

*Roger Access Control System*

Integration of RACS 4 and  
APERIO (ASSA ABLOY) wireless lock system

*Document version: Rev. B*



## Contents

<b>1. Introduction .....</b>	<b>3</b>
<b>2. Scenario of operation.....</b>	<b>3</b>
<b>3. Installation and configuration of APERIO system.....</b>	<b>5</b>
<b>4. Configuration of RACS 4 system.....</b>	<b>5</b>
4.1 Configuration of CPR32-NET by web browser.....	5
4.2 Configuration of subsystem in PR Master software.....	6
4.3 Configuration of APERIO door locks in PR Master software .....	8
4.5.1 General tab.....	9
4.5.2 Built-in terminal ID1 tab .....	10
4.5.3 Options tab.....	11
<b>5. Use of RACS 4 and APERIO integration .....</b>	<b>12</b>

# 1. INTRODUCTION

This manual contains minimum information that is necessary to configure integration of RACS 4 system with APERIO wireless door lock system made by ASSA ABLOY. Full functional description of RACS 4 system, PR Master software and CPR32-NET network controller is specified in following documents which are available at [www.roger.pl](http://www.roger.pl):

- Functional description of PRxx2 series controllers
- Functional description of PRxx1 series controllers
- PR Master User manual
- User manual for CPR32-NET network controller

The integration concerns all available models of controllers and readers made by Roger if at least single CPR32-NET network controller is installed.

The configuration of APERIO system is described in manufacturer's instructions. The present manual includes only information on connection and integration of APERIO system with Roger access control system.

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Note: The integration of RACS 4 and APERIO systems requires PR Master software version 4.5.14 or newer.

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## 2. SCENARIO OF OPERATION

In general perspective the integration consists in enabling use of APERIO door locks with built-in readers of such standards as EM125kHz, Mifare Classic/Plus/Desfire and iClass, EM125kHz within RACS 4 access control system in such way that Roger controllers and readers could operate in parallel with APERIO door locks. General diagram of RACS 4 and APERIO integration is shown in fig. 1. The initialization of APERIO hub and door locks is performed by means of Aperio Programming Application and USB Radio Dongle. The configuration and management of RACS 4 system including integrated APERIO system is performed by means of PR Master software. The integration concerns all available controllers and readers produced by Roger and it concerns AH-40 hub as well as E100, C100 and L100 locks. The integration with APERIO system requires installation of single CPR32-NET network unit per 2 APERIO hubs. Each hub can communicate with up to 8 locks.

The APERIO system consists of hubs and door locks. Hubs are connected with CPR32-NET unit by wires. The connection between door locks and hubs is wireless. The cabling can be done by means of U/UTP cat. 5. The communication interface between hub and CPR32-NET is Ethernet.

Single CPR32-NET operates with maximum possible number of APERIO locks (16 pcs.) based on license which can be purchased from Roger company.

