CDVI

EN ENGLISH

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SOLARMWD
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Lecteurs Mifare® Desfire EV1 13,56 Mhz - Wiegand
13.56 Mhz EV1 Desfire Mifare® Readers - Wiegand

The installer's choice
cdvigroup.com

SOLARMWD - SOLARMBD

13.56Mhz EV1 Desfire Mifare® Reader - Wiegand

EN

1] PRODUCT PRESENTATION

- ***Wiegand 26, 30 or 44 bit.***
- ***Desfire EV1 (Tag 2 to 8 K).***
- ***Direct connection or with the door controller (INTBUSW).***
- ***PCB sealed in epoxy.***
- ***Audible and visual feedback.***
- ***3m pigtail wire connection.***
- ***Tamper switch.***
- ***Versions available:*** *white or black.*
- ***Cryptage AES 128.***
- Dimensions (L x W x D) : 130 x 90 x 28mm.
- Technology: 13.56Mhz.
- Input voltage: 12V dc.
- Consumption: 220mA.

RoHS

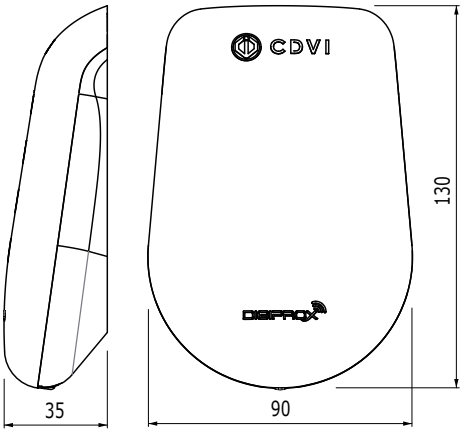
CE Certification

-25°C to +70°C

WEEE

Certification FCC CFR 47 part 15 compliance

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.

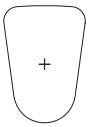
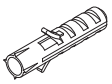
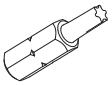
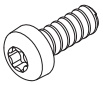
Suggested power supplies
ARD12 & BS60 (in case the reader is powered neither by the controller nor by the reader controller INTBUSW). These products must be powered in 12Vdc and the power supply should be certified EN60950-1:2006/A11:2009 standards and should be designed to be a low power supply source.

Recommended cables
4 twisted pairs 0.6mm (AWG 24).

This product is supplied with a varistor.
The varistor must be connected directly to the locking system terminals (electric strikes, electro-magnet, 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.

For optimal illumination, do not fold the cable inside the product.

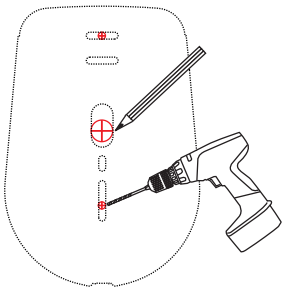
3] MOUNTING KIT

						
	Foam seal	**3x30 TF screw**	**S5 Plastic anchor**	**Torx® bit**	**3x8 Torx® screw**	**Varistor**
SOLARMWD SOLARMBD	1	2	2	1	1	1

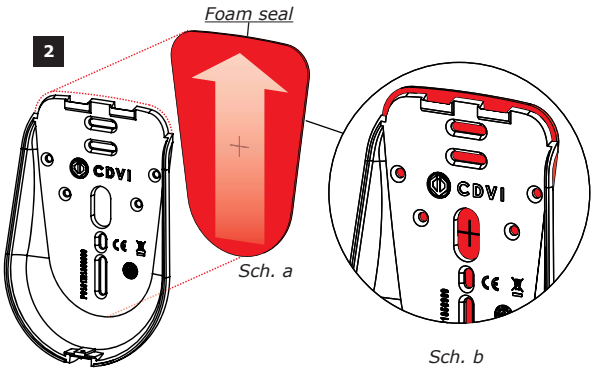
4] MOUNTING

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



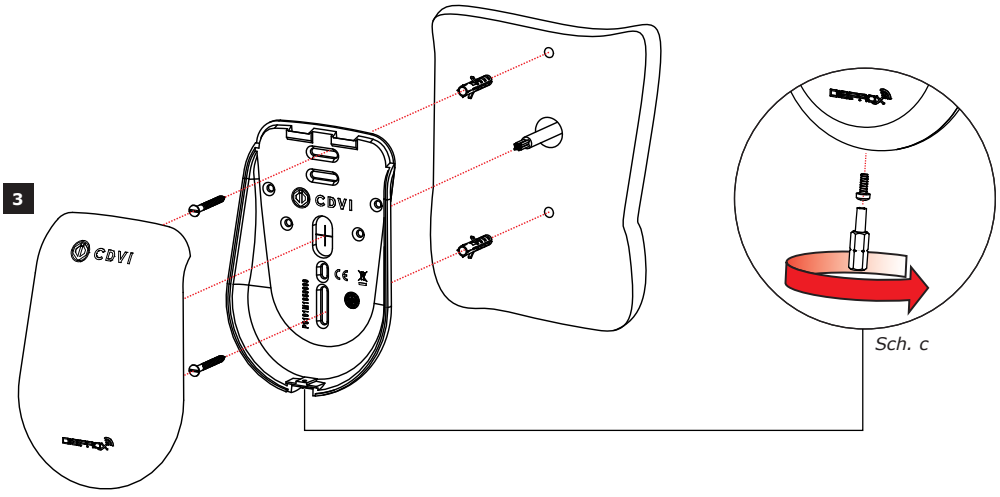
2



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).*

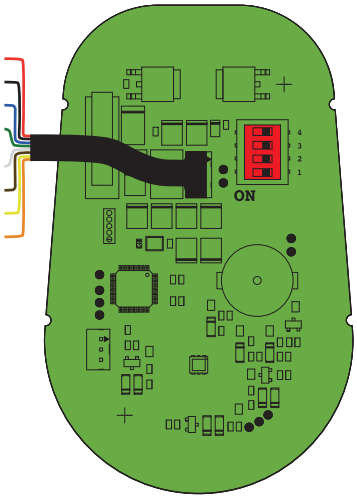
2 *Place the foam seal at the back of the reader. Take care to begin from the bottom. (Sch. a). The foam seal must be visible (about 2mm) on the top-back of the reader (Sch. b).*

