

## PRT32 PROXIMITY & PIN READER

### General Description

The PRT32 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](http://www.roger.pl)). PRT32 reader accepts UNIQUE (EM4001/2) standard cards or compatible and is equipped with three LEDs, buzzer and 12 digit keypad. Reader offers *In Circuit Programming* feature which enables firmware downloading into microprocessor memory.

### 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. PRT32 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 and acoustic beep is generated,
- 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 ID number which will distinguish them on Clock&Data bus. The reader ID number can be set on programming jumpers (see jumper settings table).

### Installation

The reader should be mounted using four 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.

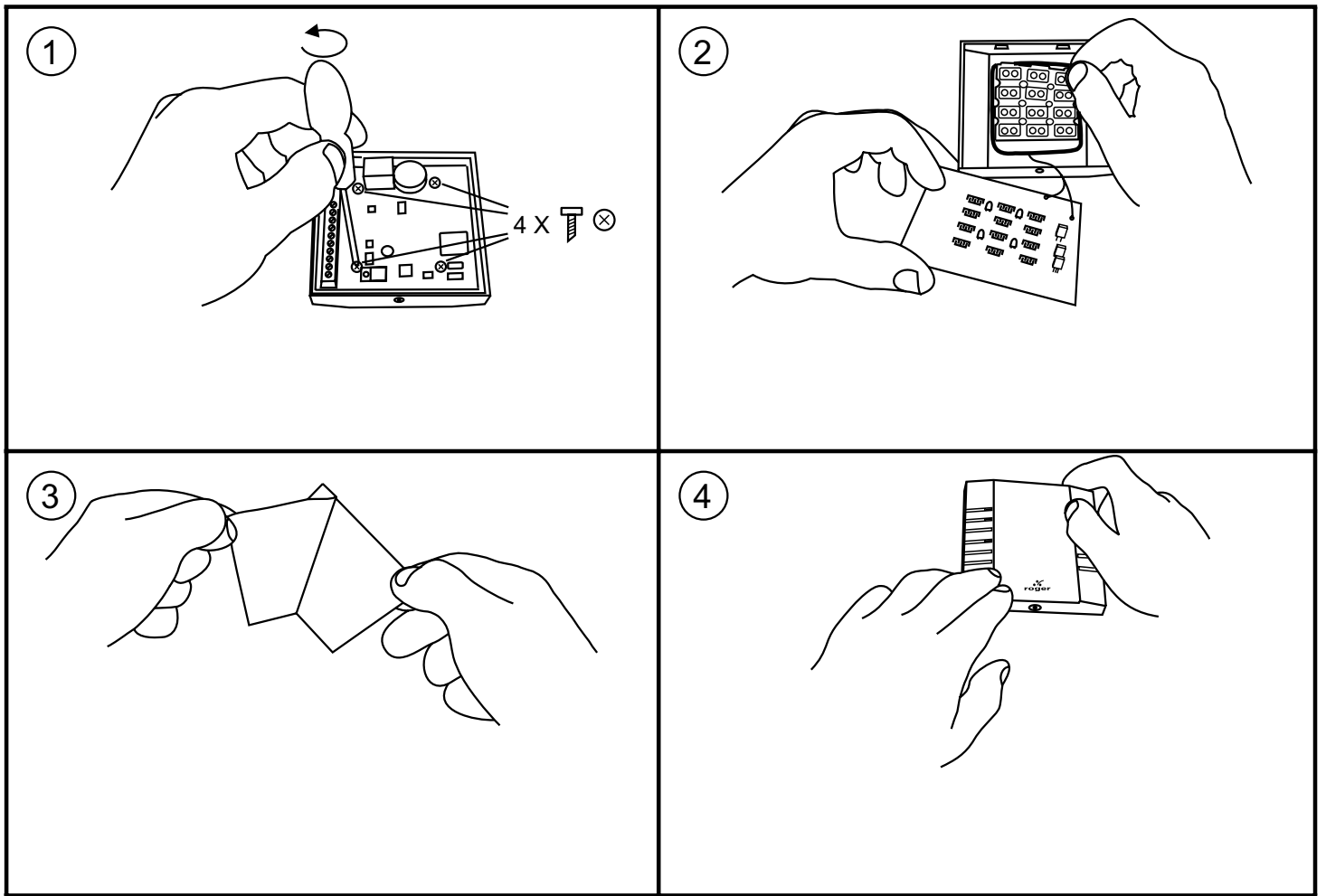
- When reader is supplied from another power source then controller, both supply minus (reader's and controller's) must be connected together.
- Roger recommend to ground power supply minus.
- Reader should not cause interferences to other equipment, however other devices can interfere with reader, avoid locating reader close (<0.5m) to another reader or computer monitor, when an essential reading range reduction is observed try to relocate unit.
- PRT32 can not be mounted in external location, it has not any protection against moisture, rain and cold, only internal location are acceptable.

Originally PRT32 is delivered with silicon rubber which is build-in into reader. When PIN identification is not required installer may remove silicon keypad and replace it with front cover which is delivered together with reader. The keypad disassembly requires four screws to be dismounted then keypad can be removed. The front cover is delivered with self adhesive layer and is ready to be located in place of previously removed keypad.

Technical Specification	
Operating voltage range	10...16VDC (recommended linear type power supply unit)
Current consumption:	avg. 60mA
Tamper	normally closed contact, 50mA/24V
Reading range	up to 15 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	0...+55° 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	140g

Connection terminal assignment	
Name	Function
+ 12V -	Supply plus and minus
CLK	[Data 0] for Wiegand formats or [Clock] for Magstripe and RACS formats
DTA	[Data 1] for Wiegand formats or [Data] for Magstripe and RACS formats
IN1	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	Tamper contacts, normally closed





Four steps to remove keypad and replace it by plastic self-adhesive front cover.