

*Roger Access Control System*

## RACS 4 system in hotel applications

### User manual

*Document version: Rev. A*



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# 1. INTRODUCTION

This manual contains minimum information that is necessary to configure hotel system based on RACS 4 access control system. Standard controllers of PRxx1 series, particularly PR621-CH controller and PRT series readers are dedicated to hotel applications.

The configuration of RACS 4 system is performed by means of PR Master software. It is assumed that the reader of present manual is acquainted with RACS 4 system and knows basic definitions and functions related to that access control system. Complementary information can be found in following documents:

- PR Master software manual
- PRxx1 series controllers Functional Description and Programming Guide
- PR621-CH Quick Start
- Installation guides of particular controllers

All mentioned above instructions are available at [www.roger.pl](http://www.roger.pl).

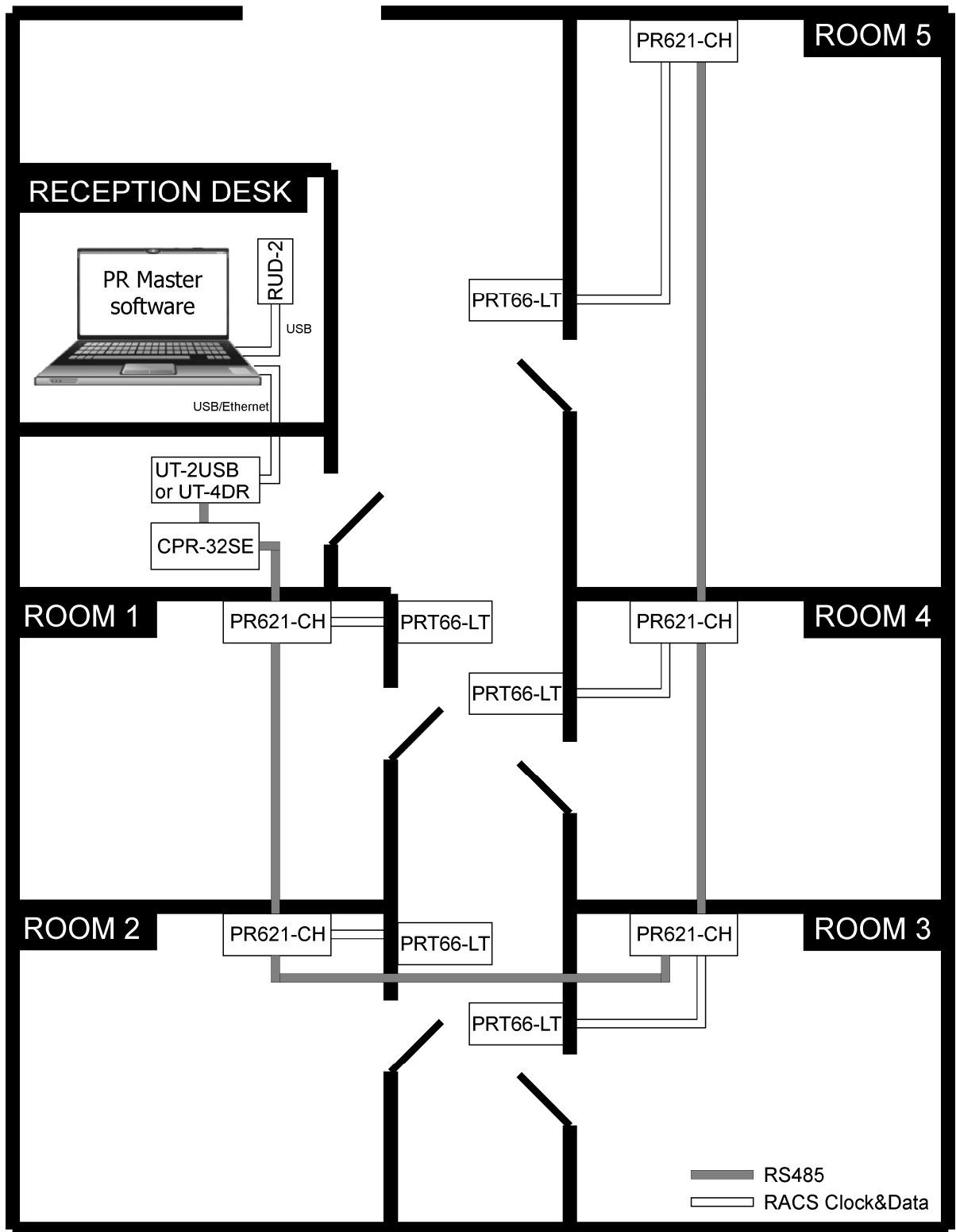
In PR Master software installation folder there are various demo configurations including hotel system demo.

