

RACS

R o g e r A c c e s s C o n t r o l S y s t e m

Access controller with integrated
reader and keypad

PR301

Version 2.1

Installation and programming manual



02-07-29

Introduction

The PR301 and PR201 controllers are designed for use in access control systems equipped with electric door lock. The PR301 controller has a built-in proximity reader module and 12 digit keypad, PR201 has proximity reader module only, both controllers have three inputs and two outputs (one relay output and two transistor outputs). Inputs and outputs of the controller can be configured to several pre-defined functions. The controller can register up to 1000 users, every user can be identify by card or PIN-code or both method at once. The PR301/201 controllers can be programmed locally using MASTER identifier or remotely from the PC. An additional identification terminal (reader) can be connected to controller. Usually an additional identification terminal is used when both side door control is required or when controller unit must be located in protected place in order to avoid access of unauthorized person to controller's electronics. The PR301/201 controllers can operate in standalone mode or can work in networked system controlled by HOST (PC or CPR control panel). When controllers operate in networked system, access system can deliver few additional features which normally are not available in standalone mode, those feature are:

- groups of users,
- time zones and schedules,
- events recording,
- online events monitoring,
- and more.

Improvements and modifications in version 2.1

The previous versions of PR301/201 have two modes of operation marked OPEN and CLOSED. The names of those modes have been changed in version 2.1, now OPEN mode is called ON and CLOSED mode is marked OFF. Both modes (ON and OFF) are signalized on one dual colored LED marked ON/OFF. When this led is RED it means that controller stay in OFF mode, when is green it means that controller stay in ON mode. In 2.1 version LED OPEN also exists but now it signalize only that door is released. The LED SYSTEM in both versions remains unchanged. The 2.1 version offer few other advantages:

- reduced current consumption (about 70mA instead of 120mA),
- new interactive commands which can be send from HOST to controllers,
- new input type [Input control ON-OFF mode],
- new input type [Reporting input], which can be declared on every controller input.

Standalone mode of operation

When controller operates in standalone mode events recording, users group and time schedules can not be achieved. **In this mode access right is granted for all users programmed in controller.** Controller programming can be done locally by MASTER identifier or remotely from downloading PC. After programming, controller can autonomically control door. An additional identification terminal with ID=0 can be connected to controller in standalone mode as well.

Note: The UT-2 interface is required between PC and controller for downloading.

Networked mode of operation

When controller operates in networked mode an extra features are available:

- events recording,
- access time schedules,
- remote interactive command from PC,
- events monitoring,
- different groups of users.

Note: For networked systems the HOST device is required. The PC running continuously with special online software RACS 2.x or CPR access control panel can be a HOST.

Networked operation without CPR

In this case PC acts as access system HOST, PC must run continuously with special online software RACS 2.x. When PC stop activity (no matter if software error occurred or PC failure) controllers automatically move to standalone mode and continue access control with access rules as they were when failure occurred, we can say that in this case access rules are frozen. After communication with PC is restored all access rules will be refreshed but events which occurred during HOST failure are lost.

Note: The RACS 2.x software automatically recognize if access system is equipped with CPR or not, when CPR exists in access system software refuse to run as a HOST.

Note: When PC runs as an HOST it should be equipped with emergency supply source e.g. UPS.

Networked operation with CPR

In this case CPR act as access system HOST, PC is required only for system configuration and events downloading. When computer is connected to access system continuously the online events monitoring and interactive commands are available. **During PC online monitoring every events which occurred in system is instantly transferred to computer data base and optionally can be appended to pre-specified *.txt type of files.** Such a files can be accessed by customer's programs for additional operation (e.g. T&A calculations, attendance list etc.). If PC is disconnected from access system or monitoring window is not active the CPR save events in internal buffer. Events buffer can be downloaded by interactive command or is downloaded automatically after monitoring window is activated.

Note: For networked systems with CPRs the RACS 3.x software is required.

CPR characteristic:

- 250.000 or 64.000 events buffer (CPR32 or CPR8),
- operation with 32 or 8 access controllers (CPR32 or CPR8),
- buffered 2A power supply,
- battery charging control circuit,
- automatic battery cut off circuit below 10V level,
- LED/buzzer signalization panel,
- PGM alarm output,
- TAMPER loop input line,
- metal case with compartment for 17Ah battery.

Building installation above 32 controllers

The separate CPR 32/8 control panel can operate with up to 32/8 controllers. When more door have to be controlled the access system with multiply subsystems must be utilized (**see diagram**). Every subsystem must have its own CPR panel, UT-2 interface, communication bus and must be connected to separate PC's COM port.

Note: Operation with multi subsystems requires RACS 3.x software packet.

Recording of events

In case where controllers operate in a networked mode, the following types of events can be recorded:

- Access granted for ...
- Access deny for ...
- PIN-code under constrain (DURESS ENTRY) by user
- "PREALARM" condition on ...
- „DOOR AJAR" condition on ...
- „FORCED ENTRY" condition on ...
- Controlled switched to ON or OFF mode by ...
- Reporting input no ... triggered
- Reporting input no ... returned to normal
- RESTART of the controller...

Operation with remote access terminal

One additional access terminal (reader) with ID=0 can be connected to PR301/201 controller. Terminal does not make decision to grant or deny access, terminal reads user identifier (card code, PIN-code or both) than send it to controller which examine codes and grant or deny access for recognized user. There are few types of terminals including outdoor versions.

Notice: The roger access terminals (PRT series) utilize clock and data lines for communication with controller but this standard differs from common CLOCK&DATA format utilized by many producers. Some PRT terminals are also offered with Wiegand and Magstrip standards but such a types are specially marked.

Optical (LED) signalization

LED ON/OFF	LED OPEN	LED SYSTEM	Interpretation.
●R	○	○	The controller is in the ON mode.
●G	○	○	The controller is in the OFF mode.
○	○	★	The controller stands by for entering the MASTER or SWITCHER Ident.
○	★	○	The controller stands by for entering the MASTER Ident.
★R	○	○	The controller stands by for entering the INSTALLER Ident.
○	●	●	The controller is in the user programming mode.
○	★	★	Standby for entering the remaining part of the command in the user programming mode.
●R	○	●	The controller is in the installer programming mode.
★R	○	★	Standby for entering the remaining part of the command in the installer programming mode.
★R	★	★	EEPROM memory data damage, the default settings should be restored and the controller should be reprogrammed.
★R	★	●	The controller is being programmed from PC (Downloading process in progress)
●R/G	●	○	The LED's light up when the door is open.

