



**EMPOWERING PROCESS MANAGEMENT**

**SHEATHED BASE METAL THERMOCOUPLE with CONNECTION HEAD**



Industrial thermocouple assemblies are designed to be used in the most severe and demanding environments. The choice of a specific style is to a large degree determined by the temperature working range, ambient atmospheric or media conditions, as well as the size and shape required for the application. Control requirements such as accuracy and speed of response may also be taken into considerations.

**APPLICATIONS**

**PRODUCT FEATURES**

<ul style="list-style-type: none"> <li>• General Purpose but especially appropriate for severing &amp; demanding conditions</li> <li>• Salt Baths, Heat Treating and Molten Metal Applications</li> <li>• Temperature Measuring Instrument for Boilers &amp; Other Temperature &amp; Pressure Vessels</li> <li>• Temperature Measurement in various type of furnaces</li> <li>• Temperature Measurement in Chemical Reactors</li> <li>• General Industrial Applications</li> </ul>	<ul style="list-style-type: none"> <li>• Wider Temperature Range up to 1100 °C</li> <li>• Heavy Wall to provide long life of thermocouple in harsh conditions</li> <li>• Variety of Pipe Material for use in different atmospheres</li> <li>• Easy to use in hanging applications.</li> <li>• Thermal Accuracy as per ANSI MC 96.1 &amp; ASTM E230</li> <li>• Faster Response</li> </ul>
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**PRODUCT TECHNICAL SPECIFICATIONS**

Element	J (Fe / Const) 0 °C – 760 °C K (Chromel / Alumel) -200 °C – 1260 °C T (Copper / Const) -250 °C – 350 °C E (Chromel / Const) -200 °C – 900 °C N (Nicrosil / Nisil) -270 °C – 1300 °C
No. of Element	Simplex / Duplex
Junction	Grounded / Ungrounded
Insulation	Ceramic
Sheath OD	6 mm to 25 mm or higher on request
Sheath Length	1000 mm or more on request
Sheath Material	SS 304 / 316 / 310 / 446 / INCONEL 600 / Hast Alloy / High Alumina oxide (Ceramic Tubes)
Mounting	Fixed Threaded, Adj. Ferrule fittings, Flanged, Nipple Union Nipple etc.
Termination	Flame Proof or Weather Proof Head with Single, Double entry from Cast Aluminium / Cast Iron / SS / Plastic Ceramic Terminal Block with Nickel Plated Brass Terminal & Optional spring loaded Terminal Ceramic Terminal Block with SS Base Plate SS Base Plate with flying leads for Temperature Transmitter
Enclosure	Weatherproof & Explosion Proof Head with Double Entry & Single Entry Cable Entry of Alu. Die Cast, Optional Stainless Steel
Optional Accessories	Thermo well for external sensor protection, Head mounted transmitter etc. & Extension Wire

Thermocouple can be custom configured & designed depending upon its environmental conditions & its demanding applications within the above TECHNICAL CONSTRUCTIONAL SPECIFICATIONS.



**ELTEC CABLES & INSTRUMENTS**

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**THERMOCOUPLE with CONNECTION HEAD ORDERING CODE**

# 1	TC
J	Iron - Constantan 0 °C – 760 °C
K	Chromel - Alumel -200 °C – 1260 °C
T	Copper – Constantan -200 °C – 350 °C
E	Nicrosil - Nisil -200 °C – 1300 °C
N	Chromel - Constantan -200 °C – 900 °C
# 2	ELEMENT (No. of wire)
Si	Simplex
Du	Duplex
#3	Type of Insulation
--	As per manufacturing standards, High Temperature Ceramic Insulation above 8 mm
MI	Mineral Insulation available up to 8mm
# 4	Sheath Material
304	SS 304 Up to 900 °C, Good resistance to corrosion & oxidation
310	SS 310 Up to 1100 °C, Good scaling resistance & use in reducing atmosphere
316	SS 316 Up to 925 °C, Superior corrosion resistance & withstands acidic compounds
446	HRS 446 Up to 1100 °C, Good High Temp. Oxidation resistance
IN 600	INCONEL 600 Up to 1150 °C, High corrosion resistance at elevated temp.
X	Others pl. specify, Refer Table on Page 1
# 4	Sheath Diameter
X	OD – 1.5 mm to 25 (in mm), other pl. specify
# 5	Sheath Length – Insertion length below Process Connection
Y	55 to 20000 mm, please specify
# 6	Process Connection
--	None
B1	¼" BSP
B2	½" BSP
N1	¼" NPT
N2	½" NPT
Z	Flanged or any others, please specify in details
# 7	Type of Process Connection
F	Fixed
A	Adjustable
N	Nipple
NU	Nipple Union
# 8	Enclosure
E1	Weather Proof Die Cast Alu. Head IP 65 / 67
E2	Flame Proof Die Cast Alu. Head
E3	Explosion Proof
# 9	Optional Accessories
---	None
Tx	Head Mount Temperature Transmitter
XM	X is wire length in meters
TW	Thermo well (Separate details)

TC	K	Si	--	310	25	600	B1	A	E1	Tx - 3M
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**TC K Si 310 25 x 600 B1 A E1 T – 3M**

Thermocouple K Type Duplex, Sheath : SS 310, OD: 8 mm, Legth: 2000 mm, ½ " BSP Adjustable Connection, Weatherproof Enclosure with Head Mount Temperature Transmitter & 3 Meter wire length

- For Simplex Thermocouple, standard enclosure offered is single cable entry Alu. Die Cast Head
- For Duplex Thermocouple, standard enclosure offered is double cable entry Alu. Die Cast Head
- Other enclosure with different colors, size & types are available on request



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