## 2. SCENARIO OF OPERATION

RACS 4 system is dedicated particularly to office applications but it has also some hotel options and functionalities. It enables quick check-in for guests, monitoring of room occupancy (PR612-CH controller) and switching 230VAC power supply on only if room is occupied (PR621-CH controller). Recommended scenario of operation is shown in fig. 1, but other scenarios are also possible. In the presented system the identification of guest is performed by means of EM 125 kHz proximity cards. If Mifare cards are required then PR411DR controllers (preferably as PR411DR-SET) and PRTxxMF series readers are recommended for such installation. Devices shown in fig. 1 perform following roles:

- RUD-2 – card reader installed at reception desk in order to make card enrolment an easy and quick task,
- UT2-USB or UT-4DR – communication interface device, which enables operation with 32 units of single door controllers. Each next batch of 32 controllers requires the next communication interface device connected to the same computer with PR Master software,
- CPR32-SE – network controller of access control system providing real time clock and memory buffer for events,
- PR621-CH – access controller with card holder. Other PRxx1 series controllers can also be used but they do not offer monitoring of room occupancy and 230VAC power supply switching in the room only if it is occupied. In order to switch 230VAC power supply it is necessary to connect external relay/contactors to controller output line,
- PRT66LT – reader, which is installed at the entrance to hotel room. The reader must be connected to controller. The controller can operate door lock by means of its built-in relay.

By default all Roger devices can be supplied with 12VDC. The whole communication cabling including RS485 and RACS Clock&Data buses can be done by means of standard twisted pair i.e. UTP cat.5. The maximal distance between communication interface device and the furthest controller (RS485 bus) equals to 1200m. In case of RACS Clock&Data bus the maximal guaranteed distance equals to 150m. Instead of CPR32-SE and UT-4DR communication interface, the installer can also apply CPR32-NET network controller. The maximal number of users in the whole system equals to 1000 while the maximal number of guests in the room equals to 8 (each with own card). PINs can be used with/apart from proximity cards but in such case readers with keypad must be installed e.g. PRT12LT or PRT64LT.



rcdr178

Fig. 1 Typical installation diagram for hotel system based on RACS 4

## 3 CONFIGURATION OF PR MASTER SOFTWARE

### 3.1 PR Master software operators

PR Master software enables configuration of operator accounts, so the administrator could define accounts for operators with different rights. New account can be set by selection of the option

**Tools** and **Program operators** in the main window of PR Master software and then clicking of **Add** button in the window shown in fig. 2. In case of recommended scenario of operation it is enough to select the option **System | Networks** as well as **Tools | Identify user** in the top right area. If it is planned to apply monitoring of room occupancy then also the option **Tools | Online monitoring** in the top right area and options **View | Controller status** and/or **View | View map** in the bottom right area should be selected. Optionally, the administrator can also select the option **Tools | Quick user update** if alternative, not recommended method of user enrolment and deleting is to be applied.