- - indicator is on
- - indicator is off
- ★ - indicator pulses
- R - indicator is red
- G - indicator is green
- R/G - indicator is red or green

Acoustic signals

SYMBOL OF SIGNAL	NAME OF SIGNAL	MEANING
***** **	RESTART	1. The signal appears after switching on the power supply. 2. After an exit from programming modes. 3. After internal Watch Dog circuit operation.
* * *	O.K. signal	1. The programming functions were performed correctly. 2. A valid identifier (code or card) was used.
* *	Encourage signal	1. The controller stands by for the remaining part of the command.
—	Type 1 error signal	1. A programming error. 2. An invalid identifier (code or card). 3. An attempt to program an identifier, which already exists in the reader.
— —	Type 2 error signal	1. An attempt to assign the same functions to the IN1 and IN2 inputs.
*	Identifier reading signal	1. An identifier (card or code) entry.
— — — Etc.	Memory error	1. Controller memory data damage – the EEPROM memory should be RESET to the default settings and the reader should be reprogrammed.

Users

The controller can distinguish the following four types of users:

USER TYPE	ID NUMBER	AUTHORIZATION
INSTALLER	NONE	Authorization for an entry to the installer programming mode, it does not have an identification number.
MASTER	0	Authorization for an entry to the user programming mode, opening the door and switching the reader between the CLOSED/OPEN conditions. Its identification number is 000.
SWITCHER Full	001..049	Users with ID = 001..049 have authorization for opening the door and switching the controller between the ON/OFF mode.
SWITCHER Limited	050..099	Users with ID = 050..099 have authorization only for switching the controller between the ON/OFF conditions
NORMAL	100..999	Authorization only for opening the door. The users of this type have identification numbers from 100 to 999.

The controller identifies the users by identifiers (abbrev. **Ident.**). Each user has his/her own identification number (ID = 000...999). Identifier can be a code or proximity card. In case the **[Dual identification mode]** option is switched on, the controller requires the use of both forms of identification, i.e. code and card in any sequence. The controller accepts codes consisting from 3 up to 6 digits and cards (proximity transponders) based on the V4001/2 module of EM MICROELECTRONIC – MARIN Switzerland.

Transponder module specification:

- 64-bit ROM memory, pre-programmed by the manufacturer.
- Amplitude modulation ASK (MANCHESTER coded).
- Operating frequency 125 kHz.
- Transmission speed 2kB/sec.
-

Note: The term "identifier" or "Ident." means the operation of code entering, card reading or both operations in case the **[Dual identification mode]** is activated.

Examples:

1. **[MASTER Ident.] = [MASTER code][#][MASTER card]** or
2. **[MASTER Ident.] = [MASTER code][#]** or
3. **[MASTER Ident.] = [MASTER card]**

In example no. 1. the AND option is on for the MASTER identification of the user.

The ON and OFF mode of controllers

When controller stay in OFF (red) mode a SWITCH output is not active, when controller is in ON (green) mode the SWITCH output is activated. Generally the SWITCH output is dedicated for integration with alarm system but it can be used for other purposes e.g. to control access to specialized equipment (e.g. copy machine, computer, lighting, heating etc.)

Switching between ON and OFF mode

The ON/OFF mode can be controlled in few different ways:

- locally by use of SWITCHER or MASTER identifiers,

- by external signal connected to input declared as **[Input control ON/OFF mode]**,
- automatically by ON/OFF mode schedule declared in software,
- remotely by interactive command from RACS software.

Note: The SWITCH output change its state together with ON/OFF mode of controller, all methods of ON/OFF mode control are also the methods of SWITCH output control.

Note: When input is declared to function **[Input control ON/OFF mode]** other methods of ON/OFF mode control are not available.

Manual method of ON/OFF control

The controller can migrate from the ON to OFF mode and inversely after two consecutive use of the MASTER or SWITCHER identifier. Examples:

1. Enter the MASTER Ident., stand by to the moment the SYSTEM indicator starts pulsing, when the SYSTEM indicator pulses, use the MASTER Ident. again – controller will change from ON into OFF or inversely condition.
2. Enter the SWITCHER (ID=001...049) Ident., stand by to the moment the SYSTEM indicator starts pulsing, when the SYSTEM indicator pulses, use the SWITCHER Ident. again – controller will change from ON into OFF or inversely condition.
3. Enter the SWITCHER (ID=050...099) Ident., once – controller will change from ON into OFF or inversely condition.

Opening the door

The door can be opened by use of the MASTER, SWITCHER Full (only with ID = 001..049), NORMAL identifiers or pressing the exit button. The door is being opened for interval declared by **[Time for entry]**. When controllers operate in standalone mode access is normally granted for all users programmed in controller.

Note: When the option **[Access may be granted only in ON mode]** is activated, the access will be granted only if controller stay in ON (green) mode when stay in OFF (red) access will be denied. Switching controller between ON/OFF mode user can temporarily enable or disable access to door opening.

Alarms

The controller is able to recognize and signalize the following alarm conditions:

Alarm conditions	Cause	Signalization priority	Signalization method on ALARM output
PREALARM	The alarm occurs after three consecutive attempts of entering an unknown identifier repeated in a period shorter than 1 minute.	Low	Single pulse every 2 seconds.
DOOR AJAR	The alarm occurs after door remains open in a period of time defined by "Time for door closing".	Middle	Double pulses every 2 seconds.
FORCED ENTRY	The alarm occurs after door opening without the use of controller.	Highest	Pulses sequence 0.5 sec. off 0.5 sec. on

Every alarm is signalized on ALARM output and is simultaneously send to system HOST. Signalization of the PREALARM, DOOR AJR and FORCED ENTRY disappears automatically after 3 minutes or can be switched off earlier by using any identifier registered in the controller. Alarm on controller can also be cleared remotely from PC. When the ALARM output has been programmed to signalize more than one alarm condition, only the highest priority alarm is signalized.

Duress entry.

If the user enters a code, which differs from its originate form by one (plus or minus one), the reader interprets it as an duress code entry. When Duress entry occur the [DURESS entry] event is sent to system HOST and an [FORCED ENTRY] alarm on ALARM output is activated.

Example

The originate code is [4569], entering the code [4568][#] or [4560][#] is treated by the controller as a duress entry.

Note: For proper reorganization of duress entry, the codes of individual users should differ one from each other at least by a value of +/- [2] in the last digit.

User Programming Mode

In order to enter *User Programming* mode do the following sequence:

- When controller stand in ON or OFF mode,
- [Enter MASTER ident.]
- [Wait until LED OPEN start blink]
- [Enter MASTER ident. again]

Note: When **[Dual identification mode]** is activated operator must enter code and card (no matter what sequence) at first time but at second time only code or card is required.

In the user programming mode, you can add/delete the NORMAL and SWITCHER identifiers. From this mode you can also go to the *Installer Programming* mode for detailed setup. When in the *User Programming* mode the OPEN and SYSTEM LEDs are on. A particular programming function is activated by giving its number (0,1 .. 9). After activation of the function, the OPEN and SYSTEM LEDs starts blink which means that the controller is performing the function and wait for its completion. The following functions are available:

[1] - ADD NORMAL USER

[1] + [xyz] + [#] + [xyz] + [#] + [Code] + [#] + [Code] + [#] + [Card] x y z = 100..999 ⇒ user ID number

Depending on your needs, you can skip programming the user ID , code or card.

