Electronic temperature Sensor (Switch) TS500



Principle structure

The TS500 uses high-precision platinum resistance for temperature measurement, and the signal is processed by the rear processing circuit and converted into a standard industrial electrical signal output and display. The metal housing design, with a high-light LED digital display, makes this series of products can be used in a variety of industrial applications. The three-button design and menu make the product easier to use. A variety of connection methods can fully meet a variety of specific installation needs. The display head, which can be rotated at 330°, guarantees the best viewing Angle in

Technical parameter

- ◇ Measuring range: -200... 400 ℃
- ◇ Supply voltage: 12... 30VDC
- ◇ No-load current consumption: ≤30mA, 24VDC
- ◇ Switch output:

Output type: PNP/NPN can be switched, normally open/normally closed can be set

Switching load: <200mA/24VDC

- ◇ Response time: 0.01~2s (factory default)
- ◇ Measurement accuracy: ±1.0℃
- ◇ Current type analog output: ≤±0.5% range

Output type: 4... 20mA can be configured

Load RA: ≤500Ω

Linearity: ≤0.5% range

- ◇ Communication output: IO-Link/RS485
- ◇ Wiring protection: reverse phase, overload, short circuit protection
- ◇ Display:

Design: Red 4-bit 12mm high brightness LED

Display range: -1999... 9999

- ◇ Stability (annual drift) : ≤±0.5℃
- ◇ Temperature:

Medium temperature: -20... 100°C (conventional type);

- 200... 400°C (high and low temperature type)

Ambient temperature: -20... 80°C

Storage temperature: -30... 80°C

- ◇ Material:

Watch head housing: engineering plastic

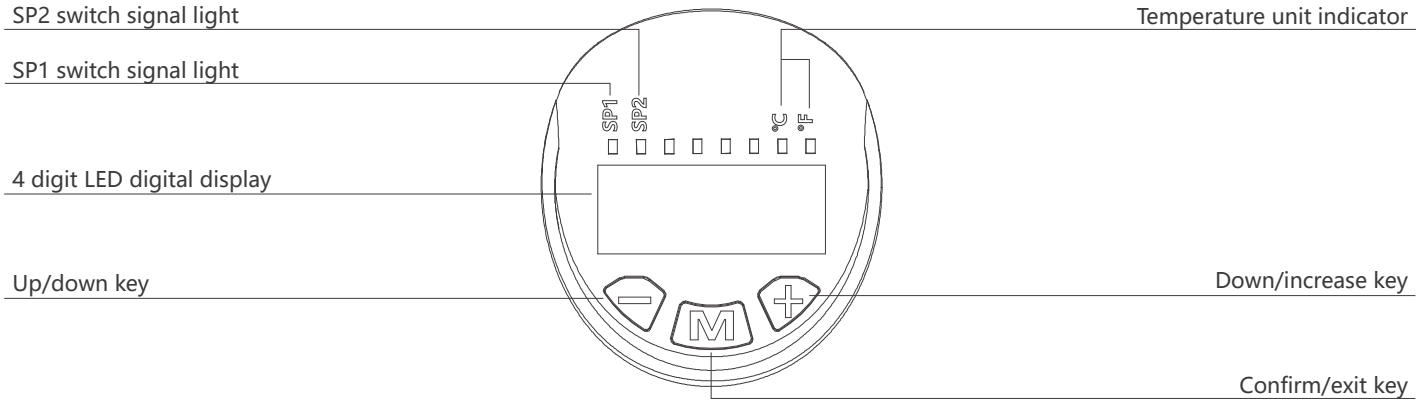
Flame retardant class: UL-94 V-0

Housing: stainless steel 304

Medium contact part: stainless steel 304

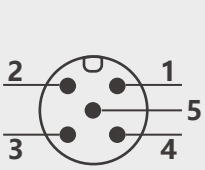
- ◇ Protection grade: IP67
- ◇ Outlet: M12x1 connector

Panel diagram



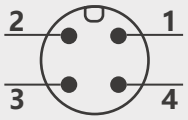
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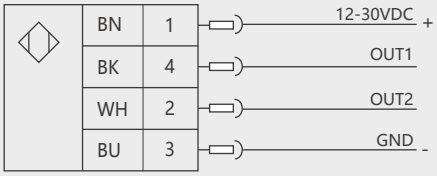
Wiring diagram





A3: Two way switch + one way analog								
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)	GY	5 (OUT3)	4-20mA (Factory default) 1-5V 0-10V
BK	4 (OUT1)	SP1 switch PNP (Factory default) SP1 switch NPN	WH	2 (OUT2)	SP2 switch PNP (Factory default) SP2 switch NPN			





S2: Two-way switch/IO-Link					
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	SP1 switch PNP (Factory default) SP1 switch NPN IO-Link	WH	2 (OUT2)	SP2 switch PNP (Factory default) SP2 switch NPN

