

Temperature transmitter

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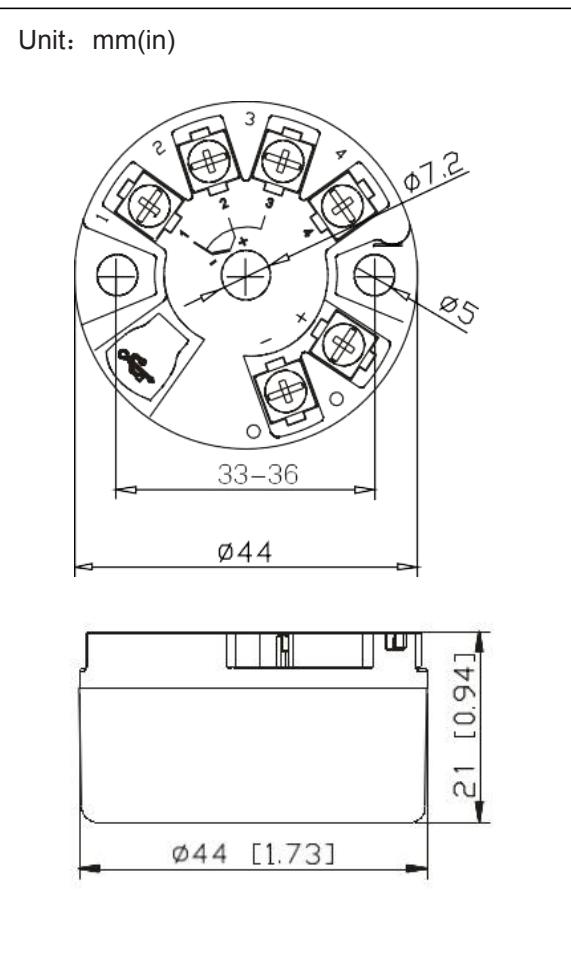
Datasheet



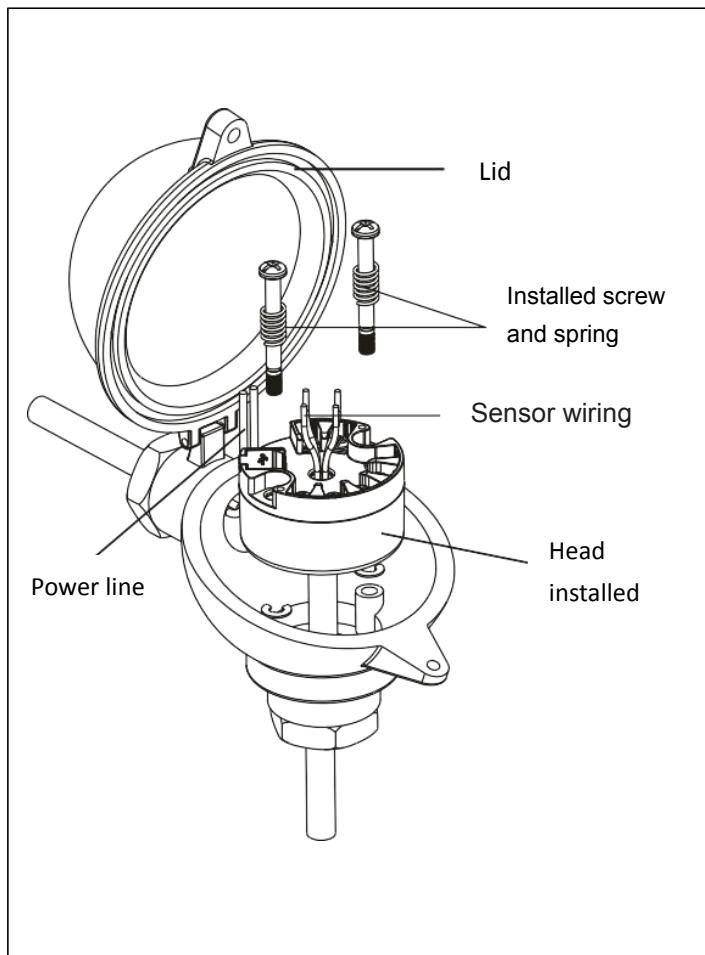
SUP-ST500

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).

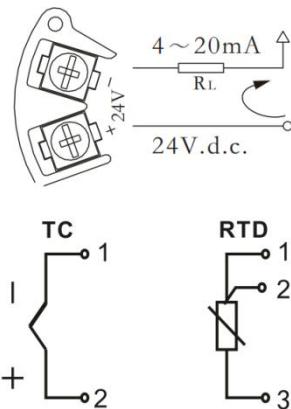
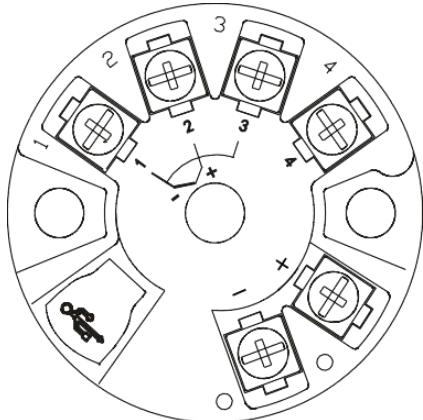
Dimension



Installation



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



Parameter

Input	
Input signal	Resistance temperature detector(RTD), thermocouple (TC), and linear resistance.
Cold-junction compensation temperature scope	-20~60°C
Compensation precision	±1°C
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/°C (Standard) 0.0075%FS/°C (Isolated)
Response time	Reach to 90% of the final value for 1s
Used environmental temperature	-40~80°C
Storage temperature	-40~100°C
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°C	10°C	≤100°C	0.20%
				>100°C	0.10%
	Cu50	-50.0~150.0°C	10°C	≤100°C	0.20%
				>100°C	0.10%
Thermocouple (TC)	B	400~1800°C	500°C	≤300°C	0.20%
				>300°C	0.10%

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

Input type and transmission accuracy(Isolated):

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	Cu50	-50.0~150.0°C	20°C	≤100°C	0.20%
				>100°C	0.10%
Thermocouple (TC)	B	400~1800°C	500°C	≤300°C	0.20%
				>300°C	0.10%
	E	-100~1000°C	50°C	≤300°C	0.20%
				>300°C	0.10%
	J	-100~1200°C	50°C	≤300°C	0.20%
				>300°C	0.10%
	K	-180~1372°C	50°C	≤300°C	0.20%
				>300°C	0.10%
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				>500°C	0.10%
	R	-50~1768°C	500°C	≤500°C	0.20%
				>500°C	0.10%

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

Notes:

1. The above accuracy data was obtained by testing at an ambient temperature of $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$
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 $\leq \pm 1^{\circ}\text{ C}$.