SHEATH TYPE THERMOCOUPLE

NEW-FLOW sheath type thermocouple is high precision and reliability measuring temperature sensor.





Explosion proof IP65

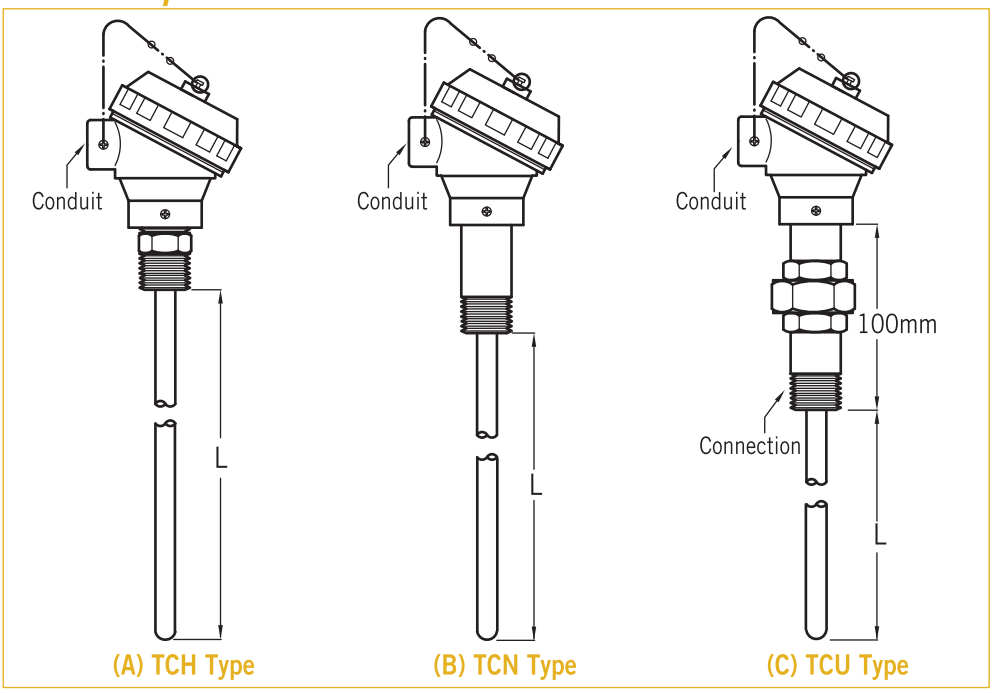
Technical Data

Head housing: IP65. Explosion proof available
K,E,J,T type available.
Dial size: ∅1.0~∅8.0 mm on request
Sheath material: SS316, SS310, inconel 600 on request
Working temperature limited: -200~1050°C
according to applicable standards table.
Measuring junction type: Grounded type, Ungrounded type, Ungrounded separated type

Element Material

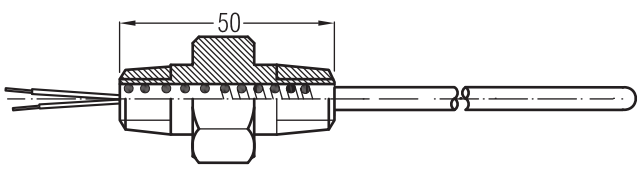
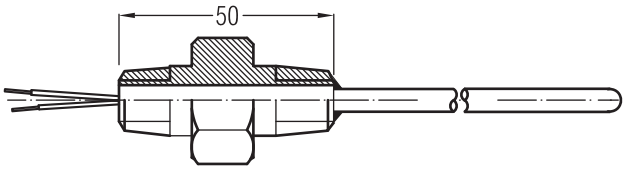
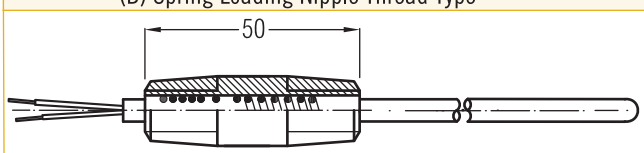
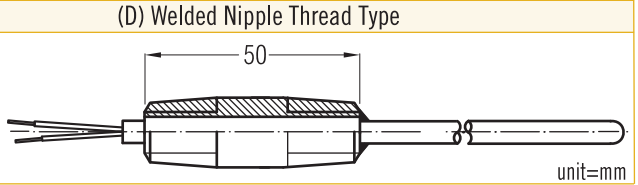
Symbol	Positive Plarity (+)	Negative Polarity (–)
N	Alloy:nickel, chromium and silicone	Alloy:nickel and silicone
K	Alloy:nickel and chromium	Alloy:nickel
E	Alloy:nickel and chromium	Alloy:copper and nickel
J	Iron	Alloy:copper and nickel
T	Copper	Alloy:copper and nickel

Thermocouple Model



(A) TCH Type (B) TCN Type (C) TCU Type

Sensor Type

(A) Spring Loading Hexagonal Head Thread Type	(C) Welded Hexagonal Head Thread Type
	
(B) Spring Loading Nipple Thread Type	(D) Welded Nipple Thread Type
	

unit=mm

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Measuring Junction Type



(A) Grounded Type



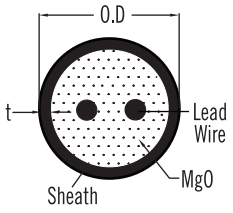
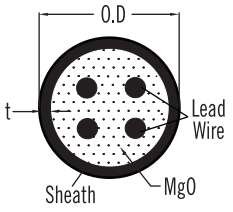
(B) Ungrounded Type



(C) Ungrounded Separated Type

(A) It is not suitable for using in location such as electromagnetic induction interfered by radio frequency.
(B) It has response slower than grounded. But ensured a long life, it is available for measuring in various location.
(C) It could be used in two control loop separately.

