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S81 RTD Temperature Probes

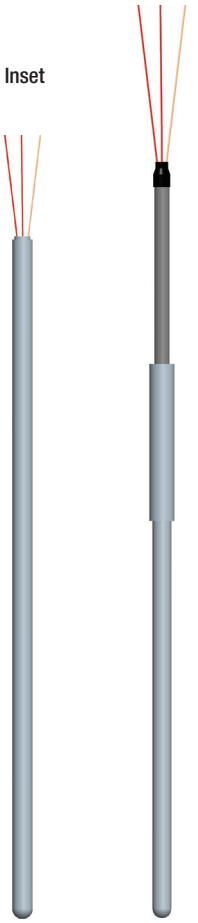
RTD Temperature probes with mineral insulation, available with optional connectors.

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
- Available with remote heads and flex armor

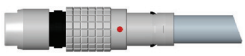
DESCRIPTION

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

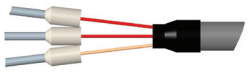


S81 Thermocouple Options

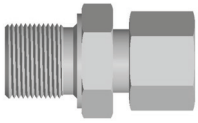
Connector



Round Pin



Compression Fitting



Protection Spring on lead wire

SPECIFICATIONS	
Sheath Stem Diameter:	⅛″, 3⁄16″, ¼″, 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, -196 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 ±(0.15 + 0.0020 * |t|(1)) Class B ±(0.30 + 0.0050 * |t|(1)) Class AA ±(0.10 + 0.0017 * |t|(1))
OPTIONAL APPROVALS	
FM Intrinsically safe:	Class I, Division 1, Groups A, B, C, D T4 for -55 °C ≤ Ta ≤ 80 °C T5 for -55 °C ≤ Ta ≤ 55 °C T6 for -55 °C ≤ Ta ≤ 40 °C
FM Nonincedive:	Class I, Division 2, Groups A, B, C, D T4 for -55 °C ≤ Ta ≤ 80 °C T5 for -55 °C ≤ Ta ≤ 55 °C T6 for -55 °C ≤ Ta ≤ 40 °C
ATEX or IECEx:	ATEX or IECEx II 1 G Ex ia IIC T6 Ga -50 °C to 60 °C II 2 G Ex ib IIC T6 Gb -50 °C to 60 °C II 2 G Ex e IIC T6 Gb -55 °C to 60 °C

KEY BENEFITS

- **Flexible designs for critical applications**
- **Highly accurate and repeatable**

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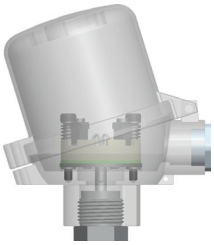
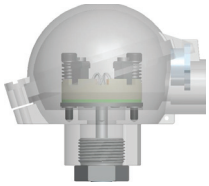
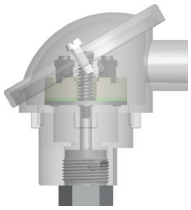
OPTIONAL S81 HEADS



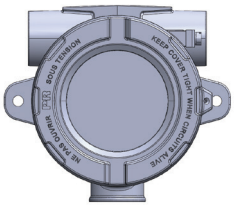
BUZH-AL
Type E



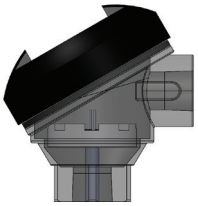
BUZH-AL
Type D



DIN B
Type B



PR 7501 with display
Type P



Cast Iron
Type Y

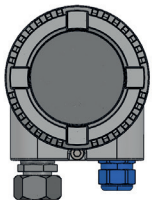
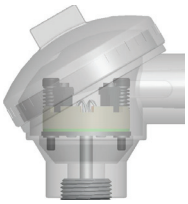
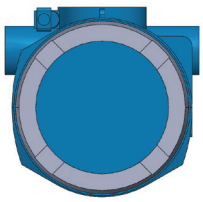


