

SHEATH TYPE THERMOCOUPLE

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

Technical Data

Head housing: IP65. Explosion proof available
K,E,J,T type available.

Dial size: Ø1.0~Ø8.0 mm on request

Sheath material: SS316, SS310, incoel 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

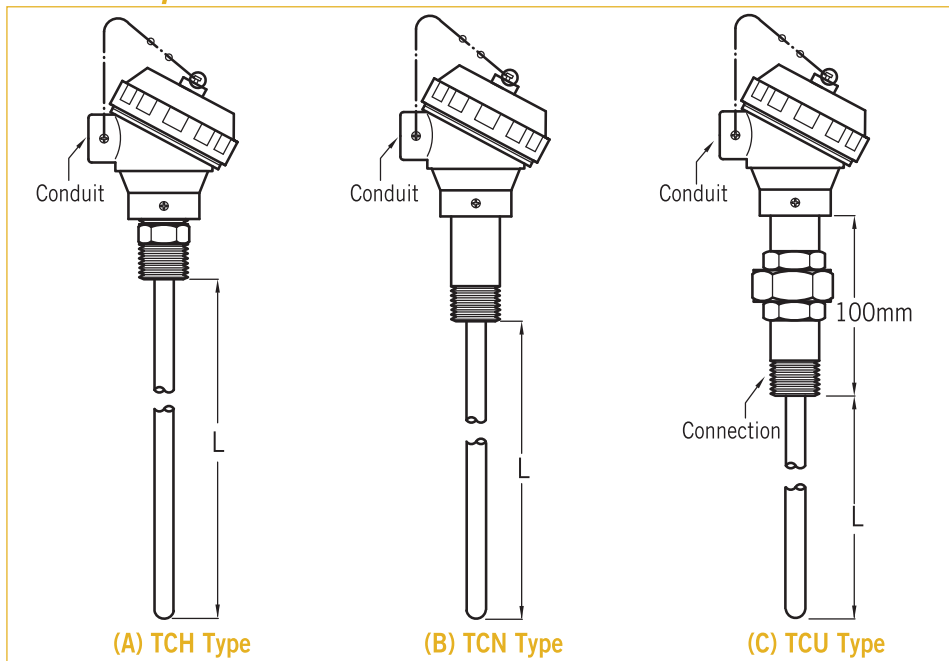
Symbol	Positive Polarity (+)	Negative Polarity (-)
N	Alloy:nickel, chromium and silicone	Alloy:nickel and silicone
K	Alloy:nickel and chromium	Alloy:nickel
E	Alloy:nickel and chromium	Alloy:copper and nickel
J	Iron	Alloy:copper and nickel
T	Copper	Alloy:copper and nickel