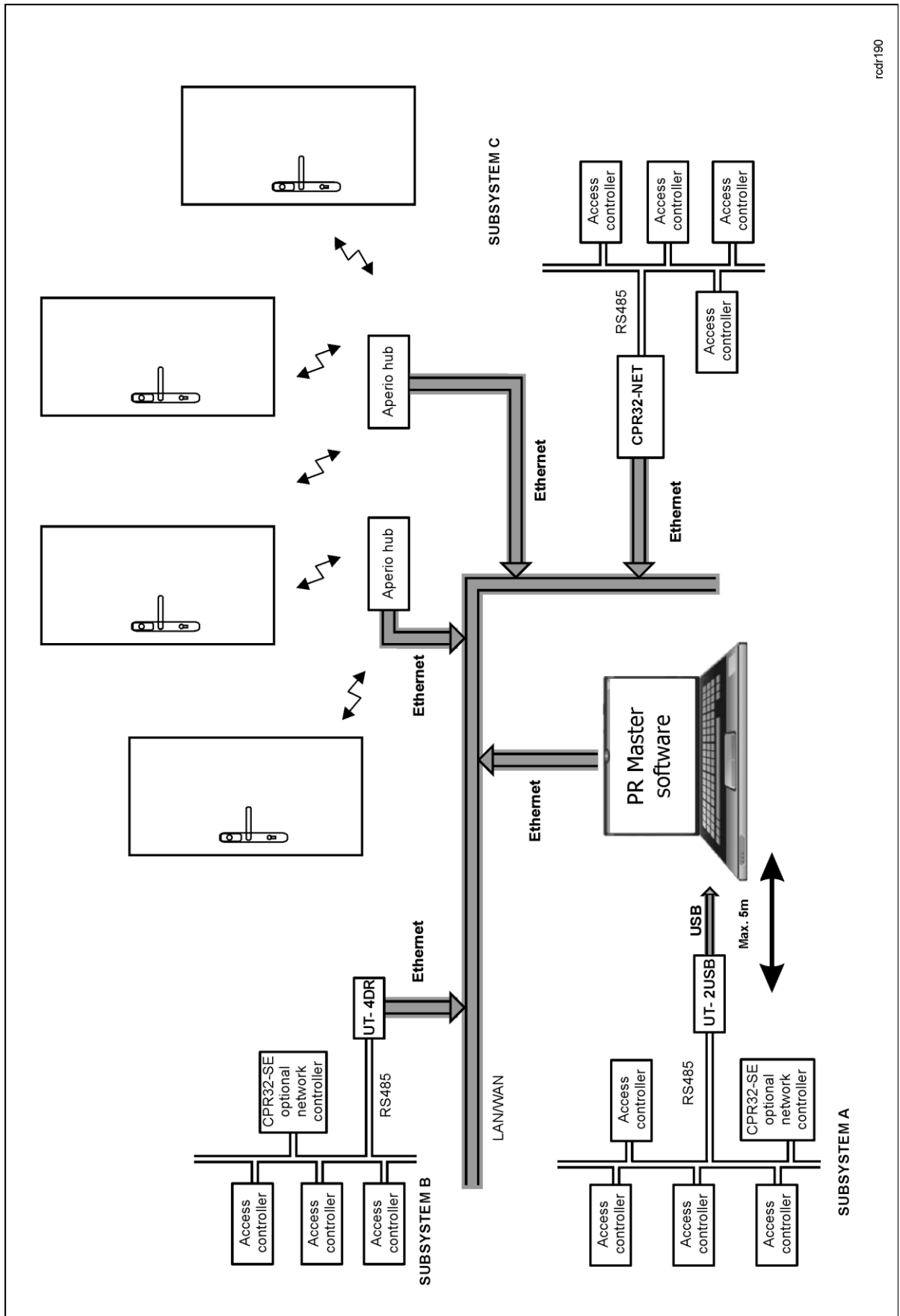
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Note: Default, free of charge licence for CPR32-NET enables operation with maximum 2 locks of APERIO system.

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### **Integration procedure:**

- Connect CPR32-NET and hubs according to fig. 1
- Configure APERIO system by means of Aperio Programming Application and USB Radio Dongle in accordance with end user requirements, manufacturer manuals and section 3 of the present manual.
- Configure RACS 4 system in accordance with end user requirements, Roger manuals and section 4.
- Configure APERIO door locks by means of PR Master software and in accordance with section 4.3 of present manual.
- In case of successful configuration, the integration can be used in accordance with section 5.



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Fig. 1 General diagram of RACS 4 and APERIO integration

### 3. INSTALLATION AND CONFIGURATION OF APERIO SYSTEM

For detailed description of the installation and configuration of APERIO system see manufacturer manual ST-001279-Aperio Technology, Installation Guide AH40.

The procedure consists in:

- Connecting Aperio Programming Application to the communication hub through USB Radio Dongle
- Preparing common configuration parameters that will be applied to all locks and hubs at the site
- Configuring the communication hub
- Adding locks to the communication hub
- Configuring the locks
- Finalizing and verifying the configuration

During configuration of hub it is particularly necessary to enter ACU address which is CPR32-NET address and define ACU port which shall be later entered in PR Master software – see fig. 2. Pair of AH-40 hubs can be associated with particular CPR32-NET network controller but they require individual ports. TLS encryption must be disabled.

