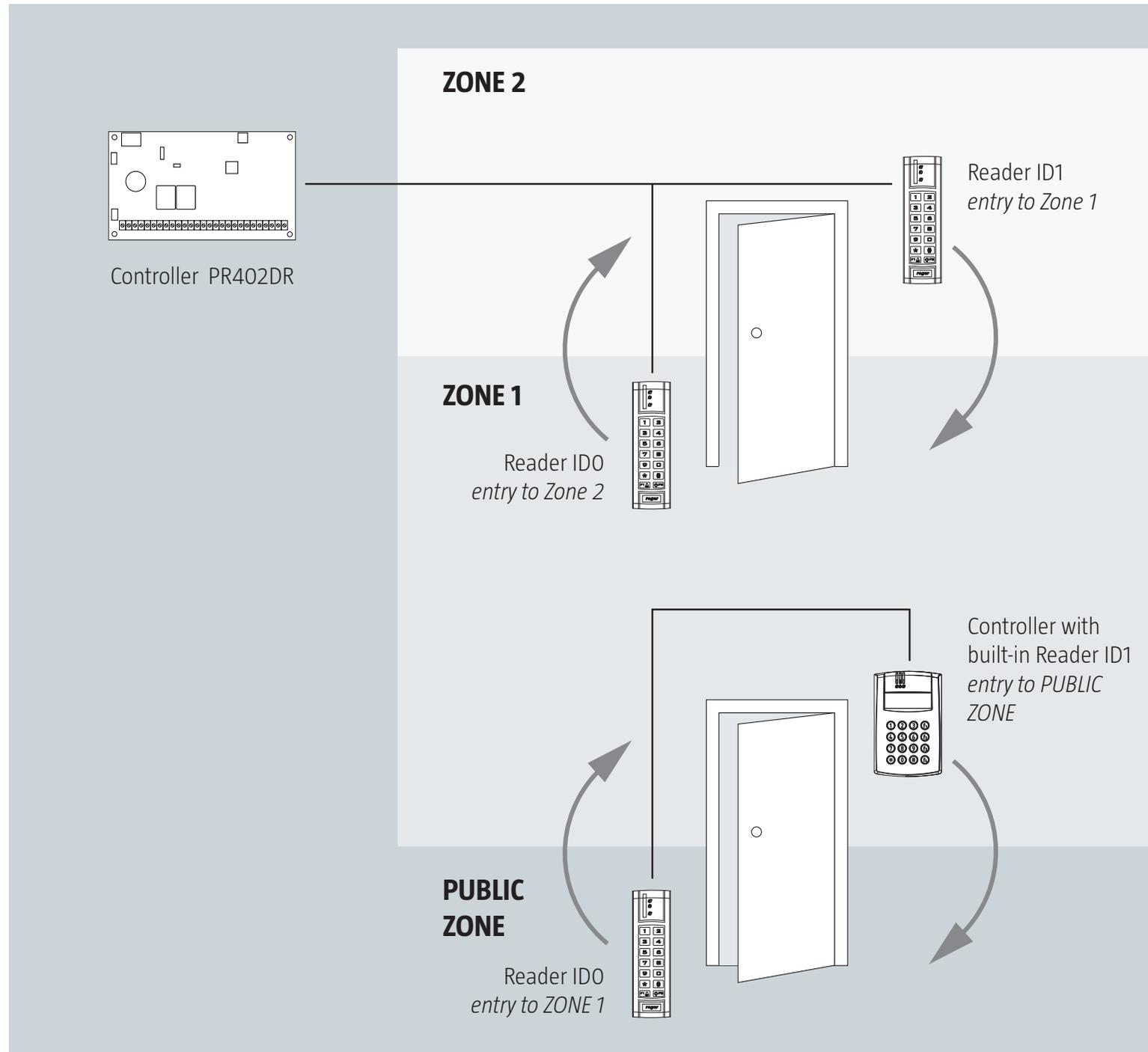
- Access controller users can be assigned to following groups: No Group, No Access Group or administrator defined access group
- The access group membership determines user's access rights in the system
- All users assigned to a particular access group share the same access rights
- In particular case single access group can contain single user
- All users within access group are granted rights to access zones according to assigned schedules
- No Group users are granted unlimited 24 h access to all access zones
- By default, new user is assigned to No Group



