Temperature transmitter

Committed to process automation solutions

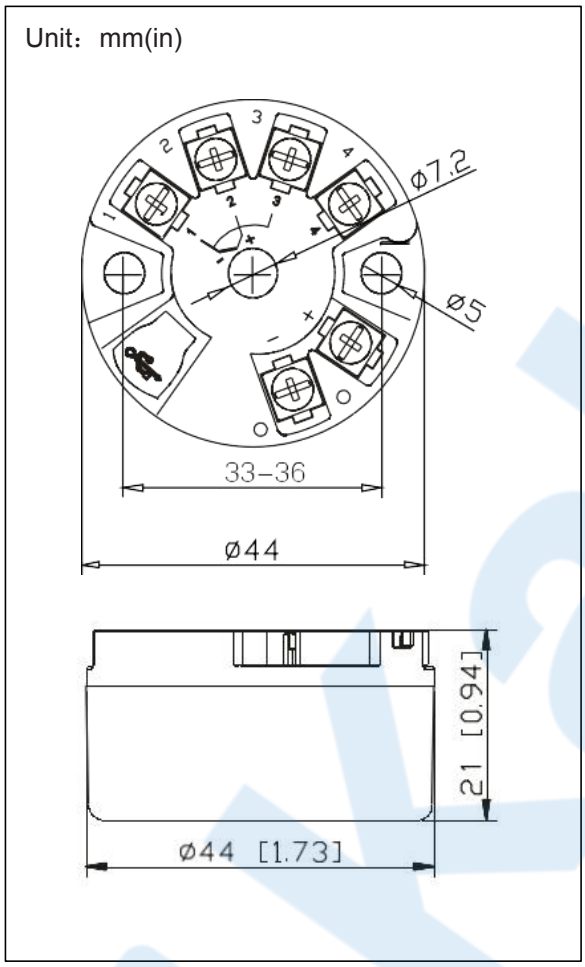
Datasheet

SUP-ST500

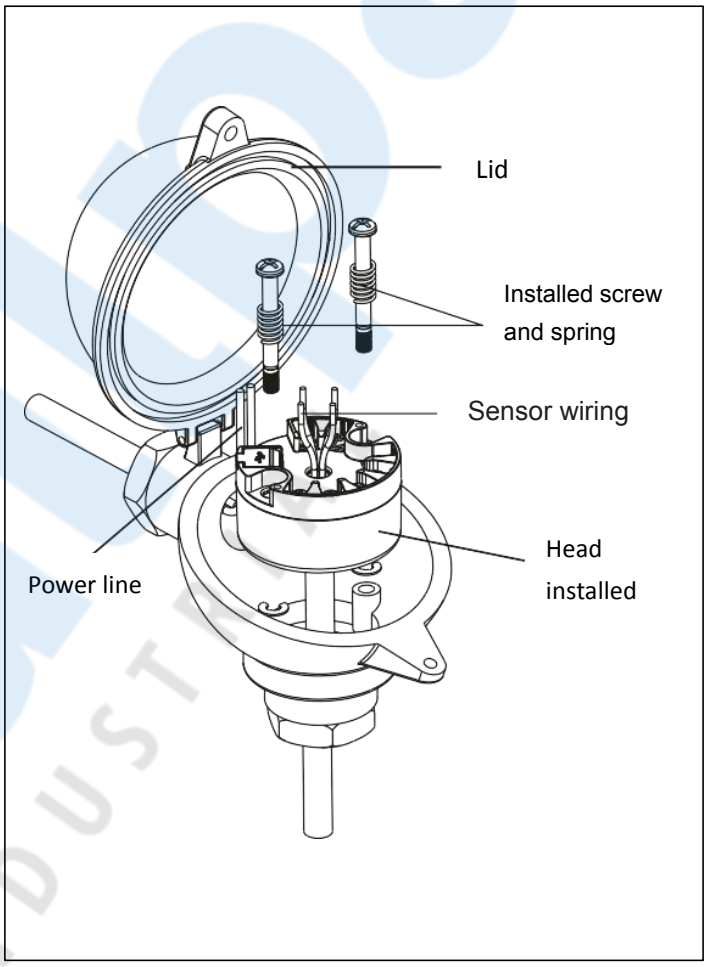
Add: No.600,No.21 Street, Hangzhou
Economic&Technological Development Area,
Zhejiang,China

Intelligent temperature transmitter (round card) is used for the signal input of resistance temperature detector (RTD) and thermocouple (TC)，and 4 - 20mA analog output of the two-wire system. It is installed inside the sensor(Form B).

