

# Explosion proof Remote mounting wire thermocouple and Resistance temperature detector Model : R94x series

Spec. sheet no. **RS09-11**

## Service intended

Thermocouples and resistance thermometers manufactured by Wise Co., Ltd. are precision-manufactured products according to customer specifications. This product is designed with a pressure-resistant explosion-proof structure and consists of an enclosure and a sensing unit to protect internal defect devices. For the correct use of this product, testing and storage must be carried out in an appropriate place, and the necessary conditions such as various documents, test reports and instruction manuals must be observed in order to maintain optimal use during the period of use.

## Certificates

KCs Ex db eb IIC T6 Gb

## Ambient temperature

-40 ~ +65 °C (Silicone)

-20 ~ +65 °C (Viton, NBR)

## Degree of protection

EN60529/IEC529/IP66



## Standard features

### Element

Thermocouple : K, E, J, T, N, R, S, B

RTD : 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
Explosion Proof Type Multi point head	

### 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

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## Main order - Sheath type

## Ordering information

### 1. Base model

- R94A** Single element  
**R94B** Double (Duplex) element  
**R94C** Single element (Multi point)  
**R94D** Double (Duplex) element (Multi point)

### 2. Head and tip shape type

- A** ALDC head and ungrounded  
**B** ALDC head and grounded  
**C** ALDC head(Double conduit) and ungrounded  
**D** ALDC head(Double conduit) and grounded  
**E** 316SS head and ungrounded  
**F** 316SS head and grounded  
**G** 316SS head(Double conduit) and ungrounded  
**H** 316SS head(Double conduit) and grounded

### 3. Element

- |                                |                                |
|--------------------------------|--------------------------------|
| <b>K</b> K (0.75)              | <b>1</b> K (0.4)               |
| <b>J</b> J (0.75)              | <b>2</b> J (0.4)               |
| <b>T</b> T (0.75)              | <b>3</b> T (0.4)               |
| <b>E</b> E (0.5)               | <b>4</b> E (0.4)               |
| <b>N</b> N (0.75)              | <b>5</b> N (0.4)               |
| <b>Q</b> Pt 100 Ω (B), 3 wire  | <b>9</b> Pt 100 Ω (A), 3 wire  |
| <b>U</b> JPt 100 Ω (B), 3 wire | <b>0</b> JPt 100 Ω (A), 3 wire |
| <b>A</b> Pt 100 Ω (B), 4 wire  | <b>C</b> Pt 100 Ω (A), 4 wire  |
| <b>B</b> JPt 100 Ω (B), 4 wire | <b>D</b> JPt 100 Ω (A), 4 wire |
| <b>Z</b> Other                 |                                |

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

- |                      |                  |
|----------------------|------------------|
| <b>1</b> 316SS       | <b>5</b> 347SS   |
| <b>2</b> Inconel 600 | <b>6</b> 321SS   |
| <b>3</b> 310SS       | <b>7</b> 316L SS |
| <b>4</b> 446SS       | <b>9</b> 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)  
**J9** 10  
**L9** 12.7 (Thermocouple only)

\*\* Note 1. Although temperature element is selected double(Duplex) type, output of integral transmitter is single.  
 (Except for Multi point head)

### Sample ordering code

1	2	3	4	5	6	7	8	9	10	11	12
R94A	A	K	1	F9	3	A	X	XX	X	0	1

### 6. Conduit connection

- 3** ½" NPT  
**6** ¾" NPT  
**7** None  
**8** M20 x 1.5P  
**9** 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 (12<sup>th</sup> character)

### 9. Connection type

- XX** Refer to mounting table (13<sup>th</sup> and 14<sup>th</sup> character)

### 10. Insert length

- X** Refer to insert length table (15<sup>th</sup> character)

### 11. Integral transmitter (See note 1.)

- 0** None  
**1** T900  
**2** T990 (RTD only)  
**3** TH300 (SIEMENS)  
**4** TTH300 (ABB)  
**5** YTA70 (YOKOGAWA)  
**6** 644H (ROSEMOUNT)  
**7** Other

### 12. Option

- 0** None  
**1** Accessories  
**A** Tube skin type (Plate)

## Sheath type

Mounting, connection type and insert length table - 12<sup>th</sup> thru 15<sup>th</sup> characters

12 <sup>th</sup> character		13 <sup>th</sup> character		14 <sup>th</sup> character		15 <sup>th</sup> 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 15<sup>th</sup> character, please choose a code of next higher length if applicable length is not.

Actual length shall be specified.

Multi point : Please choose the longest among measuring points.

Memo