Examples of programming:

- | | |
|--|---|
| 1. [1][189][#][189][#][4562][#][4562][#][Card] | <i>programming: ID number + code + card</i> |
| 2. [1][#][#][4562][#][4562][#][Card] | <i>programming: code + card</i> |
| 3. [1][189][#][189][#][#][#][Card] | <i>programming: ID number + card</i> |
| 4. [1][189][#][189][#][4562][#][4562][#][#] | <i>programming: ID number + code</i> |
| 5. [1][#][#][4562][#][4562][#][#] | <i>programming: code</i> |
| 6. [1][#][#][#][#][card] | <i>programming: card</i> |
| 7. [1][card] | <i>programming: card</i> |

[2] - ADD SWITCHER USER

[2] + [xyz] + [#] + [xyz] + [#] + [Code] + [#] + [Code] + [#] + [Card] x y z = 001..099 ⇒ user ID number

Programming principles are as in function [1].

[3] - DELETE USER NO. ...

[3] + [xyz] x y z = 001..999 ⇒ user ID number

Note: The MASTER and INSTALLER identifiers can not be deleted.

[4] – MULTIPLY ADDING OF NORMAL USERS

[4] + [card1] + ... + [card n] + [#]

Cards should be read within 15 seconds interval. The cards will be programmed in a first found free memory space, the new cards do not delete the users already existing in the memory.

[5] – MULTIPLY ADDING OF SWITCHER USERS

[5] + [card1] + ... + [card n] + [#]

Programming principles are as in function [4].

[6] – DELETES USER WITH ENTERED CARD OR CODE

[6] + [code] + [#] or

[6] + [card]

Note : The MASTER and INSTALLER identifiers can not be deleted.

[7] – DELETES ALL NORMAL AND SWITCHER USERS**[7] + [#] + [7] + [#]**

Note: The MASTER and INSTALLER identifiers remain.

[8] – ENTRY TO THE INSTALLER PROGRAMMING MODE

Note: After EEPROM memory RESET the MASTER and also performs the function of the INSTALLER identifier (MASTER = INSTALLER).

[8] + [INSTALLER code] + [#] or [8] + [INSTALLER card]

If [Reprogramming disable] option is on, this function does not work, in order to remove this option EEPROM RESET must be done.

[0] – EXIT FROM INSTALLER PROGRAMMING MODE**[0] + [#]**

After an exit from the programming mode, the reader performs the RESTART operation and enters the CLOSED condition.

Installer Programming mode

In the *Installer programming* mode detailed setup of controller is available. Entry to the installer programming mode can be done only from the *User Programming* mode by activation of function [8]. After entry to the *Installer Programming* mode the SYSTEM and CLOSED LED are on. A programming function is activated by giving its number (0, 1 ... 9). After activation of the function, LEDs starts blink. The following functions are available:

[1] - IN1 INPUT FUNCTION

[1] + [OPTION]

- [0] ⇒ Input off.
- [1] ⇒ NO / Door open sensor (DC)
- [2] ⇒ NC / Door open sensor (DC)
- [3] ⇒ NO / Exit button (DR)
- [4] ⇒ NC / Exit button (DR)
- [5] ⇒ NO / Input control ON/OFF mode
- [6] ⇒ NC / Input control ON/OFF mode

Note: The NO type of line is triggered when connected to supply minus. The NC type of line are triggered when disconnected from supply minus. In normal condition the NC line must be shorted to ground.

[2] - IN2 INPUT FUNCTION

[2] + [OPTION]

- [0] ⇒ Input off.
- [1] ⇒ NO / Door open sensor (DC)
- [2] ⇒ NC / Door open sensor (DC)
- [3] ⇒ NO / Exit button (DR)
- [4] ⇒ NC / Exit button (DR)
- [5] ⇒ NO / Input control ON/OFF mode
- [6] ⇒ NC / Input control ON/OFF mode

Note: The reader does not allow to select the same functions for more than one input. An attempt to designate the same functions for inputs activates signalization of an error.

Note : IN3 can not be programmed. This input is permanent set to [Reporting input] type and can be used only in networked operation mode.

[3] - SPECIAL OPTIONS

[3] + [OPTION]

- [0] ⇒ A, B and C options are off.
- [1] ⇒ A
- [2] ⇒ B
- [3] ⇒ A + B
- [4] ⇒ C
- [5] ⇒ A + C
- [6] ⇒ B + C
- [7] ⇒ A + B + C

OPTION	MEANING
A	[Re-programming disabled] – This option disable entry to the Installer programming mode. This option can only be deleted by RESET of the EEPROM memory.
B	[Access may be granted only in ON mode] – This option disabled access for all users when controller stay in OFF mode.
C	[Bad card timed lock-out] - Reading of card/code is blocked for 3 minutes after three consecutive attempts of entering an unknown card or code repeated in a period shorter than 1 minute.

[4] - USER IDENTIFICATION MODES**[4] + [OPTION]**

- [0] ⇒ The DUAL identification mode off.
- [1] ⇒ The DUAL identification mode for NORMAL users
- [2] ⇒ The DUAL identification mode for MASTER users
- [3] ⇒ The DUAL identification mode for NORMAL and MASTER
- [4] ⇒ The DUAL identification mode for SWITCHER
- [5] ⇒ The DUAL identification mode for NORMAL and SWITCHER
- [6] ⇒ The DUAL identification mode for MASTER and SWITCHER
- [7] ⇒ The DUAL identification mode for NORMAL , MASTER and SWITCHER

Note: When DUAL identification mode is activated users must enter code and read card, sequence does not matter.

[5] – FUNCTION OF THE ALARM OUTPUT**[5] + [OPTION]**

- [0] ⇒ The ALARM output repeats the ON/OFF condition of the controller (follows SWITCH output)
- [1] ⇒ The output signalizes the condition : PREALARM
- [2] ⇒ The output signalizes the condition : DOOR AJAR
- [3] ⇒ The output signalizes the condition : PREALARM + DOOR AJAR
- [4] ⇒ The output signalizes the condition : FORCED ENTRY
- [5] ⇒ The output signalizes the condition : PREALARM + FORCED ENTRY
- [6] ⇒ The output signalizes the condition : DOOR AJAR + FORCED ENTRY
- [7] ⇒ The output signalizes the condition : PREALARM + DOOR AJAR + FORCED ENTRY

Note : SWITCH output can not be programmed. This output follows the controller ON/OFF mode. When controller stay in ON (green) mode SWITCH output is activated, when controller stay in OFF (red) mode SWITCH output is deactivated.

Note: Both ALARM and SWITCH output are open collector type. The maximum voltage connected to outputs can not exceed 30V and maximum current must be less then 150mA.

[6] - PROGRAMMING OF OPENING TIME AND TIME FOR CLOSING**[6] + [PQ] + [RS]**

- PQ = 01..99 ⇒ [Time for entry]
- RS = 01..99 ⇒ [Delay before DOOR AJAR alarm]

Time for entry specify time interval for which door lock will be activated after access is granted. Delay before door ajar specify time interval in which door should be closed, otherwise DOOR AJAR alarm will be activated.