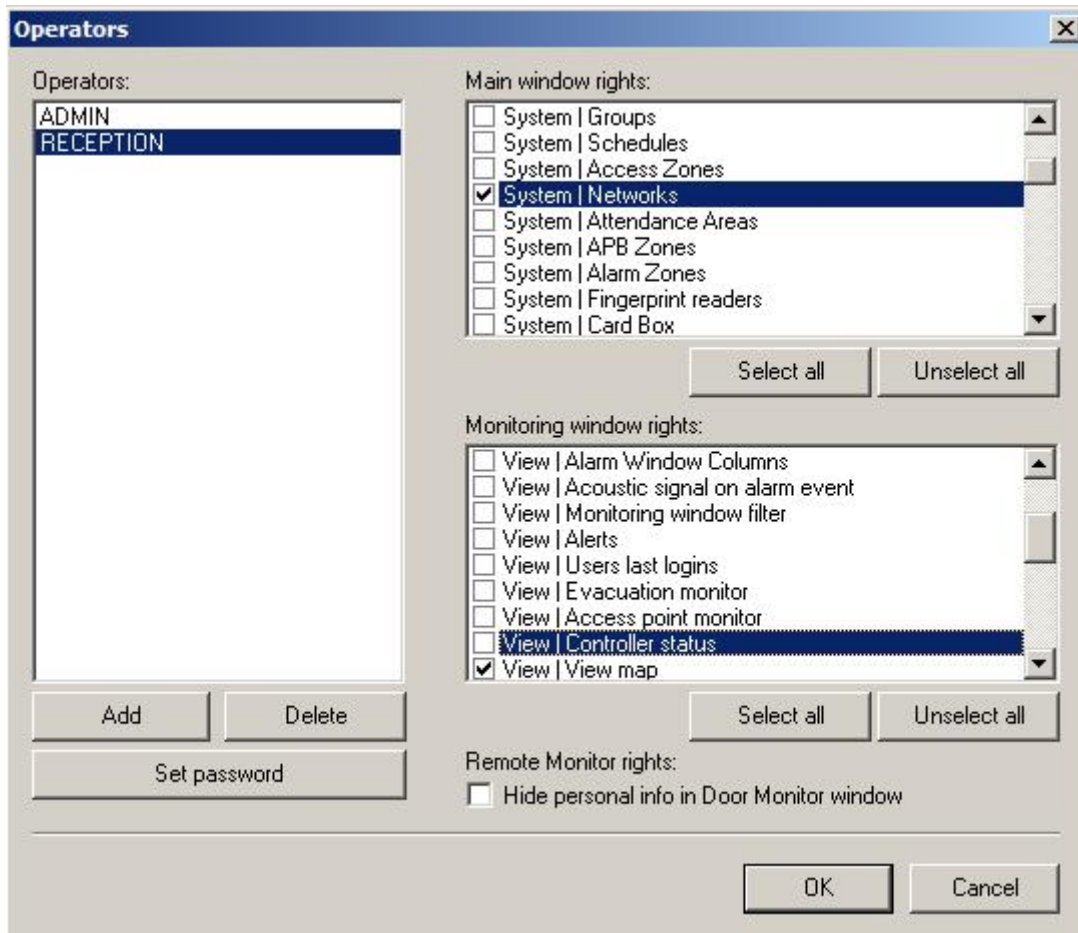


Fig. 2 Operator account(-s) in PR Master software

## 3.2 Configuration of controllers

### 3.2.1 Configuration of subsystem(-s) and detection of controllers

Select the option **Networks** in the main window of PR Master software in order to create subsystem and detect controllers connected to the computer by means of communication interface device (e.g. UT-2USB or UT-4DR). Then click the button **Add network** and in the newly opened window select the port and possibly the option **Network equipped with CPR control panel**. Then close the window and click the button **Controllers**. In the newly opened click the button **Add** and detect controllers. Each controller within subsystem must have different address. Example of RACS 4 system consisting of two subsystems (networks) is shown in fig. 3.

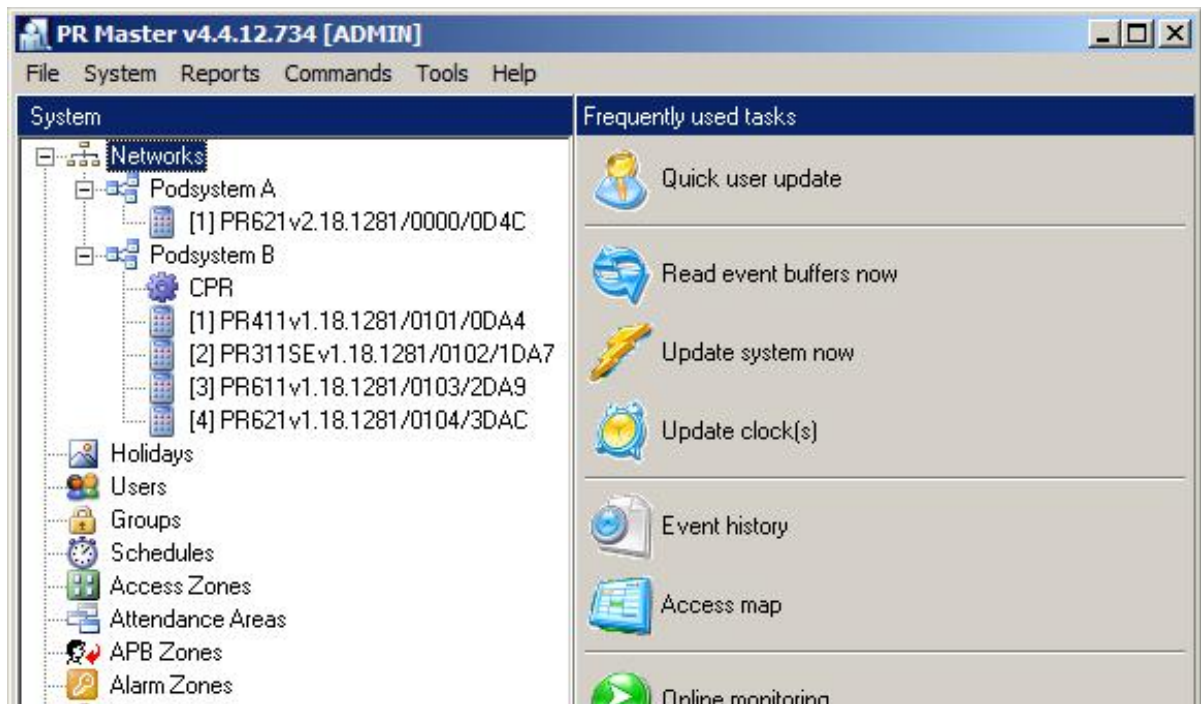


Fig. 3 Example of RACS 4 system consisting of two subsystems (networks)

### 3.2.2 Activation of Hotel room option

All controllers used in hotel applications must have the option **Hotel room** activated. Therefore the administrator must select controllers one by one in the main window of PR Master software and in the **General** tab activate the option **Hotel room** – see fig. 4. When the option is selected then additional tab **Guests** is shown. The **Hotel room** option is available only for standard controllers of PRxx1 series.