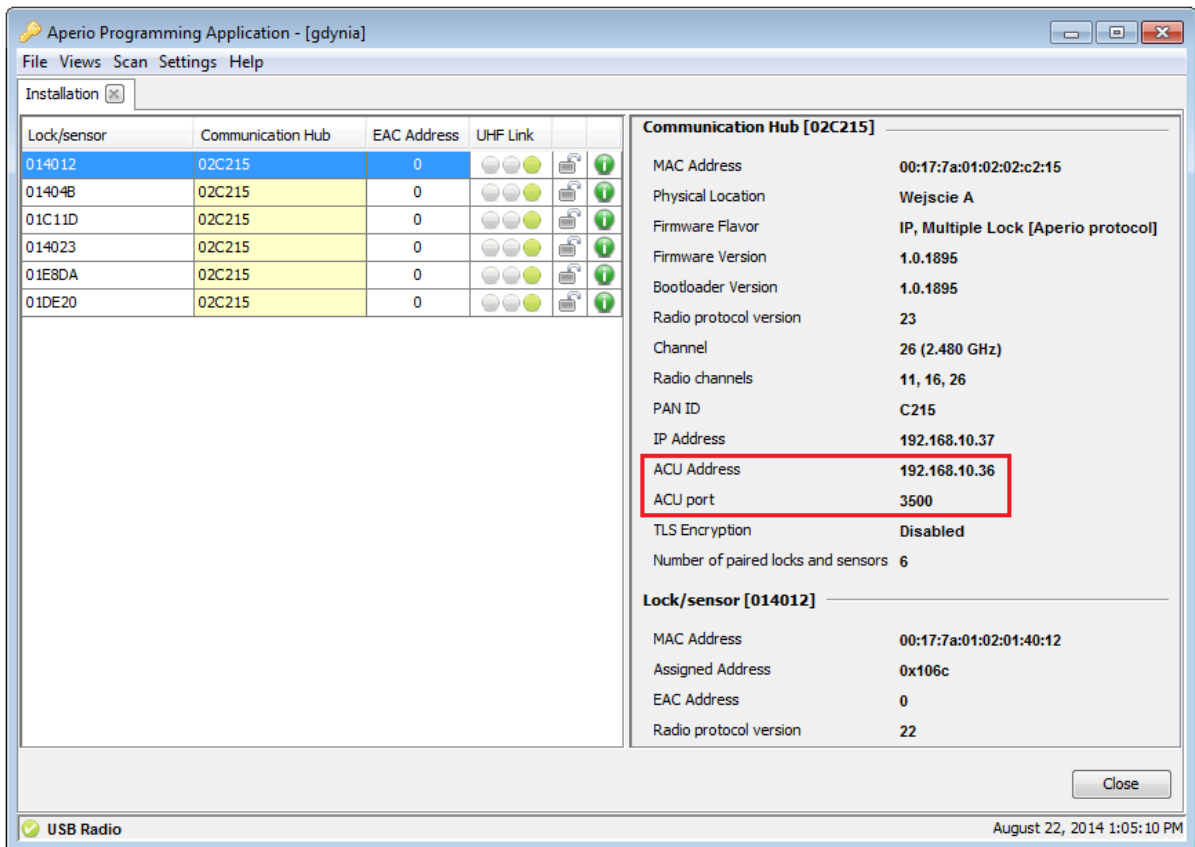


Fig. 2 Aperio Programming Application

### 4. CONFIGURATION OF RACS 4 SYSTEM

#### 4.1 Configuration of CPR32-NET by web browser

In order to communicate with CPR32-NET unit and use it within RACS 4 system it is necessary to know its IP address and port. Default parameters of CPR32-NET are as follows:

IP address=192.168.0.80  
 Subnet mask=255.255.255.0  
 Default gateway=192.168.0.1

Administrator login: admin  
Administrator password: admin  
UDP port = 3544  
Events recorded in internal flash memory  
Encrypted communication with default password

It is assumed that mentioned above parameters will be changed in particular access control installation, specifically IP address and administrator password. These parameters can be modified by means of CPR32-NET webpage opened with web browser e.g. Internet Explorer.

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Note: In order to connect with CPR32-NET in local area network (LAN), the computer must be in the same subnet. In case of CPR32-NET with default IP address, the IP address of computer should be 192.168.0.xxx.

Note: More information on CPR32-NET settings is given in its manual.

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## 4.2 Configuration of subsystem in PR Master software

The integration with APERIO system requires the installation of CPR32-NET unit. After the connection in accordance with diagram shown in fig. 1 it is necessary to download and install PR Master software from [www.roger.pl](http://www.roger.pl). System setup requires following steps:

- creating subsystem
- enabling the integration in CPR32-NET properties
- detecting APERIO and RACS 4 devices

### Procedure for system setup:

1. Select the option **Networks** and then click the button **Add Network**
2. In the opened window (see fig. 3), select the option **Communication port** and then select **CPR32-NET**.
3. By means of the option **Interface** select if CPR32-NET operates in LAN – **CPR32-NET UDP LAN** or in WAN – **CPR32-NET UDP WAN**.
4. In the field **Server IP** enter IP address of your CPR32-NET (default address is 192.168.0.80)
5. In the field **Server port** enter UDP port of your CPR32-NET (default port is 3544). Make sure that the port is not blocked by your firewall.
6. Close the window by means of **OK** button.

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Note: If the computer with PR Master and CPR32-NET are in the same LAN subnet, then IP address and port of CPR32-NET shall be detected automatically by PR Master software.

