Explosion Proof Type Temperature Transmitter

Model: T159



Advantages

Explosion Proof transmitter for industrial applications

- Two wire 4~20mA current output signal
- RTD inputs
- Multi input (RTD and Thermocouple)
- Loop powered 4~20mA
- Excellent accuracy and long term stability



These are recommended in applications requiring amplification of RTD or T/C signals to carry to a long distance or guard against heavy field electrical noise. The transmitter converts RTD or T/C inputs to an analog signal for direct interface with indicators, recorders, controllers, PLC, DCS systems can be used for a wide range of applications in process control, automatic machinery and hydraulic or pneumatic system design.

Certificate

Ex d IIC T6 (IP65)

Descriptions

T159 series temperature transmitters are designed to fit into standard weather or explosion-proofed terminal heads used on RTD or thermocouple assemblies to provide a 4~20mA transmission signal.

It is cost effective solution for all temperature measurement and accurate, durable and reliable. Numerous configurations for measurement in many different mediums are offered. Generally the transmitter produces a linear 4~20mA output carried on a two-wire system and optional voltage range of 1~5V DC can also be available. The transmitter is supplied factory calibrated, but also has zero and span protentiometers for field adjustment or calibration.





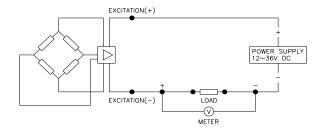
Specification

Input				
Technology	See table "Sensor type, range and accuracy"			
Output	The state of the s			
	Current output			
Electrical connection type	2-wire technique			
Full scale output signal	20mA ±0.2%			
Zero measured output	4mA ±0.03%			
Sensor burnout	High (20.5 mA DC) or Low (3.9 mA)			
Electrical Specification				
Excitation voltage	18 ~ 30 V DC (Noise range:20 mVp-p)			
Load resistance max @ 24V	600 Ω at 24V			
Influence of excitation	0.01% FSO/V			
Shock resistance	No change in performance after 10Gs for 11ms			
Reverse polarity	Protected			
Response time(10~90%)	± 500 mSec.			
Adjustment	Free (Only available Transmitter type "00")			
Performance Specification				
Accuracy	≤±0.2% FSO			
Non-linearity	Better Than 0.10% FSO			
Repeatability	Better Than 0.05% FSO			
Long term stability	Better Than 0.05% FSO per month			
Cutoff frequency(-3 d B)	±1kHz			
Ambient temperature limits	-10 ~ 70 °C			
Ambient humidity limits	5 to 90% R.H			
Physical Specification				
Process connection	PT1/2" male thread			
	Flange & other connections available on request			
Process media	Gases and liquids compatible with stainless steel 316			
Materials wetted by process	Stainless steel 316L and other available on request			
Materials of terminal head	Aluminum Die-casting			
Enclosure rating	IP65			
Explosion protection	Ex d IIC T6 (IP65)			
Influence of mounting position	Not critical			
Options	Protection well			

