

Features

- Wireless identification and sensor network access point
- Long range
- Robust air protocol
- A variety of tag and sensor options
- Works in the licence free ISM band.
- Low output power for minimised interference
- A variety of interface options
- A variety of antennas with different characteristics

Applications

- Asset security
- Gate access control
- Asset tracking
- Personnel tracking
- Theft prevention/deterrence
- Zone and perimeter control
- Workplace safety
- Environmental control
- Temperature monitoring applications
- Sensor monitoring applications
- Sensor logging applications



General Description

The F2M07 is used together with the F2M08 series RFIDS™ tags and sensor modules. It can be used for tracking people, vehicles, assets, as well as to read out sensor data from multiple remote sensors.

The F2M07 can acquire information from up to 300 tags per second.

The F2M07 comprises of an electronics unit and an antenna unit. Options are provided for indoor and outdoor usage.

Multiple antenna options are available for the F2M07, making it possible to define zones and sectors. Antennas with circular polarisation are recommended for cases when the orientation of tags cannot be controlled and high performance is required.

The F2M07 is available with different types of physical interfaces, including LAN, Bluetooth™, RS232, RS422 and USB.

The Ethernet interface makes it possible to connect several F2M07 in a network to cover a larger area, multiple gates, or a perimeter. The Power over Ethernet (PoE) option reduces installation and maintenance cost.

1 Technical Data

Dimensions

Reader Unit: 155 x 45 x 100 mm
Antenna: Dimensions will vary between different antennas, see antenna catalogue.

Weight:

Reader Unit: <200 grams
Antenna: Weights will vary with different antennas, see antenna catalogue.

Enclosure:

Reader Unit: ABS

Protection type:

Reader Unit: IP54
Antenna: 2 x SMA connectors for two antennas

Operating temperature: -20...+70 °C

Max output power: 0 dBm (1 mW)

Powered: 9-30 Volts DC (400 mA)
PoE is available for readers with Ethernet LAN interface.

Operating frequency: 2.4GHz ISM band

Modulation: Frequency hopping

Reading distance: Up to 60 metres line of sight with omni-directional antennas.

Wireless configuration: TAG type
RF Mode: TAG Talks First (TTF), Reader Talks First (RTF)
Device Status
Output power
Blink rate
User Defined String 1
96-bit EPC code
(Available parameters depend on the type of TAG).

Host interface options: RS232
RS422
USB via USB adapter
Ethernet
Bluetooth™

2 Host interface

The host interface is used to configure the F2M07 reader. The reader host interface protocol uses a set of easy to program commands for configuration, reading identity and other types of information from the TAG's.

The Host Interface Protocol is described in a separate document: Free2move RFIDS™ Application Programming Interface.

3 Compatible RFIDS™ TAGs

The F2M07 Reader works with the F2M08 family of RFIDS™ TAGs and sensor modules.

RFIDS Tag	Description
F2M08-S00	TAG for identification in flanged enclosure
F2M08-S10	TAG for temperature sensing
F2M08-C00	TAG for identification in card shaped enclosure
F2M08-B00	Identification TAG for larger assets
F2M08-BS0	Wireless lock-tag for asset security tag with anti-tampering switch
F2M08-BL0	Pick to light tag for larger assets
F2M08-CL0	Pick to light tag in card shape

4 Applications

Free2move can offer several hardware and software applications which been developed by Free2move's technology partners for the RFIDS system. Among those are:

- Asset tracking and management systems
- Attendance management systems

5 Ordering information

The F2M07 is available for delivery with the following part numbers:

Part no:	Description
F2M07-S20	Reader with IP54 enclosure and RS232 interface (USB via adapter)
F2M07-S40	Reader with IP54 enclosure and RS422 interface
F2M07-SB0	Reader with IP54 enclosure and Class 1 Bluetooth™ interface
F2M07-SL0	Reader with IP54 enclosure and Ethernet LAN interface
F2M07-SLP	Reader with IP54 enclosure and Ethernet LAN interface and Power over Ethernet support (PoE)
F2M07-WLP	Reader with IP66 enclosure and Ethernet LAN interface and Power over Ethernet support (PoE)

Please indicate quantity and types of RFIDS TAGs and RFIDS Readers for best price quotation.

6 Accessories – antennas

The ranges indicated assumes the use of a LMR400 or better low loss cable, maximum 1 metre from reader connector to antenna and with the TAG's output power set to 0 dBm.

RFIDS Antenna	Description	Typical LoS Range
FA-07-ANT00a	2.5 dBi, Monopole Antenna, Omnidirectional (DEFAULT)	30 metres
FA-07-ANT50a	9.5 dBi, Panel Outdoor Antenna, Vertical Polarisation, 90/38 Degree Angles	40 metres
FA-07-ANT51a	12 dBi, Fibreglass Outdoor Antenna, Vertical Polarisation, Omnidirectional	60 metres
FA-07-ANT52a	8.5 dBi, Patch Indoor Antenna, Vertical Polarisation, 70/55 Degree Adjustable Angles	30 metres
FA-07-ANT53a	9 dBi, Dome Antenna, Circular Polarisation, 70/70 Degree Angles	40 metres
FA-07-ANT54a	12 dBi, Panel Antenna, Circular Polarisation, 70/30 Degree Angles	60 metres

7 Accessories – other

Part no:	Description
FA-07-USB01a	USB adapter for F2M07-S20 and F2M07-D20A
FA-07-VEU12a	230V AC to 12V DC Adapter (Euro-plug 2-pin)
FA-07-VUK12a	230V AC to 12V DC Adapter (UK & Commonwealth 3-pin plug)
FA-07-VUS12a	110V AC to 12V DC Adapter (US 2-pin plug)

8 Contact information

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