Access zones

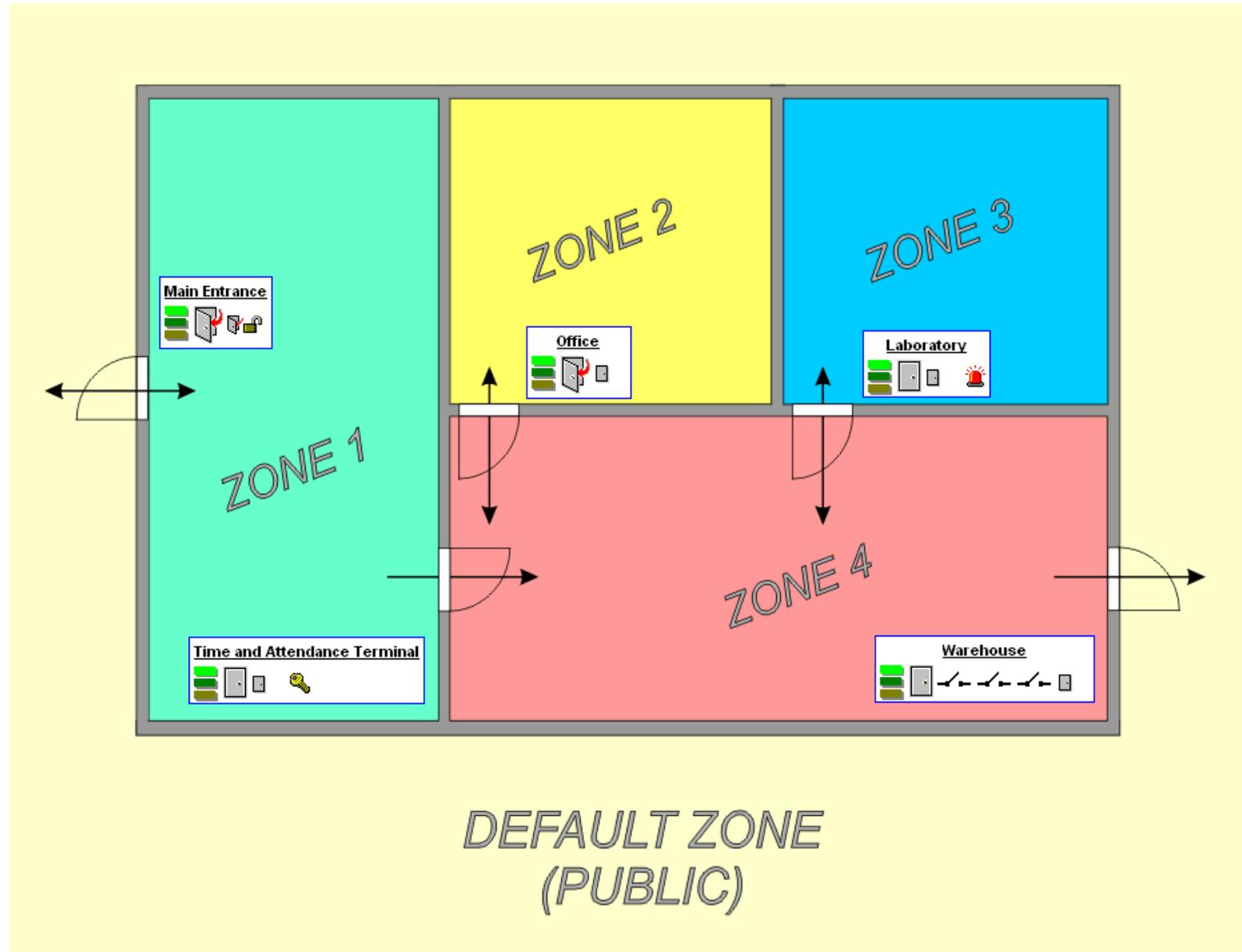
- Access zone is a group of identification points (terminals), which control access to particular area of access control system
- The purpose of access zone concept is to simplify definition of access rights
- Access rights are defined not for single terminal (door) but for group of terminals establishing the access zone
- In particular case, each terminal (each room) can make individual access zone

Example of access control arrangement





Access zones



Schedules

- Schedules are 7 days calendars (Monday – Sunday) plus 4 holiday calendars (H1-H4)
- Holidays are days, when standard 7 days calendars are not effective and some other, administrator defined rules are applied by controller
- Each schedule can be divided into 128 time intervals from... to... and each interval must be at least 1 minute period
- Following types of schedules are available in RACS 4 system:
 - General Purpose Schedule
 - T&A Mode Schedule
 - Door Mode Schedule
 - APB Reset Schedule
 - Identification Mode Schedule



Identification modes

are methods for user identification by controller

Identification Modes

<i>Mode</i>	<i>Description</i>
Card or PIN	Controller requires card or PIN code.
Card and PIN	Controller requires card and PIN (the sequence is irrelevant).
Only Card	Controller requires card, PIN is not accepted.
Only PIN	Controller requires PIN, card is not accepted.



Door modes

are methods for controlling door lock

Door Modes	
<i>Mode</i>	<i>Description</i>
Normal	Door is locked and it becomes temporary unlocked when access is granted by controller.
Unlocked	Door is unlocked for all users. No user identification is required.
Conditional Unlocked	Initially, door is Normal Mode. As soon as the first user is granted the access, controller switches to Unlocked mode.
Locked	Door is locked for everyone regardless of user access rights.



Advanced access control functions

- Local Anti-passback
- Global Anti-passback
- Maximum number of users allowed to occupy room
- Maximum number of users in APB Zone
- Login limits
- Conditional Access
- Two Users Mode
- High Security Mode
- Facility Code
- Function keys
- Auxiliary conditions

