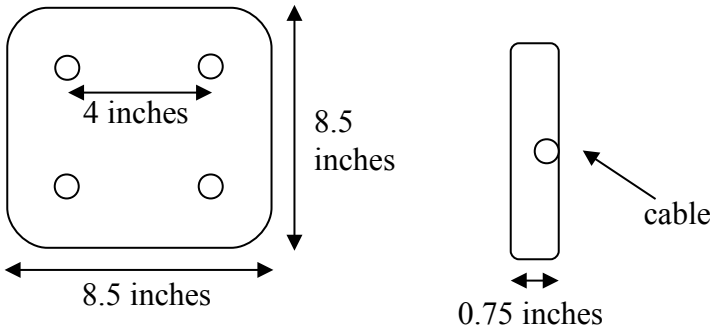
WM-RO-MR2

Medium Range RFID Reader/Decoder for Passive RFID Tags

The WM-RO-MR2 is a complete, medium range RFID reader/decoder for passive RFID tags. This system includes a reader/decoder board and antenna installed in a rugged, sealed, compact enclosure. The WM-RO-MR2 is ideal for use in access control, building security, conveyor systems, or anywhere a long range requirement is not needed.



Description	• Complete medium range reader/decoder for RFID tags (125 KHz) • Rugged completely sealed enclosure with 0.25” mounting holes • Green LED indicates when a valid tag has been read
Data Interface	RS232 or TTL, 9600 baud, 8 data bits, no parity, 1 stop bit *Green Wire: TxD, White Wire: Ground*
Read Range	Tag dependent, up to 19 inches (50 cm)
Power Requirements	9-12 VDC, 80 mA max *Red Wire: +VDC, Black Wire: Ground*
Dimensions	8.5 x 8.5 x 0.75 inches (21.5 x 21.5 x 1.9 cm)
Operating Temperature	0° to 40° C
Material	Black PVC
Part Number	WM-RO-MR2-*FS-LF1* *-FS for fast tag option* *-LF1 for low frequency option (118 KHz)*
Price	$195.00 each (volume pricing is available)

Power Requirements

Power should be supplied with a linear (low-noise) regulated positive +12VDC, 100 mA power supply. Although the WM-RO-MR-2 offers some protection against reverse polarity, *please double check connections before applying power*. For temporary testing purposes, a 9V alkaline battery can be used. Connect the black wire to the negative (-) pole of the battery. Connect the red wire to the positive pole (+) of the battery. A protective 100mA fuse must be used on the input power line.

Operating Instructions

The RFID reader automatically scans and reads tags. The data transmitted by the tag is automatically sent upon decoding.

The tag information/serial number is transmitted by the reader using a 2-wire (TxD and ground, unidirectional) RS232 interface. It operates at 9600 baud 8N1. The serial number in a tag such as the EPD50RO is 40 bits long (5 bytes). The data packet is comprised of 1 start byte, 10 ASCII data bytes, 2 checksum bytes, and one stop byte.

The start byte is always a '**:**' (58d, 0x3A). The 10 data bytes are an ASCII representation of the ten hexadecimal serial code digits (5 numbers) stored in the tag that has just been read. The checksum is two bytes long (an ASCII representation of the 8 bit sum of the 10 data bytes). The stop byte is always an ASCII 'carriage return' (13d, 0x0D).

As an example, when tag serial number 7,234,567,890 decimal (01 AF 36 BE D2 hexadecimal) is decoded, the following 14 byte packet would be transmitted (shown in hexadecimal):

3A	30 31 41 46 33 36 42 45 44 32	34 45	0D
start byte	*ASCII codes of the data (5 numbers - 10 digits)*	*checksum*	*stop byte*

Using terminal software on a computer, the data would appear like this:

:01AF36BED24E

The data packet is sent every time a tag is detected. If a tag remains in the reading field, its data will be sent continuously.