MWS Reader User Manual

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MWS Reader User Manual

Reader capable of reading 2.4 GHz active Tags equipped with Bluetooth interface, embedded antenna, 12 V or 24 V power supply.
The MWS Reader uses 2,4GHz standard (IEEE 802.15.4) to communicate with active tags with sensor on board and allows the user to monitor temperature, electronic sealing, humidity, etc.

1. Technical specifications

INTERNAL DEVICES	Frequency: 2.4 GHz
	Power: Programmable up to 4.5 dBm
	Standard: IEEE 802.15.4
	Reading distance: 100 m
INTERFACES	Bluetooth Class 2 V2.1+ EDR
POWER SUPPLY	12 - 24 V (Car adapter, wall adapter or battery) stand by consumption 1 mA
WORKING TEMPERATURE	-20 / +70℃
DIMENSIONS	Width 65 mm – Height 50 mm – Depth 37 mm
WEIGHT	70 g
PROTECTION DEGREE	IP65

2. Reader power supply

The reader supply voltage range is from 12V to 48V.

The supply cable diameter must be from 3.5mm to 5.5mm. Strip the external cable jacket for 6 mm and the ones of the internal wires for 6 mm.
Connected the wires and fasten them with a cable tie close to the cable gland as shown in Fig.1. The cable tie makes the installation more tear-resistent.

Fig. 1: power supply cable connection

It can be powered via a standard wall adapter power supply or battery.

When installed in vehicle, the reader power supply should usually be taken directly from the battery of the vehicle and not from the ignition.

Note: when Bluetooth is not active reader power consumption is very low, about 1mA.

MWS Reader can read MWS Tags up to a distance of 100m.
See chapter 3. Bluetooth connection to PC and *Configuration and test using IceTag_PCDemo* to get data from MWS Tags.

3. Bluetooth connection to PC

MWS Reader can be quickly connect to your PC via Bluetooth to start to configure it and test it using IceTag_PCDemo.

Once it is switched on, MWS Reader is shown up under Bluetooth Device Directory as Serial Port Profile (SPP) with the name MWSAR_BT12V_XXXX.
The first time you need to pair it by double clicking on the MWS Reader name and inserting the PIN code 1234. After the pairing process, the remote host assigns a virtual COM port to the device.

To configure and test the device, run IceTag_PCDemo and connect to the virtual COM port (see document *Configuration and test using IceTag_PCDemo*).

All the commands are simple serial packets and allow to change setting of the devices and get data from the active tag.
For further details about MWS Reader protocol, see *TERTIUM_IceTag_Reader_Protocol.pdf.*

4. Other information and support

Declaration of conformity

Manufacturer	TERTIUM Technology S.r.l. Via Picotti,8 56124 Pisa Italy
Product	MWS Reader
Description	2.4GHz RFID fixed reader with Bluetooth interface
Conformity standard **ETSI version**	EMC: EN 301.489-1 V1.9.2, EN 301.489-3 V1.6.1, EN 301.489-17 V2.2.1 [Art. 3.1b – 99/05/CEE] Safety: EN 60950-1:2006 +/A11:2009 +/A12:2011 +/A1:2010 [Art. 3.1a – 99/05/CEE] EMF: EN 50364:2010 [Art. 3.1a – 99/05/CEE] ERM: ETSI EN 300 328 V1.8.1 [Art. 3.2 – 99/05/CEE]

The present document declares that MWS Reader product is compliant with the standards described above and they meet the essential requirements expressed in the European Directive 99/05/CE and FCC rules.

Dr. Marco Consani

Based on these declarations, the product can bear the following mark:

CE

Federal Communication Commission (FCC) Notice

FCC certified: FCC ID: Y6D-MWSAR010

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

NOTE: THE **GRANTEE** IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Disposal

According to art.13 of the Legislative Decree dated 25 July 2005, no.151 (implementation of the European directive 2002/96/EC) the disposal of electric and electronic equipment (WEEE) must not be carried out as urban waste, but it must be done separately following specific guidelines. Such obligation is expressed by the following symbol, applied on the container. The disposal will be managed by the producer and therefore the consumer wishing to get rid of the device shall contact the producer and shall follow the procedure he has adopted to collect aforementioned waste.

RoHS Conformity

The device has been realized using materials and constructive processes conforming to the limits imposed by the directive 2003/108/CE (RoHS) concerning the use of dangerous substances in electronic products.

Warranty

TERTIUM Technology guarantees that this product will be exempt from material defects of production and conforming to the stated technical data, under conditions of normal use, for the period of one year-old from the date of purchase. The warranty covers the reparations but it is void if TERTIUM Technology determines that the product has been damaged following improper installation, abuse, not authorized reparations or modifications.
The slip (receipt) or freight bill can be issued.

Assistance

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Precautions of use

Attentively read all the precautions of use and the operating instructions before use.

If necessary, clean the device with a dampened cloth. Do not immerse in water. Do not directly apply detergents on the product.
The device has not been designed for use in processes or machineries for the monitoring and the safety of human life or for medical treatments.
The reparations can be carried out only by TERTIUM Technology technical personnel.

Legal notes

TERTIUM Technology declines every responsibility in relation to possible damages, losses of income or any other damage resulting from the use of this product.
The content of this manual cannot be brought anywhere without the permission of the producer.
The technical specifics of the product and the information brought in the manual are subject change without notice; for the latest information, visit www.tertiumtechnology.com