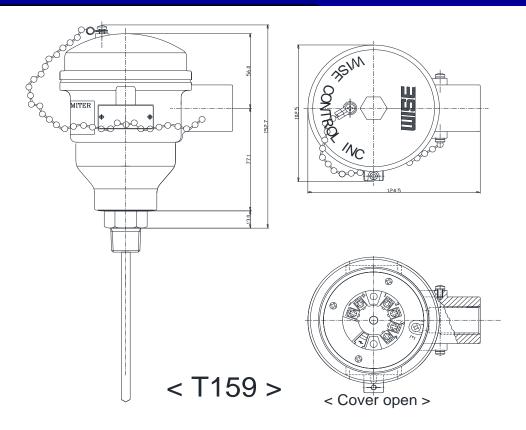
Sensor type, range and accuracy

Resistance temperature detector (RTD)					
Input	Measuring range	Min. mea sured span	Calibration range	Analog output (mA) Error	
Pt100	-200 ~ 850 ℃	10℃	-200 ~ 850 ℃	0.00/ of ones	
JPt100	-200 ~ 650 °C	10℃	-200 ~ 650 °C	0.2% of span	
Thermocouple elements (T/C) (Only available Transmitter type "90")					
Input	Measuring range	Min. mea sured span	Calibration range	Analog output (mA) Error	
Type B	100 ~ 1820 ℃	300℃	100 ~ 400 ℃		
		100℃	400 ~ 1820 ℃		
Type E	-200 ~ 1000 °C	50℃	-200 ~ 1000 °C		
Type J	-200 ~ 1200 ℃ -200 ~ 1370 ℃ -200 ~ 1300 ℃	50℃	-200 ~ 1200 ℃	0.00/_ f	
Type K		50℃	-200 ~ 1370 ℃	0.2% of span	
Type N		50℃	-200 ~ 1300 ℃		
Type R	0 ~ 1760 ℃	100℃	0 ~ 1760℃		
Type S	0 ~ 1760 ℃	100℃	0 ~ 1760℃		
Type T	-200 ~ 400 °C	40℃	-200 ~ 400 ℃		

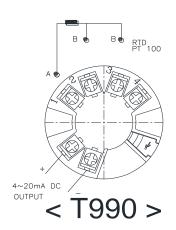
System connection for 2-wire transmitter



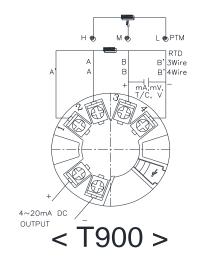
Dimension (mm) Electrical connection



Terminal block (Transmitter type 99)



Terminal block (Transmitter type 90)



Ordering information						
Explosion Proof Type Temperature Transmitter						
1. Base model	TE L. B. (II.)					
T159	Explosion Proof Head					
2. Transmitter type	I RTD only					
99	Multi input(RTD & Thermocouple)					
3. Input signal type	INUILI IIIPULINID & THEITIOCOUPIE)					
PT	RTD (PT 100 Ω)					
JP	RTD (JPT 100 Ω)					
ŤR	Thermocouple Type "R" (Only available Transmitter type "00")					
TK	Thermocouple Type "K" (Only available Transmitter type "00")					
TE	Thermocouple Type "E" (Only available Transmitter type "00")					
TJ	Thermocouple Type "J" (Only available Transmitter type "00")					
	Thermocouple Type "T" (Only available Transmitter type "00")					
TB	Thermocouple Type "B" (Only available Transmitter type "00")					
TS	Thermocouple Type "S" (Only available Transmitter type "00")					
TN	Thermocouple Type "N" (Only available Transmitter type "00") Other Input signal available on request					
4. Process connection	Other Imput signal available of fequest					
M	Male thread mounted					
F	Flange mounted					
5. Process connection type	r range meanted					
TIIIII	PT thread as standard					
J	Flange per JIS					
D	Flange per DIN					
A	Flange per ANSI					
	Other process connections available on request					
6. Process connection size	1/2"					
	172					
$\frac{2}{3}$	1 2"					
 	Specify the flange unit clearly					
7. Thermo-well	Observationally and olderly					
SIII	With protection thermo-well					
N I I	Without protection thermo-well					
8. Measuring rang	е					
01	-50 ~ 0 °C					
02	-50 ~ 50 °C					
03 04	-20 ~ 80 ℃ -50 ~ 150 ℃					
05	0~50 °C					
06	0 ~ 100 °C					
07	0 ~ 150 °C					
08	0 ~ 200 °C					
09	0 ~ 300 °C					
10	0 ~ 400 °C					
111	0 ~ 500 °C					
12	0 ~ 600 °C 0 ~ 700 °C					
13 14	0 ~ 700 °C					
15	0~900°C					
16	0 ~ 1000 °C					
XX X	Other calibration ranges available on request					
9. Unit						
C	C Calibration in Celsius scale °C					
F	I F I I Calibration in Fahrenheit scale °F					
10. Output signal / Electrical connection type						
A1 4~20mA, DC, 2-wire output						
11. Option N None options						
IN M	2 inch pipe mounting bracket					
T159						
90 PT M T T 1 N 06 C A1 N Sample ordering code						
Specifications subject to change without notice						