

Data Sheet

S81 RTD Temperature Probes

RTD Temperature probes with mineral insulation, available with optional connectors.

TYPICAL USES

- For chemical and petrochemical plants, refineries, utilities, pulp and paper, etc.
- For a wide range of process: vapors, gases and liquids
- Flexible configurations, heavy duty MgO
- Special designs for intrinsically safe and non-incendive applications

DESCRIPTION

These probes may be supplied with either single or dual elements. The probe can be supplied with extension lead wire, process connection connectors. The lead wires can be PVC, silicone, Teflon® or fiberglass insulation.

SPECIFICATIONS

Sheath Stem Diameter: 1/8", 3/16", 1/4", 3 mm, 4.5 mm, 6 mm, 8 mm

Stem Length: Minimum: 50 mm/2 in
Maximum: 3 m/120 in

Sensor Type & Measuring Range
RTDs Platinum 385 Curve
Pt 100, -200 to +600°C
Pt 1000, -40 to +600°C

Wiring Configuration: RTDs (single or dual)
2 Wire
3 Wire
4 Wire

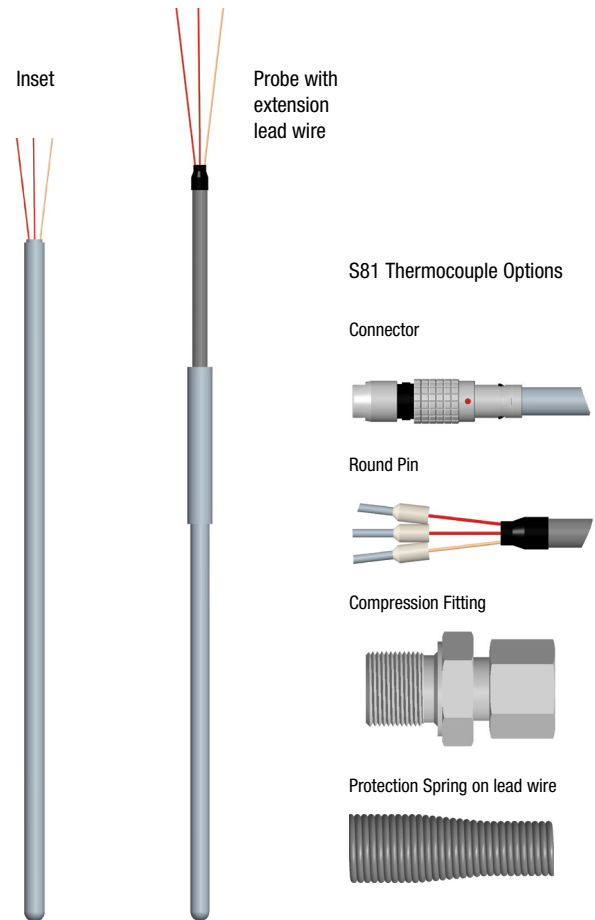
Accuracy Class RTDs (IEC 60751)
Class A
Class B
Class AA

OPTIONAL APPROVALS

FM Intrinsically safe: Class I, Division 1, Groups A, B, C, D
T4 for $-55^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$
T5 for $-55^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$
T6 for $-55^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$

FM Nonincendive: Class I, Division 2, Groups A, B, C, D
T4 for $-55^{\circ}\text{C} \leq T_a \leq +80^{\circ}\text{C}$
T5 for $-55^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$
T6 for $-55^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$

ATEX or IECEx: ATEX or IECEx
II 1 G Ex ia IIC T6 Ga -50°C to $+60^{\circ}\text{C}$
II 2 G Ex ib IIC T6 Gb -50°C to $+60^{\circ}\text{C}$
II 2 G Ex e IIC T6 Gb -55°C to $+60^{\circ}\text{C}$



KEY BENEFITS

- Flexible designs for critical applications
- Highly accurate and repeatable

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ORDERING CODE	Example:	S81	1	T	1	A	A	B	A	7	Cont. on next page
Area Classification											
1 - Standard -General Purpose			1								
3 - Intrinsic Safety - ia											
B - Intrinsic Safety - ib											
E - Increased safety											
N - Non-Incendive											
Sheath Diameter											
R - 1/8" Ø3.18 mm											
S - 3/16" Ø4.76 mm											
T - 1/4" Ø6.35 mm				T							
3 - 3 mm											
4 - 4.5 mm											
6 - 6 mm											
8 - 8 mm											
RTD Type											
1 - Pt 100					1						
Accuracy or Class (IEC 60751)											
A - Class A						A					
B - Class B											
C - 1/2 DIN											
D - Class AA - 1/3 DIN											
RTD Element/Range											
A - -50/+400°C							A				
B - -200/+600°C											
D - Vibrations-proof											
Electrical Circuit											
A - Single 2 wires											
B - Single 3 wires								B			
C - Single 4 wires											
D - Dual 2 wires											
E - Dual 3 wires											
F - Dual 4 wires											
Sheath Material											
A - AISI 316L/ 1.4404									A		
Wire Termination											
7 - Stripped										7	
8 - With flat pin											
9 - With round pin											
F - With plug LEMO type FFA.1S											
P - With socket LEMO type PCA.1S											
D - With plug and socket LEMO on inset											