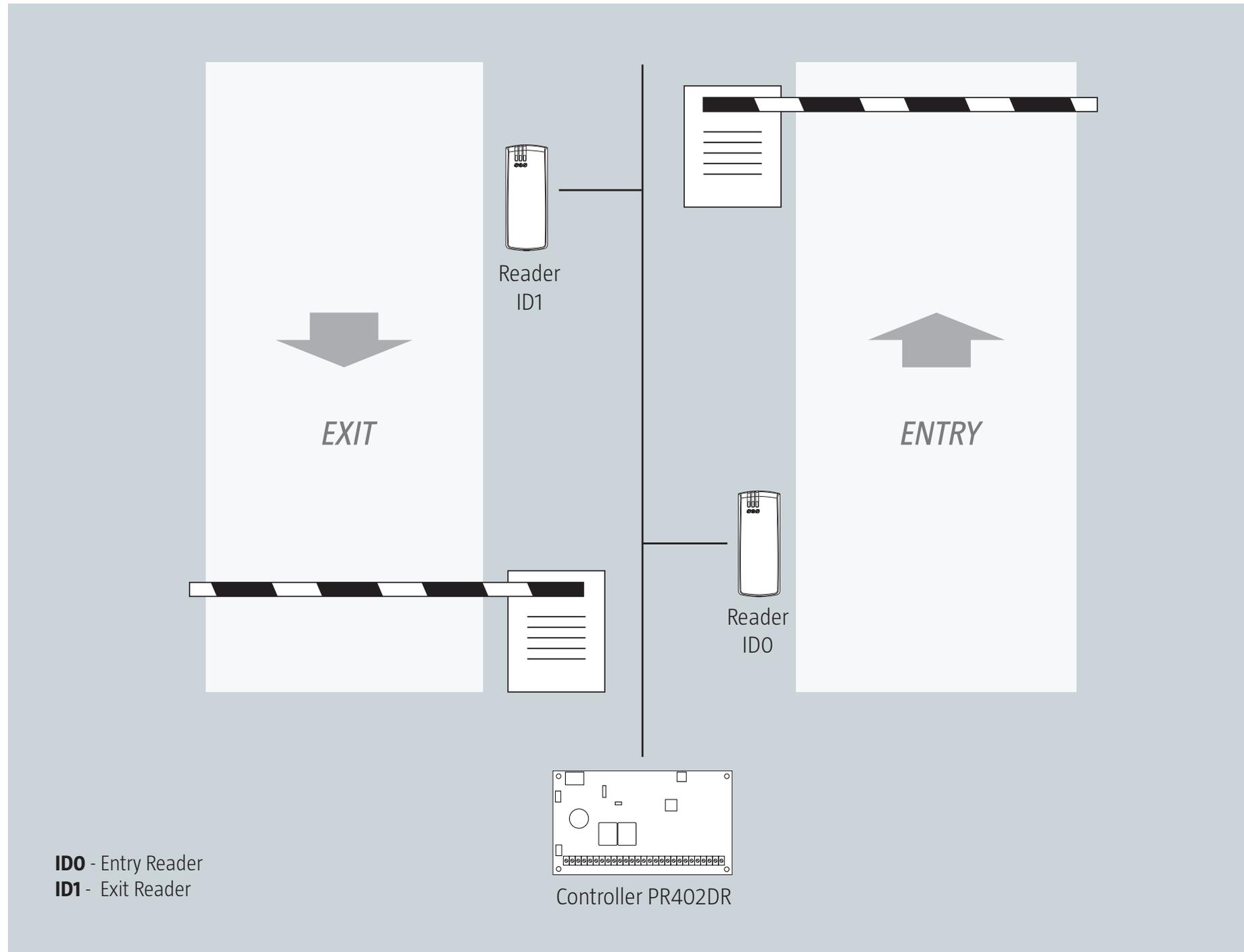


Anti-passback (APB)

- Anti-passback forces the user to login alternately at the entry and exit of room or zone
- Depending on area controlled by APB functions, following types of APB are available:
 - Local APB
 - Global APB
- Depending on controller reaction for violation of APB rules, following types of APB are available:
 - Soft APB
 - Hard APB
- Additionally True APB is available, which requires connection of door contact to controller input in order to monitor if particular user actually opened the door
- Internal doors can be defined within APB Zone
- APB enables control of maximum number of users in room (Local APB) or zone (Global APB)