Note : When controller operates with [Door open sensor] the RELAY which activates electric lock will be triggered off about 2..3 second after door became open no matter what [Time for entry] is programmed.

[7] - PROGRAMMING OF READER IDENTIFICATION NUMBER**[7] + [ID]**

ID = 00..99 ⇒ the reader ID number

If the controller is linked with the communication bus and operates under the PR Master software, this number identifies the controller in networked system. All the controllers linked to the communication bus must have different ID numbers. Communication with the controllers with the same ID numbers is not possible.

[8] - PROGRAMMING OF INSTALLER IDENTIFIER**[8] + [INSTALLER code] + [#] + [INSTALLER code] + [#] + [INSTALLER card]**

Note: The controller does not require programming of both identification forms, i.e. code and card, programming of the code or card can be skipped.

Examples:

1. [8][987654][#][987654][#][Card] ;(card + code)
2. [8][987654][#][987654][#][#] ;(code only)
3. [8][#][#][Card] ;(card only)
4. [8][Card] ;(card only)

[9] - PROGRAMMING OF MASTER IDENTIFIER**[9] + [MASTER code] + [#] + [MASTER code] + [#] + [MASTER card]**

Note: The controller does not require programming of both identification forms, i.e. code and card, programming of the code or card can be skipped (see examples as in function [8])

EEPROM RESET – Return to default (manufactures) settings

After EEPROM RESET all existing data in memory are deleted and default values are restored. After EEPROM RESET, operator must program new MASTER identifier. The EEPROM RESET is done in the following way:

- press EEPROM RESET pushbutton until LED OPEN starts blink (approx. 6 seconds),
- release EEPROM RESET button,
- program the new MASTER identifier : [Code] + [#] + [Code] + [#] + [Card]

1. [187654][#][187654][#][Card] ;code + card
2. [187654][#][187654][#][#] ;code
3. [#][#][Card] ;card
4. [Card] ;card

- the controller is ready for operation.

Note: After the EEPROM RESET, the MASTER identifier also performs the function of the INSTALLER identifier (MASTER = INSTALLER). You can change the INSTALLER identifier in the *Installer Programming* mode.

Default (manufacturing) settings of EEPROM memory

Controller identification number (ID)	;00
IN1 input	;NO / Door open sensor (DC)
IN2 input	;NO / Exit button (DR)
Reprogramming disable	;option OFF
Access may be granted only in ON mode	;option OFF
Bad card timed lock-out	;option OFF
DUAL identification mode for NORMAL users	;option OFF
DUAL identification mode for MASTER users	;option OFF
DUAL identification mode for SWITCHER users	;option OFF
Time for entry	;2 seconds
Delay before DOOR AJAR alarm	;09 seconds
Function of ALARM output	;PREALARM+DOOR AJAR+FORCED ENTRY

Technical data

Supply voltage	; 10..15Vdc
Current consumption (average)	; 70 mA
Ambient temperature	; 0..50 C deg.
Dimensions	; 105 X 106 X 31mm
Weight	; approx. 165 grams

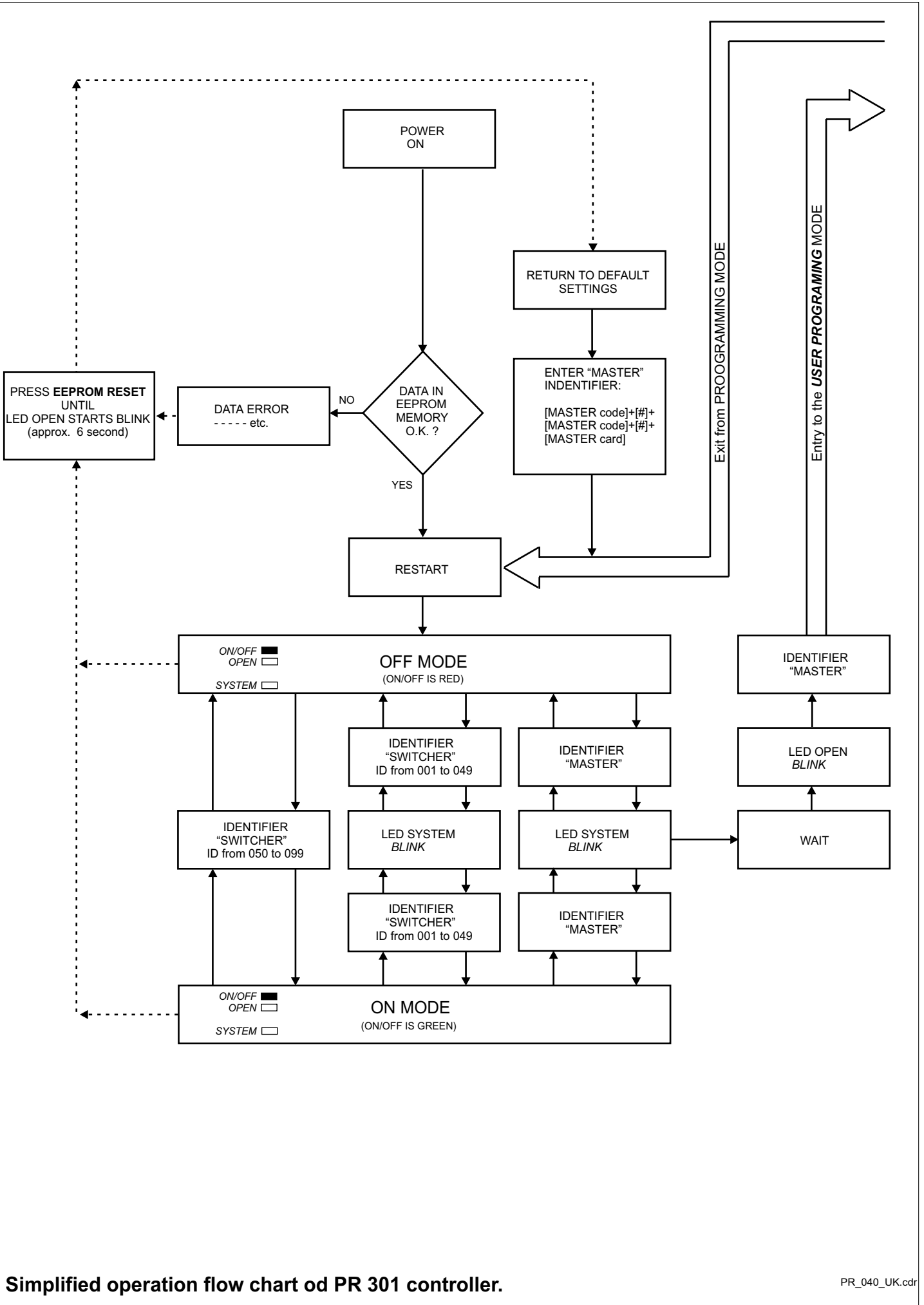
Installation

The controller should be hung near the controlled passage, far from any sources of heat and moisture. Electric connections should be made with the power supply off according to the drawings shown at the end of this manual. After the first time power supply is switched on, the controller wake in OFF (red) mode with pre-programmed MASTER card and default settings.