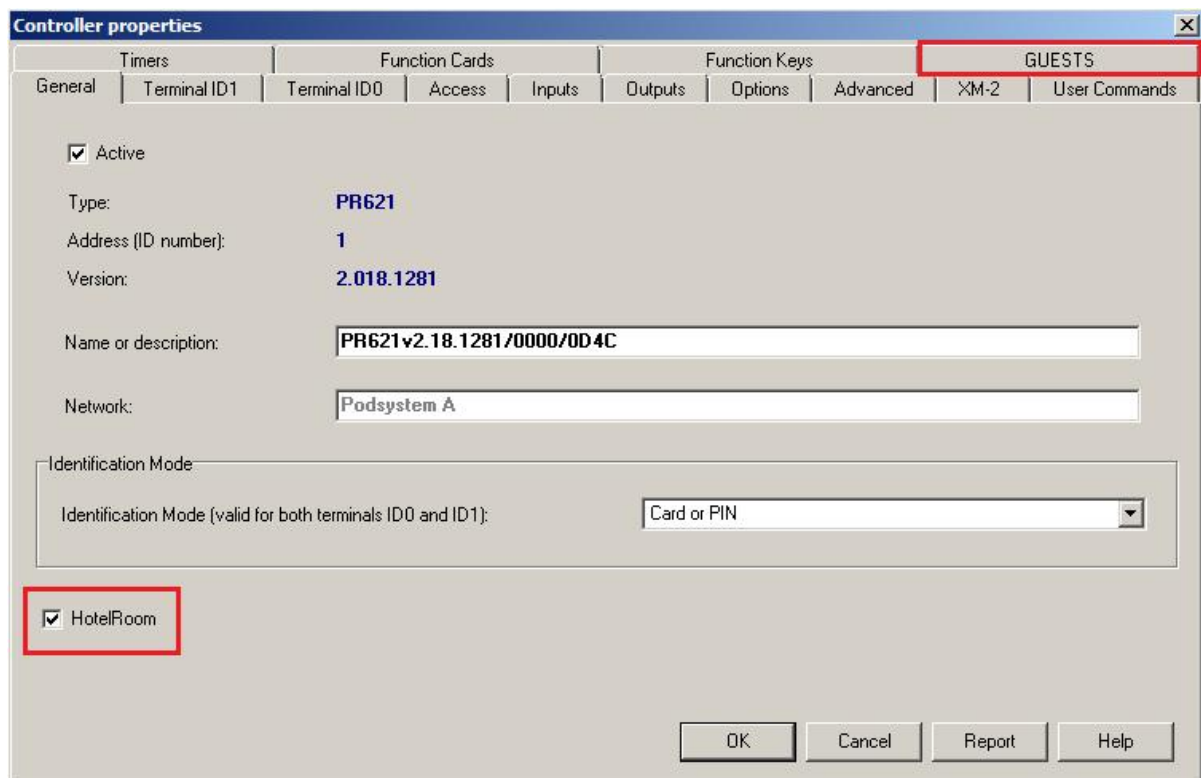


Fig. 4 Hotel room option in the properties of controller

### 3.2.3 Modification of controller/reader name

It is recommended to modify default names of controllers and readers within PR Master software. This will result in a more clear list of hotel rooms for receptionist. The name of controller can be changed within properties of controller, in the **General** tab, in **Name or description** field (see. Fig. 4). Names of readers can be modified in **Terminal ID1** and **Terminal ID0** tabs, in **Name or description** fields.

*Example:*

*Instead of default controller name PR612v.2.18.1281/0000/0D4C it is better to enter such name as Room 101.*

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Note: The full description of controller configuration in RACS 4 system is not the subject of present manual. More information can be found in the document 'PRxx1 series controllers Functional Description and Programming Guide'.

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## 4. USE OF RACS 4 SYSTEM IN HOTEL APPLICATIONS

### 4.1 Guest check-in

There are two methods for guests check-in within PR Master software. The recommended one consists in guest check-in by controller properties, the other method is based on the option **Quick user update**. It is recommended to select one method and not to use them interchangeably. If operator account is configured in accordance with par 3.1 PR Master software operators, then the main window of PR Master should look as in fig. 5.