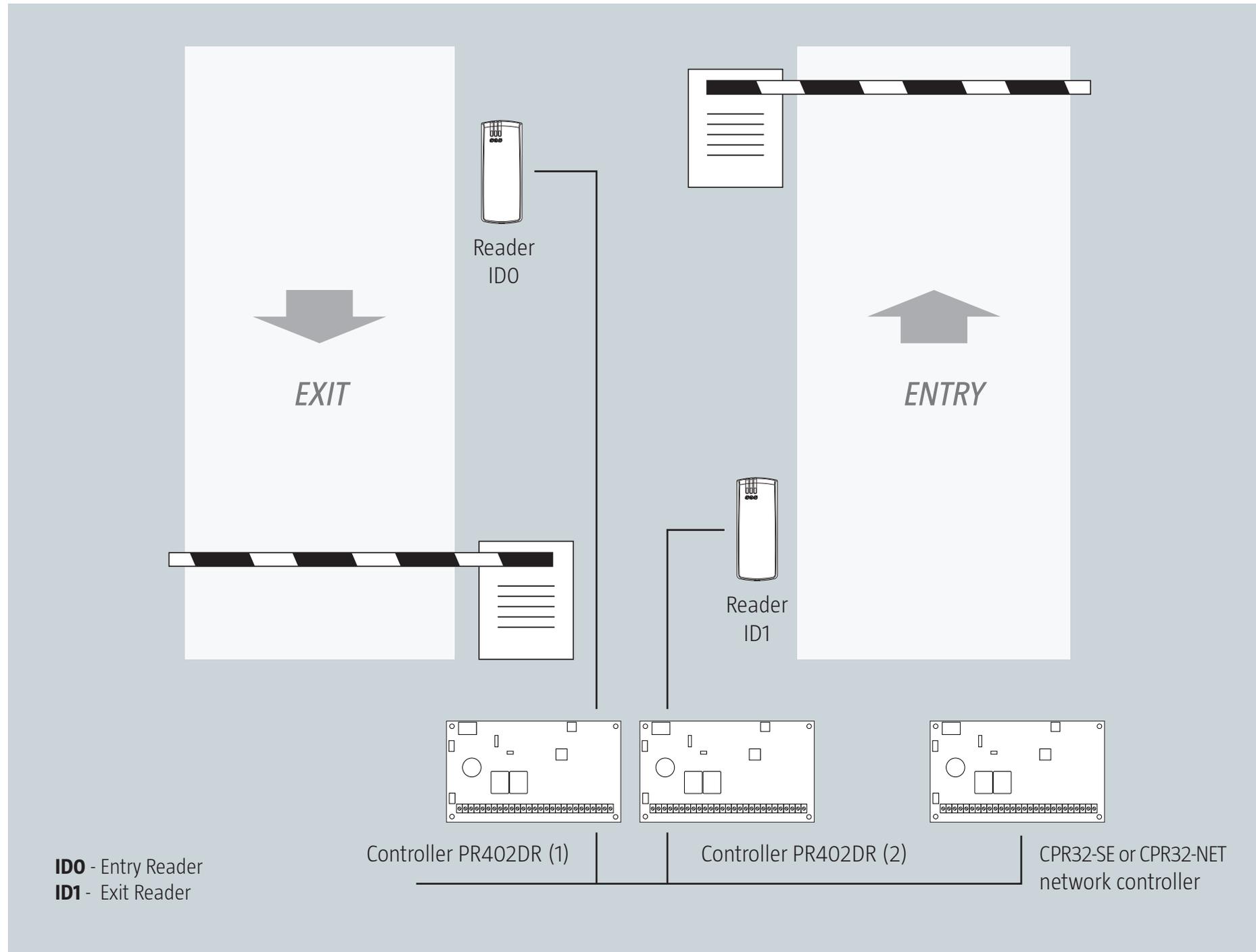


Local APB – example





Global APB - example





Login limits

- Access to particular room can be granted to the user a certain number of times till login limit is exceeded
- Following types of limits are available:
 - one time login limit
 - renewable login limit
- Renewable login limit is defined by administrator for predefined periods i.e. 1h, 2h, 3h, 4h, 6h, 12h and 24h



Conditional access

- Permission to enter the room is restricted to the authorized person however unauthorized users are also allowed to enter the room if there is another person inside the room
- Conditional Access is based on Local APB and can be controlled by Schedule and Auxiliary Condition

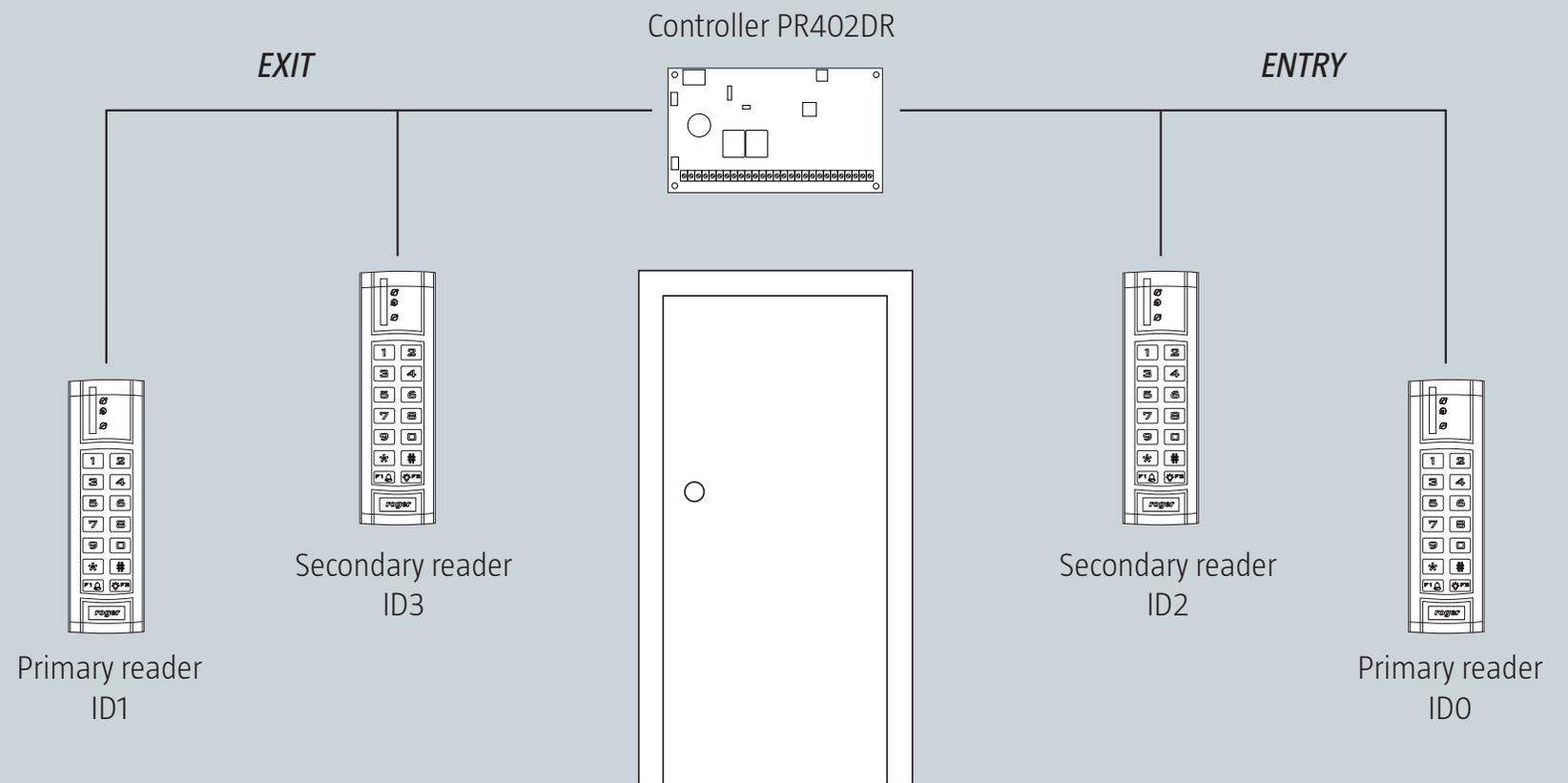


Two users mode

- Access can be granted only if two users, one after another perform successful identification
- The second user can login on the same or the other side of the door
- Two Users Mode pertains to both side of door, it cannot be activated individually for each side
- Two Users Mode can be controlled by Schedule and Auxiliary Condition

High security mode

- In the first step, the user is obliged to identify at primary reader and then at secondary reader installed on the same side of the door
- High Security Mode is configured individually for each side of the door and it can be controlled by Schedule and Auxiliary Condition





Facility code

- Facility Code is a fragment of card number, which is common for group of proximity cards
- Cards with the same Facility Code must have the same digits from 16th bit to 24th bit of card number
- If Facility Code is activated then controller grants access to all cards with the same Facility Code
- Facility Code can be controlled by Schedule and Auxiliary Condition
- Facility Codes are usually used in such places as parking, dorm, etc. where it is required to grant access to particular group of users and identification of individual users is not necessary

