

LoRaWAN™ REMOTE TEMPERATURE SENSOR



LoRaWAN™ REMOTE TEMPERATURE is a ruggedized Class A sensor operating on battery that radio transmits over long distance and in real time accurate temperature measurements.

APPLICATIONS

- HVAC (Heating, Ventilating and Air Conditioning)
- Sensitive or stocking rooms, logistics operations (cold chain)
- Indoor or outdoor environment
- Industrial process (machine, pipes)
- Data center / IT server room

BENEFITS & KEY FEATURES

- LoRaWAN™, Class A
- Easy to use and deploy
- Remote CTN probe for accurate measurements
- Instantaneous measurement
- Min./Max/average temperature value over 24h for unified degree days computation
- Differential data compression
- Autonomy up to 12 years
- IP55

QUALITY & RELIABILITY

- CE Compliant
- RoHS compliant



LoRaWAN™ REMOTE TEMPERATURE SENSOR from nke Watteco is a narrow-band, long range, low power consumption, high performance and high quality Class A sensor transmitting temperature from a NTC probe.

The REMOTE TEMPERATURE SENSOR is ideal to supervise hot spots (machines, pipes), cold chain (temperature controlled chambers, cooling towers) and buildings (residential, industrial). It provides connection to any wireless network using the LoRaWAN™ protocol. The transmission is done on regular basis and by threshold alert.

The unit reports every 24 hours the average, minimum, maximum temperature measured that is useful to compute unified degree days which is a typical indicator of energy consumption and costs for heating or cooling.

The REMOTE TEMPERATURE SENSOR is easy to use, deploy and maintain:

- NFC tag for identification (Part number, serial number and MAC address)
- Magnetic switch to activate/de-activate

The measured temperatures can be locally stored, concatenated and compressed. This unique batch mechanism significantly reduce the amount of data transmission for demanding applications and drastically increase the autonomy.

Powered through a lithium battery, in data-compression mode it allows an autonomy of up to 12 years when measuring one time per hour and radio transmitting data one time per day.

The configuration of the transmitter can be done at factory or on-site allowing the choice of measurement cycle, measurement, information frame radio-transmission periodicity, alarms threshold values, data compression mode

NKE WATTECO, YOUR PARTNER IN SMART SENSORS & ACTUATORS

We are a European leader in designing and manufacturing highly reliable and low power consumption smart sensors, actuators and multiprotocol remote data solutions.

nke Watteco is an adopter member of the LoRa® Alliance

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TECHNICAL CHARACTERISTICS

RF TRANSCEIVER	
Frequency (MHz)	863-870
Transmit Power (dBm)	+14
Receiver Sensitivity (dBm)	-140
FIRMWARE CONFIGURATION	
Protocol	LoRaWAN™, Class A
Transmission cycles	10mn, 1h, 12h or defined by network
Data history	Available
Activation method	Activation by Personalization (ABP) Over-The-Air Activation (OTAA)
Data encryption	AES128
Alarm detection	yes or no
Data compression	yes (differential coding) or no
Instantaneous measurement	Activate / de-activate
Unified degree days measurement	Activate / de-activate
Alarm level	Temperature Min / Max: - 40°C to +90°C by 1°C step Battery level: 0,1V to 3,6V by 0,1V step
TEMPERATURE MEASURE	
Range (°C)	-20 / +90
Accuracy (°C)	+/- 1°C over the range [-20°;+40°C]
Resolution (°C)	0.2°C
POWER	
Power supply	3,6V / 3600mAh lithium battery
Autonomy within a +10°C to +25°C temperature range	12 years: Data compressed / 1 measure per hour / 1 transmission per day 9 years: Data not compressed / 1 measure per hour / 1 transmission per day
INTERFACE	
NFC Tag	Part number, serial number and MAC address
Buzzer Indicator	Network pairing / unpairing & configuration
Magnetic Switch	ON/OFF
ALARMS	
ON/OFF	Transmitted instantaneously
Low battery	Transmitted at information frame rate
Temperature min and max	Transmitted instantaneously
MECHANICAL FEATURES	
Dimension (mm)	84 x 82 x 55
IP Class	IP55
ENVIRONMENTAL	
Operating temperature (°C)	-20 / +60
Storage temperature (°C) – Humidity (% rH)	-10 / +30 – <75%rH
DIRECTIVES & STANDARD	
EN, 61000-4-2 EN 300-220-1 V2-4-1, EN 301 489 V1-6-1 CE and RoHS recommendation compliant	



ORDERING INFORMATION

REFERENCE	MODEL DESCRIPTION
50-70-043	LoRaWAN™ REMOTE TEMPERATURE SENSOR, remote NTC probe with 5m cable