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7. Click the button **CPR** in the window shown in fig. 4.
8. In the new window select the option **Configuration** and then **Aperio**.
9. In the next window (see fig. 5) activate the option **Enable Aperio control** and enter Aperio hub ports (i.e. ACU ports from fig. 2).
10. Click the button **OK** and then send your settings to CPR by clicking the button **Configure**.
11. In window shown in fig. 4 press the button **Controllers**.
12. In the newly opened window click the button **Add**
13. PR Master shall search for APERIO door locks and Roger controllers in range of 0-99 addresses (see fig. 6). When APERIO door locks are detected then they are shown in the main windows of PR Master software.

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Note: If Roger controllers are to be used within the same subsystem with APERIO door locks then they addresses must be in range of 33-99 as addresses in range of 1-32 are reserved for APERIO devices. If APERIO integration is enabled then Roger controller with their addresses in range of 1-32 shall not be detected at all.

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14. Close the window and return to the main window of PR Master software.

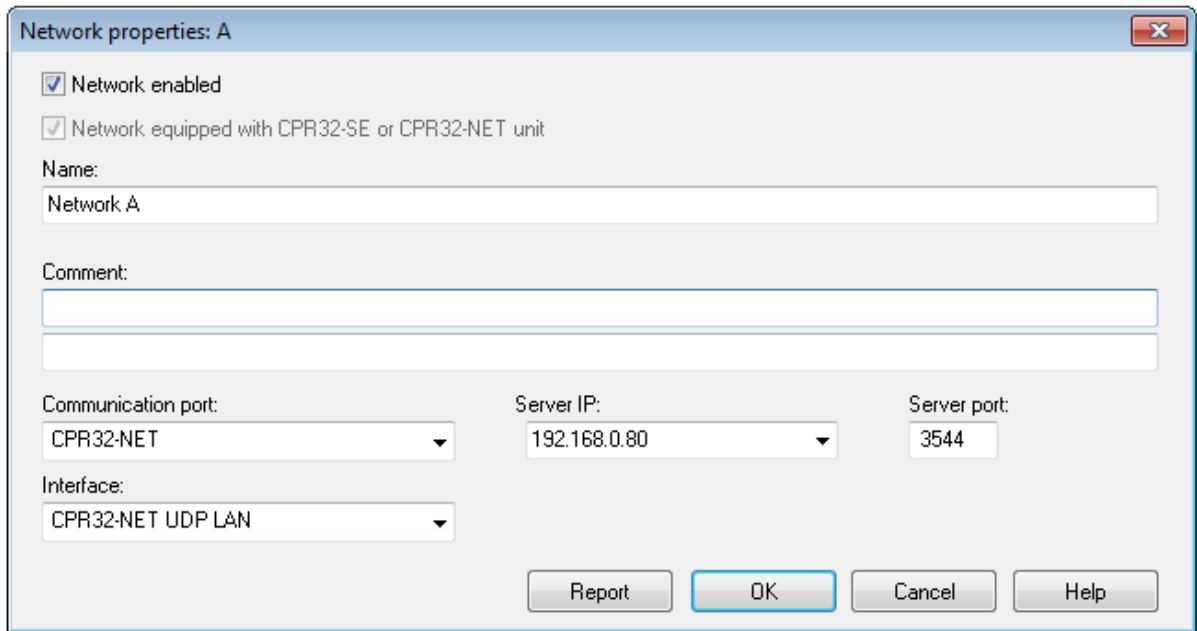


Fig. 3 Configuration of communication channel

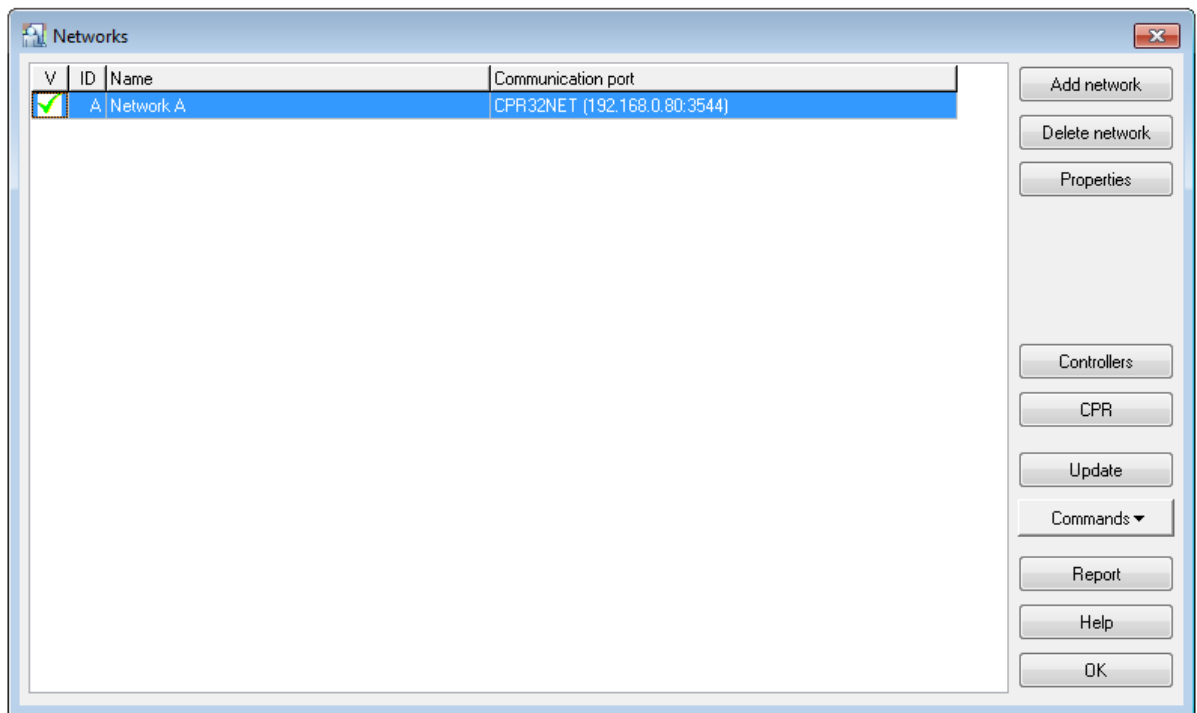


Fig. 4 Networks window

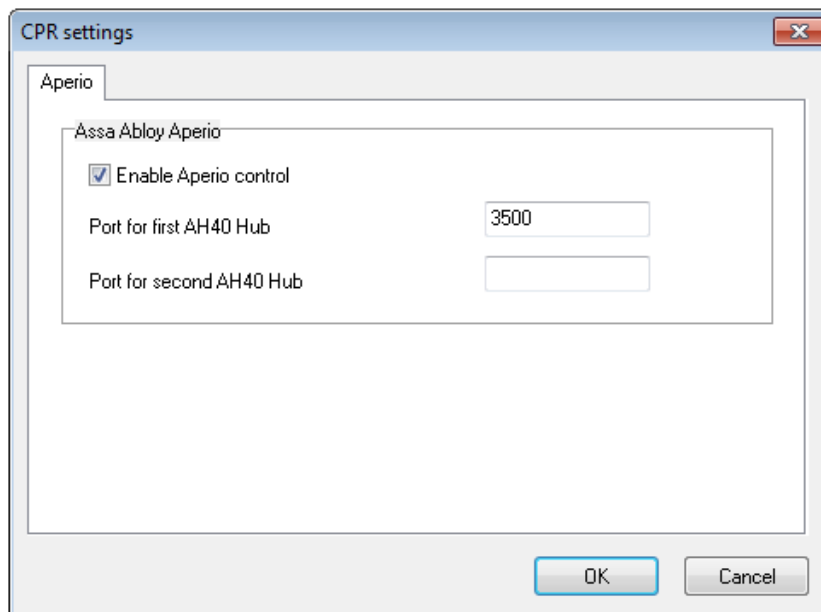


Fig. 5 APERIO integration window in PR Master

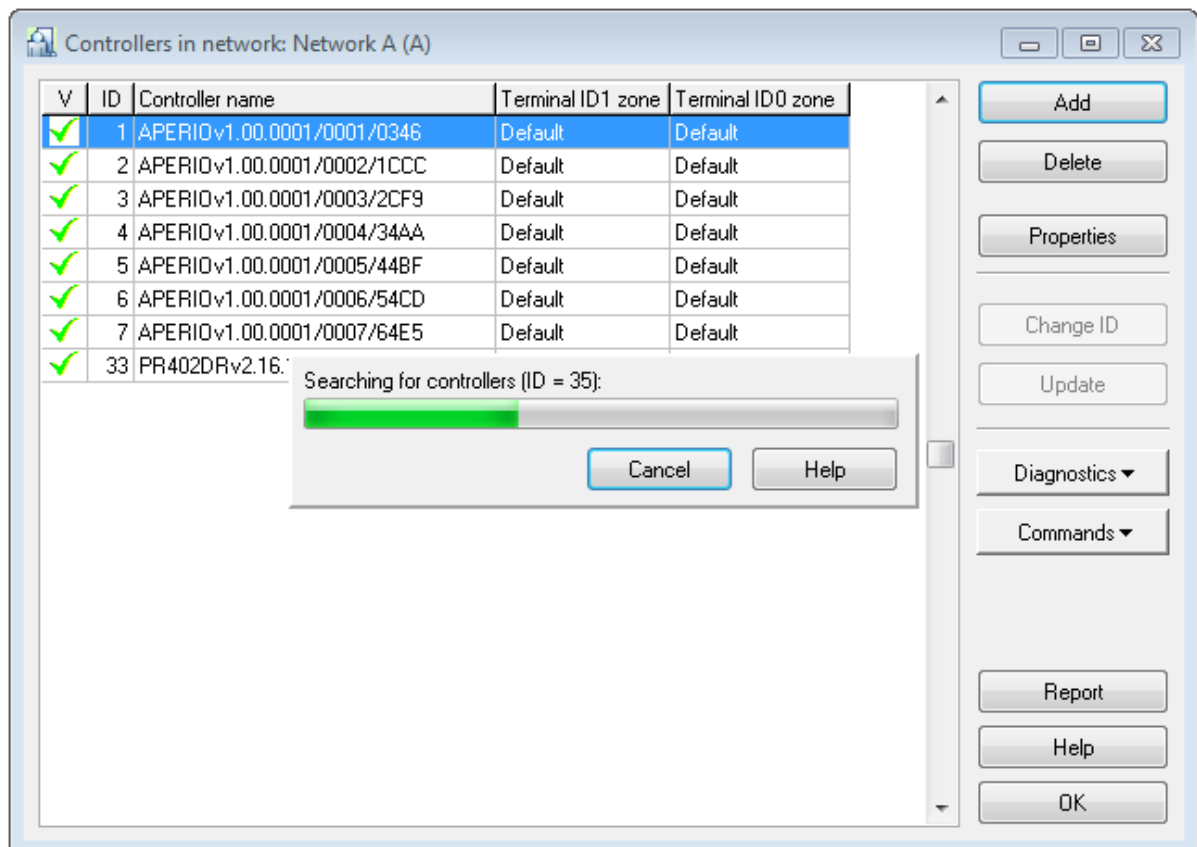


Fig. 6 Detection of APERIO locks and Roger controllers

### 4.3 Configuration of APERIO door locks in PR Master software

After RACS 4 system setup, the administrator can configure each APERIO door lock by clicking its name in the main window of PR Master software (see fig. 7). When the lock is clicked then the window shown in fig. 8 is displayed.



