EN ENGLISH

NANOPW
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Wiegand 125Khz Proximity Reader

The installer's choice
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NANOPW - NANOPB

Wiegand 125 Khz proximity reader

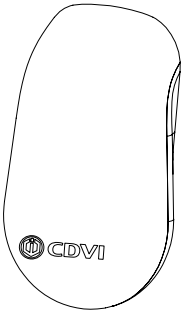
EN

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

1] PRODUCT PRESENTATION

- ***Wiegand 26/30/44 bits.***
- ***Direct connection.***
- ***PCB sealed in epoxy.***
- ***Audible and visual feedback.***
- ***3m pigtail wire connection.***
- ***Versions available:*** *white or black.*

- 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.

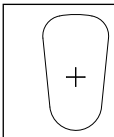
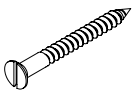
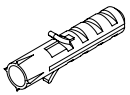
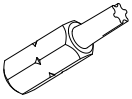
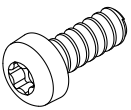
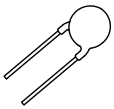
Suggested power supplies
ARD12 & BS60 (in case the reader is powered neither by the controller nor by the reader controller INTBUSW).
These products must be powered in 12Vdc and the power supply should be certified EN60950-1:2006/A11:2009 standards and should be designed to be a low power supply source.

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.

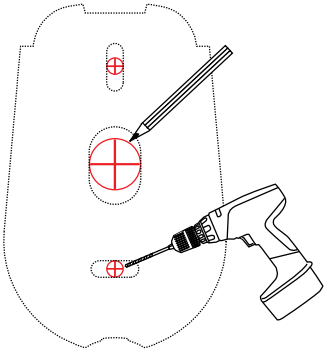
3] MOUNTING KIT

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

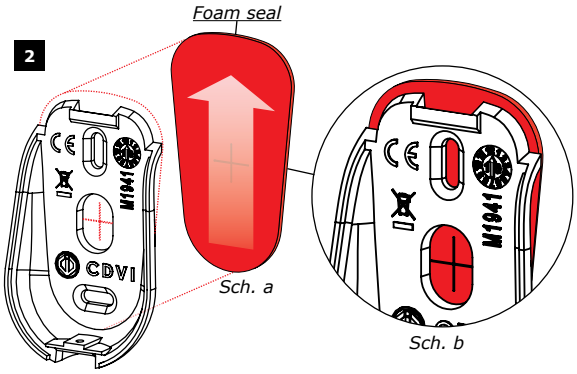
4] MOUNTING

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



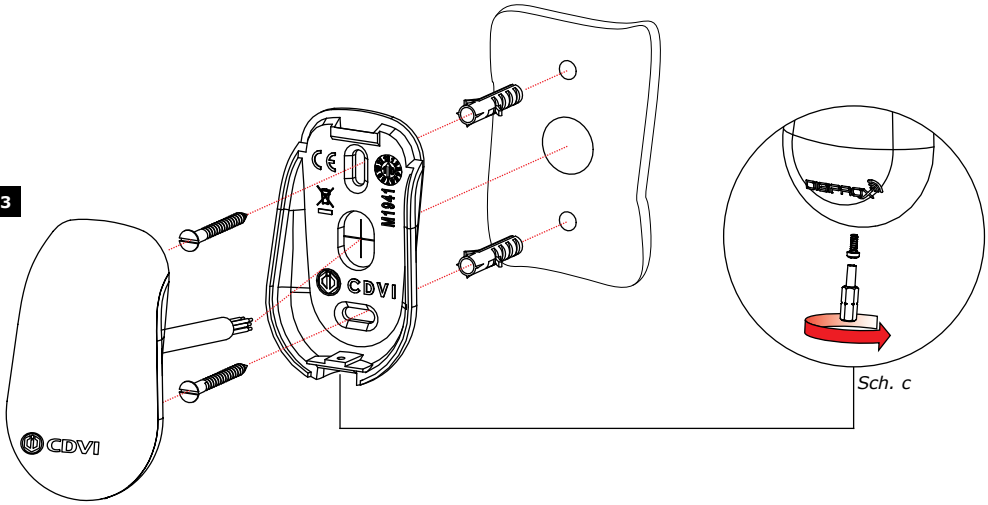
2



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).*

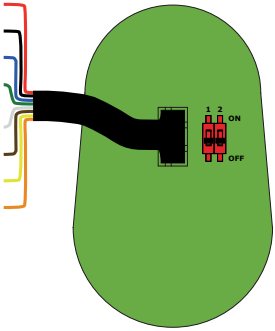
2 *Place the joint at the back of the reader. Take care to begin from the bottom. (Sch. a). The joint must be visible (about 2mm) on the top-back of the reader (Sch. b).*

