HTM108L Low Power consumption

Temperature Transmitter

Nanjing Hangjia Electronic Technology Co., LTD.

Overview

HTM108L low-power temperature sensor uses high-quality and high-stability PT100 or PT1000 as the sensing element, coupled with a dedicated electronic conditioning circuit, and is assembled and produced through strict technological processes. This product has an all-stainless-steel appearance, multiple electrical outlet methods and multiple output signals. This product can be powered by an external lithium battery, with extremely low power consumption and long service life. It can also be connected to a wireless module to achieve wireless transmission.

The product has been screened for long-term aging and stability, and its performance is reliable and stable. It can be used in open spaces with relatively harsh environments. It is widely used in temperature measurement and various industrial process control in the IoT industry.

Feature

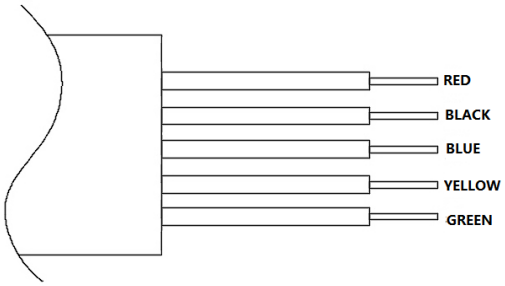
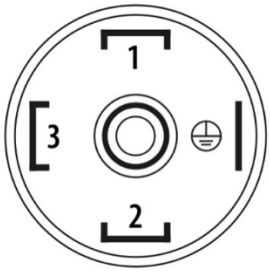
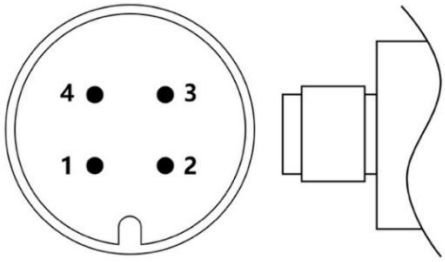
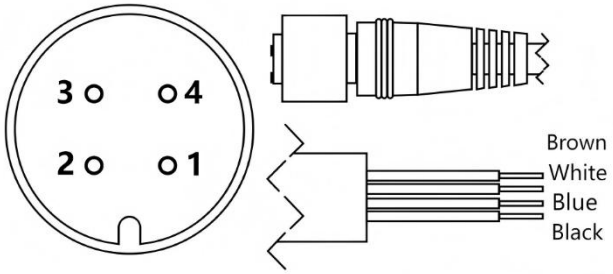
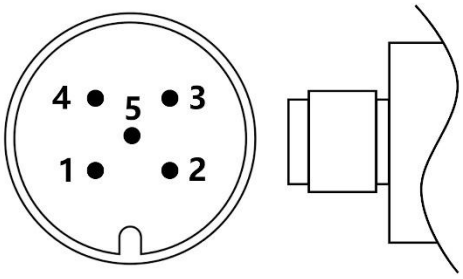
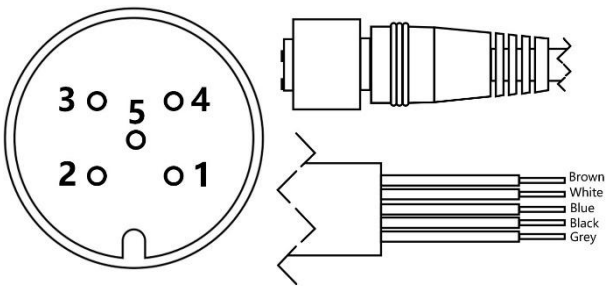
- Dedicated temperature measurement for the Internet of Things
- Can be powered by external lithium battery
- Low power consumption
- Support I^2C, RS485 or voltage signal output
- Compact size and easy to install
- High protection level
- Support customer customization

Technical Parameters

Temperature Range	-50...0~100...500℃
Measuring Medium	Various liquids compatible with contact materials
Output Signal/Power Supply	I^2C / Vs=3.0~5.5 VDC RS485 / Vs=3.1~8.0 VDC 0.25~1.25, 0.5~2.5V, etc. voltage / Vs=3.1~8.0 VDC
Power consumption (I2C output)	Normal working mode <3mA Sleep mode <100nA Wake-up time 8ms
Power consumption (RS485 output)	Standby current: <20uA Date collection cycle: 0~65535s Power Consumption: About 200uA with data collection cycle as 1s About 70uA with data collection cycle as 3s About 50uA with data collection cycle as 5s. Note: Longer data collection cycle, lower consumption.
Power consumption (voltage output)	Working current <2.5mA Powerup time: 200ms

Accuracy	±0.5℃ (-50℃≤range≤100℃) ±1.0℃ (-50℃≤range≤300℃) ±3.0℃ (-50℃≤range≤500℃)
Ambient Temperature	-40~85℃
Storage Temperature	-40~85℃
Reverse polarity protection	No damage. Product will not work.
Protection grade	IP65
Insulation resistance	>100MΩ @500VDC
Insulation strength	Apply 500VAC 50Hz test voltage, no breakdown or arcing for 1 minute.