Dimension



Installation



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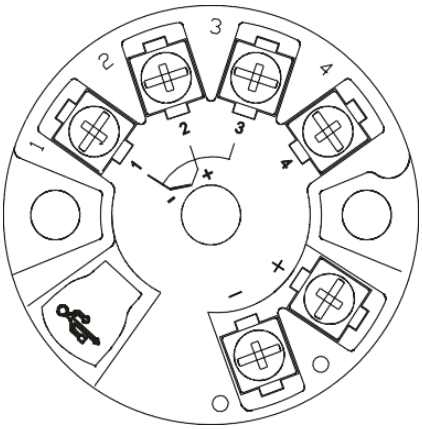
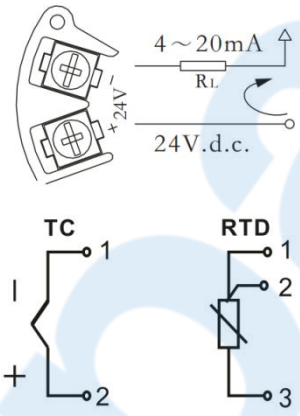
Wiring Diagram





Note: RTD (platinum resistance) input: three wire resistance value must be equal, each wire resistance is no more than 10 Ω

Configuration Schematic

Standard

V1 or V8 serial port programming line

Note: no 24V power supply is required when using the V8 serial

Isolated

V1 serial port programming line

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Parameter

Input	
Input signal	Resistance temperature detector(RTD), thermocouple (TC), and linear resistance.
Cold-junction compensation temperature scope	-20～60℃
Compensation precision	±1℃
Output	
Output signal	4-20mA
Load resistance	RL≤(Ue-12)/0.021
Output current of upper and lower limit overflow alarm	IH=21mA、IL=3.8mA
Power supply	
Supply voltage	DC12-40V
Other parameters	
Temperature drift	0.02%FS/℃ （Standard）
	0.0075%FS/℃ （Isolated）
Response time	Reach to 90% of the final value for 1s
Used environmental temperature	-40～80℃
Storage temperature	-40～100℃
Aseismicity	4g/2～150Hz
Installation angle	Unlimited
Installation area	B-type top cassette installation
Electromagnetic compatibility	Conform to GB/T18268 industrial equipment application requirements (IEC 61326-1)
Isolated type	
Insulation strength (between input and output)	1500Vrms (1 min, without spark)
Insulation resistance (between input and output)	≥100MΩ(under the 500 VDC)

Input type and transmission accuracy(standard):

Model	Type	Measurement scope	Minimum measurement scope	Scale range	Conversion accuracy
Resistance temperature detector (RTD)	Pt100	-200.0～850.0℃	10℃	≤100℃	0.20%
				>100℃	0.10%
	Cu50	-50.0～150.0℃	10℃	≤100℃	0.20%
				>100℃	0.10%
Thermocouple (TC)	B	400～1800℃	500℃	≤300℃	0.20%
				>300℃	0.10%

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	E	-100～1000℃	50℃	≤300℃	0.20%
				>300℃	0.10%
	J	-100～1200℃	50℃	≤300℃	0.20%
				>300℃	0.10%
	K	-180～1372℃	50℃	≤300℃	0.20%
				>300℃	0.10%
	N	-180～1300℃	50℃	≤500℃	0.20%
				>500℃	0.10%
	R	-50～1768℃	500℃	≤500℃	0.20%
				>500℃	0.10%
	S	-50～1768℃	500℃	≤500℃	0.20%
				>500℃	0.10%
	T	-200～400℃	50℃	≤500℃	0.20%
				>500℃	0.10%
	Wre3-25	0～2315℃	500℃	≤500℃	0.20%
				>500℃	0.10%
	Wre5-26	0～2310℃	500℃	≤500℃	0.20%
				>500℃	0.10%

Input type and transmission accuracy(Isolated):

Model	Type	Measurement scope	Minimum measurement scope	Scale range	Conversion accuracy
Resistance temperature detector (RTD)	Pt100	-200.0～850.0℃	20℃	≤100℃	0.20%
				>100℃	0.10%
	Cu50	-50.0～150.0℃	20℃	≤100℃	0.20%
				>100℃	0.10%
Thermocouple (TC)	B	400～1800℃	500℃	≤300℃	0.20%
				>300℃	0.10%
	E	-100～1000℃	50℃	≤300℃	0.20%
				>300℃	0.10%
	J	-100～1200℃	50℃	≤300℃	0.20%
				>300℃	0.10%
	K	-180～1372℃	50℃	≤300℃	0.20%
				>300℃	0.10%
	N	-180～1300℃	50℃	≤500℃	0.20%
				>500℃	0.10%
	R	-50～1768℃	500℃	≤500℃	0.20%
				>500℃	0.10%

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	S	-50～1768℃	500℃	≤500℃	0.20%
				>500℃	0.10%
	T	-200～400℃	50℃	≤500℃	0.20%
				>500℃	0.10%

Notes:

1. The above accuracy data was obtained by testing at an ambient temperature of 20℃ ± 2℃
2. The output precision “%” is relative to the set range.
3. The cold end compensation error needs to be added to the thermocouple measurement, and the internal cold end compensation error is ≤±1° C.

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