

PRT22 v3.0 OUTDOOR PROXIMITY READER

General Description

The PRT22 reader is dedicated for use with access controllers which accept one of following communication standards:

- *Wiegand26 bit*
- *Wiegand34 bit*
- *Wiegand42 bit*
- *Magstripe (ABA track 2 emulation)*
- *RACS Clock&Data*

The RACS standard is dedicated for operation with PR series controllers manufactured by Roger (www.roger.pl). PRT22 reader accepts UNIQUE (EM4001/2) standard cards or compatible and is equipped with three LEDs and buzzer. Optionally it may operate with external keypad which makes reader as Prox and PIN type. PRT22 offers *In Circuit Programming* feature which enables firmware downloading into microprocessor memory. Reader has fully potted electronic circuit which makes adequate protection when installed in outdoor locations.

Custom Firmware

On special request Roger offer custom specified versions of firmware which can be download to reader during manufacturing process or later. For example customer may request reader that will accept only specified card numbers or equipped with other communication standards. The firmware downloading requires special programming cable and software but doesn't require reader de-installation.

Wiegand and Magstripe formats

When device is set to *Wiegand* or *Magstripe* format an *On/Off* led is set to green color permanently, every time a card is read or PIN code is entered a *SYSTEM* led and buzzer are activated together for a short time. Led *Open* in normally off, applying supply minus to [IN1] input activates *Open* led and buzzer simultaneously. PRT22 accept PIN codes followed with [#] mark, PIN codes are transmitted immediately after [#] mark is pressed, reader sends all pressed digits, if number of digit is less then required by relevant format, leading zeros are appended to transmitted PIN code.

RACS format

When device is set to *RACS* format all LEDs and buzzer are normally handled by access controller but there are two exceptions from this rule:

- when reader lost communication with controller, all three LEDs simultaneously blinks,
- when controller is busy (e.g. during controller's manual programming) all LEDs are off

When [IN1] is shorted with supply minus reader operation will be suspended (cards and PINs will be ignored).

Note: The RACS standard accepts up to 8 devices connected to controller through Clock & Data lines, due to this feature every reader should have its individual address (ID number) which will distinguish it on Clock&Data bus. The reader ID number can be set on programming jumpers (see jumper settings table).

TAMPER circuit

Reader is equipped with an optical TAMPER detection circuit which consists of reflecting transoptor and transistor output. When reader case is closed the infrared beam reflects from bottom part of reader case, in this case TAMPER output line is shorted to GND. When the bottom part of case is slightly detached from upper part the infrared beam is discontinued, TAMPER line turn into high resistance state.

Note: The voltage applied to TAMPER output may not exceed 18V level, the maximum current which the output can sink is 20mA.

Installation

The reader should be mounted using two mounting screws, all electrical connections must be made with power supply switched off. The selection of communication standard and other reader option can be made on jumpers.

Notes:

- Avoid installing reader on metal surfaces, this can significantly reduce reading range.
- When installing reader on metal surface use optional non-metal spacer (10mm thick or more) between reader and metal surface.
- When reader is supplied from another power source then controller, both supply minus (reader's and controller's) must be connected together.
- It is recommend to ground power supply minus.
- Reader should not cause interferences to other equipment, however other devices can interfere with reader, avoid installing reader close (<0.5m) to another reader or computer monitor, when an essential reading range reduction is observed try to relocate unit.
- PRT22 can be mounted in external location, it has full protection against outdoor condition.

Originally PRT22 is delivered without optional external keypad. When PIN identification is required installer may connect external keypad to relevant connector available on PRT22 (see installation and wiring diagram). It is recommended to make connection between external keypad and reader's connector through soldering and separate individual wires with additional insulation sleeve.

Ordering information

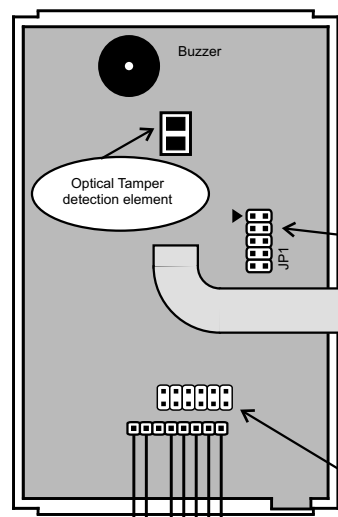
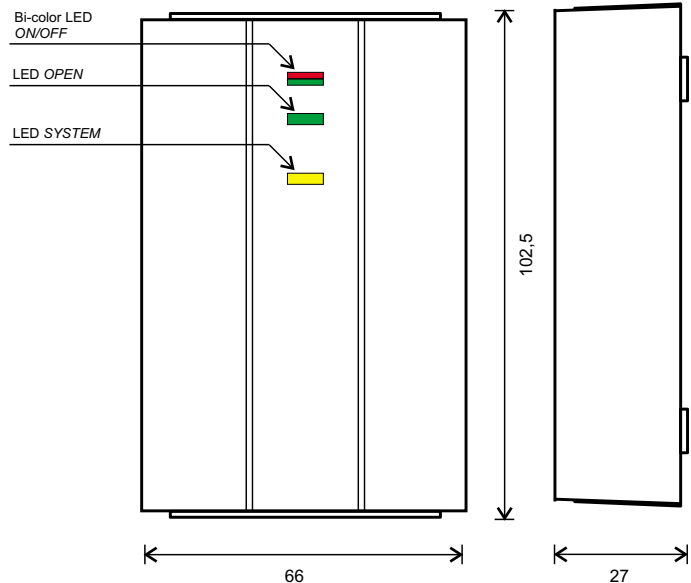
PRT22	PRT22 access terminal.
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Technical Specification