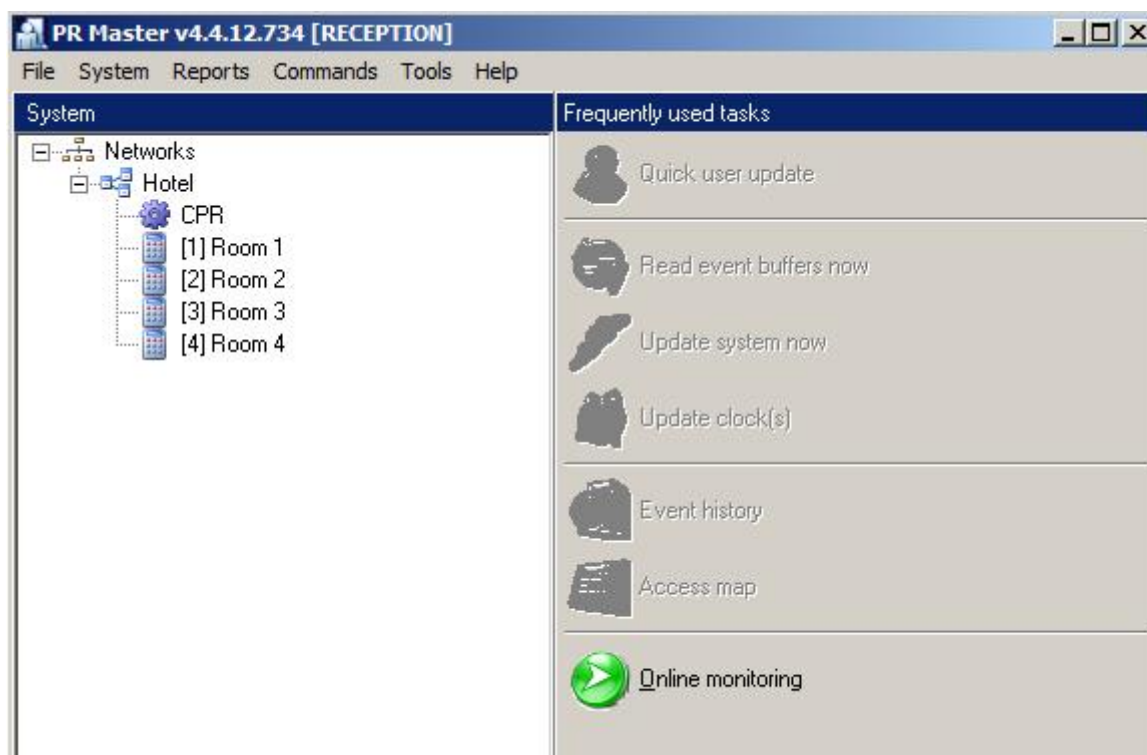


Fig. 5 Recommended view of PR Master main window for receptionist

#### Procedure for guest check-in

1. In the main window of PR Master software click the controller, which corresponds to the room offered to guest(-s).
2. In the newly opened window select the tab **Guests** (the option **Hotel room** in the tab **General** must also be activated).
3. Select one of free entries shown in fig. 6 and then click the button **Edit GUEST**. The maximal number of guests in the rooms is 8, each with own card.

