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## NANOPW NANOPB

*Lecteur proximité Wiegand 125 Khz  
Wiegand 125Khz Proximity Reader*

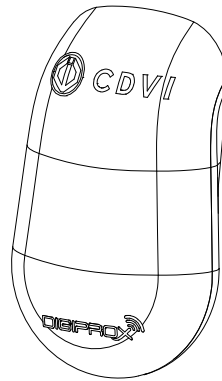
*The installer's choice*  
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**NANOPW - NANOPB**  
Wiegand 125 Khz proximity reader

**Thank you for buying our products and for the confidence you placed in our company.**

**1] PRODUCT PRESENTATION**

- **Wiegand 26 bit.**
  - **Direct connection.**
  - **PCB sealed in epoxy.**
  - **Audible and visual feedback.**
  - **45cm pigtail wire connection.**
  - **Versions available: white, black or grey.**
- L x W x D: 70 x 43 x 23mm.
  - Technology: 125 Khz.
  - Multi card protocol reader - Marin/HD.
  - Input voltage: 12V dc.
  - Consumption: 100mA.



- RoHS
- CE Certification
- Certification FCC CFR 47 part 15 compliance
- WEEE
- 25°C to +70°C
- IP53

**2] REMINDERS AND RECOMMENDATIONS**

**Important**

To protect the device from back-emf, do not forget to install the varistor across the lock terminals, in parallel. For optimal illumination, do not fold the cable inside the product. Keep at least 20CM (8") between 2 card readers.

**Suggested power supplies**

ARD12 & BS60. In case the reader is powered neither by the controller nor by the reader controller (INTBUSW).

**Recommended cables**

4 twisted pairs 0.6mm (AWG 24).

**Environment**

When in a humid area or close to the sea, we recommend applying varnish to the terminals to avoid oxidation.

**This product is supplied with a varistor.**

The varistor must be connected directly to the locking system terminals (electric strikes, electromagnet, or lock)

operated by the device. If the device functions with several locking systems, each one must be fitted with a varistor. The varistor limits overload produced by the strike coil, known as self-effect or back-emf. If you are using a "Shear Lock", electromagnet or other type of electric lock, we recommend the use of a dedicated power supply for the lock.

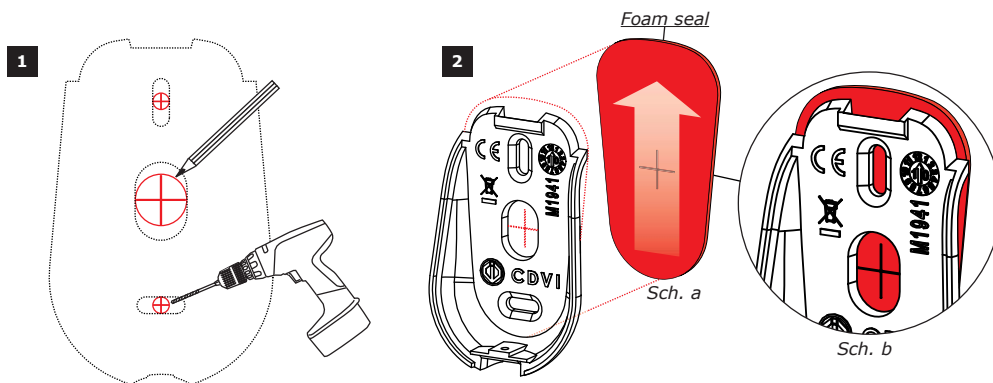
**3] MOUNTING KIT**

Foam seal	3x30 TF screw	S5 Plastic anchor	TORX® bit	3x8 TORX® screw	Varistor
<b>NANOPW(PB)</b>	1	2	1	1	1

