

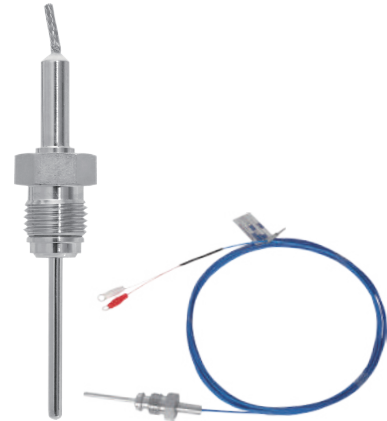
Ultra high purity temperature element

Model : UTE100 series

Spec. sheet no. UD01-01

Service intended

Ultra high purity temperature sensor have been developed based on the requirement of temperature measurement in semi-conductor and green energy system such as solar thermal systems to be used in collectors and accumulators. It has excellent features to emphasis including sealing, temperature and long-term stability, high purity which are basic prerequisites to ensure reliable system operation even after many years. A design specifically adapted to the market requirements allows a cost-effective production.



Standard features

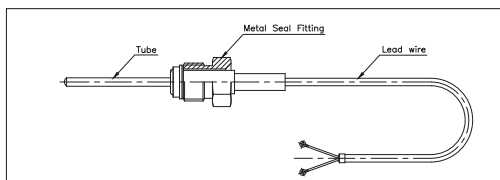
Element

Thermocouple : K, E, J, T, N, R, S, B
RTD : Pt 100 Ω at 0 °C

Tolerances on temperature reading

- Thermocouple
Class 1, Class 2 (DIN/IEC584-2, BS/EN60584-2, JIS C1602)
Special, Standard (ASTM E230, E988, ISA-MC96.1)
- R.T.D.
Class A : $\pm (0.15 + 0.002 | t |)$
Class B : $\pm (0.3 + 0.005 | t |)$

Basic outline drawing



Sheath outer diameter

- Thermocouple
1.0, 1.6, 2.3, 3.2, 4.8, 6.4, 8.0, 9.5 and 12.7 mm
* Double element is not available for 1.0 and 1.6 mm sheath outer diameter
- R.T.D.
3.2, 4.8, 6.4 and 8.0 mm

Sensing element structure

Protection tube or sheathed

Protecting tube outer diameter

6.4, 8.0, 10.0, 12.0 and 15.0 mm

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Main order

Ordering information

1. Base model

UT110 Probe type single element
UT120 Probe type double element

2. Head type

A General (Weatherproof)
P None head

3. Element (Tolerance)

K	K (0.75)	1	K (0.4)
J	J (0.75)	2	J (0.4)
T	T (0.75)	3	T (0.4)
N	N (0.75)	4	E (0.4)
E	E (0.5)	5	N (0.4)
Q	Pt 100Ω (B), 3 Wire	9	Pt 100Ω (A), 3 Wire
U	JPt 100Ω (B), 3 Wire	0	JPt 100Ω (A), 3 Wire
A	Pt 100Ω (B), 4 Wire	C	Pt 100Ω (A), 4 Wire
B	JPt 100Ω (B), 4 Wire	D	JPt 100Ω (A), 4 Wire
Z	Other		

4. Sheath or protecting tube material

0	304SS	5	347SS
1	316SS	6	321SS
2	Inconel 600	7	316L SS
3	310SS	9	Other
4	446SS		

5. Sheath or protecting tube outer diameter (mm)

A9 1.0 (Sheath / Single TC only)
B9 1.6 (Sheath / Single TC only)
C9 2.3 (Sheath / TC only)
D9 3.2 (Sheath)
E9 4.8 (Sheath)
F9 6.4 (Sheath)
G9 8.0 (Sheath)
H9 9.5 (Sheath / TC only)
L9 12.7 (Sheath / TC only)

6-1. Conduit connection (General (Weatherproof))

1	½" PF	5	¾" PT
2	½" PT	6	¾" NPT
3	½" NPT	8	¾" NPT
4	¾" PF	9	Other

6-2. Electrical connection (None head)

A	½" PF	E	¾" PT
B	½" PT	F	¾" NPT
C	½" NPT	G	M20 x 1.5P
D	¾" PF	7	None
		Z	Other

7. Lead wire length (m)

A 300 mm (Standard), Lead wire type only
B 1 (Lead wire type only)
C 2 (Lead wire type only)
D 3 (Lead wire type only)
E 4 (Lead wire type only)
F 5 (Lead wire type only)
G Other

8. Mounting type

X Refer to mounting table (12th character)

9. Connection type

XX Refer to mounting table (13th and 14th character)

10. Insert length

X Refer to insert length table (15th character)

11. Option

00 None
01 Accessories

Sample ordering code

1	2	3	4	5	6	7	8	9	10	11
UT110	P	K	1	F9	1	A	X	XX	X	00

Mounting, connection type and insert length table - 12th thru 15th characters

12 th character		13 th character		14 th character		15 th character	
Code	Mounting	Code	Connection size and connector material	Code	Connection type	Code	Insert length (mm)
A	None	A	None	A	None	A	100
	Fixed thread lag length	B	1/8" and 304SS	B	PT	B	200
B	80 mm	C	1/4" and 304SS	C	NPT	C	300
C	100 mm	D	3/8" and 304SS	D	PF	D	400
D	150 mm	E	1/2" and 304SS	E	NPS	E	500
E	200 mm	F	3/4" and 304SS	F	UNF	F	600
F	Other	G	1" and 304SS	G	BSPT	G	700
	Fixed flange lag length	H	1 1/4" and 304SS	H	BSPF	H	800
G	80 mm	J	1 1/2" and 304SS	J	MM	J	900
H	100 mm	K	2" and 304SS	K	B16.5 Class 150 RF	K	1,000
J	150 mm	L	3" and 304SS	L	B16.5 Class 150 FF	L	1,500
K	200 mm	M	7/8" and 304SS	M	B16.5 Class 300 RF	M	2,000
L	Other	N	1 1/8" and 316SS	N	B16.5 Class 300 FF	N	2,500
M	Movable thread	P	1/4" and 316SS	O	Sanitary	P	3,000
N	Movable flange	Q	3/8" and 316SS	P	B16.5 Class 600 RF	Q	3,500
P	Compression fitting	R	1/2" and 316SS	Q	B16.5 Class 600 FF	R	4,000
	Union and nipple length	S	3/4" and 316SS	R	JIS 5K RF	S	4,500
Q	100 mm length	T	1" and 316SS	S	JIS 5K FF	T	5,000
R	150 mm length	U	1 1/4" and 316SS	T	JIS 10K RF	U	6,000
S	Other	V	1 1/2" and 316SS	U	JIS 10K FF	V	7,000
	Nipple length	W	2" and 316SS	V	JIS 20K RF	W	8,000
T	50 mm	X	3" and 316SS	W	JIS 20K FF	X	9,000
U	100 mm	Y	7/8" and 316SS	X	B16.5 Class 1,500 RTJ	Y	10,000
V	150 mm	Z	Other	Y	B16.5 Class 2,500 RTJ	Z	Other
W	Other			Z	Other		
X	Fixed thread						
Z	Other						

- Note for 15th character, please choose a code of next higher length if applicable length is not. Actual length shall be specified.
- Note for *Y code (Oil sealing type), only available with spring-loaded head type.

Large empty rectangular area for notes or memos.