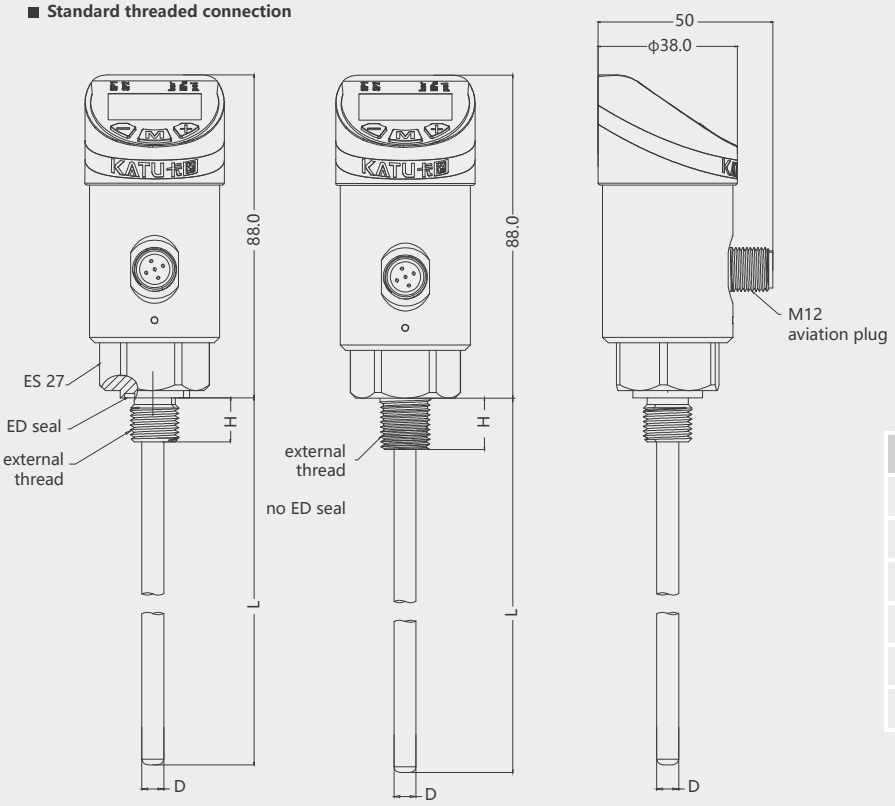
SA: One switch /IO-Link + analog					
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	SP1 switch PNP (Factory default) SP1 switch NPN IO-Link	WH	2 (OUT2)	4-20mA (Factory default) 1-5V 0-10V

RS: RS485					
color	**stitch**	**Instructions**	**color**	**stitch**	**Instructions**
BN	1	power supply (+)	BU	3	power supply (-)
BK	4 (OUT1)	RS485(B)	WH	2 (OUT2)	RS485(A)

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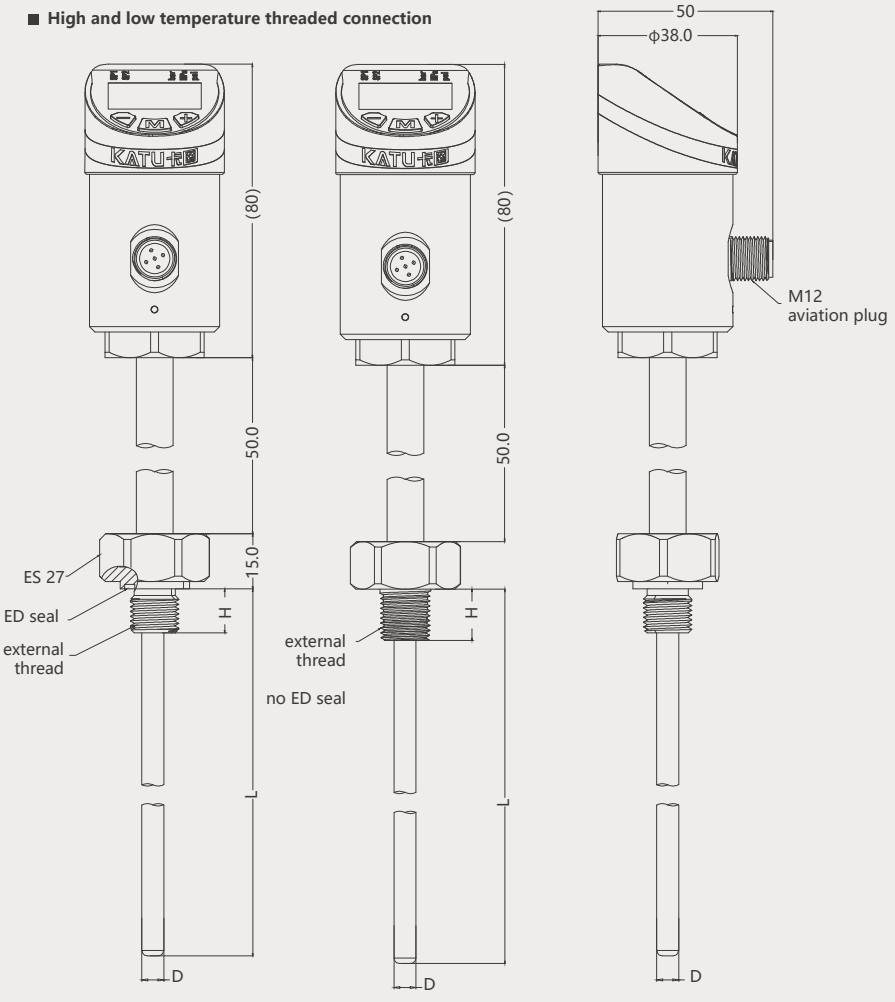
Size drawing (mm)