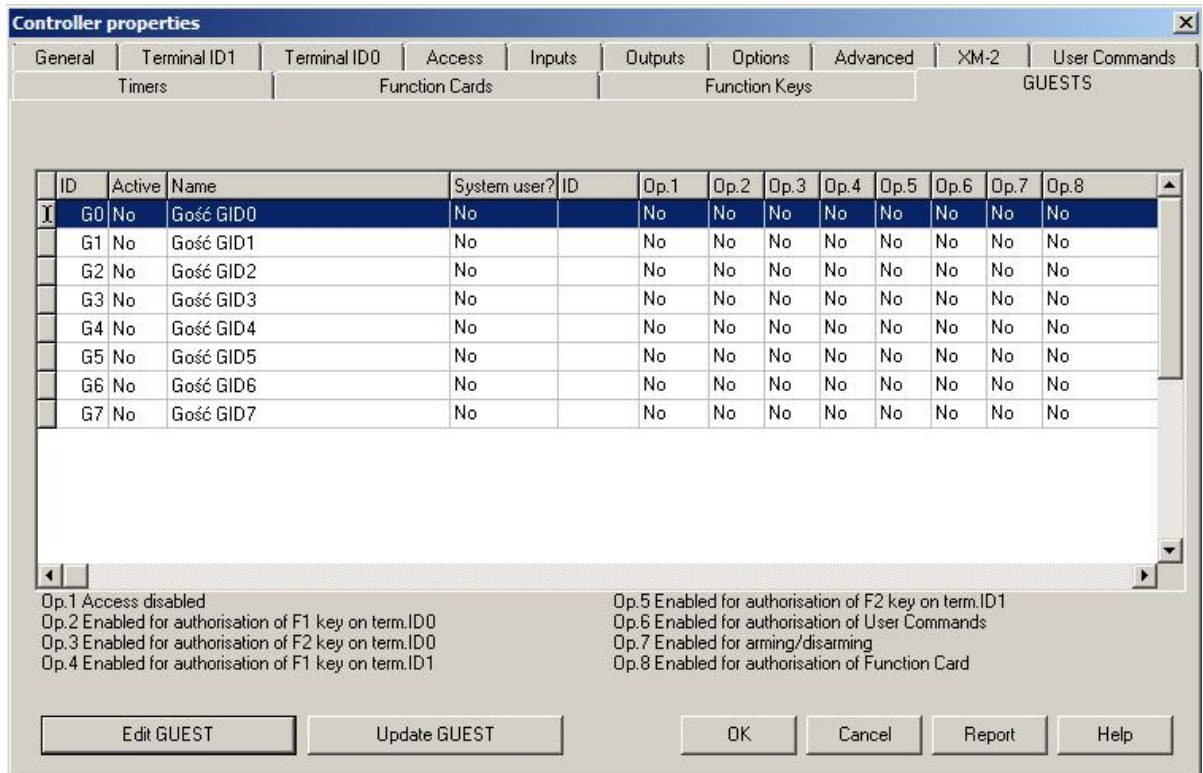


Fig. 6 Guests tab within properties of controller

- In newly opened window (see fig. 7) mark the option **Active** and then enter first and last name of guest. Optionally, specify activity period in order to prevent unauthorized use of card in the future.

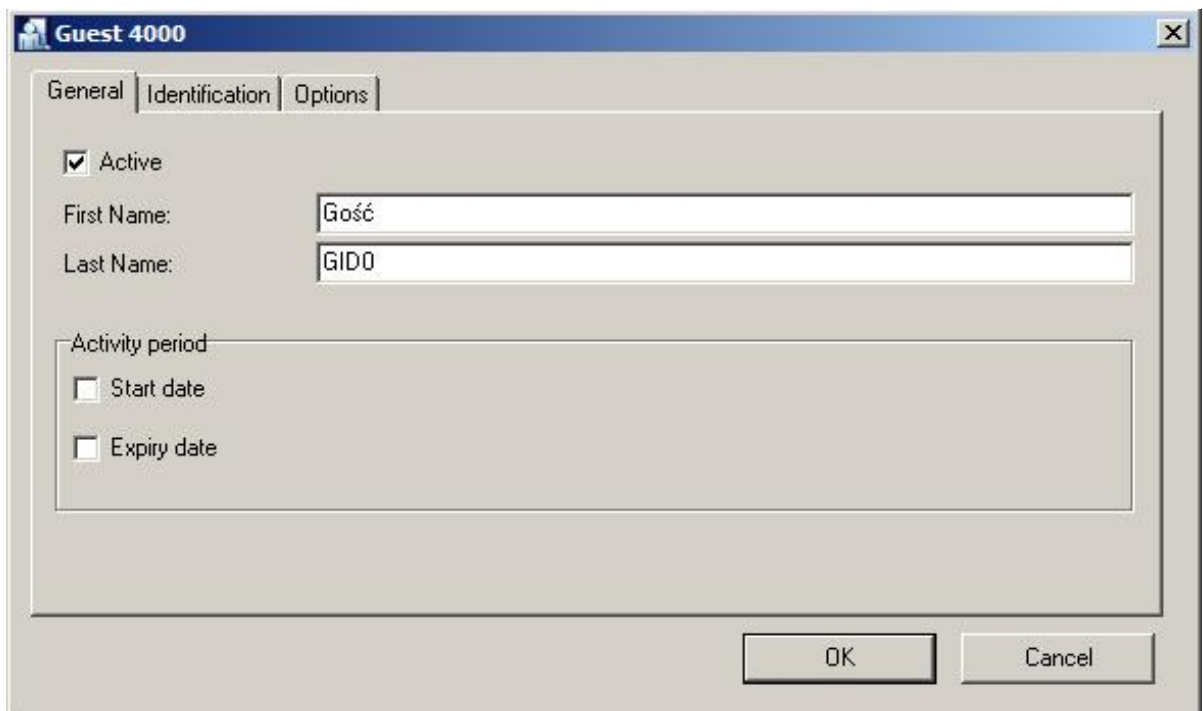


Fig. 7 Guest activation



- In the same window select the tab **Identification** (see fig. 8) and assign proximity card and/or PIN to the guest. Card number can be entered manually or by means of the button **Read card...** RUD-2 is useful for card number readout and it can be connected to computer with PR Master software. If RUD-2 is plugged into USB port then it is automatically visible on the list of available readers.

