

SHEATH TYPE THERMOCOUPLE

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

Technical Data

Head Housing: Weather proof; Explosion proof available
N, K, E, J, T type available

Sensor Dimensions: $\phi 1.0 \sim \phi 21.7$ mm on request

Sheath Material: SS316, SS310, Inconel 600 on request

Working Temperature Limited: $-200 \sim 1050^{\circ}\text{C}$, 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



Approvals:



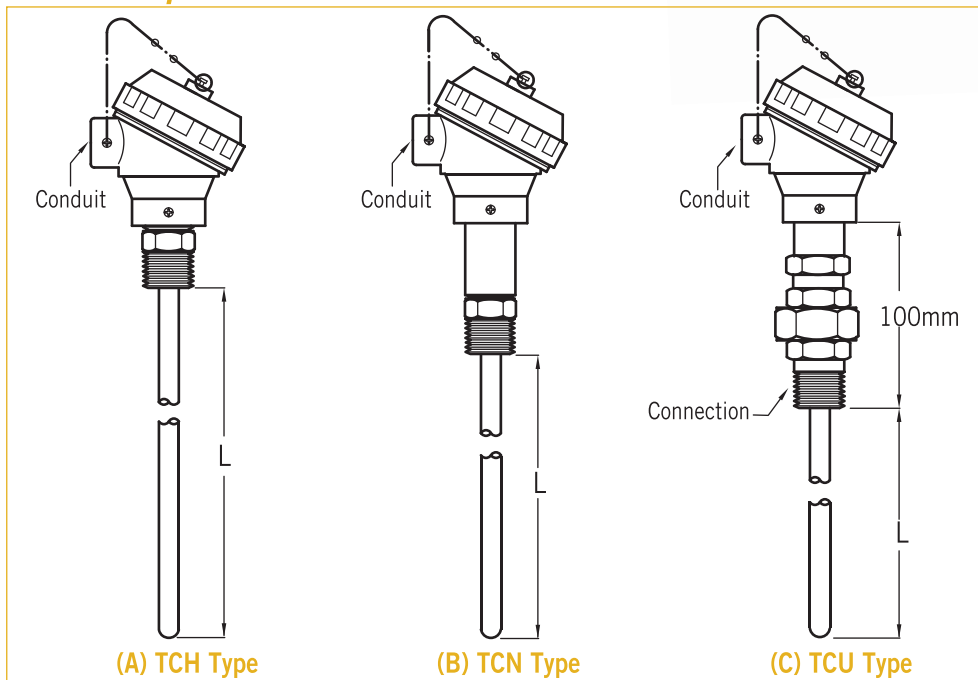
TD0400TJ

工電(2014)第00267號
 工電(2014)第00268號
 工電(2015)第00108號
 工電(2015)第00103號

Explosion Proof

Weather Proof

Thermocouple Model



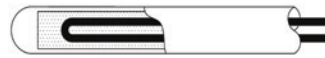
Sensor Type

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

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⁾	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	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			±1.1 or ±0.4 %	
	2	-40~+333	±2.5	SP.		-200~0	±2.2 or ±2 %
		+333~+1200	±0.0075 t				±1.7 or ±0.5 %
	3	-167~+40	±2.5	STD.		0~+870	±1 or ±0.4 %
		-200~-167	±0.015 t				±1.7 or ±1 %
E	1	-40~+375	±1.5	STD.	0~+760	±2.2 or ±0.75 %	
		+375~+800	±0.004 t			±1.1 or ±0.4 %	
	2	-40~+333	±2.5	SP.		-200~0	±1.7 or ±1 %
		+333~+900	±0.0075 t				±2.2 or ±0.75 %
	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.	-200~0	±1 or ±1.5 %	
		+375~+750	±0.004 t			±1.1 or ±0.4 %	
	2	-40~+333	±2.5	SP.		0~+760	±2.2 or ±0.75 %
		+333~+750	±0.0075 t				±1.1 or ±0.4 %
T	1	-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 %

