PST-xx12-403017

Temperature+Humidity Smart Sensors Terminal

Related Products

Product No.	Interf.	Descriptions
PST-xx12-403013	IIC	Temperature+Humidity Smart Sensors Terminal (-40℃-125℃,Typ:0-65℃,±0.2℃;H:±2%RH)
PST-xx12-403017	IIC	Temperature+Humidity Smart Sensors Terminal (-40℃-125℃,Typ:0-90℃,±0.2℃;H:±2%RH)
PST-xx12-40301B	IIC	Temperature+Humidity Smart Sensors Terminal (-40℃-125℃,Typ:20-60℃,±0.1℃;H:±1.5%RH)
PST-xx12-403023	IIC	Temperature+Humidity+ Barometric Pressure Smart Sensors Terminal (IP67, ER14505H/M &DC)

Product introduction

PST-xx12-403017 It is an ultra small temperature and humidity sensor with external IP67 protection level, mainly used for measuring temperature and humidity environment in multiple scenes.

Detection principle

Temperature measurement principle: thermocouple method is adopted. The thermocouple is composed of two metal wires of different materials. One end of the two wires is welded together to form a working end, which is placed at the temperature to be measured; The other end is called the free end, which is connected with the measuring instrument to form a closed loop. When the temperature of the working end is different from that of the free end, the thermoelectric EMF will appear in the circuit. After the circuit conversion, the voltage change will be sent to the microcontroller and converted into a signal that can be recognized by the machine.

Humidity measurement principle: polyamine salt or cellulose acetate polymer film (a polymer compound) deposited on two conductive electrodes will change the dielectric constant between the two electrodes when the film absorbs water or loses water. Then, it will cause the change of capacitor capacity. The change of capacitor capacity can be captured and transformed by using external measuring circuit, and finally it will be displayed as a recognizable signal at the output

Product features

❖ Intelligent sensor detection item: ambient temperature and humidity
❖ Wide working voltage, supporting 2.15-5.5V
❖ Optional battery power supply ER14505M/H
❖ Optional DC5V/DC12V power supply
❖ Alarm mode with programmable humidity and temperature limits
❖ Low power consumption, fast response and strong anti-interference capability
❖ IP67

Product parameters

Parameters	
Monitoring content	Ambient temperature and humidity
Measuring range	Temperature: - 40 ℃～ 125 ℃ Humidity: 0~100% RH
Accuracy	Temperature: 0～90℃,±0.2℃；-40～0℃，±0.3℃；90～125℃，±0.5℃ Humidity: 0~100% ± 2% RH;
Resolution	Temperature: 0.01 ℃

	Humidity: 0.01%RH
Response time	Temperature:>2s (T63%)
	Humidity: 8^6s
Long term drift	Temperature:<0.03 ℃/yr
	Humidity:<0.25% RH/yr

Interface	
Output signal	IIC

Material	
Size	69*17mm
Working temperature	-40℃~+80℃
Degree of protection	IP67
Weight	≈50g

Power	
Power	2.15～5.5V DC
Power supply type	Battery power ER14505M/H&DC power supply

Application

This product can be widely used in computer rooms, factory buildings, warehouses, sterile rooms, agricultural greenhouses, libraries, biopharmaceuticals,food processing, meteorology, intelligent buildings, biopharmaceuticals and daily life.

Ordering Guide

❖ PST-xx12-403017 is a sensor with a special shell appearance, it needs to be used together with the communication boards of WxS series (WxS78xx, WxS88xx, WxS98xx, WxS99xx, WxSC8xx, WxSC9xx, WxSD8xx and CxS18xx) to form intelligent IoT terminals with different communication methods

❖ According to the specific scenario of use case, the enclosure and antenna of intelligent IoT terminal will be replaced to ensure the product quality and performance.

❖ Example of products are as follows:

- o WxS7812-403017 WiFi Series Temperature+Humidity Smart Sensors Terminal
- o WxS8812-403017 LoRaWAN Series Temperature+Humidity Smart Sensors Terminal
- o WxS9812-403017 NB-IoT (China) Series Temperature+Humidity Smart Sensors Terminal
- o WxS9912-403017 NB-IoT (Global) Series Temperature+Humidity Smart Sensors Terminal
- o WxSC812-403017 LTE Cat1 Series Temperature+Humidity Smart Sensors Terminal
- o WxSC912-403017 LTE Cat1 w/GPS Series Temperature+Humidity Smart Sensors Terminal
- o WxSD812-403017 LTE Cat4 Series Temperature+Humidity Smart Sensors Terminal
- o CxS1812-403017 Ethernet (RJ45) Series Temperature+Humidity Smart Sensors Terminal