



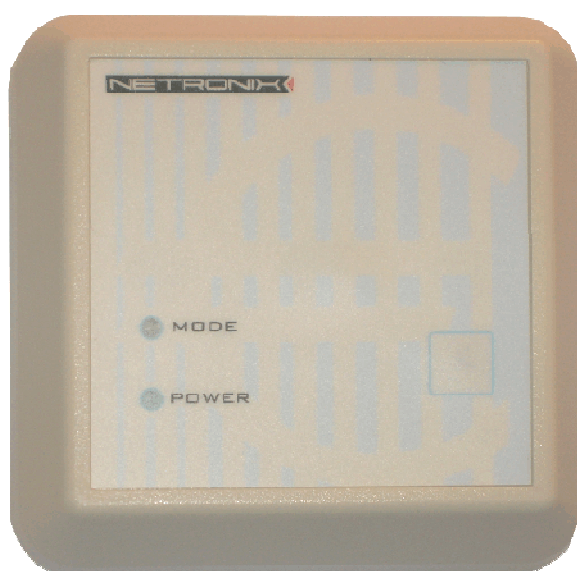
Technical datasheet

RFID reader

UW-M4RM

UW-M4GM

UW-M4xM-man-en-v2



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1 Introduction

The UW-M4x is RFID card reader, which belongs to Mifare family.

Features of the card reader include:

- Support for Mifare S50, Mifare S70, Mifare Ultra Light, Mifare DesFire transponder
- RS-485, MODBUS RTU protocol
- Built-in relay and buzzer
- Built-in push-button and warning LED's on front panel
- Built-in push-button for reset to default settings
- Built-in tamper with spring
- Synchronization pin
- Buzzer, relay and LED's setup
- Software update via RS485 interface using *NEFIR* program

UW-M4 models:			
Module type	Number of GPIO	Cards memory	Events memory
UW-M4RM	1	-	-
UW-M4GM	6	-	-

2 General Specifications

Supported functionality depending on transponder / card type:

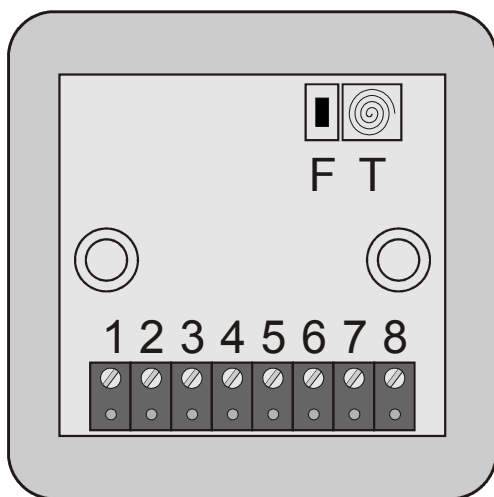
Milfare card type	ID number read-out	Full write and read-out of memory blocks	Supported by internal lock driver
S50	YES	-	-
S70	YES	-	-
Ultra Light	YES	-	-
DesFire	YES	-	-

UW-M4x module parameters

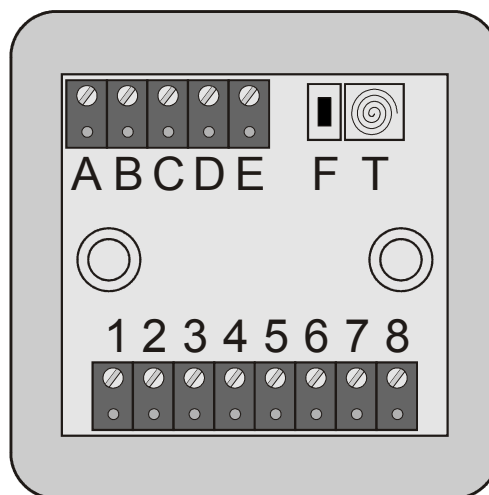
Supply voltage	8-13 V
Max. supply current	250 mA
Rated operation radio frequency of module	13,56 MHz
Read-out distance between transponders	Up to 7 cm
Maximum output current	750mA
Maximum total output current	2A
RS-485 communication	9600 b/s, 8 8 data bits, 1 stop bit, no parity MODBUS-RTU, Default address: 1