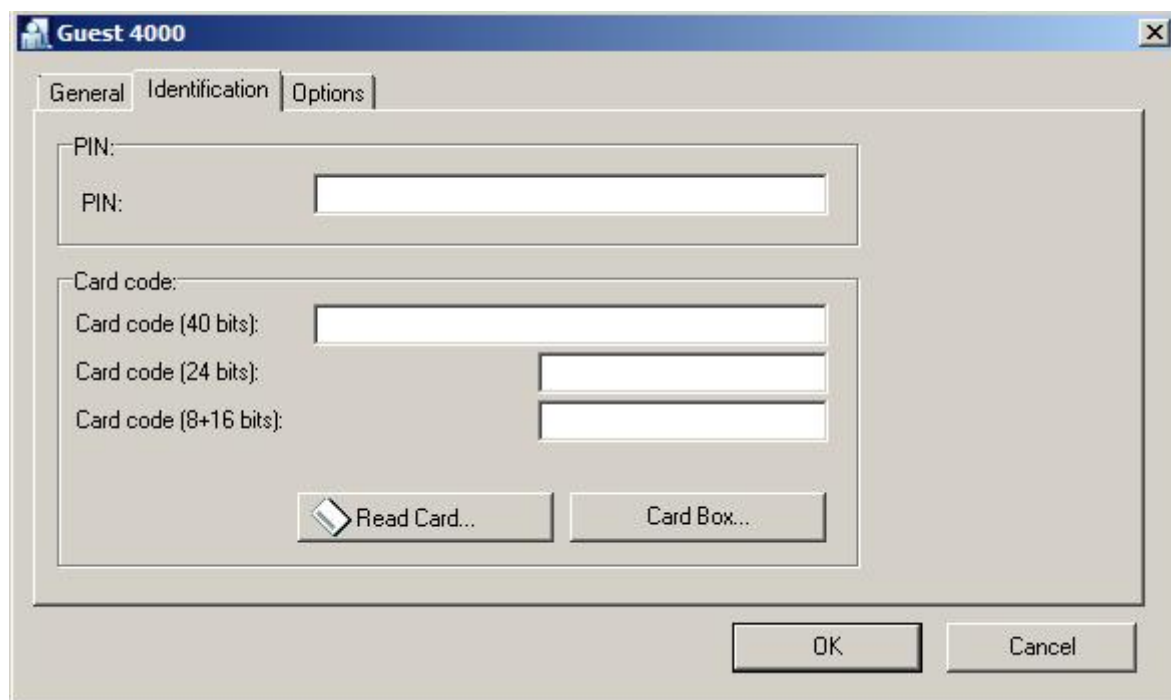


Fig. 8 Identification tab

- Settings, which are available in the tab **Options** are optional and it is not necessary to modify them when recommended scenario of operation is applied.
- Close the window by means of **OK** button. Guest settings are automatically uploaded to the controller. From now on the guest has access rights to enter the room.
- When the controller properties window is closed, PR Master software shall automatically display message, asking if controller settings are to be uploaded. There is no need to upload them and the button **No** can be selected. Guest settings has already been sent to the controller – see par. 7 above.

## 4.2 Guest check-out

In recommended scenario of operation, the guest check-out is performed analogically to guest check-in.

### Procedure for guest check-out:

- In the main window of PR Master software click the controller, which corresponds to the room assigned to the guest(-s). If access rights of guest's card are unknown then you can use the option described in par 4.4 Identification of guest/employee access rights.
- In the newly opened window select the tab **Guests** (the option **Hotel room** in the tab **General** must also be activated).
- Select particular guest from the list shown in fig. 6 and then click the button **Edit GUEST**.
- In newly opened window (see fig. 7) unmark the option **Active**. Prior to this you can also delete guest's first and last name in order to make the list of guest clearer.
- Close the window by means of **OK** button. Guest settings are automatically erased from the controller. From now on the guest has no access rights to the room.
- When the controller properties window is closed, PR Master software shall automatically display message, asking if controller settings are to be uploaded. There is no need to upload them and the button **No** can be selected. Guest settings has already been erased in the controller – see par. 7 above.

### 4.3 Definition of access rights for hotel employees

Definition of access rights for hotel employees is performed in the same way as definition of users in RACS 4 access control system. In short version it includes following steps:

1. Create Access Group by means of the option **Groups** in the main window of PR Master software e.g. Reception employees, cleaning staff, etc.
2. Enrol users to the system and assign them to previously specified Access Groups by means of the option **Users** in the main window of PR Master software.
3. Create Access Zones by means of the option **Access Zones** in the main window of PR Master software and then assign selected controllers to Access Zones entering controller properties and **Terminal ID1** and **Terminal ID0** tabs.
4. Define Schedules by means of the option **Schedules** in the main window of PR Master software.
5. Link Access Groups, Access Zones and Schedules in the window, which can be opened by means of the option **Groups** in the main window of PR Master software.
6. Upload new settings to all controller by means of the option **Update system now** in the main window of PR Master software.

More details on configuration of access rights is given in RACS 4 manuals, which are available at [www.roger.pl](http://www.roger.pl).

### 4.4 Identification of guest/employee access rights

There might occur such situation, that access rights assigned to guest/employee card are unknown. It may happen when previously lost card is found or already defined cards got mixed. PR Master software enables identification of access rights assigned to particular proximity card. In order to make such identification select the option **Tools** in the top menu of PR Master software and then the option **Identify user**.