ABB Housing
Type V

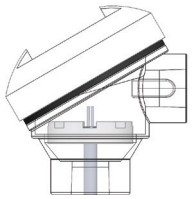


SCCA-AL
Type N

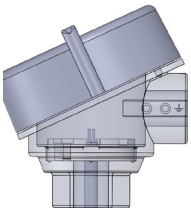
SCCI-Stainless Steel
Type G



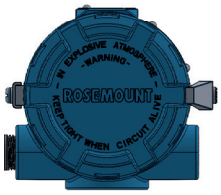
E&H Display Housing
Type H



Polypropylene
Type A

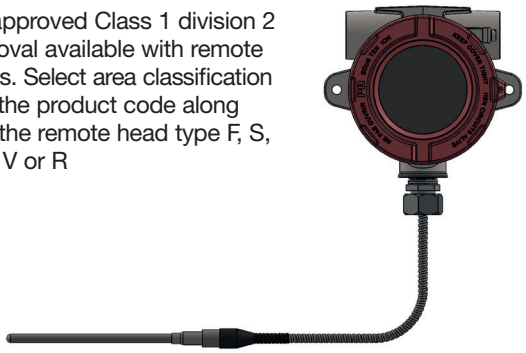


Type F Ex d - AL
Type S Ex d Stainless Steel



Rosemont Housing
Type R

FM approved Class 1 division 2 approval available with remote heads. Select area classification N in the product code along with the remote head type F, S, P, H, V or R



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ORDERING CODE Example:	S81	1	T	1	A	A	B	A	7	2
Area Classification										
1 - Standard -General Purpose		1								
3 - Intrinsic Safety - ia (Class 1 Div. 1)										
B - Intrinsic Safety - ib										
E - Increased Safety										
N - Non-Incendive (Class 1 Div. 2)										
Sheath Diameter										
R - ⅛″ Ø3.18 mm										
S - 3⁄16″ Ø4.76 mm										
T - ¼″ Ø6.35 mm			T							
3 - 3 mm										
4 - 4.5 mm										
6 - 6 mm										
8 - 8 mm										
RTD Type										
1 - Pt 100				1						
2 - Ni 120										
3 - Pt 1000										
Accuracy or Class (IEC 60751)										
A - Class A (-100 to 450 °C wire wound RTD)(-30 to 300 °C thin film RTD)					A					
B - Class B (-196 to 600 °C wire wound RTD)(-50 to 500 °C thin film RTD)										
D - Class AA - ⅓ DIN (-50 to 250 °C wire wound RTD)(0 to 150 °C thin film RTD)										
RTD Element/Range										
A - -50 to 400 °C thin film RTD						A				
B - -200 to 600 °C wire wound RTD										
D - Vibration-proof										
Electrical Circuit										
A - Single 2-wire										
B - Single 3-wire							B			
C - Single 4-wire										
D - Dual 2-wire										
E - Dual 3-wire										
F - Dual 4-wire										
Sheath Material										
A - AISI 316/1.4404								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										
Connector Strain Relief										
- - Non-applicable (no connector)										
1 - Crimp - Braze adapter (for use with flex armor and no wire options)										
2 - Grommet - for regular wire option, with no flex armor										2
3 - Bracket - for regular wire option, with no flex armor										

Cont. on next page

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Cont. on next page

ORDERING CODE Example: (Continued)	B	X	X	-	M	M	C3
Remote Head Type							
- - Non-applicable (no remote head)							
F - Ex d Aluminum (Available with FM Class 1 Div. 2 approval)							
S - Ex d Stainless steel (Available with FM Class 1 Div. 2 approval)							
G - SCCI Stainless steel							
N - SCCA Aluminum							
B - DIN B Aluminum	B						
D - BUZ Aluminum							
E - BUZH Aluminum							
P - PR 7501 (Available with FM Class 1 Div. 2 approval)							
Y - Cast iron (N/A with FM approval)							
A - Polypropylene (N/A with FM approval)							
H - E&H Housing (Available with FM Class 1 Div. 2 approval)							
R - Rosemount housing Ex d (Available with FM Class 1 Div. 2 approval)							
V - ABB Housing Ex d (Available with FM Class 1 Div. 2 approval)							
2 - Ex d Aluminum with dual conduits (Available with FM Class 1 Div. 2 approval)							
3 - Ex d Stainless Steel with dual conduits (Available with FM Class 1 Div. 2 approval)							
Length Probe							
X - L=(min=50, max=10000) (add actual length in mm L=?? at the end of ordering code)		X					
Length Cable							
X - Lc=(min=100, max=10000) (add actual length in mm LC=?? at the end of ordering code)			X				
Flex Armor							
- - Without				-			
1 - With flex armor							
2 - Flex armor with PVC jacket							
3 - Flex armor with white PTFE jacket							
4 - Flex armor with black PTFE jacket							
Lead Wire							
M - PVC					M		
N - Silicon							
O - PTFE							
P - Fiberglass							
- - Without							
Lead Wire Options							
M - With protective spring on lead wire						M	
N - Without protective spring on lead wire							
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							
- - Without							
Process Connection							
-- - Without connection							
C1 - Compression fitting ¼ NPT, AISI 316							
C2 - Adjustable compression fitting with gland TFE ¼″ AISI 316							
C3 - Compression fitting ½ NPT, AISI 316							C3
C4 - Adjustable compression fitting with gland TFE ½″ AISI 316							
B1 - Non-adjustable compression fitting ¼ NPT, brass							
B2 - Adjustable compression fitting with gland TFE ¼″ brass							
B3 - Non-adjustable compression fitting ½ NPT, brass							
B4 - Adjustable compression fitting with gland TFE ½″ brass							
A1 - Compression fitting G ¼″ AISI 316							
A3 - Compression fitting G ½″ AISI 316							
Y1 - Adjustable spring loaded, double thread ½ NPT, AISI 316							

