

# Head mounting type temperature transmitter

## Model : R912 (with T990)

Spec. sheet no. RD09-01

### Service intended

These transmitters are recommended be used in the situation where the application of RTD signals to carry to a long distance or to guard against the heavy electrical field noise. The transmitters convert RTD inputs to an analog signal for a direct interface with indicators, recorders, controllers, PLC, DCS systems, and these can be used for a wide range of applications in process control, automatic machinery and hydraulic or pneumatic system design.

### Advantages

- Two wire 4 - 20 mA current output signal
- RTD input
- Measuring range from -50 ~ 400°C
- Fixed range
- Excellent accuracy and long term stability
- Low - cost
- Miniature design



Model : T990



### Specification

#### Electrical specification

Excitation voltage : 12 ~ 36 V  
Load resistance : Max. 500Ω at 24 V  
Influence of excitation : 0.01% FSO/V  
Burnout : Upscale (Approx. 23 mA DC) or  
Down scale (Approx. 4 mA DC)  
Reverse polarity : Protected  
Shock resistance : No change in performance after  
10Gs for 11ms  
Vibration : 5g (10 ~ 2,000 Hz)  
Response time (10 ~ 90%) : ±0.5 seconds  
Adjustment range : ±15% FSO/zero and span

#### Performance specification

Accuracy : ±0.2% FSO  
Non - linearity : Better than 0.01% FSO  
Repeatability : Better than 0.05% FSO  
Long term stability : Better than 0.05% FSO per month  
Ambient temperature limits : -20 ~ 70°C  
Ambient humidity limits : 5 ~ 95% R.H

#### Input

Measuring element : Pt 100Ω at 0°C

#### Output

Current output  
Electrical connection type : 2-wire technique  
Full scale output signal : 20 mA ±0.2%  
Zero measured output : 4 mA ±0.03%  
Other output signals available on request

## Main order

## Ordering information

### 1. Base model

**R912** Temperature transmitter

### 2. Head and tip shape type

- A** General (Weatherproof)
- B** General (Weatherproof) and spring - loaded
- F** Explosion proof
- G** Explosion proof and spring - loaded

### 3. Element

- Q** Pt 100Ω
- Z** Other

### 4. Sheath material

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

### 5. Sheath outer diameter (mm)

- D9** 3.2
- E9** 4.8
- F9** 6.4
- G9** 8.0

### 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 (11<sup>th</sup> character)

### 8. Connection type

- XX** Refer to Connection 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 weather proof head)
- 6** Head material : 316SS
- 7** Accessories and epoxy coated ALDC head
- 8** Accessories and head material : 304SS (Only for weather proof head)
- 9** Accessories and head material : 316SS

1	2	3	4	5	6	7	8	9	10
R912	A	Q	7	F9	1	X	XX	X	4

Sample  
ordering code

**1. Base model****T990** Temperature transmitter**2. Input type****RJ** Pt 100Ω**3. Measuring range (°C)**

**05** 0 ~ 50  
**10** 0 ~ 100  
**15** 0 ~ 150  
**20** 0 ~ 200  
**25** 0 ~ 250  
**30** 0 ~ 300  
**40** 0 ~ 400  
**50** 0 ~ 500  
**51** 50 ~ 150  
**55** 50 ~ 150  
**12** 100 ~ 200  
**13** 100 ~ 300  
**N0** -50 ~ 50  
**N1** -50 ~ 100  
**N5** -50 ~ 150  
**N2** -50 ~ 200  
**ZZ** Special

**4. Burn-out**

**U** Up-scale  
**D** Down scale

1	2	3	4	Sample ordering code
<b>T990</b>	<b>RJ</b>	<b>05</b>	<b>U</b>	

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

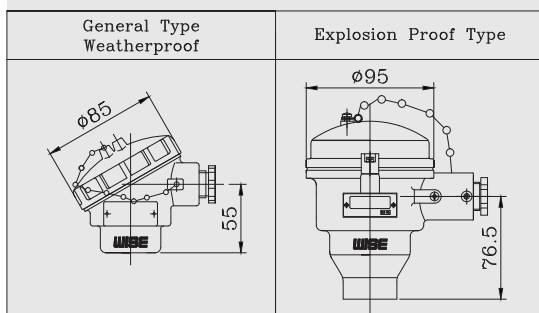
11 <sup>th</sup> character		12 <sup>th</sup> character		13 <sup>th</sup> character		14 <sup>th</sup> character	
Code	Mounting	Code	Connection size and connector material	Code	Connection type	Code	Insert length (mm)
A	None	A	None	A	None	A	100 mm
	Fixed thread lag length						
B	80 mm	B	1/8" and 304SS	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	7/16" 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
				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	7/16" and 316SS	Y	ANSI 2,500 Lb RTJ	Y	10,000 mm
Z	Other	Z	Other	Z	Other	Z	Other

■ Note for 14<sup>th</sup> character, please choose a code of next higher length if applicable length is not.

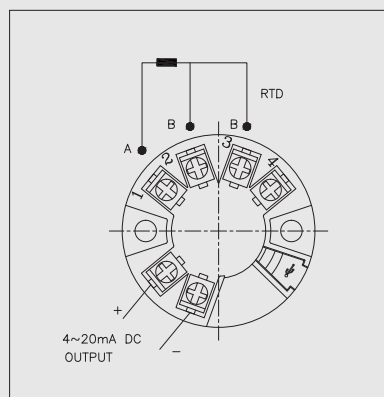
Actual length shall be specified.

■ Note for \*Y code (Oil sealing type), only available with spring-loaded head type.

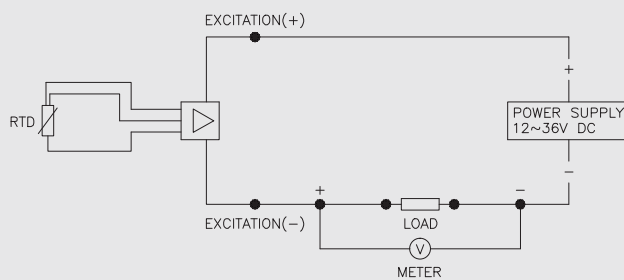
## R912 : Type of mounting



Head



Electrical connection



System connection for 2 - wire transmitter