Electrical Connection

Cable outlet (Ordering code: C2)	Hirschmann /DIN43650 (Ordering code: C1)
	
M12x1 4P (Ordering code: C5)	**M12x1 4P with cable (Ordering code: C5X)**
	
M12x1 5P (Ordering code: C6)	**M12x1 5P with cable (Ordering code: C6X)**
	

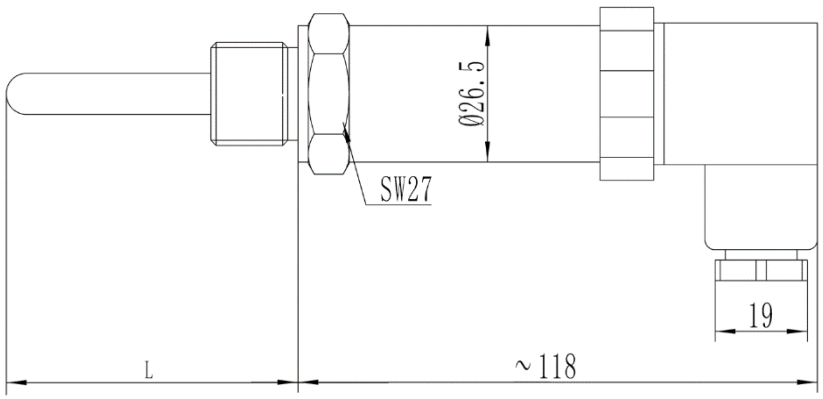
3-wire 0.25-1.25, 0.5-2.5V Voltage output			
Signal definition	**Power+(+V)**	**Power – (GND)**	**Signal+(+OUT)**
Hirschmann/DIN43650	1	2	3
Cable outlet	Red	Black	Blue
M12×1-4P	1	3	2
M12×1-4P, with cable	Brown	Blue	White

4-wire Modbus-RTU/RS485				
Signal definition	**Power+(+V)**	**Power – (-V)**	**RS485A**	**RS485B**
Hirschmann/DIN43650	1	2	3	4
Cable outlet	Red	Black	Yellow	Green
M12×1-4P	1	3	2	4
M12×1-4P, with cable	Brown	Blue	White	Black

I^2C (W/O PD Hibernate control pin*) *Hibernate Control Pin, built-in 68k pull-up resistor, high level hibernates, low level wakes up				
Signal definition	**Power+(+V)**	**Power – (-V)**	**SCL**	**SDA**
Hirschmann/ DIN43650	1	2	3	4
Cable outlet	Red	Black	Yellow	Green
M12×1-4P	1	3	2	4
M12×1-4P, with cable	Brown	Blue	White	Black

I^2C (With PD sleep control pin*) *Hibernate Control Pin, built-in 68k pull-up resistor, high level hibernates, low level wakes up					
Signal definition	**Power+(+V)**	**Power – (-V)**	**SCL**	**SDA**	**PD(Sleep)**
Cable outlet	Red	Black	Yellow	Green	Blue
M12×1-5P	1	3	2	4	5
M12×1-5P, with cable	Brown	Blue	White	Black	Grey

Structure Drawings(Unit:mm)



Material

Ordering code	Part	Description
S4	temperature probe	SS304 material
S6		SS316L material

Ordering Guide

Model No.	Type								
HTM108L	Low power consumption Temperature Transmitter								
	Code	Output Signal							
	C	I2C							
	R	RS485							
	V	voltage							
		Pressure Range	Measuring Range						
		(T1 ~ T2)℃	T1 is lower limit T2 is upper limit						
			Code	Temperature measuring element					
			PT100	PT100					
			PT1000	PT1000					
				Code	Process connection				
				P1	M20×1.5				
				P4	G1/2				
				P17	M27×2				
				K1	1.5" clamp				
				K2	2" clamp				
					Code	Electrical Interface			
					C1	DIN43650			
					C2	cable outlet			
					C5	M12×1-4P			
					C5X	M12×1-4P with cable			
					C6	M12×1-5P			
					C6X	M12×1-5P with cable			
						Code	Probe Material		
						S4	304		
						S6	316L		
							Code	Probe length	
							L	L=insertion depth (mm)	
								Code	Others
									Others requests
eg: HTM108L	R	(0 ~ 100)℃	PT100	P1	C2	S4	L=150mm		

Certification Information

Factory certification	
Certification organization	CQM
Quality management system	ISO 9001:2015
Certification scope	Research, development and manufacture of pressure transmitter and temperature transmitter
Certificate No.	00223Q21711R1S