

Explosion proof type Sheathed thermocouple and resistance temperature detector with spring load

Model : R921, R922 (RS series)

Spec. sheet no. **RD09-02**

Service intended

Generally, sheathed type temperature sensors are used with thermowell. To maximize the heat-transfer between sheath junction and thermowell, the sheath must be inserted as close as possible to the bottom of the well. However, it is not always possible to determine the actual distance between the end tip of the sheath and the bottom of the thermowell. Furthermore, heat expansion can damage the sheath which is located inside the thermowell. To prevent this uncertainty and the damage to the sheath, RS series employ the spring load type sheath. This spring load absorbs the impact to the sheath, and protects the sheath from the vibration. Moreover, it is designed to be used in an explosive area.



Examination certificate

Ex d IIC T6 IP65

Standard features

Element

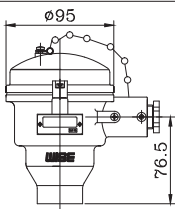
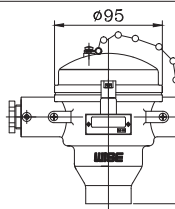
Thermocouple : K, E, J, T, N
R.T.D. : Pt 100Ω at 0°C

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 : $\pm (0.3 + 0.005 |t|)$

Head type

Explosion Proof Type	Explosion Proof Type Double Conduit
	
Ex d IIC T6 IP65	Ex d IIC T6 IP65

Head material

ALDC (Standard)
316SS

Sheath outer diameters

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

1. Base model

- R921** Single element
R922 Double (Duplex) element

2. Head and tip shape type

- A** Explosion proof and ungrounded
B Explosion proof and grounded
C Explosion proof (Double conduit) and ungrounded
D Explosion proof (Double conduit) and grounded
E Explosion proof (316SS) and ungrounded
F Explosion proof (316SS) and grounded

3. Element

- | | | | |
|----------|-------------|----------|--------------|
| K | K (0.75) | U | JPt 100Ω (B) |
| J | J (0.75) | Z | Other |
| T | T (0.75) | 1 | K (0.4) |
| N | N (0.75) | 2 | J (0.4) |
| E | E (0.5) | 3 | T (0.4) |
| B | B (0.5) | 4 | E (0.4) |
| R | R (0.25) | 5 | N (0.4) |
| S | S (0.25) | 9 | Pt 100Ω (A) |
| Q | Pt 100Ω (B) | 0 | JPt 100Ω (A) |

4. Sheath material (RTD. is only 316SS and 316L SS)

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

5. Sheath outer diameter (mm)

- A9** 1.0 (Thermocouple only)
B9 1.6 (Thermocouple only)
C9 2.3 (Thermocouple only)
D9 3.2
E9 4.8
F9 6.4
G9 8.0
H9 9.5 (Thermocouple only)
L9 12.7 (Thermocouple only)

6. Conduit connection

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

7. Mounting type

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

8. Connection type

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

9. Insert length

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

10. Option

- 0** None
1 Accessories

1	2	3	4	5	6	7	8	9	10
R921	A	K	1	B9	1	X	XX	X	1

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 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
				P	ANSI 600 Lb RF		
	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
*Y	150 mm length						
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.
- Note for *Y code (Oil sealing type), only available with spring-loaded head type.

