

TEMPERATURE Transmitter

T450 Series with CAN

Features

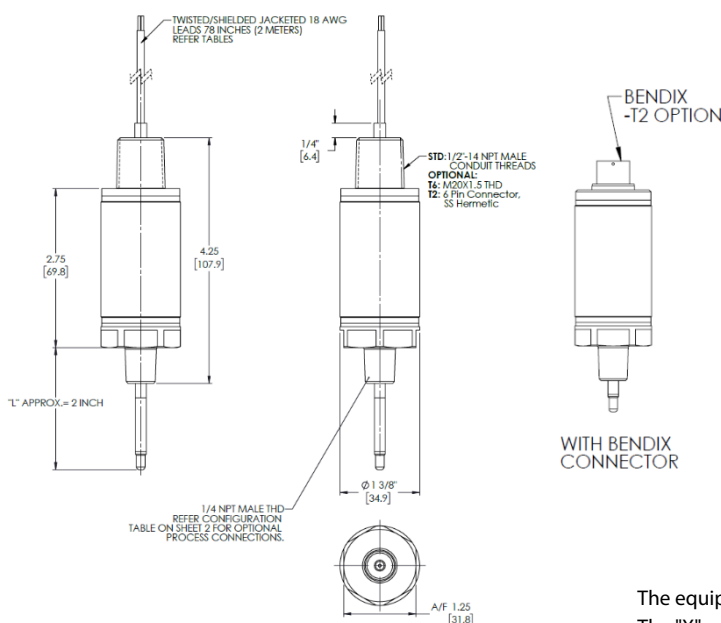
- Analog, CAN OPEN and CAN J1939 communication
- Hazardous location approval cETLus with ATEX, IECEx certificates for International and North America market with Explosion proof and Intrinsic safety approvals.
 - TAnalog: Explosion proof and I.S. TCAN: Explosion proof only
- High accuracy: $\pm 0.1\%$ and $\pm 0.25\%$ FSO, (L,H,R)
- Explosion proof enclosure with IP66 & IP67 and NEMA 4X ratings
- Enables microcontroller and devices to communicate in realtime.
- Advanced sensor signal conditioning ASIC ensures high accuracy up to $\pm 0.1\%$ and low offset error.
- Offers water resistant IP67 protection and compatibility with demanding media such as H2 and O2.
- Superior EMIEMC protection as per IEC standards & thermally compensated sensors ensure high accuracy over wide temperature ranges to mitigate thermal errors on sensitive components
- Wide range of Electrical Connectors: Different Electrical connections for TAnalog Version
- High Performance & High Temperature Temp. transmitter is designed to handle high pressure external environments with High temperature measuring range of 65 to 250°F
- Custom Fitting: The body of the unit is a customdesigned fitting with a temperature probe housing the PT1000 sensor. Temperature Range: 65°F to 250°F
- Hazardous Location Approval: Temperature transmitter is ATEX, IECx approved for use in hazardous location.
- Lower Maintenance Cost: With fewer devices in the system, maintenance frequency & costs are reduced which leads to less downtime & lower total cost of ownership.



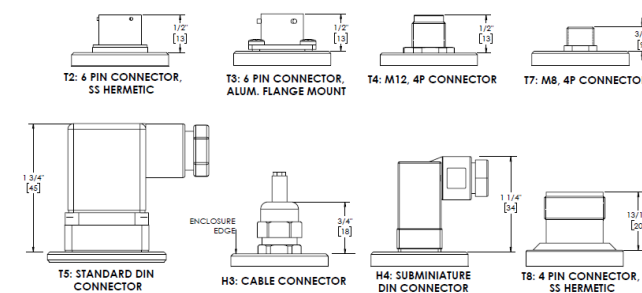
Applications

Coolant Temperature, Plant Automation, Oilfield drilling

Technical Drawing



Electrical Connections:



Wiring Connections:

The equipment is a temperature transducer available in two versions:
 The "X" version denotes the explosionproof model, while the "E" version indicates the intrinsically safe model.
 • XP Version : T452X/T454X/T455X/T456X; (4 variants total)
 • IS Version : T452E/T454E/T455E; (3 variants total)