Explosion proof

IP65

Thermocouple Model

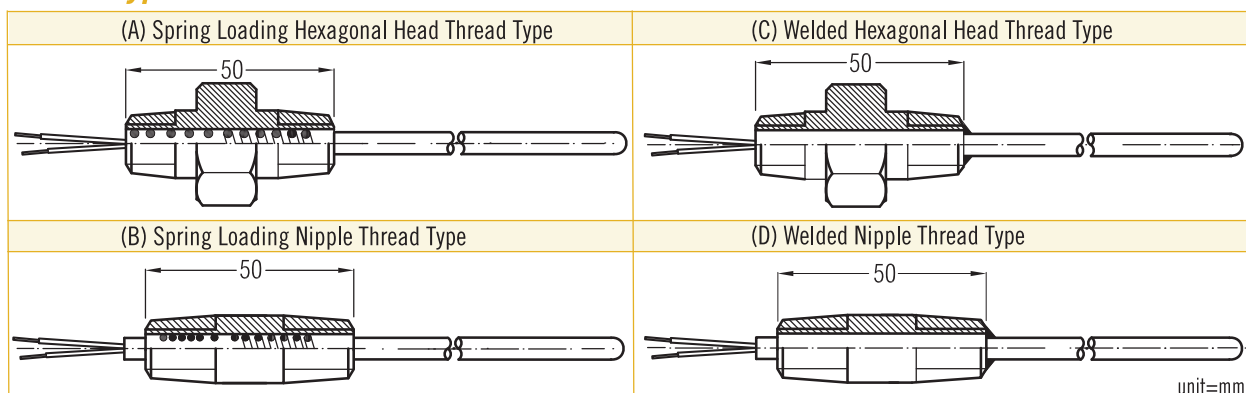


(A) TCH Type

(B) TCN Type

(C) TCU Type

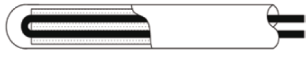
Sensor Type



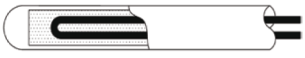
unit=mm

THERMOCOUPLE


Measuring Junction Type



(A) Grounded Type



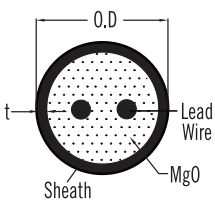
(B) Ungrounded Type



(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

SINGLE ELEMENT	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		
	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⁾	750 ⁽¹⁾	350 ⁽¹⁾	80
	Ø8.0	1.16	Ø1.3	—	1050 ⁽³⁾	1000 ⁽²⁾	900 ⁽¹⁾	800 ⁽¹⁾	750 ⁽¹⁾	350 ⁽¹⁾
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⁾	750 ⁽¹⁾	350 ⁽¹⁾	80
	Ø8.0	1.16	Ø1.3	—	1050 ⁽³⁾	1000 ⁽²⁾	900 ⁽¹⁾	800 ⁽¹⁾	750 ⁽¹⁾	350 ⁽¹⁾

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

Applicable Standards Table

Standard	IEC 584-2-1982 / JIS C1605-1995			ASTM E230-1996			
	Symbol	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			±1.1 or ±0.4 %
	2		-40~+333	±2.5	SP.	-200~0	±1.7 or ±1 %
			+333~+1200	±0.0075 t			±1.7 or ±1 %
	3		-167~+40	±2.5	STD.	0~+870	±1.7 or ±0.5 %
			-200~-167	±0.015 t			±1 or ±0.4 %
E	1		-40~+375	±1.5	STD.	0~+760	±1.7 or ±0.5 %
			+375~+800	±0.004 t			±1 or ±0.4 %
	2		-40~+333	±2.5	SP.	-200~0	±1.7 or ±1 %
			+333~+900	±0.0075 t			±1 or ±0.4 %
	3		-167~+40	±2.5	STD.	0~+370	±1 or ±0.75 %
			-200~-167	±0.015 t			±0.5 or ±0.4 %
J	1		-40~+375	±1.5	STD.	0~+760	±2.2 or ±0.75 %
			+375~+750	±0.004 t			±1.1 or ±0.4 %
	2		-40~+333	±2.5	SP.	-200~0	±1.7 or ±1 %
			+333~+750	±0.0075 t			±1 or ±0.4 %
	3		-40~+125	±0.5	STD.	0~+370	±1 or ±0.75 %
			+125~+350	±0.004 t			±0.5 or ±0.4 %
2		-40~+133	±1.0	SP.	-200~0	±1 or ±1.5 %	
		+133~+350	±0.0075 t			±1 or ±1.5 %	
3		-67~+40	±1.0	STD.	-200~0	±1 or ±1.5 %	
		-200~-67	±0.0075 t			±1 or ±1.5 %	

Ordering Information

Model	TCH	TCN	TCU									
Code	Head Housing Protection											
	IP65 (1) HN (2) HP (3) HD (4) HI (5) HB											
	Explosion proof (6) KS (7) S1 (8) 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 (0) 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 (0) 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"											
	Please directly fill in requesting length (mm).											
												Complete Ordering Code