3



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").*

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

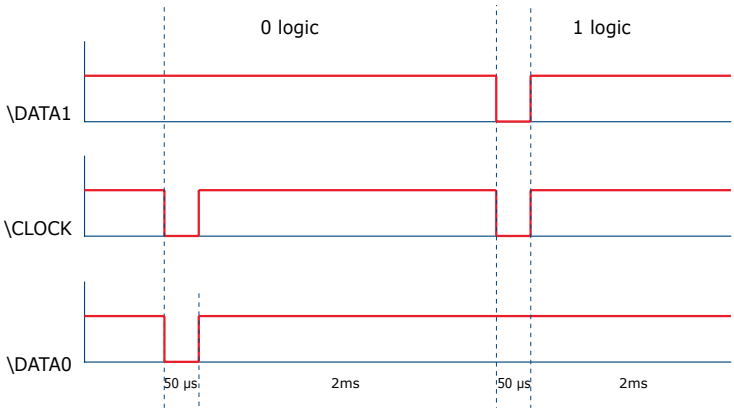
- Badge recognized: the orange LED illuminates and the buzzer activates for 150 milliseconds.

Wiegand output formats

DIP1	DIP2	BITS
OFF	OFF	26
ON	OFF	30
OFF	ON	44

6] OUTPUT FORMATS 26, 30 AND 44 BIT WIEGAND

Chronograms



Open collector output with internal pulls up 1K at +5V.

26-BIT WIEGAND OUTPUT

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

Exemple: *code of the badge is 0102166A37.*

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.

30-BIT WIEGAND OUTPUT

1 - First parity: 1 bit – even parity for the first 14-bit
Code: A code is formed from 7 half byte.
Each byte is transferred from bit 7 to bit 0.
2 - Second parity: odd parity for the last 14-bit.

Bit 1	Bit 2 to bit 29	Bit 30
Even Parity from bit 2 to bit 15	Data (28-bit)	Odd Parity from bit 16 to bit 29

Example: *EM badge hexadecimal code: 0102166A37.*

1	0010	0001	0110	0110	1010	0011	0111	1
Parity 1	2	1	6	6	A	3	7	Parity 2

The code transmitted is in hexadecimal format 2166A37.

Parity 1: 0 if the number of 1 in bit 2 to bit 15 is even,
1 if the number of 1 in bit 2 to bit 15 is odd,
Parity 2: 0 if the number of 1 in bit 16 to bit 29 is odd,
1 if the number of 1 in bit 16 to bit 29 is even.

44-BIT WIEGAND FORMAT OUTPUT

Data: 10 digit code number hexadecimal MSByte first.
Each hexadecimal digit = 4 bit, MSBit first.
LRC: 4 bit = OR restricted in between the digit of the data, MSBit first.

Bit 1 to bit 40	Bit 41 to bit 44
Data MSBit first	LRC

Example A: *EM badge hexadecimal code: 01001950C3.*

0000	0001	0000	0000	0001	1001	0101	0000	1100	0011	0011
0	1	0	0	1	9	5	0	C	3	3

The code number of the card is: 01001950C3 in hexadecimal code.

7] LED MANAGEMENT ON CENTAUR SYSTEM

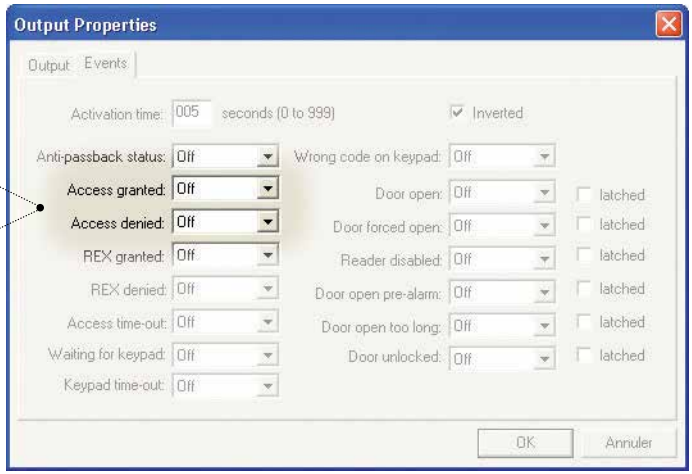
LED ACTUATION	**GREEN** ACCESS ALLOWED **RED** ACCESS DENIED **BLUE** STAND-BY

RED LED SETTINGS

Access granted: On
Access denied: Off

GREEN LED SETTINGS

Access granted: Off
Access denied: On



Reference : G0301FR0465V01
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