3



3 *Insert the plastic plugs in the mounting holes, connect the cable (refer to wiring diagram on page 11), 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 8 "Reminders and recommendations").*

5] WIRING DIAGRAM



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

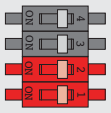
WHEN READER FRONT PANEL CLOSED

Powered up the reader
- Green LED illuminates for 1 second.
- RED LED illuminates for 1 second.
- Buzzer sounds for 1 second.
- Orange LED illuminates (waiting configuration).
- use the configuration tag (Green LED blinks) > waiting for user tag.

Operating mode
- Buzzer activated with 0V input.
- LEDs activated with 0V input.

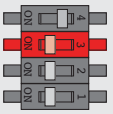
WARNING : The configuration is lost when power is switched off or when tamper switch is released

DIPSWITCH 1 & 2 POSITIONING



1	2	
OFF	OFF	26 bits
ON	OFF	30 bits
OFF	ON	44 bits
ON	ON	Non attribué

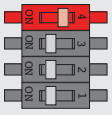
DIPSWITCH 3 POSITIONING



3	
ON	Standard

DIPSWITCH 4 POSITIONING

Pulls up 12 V or 5 V
Open collector outputs:



OFF= 5 V

ON = 12 V

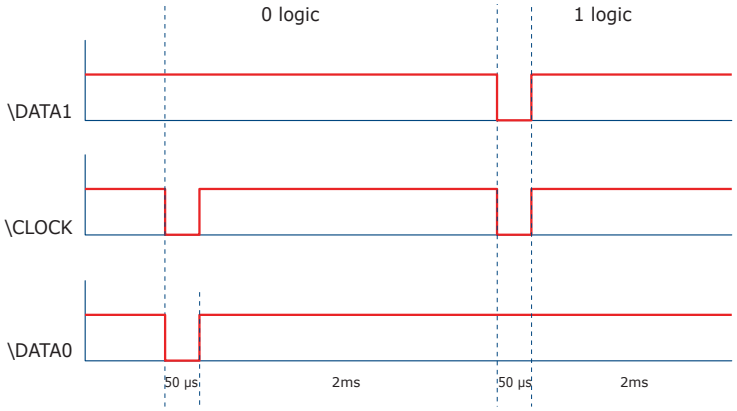
Input LED management		
Green LED	**Red LED**	**Status**
OFF	OFF	Off
OFF	ON	red
ON	OFF	green
ON	ON	blue

Card Swiped (DIP3 = ON)

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

6] OUTPUT FORMATS 26, 30 AND 44 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 follow:

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 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.

30-bit Wiegand Output

Signals output in open collectors with pull up in 30-bit hexadecimal format. The output format from the proximity reader is 30-bit wiegand (Signal: DATA1, DATA0 and CLOCK) and is structured as follow:

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

Exemple A: *Temic card decimal code: 689905 (in hexadecimal: A86F1).*

1	0000	0000	1010	0110	0110	1111	0001	0
Parity 1	0	0	A	8	6	F	1	Parity 2

The code number of the card is 00A86F1 in hexadecimal.

Exemple B: *EM badge hexadecimal code: 0100166A37.*

1	0000	0000	0001	0001	0110	1011	0110	1
Parity 1	0	0	6	6	A	3	7	Parity 2

The code transmitted is in hexadecimal format 0166A37.

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

44-bit hexadecimal format. The output format from the proximity reader is 44-bit (Signal: DATA1, DATA0 and CLOCK) and is structured as follow:

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

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

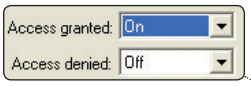
0000	0000	0000	0000	0001	1001	0101	0000	1100	0011	0011
0	1	0	0	1	9	5	0	C	3	3

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

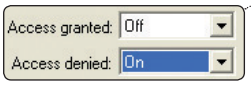
7] LED MANAGEMENT ON CENTAUR SYSTEM

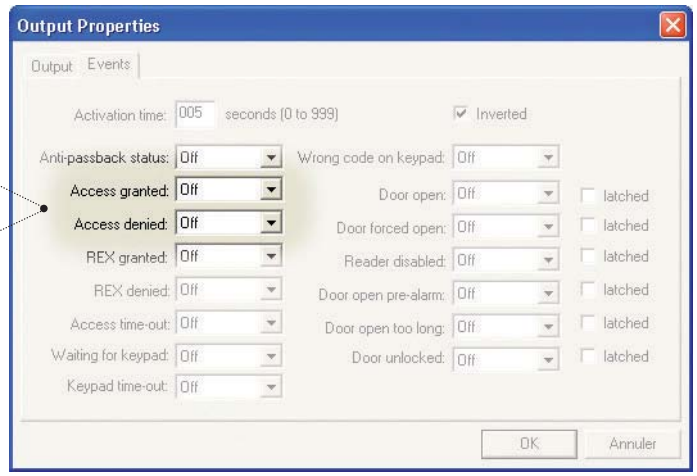
LED ACTUATION	**GREEN** ACCESS ALLOWED **RED** ACCESS DENIED **BLUE** STAND-BY

RED LED SETTINGS



GREEN LED SETTINGS





9] NOTES