

STM 350U

Dolphin Temperature and Humidity Sensor Module

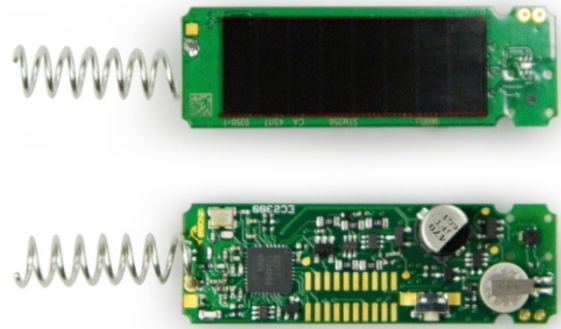
Dolphin STM 350U modules enable the realization of energy harvesting temperature and humidity sensors that communicate wirelessly using the EnOcean radio standard.

They require no external components and provide an on-board a calibrated temperature and humidity sensor.

STM 350U modules wake up at a rate of approximately once every 100 seconds to read the status of the integrated temperature and humidity sensor.

If there is a significant change in measured temperature (more than 0.5 K) or humidity (more than 3% r.h.) versus the last reported values then a radio telegram will be transmitted immediately.

In case of no relevant input change, a redundant retransmission signal (heartbeat) is sent after 15 minutes to announce the current values.



Power is provided to STM 350U by means of a small pre-installed solar cell which works in conjunction with an integrated energy storage element in order to ensure operation in periods without ambient light.

The available energy within the energy storage element is continuously monitored and reported regularly.

STM 350U additionally provides the option to connect an external 3 V backup battery to enable operation with little or no available light.

TYPE
STM 350U

ORDERING CODE
S3051-D350

Features overview

Antenna	50 Ohm helix antenna (on-board)
Radio Frequency / Data Rate	902.875 MHz FSK / 125 kbps
Radiated Output Power (typ.)	+99 dBμV/m
On-board Power Supply	Pre-installed solar cell
Auxiliary Power Supply	Option for backup battery (3V)
Operation time in darkness @ 25°C	typ. 4 days after full charge
Sensor performance	Temperature: ±0.5 K across entire range Humidity: ±3.0 % r.h. between 20 ... 80 % r.h.
Measurement interval	Approximately once every 100 s
Transmission interval	Every 7 ... 14 measurements (affected at random) Immediate transmission in case of significant change
EnOcean Equipment Profile (EEP)	A5-04-03 SIGNAL 0x06 (Energy Level Reporting)
Operating and Storage temperature	Absolute Maximum: -20 °C ... +60 °C Recommended ¹ : +10 °C...+30 °C
Shelf life (in absolute darkness)	36 months after delivery ²
Operating and storage humidity	Maximum: 0% ... 93% r.h., non-condensing Recommended: < 60% r.h.
Dimensions	50±0.2 x 16±0.3 x 10mm

¹ Recommended for maximum life of energy storage capacitor

² Deep discharge of the energy storage leads to degradation of performance. Therefore products have to be taken into operation after 36 months.