

# Metallic protection tube resistance temperature detector

## Model : R210 series

Spec. sheet no. RD02-02

### Service intended

Among temperature sensors, it is the most stable and accurate sensor.

It has a better repeatability, and shows more dependable outputs than thermocouple.

It is possible to perform an area measuring, and has a better resistance against the containment .

However, it has a slow response time due to its complexity of the resistance element and its big size.

It is constructed with an insulated lead wire and with protection tube which is designed to protect the insulated lead wire.



### Standard features

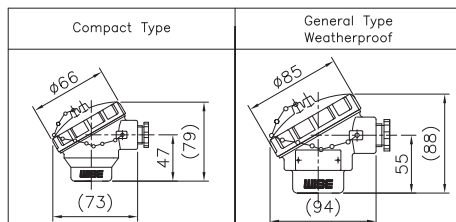
#### Element

Pt 100  $\Omega$  at 0 °C  
TCR : 3,850 ppm/k

#### Tolerances on temperature reading

Class A :  $\pm (0.15 + 0.002 | t |)$   
Class B :  $\pm (0.3 + 0.005 | t |)$

#### Head type



#### Head material

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

#### Temperature range

-200 ~ 250 °C (Mica type element)  
-200 ~ 600 °C (Film type element)  
• Class A (-90 ~ 300 °C)  
• Class B (-200 ~ 600 °C)

#### Protecting tube outer diameter

6.4, 8.0 and 10 mm

**1. Base model**

- R211** Metallic protection tube resistance temperature detector (Single element)
- R212** Metallic protection tube resistance temperature detector (Double (Duplex) element)

**2. Head type**

- A** General (Weatherproof)
- L** Compact (Small)

**3. Element (Tolerance)**

- P** Pt 100 Ω (B)
- 9** Pt 100 Ω (A)

**4. Tube material**

- 0** 304SS
- 7** 316L SS
- 9** Other

**5. Protecting tube and sheath outer diameter (mm)**

- F9** 6.4 (Double elements is not available)
- G9** 8.0
- J9** 10.0

**6. Conduit connection**

- 1** ½" PF
- 2** ½" PT
- 3** ½" NPT
- 4** ¾" PF
- 5** ¾" PT
- 6** ¾" NPT
- 7** None
- 8** M20 x 1.5P
- 9** Other

**7. Mounting type**

- X** Refer to mounting table (11<sup>th</sup> character)

**8. Connection type**

- XX** Refer to mounting table (12<sup>th</sup> and 13<sup>th</sup> character)

**9. Insert length**

- X** Refer to insert length table (14<sup>th</sup> character)

**10. Option**

- 0** None
- 1** Accessories
- 4** Epoxy coated ALDC head
- 5** Head material : 304SS (Only for weatherproof head)
- 6** Head material : 316SS (Only for weatherproof head)
- 7** Accessories and epoxy coated ALDC head
- 8** Accessories and head material : 304SS (Only for weatherproof head)
- 9** Accessories and head material : 316SS (Only for weatherproof head)

1	2	3	4	5	6	7	8	9	10
R211	A	P	1	F9	1	X	XX	X	0

Sample  
ordering code

## Mounting, connection type and insert length table - 11<sup>th</sup> thru 14<sup>th</sup> characters

11 <sup>th</sup> character		12 <sup>th</sup> character		13 <sup>th</sup> character		14 <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	1/2" 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 14<sup>th</sup> character, please choose a code of next higher length if applicable length is not. Actual length shall be specified.