

Sensor Transmitter Module STM 431J

The extremely power saving RF transmitter modules STM 431J of EnOcean are optimized for realization of wireless and maintenance free temperature sensors, or room operating panels including set point dial and occupancy button with a minimum number of external components. The modules provide an integrated calibrated temperature sensor.

Functional Principle

Power supply is provided by a small solar cell, an external energy harvester, or an external 3V battery. An energy storage element is installed to bridge periods with no supply from the energy harvester. The module provides a user configurable cyclic wake up.

After wake up a radio telegram will be transmitted in case of a significant change of measured temperature or set point values or if the external occupancy button is pressed.



The firmware can be configured to use different EEPs / GPs according to the availability set point dial and occupancy button.

STM 431J modules also support the plug-in humidity sensor module HSM 100. The module can be switched to enhanced security mode with encrypted communication.

Type
STM 431J

Ordering Code
S3061-D431

Features Overview

| | |
|---|---|
| Power supply | Pre-installed solar cell |
| Antenna | Helix antenna (STM 43XJ) |
| Frequency | 928.35 MHz |
| Conducted Output Power | typ. 0 dBm |
| Data rate / Modulation type | 125 kbps FSK |
| Start-up time with empty energy storage | typ. <2.5 min @ 400 lux, 25 °C |
| Operation time in darkness @25°C¹ | min. 10 days, if energy storage fully charged ¹ |
| Input Channels | Internal: temperature sensor, LRN button External via 20 pin connector: occupancy button, set point dial, HSM 100 |
| Temperature sensor | Measurement range 0-40 °C, resolution 0.16 K Accuracy typ. ±0.5 K between 17 °C and 27 °C, typ. ±1 K between 0 °C and 40°C |
| Transmission indicator | 1x LED |
| EnOcean Equipment profiles | configurable EEPs: A5-02-05, A5-10-05, A5-10-03 and with HSM 100: A5-04-01, A5-10-10, A5-10-12 |
| Module dimensions | 43 x 16 x 8 mm |
| Operating temperature¹ | -20 up to +60 °C |
| Security Level Format | 24-bit RLC, RLC tx, 3-byte CMAC, VAES encryption |

¹ At default configuration (wake-up cycle 100 s, transmission cycle 1000 s).