

EM500-PT100

Temperature Sensor



EM500-PT100 resistance temperature sensor is designed for measuring wide range of temperature in harsh environments and transmitting data using LoRaWAN® technology. With this low power consumption technology, EM500-PT100 can work up to 10 years with 19000 mAh battery. Combining with Milesight LoRaWAN® gateway and Milesight IoT Cloud solution, users can manage all sensor data remotely and visually.

EM500-PT100 is widely used for temperature monitoring applications like industrial machines, ovens, pipes, etc.

◆ Features

- Corrosion resistance cable and multiple probe options
- 3 wire connection for high precision
- Ultra-wide-distance transmission up to line of sight of 10km
- IP66 waterproof enclosure for harsh environment applications
- Built-in 19000 mAh replaceable battery and work for 10 years without replacement
- Equipped with NFC for easy configuration
- Compliant with standard LoRaWAN® gateways and network servers
- Quick and easy management with Milesight IoT Cloud solution

◆ Applications

- Liquid or gas monitoring
- Industrial machine monitoring
- Oven and cooking monitoring
- Chimney and boiler temperature monitoring
- Medical or laboratory use

◆ Specifications

Wireless Transmission

Technology	LoRaWAN®
Frequency	CN470/IN865/RU864/EU868/US915/AU915/KR920/AS923
Tx Power	16dBm(868)/20dBm(915)/19dBm(470)
Sensitivity	-147dBm @300bps
Mode	OTAA/ABP Class A

Measurement

Connection Type	3-wire connection
Range	T050: -200 °C to +50 °C T200: -50 °C to +200 °C T500: -50 °C to +500 °C T800: -50 °C to +800 °C (Customizable from -200 °C to +800 °C)
Accuracy	±0.5°C
Resolution	0.1°C

Operation

Power On & Off	NFC, power button (Internal)
Configuration	Mobile APP(via NFC) or PC software(via USB Type-C)

Physical Characteristics

Cable Length	1.5 m (Customizable)
Probe Type	Straight tube (Customizable)
Power Supply	19000 mAh Li-SOCL ₂ battery (ER34615)
Battery Life*	5 years (10 min interval, SF12) >10 years (10 min interval, SF7)
Operating Temperature	-30°C to +70°C
Relative Humidity	0% to 100% (non-condensing)
Ingress Protection	IP66
Dimension	105.4 × 71 × 69.5 mm (4.1 × 2.8 × 2.7 in)
Installation	Pole, wall or DIN Rail Mounting

* Tested under laboratory conditions and for guideline purposes only.

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LoRaWAN® Sensor/Controller
LoRaWAN® Gateway
Industrial 4G/5G Router



Industrial Cellular Router



LoRaWAN® Sensor



LoRaWAN® Gateway



Compact Controller



LoRaWAN® Controller



Solenoid Valve Controller



Picture	Model	Measuring Range	Descriptions
	EM500-UDL-915M-W050	0.3 ~ 5m	Ultrasonic Distance/Level Sensor 19000 mAh Li-SOCl2 battery Resolution: 1 mm NFC enabled IP66 rated
	EM500-UDL-915M-W100	0.5 ~ 10m	
	EM500-PT100-915M-T500	-200~50°C	Temperature Sensor - PT100 19000 mAh Li-SOCl2 battery NFC enabled IP66 (IP67 as required)
	EM500-PT100-915M-T500	-50~500°C	The default sensor head type is straight tube, other types include armored, SMT, threaded, and magnet. *Customizable cable length, default 1.5m *Customizable temperature (-200~800 °C)
	EM500-PT100-915M-T800	-50~800°C	
	EM500-SWL-915M-L003	3m	Submersible Water Level Sensor 19000 mAh Li-SOCl2 battery NFC enabled IP66 rated
	EM500-SWL-915M-L005	5m	
	EM500-SWL-915M-L010	10m	Customizable measuring range up to 200m, cable should be 1-1.5m longer than measuring range.
	EM500-LGT-915M-RF	0 ~ 100000 lux	Light Sensor 19000 mAh Li-SOCl2 battery NFC enabled IP66 rated
	EM500-SMT-915M-EC5	Moisture 0% ~ 100% RH	Soil Sensor 19000 mAh Li-SOCl2 battery NFC enabled IP66 rated
	EM500-SMTC-915M-MEC20	Temperature -40°C ~ 80°C Moisture 0% ~ 100% RH Electrical Conductivity 0 ~ 20000 µS/cm	
	EM500-CO2-915M	CO2 400 ~ 8000 ppm Temperature -40°C ~ 70°C Humidity 0% ~ 100% RH Barometric Pressure 300 ~ 1100 hPa	CO2 Sensor (H in 1) 19000 mAh Li-SOCl2 battery NFC enabled IP66 rated Built-in temperature, humidity and barometric pressure sensors
	EM500-PP-915M-G1/4F-4780	0 ~ 1.6 MPa	Pipe Pressure Sensor 19000 mAh Li-SOCl2 battery NFC enabled IP66 rated

Remark:

~915M~, ~868M~, ~470M~ in the model refers to different LoRaWAN Frequency in option for different countries/regions. (e.g.)

~915M~: EM020/AS020/AS021/US025

~868M~: RU864/IN864/US868

~470M~: CN470

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