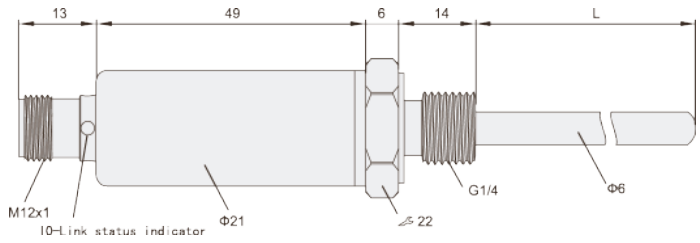
IO-Link sensor

THH06N-G1/4-Lxx-IL-SC

Compact Temperature Transmitter

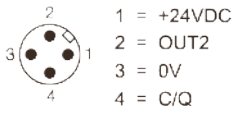
Note: xx is the length of the custom probe; for example, if the required probe length is 60mm, the model is THH06N-G1/4-L60-IL-SC



- Compact temperature transmitters for industrial applications
- 4-20mA two-wire or three-wire output
- IO-Link Communication Protocol V1.1
- Stainless steel housing
- Electrical connection M12x1 A-coded 4-pin gold-plated
- Probe length can be customized
- PT1000 high precision temperature measuring element
- G1/4 threaded pipe connection

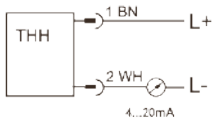
Model	THH06N-G1/4-Lxx-IL-SC Note: xx is the length of the customized probe
Supply voltage	24VDC ± 10%
Operating current	< 50mA
Temperature	
Measuring range	-50°C - 150°C (-58°F - 302°F)
Interface type	M12 A code 4-pin
Measuring element	PT1000
Temperature measurement accuracy	0.5°C
Output	
OUT2 signal	4-20mA or 20-4mA
Maximum load of analog signal output	200Ω
Analog signal output accuracy	0.5%F.S
Minimum interval between analog signal start and end points	10°C
IO-Link	
Vendor ID	1317 (0x0525)
Device ID	199186(0x030A12)
Number of ports	1
IO-Link specification	V1.1
IO-Link input bytes	2 bytes (16 Bit)
Frame type	TYPE_2_2
Transmission rate	COM2 38.4kbit/s
Minimum cycle time	4000us
ISDU	Supported
Block parameter operation	Not supported
Data storage(DS)	Not supported
Status indicator	Green On: Communication is normal Off: Communication is not established
Operating temperature	-25 - 80°C
Protection level	IP67

IO-Link M12 interface

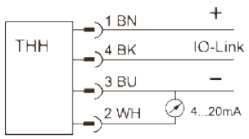


Note: C/Q: IO-Link
OUT2: Analog signal 4-20mA

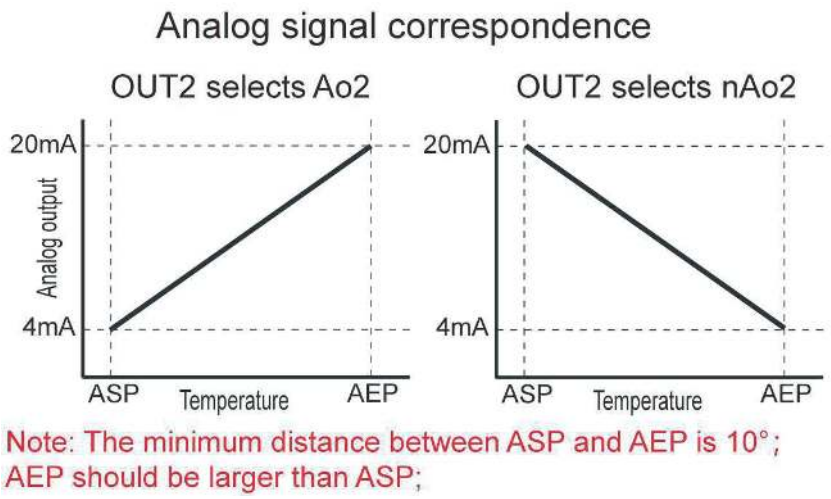
Wiring method



Two-wire 4-20mA output



IO-Link communication and three-wire 4-20mA output



When an internal fault occurs in the device, the output signal will operate according to the parameter settings in [FoU2].

