EASYFIT
by EnOcean

EMSIU
Easyfit Multi-Sensor

EMSIU enables the realization of energy harvesting wireless sensors communicating according to EnOcean Alliance radio standard.

Key applications are wall-mounted or equipment-mounted sensor solutions for the measurement of temperature, humidity, illumination or acceleration / orientation.

EMSIU integrates dedicated sensors for temperature, humidity, illumination, acceleration and magnet contact. These sensors measure and transmit the current status every 60 seconds. The transmission is indicated using a dedicated LED.

EMSIU will immediately wake-up and transmit an update if an acceleration event occurs (e.g. due to being moved or shaken) after a period without such change.

EMSIU contains an integrated solar cell optimized to generate the required energy based on available ambient lighting. Under typical indoor lighting scenarios (200 lux for 6 hours per day) it operates fully self-supplied.

For use cases with insufficient available light, it is possible to mount a dedicated backup battery.

EMSIU provides an integrated NFC interface that can be used for device configuration and device commissioning. In addition, it contains an LRN button that can be used for simple commissioning tasks.

EMSIU is delivered as white label product (WLP) including wall mount and front cover. Alternatively, STM 550U is delivered as a module in PTM 21x form factor intended for integration into OEM customer designs.

Order information

Type	Frequency	Variant	Order Code
EMSIU	902.875 MHz	WLP	E6251-K516
STM 550U		Module	S6251-K516

Features overview

Transmission Frequency / Data Rate	902.875 MHz / 125 kbps
Transmission Power	+99 dBµV/m
Transmission Range (for guidance only)	typ. 200 m free field / 30 m indoor environment
Temperature Measurement Range / Accuracy	-20 °C … +60 °C / +- 0.3 K
Humidity Measurement Range / Accuracy	0 … 100 % r.h. / +- 3% r.h.
Illumination Measurement Range / Accuracy	0 … 65000 Lux / +-10 %
Acceleration Measurement Range / Accuracy	+- 2 g / +- 0.03 g
Acceleration Wake Threshold	0.03 g (default, configurable via NFC)
Update Rate (excl. random offset)	Every 60 seconds (configurable via NFC)
Device Configuration	NFC (ISO 14443)
Supported EEP (selectable via NFC)	D2-14-41 (default) D2-14-40, A5-02-05, A5-04-01, A5-04-03 A5-06-02, A5-06-03, A5-14-05, D5-00-01
Power Supply	Integrated solar cell
Operating Time In Darkness (at 25°C)	4 days (after full charge)
Backup Power Supply (optional)	CR1632
Dimensions (WLP)	49 mm x 49 mm x 13 mm