

# Sheathed Thermocouple Sensor (120 Series)

## Applications

120 series comprise a thin-walled and flexible mineral insulated sheath cable made of stainless steel or inconel. The cable contains thermal wires embed in pressed fireproof manesium oxide.

Good heat transfer between protective tube and temperature sensor allows fast response time and high measuring accuracies. The flexible probe tube allows temperature measurement at locations that are not easily accessible.

The minimum bend radius is 5 x outer diameter.

120 series are used in difficult measurement application with strong vibrations as well as at all measuring positions where flexibility and ease of replacement are needed.

Areas of application are to be found in chemical plants, power stations, motors, as well as in machine construction and building installation and in general industrial applications.



## Standard Specification Overview

### Element type

· B / R / S / K / E / J / T / N type

### Sheath Out Diameter (mm)

· 1.6 / 3.2 / 4.8 / 6.4 / 8.0 / etc

### Number of Conductor wire

· 2-wires / 4-wires

### Number of Element

· Single / Double

### Sheath Material

· 310SS / 316SS / 446SS / 321SS / Inconel 600 / etc...

### Accuracy

· Class 1 (Special), Class 2 (Standard)

\* Class 1, 2 [DIN/IEC 584-2, BS/EN 60584-2, JIS C1602]

\* Special, Standard (ASTM E 230, E988, ISA MC 96.1)

### Operating Temperature Range

· -200 ~ 1700°C

### Hot Junctions Shape

· Grounded / Ungrounded / Exposed

## Ordering Information for Sheathed Thermocouple Sensor (120 Series)

Model	Description		
120	Sheathed Thermocouple Sensor		
<b>Code (1)</b>	<b>Connection Head type</b>		<b>Explosion Proof</b>
1	Explosion Proof Aluminum Head	(Dual Conduits)	Ex d IIC T6
2	Explosion Proof Aluminum Head	(Single Conduits)	Ex d IIC T6
3	General Aluminum Head	(Single Conduits)	Weatherproof (IP65)
4	General Stainless Steel Head	(Single Conduits)	Weatherproof (IP65)
5	None Head (Sensor only with 150mm long TEFLON insulated lead wires)		N/A
<b>Code (2)</b>	<b>Element Type</b>	<b>Thermocouple Wire Alloys</b>	<b>Temperature Range</b>
B	Thermocouple "B"	Pt Rh30 / Pt Rh6	200 ~ 1700°C
R	Thermocouple "R"	Pt Rh13 / Pt	0 ~ 1600°C
S	Thermocouple "S"	Pt Rh10 / Pt	0 ~ 1600°C
K	Thermocouple "K"	Chromel / Alumel	-200 ~ 1250°C
E	Thermocouple "E"	Chromel / Constantan	-200 ~ 800°C
J	Thermocouple "J"	Iron / Constantan	0 ~ 750°C
T	Thermocouple "T"	Copper / Constantan	-200 ~ 350°C
N	Thermocouple "N"	Nicrosil / Nisil	-200 ~ 1250 °C
X	Others		
<b>Code (3)</b>	<b>Terminal</b>		
S	Single Junction		
D	Double Junction		
<b>Code (4)</b>	<b>No. of Conductor wire</b>		
2	2-wire (Single)		
4	4-wire (Double)		
<b>Code (5)</b>	<b>Sensor type</b>		
G	General purpose type		
S	Spring Loaded type		
<b>Code (6)</b>	<b>Tip Shape</b>		
G	Grounded		
U	Ungrounded		
S	Exposed		
<b>Code (7)</b>	<b>Extension type</b>	<b>Extension Length (mm)</b>	
00	None	None	
10	Fixed Thread	100	
11	Fixed Thread Lag length	150	
13	Fixed Thread Lag length	Others	
19	Fixed Thread Lag length	100	
23	Nipple Length	Others	
29	Nipple Length	150	
33	Union & Nipple Length	Others	
39	Union & Nipple Length	100	

43	Nipple & Flange Lag length	150
44	Nipple & Flange Lag length	Others
49	Nipple & Flange Lag length	None
50	Compression Fitting	None
60	Movable Thread	None
61	Movable Flange	100
99	Others	

**Code (8) | Sheath Material**

A	316/316L SS
C	INCONEL 600
D	310 SS
E	446 SS
F	347 SS
G	321 SS
X	Others

**Code (9) | Sheath Outer Diameter**

31	1.6mm
32	3.2mm
34	4.8mm
36	6.4mm
38	8.0mm
99	Others

**Code (10) | Conduit Connection**

A	1/2"PF
B	1/2"PT
C	1/2"NPT
D	3/4"PF
E	3/4"PT
F	3/4"NPT
M	M20 X 1.5 P
X	Others

**Code (11) | Process Connection Size**

	Material
A	None
B	304 SS
C	304 SS
D	304 SS
E	304 SS
F	304 SS
G	316 SS
H	316 SS
I	316 SS
J	316 SS