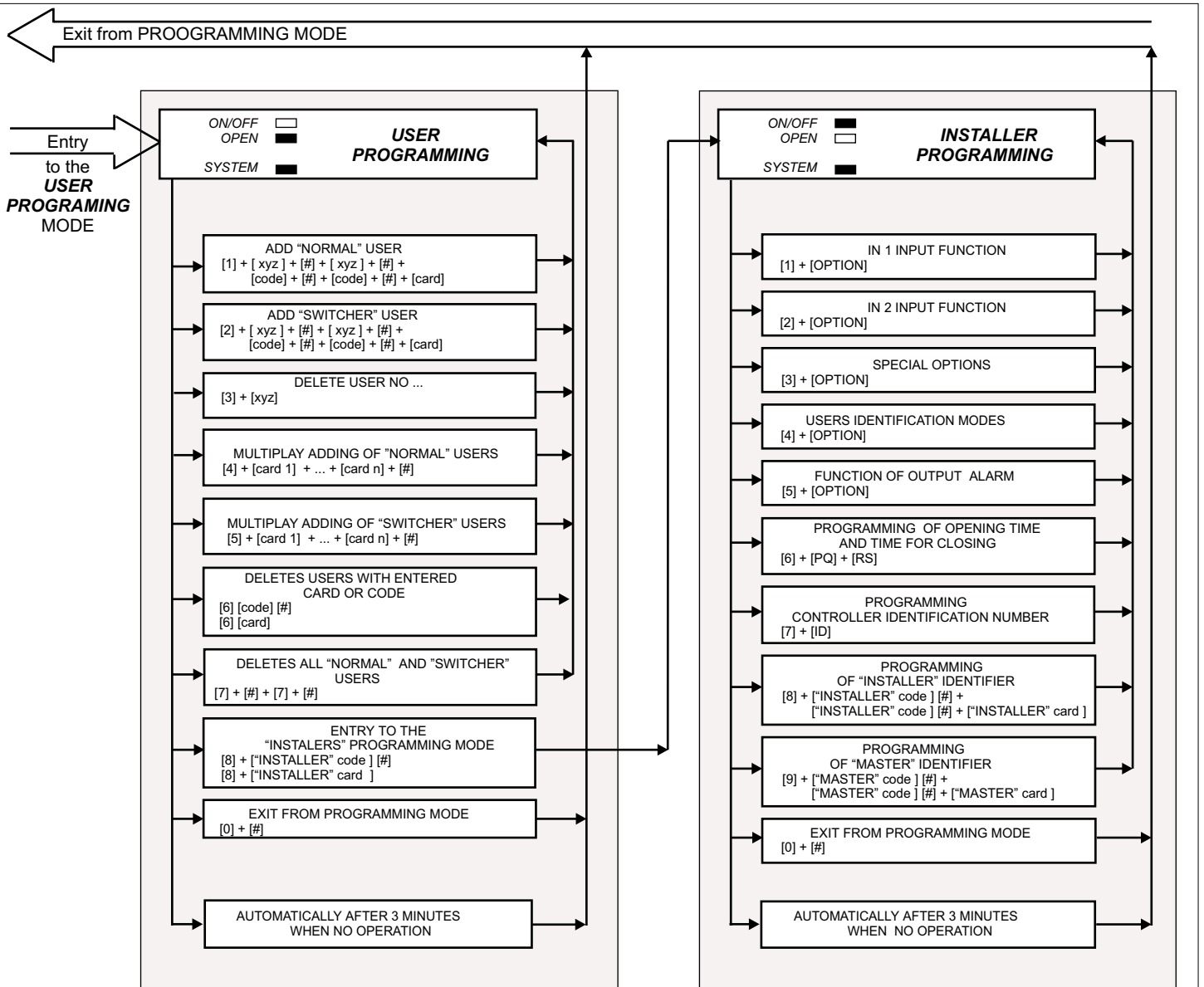
Note: The controller is not fitted for outdoor operation. For outdoor operation the proper additional terminal should be used (e.g. PRT11 or PRT22).

Installation recommendations

1. Supply of the controller and electric lock should be done with separate wires.
2. Use at least one 1A power supply unit for each of 4..8 controllers.
3. Do not use large (above 2A) power supply units to supply access control system, instead of it use many smaller power supply units located near the powered controllers.
4. Power supplies should be equipped with battery.
5. Connect all supplies minus together to ground potential.
6. Do not connect supplies plus terminal together.
7. The maximum supply voltage dropout between power supply connectors and any controller should be less than 1.0 Volt.
8. It is recommended to lay the Communication Bus with a twisted pair of wires, such a conductor provides a high resistance to interferences and optimum immunity against disturbances.
9. Install shielded cables only if strong electromagnetic interferences exists, generally shielded cables reduce signal quality.
10. Connect semiconductor diode close to inductive load (door strike or electromagnetic lock), such a diode clamp overvoltages spikes and reduce interferences generated by access control system.
11. When locating controller on metal surface use additional non metal spacers (about 10..20 mm) between controller and rear surface.



Simplified operation flow chart of PR 301 controller.



THE OPTIONS AVAILABLE IN INSTALLER PROGRAMMING MODE

FUNCTIONI [1] ; [2] - OPTION

- [0] input off
- [1] NO/Door open sensor (DC)
- [2] NC/Door open sensor (DC)
- [3] NO/Exit button (DR)
- [4] NC/Exit button (DR)
- [5] NO/Input control ON/OFF mode
- [6] NC/Input control ON/OFF mode

FUNCTION [3] - OPTION

- [0] A, B and C options are off
- [1] A
- [2] B
- [3] A + B
- [4] C
- [5] A + C
- [6] B + C
- [7] A + B + C

OPTION A: "Reprogramming disable"; The option disabling programming (local or download) of the controller in future. This option can only be deleted by RESET of the EEPROM memory.

OPTION B: "Access can be granted only in On mode" - door can only be opened when controller is in the ON mode

OPTION C: "Bad identifier timed lock-out"; Reading of identifier is blocked for 1 minute after three consecutive attempts of entering an unknown identifier repeated in period shorter than 1 minute.

