



TeamWare Wireless Sensor Network

Wireless sensor for measuring temperature, humidity and illuminance

General features

- Temperature sensor
- Humidity sensor
- Illuminance sensor
- Programmable temperature alarm threshold
- Programmable sampling and radio transmission rate
- Battery powered
- Internal radio antenna
- Manufactured for indoor and outdoor usage

TWSN-THL is a battery powered radio device that measures environmental temperature, relative humidity and light illuminance at the same time.

TWSN-THL transmits all its measures at regular intervals to a TWSN family gateway. In order to increase the battery life, it is possible to program sampling time and measures sending frequency.

It is also possible to program alarm thresholds in order to manage any possible overcome of maximum or minimum temperatures. The device automatically transmits any temperature alarm (out of the scheduled transmission).

TWSN-THL is also able to measure power voltage (battery) and transmits 2 different signals in case of imminent discharge of battery (low battery pre-alarm and flat battery alarm).

On request (option), it's available a TWSN-THL device version that, apart from the battery, can be also powered with 230 Vac from electrical line, through an external adapter.

Technical specifications

Measures

- Temp. measure accuracy at 25 °C: ± 0.4 °C
- Temperature range: -50 +100 °C
- RH% resolution: 0.05% RH
- RH% accuracy: $\pm 3\%$
- RH% range: 0 - 100%
- Illuminance resolution: 10 Lux
- Illuminance range: 10 - 1000 Lux
- Illuminance sensor spectral range: V() (human eye)

User interface

- Button to associate / disassociate to node
- Status led

Radio module specifications

- Band: ISM 2.4GHz
- RF Data rate: 250 Kbps
- Reception sensitivity: -95 dBm
- Maximum transmission power: 2 mW (+3 dBm)
- Internal antenna
- Indoor/Outdoor coverage: 30m/60m
- Standard: IEEE 802.15.4-2003; Stack ZigBee 2007 PRO (EMBER Znet)
- Network Security: ZigBee-2007 standard security requirements; 128 bit AES encryption algorithm

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Technical specifications

Power supply

- Supply: n.1 battery type AA 3,6V 3,6Ah
- Supply (option): 230 Vac through external adapter
- Battery life: ~ 2 years with data sending every 5 minutes

Environmental and mechanical parameters

- Operative temperature: -10°C .. +60°C
- Storage temperature: -20°C .. +70°C
- Safety: IP54
- Size: 150x90 mm
- Mounting: wall with screws

Product standards applied

- ETSI EN 300 328: radio compatibility for digital transmissions
- ETSI EN 301 489: radio compatibility
- EN 61000-6-2/3: EMC Emissions/Immunity
- EN 60950-1: electric safety

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