Function keys

- Function keys are available on some PRT series readers and PRxx2 series controllers (e.g. PR602LCD-DT)
- PRxx2 series controllers enable defining of up to four function keys for each side of the door
- Functions from the list can be assigned to function keys
- PR Master software enables configuration of all four function keys for each terminal (ID0 and ID1) regardless of their availability on device keypad



**Controller with four function keys
PR602LCD-DT**

Auxiliary condition

- Auxiliary condition is additional circumstance or state, which must be satisfied in order to enable functioning of particular function or option
- Auxiliary condition can be specified for many functions, options as well as inputs and outputs of controller

Conditional Access

Schedule:

Always

Auxiliary condition:

[255]: None

[162]: Enabled when FORCED ENTRY timer active

[163]: Disabled when FORCED ENTRY timer active

[164]: Enabled when PREALARM timer active

[165]: Disabled when PREALARM timer active

[166]: Enabled when DOOR AJAR timer active

[167]: Disabled when DOOR AJAR timer active

[255]: None

Auxiliary Conditions List



Alarm lines

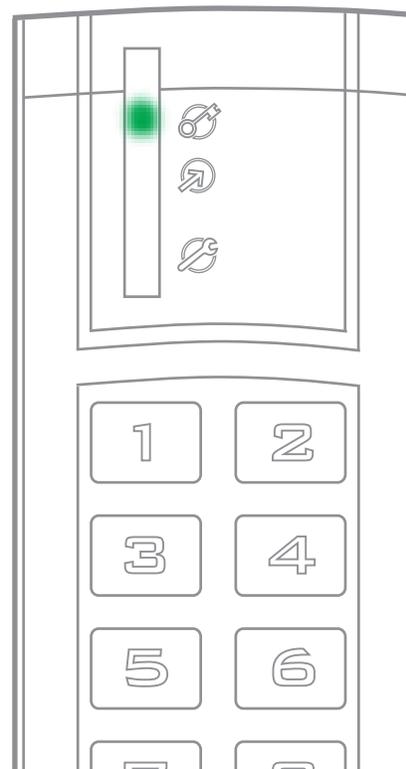
- **Input lines**
 - Tamper alarm
 - Intruder alarm
- **Output lines**
 - Tamper alarm
 - Intruder alarm
 - Door Ajar
 - Forced Entry
 - Prealarm
 - Door Alarm



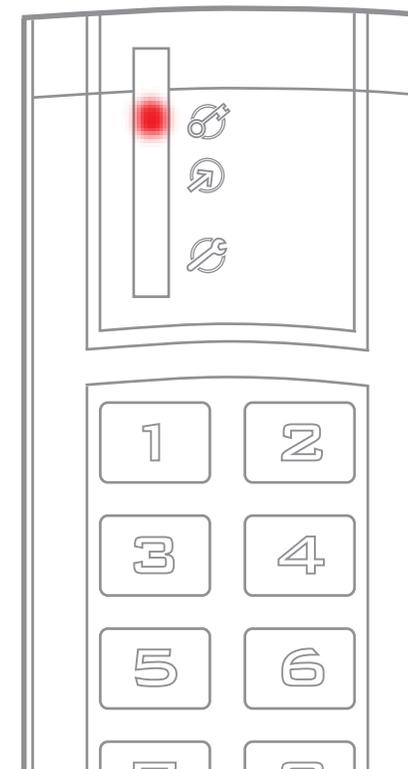
Armed/disarmed concept

- Arming modes
 - Armed
 - Disarmed
- Arming mode can be controlled by means of:
 - Authorized card/PIN
 - Schedule
 - Input line
 - Function key
 - Keypad command
 - CPR network controller (remotely)
 - Command from computer with PR Master software (remotely)