Thermocouple Sensor Size

	Sheath (mm)		Wire dia. (mm)	Maximum Temperature Range (in air) Limited (unit:°C)					Maximum Length Available (unit:M)
	O.D	t		N	K	E	J	T	
SINGLE ELEMENT 	Ø1.0	0.17	Ø0.17	900(3)	650(1)	650(1)	450(1)	300(1)	400
	Ø1.6	0.27	Ø0.27	1200(3)	650(1)	650(1)	450(1)	300(1)	180
	Ø3.2	0.47	Ø0.51	1260(3)	750(1)	750(1)	650(1)	350(1)	130
	Ø4.8	0.72	Ø0.76	1260(3)	800(1)	800(1)	750(1)	350(1)	140
	Ø6.4	0.93	Ø1.0	1260(3)	1000(3) 900(2) 800(1)	800(1)	750(1)	350(1)	80
	Ø8.0	1.16	Ø1.3	—	1050(3) 1000(2) 900(1)	800(1)	750(1)	350(1)	50
DOUBLE ELEMENT 	Ø3.2	0.47	Ø0.51	—	750(1)	750(1)	650(1)	350(1)	130
	Ø4.8	0.72	Ø0.76	—	800(1)	800(1)	750(1)	350(1)	140
	Ø6.4	0.93	Ø1.0	—	1000(3) 900(2) 800(1)	800(1)	750(1)	350(1)	80
	Ø8.0	1.16	Ø1.3	—	1050(3) 1000(2) 900(1)	800(1)	750(1)	350(1)	50

*Material:
(1) SS316
(2) SS310
(3) Inconel 600

Applicable Standards Table

Standard / Symbol	IEC 584-2-1982 / JIS C1605-1995			ASTM E230-1996		
	Class	Temp. Range(°C)	Tolerance(°C)	Class	Temp. Range(°C)	Tolerance(°C)
N & K	1	-40~+375	±1.5	STD.	0~+1260	±2.2 or ±0.75 %
		+375~+1000	±0.004|t|			
	2	-40~+333	±2.5	SP.		±1.1 or ±0.4 %
		+333~+1200	±0.0075|t|			
	3	-167~+40	±2.5	STD.	-200~0	±2.2 or ±2 %
		-200~-167	±0.015|t|			
E	1	-40~+375	±1.5	STD.	0~+870	±1.7 or ±0.5 %
		+375~+800	±0.004|t|			
	2	-40~+333	±2.5	SP.		±1 or ±0.4 %
		+333~+900	±0.0075|t|			
	3	-167~+40	±2.5	STD.	-200~0	±1.7 or ±1 %
		-200~-167	±0.015|t|			
J	1	-40~+375	±1.5	STD.	0~+760	±2.2 or ±0.75 %
		+375~+750	±0.004|t|			
	2	-40~+333	±2.5	SP.		±1.1 or ±0.4 %
		+333~+750	±0.0075|t|			
T	1	-40~+125	±0.5	STD.	0~+370	±1 or ±0.75 %
		+125~+350	±0.004|t|			
	2	-40~+133	±1.0	SP.		±0.5 or ±0.4 %
		+133~+350	±0.0075|t|			
	3	-67~+40	±1.0	STD.	-200~0	±1 or ±1.5 %
		-200~-67	±0.0075|t|			

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Ordering Information

Model	TCH	TCN	TCU

Code	Head Housing Protection
	IP65 (1) HN (2) HP (3) HD (4) HI (5) HB
	Explosion proof (6) XDS (7) XDA (8) S1 (9) S2

Code	Sensor Type		
A	Spring Loading Hexagonal Head Thread Type	C	Welded Hexagonal Head Thread Type
B	Spring Loading Nipple Thread Type	D	Welded Nipple Thread Type

Code	Sensor Connection Size
	Thread type (1) ½″ NPT (2) ¾″ NPT (3) Option

Code	Conduit Connection
	(A) ½″NPT Female (B) ¾″NPT Female (O) option

Code	Sensor Dimensions "O.D" mm
	(1) 1.0 (2) 1.6 (3) 3.2 (4) 4.8 (5) 6.4 (6) 8.0 (O) option

Code	Sheath Material						
A	SS316	B	SS310	C	Inconel 600	O	Option

Code	Element Type					
	N	K	E	J	T	

Code	Element No		
S	Single	D	Double

Code	Measuring Junction
G	Grounded type
U	Ungrounded type
US	Ungrounded separated type

Code	Sensor Class
	(1) Class 1 (2) Class 2 (3) Class 3

Code	Sensor insertion Length "L"
	Plesae directly fill in requesting length (mm).

												Complete Ordering Code

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