3 Names and functions of parts

Rear panel



UW-M4RM



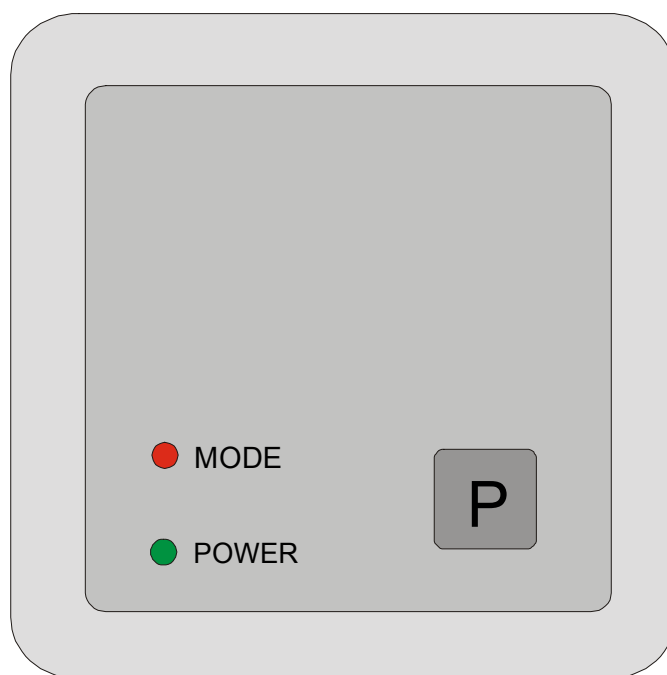
UW-M4GM

Symbol on drawing	Function
1	IO 1*
2	Synchronization of two readers, which are in-proximity
3	RS-485 pin A
4	RS-485 pin B
5	Module power supply
6	Ground and minus of supply voltage
7	Relay contacts outputs
8	
T	Tamper with spring
F	Push-button for reset to default settings

A	GPIO 2*
B	GPIO 3*
C	GPIO 4*
D	GPIO 5*
E	GPIO 6*

*IO's on reader with MODBUS (UW-M4RM, UW-M4GM) will be supported in future.

Front panel



Symbol on drawing	Function
LED MODE	Red LED, green LED and blue LED in one Optical indication of operation/configurable
LED POWER	Optical indication of supply
P	Push-button, which state can read via RS-485 bus.

4 MODBUS RTU commands

Reader contains four MODBUS commands:

0x01	Read coils
0x03	Read holding register
0x05	Write single coil
0x06	Write single register

4.1 MODBUS addresses

Lp	Adres	Typ	R/W	Opis
1	1000	Holding Reg	R	Transponder ID [0]
2	1001	Holding Reg	R	Transponder ID [1]
3	1002	Holding Reg	R	Transponder ID [2]
4	1003	Holding Reg	R	Transponder ID [3]
5	1006	Holding Reg	R	Firmware version
6	1011	Holding Reg	R/W	Relay output mode 0 – disabled 1 – bistable 2 – monostable 3 – 1 shot
7	1012	Holding Reg	R/W	Output on time (*100ms, max 255)
8	1013	Holding Reg	R/W	Output off time (*100ms, max 255)
9	1014	Holding Reg	R/W	Red LED mode (see p.6)
10	1015	Holding Reg	R/W	Green LED mode (see p.6)
11	1016	Holding Reg	R/W	Blue LED mode (see p p.6)
12	1017	Holding Reg	R/W	Buzzer mode (see w p.6)
13	1020	Holding Reg	R/W	Red LED on time (*100ms)
14	1021	Holding Reg	R/W	Red LED off time (*100ms)
15	1022	Holding Reg	R/W	Green LED on time (*100ms)
16	1023	Holding Reg	R/W	Green LED off time (*100ms)
17	1024	Holding Reg	R/W	Blue LED on time (*100ms)
18	1025	Holding Reg	R/W	Blue LED off time (*100ms)
19	1026	Holding Reg	R/W	Buzzer on time (*100ms)
20	1027	Holding Reg	R/W	Buzzer off time (*100ms)
20.1	1050	Holding Reg	R/W	RS485 BUS address
21	1000	Single Coil	W	Setting output ON
22	1001	Single Coil	W	Setting red LED ON
23	1003	Single Coil	R	Front switch status
24	1004	Single Coil	R/W	Transponder detection flag* Read: 1-new transponder detected Write zero resets flag *flag is resets itself after 6 seconds after transponder detected
25	1010	Single Coil	W	Setting green LED ON
26	1011	Single Coil	W	Setting blue LED ON
27	1012	Single Coil	W	Setting buzzer ON

All settings, except bus address, are stored in non-volatile memory and must be reconfigured after each reader reset.