Zone	Schedule
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Room	Active	First name	Last name	From date	To date
Room 4	Yes	John	Smith	2000-01-01	2099-01-01

Fig. 9 Guest/employee identification

In the window shown in fig. 9, administrator can select the reader, where card is to be identified and acquire information on guest/employee access rights when the card is read.

## 4.5 Power supply switching (230VAC) by controller

The PR621-CH controller with card holder can be used in switching power supply on when the guest/employee is in the room. It is also necessary to connect external relay/contactor to controller output line. The configuration of such functionality is described in the document 'PR612-CH Quick start', which is available at [www.roger.pl](http://www.roger.pl). In hotel applications it is recommended to enter all settings by means of PR Master software and not manually by means of commands from keypad.

## 4.6 Monitoring of hotel room occupancy

PR Master software is not equipped with option dedicated to monitoring of room occupancy but other not dedicated options within the software can be used for such purpose. Such monitoring requires installation of PR621-CH controllers, which are equipped with card holders. The solution is based on watching, in which rooms proximity cards are inserted into controller holder. Card in the holder can be interpreted as guest presence in the room especially if the card holder is also used in 230VAC power supply switching in the room.

### Procedure for applying room occupancy monitoring:

1. Wire controller output line with the function **[73]** or **[74]** (depending on customer request) to controller input line e.g. IN2. The same functions, which can be assigned to other output lines are also used in switching 230VAC power supply in the room when proximity card is in controller holder.
2. Assign the function **[04]: AUX** to previously selected input line of controller (e.g. IN2).
3. Start monitoring mode in PR Master software by means of the option **Online monitoring** in the main window of PR Master software.
4. In the newly opened window, select the option **View** and then **Controller status** or alternatively press button F6 at computer keyboard in order to open window shown in fig. 10.
5. Newly opened window, can be used for monitoring of controller input lines. As long as particular input line is activated, corresponding value changes from OFF to ON. In the example shown in fig. 10 input line IN2 in room 1 is activated, therefore proximity card is in the holder and it can be assumed that the room is occupied.

Controller	Door mode	Identification method	Terminals ID0	Inputs	Door status	PR Ping	CPR-PR Ping	Arming mode
Room 1	Normal	Card or PIN / ( Present / Pres	OFF	OFF / ON / OFF / OFF / OFF	Door Closed	OK	OK	Armed
Room 2	Normal	Card or PIN / ( Present	OFF	OFF / OFF / NA	Door Closed	OK	OK	Armed
Room 3	Normal	Card or PIN / ( Present	OFF	OFF / OFF / NA	Door Closed	OK	OK	Armed
Room 4	Normal	Card or PIN / ( Present	OFF	OFF / OFF / NA	Door Closed	OK	OK	Armed

Keep window on top

Close Help

Fig. 10 Room occupancy monitoring

The other method is monitoring of controller input lines from map. The map can be designed by means of the option **Facility plans** in the main window of PR Master software and it can be started in PR Master monitoring mode by means of the option **View** and then **View map**. The

receptionist can apply room occupancy monitoring only if proper rights were assigned to the operator account in accordance with par. 3.1 PR Master software operators. The example of map is shown in fig. 11.



Fig. 11 Example of map in PR Master software

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Note: When controller status or map is used then the receptionist cannot perform guest check-in and check-out by means of **Guests** tab within controller properties. Therefore it is necessary to close monitoring mode in PR Master software in order to perform guest check-in and check-out.

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## 4.7 General guidelines

- Install devices in such way as to ensure easy access to terminals and jumpers.
- Prior to controller installation it is recommended to set its address (ID number)
- All electric cables must be connected to devices with disconnected power supply.
- All devices within RACS 4 system (controllers, readers, extension modules) should have common supply minus (GND). In order to ensure this, all the GND terminals from various power supply units used in the system (including access controllers with built-in power modules) should be connected with each other using separate wire. Alternatively, the common supply minus (GND) of the entire system can be earthed however in one, arbitrary selected, point only.
- A silicone diode of general use e.g. 1N4007 should be always connected in parallel to the door locking device (magnetic lock, electric strike, relay coil) — one piece of such diode is delivered with the controller. It should be connected as close as possible to the inductive element.
- Readers can be installed on metal surfaces but in such case reduction of reading distance should be expected. The reading distance reduction effect can be minimized by installing readers on non-metal spacer with minimal thickness of 10 mm (e.g. PVC). The distance between two proximity readers should be min. 0.5 m. If two readers have to be installed on opposite sides of the same wall, it is recommended that they are not directly opposite (in the same axis). If this is not possible, a metal plate beneath each of them should be installed and additionally, an extra non-metallic spacer between reader and metal plate can be installed to improve reading distance.

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