

Features

- Enables unbreakable asset security
- Instant beaconing if TAG removed from asset when not authorised
- Secure TAG configuration protected via a pass code
- Enables geo-fencing of assets to reader positions
- Up to 60 metres (180 feet) range overall
- Long battery life



Suitable for high value assets such as

- Instruments
- Machinery
- Tool-boxes
- Computers
- Museum artefacts
- AV equipment
- Music and studio equipment
- Lab equipment
- Industrial equipment
- Vehicles / Carts

Description

Tracking assets by attaching RFID tags on them is commonplace today. But ensuring that they remain attached to the asset is rather difficult.

Instead, the major asset security issue is the risk of the TAG being removed from the asset undetected, thereby making it possible for unauthorised relocation of an asset, with the aim of misusing it or stealing it.

The F2M08-BS0 switch TAG offers a solution to this problem. It is intended to be wirelessly locked to an asset within a zone defined by placement and configuration of F2M07 series readers.

A micro-switch sensor underneath the TAG will trigger if anyone attempts to remove the TAG from the asset. The trigger will beacon instantly an alert message to a F2M07 series reader. Based on this message, a wireless fence

application can actuate alarms, cameras or other security equipment.

Likewise, if someone attempts to destroy the TAG or move the TAG outside reader range, the F2M07 series reader will detect if such tampering attempt is taking place.

Whenever the TAG has been fitted to an asset it cannot be removed without triggering the switch. The micro-switch is designed to make it impossible to wedge a sharp knife or razor blade between the TAG and the asset's surface.

The F2M08-BS0 has a rugged IP54 grade enclosure with durable flanges. It is recommended to fix onto the asset with VHB tape or other type of double sided tape.

Technical Data

Dimensions:	80 x 40 x 20 mm (96.30 x 40 x 20 mm with flanges)
Protection type:	IP54
Operating temperature:	-18...+80 °C
Powered:	2 x AA batteries
Battery voltage monitoring:	Yes
Operating frequency:	2.4GHz ISM band
Spectrum:	GFSK Frequency Hopping
Read distance:	Up to 60 meters Line of Sight
Configuration distance:	Up to 10 metres
Wireless configuration:	Via F2M07 reader or compatible
Unique Identification (UID):	Factory programmed 40 bit unique identifier for each TAG.
User defined read/write segment: (UDS):	20 byte = 160 bits = 20 ASCII characters
Radio modes:	Reader Talks First (RTF) Tag Talks First (TTF)
Application accessible tri-state status flag:	<i>Idle</i> : no monitoring of switch sensor. <i>Guard</i> : switch sensor is monitored continuously. If the switch is triggered, the TAG will change status to Alert. <i>Alert</i> : the TAG will beacon with 1 second interval at maximum RF output power and regardless of radio mode.
Output power:	Max 1 mW (0 dBm), settable to -5 dBm, -10 dBm and -20 dBm
Update interval:	User defined in 1 second steps from 1 second to 1000 minutes.
Conformance:	CE, FCC P.15 Class A, RoHS
Security:	The configuration of the TAG can be set to protected mode with a given access code. This will prevent unauthorised personnel being able to manipulate the TAG using F2M07 series readers or other RF equipment.

Labelling

Default:	Barcode label
Option: (F2M08-BSU)	EPC Gen2, ISO 18000-6c compliant label (UID stored in EPC memory)

Battery life

Battery life is estimated using Energizer Industrial Alkaline AA battery (EN91) at 21°C temperature. Values are approximate and will vary with different battery types, tag configuration and environment temperature.

At 15 seconds blink interval and longer, the batteries' self-discharge becomes a more important factor than the tag's consumption.

Update interval	Lifetime	
	RTF mode	TTF mode
2 sec	1 year	2 years
6 sec	4 years	6 years
15 sec	8 years	10 years
30 sec	13 years	15 years

Status flag

The F2M08-BS0 has a status flag which can have 3 different values.

Flag	Description
IDLE	<p>When the flag is IDLE, the switch sensor is not monitored. The TAG is effectively an ID TAG only. This mode should be used to 'unlock' the asset, for instance when the TAG or asset is under maintenance.</p> <p>F2M08-BS0 will always be shipped in this mode by default.</p>
GUARD	<p>A F2M08-BS0 TAG's status flag can be set to GUARD from the host. When the flag is set to GUARD, the TAG will continuously monitor the status of the switch sensor. When the switch is triggered, the TAG will automatically change its status flag to ALERT.</p> <p>When the status flag is protected, a TAG cannot be changed from GUARD to IDLE without first giving an access code.</p>
ALERT	<p>If the TAG's status flag is set to GUARD when the switch sensor is triggered, the TAG will automatically set the status flag to ALERT. When the flag is in ALERT, the TAG's beacon will commence beaconding ALERT messages with 1 second interval and at full RF output power regardless of other settings.</p> <p>Pressing the TAG's switch sensor again will not have any effect.</p> <p>The TAG can be reset to IDLE or GUARD only from the host application.</p> <p>If the TAG is in protected mode, it can only be reset to IDLE or GUARD after giving the correct access code.</p>

Compatible readers

In general, the F2M08-BS0 Tag can be used with any F2M07 or FS700 series RFIDS™ reader. It is recommended to utilise the F2M08-BS0 with host software that can handle switch sensor events.

Part no:	Description
F2M07-S20	RFIDS™ reader with standard enclosure and RS232 interface
F2M07-SL0	RFIDS™ reader with standard enclosure and Ethernet LAN interface
F2M07-S40	RFIDS™ reader with standard enclosure and RS422 interface
F2M07-PB0A	Portable RFIDS™ reader for belt-mounting with internal short range antenna and Bluetooth interface
F2M07-D20A	Desktop RFIDS™ tag encoder with internal short range antenna and RS232

TAG ordering information

Part no:	Description
F2M08-BS0	F2M08-BS0 : Wireless lock TAG for asset security with anti-tamper switch in flanged IP54 enclosure with 2 x AA replaceable batteries
F2M08-BSU	Same as F2M08-BS0 but with added ISO 18000-6c compliant label.

Accessories

Part no:	Description
FA-08-BAA00-100	High performance AA batteries in pack of 100 pcs (2 per Tag needed)

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