

STM 550B (Revision DB) Multi-Sensor Module (BLE)

STM 550B is an energy-harvesting wireless sensor that communicates based on the Bluetooth (BLE) radio standard.

STM 550B can be easily mounted onto desks, walls or equipment to report temperature, humidity, illumination, door / window status and utilization / orientation.



STM 550B integrates sensors that measure temperature, humidity, illumination, acceleration and magnet contact status (open or closed). STM 550B transmits the measured values of these sensors every 2 minutes.

STM 550B immediately transmits a status update if an acceleration event (STM 550B is being moved or shaken) is detected after a period without such an event or if the magnet contact status (open / closed) changes.

STM 550B provides an integrated NFC interface for device configuration and commissioning. In addition, STM 550B contains an LRN button that can be used for simple commissioning tasks.

STM 550B contains a solar cell that is optimized to generate the required energy based on available ambient lighting.

STM 550B operates self-supplied for typical indoor lighting scenarios (200 lux for 6 hours/day). For use cases with insufficient available light, it is possible to mount a backup battery.

STM 550B is available as module in PTM 21x form factor for integration into OEM designs or as product kit which additionally contains wall mount, front cover, magnet and adhesive tape.

Order information

Type	Frequency	Variant	Order Code
STM 550B	2.4 GHz	Module	S6221-K516
STM 550B KIT	BLE	Kit	B6221-K516

Features overview

Antenna	Integrated antenna
Radio Standard / TX Power	2.4 GHz Bluetooth Low Energy / +4 dBm
Radio Channels	BLE Channels 37, 38 and 39 (Advertising Channels)
Transmission Range (for guidance only)	30 m line of sight / 10 m indoor environment
Sensor Data Encoding	EnOcean BLE Sensor Protocol
Security	AES-128 (CCM) authentication with sequence counter
Transmission Interval	2 minutes
Device Configuration	NFC (ISO 14443)
Temperature Measurement Range / Accuracy	-5 °C ... +45 °C / ± 0.3 K
Humidity Measurement Range / Accuracy	0 ... 90 % r.h. / ± 3 % r.h.
Illumination Measurement Range / Accuracy	0 ... 2000 lux / ± 5 % of full scale
Acceleration Measurement Range / Accuracy	± 2 g / ± 5 % of full scale
Acceleration Wake Threshold	0.03 g
Power Supply	Integrated solar cell
Required Ambient Lighting	200 Lux for 6 hours per day
Autonomy (operation time without light)	>4 days
Backup Battery Type (if required)	CR1632
Dimensions	40 mm x 40 mm x 13 mm
Operating Conditions	-5 °C ... 45 °C / 0 ... 90 % r.h. (non-condensing)

Notes: STM 550B is designed for indoor use only and should only be used in the specified environmental conditions

If a parameter depends on the device configuration, then the value corresponding to default settings is provided