FUNCTION [4] - OPTION

- [0] The DUAL identification mode off
- [1] The DUAL identification mode for : NORMAL
- [2] The DUAL identification mode for : MASTER
- [3] The DUAL identification mode for : NORMAL + MASTER
- [4] The DUAL identification mode for: SWITCHER
- [5] The DUAL identification mode for: NORMAL + SWITCHER
- [6] The DUAL identification mode for: MASTER + SWITCHER
- [7] The DUAL identification mode for: NORMAL + MASTER + SWITCHER

FUNCTION [5] - OPTION

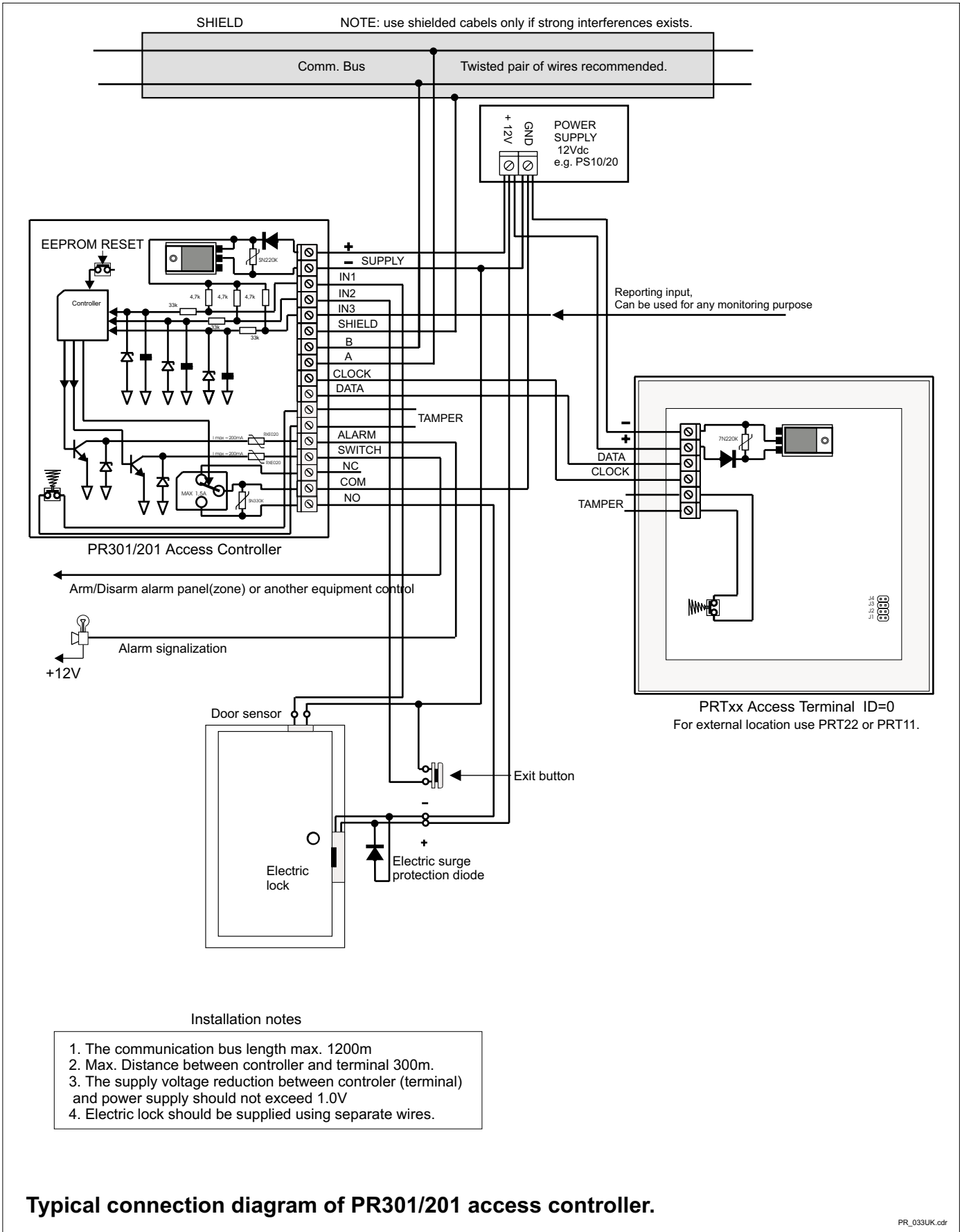
- [0] The bistable output (repeats ON/OFF mode of the controller)
- [1] The output signalizes the condition : PREALARM
- [2] The output signalizes the condition : DOOR OPEN
- [3] The output signalizes the condition : PREALARM + DOOR OPEN
- [4] The output signalizes the condition : FORCED ENTRY
- [5] The output signalizes the condition : PREALARM + FORCED ENTRY
- [6] The output signalizes the condition : DOOR OPEN + FORCED ENTRY
- [7] The output signalizes the condition : PREALARM + DOOR OPEN + FORCED ENTRY

FUNCTION [6] - OPTION

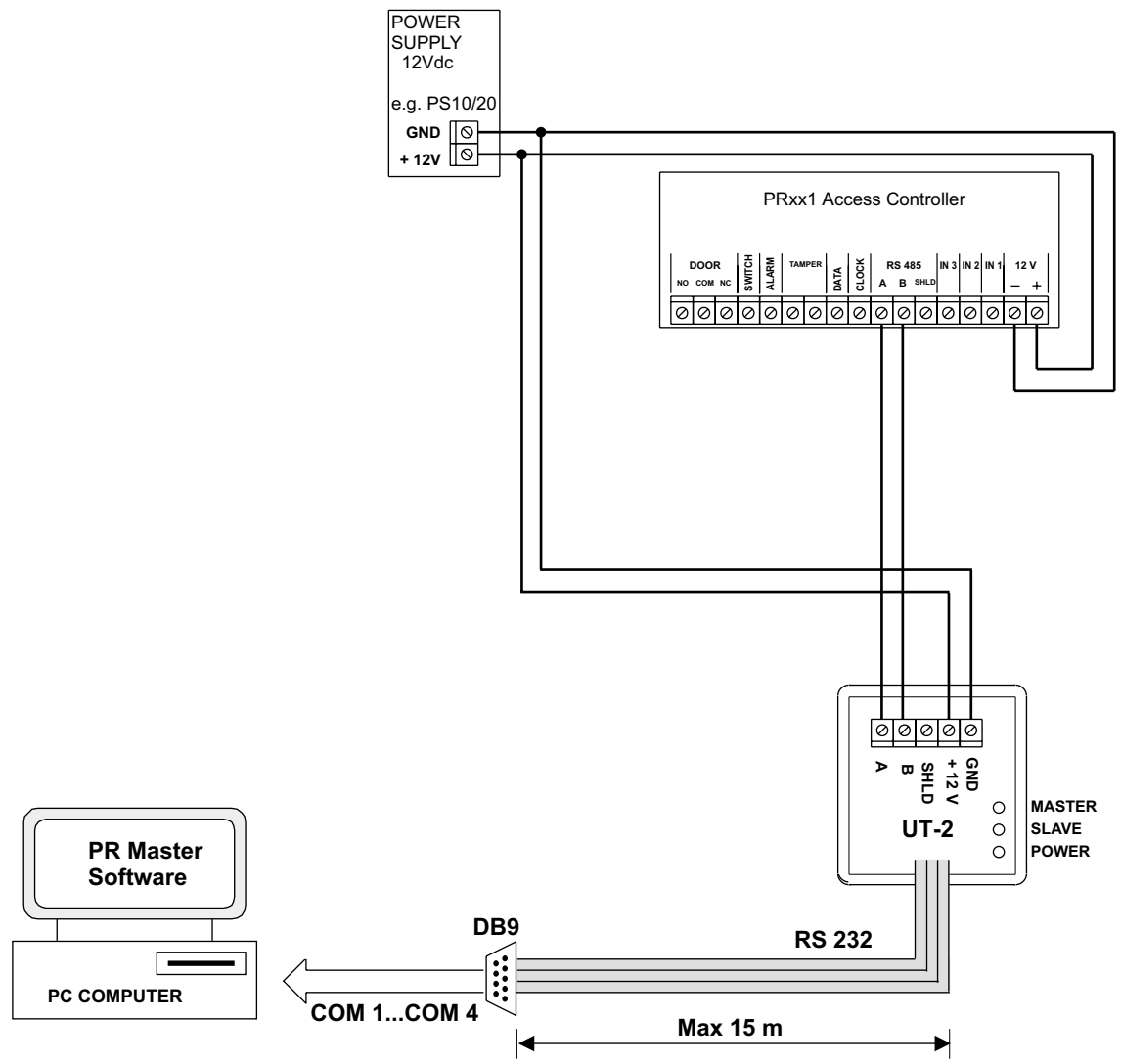
- [PQ] = 01 ... 99 - time for entry
- [RS] = 01 ... 99 - delay before DOOR AJAR alarm

