

EMS Door

Description

With a size slightly larger than an AA-battery, EMS Door is one of our most subtle sensor yet. EMS Door can be used as an opening activity sensor or for movement detection. The small size makes it ideal for mounting on door frames, windowpanes or other small surface areas.

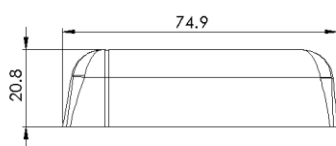


Applications

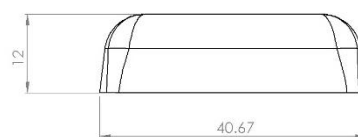
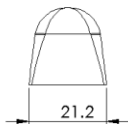
- Smart buildings
- Workplace management
- Door activity detection
- Movement detection

Product features

- LoRaWAN® Certification in progress
- Accelerometer
- Door switch
- NFC for configuration
- Configuration over the air



Dimensions of the EMS Door sensor



Dimensions of the magnet (mm)



Device Specifications

Mechanical specifications

Weight	10 g excluding batteries / 30 g including batteries
Dimensions EMS Door	21.2 x 74.9 x 20.8 mm
Dimensions magnet	15.57 x 40.67 x 12 mm
Enclosure	Plastic, PC/ABS

Operating conditions

Temperature	0 to 50 °C
Humidity	0 to 85 % RH (non-condensing)

EMS Door

Radio / Wireless	
Wireless Technology	LoRaWAN® 1.0.3
Wireless Security	LoRaWAN® End-to-End encryption (AES-CTR), Data Integrity Protection (AES-CMAC)
LoRaWAN Device Type	Class A/C (configurable) End-device
Supported LoRaWAN® features	OTAA, ABP, ADR, Adaptive Channel Setup
Supported LoRaWAN® regions	US902 – 928, EU863 – 870, AS923, AU915 – 928, KR920 – 923, RU864, IN865
Link Budget	137 dB (SF7) to 151 dB (SF12)
RF Transmit Power	14 dB / 20 dB (Region specific)

Device Power Supply	
Battery Type	1 x 3.6V AA Lithium battery (Li-SOCl ₂)
Expected Battery Life	Up to 10 years (Depending on configuration and environment)

Device Logging Function	
Sampling Interval	Configurable via NFC and downlink configuration
Data Upload Interval	Configurable via NFC and downlink configuration

Data types			
Type value	Type	Data size	Comment
0x03	Acceleration/Level	3	X, Y, Z -127 → +127 (Value of:63=1G)
0x07	VDD (Battery voltage)	2	0-65535mV
0x0A	Pulse count	2	0-65535 (Between two send intervals)
0x0B	Pulse count ABS	4	Absolute value 0-4294967295
0x0D	Digital	1	1 / 0 (On / Off)

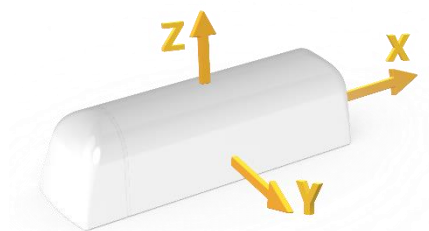
Sensors

Accelerometer

Range: ± 2.0 g

Sensitivity: 16 mg/digit

Data rate: 10 Hz



Door switch

The door switch consists of a reed switch on one side of the sensor. The maximum detection distance is 10 mm but may be affected by the material of the door (metal will reduce the range).