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ORDERING CODE	Example: (Continued)	--	X	X	-	M	N	C3	3	-	3P	T	LC=400 mm	L=400 mm
Length Probe														
X - L=(min=50, max=100000) (Add actual length L=?? at the end of ordering code)			X	X									Lead wire length in mm	Insertion length in mm
Length Cable														
X - LC=(min=100, max=100000) (Add actual length LC=?? at the end of ordering code)				X									mm = inches x 25.4	
- - None														
Lead Wire														
M - PVC						M								
N - Silicon														
O - PTFE Teflon®														
P - Fiberglass														
- - Without														
Lead Wire Options														
M - With protective spring on lead wire														
N - Without protective spring on lead wire							N							
O - Electrically shielded, with protective spring														
P - Electrically shielded, without protective spring														
Q - With Stainless steel braided cover, with protective spring														
R - With Stainless steel braided cover, without protective spring														
Process Connection														
A1 - Compression fitting G 1/4" AISI 316														
A3 - Compression fitting G 1/2" AISI 316														
C1 - Compression fitting 1/4 NPT, AISI 316														
C3 - Compression fitting 1/2 NPT, AISI 316)								C3						
- - Without connection														
Certifications														
- - None required														
F - FM														
A - ATEX														
X - IECEX														
S - SIL 2 + ATEX														
I - INMETRO														
D - ATEX + IECEX														
2 - SIL 2														
P - EAC (Gost R) + Metrological Russia														
Calibration Report														
-- - Without														
3P - 3 points												3P		
5P - 5 points														
3D - 3 points														
5D - 5 points														
Tagging														
- - Without														
T - Label in stainless steel with tag												T		

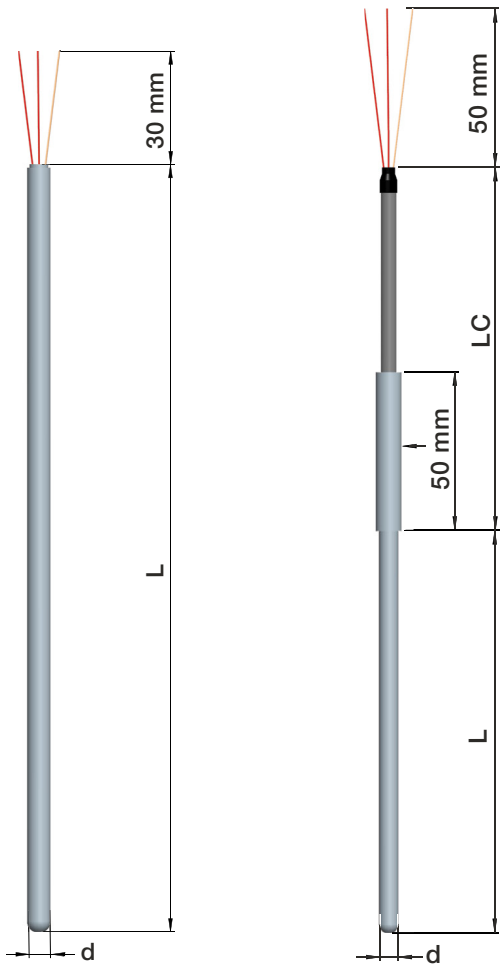
Consult factory for other configurations.

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DIMENSIONS in [] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings



HOW TO ORDER S50 TEMPERATURE PROBES:

- The ordering code is built by selecting the appropriate configuration for the various sections of the ordering code.
- The insert nominal length L is measured from base of the lead wire transition piece to the tip of the probe.
- The lead wire length LC is measured for the base of the lead wire transition piece to the end of the lead wire jacket.
- The L length and the LC length are added to the end of the ordering code in millimeters.
- To convert inches to millimeters multiply by 25.4.
 $\text{mm} = \text{inches} \times 25.4$

d = Stem diameter
 LC = Length lead wire
 L = Insertion length