Remote Temperature – 1x Probe

LoRaWAN

The **Remote Temperature – 1x Probe** sensor is dedicated to temperature measurements in buildings, temperature controlled rooms, cooling towers, and transmits data over a public or private LoRaWAN® radio network.

APPLICATIONS

- Food industry: supervision of refrigeration installations in logistics centres, storage centres.
- Industrial processes: temperature monitoring of equipment, water, air and gas piping.
- Energy optimisation of buildings (residential, tertiary): supervision of heating, ventilation and air conditioning installations.
- Indoor or outdoor environment.

BENEFITS & FEATURES

- LoRaWAN®, Class A
- Easy to install and use
- Remote temperature sensor (NTC) – 2m cable – Ø 6mm
- Measurement of instantaneous temperatures
- Differential data compression
- 12-year battery life (data compression mode)
- IP55

CERTIFICATION

- RED, RoHS

The **Remote Temperature – 1x Probe** device periodically measures and transmits the temperature as well as any pre-configured temperature alarms via a public or private LoRaWAN® communication network.

It is dedicated to the supervision of hot spots (industrial equipment, multi-fluid piping, etc.), cold spots (temperature-controlled rooms, cooling towers, etc.) as well as the temperature of buildings (industrial and tertiary).

Installation and commissioning are quick and easy. The sensor is equipped with:
- an NFC identification tag (product code, serial number, batch number),
- a magnetic switch for activation and deactivation.

The measured temperature data can be stored in local memory and compressed before being transmitted over a LoRaWAN® network. This method considerably reduces the amount of data transmitted while preserving the autonomy of the sensor.

When powered by a 3.6V/3.6Ah battery, the sensor can operate for a period of 12 years (data compression mode) when configured to perform one measurement per hour and one transmission per day.

THE LARGEST IOT PRODUCTS RANGE FOR YOUR PROJECT

WATTECO is a European leader in the design and manufacture of smart IoT devices to suit all remote reading and data collection solutions.

WATTECO is a LoRa Alliance® member.

Remote Temperature – 1x Probe

TECHNICAL DATA

RADIOFREQUENCY	Frequency (MHz)	Transmit Power (dBm)	Receiver Sensitivity (dBm)
	EU: 863-870	+14	-140

FIRMWARE	
Protocol	LoRaWAN®, Class A
Activation method	Activation by Personalization (ABP) or Over-The-Air Activation (OTAA)
Data encryption	AES128
Application layer	ZCL (ZigBee Cluster Library) – to be interpreted by the remote server
Measurements & Transmission cycles	Configurable from 10 minutes to 24 hours
Data compression	Yes (differential coding)

TEMPERATURE MEASUREMENT	
Range	-40°C … +90°C (temporarily +110°C)
Accuracy	± 0,2°C over the range [+6°C … +97°C]. ± 0,5°C over the range [-15°C … +5°C] and [+98°C … +110°C] ± 1,0°C over the range [-30°C … -16°C] Otherwise ± 1,5°C
Resolution	0,1°C
Wire	2 metres
Probe	NTC – Stainless steel – Diam. 6 mm

POWER SUPPLY	
Voltage	3.6V / 3600mAh – Replaceable lithium battery
Autonomy in a range of +10°C to +25°C	> 12 years: with batch mode and 1 transmission / 120 minutes

USER INTERFACES	
NFC Tag	Product code, serial number, batch number
LEDs	Configuration and network pairing
Magnetic switch	Reset, ON/OFF

ENCLOSURE	Size (mm)	Fastenings	IP rating	Fire resistance
	92 x 92 x 56	Supplied screws and anchors	IP55 IPx7 for NTC probe	UL94-V0HB

ENVIRONMENT	Operating temperature (°C)	Storage conditions
	-20°C to +50°C	+10°C to +30°C +20%rH to +60%rH

DIRECTIVES & STANDARD	
Radio Equipment Directive 2014/53/EU, RoHS	CE ☒ RoHS 2011/65/EU

PRODUCT NUMBER

REFERENCE	DESCRIPTION
50-70-043	LoRaWAN® Remote Temperature 1 Probe