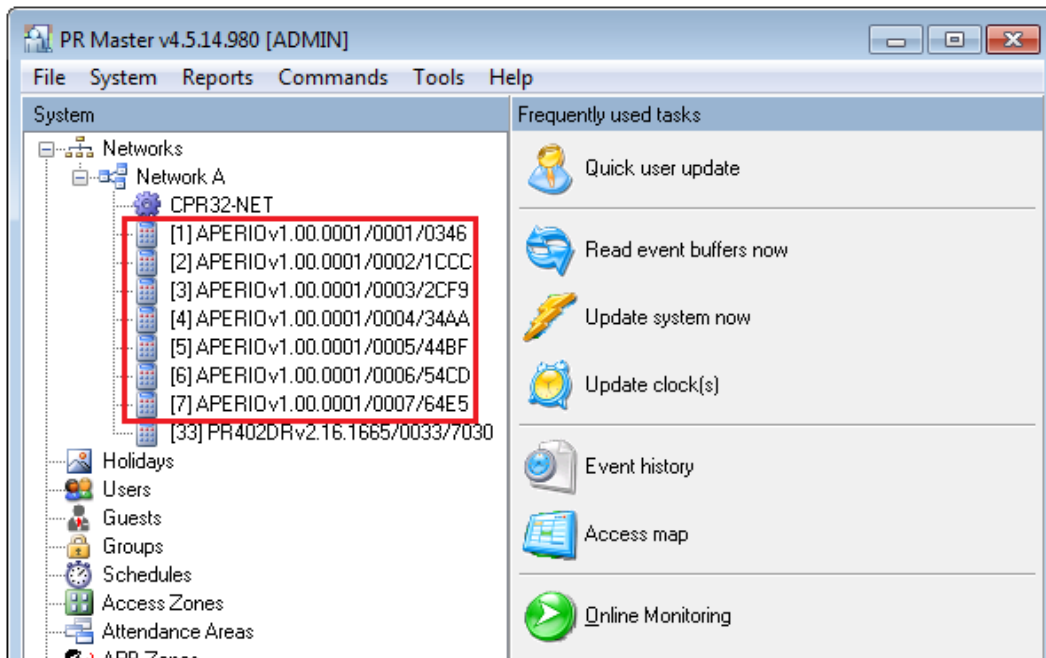


Fig. 7 The main window of PR Master software with APERIO locks

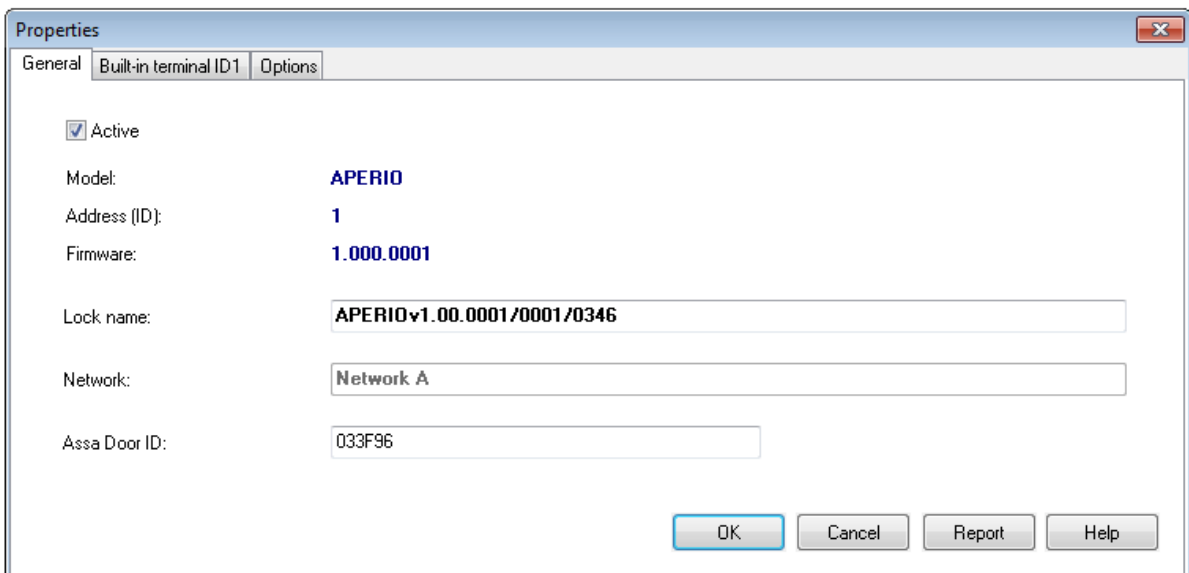


Fig. 8 APERIO properties window

In the properties of APERIO lock following tabs are available: **General**, **Built-in terminal ID1** and **Options**. All options within the tabs are described in following paragraphs.

**4.5.1 General tab**

In the General tab (see fig. 8), the administrator can activate or deactivate the lock, change the name of lock and acquire some general information:

- Lock type,
- Lock address (ID),
- Firmware version,
- Lock name,
- Name of the subsystem (network).
- Lock address

## 4.5.2 Built-in terminal ID1 tab

Fig. 10 Built-in terminal ID1 tab

**Field: Terminal name** – administrator can enter the name of APERIO terminal (reader) in this place. Logically, reader name is not the same as lock name in **General** tab. Two similar fields are available in both tabs in order to maintain consistency with other controllers and terminals used in PR Master. It is recommended to enter the same name in both fields.

**Fields: Comment 1, Comment 2** – both fields can be used by administrator in order to enter any descriptions.

**Option: Default T&A Mode** – the option enables selection of predefined or administrator defined T&A Mode as default T&A Mode for the terminal. The option is used in Time&Attendance applications based on RCP Master software.

**Option: Access Zone** – the option is used for selection of the terminal as the entry to particular Access Zone. Access Zones can be created by means of the option **Access Zones** in the main window of PR Master software.

**Option: APB zone ENTRY** – the option is used for selection of the terminal as the entry to APB Zone. Anti-passback Zones can be defined by means of the option **APB Zones** in the main window of PR Master software.

**Option: APB zone EXIT** – the option is used for selection of the terminal as the exit from APB Zone. Anti-passback Zones can be defined by means of the option **APB Zones** in the main window of PR Master software.

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Note: More information on T&A, Access Zones and APB can be found in the manual: Functional description of PRxx2 series controllers which is available at [www.roger.pl](http://www.roger.pl).