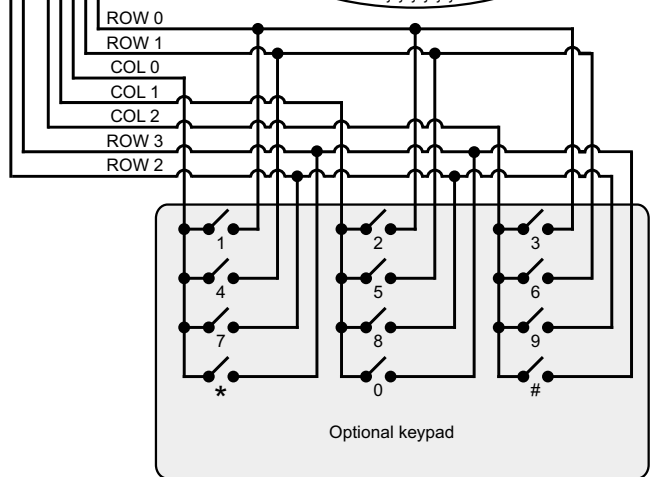
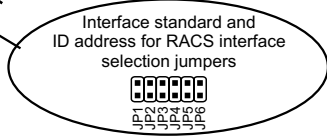
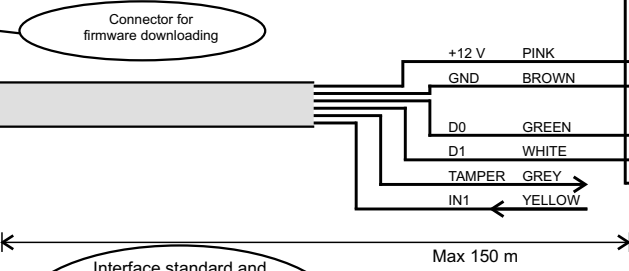
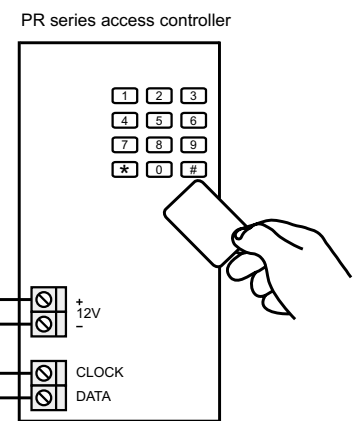
Operating voltage range	10...16VDC (recommended linear type power supply unit)
Current consumption:	avg. 60mA
Tamper	Optical tamper circuit, open transistor output, max. sink current 20mA.
Reading range	up to 12 cm for ISO card (depends on card quality)
Card type	UNIQUE 125 KHZ, ASK Modulation, 64 bit) or other types EM4001/2 compatible
Operating temp. range	-20...+60° C.
Cable distance to controller	150 meters (500 ft)
Operating humidity	0 to 95% (non condensing)
Ingress protection code:	IP30 (for internal use only, without water protection)
Dimensions	105 X 105 X 31 mm
Weight	160g

Cable assignment

Function	Color	Description
+12	PINK	Supply plus
GND	BROWN	Supply minus
CLK	GREEN	[Data 0] for Wiegand formats or [Clock] for Magstripe and RACS formats
DTA	WHITE	[Data 1] for Wiegand formats or [Data] for Magstripe and RACS formats
IN1	YELLOW	For <i>Wiegand</i> and <i>Magstripe</i> formats this input is used to activate led <i>OPEN</i> and buzzer together, for <i>RACS</i> format this input can be used to deactivate reader and keypad operation. In both cases input is triggered by supply minus.
TAMP	GREY	Tamper output.



Wire color	Cable assignment		
	Communication interface		
	RACS	MAGSTRIPE	WIEGAND
PINK	Supply plus		
BROWN	Supply minus		
GREEN	RACS Clock	CLOCK	DATA 0
WHITE	RACS Data	DATA	DATA 1
YELLOW	Reader enable/disable	LED/BUZZER Control	LED/BUZZER Control
GREY	TAMPER output line (transistor type output)		



Interface standard selection	
JP4 JP5 JP6	RACS
JP4 JP5 JP6	Magstripe (ABA track II)
JP4 JP5 JP6	Wiegand 42 bit
JP4 JP5 JP6	Wiegand 34 bit
JP4 JP5 JP6	Wiegand 26 bit

Reader address selection Valid for RACS interface only	
JUMPER	ID address
JP1 JP2	0
JP1 JP2	1
JP1 JP2	2
JP1 JP2	3