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General Specifications

Input	Excitation Voltage: T455X, T455E, T455: 8 to 30 VDC T452X, T452E, T452: 7 to 30 VDC; T454X, T454E, T454: 4.5 to 5.5 VDC T456, T456X: 4.0 to 18 VDC T457, T457X: 4.0 to 18 VDC
Supply Current	T455X, T455E, T455: 22 mA Max. T452X, T452E, T452: 10 mA Max. T454X, T454E, T454: 10 mA Max. T456, T456X: T457, T457X: 20 mA Max.
Output	T455, T455X, T455E: 4 - 20 mA T452, T452X, T452E: 1 - 5 VDC * T454, T454X, T454E: 0.5 - 4.5 VDC T456, T456X: CAN J1939 T457, T457X: CAN OPEN * for special output voltage range consult factory for minimum excitation voltage
Accuracy:	± 1°F or 0.5% whichever is greater
Temperature:	Media: -65 to +250 F (-55 to +120°C).
	Ambient range: -40°C to +80°C
Operating external Pressure:	10 kpsi
Typical Life Cycle:	10 million cycles
Long Term Stability:	±0.2% FSO /year of calibration curve
Temperature Shift:	Zero & Span: 0.0125% Per °F over the compensated temperature range
SPAN ACCURACY:	±1% FSO AT 75 F (24 C).
Thermal, Zero and Span Effect	±0.0125% per °F over the compensated temperature range
Zero balance:	±1% FSO AT 75 F (24 C).
Response Time:	TBT
Enclosure:	All welded 300 series stainless steel. IP66 & IP67 and NEMA 4X rated.
Material of Construction:	HOUSING, ELECTRICAL CONNECTION: 316 STAINLESS STEEL
Wetted material:	316 L stainless steel
Sensors:	PT1000 Temperature Sensor inside tube
Fittings:	316L Stainless Steel
Shock:	50 g's, 11 ms, MIL-STD 202 Method 213, Cond. G
Vibration:	10 g's, 10-500 Hz, MIL-STD 202, Method 204, Cond. A
Approvals:	
Intertek: ETL	INTRINSIC SAFETY & Explosion Proof: Class I, Div 1, Groups A, B, C, and D Class II, Div 1, Groups E, F, and G
ATEX/IECEX:	II 2GD Ex db IIC T4 Gb Ex tb IIIC T135°C Db II 1GD Ex ia IIC T4 Ga Ex ia IIIC T135°C Da -40 C ≤ Tamb ≤ +80 C ETL _____ IECEX _____
Compliance:	CE, RoHS, REACH, NACE
EMC: Electromagnetic Compatibility (EMC)	IEC61326-1/EN 55011: CISPR 11/CISPR16 Conducted emission and radiated emission for class A limits IEC/EN 61000-4-2: Electrostatic discharge (ESD) test IEC/EN 61000-4-3: Radiated RF, EM field immunity IEC/EN 61000-4-4: EFT(burst) test IEC/EN 61000-4-5: Surge test IEC/EN 61000-4-6: Conducted RF immunity
Weight	About 430 gms
Media Restriction	All common industrial and gases and fluids. Refer to wetted materials section or consult factory for special media compatibility

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Product Configurator

PRODUCT CONFIGURATOR - Temperature Transmitter						
T450 Series (BIT Construction)						
BASE MODEL						
T455X	4 - 20 mA Digital Amplifier					
T455E	4 - 20 mA Digital Amplifier, I.S.					
T454X	0.5-4.5V Ratiometric Output, Digital Amplifier					
T454E	0.5-4.5V Ratiometric Output, I.S.					
T452X	1-5 VDC Digital Amplifier					
T452E	1-5 VDC Digital Amplifier I.S.					
T456X	CAN J1939					
T457X	CAN OPEN					
ELECTRICAL CONNECTION						
BLANK	1/2"-14 NPT Male conduit					
T6	M20 x 1.5 Male conduit					
T2	6 Pin Connector, SS Hermetic					
T4	M12 (4 Pin) connector					
T5	Standard DIN connector (DIN EN 175301-803, TYPE A)					
H3	Watertight Gland, 1 Meter Cable (STD)					
H4	Subminiature DIN connector (DIN EN 175301-803, TYPE C)					
Temperature Range		°C	°F	(Consult factory for custom range)		
V	-65					
N	-50					
K	-40					
H	-30					
G	-20					
D	-10					
0	0					
1	10					
2	20					
3	30					
4	40					
5	50					
6	60					
7	70					
8	80					
9	90					
X	100					
Y	110					
Z	120					
Temperature Unit						
F	Fahrenheit					
C	Celsius					
PROCESS CONNECTIONS						
BLANK	1/4" NPT, Male					
P4	1/2" NPT, Male					
P10	G 1/4, washer seal, Male					
P11	G 1/2, Washer seal, Male					
OPTIONS						
Lx	Custom Probe Length (Upto 4 inches).. (Default w/o Lxx) Example: BLANK: 1 in, L2: 2 in, L3: 3 in, L4: 4 in etc					
Vx	Custom Voltage Outputs Up to 11VDC. Consult Factory/Voltage options in Volts as below: V1 = 0.5 - 4.5, V2 = 0.5 - 5.5, V3 = 0 - 6, V4 = 0 - 10, V5 = 0 - 10, V6 = 1 - 11, V7 = 0 - 11, V8 = 0 - 5, V9 = 1 - 10, V10 = 0.2 - 10					
A1	Accuracy ±0.5% (Default), Add A1 for 0.1%					
Jxxx	Twisted Shielded Cable with 18 AWG Leads (in inches) (STD - 78 inch w/o Jxxx, Available on Conduit and gland electrical connections) options: A = 120", B = 240", C = 180", D = 72" (Ex.: JA = Cable with 120")					
D3	3 Pin Deutsch Connector DT04-3P (for T-Analog)					
D4	4 Pin Deutsch Connector DT04-4P (for T-Analog)					
Qxx	Special request (cunsult factory)[-Q1: Basic Function/Ord Loc]					
Z1	Oxygen cleaning					
T455E	T6	VZ	F	P4	L2JA	Example: T455ET6VZFP4L2JA (-65 to 250 °F)

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