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ORDERING CODE Example: (Continued)		-	3P	T	LC=900	L=400
					Lead wire length in mm	Insertion length in mm
Other Features						
3 - None	3					
9 - 90 degree bend						
A - ½ NPT cord grip						
B - ¾ NPT cord grip						
Z - Brazed transition						
S - Smooth transition						
Certifications						
- - None required		-				
F - FM						
A - ATEX						
X - IECEx						
S - SIL 2 + ATEX						
I - INMETRO						
D - ATEX + IECEX						
2 - SIL 2						
Calibration Report						
- - Without						
3P - 3 points single			3P			
5P - 5 points single						
3D - 3 points dual						

mm = inches x 25.4

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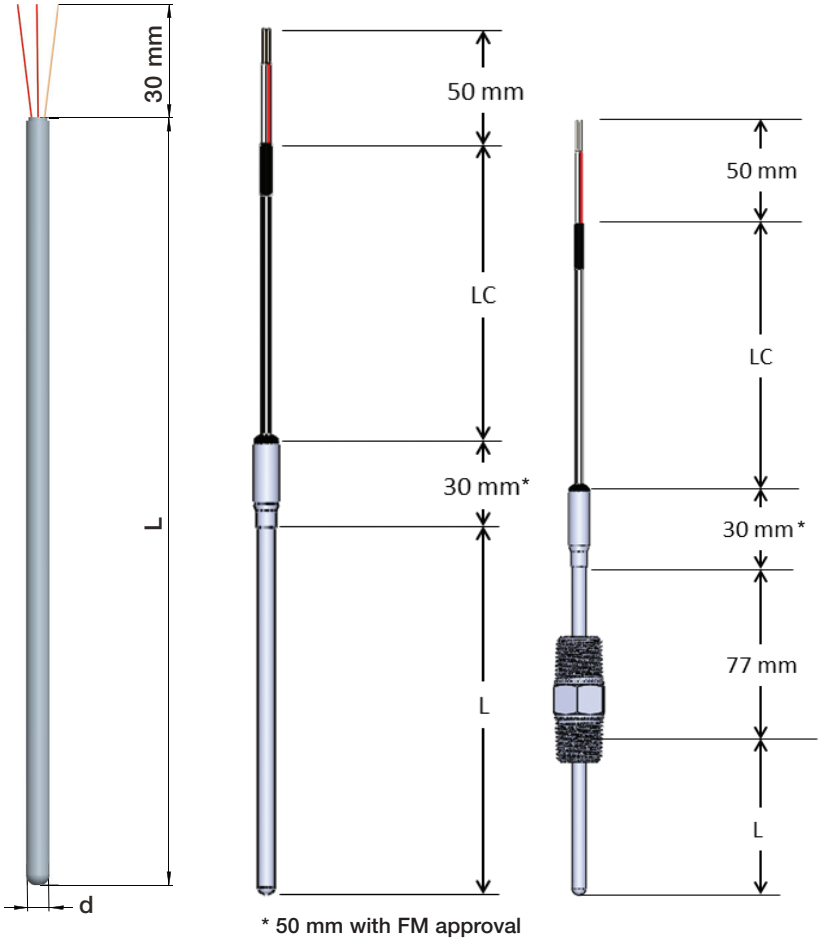
DIMENSIONS in [ ] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings



* 50 mm with FM approval

HOW TO ORDER S81 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 top of the cable transition piece or center of threads 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.
  mm = inches x 25.4
- Custom configurations are available.

d = Stem diameter

LC = Length lead wire

L = Insertion length