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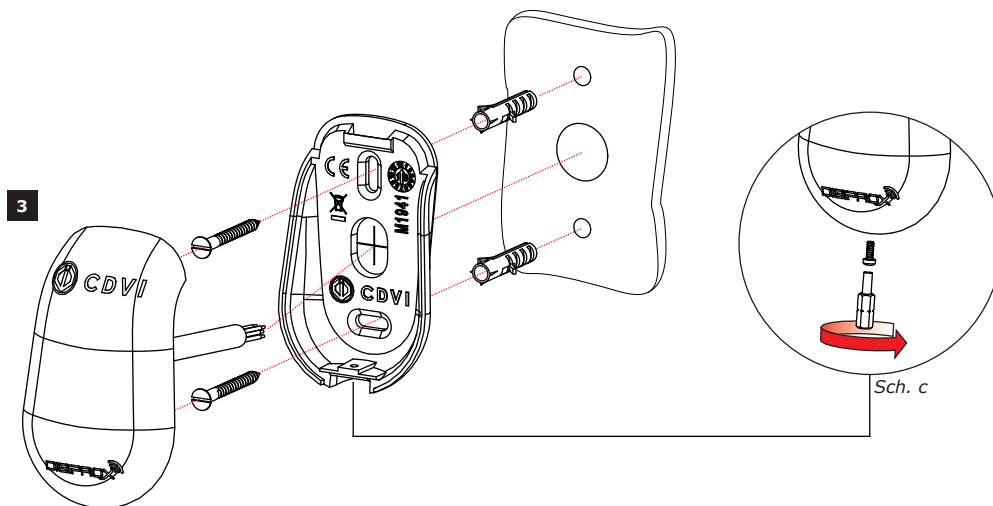
**4] MOUNTING**

Make sure that there are no pieces missing from the mounting kit. Use the correct tools according to the installation (drill, screwdrivers, tape measure,...) and follow the mounting instructions of the reader.



**1** Measure and mark the center lines to determine the reader position. Drill the fixing screw holes (Diameter: 5mm). Drill the wiring access area (Diameter: 15mm).

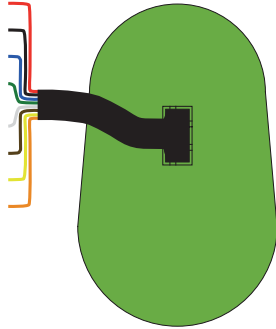
**2** Place the joint at the back of the reader. Take care to begin from the bottom. (Sch. a). The joint must be visible (about 2mm) on the top-back of the reader (Sch. b).



**3** Insert the plastic plugs in the mounting holes, connect the cable (refer to wiring diagram on page 7), then fasten the reader with the TORX® screw using the TORX® bit (Sch. c). Make sure that the varistor is connected across the lock (refer to page 5 "Reminders and recommendations").

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**5] WIRING DIAGRAM**



Cable	
Red	Input voltage 12V dc
Black	0V
Blue	Clock
Green	Data 0
White	Data 1
Brown	Buzzer
Yellow	Green LED
Orange	Red LED

**When powered**

- Green LED illuminates for 1 second
- Red LED illuminates for 1 second
- Buzzer sounds for 1 second

**Operating mode**

- Buzzer activated with 0V input
- LEDs activated with 0V input

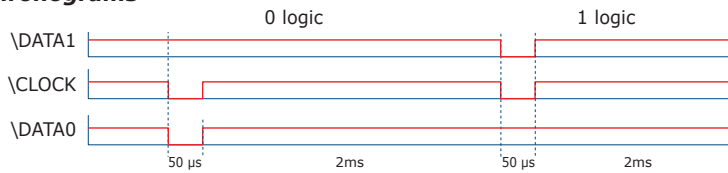
Green LED	Red LED	Status
OFF	OFF	OFF
OFF	ON	red
ON	OFF	green
ON	ON	blue

**Card Swiped**

- Badge recognized: the orange LED illuminates and the buzzer activates for 150 milliseconds.

**6] OUTPUT FORMATS 26 BIT WIEGAND**

**Chronograms**



Open collector output with internal pulls up 1K at +5V or +12V according the ST4 position.

**26-bit Wiegand Output**

Format 26-bit hexadecimal. The output format is 26-bit Wiegand (Signals: DATA1, DATA0 and CLOCK)  
The frame is made of 26-bit and built as follows:

- 1 - First parity:** 1-bit – even parity for the first 12-bit  
Code of the badge: 6 half byte represent the last 6 digit of the code (4bit = 1 digit of a code)  
Each byte is transferred from bit 7 to bit 0.
- 2 - Second parity:** 1 bit – odd parity for the last 12-bit.

Bit 1	Bit 2 to bit 25	Bit 26
Even Parity on bit 2 to bit 13	Data (24 bit)	Odd Parity on bit 14 to bit 25

**Example:** code of the badge is 0100166A37.

1	0001	0110	0110	1010	0011	0111	0
Parity 1	1	6	6	A	3	7	Parity 2

The code transmitted is in hexadecimal format 166A37.

- Parity 1: 0 if the number of 1 in bit 2 to bit 13 is even, 1 if the number of 1 in bit 2 to bit 13 is odd.
- Parity 2: 0 if the number of 1 in bit 14 to bit 25 is odd, 1 if the number of 1 in bit 14 to bit 25 is even.

