akribis

DATA SHEET

EMS Lite LoRa

Produal

Distributed by AKRIBIS



Datasheet
Publish Date: 03.06.2021

EMS lite

LoRaWAN Wireless Sensor

Description

With a size slightly larger than an AA-battery, EMS lite can be used as a indoor temperature and humidity sensor. The small size makes it ideal for any limited surface area.

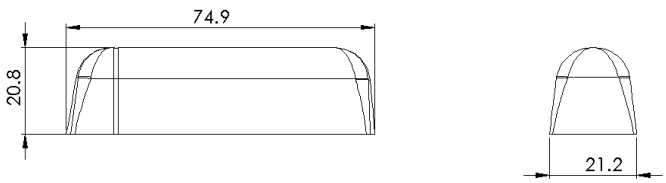


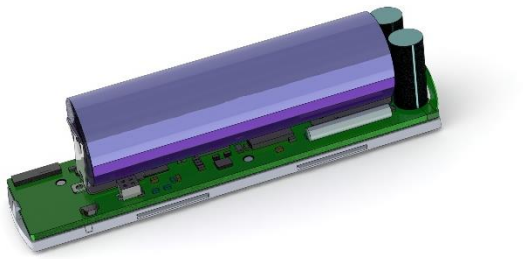
Applications

- Indoor environment measuring
- Smart buildings
- Workplace management
- Water leakage detection

Product features

- LoRaWAN® Certification in progress
- Temperature sensor
- Humidity sensor
- Water leakage detection
- NFC for configuration
- Configuration over the air





Device Specifications

Mechanical specifications	
Weight	10 g excluding batteries / 30 g including batteries
Dimensions	21.2 x 74.9 x 20.8 mm
Enclosure	Plastic, PC/ABS

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

Elektroniksystem i Umeå AB Industrivägen 12, 90130 Umeå, Sweden
E-mail: support@elsys.se | Web: www.elsys.se

Specifications in this document are subject to change without notice.
©Elektroniksystem i Umeå AB 2019

EMS lite

LoRaWAN Wireless Sensor

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
0x01	Temperature	2	-3276.5 °C → 3276.5 °C (Value of: 100 → 10.0 ¡C)
0x02	Humidity	1	0 - 100 %
0x07	VDD (Battery voltage)	2	0-65535mV
0x12	External Water leak	1	0 – 255. Value indicates conductivity. The higher the value, the more moisture

Specifications in this document are subject to change without notice.
©Elektroniksystem i Umeå AB 2019

AKRIBIS · www.akribis.info · contacto@akribis.info

ELSYS.se

EMS lite

LoRaWAN Wireless Sensor

Sensors

Temperature

Resolution: 0.1 °C

Accuracy: ±0.2 °C (See figure 1)

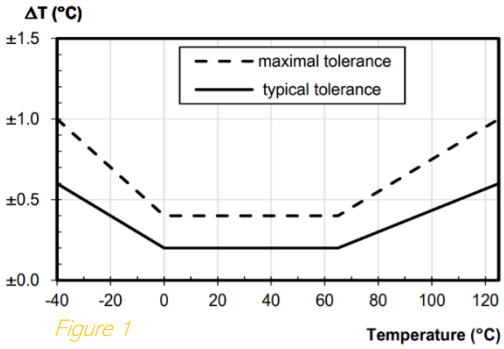


Figure 1

Humidity

Resolution: 0.1 % RH

Accuracy at 25 °C: ± 2 % RH (See figure 2)

Accuracy of humidity over temperature: See figure 3

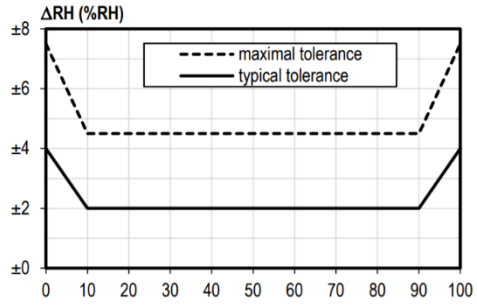


Figure 2

Water leak detection

The water leak detector consists of bottom-mounted probes which are continuously monitored by the sensor. A detection level is sent periodically, and an alarm is sent when water is detected.

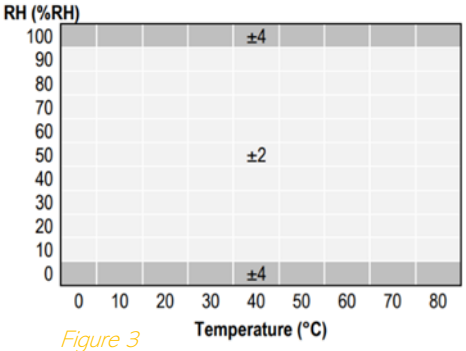


Figure 3

Elektroniksystem i Umeå AB Industrivägen 12, 90130 Umeå, Sweden
E-mail: support@elsys.se | Web: www.elsys.se

Specifications in this document are subject to change without notice.
©Elektroniksystem i Umeå AB 2019