FUNCTION [7] - OPTION

- [ID] = 00 ... 99 - the controller ID number

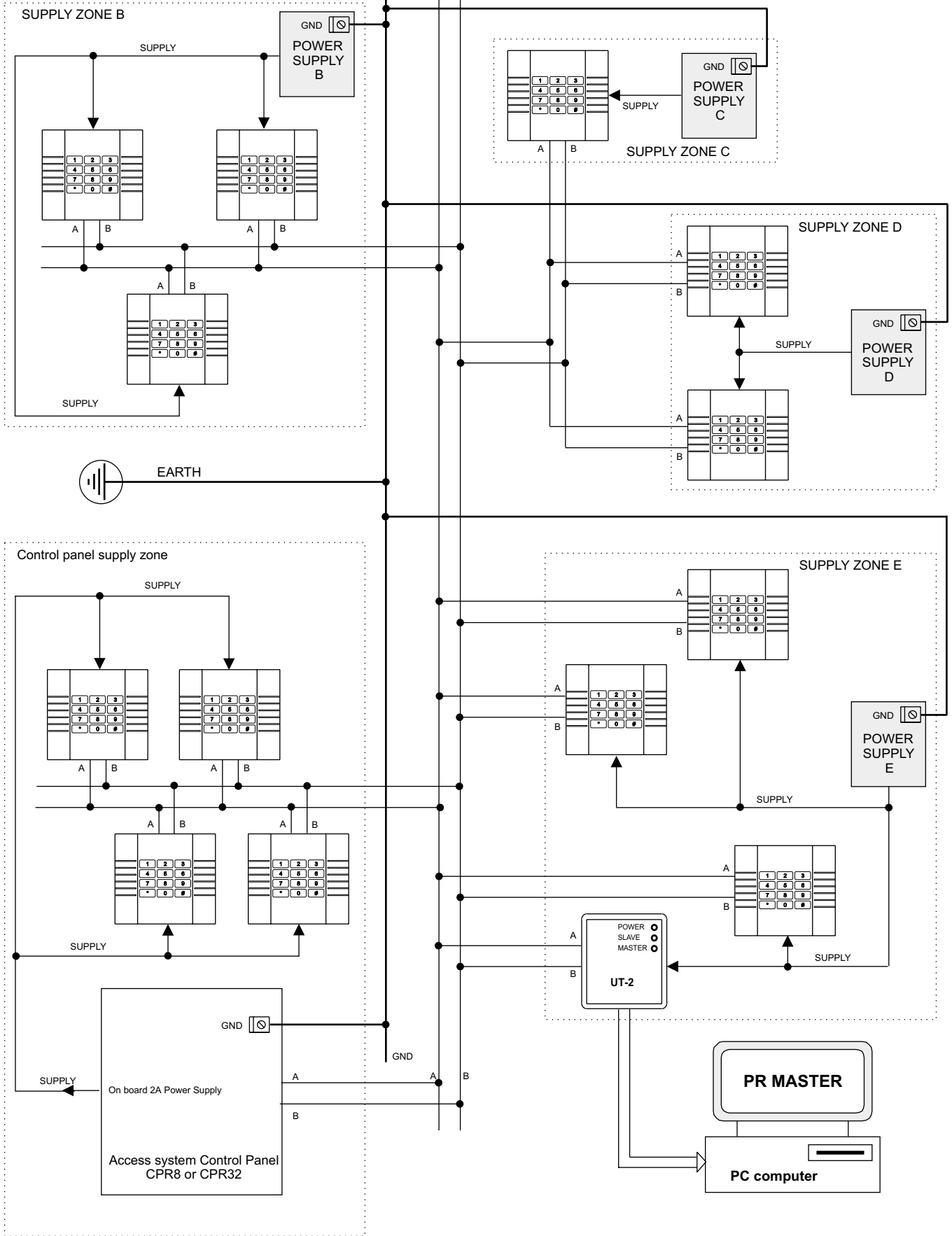


Typical connection diagram of PR301/201 access controller.



NOTE:
GND terminals of each supply units must be connected with additional wire.

