

Temperature Transmitter

Advantages

- Two wire 4~20mA current output signal
- RTD and thermocouple inputs
- Measuring ranges from -50 to 400° C / -100 to 1500° C
- Loop powered 4~20mA with LED local display
- Explosion protection Ex d IIC T6
- Excellent accuracy and long term stability

Applications

These are recommended in applications requiring amplification of low level mV/thermocouple/RTD signals to carry to a long distance or guard against heavy field electrical noise. The transmitter converts RTD and thermocouple 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.

General Description



T15X series temperature transmitters are designed to fit into standard weather or explosion-protected terminal heads used on RTD or thermocouple assemblies to provide a 4~20mA transmission signal. It is a 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 potentiometers for field adjustment or calibration. T15X provides a loop powered 4~20mA/2-wire with LED local display and in the hazardous environment, explosion protected terminal head can be also available.

Input		
Measuring ranges	PT100 ohm, JIS-C-1604-1981	
Thermocouple	-50~500° C	K : 0~800° C
		J : 0~500° C
		E : 0~250° C
		T : 0~250° C

Output				
	Current output		Voltage output	
Electrical connection type	2-wire technique		3 or 4-wire technique	
Full scale output signal	20mA	±0.2%	5V	±0.2%
Zero measured output	4mA	±0.03%	1V	±0.03%
	Other output signals available on request			

Electrical Specifications	
Excitation voltage	12~36V DC
Load resistance max@24V	500 Ω at 24V
Influence of excitation	0.01% FSO/V
Burnout	Upscale(approx. 23mA DC) or downscale(approx. 4mA DC)
Reverse polarity	Protected
Shock resistance	No change in performance after 10Gs for 11ms
Vibration	5 g (10...2000Hz)
Response time(10~90%)	±2 milliseconds
Adjustment range	±20% FSO/zero and span

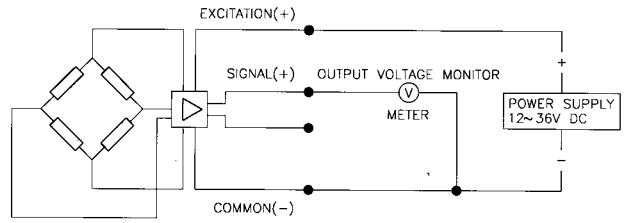
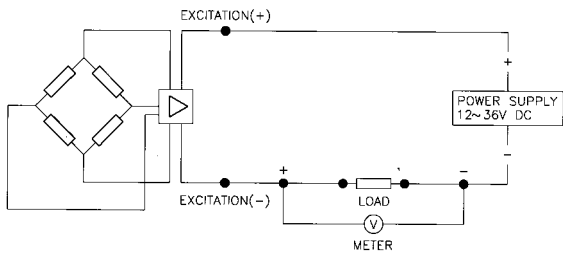
Performance Specifications	
Accuracy	±0.25% FSO
Non-linearity	Better than 0.10% FSO
Repeatability	Better than 0.05% FSO
Long term stability	Better than 0.05% FSO per month
Cutoff frequency(-3 d B)	±2kHz
Ambient temperature limits	-20~70° C
Ambient humidity limits	5 to 100% R.H

Physical Specifications	
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 others available on request
Material of terminal head	Aluminum die-casting
Local display range	LED 3 1/2 digit
Enclosure rating	IP65
Explosion protection	Ex d IIC T6
Influence of mounting position	Not critical
Options	Protection well

Note

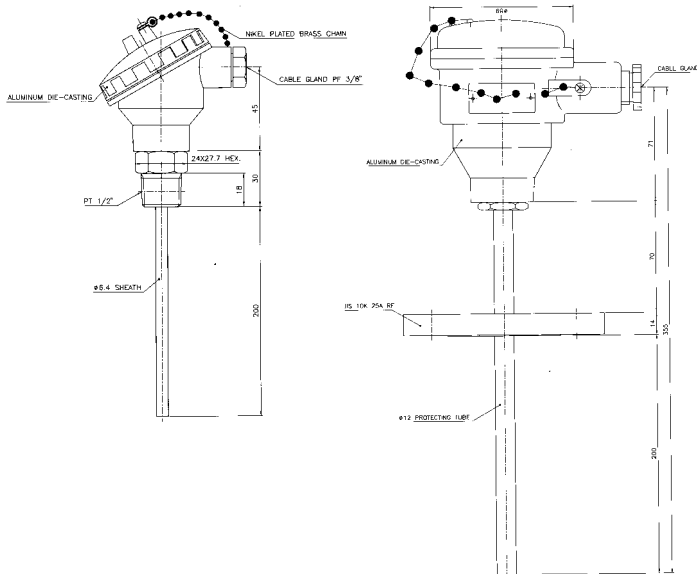
System connection for 2-wire transmitter

