

STM 33x is 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 module provides an integrated calibrated temperature sensor.

Functional Principle

Power supply is provided by a small solar cell or optional by an external 3V battery. An energy management circuit is installed to bridge periods of darkness.

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, the set point values or if the external occupancy button is pressed.

Firmware can be configured to use EnOcean Profiles (EEP) according to the feature set.

STM 330 and STM 331 (868 MHz) can be configured to use the enhanced secure mode. In enhanced secure mode, the communication is encrypted by AES128.



Following variants are available:

- STM 330: 868MHz, whip ant., backside button
- STM 331: 868MHz, helix ant., backside button
- STM 331U: 928MHz, helix ant., backside button
- STM 332U: 902MHz, whip ant., side button
- STM 333U: 902MHz, helix ant., side button

Type	Ordering Code
STM 330	S3001-D330
STM 331	S3001-D331
STM 331U	S3051-D331
STM 332U	S3051-D332
STM 333U	S3051-D333

Features Overview

Power supply	solar cell
Antenna	whip or helix antenna
Frequency	868.3 MHz (STM 33x) / 902.875 MHz (STM 33xU)
Radiated output power	STM 330 / 331: max. 6.4 dBm / 5 dBm (EIRP) 331U and STM 333U: typ 92 dBµV/m / 99 dBµV/m
Data rate / Modulation type	125kBit/s / ASK (868.3MHz) / FSK (902.875MHz)
Start-up time with empty energy storage	typ. <2.5 min @ 400 lux, 25 °C
Initial operation time in darkness @25°C¹	typ. 4 days, if energy storage fully charged wake-up every 100 s, transmission every 1000 s on average
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, A5-02-30, 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
Radio approvals	STM 330 (max. radiated power +6.4dBm whip): RED (EU) STM 331 (max. radiated power+5 dBm helix) : RED (EU) STM 331U, 332U and STM 333U: FCC (US) / ISED (CA)

¹ Full performance is achieved after several days of operation at good illumination level. Performance degrades over life time, especially if energy storage is exposed to higher temperatures. Each 10 K drop in temperature doubles the expected life span.