Disarmed
controller



Armed
controller



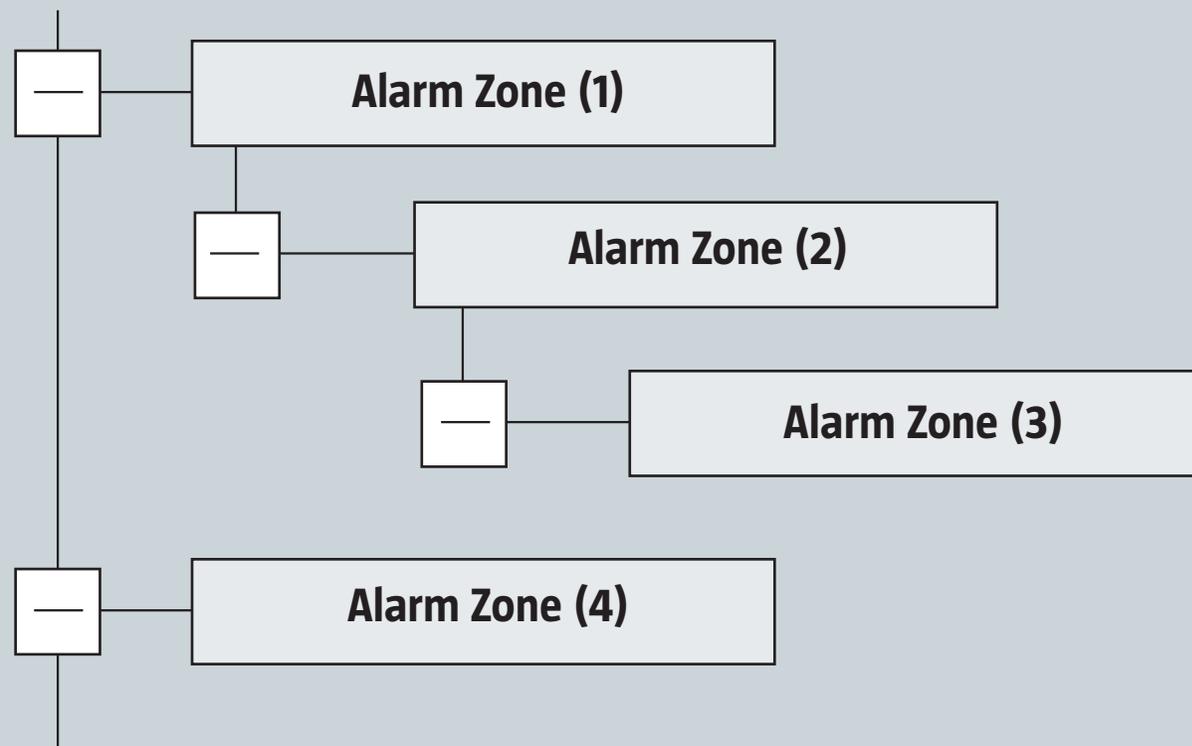


Rules and use of arming modes

- Controller disarming does not cancel access control at particular door. Still only users with access rights can be granted the access
- In case of default settings of controller and PR Master, it does not matter if controller is armed or disarmed
- Activation of Arming Modes for particular controller means that prior to granting access to authorized user, the controller must be disarmed
- Arming Mode can be signaled on controller outputs, thus it can be used to control external devices
- Arming Modes can be used for definition of additional security level by granting selected users access rights and arming rights
- Arming Modes can be used in integration with intruder alarm systems

Alarm zones

- Alarm Zone is a group of controllers concurrently changing their Arming Modes
- Such concurrent arming and disarming is available only in subsystems equipped with CPR series network controller
- Alarm Zones can be independent from each other or they can form administrator defined hierarchy



Example of Alarm Zone hierarchy

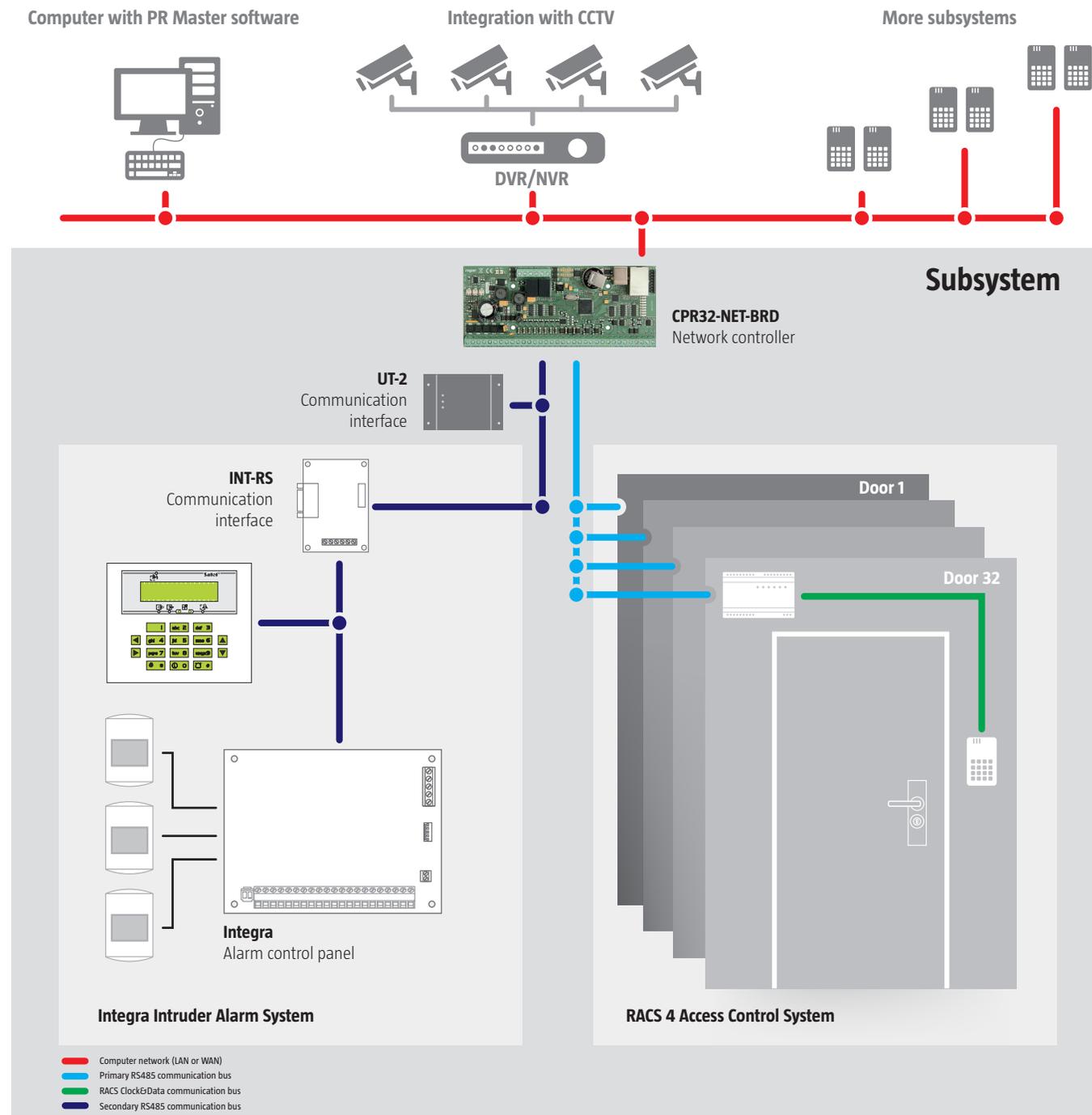


Integration of RACS 4 with intruder alarm systems

- General integration of RACS 4 with intruder alarm systems of various producers based on connection of input and outputs of controllers and alarm control panels
- Software integration of **RACS 4 and INTEGRA (SATEL) series of intruder alarm panels based on CPR32-NET network controller** in accordance with following rules:
 - the number of INTEGRA panels in particular installation cannot exceed the number of CPR32-NET units
 - single CPR32-NET unit can operate with up to 32 alarm zones of INTEGRA panel and this is also the maximum number of integrated zones in the RACS 4 system
 - communication between CPR32-NET and INTEGRA panel requires installation of such interfaces as UT-2 (ROGER) and INT-RS (SATEL)