	FoU2=ON	FoU2=OFF
[out2]=Ao	20mA	4mA
[out2]=nAo	4mA	20mA

IO-Link process data

BYTE	BYTE0								BYTE1							
DATA	Tbit15	Tbit14	Tbit13	Tbit12	Tbit11	Tbit10	Tbit9	Tbit8	Tbit7	Tbit6	Tbit5	Tbit4	Tbit3	Tbit2	Tbit1	Tbit0

Note:Tbit represents 16-bit temperature data.The temperature data is a signed number in °C, ranging from -500 to 1500, which means the actual temperature is magnified by 10 times. When the temperature data is invalid, the data is -4096.

Parameter data/Request data/ISDU indexed service data unit

Index	Subindex	Parameter name	Length	Authority	Description
0x02 2	0	System command	1Byte	Write	0x80 128 Reset device 0x82 130 Restore factory settings
0x10 16	0	Manufacturer name	8Byte	Read	Sentinel
0x11 17	0	Manufacturer description	41Byte	Read	Sentinel Industrial Ethernet manufacturer
0x12 18	0	Device name	15Byte	Read	THHxx-xxx-xl-sc
0x13 19	0	Device ID	8Byte	Read	19918601
0x14 20	0	Device description	30Byte	Read	I/O Module M8 16 digital Input

0x15 21	0	Serial-Number	9Byte	Read	658100101
0x16 22	0	Hardware version	8Byte	Read	HW-V0.01
0x17 23	0	Software release	8Byte	Read	FW-V0.01
0x18 24	0	ApplicationSpecific Tag	Maximum 32Byte	Read Write	This item is defined in the IODD file, Included in the DataStorage(DS)
0x19 25	0	Function Tag	Maximum 32Byte	Read Write	This item is not defined in the IODD file, It can be set directly through Index.
0x1A 26	0	Local Tag	Maximum 32Byte	Read Write	This item is not defined in the IODD file, It can be set directly through Index.
0x24 36	0	Device state	1Byte	Read	0: The equipment operating normally; 1: Need to maintain; 2: Running incorrect environment or parameters; 3: Device abeyance; 4: Device failed to run;

Index	Subindex	Parameter name	Length	Authority	Value range
0x1F8 504	0	oUt2 output 2 method	1Byte	Read Write	3: Ao (4-20mA) 4: nAo (20-4mA) Default: 3
0x1FE 510	0	When FoU2 fails, output 2 mode	1Byte	Read Write	0: oFF2 (off) 1: on2 (on) Default: 0
0x25C 604	0	ASP2 analog signal starting point	2Byte	Read Write	-500 to 1400 Note: Unit: °C ASP2 should be less than AEP2 or it will be rejected; Default: -500
0x25D 605	0	AEP2 Analog signal endpoint	2Byte	Read Write	400 to 1500 Note: Unit: °C AEP2 should be greater than ASP2 or it will be rejected; Default: 1500
0x320 800	0	COF Temperature Compensation	2Byte	Read Write	-100 to 100 Note: Unit: °C Value multiplied by 0.1°C; Default: 0
0x385 901	0	Offset4 4mA point compensation	2Byte	Read Write	-200 to 200 Note: Adjust 4mA output; each increase in a number corresponds to approximately 0.01mA; Default: 0
0x386 902	0	Offset20 20mA point compensation	2Byte	Read Write	-200 to 200 Note: Adjust 20mA output; each increase in a number corresponds to approximately 0.01mA; Default: 0
0x3BC 956	0	FixedCurrent Fixed current output	1Byte	Read Write	0: Disable 0x5a(90): Enable fixed current 4mA output 0x5b(91): Enable 20mA output
0x3C8 968	0	AUTOCAL Automatic internal calibration	1Byte	Read Write	0x5a(90): Start the internal voltage automatic calibration Note: It has been calibrated at the factory. Do not operate it lightly.

ISUD Error Codes

32785 / 0x801

32786 / 0x8012:Invalid sub-index

32819 / 0x8033:The length of the written parameter exceeds the defined length

32820 / 0x8034:The length of the written parameter is less than the defined length

32816 / 0x8030:The written parameter exceeds the settable range