RX-MIFARE-WDT

Wiegand Data&Clock proximity reader + keypad

TECHNICAL SPECIFICATIONS

- Power supply : 12-24 v DC
- Max. consumption with 12v : 100 mA
- Operating temperature: -20°C to +50°C
- Tightness: IP40
- Dimensions (hxlxp) : 158 x 86 x 33 mm
- Operating connected to Wiegand terminals
- Available in TAG, code or TAG+code
- Surface installation

- Types of identifiers:
  Standard MIFARE and reverse
  MIFARE DESFIRE EV1(only in exclusive reading mode of the l'UID)
- Keypad for intensive use
- Operating only reader, only keypad or reader + keypad
- 1 light indicator available (red)
- 1 light indicator of transmission (green)
- Light and sound indicators

PROGRAMMING OF MASTER CODE

The source code is **000** on leaving the factory.

To program a NEW MASTER CODE, key in **000** and validate with **P**

The *yellow light* comes on.

key in **0** then **000**

key in your new master code (1-8 digits).

Validate with key **A**

Press **P** to exit programming mode.

Example : **5823**

Press **0** then **000** Key in **5823** validate with **A** and **P**

EMERGENCY PROCEDURE

IF YOU LOSE OR FORGET YOUR MASTER CODE, THIS OPERATION ALLOWS YOU TO ENTER THE PROGRAM AND ENTER A NEW ONE :

1) Disconnect the power supply and wait 5 seconds.
2) Short-circuit the programming bridge **J1**.
3) Reconnect the power supply (BIP, BIP, BIP).
   The *yellow light* comes on.
4) Press key **0** then **000**
5) key in the master code you want (1 to 8 digits).
6) Validate the operation with key **A**
7) Press key **P** to exit programming.

CONNECTION

J1

WO W1 Wiegand

LR

POWER
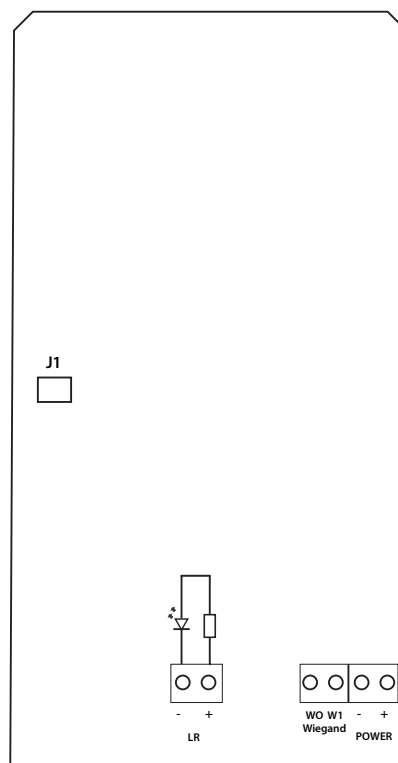
WARNING! Do not instal 2 proximity readers within 0,5 m of each other

PARAMETERS OF CONFIGURATION

• MIFARE STANDARD MODE / OWNER

Reader may use identifiers MIFARE Standard or MIFARE OWNER. These are not present in other manufacturers, there are a guarantee of quality and consistency of operation tags. WARNING: the two types of identifiers are incompatible. As such, the option must be selected before performing the installation and will not change thereafter.

To set MIFARE STANDARD mode: Press **7 6 1 A**
To set MIFARE OWNER mode: Press **7 6 0 A**

• TAG+PINcode MODE

In identifying as TAG + PINcode mode, we must introduce the tag and then introduce a key code. So that a user needs this double identification, it is necessary to have to program a PIN code (from 1 to 8 dígits) inside the tag. A tag which does not have a PIN code will function normally, without awaiting the introduction of the code, including if the TAG + PIN code mode were selected on the reader.

To set the PIN code of a TAG: Press **0 802 XXXXXXXX A**
Yellow led flashing and "tic tic tic" heard
Get the tag closer to the reader antenna, beep beep heard

To cancel the PIN code of a TAG: Appuyer sur **9 902 A**
Yellow led flashing and "tic tic tic" heard
Get the tag closer to the reader antenna, beep beep heard

To set TAG+PIN mode: Press **7 7 1 A**
To cancel TAG+PIN mode: Press **7 7 0 A**

• EXLUSIVE READING MODE OF UID

The exclusive reading mode of UID is incompatible with TAG+PINcode mode. This mode guarantees against any use of a sector of the tag, except the UID, which makes it possible to be identified by means of tags belonging to a system already established, without risk to modify its contents or reading of the codes

To set exclusive reading mode of UID: Press **7 8 1 A**
To cancel exclusive reading mode of UID: Press **7 8 0 A**

• CODE KEYPAD FORMAT

The code entered on the keypad can be transmitted in two formats:
To indicate numeric format of keypad: Press **7 40 A**
To indicate ELA format keypad: Press **7 41 A**

Examples code keypad format 1 A

Numeric format: **00000001**
ELA format: **1FFFFFFF**

SETTING INSTRUCTIONS

ABBREVIATION	MEANING
TAG	MIFARE ID
XXXXXXXX	Code from 1 to 8 digits
PIN	Programmable decimal numeric code on the TAG (1 to 8 digits)
UID	Factory code of the TAG which cannot be erase (8 digits)

Access the programming by the master code	Press keys XXXXXXXX P	Lit yellow indicator (XXXXXXXX = 000 on leaving the factory)