Integration of RACS 4 with intruder alarm systems



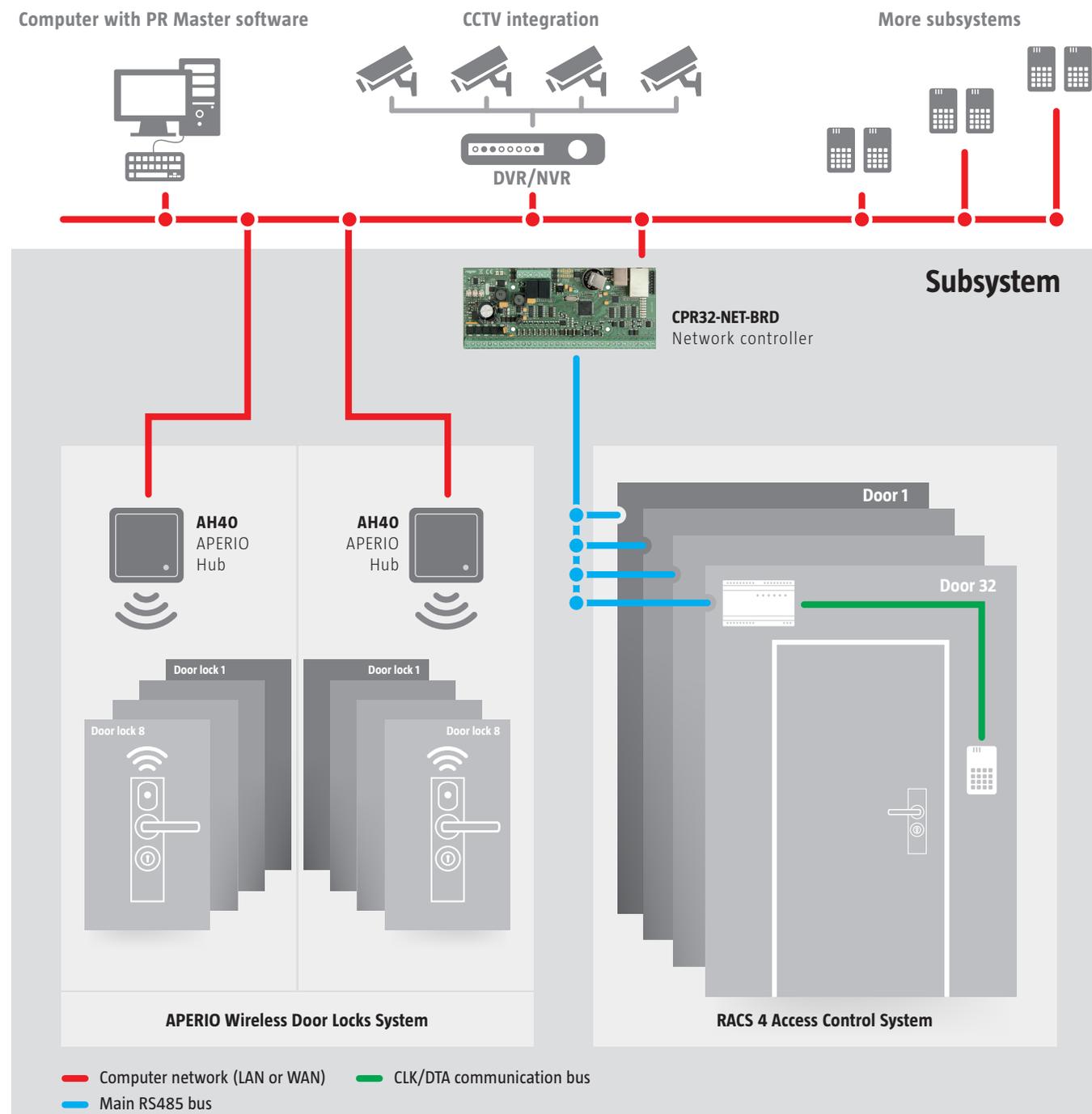


Integration of RACS 4 with wireless door locks

- The integration enables use of wireless readers in RACS 4 system
- In RACS 4 system door locks are operated and configured in the same way as PRxx2 series controllers
- The integration requires installation of CPR32-NET network controller in subsystem
- Single CPR32-NET can operate with up to 16 door locks of APERIO system



Integration of RACS 4 with wireless door locks of APERIO (ASSA ABLOY) system





Integration of RACS 4 with CCTV



- Integration with DVR/NVR and IP camera (equipped with memory cards) of such manufacturers as HIK Vision and Dahua
- Replaying of video clips for administrator selected events within PR Master software
- Displaying live stream from cameras within PR Master software