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### 4.5.3 Options tab

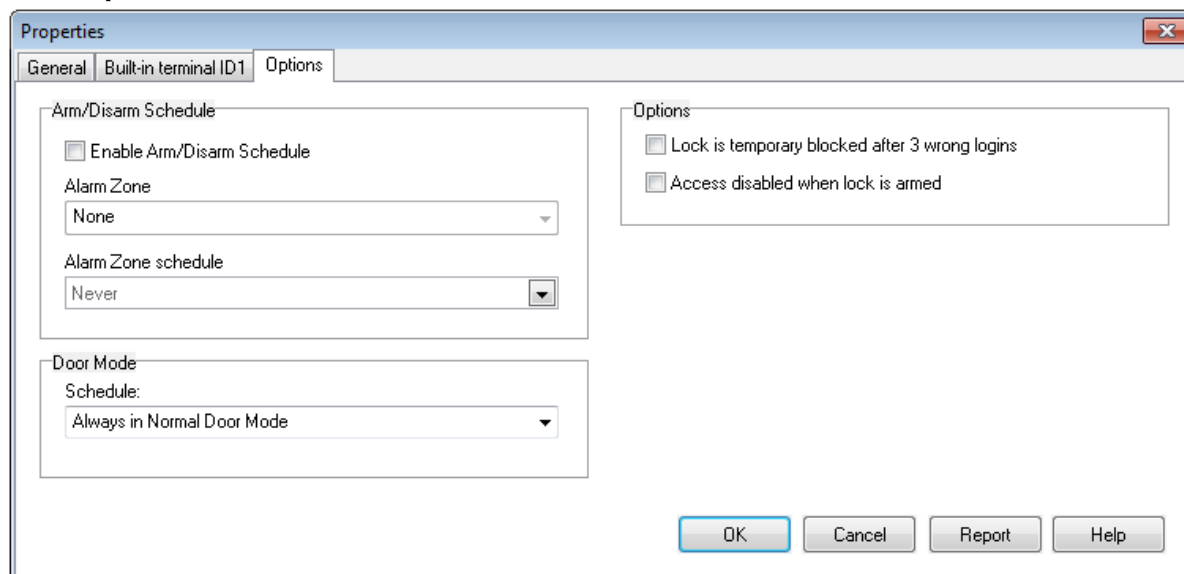


Fig. 11 Options tab

#### **Area: Arm/Disarm Schedule**

**Option: Enable Arm/Disarm Schedule** – this option is used for switching Arm/Disarm Schedule on/off. Arm/Disarm Schedule can be used in the integration of RACS 4 system with intruder alarm systems.

**Option: Alarm Zone** – the option is used for assigning the lock to particular Alarm Zone. Alarm Zones are created by means of the option **Alarm Zones** in the main window of PR Master software. The lock assigned to particular Alarm Zone switches to Armed/Disarmed Mode concurrently with other controllers/locks belonging to the same Alarm Zone and in accordance with the Schedule assigned to that Alarm Zone. The Schedule can be assigned to particular Alarm Zone by means of the option **Alarm Zones** in the main window of PR Master software. Two predefined Schedules i.e. Always and Never are already available and the administrator can also specify own Schedule by means of the option **Schedules** in the main window of PR Master software.

**Option Alarm Zone schedule** – the option is used for assigning Arm/Disarm Schedule directly to the lock when Alarm Zone is not applied. Two predefined Schedules i.e. Always and Never are already available and the administrator can also specify own Schedule by means of the option **Schedules** in the main window of PR Master software. The schedule is configured by means of From... and To... parameters and the first parameter signifies the moment when lock becomes disarmed while the second parameter signifies the moment when the lock becomes armed. Selection of predefined Always Schedule results in lock getting disarmed after each reset or configuration upload.

#### **Area: Door Mode**

In this area, the administrator can assign predefined Schedule i.e. Always in Normal Door Mode or assign own Schedule which can be defined by means of the option **Schedules** in the main window of PR Master software.

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Note: More information on Arm/Disarm modes and schedules as well as Door Modes can be found in the manual: Functional description of PRxx2 series controllers which is available at [www.roger.pl](http://www.roger.pl).

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#### **Area: Options**

**Option: Lock is temporary blocked after 3 wrong logins** – when the option is selected then the terminal is blocked for all users for 3 minutes when unknown card is used 3 times in a row at the terminal.

**Option: Access disabled when lock armed** – when this option is selected then access can be granted only when the lock is disarmed. If the lock is armed then the access is denied for all users, regardless of their access rights. Based on that option, SWITCHER type users who can arm/disarm locks can also block and unblock the access to other users regardless of their access rights. Contrary to Roger controllers, in case of APERIO locks there is no LED which could indicate current arming mode, therefore it is recommended to use this option cautiously as default mode of APERIO lock is Armed Mode.

## 5. USE OF RACS 4 AND APERIO INTEGRATION

APERIO locks make an addition to RACS 4 access control system and they can be used in configuration of Anti-passback and Alarm Zones as well as T&A attendance applications. Therefore APERIO system integrated with RACS 4 enables use of wireless door locks with battery power supply within RACS 4. Various events generated by APERIO locks can be viewed in PR Master log.

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