

Tubeskin thermocouple and resistance temperature detector

Model : R600 series

Spec. sheet no. RD06-01

Service intended

This tubeskin temperature sensor is designed to measure the surface temperature of a pipe or a tube used in a boiler, a furnace, a heat exchanger, and a reactor. It is constructed to resist against high temperature and a corrosive agents by tightly attaching the sensor to the measuring area by welding a knife edge pad or a plate weld pad. Furthermore, to protect the pad and the sheath from the heat expansion, it employs a coil shaped design.



Standard features

Element

Thermocouple : K, E, J, T, N
R.T.D. : Pt 100Ω 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 : $\pm (0.3 + 0.005 | t |)$

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

Head type

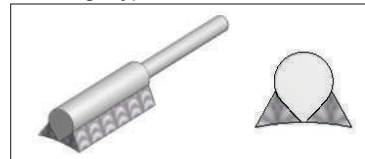
Compact Type	General Type Weatherproof
Explosion Proof Type	Explosion Proof Type Double Conduit
Ex d IIC T6 IP67	Ex d IIC T6 IP67

Head material

ALDC (Standard)
304SS (Not available compact type)
316SS (Not available compact type)

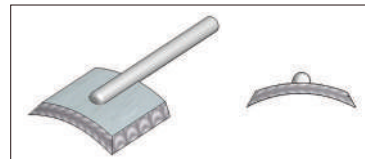
Tubeskin type

knife edge type



* Only available for 6.4, 8.0, 9.5 and 12.7 mm diameters of thermocouple

Pad weld type



1. Base model

- R601** Head assembly, single element
- R602** Head assembly, double element
- R611** Extension lead wire, single element
- R612** Extension lead wire, double element

2. Head type

- C** General (Weatherproof)
- H** Explosion proof
- Q** None, extension lead wire
- P** Explosion proof (Double conduit)
- Z** Other

3. Element

- | | |
|----------------------|----------------------|
| 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) | 9 Pt 100Ω (A) |
| Z Other | |

4. Sheath material

- 1** 316SS
- 2** Inconel
- 3** 310SS
- 4** 446SS
- 5** 347SS
- 6** 321SS
- 7** 316L SS
- 9** Other

5. Sheath outer diameter (mm)

- | | |
|--------------|---------------|
| A 1.0 | F 6.4 |
| B 1.6 | G 8.0 |
| C 2.3 | H 9.5 |
| D 3.2 | L 12.7 |
| E 4.8 | |

6. Tubeskin type

- 7** Plate
- 8** Knife edge (Only thermocouple)
- 9** Other

7. Conduit connection

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

8. Mounting type

- X** Refer to mounting table (11th character)

9. Connection type

- XX** Refer to connection table (12th and 13th character)

10. Insert length

- X** Refer to insert length table (14th character)

11. Option

- 0** None
- 1** Accessories
- 4** Epoxy coated ALDC head
- 5** Head material : 304SS (Only for weatherproof head)
- 6** Head material : 316SS
(Not available for explosion proof-double conduit type)
- 7** Accessories and epoxy coated ALDC head
- 8** Accessories and head material : 304SS
- 9** Accessories and head material : 316SS

1	2	3	4	5	6	7	8	9	10	11
R601	H	K	1	G	7	2	X	XX	X	0

Sample ordering code

Mounting, connection type and insert length table - 11th thru 14th characters

11 th character		12 th character		13 th character		14 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 mm
	Fixed thread lag length						
B	80 mm	B	1/8" and 304SS	B	PT	B	200 mm
C	100 mm	C	1/4" and 304SS	C	NPT	C	300 mm
D	150 mm	D	3/8" and 304SS	D	PF	D	400 mm
E	200 mm	E	1/2" and 304SS	E	NPS	E	500 mm
F	Other	F	3/4" and 304SS	F	UNF	F	600 mm
	Fixed flange lag length						
G	80 mm	G	1" and 304SS	G	BSPT	G	700 mm
H	100 mm	H	1 1/4" and 304SS	H	BSPF	H	800 mm
J	150 mm	J	1 1/2" and 304SS	J	MM	J	900 mm
	Fixed flange lag length						
K	200 mm	K	2" and 304SS	K	ANSI 150 Lb RF	K	1,000 mm
L	Other	L	3" and 304SS	L	ANSI 150 Lb FF	L	1,500 mm
M	Movable thread	M	7/8" and 304SS	M	ANSI 300 Lb RF	M	2,000 mm
N	Movable flange	N	1/8" and 316SS	N	ANSI 300 Lb FF	N	2,500 mm
P	Compression fitting	P	1/4" and 316SS	O	Sanitary	P	3,000 mm
	Union and nipple length						
Q	100 mm length	Q	3/8" and 316SS	Q	ANSI 600 Lb FF	Q	3,500 mm
R	150 mm length	R	1/2" and 316SS	R	JIS 5K RF	R	4,000 mm
S	Other	S	3/4" and 316SS	S	JIS 5K FF	S	4,500 mm
	Nipple length						
T	50 mm	T	1" and 316SS	T	JIS 10K RF	T	5,000 mm
U	100 mm	U	1 1/4" and 316SS	U	JIS 10K FF	U	6,000 mm
V	150 mm	V	1 1/2" and 316SS	V	JIS 20K RF	V	7,000 mm
W	Other	W	2" and 316SS	W	JIS 20K FF	W	8,000 mm
X	Fixed thread	X	3" and 316SS	X	ANSI 1,500 Lb RTJ	X	9,000 mm
		Y	7/8" and 316SS	Y	ANSI 2,500 Lb RTJ	Y	10,000 mm
Z	Other	Z	Other	Z	Other	Z	Other

Note for 14th character, please choose a code of next higher length if applicable length is not. Actual length shall be specified.

R600 : Type of mounting

