

## Sensor Transmitter Module STM 330 / STM 331 / STM 330C STM 332U / STM 333U

The extremely power saving RF transmitter module family STM 33x of EnOcean 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 pre-installed solar cell, an external energy harvester, or an external 3V battery.

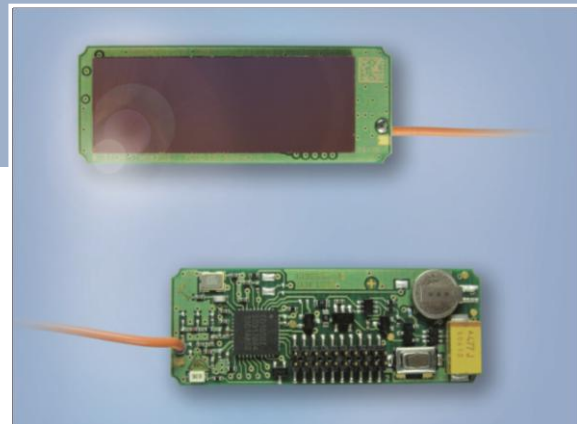
An energy storage element is installed to bridge periods with no supply from the energy harvester. The module provides a user configurable cyclic wake up.

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.

### Features Overview

<b>Power supply</b>	Pre-installed solar cell
<b>Antenna</b>	pre-installed whip or helix antenna
<b>Frequency</b>	868.3 MHz (STM 330) / 315.0 MHz (STM 330C) / 902.875 MHz ( STM 33xU)
<b>Radiated output power</b>	STM 330 / 331: typ. 8 dBm / 5 dBm (EIRP) STM 330C / STM 332U / 333U: typ. 92 dB $\mu$ V/m / typ. 101 dB $\mu$ V/m / 99 dB $\mu$ V/m
<b>Data rate / Modulation type</b>	125 kbps / ASK
<b>Start-up time with empty energy storage</b>	typ. <2.5 min @ 400 lux, 25 °C
<b>Initial operation time in darkness @25°C<sup>1</sup></b>	typ. 4 days, if energy storage fully charged wake-up every 100 s, transmission every 1000 s on average
<b>Input Channels</b>	Internal: temperature sensor, LRN button External via 20 pin connector: occupancy button, set point dial, HSM 100
<b>Temperature sensor</b>	Measurement range 0-40 °C, resolution 0.16 K Accuracy typ. $\pm$ 0.5 K between 17 °C and 27 °C, typ. $\pm$ 1 K between 0 °C and 40°C
<b>Transmission indicator</b>	1x LED
<b>EnOcean Equipment profiles</b>	configurable EEPs: A5-02-05, A5-10-05, A5-10-03 and with HSM 100: A5-04-01, A5-10-10, A5-10-12
<b>Module dimensions</b>	43 x 16 x 8 mm
<b>Operating temperature<sup>1</sup></b>	-20 up to +60 °C

<sup>1</sup> Full performance is achieved after several days of operation (up to two weeks) 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.



### Type

STM 330  
STM 331  
STM 330C  
STM 332U  
STM 333U

### Ordering Code

S3001-D330  
S3001-D331  
S3031-D330  
S3051-D332  
S3051-D333

In case of no relevant input change a redundant retransmission signal is sent after a user configurable number of wake-ups to announce all current values.

The firmware can be configured to use different EEPs according to feature availability.