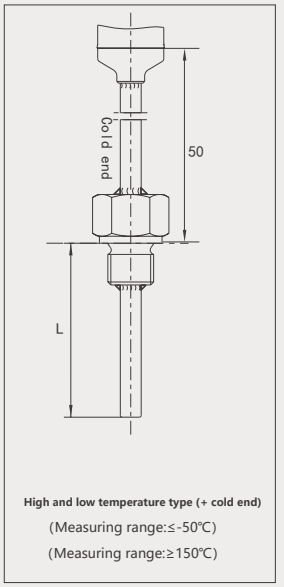
■ **Standard threaded connection**



Screw thread	Thread height(H)	seal
G1/4	12	Sealed with ED
G1/2	12	
M20*1.5	12	
R1/4	14	No ED seal
R1/2	14	
NPT1/4	14	

■ **High and low temperature threaded connection**





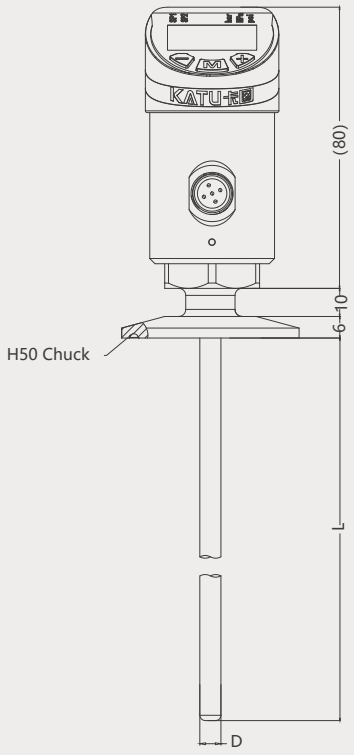
High and low temperature type (+ cold end)

(Measuring range:≤-50℃)

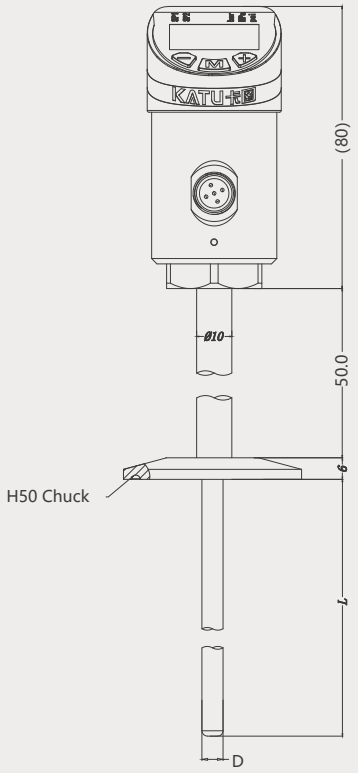
(Measuring range:≥150℃)

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■ **Standard chuck type connection**



■ **High and low temperature chuck type connection**



Selection table

TS500-	C2080	S2	G14M	L025	D6	expatiate	
TS500						TS500 electronic temperature switch	
	C2080					Range: -20... 80 ° C	
	C0100					Range: 0... 100 ° C	
	C50200					Range: -50... 200℃ high and low temperature type	If the temperature is too low or too high, add a cold end (Refer to size drawing)
	C50400					Range: -50... 400℃ high and low temperature type	
	C100100					Range: -100... 100℃ high and low temperature type	
	C200100					Range: -200... 100℃ high and low temperature type	
		S2				Output signal: Two switch output/IO-link (4-core cable)	
		SA				Output signal: One switch output /IO-link + analog output (4-core cable)	
		A3				Output signal: two switch output + analog output (5-core cable)	
		RS				Output signal: RS485 communication (4-core cable)	
			G14M			Process connection: G1/4 external thread	
			G12M			Process connection: G1/2 external thread	
			M20M			Process connection: M20*1.5 external thread	
			N14M			Process connection: NPT1/4 external thread	
			R14M			Process connection: R1/4 external thread	
			R12M			Process connection: R1/2 external thread	
			K50			Process connection: Sanitary chuck connection 50.5mm OD	
				L025		Rod length: L=mm (example: 025 represents rod length including thread 25mm)	
					D6	Rod diameter: 6mm	
					D8	Rod diameter: 8mm	

* If the temperature probe rod needs to add protective sleeve, the sensor selection thread should be G1/2;
* Mounting thread and probe length can be customized
* Temperature range: User can specify the range