TO SET	PRESS	COMMENTS
Master code	0 000 XXXXXXXX A	
PIN code in TAG	0 802 XXXXXXXX A	Present the TAG in front of the antenna of the reader
Erase PIN code of TAG	9 902 A	Present the TAG in front of the antenna of the reader
Erase all users	9 999 A	
Total reset	9 943 A	Back to default factory settings

SELECTED MODES	PRESS
Set MIFARE standard mode	7 61 A
Set MIFARE-owner mode	7 60 A
Set access TAG +PINcode mode	7 71 A
Cancel access TAG +PINcode mode	7 70 A
Set exclusive reading mode of the UID	7 81 A
Cancel exclusive reading mode of the UID	7 80 A
Indicate keypad in numeric format	7 40 A
Indicate keypad in ELA format	7 41 A

SELECTED PROTOCOL	PRESS
WIEGAND-44	7 10 A
REVERSE WIEGAND-44	7 11 A
WIEGAND-26	7 12 A
REVERSE WIEGAND-26	7 13 A
WIEGAND-34	7 14 A
REVERSE WIEGAND-34	7 15 A
CLOCK&DATA 3 bytes	7 16 A
REVERSE CLOCK&DATA 3 bytes	7 17 A
CLOCK&DATA 4 bytes	7 18 A
REVERSE CLOCK&DATA 4 bytes	7 19 A

EXIT PROGRAMMING MODE	PRESS P	YELLOW LED OFF

• DATA/CLOCK FORMAT

PROTOCOL : R11-2B - Transmission frecuency : 1000bits/s
FORMAT
1- 16 bits at zero
2- Start code SS (B) + odd parity bit.
3- 10 reverse BCD nibbles , corresponding to the ID code+ odd parity bit
4- Transmission end code ES (F) + odd parity bit.
5- Linear redundancy code of previous nibbles, except start zeros + odd parity bit.
LCR = SS N1 ⊕ N2 ⊕ N3 ⊕ N4 ⊕ N5 ⊕ N6 ⊕ N7 ⊕ N8 ⊕ N9 ⊕ N10 ⊕ N11 ⊕ N12 ⊕ N13 ⊕ ES (⊕ = Function O exclusive)

TIME	DESCRIPTION	MIN.	TYP.	MAX.	UNIT
T_{SET}	Data stup time	5	1/6 T_{CLOCK}		µS
T_{RM}	Data hold time	0	8	2/3 T_{CLOCK}	µS
T_{WHITE}	Clock pulse width	-	1/3 T_{CLOCK}	-	µS
T_{CLOCK}	Clock pulse rate	80	1000	1500	µS
T_{TOTAL}	Time out read operation	-	76	-	T_{CLOCK}

STARTING	SS	P	N°1	P	N°2	P	...	P	ES	P	LRC	P	FINAL
00000000	1101	0	0000	1	1000	0	...	0	1111	1	XXXX	Y	00000000
0	B		0		1		...		F				0

• FORMAT WIEGAND 26 BITS
PROTOCOL : 3B - Transmission frecuency: 1000bits/s
FORMAT
1- Bit N°1 even parity in bits 2 to 13
2- Bit N°2 to N°25 corresponding to the ID code in 6 hexadecimal (3 bytes)
3- Bit N°26 odd parity in bits 14 to 26

• FORMAT WIEGAND 34 BITS
FORMAT
1- Bit N°1 even parity in bits 2 to 17
2- Bit N°2 to N°33 corresponding to the ID code in 8 hexadecimal (4 bytes)
3- Bit n°34 odd parity in bits 18 to 33

Examples for a MIFARE card with code FC9EF779
   Format WIEGAND 26: 9EF779
   Format WIEGAND 34: FC9EF779
   Format WIEGAND 44: 00FC9EF779

• FORMAT WIEGAND 44 BITS
PROTOCOL : 3C - Standard
FORMAT
1- Bit N°1 to n°40 corresponding to the ID code in 10 hexadecimal (5 bytes)
2- Bit N°41 to N°44 XOR function of previous numbers

EXAMPLE PROTOCOL : 3C - Standard
FORMAT
The string composed of 44 bits or 40 depending on the tag.
Data : 10 hexadecimal numbers, MSByte in first position. Each hexadecimal number at 4 bits, MSBIT in first position.
LRC : 4 bits = XOR between each number.

bit 1...bit 40	bit 41...bit 44
Data MSBit in first position	LRC

0000	0000	0000	0000	0000	0000	0000	1001	1101	0010	0110
0	0	0	0	0	0	0	9	D	2	6

Logical "0"   Logical "1"

DATA1

DATA0

100us 900us
40us   2048us

100us 900us
40us   2048us
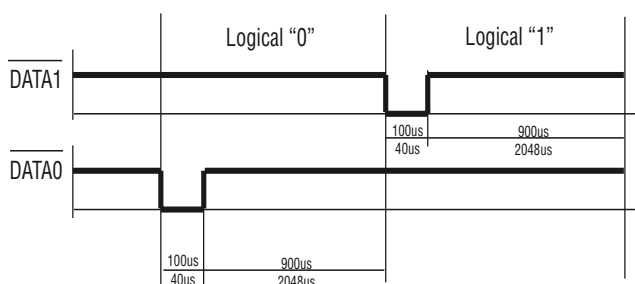
Hereby, ACIE AUTOMATISMES SARL, declares that RX-MIFARE-WDT reader is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.