**Code (12) | Process Connection Type**

0	None
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2	PT
3	PF
4	NPT
8	NPS
9	Compression fitting connector
F01	ANSI 150# RF
F02	ANSI 150# FF
F03	ANSI 300# RF
F04	ANSI 300# FF
F05	ANSI 600# RF
F15	JIS 10K RF
F16	JIS 10K FF
F17	JIS 20K RF
F18	JIS 20K FF
F99	Others

**Code [13] | Sensor Immersion Length (L)**

L0100	100mm
L0150	150mm
L0200	200mm
L0250	250mm
L0300	300mm
L0350	350mm
L0400	400mm
L0450	450mm
L0500	500mm
L0550	550mm
L0600	600mm
L0700	700mm
L0800	800mm
L0900	900mm
L1000	1000mm
XXXXX	Others

**Code [14] | Tolerance Grade**

C1	Class 1 (Class 0.4) DIN / IEC / EN / JIS I Special ( $\pm 0.4\%$ ) ASTM / ISA
C2	Class 2 (Class 0.75) DIN / IEC / EN / JIS I Standard ( $\pm 0.75\%$ ) ASTM / ISA

**Code [15] | Calibrate certifications**

N	Not apply
T1	Test Report by Manufacturer
T2	Test Report by KOLAS (ILAC-MRA)

**Code [16] | Accessory Options**

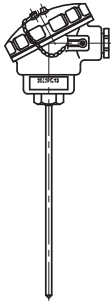
0	Not apply
1	Thermowell
X	Others

Sample Ordering Code : Thermocouple 1201KS2GPU11A36AB4L0150C1N1

\* The standard specification and price are subject to change without prior notice

## Sheathed Thermocouple Sensor (120 Series) WEATHER PROOF

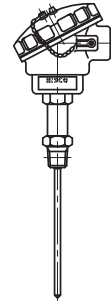
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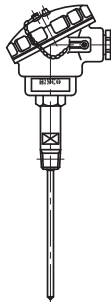
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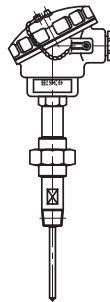
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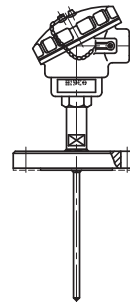
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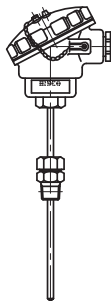
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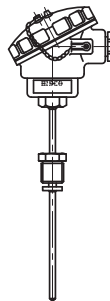
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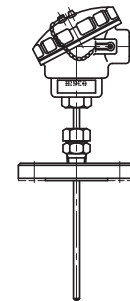
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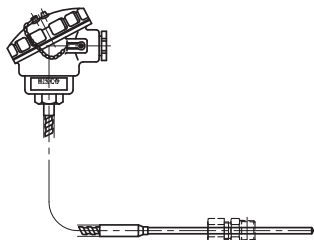
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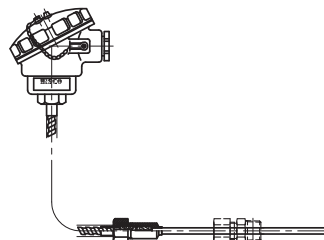
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1203-73

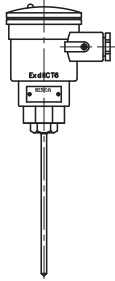


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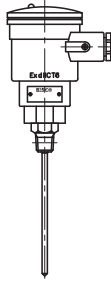


## Sheathed Thermocouple Sensor (120 Series) EXPLOSION PROOF

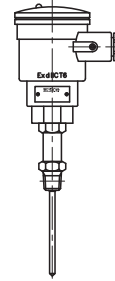
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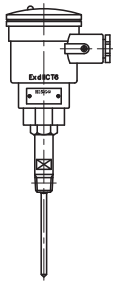
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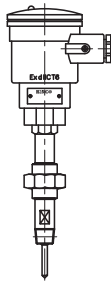
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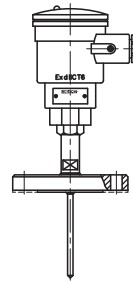
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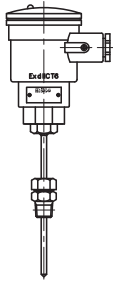
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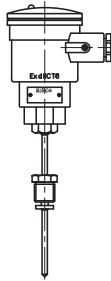
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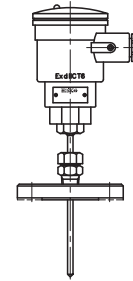
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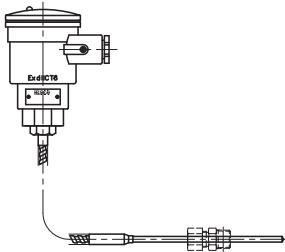
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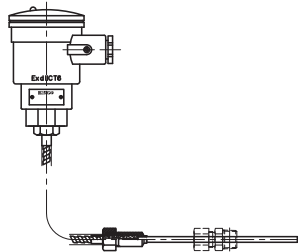
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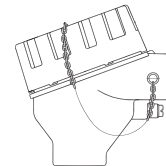
1202-73



1202-73



1201 Dual Conduit



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