Electronic Temperature Switches

TX Series

TM Series

Ameritrol, Inc.

Instruments and Controls

Features

- No Moving Parts
- 316L Stainless Steel Sensor
- Temperatures to 900F
- Pressures to 10,000 PSIG
- Field Programmable for Increase or Decrease in Temperature

- Explosion Proof Enclosures
- Wide Temperature Range
- Threaded, Flanged, Retractable Probes
- Exotic Alloys for Corrosion Resistance
- Reliable and Cost Effective

Standard Fast Responce Thermowell

Thermowell Type Sensor

Operation

The TX and TM series of temperature switches offer a completely electronic instrument to detect the increase or decrease of temperature. These switches are used in industrial applications including pipelines and tanks. The RTD sensor provides an extremely reliable and repeatable device at a very cost effective price.

A relay output is standard with options for dual separately adjustable set-points. Remote mounted electronics are available for process temperatures to 900F.

Applications

- High/Low Temperature Alarm in Pipelines
- High/Low Temperature Alarm in Tanks
- Heater Burn-Out Protection
- Control Heat Tracing on Pipes
- Temperature Alarm in HVAC Systems
- Dual Switch Point for 2 Independent Set-Points

Specifications

Sensor Head

Material of Construction:	316L Stainless Steel Standard Optional Exotic Alloys
Operating Temperature:	-50 to 350F (-46 to 177C) Standard Option -100 to 900F (-73 to 482C) Option -320 to 500F (-196 to 260C)
Operating Pressure:	Vacuum to 4000 PSIG (275 Bar) Option to10,000 PSIG (689 Bar)
Response Time:	From 3 Seconds
Repeatability	+/- 1 Degree Farenheit
Process Connection:	3/4" MNPT, 1" MNPT Option Flanged, Retractable Probes, and 1-1/4", 1-1/2", 2", 3", 4" MNPT
Probe Length:	See Part Number Specification

Electronics

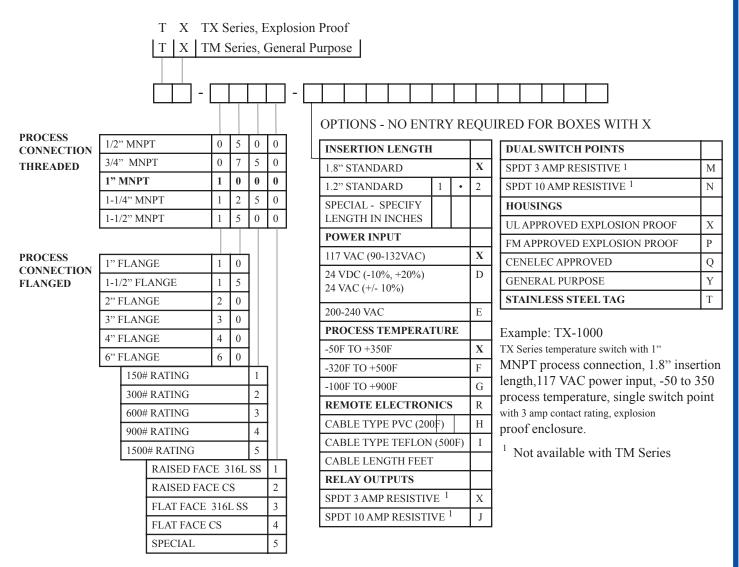|	
Housing:	Powder Coated Explosion Proof, UL/CSA Rated to Class 1, Div. 1 & 2, Group B,C,D; Class II, Div. 1 & 2, Group E,F,G; Div. III. FM Option
Temperature:	-50 to 150F (-46 to 65C)
Power Input:	90-135 VAC, 50/60 Hz, 4 Watts Option 24 VDC/VAC, 200-240VAC
Relay Output:	SPDT 3 Amps Resistive Option DPDT and 10 Amps Res.
Electrical Connection:	1" FNPT
Shipping Weight:	5 lbs

Part Number Order Entry Specification
Thermowell Process Connection

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TX Series, Explosion Proof	T	X
TM Series, General Purpose	T	M

PROCESS CONNECTION THREADED

OPTIONS - NO ENTRY REQUIRED FOR BOXES WITH X

1 1/4" Insertion Length (U)

1/2" MNPT 316 Stainless	0	5	0	0	S	A
3/4" MNPT 316 Stainless	0	7	5	0	S	A
3/4" MNPT Brass	0	7	5	0	B	A

2.5" Insertion Length (U)