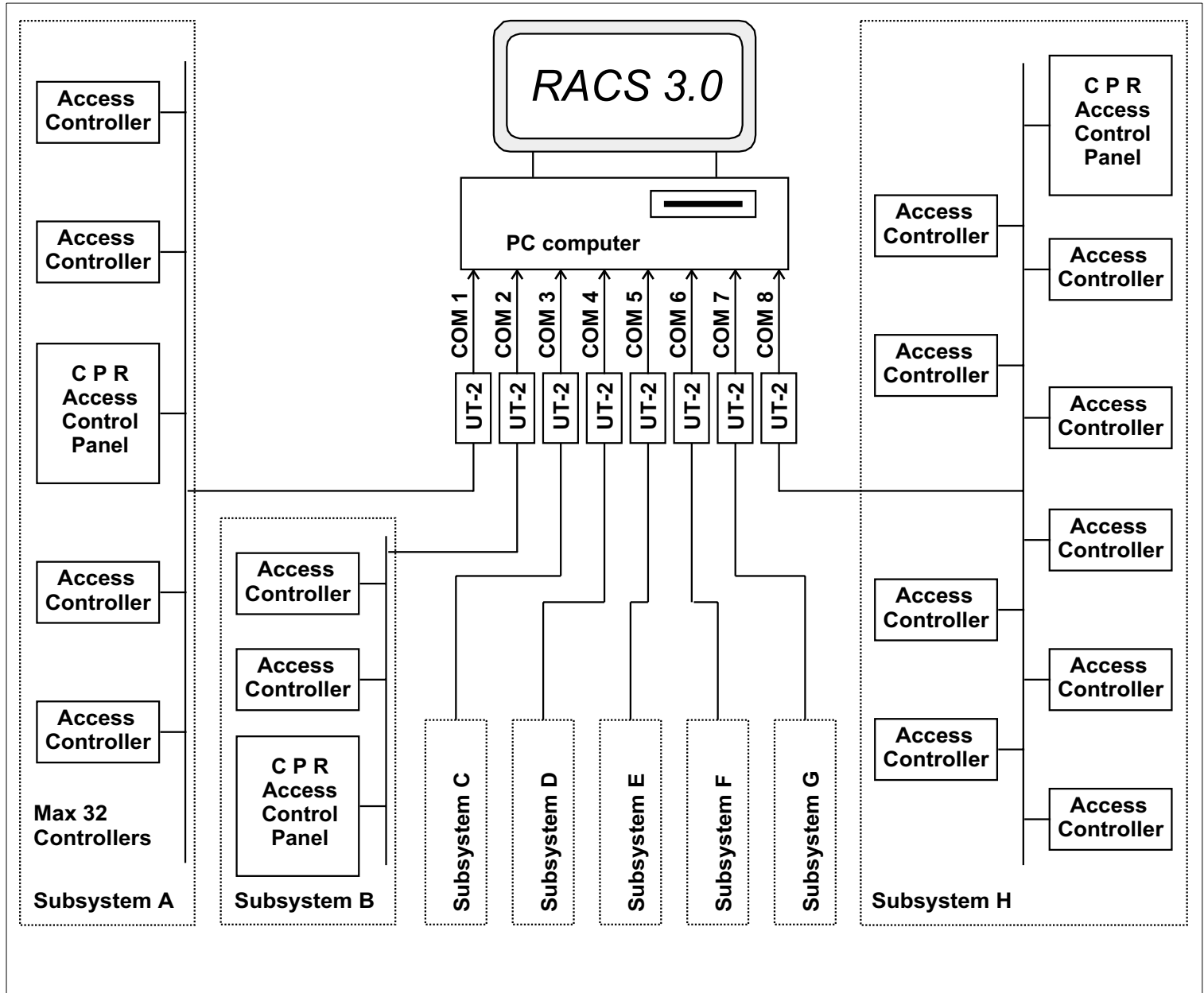
PR system communication bus - max. length 1000m.
Twisted pair of wires without shielding are preferred.
Shielded cables can only be used where strong electric interferences exists.



PR access control system with 13 controllers, CPR control panel and additional 4 power supply units.

Roger Access Control System

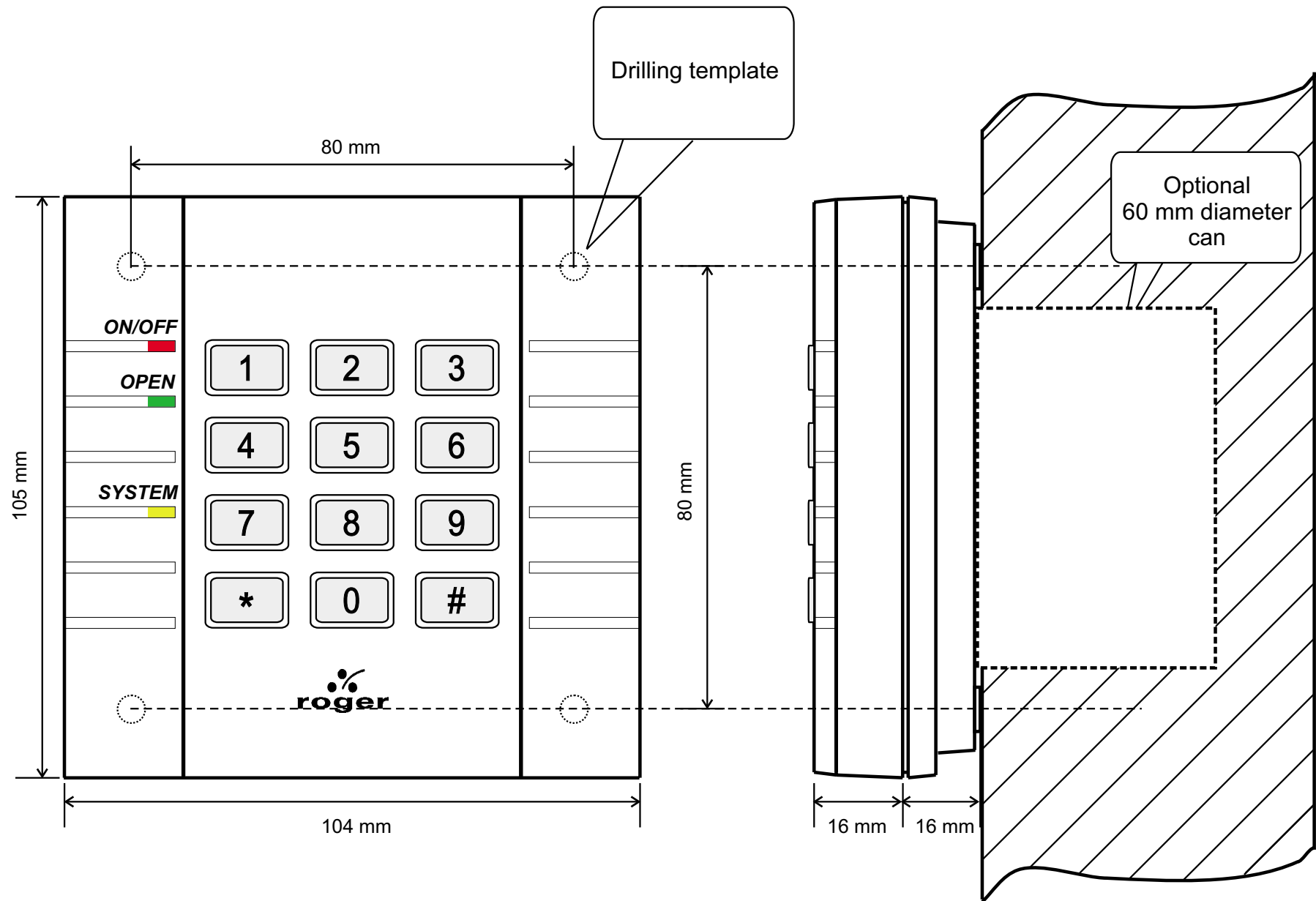
The structure of access control system RACS 3.0



1. Every subsystem must be connected to separate COM port via UT-2 interface.
2. Distance between PC and UT-2 may not exceed 15 meters.
3. The UT-2 communication interface as well as CPR control panel can be connected to system communication bus in arbitrary place.
3. Every subsystem must have its own CPR control panel.
4. The maximum length of communication bus must not exceed 1200 meters.
5. System requires RACS 3.0 software pack.

ID selection
(valid only for
PRT31 terminal)

	0
	1
	2
	3
	4
	5
	6
	7



The front and side view of PR301 controller and PRT31 terminal.
Scale 1 : 1