



## TeamWare Wireless Sensor Network

## Wireless sensor for measuring temperature

### General features

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

TWSN-T is a battery powered radio device that measures environmental temperature.

TWSN-T 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 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-T also measures power voltage (battery) and transmits 2 different signals in case of imminent flat battery (pre-alarm of low battery and alarm of flat battery).

### Technical features

#### Misure

- Measure accuracy at 25 °C:  $\pm 0.5$  °C
- Range: -30 +70 °C
- Resolution:  $\pm 0.1$  °C

#### User interface

- Button to associate / disassociate to node
- Status led

### Radio module specification

- Band: ISM 2.4GHz
- RF Data rate: 250 Kbps
- Reception sensitivity: -95 dBm
- Max transmission power: 2 mW (+3 dBm)
- External 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

### Power supply

- Supply: n.1 battery type AA 3,6V 3,6Ah
- Battery life: ~ 2 years with data sending every 5 minutes

### Environmental and mechanical parameters

- Operative temperature: -30°C .. +70°C
- Storage temperature: -30°C .. +70°C
- Protection degree: 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

#### TW-TeamWare Srl

Via Pindaro, 19  
20128 Milano - Italy  
Tel. +39 02 27003261  
Fax +39 02 27007753  
email [tw@teamware.it](mailto:tw@teamware.it)  
web [www.teamware.it](http://www.teamware.it)