Software



PR Master

Access Control System Management



RCP Master

Time & Attendance Analysis



Patrol Master

Guard Tour System Management



Roger MiniReader

USB Reader Management



RARC

Readers and Cards Programming



Roger VDM

Roger Devices Programming



Roger ISP

Firmware Update



PR Master features



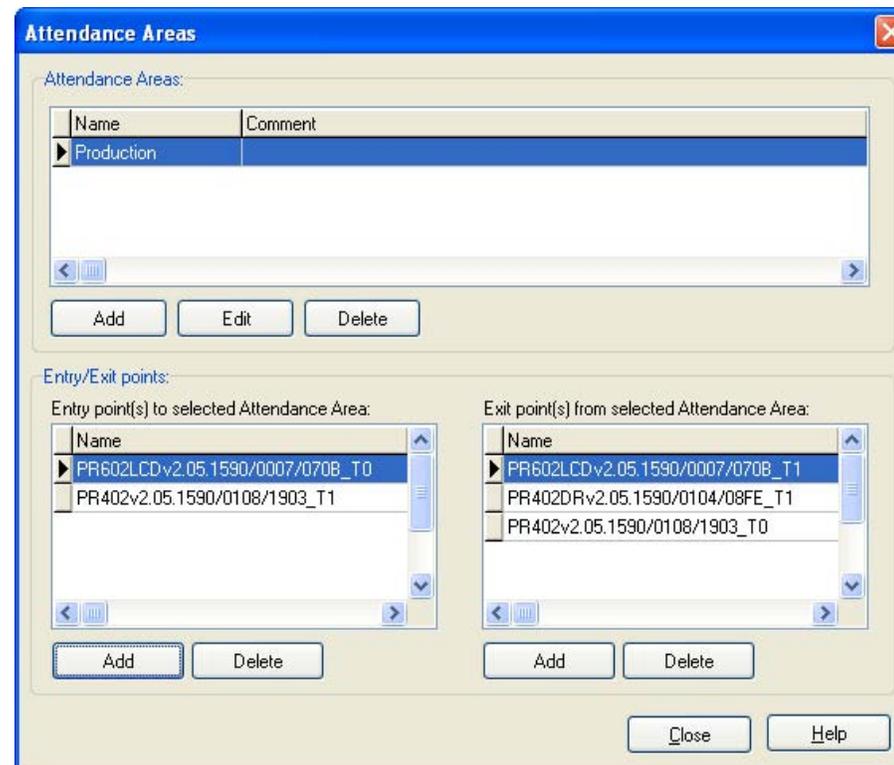
- Operation with PR series controllers
- Real-time monitoring of events
- Remote commands to controllers
- Event log with multiple filtering rules
- Recording and exporting events to T&A software
- Graphic visualization of RACS 4 system operation (Facility plans)
- Automatic and configurable backups
- Definition of operator accounts with different rights for PR Master software
- Export/import of database in XML format



Time and Attendance in RACS 4



- **Basic** – by means of PR Master software
 - Definition of Attendance Areas, which consists in selection of entry and exit terminals
 - Possible modification and inserting of missing events
 - Creation of Attendance Reports for users in particular Attendance Area (daily report or for specified period, individual reports for users or cumulative reports for particular group)
- **Advanced** – by means of RCP Master 2.1 software





Time & Attendance RCP Master 2.1 software



- RCP Master 2 is Time&Attendance software
- The software can process data from PR Master or directly from PR602LCD-DT
- User attendance can be recorded electronically with EM 125 kHz and 13.56 MHz MIFARE proximity cards (PR602LCD-DT)
- The software is dedicated to use in HR departments of small and medium companies and it is offered with license for 50, 250 or 500 employees and license for single or multiple workstations.
- RCP Master licensing system requires connection of hardware key i.e. RUD-2 or RUD-3
- RCP Master 2 can be evaluated free of charge for 60 days. In such case hardware key is not required.



PR602LCD-DT



RACS 4 in hotel applications

- Devices dedicated to hotel applications: PR821-CH controller with built-in EM 125 kHz/MIFARE reader and card holder, HRT82MF reader and HRT82FK panel with functions keys
- PR821-CH controller offers hotel automation, access control and intruder alarm functionalities
- Quick guests check-in with PR Master software
- Hotel devices can be used in third party systems based on PR Master API



PR821-CH



HRT82MF



HRT82FK

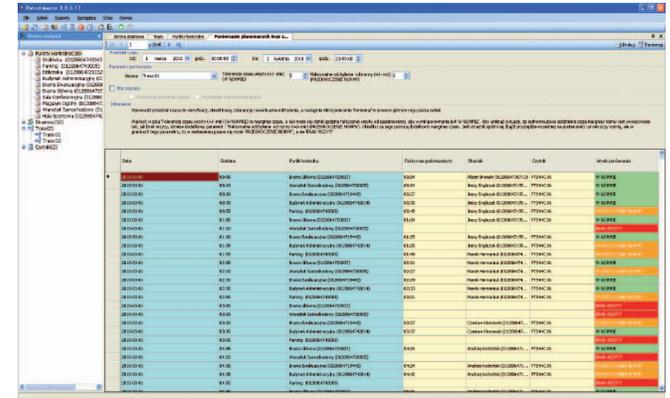
Hotel automation devices for integration

- Hotel automation devices for integration: HRC controllers, HRT auxiliary devices: card holder, hall reader, air conditioning control panel, function keys panels, expanders
- HRC controllers offers hotel automation, access control and intruder alarm functionalities
- The offer includes only devices without management software which must be provided by system integrator



Guard Tour System - Patrol II LCD

- Guard tour control system
- Non-volatile memory for 32 000 event buffer
- Undeleting of downloaded events
- Communication by means of USB port
- High resistance to mechanical damage
- Simple and intuitive control with single button
- Up to 8000 readings without battery recharging/replacement
- Power supply: 2 LR6 (AA) batteries
- Free of charge software for Windows OS
- Tamper contact



Patrol Master 3



Patrol II LCD



PK-2



PK-3



Thank you for your attention

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This document is not intended to be a technical specification of the product and has informative character only. The Manufactures of product reserves right to change its characteristic without notice. The product features listed in this document refer to the entire series and depends on particular product version, configuration and additional equipment.

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roger[®]

ROGER sp. z o.o. sp. k.
82-400 Sztum
Gościszewo 59
Poland

T. +48 55 272 0132
F. +48 55 272 0133
E. roger@roger.pl
www.roger.pl