System connection for 3-wire transmitter

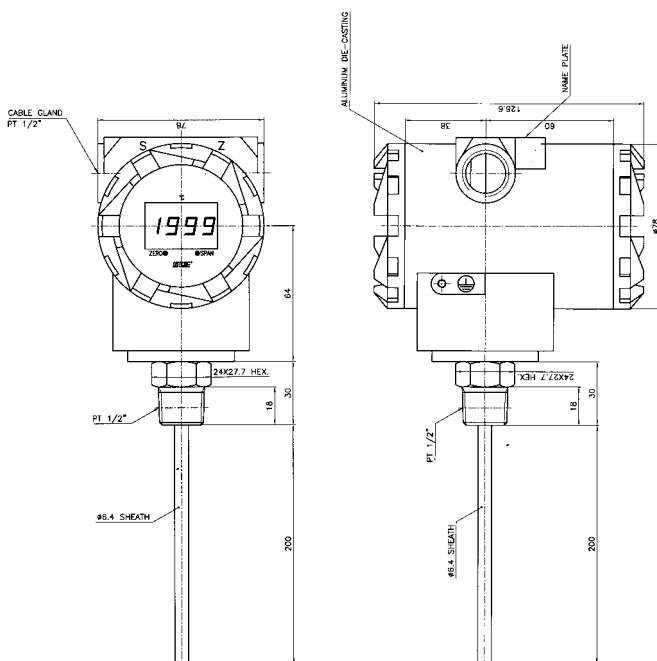
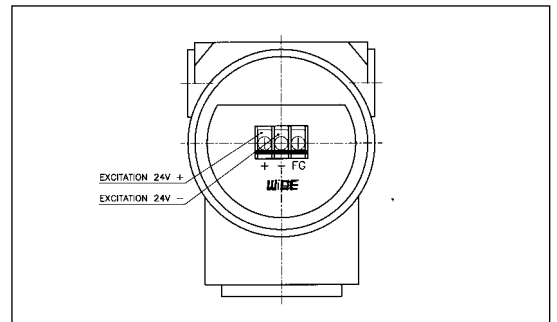
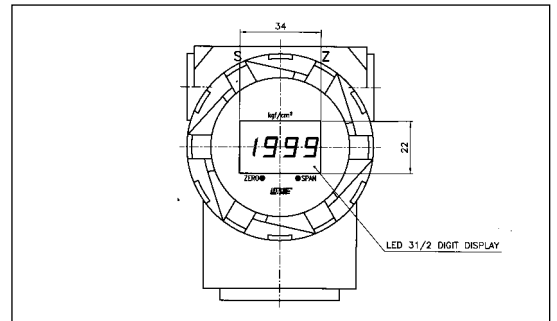


Dimension

Electrical connection



Terminal head



Temperature Transmitter

T158																					Terminal head	
T159																					Terminal head with Ex-protection	
	V																				With local display	
	N																				Without local display	
		P																			Input signal	PT 100 \varnothing
		T																			Thermocouple	K
		J																				J
		E																				E
		T																				T
			M																		Process connection	Male thread mounted
			F																			Flange mounted
				T																		PT thread
				J																		Flange per JIS
				D																		Flange per DIN
				A																		Flange per ANSI
				X																		Other process connections available on request
					1																	1/2"
					2																	1"
					3																	2"
					X																	Specify the flange unit clearly
																						Other size available on request
						S																With protection thermo-well
						N																Without protection thermo-well
							01															Measuring range -50~0° C
							02															-50~50
							03															-20~80
							04															-50~150
							05															0~50
							06															0~100
							07															0~150
							08															0~200
							09															0~300
							10															0~400
							11															0~500
							12															0~800
							XX															Other calibration ranges available on request
								C														Calibration in Celsius scale° C
								F														Calibration in Fahrenheit scale° F
									N													Non-output signal
									M													Unamplified
									C													4~20mA Current output signal
									V													1~5V Voltage output signal
									X													Other signals available on request
										N												Non-option
										W												Weather protection rating IP67

158	N	P	M	T	1	N	01	C	C	N	Sample ordering code
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Specifications subject to change without notice.

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