

## Features

- Temperature sensing
- Temperature logging
- Threshold check
- Up to 70 metres (200 feet) range
- 40 bit read only Unique Identification (UID)
- 20 byte User Defined Segment (UDS) read/write memory
- IP54 enclosure
- Safe to be used in food distribution and most asset management and supply chain applications
- Replaceable battery



## General Description

The F2M08-S10 RFIDS™ temperature sensing tag has a small form factor with a flanged enclosure that can easily be fixed to various types of assets.

The tag uses the 2.4 GHz ISM band and can reach an F2M07-series RFIDS reader at up to 60 metres with only 1 mW (0 dBi) output power.

Use of frequency hopping brings the robustness needed to ensure good read rates in metal and interference rich industrial environments.

The tag communication protocol allows the reader to read the identity of up to 150 tags per second.

## Applications

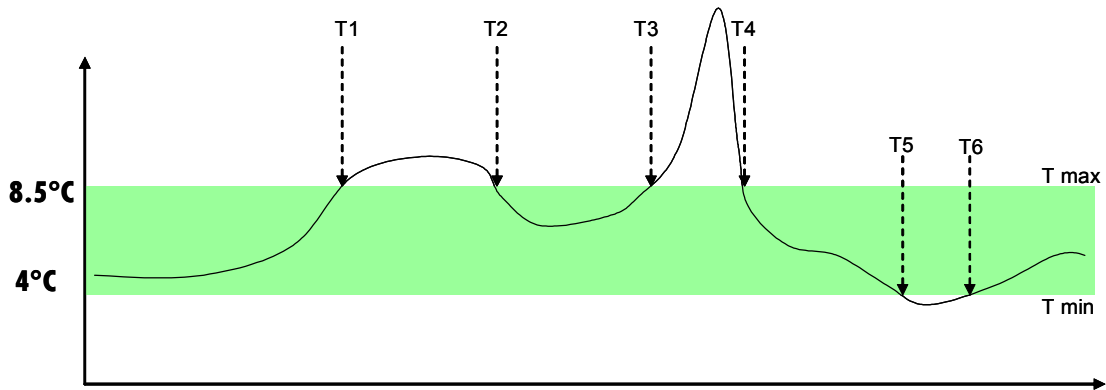
- Cold chain (fruit, fish, meat, dairy etc)
- Healthcare (blood, lab tests, pharmaceuticals)
- Building management
- Preventive maintenance
- Environmental control



<b>Technical Data</b>	
Dimensions:	F2M08-S10: 40 x 40 x 20 mm (56.30 x 40 x 20 mm with flanges) F2M08-B10: 80 x 40 x 20 mm (96.30 x 40 x 20 mm with flanges)
Protection type:	IP54
Operating temperature:	-20...+70 °C
Powered:	F2M08-S10 via CR2032 or BR2032 Lithium cell battery F2M08-B10 via 2 x AA batteries
Battery voltage monitoring:	Yes
Operating frequency:	2.4GHz ISM band
Spectrum:	Frequency Hopping
Read distance:	Up to 70 meters Line of Sight with omni directional antenna
Wireless configuration:	Via RFID reader.
Unique Identification (UID):	Factory programmed 40 bit unique for every TAG.
User defined read/write segment: (UDS):	20 byte = 160 bits
Radio modes:	Reader Talks First (RTF) Tag Talks First (TTF)
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:	FCC P. 15 Class A CE
<b>Temperature measuring</b>	
Type:	User defined as continuous, logging and threshold.
Number of measurements in TAG memory:	85 (up to 1000 log points can be offered with custom tag flash memory expansion)
Interval:	User defined in 1 second steps from 1 second to 1000 minutes interval.
Temperature range:	-20...+70 °C
Accuracy:	±0.5°C
Sensor resolution:	User defined 0.5, 0.25, 0.125 and 0.0625°C

## Threshold measuring

In threshold measuring, the tag will only record whenever temperature has exceeded a defined temperature interval. It will also provide  $T_{\text{extreme}}$  and  $T_{\text{mean}}$  values.



Threshold measuring can be effective both for saving tag memory as well as ensuring that temporary deviations from allowed temperature are detected.

## Power consumption

Current consumption is measured using a VARTA, CR2032 3V lithium battery with 220 mAh at 20°C temperature.

Update interval	Lifetime F2M08-S10 RTF	Lifetime F2M08-S10 TTF
2 sec	111 days	199 days
3 sec	162 days	285 days
5 sec	257 days	438 days
10 sec	461 days	729 days
15 sec	625 days	938 days
30 sec	972 days	1313 days

## F2M08-B10

The F2M08-B10 is the same as the F2M08-S10 but larger enclosure and 2 x AA batteries which will provide ca 5 times the battery life of F2M08-S10.

The F2M08-B10 is also recommended for temperature logging in below-zero environments, where the CR2032 often has performance problems.

## Ordering information

Part nr:	Description
F2M08-S10	RFIDS Tag in IP54 enclosure with flanges and CR2032 battery
F2M08-B10	RFIDS Tag in IP54 enclosure with flanges and 2 x AA batteries

### Accessories:

Part nr:	Description
FA-08-B2032s	CR2032 lithium cell battery in pack of 100 pcs

## Custom tags

The RFID TAG is also available in custom versions to fit your needs. Customisation possibilities include:

- Package with higher IP rating
- Increased flash memory for larger number of log-points
- Humidity + temperature combo (F2M08-B20)

## Contact

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