1/2" MNPT 316 Stainless	0	5	0	0	S	B
3/4" MNPT 316 Stainless	0	7	5	0	S	B
3/4" MNPT Brass	0	7	5	0	B	B

4.5" Insertion Length (U)

1/2" MNPT 316 Stainless	0	5	0	0	S	C
3/4" MNPT 316 Stainless	0	7	5	0	S	C
1" MNPT 316 Stainless	1	0	0	0	S	C

7.5" Insertion Length (U)

3/4" MNPT 316 Stainless	0	7	5	0	S	D
1" MNPT 316 Stainless	1	0	0	0	S	D

10.5" Insertion Length (U)

1/2" MNPT 316 Stainless	0	5	0	0	S	E
3/4" MNPT 316 Stainless	0	7	5	0	S	E
3/4" MNPT Brass	0	7	5	0	B	E

PROCESS CONNECTION FLANGED

1" Flange	1	0
1 1/2" Flange	1	5
2" Flange	2	0
3" Flange	3	0

150# Rating	1
300# Rating	2
600# Rating	3
900# Rating	4

Raised Face	1
Flat Face	2

A	2" U Length
C	4" U Length
D	7" U Length
E	10" U Length
F	13" U Length
G	16" U Length

S	316 Stainless Steel
C	Carbon Steel
M	Monel

OPTIONS

	POWER INPUT
X	117 VAC (90-132VAC)
D	24 VDC or VAC (+/- 10%)
E	200-240 VAC
	PROCESS TEMPERATURE
X	-50F TO +350F
F	-320F TO +500F
G	-100 TO +900F
R	**REMOTE ELECTRONICS**
H	CABLE TYPE PVC (200F)
I	CABLE TYPE TEFLON (500F)
	RELAY OUTPUTS
X	SPDT 3 AMPS RESISTIVE
J	SPDT 10 AMPS RESISTIVE
K	DPDT 3 AMPS RESISTIVE (TX SERIES)
L	DPDT 10 AMPS RESISTIVE (TX SERIES)
	DUAL SWITCH POINTS
M	SPDT 3 AMPS RESISTIVE (TX SERIES)
N	SPDT 10 AMPS RESISTIVE (TX SERIES)
	HOUSINGS
X	UL APPROVED EXPLOSION PROOF
P	FM APPROVED EXPLOSION PROOF
Q	CENELEC APPROVED
S	**STAINLESS STEEL TAGS**

T	X	TX Series, Explosion Proof
T	X	TM Series, General Purpose

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PROCESS CONNECTION THREADED

1/2" MNPT	0	5	0	0
3/4" MNPT	0	7	5	0
1" MNPT	**1**	**0**	**0**	**0**
1-1/4" MNPT	1	2	5	0
1-1/2" MNPT	1	5	0	0

PROCESS CONNECTION FLANGED

1" FLANGE	1	0
1-1/2" FLANGE	1	5
2" FLANGE	2	0
3" FLANGE	3	0
4" FLANGE	4	0
6" FLANGE	6	0

150# RATING	1
300# RATING	2
600# RATING	3
900# RATING	4
1500# RATING	5

RAISED FACE 316L SS	1
RAISED FACE CS	2
FLAT FACE 316L SS	3
FLAT FACE CS	4
SPECIAL	5

OPTIONS - NO ENTRY REQUIRED FOR BOXES WITH X

INSERTION LENGTH		
1.8" STANDARD		X
1.2" STANDARD	1 • 2	
SPECIAL - SPECIFY LENGTH IN INCHES		
POWER INPUT		
117 VAC (90-132VAC)		X
24 VDC (-10%, +20%) 24 VAC (+/- 10%)		D
200-240 VAC		E
PROCESS TEMPERATURE		
-50F TO +350F		X
-320F TO +500F		F
-100F TO +900F		G
REMOTE ELECTRONICS		R
CABLE TYPE PVC (200F)		H
CABLE TYPE TEFLON (500F)		I
CABLE LENGTH FEET		
RELAY OUTPUTS		
SPDT 3 AMP RESISTIVE [1]		X
SPDT 10 AMP RESISTIVE [1]		J

DUAL SWITCH POINTS	
SPDT 3 AMP RESISTIVE [1]	M
SPDT 10 AMP RESISTIVE [1]	N
HOUSINGS	
UL APPROVED EXPLOSION PROOF	X
FM APPROVED EXPLOSION PROOF	P
CENELEC APPROVED	Q
GENERAL PURPOSE	Y
STAINLESS STEEL TAG	T

Example: TX-1000

TX Series temperature switch with 1" MNPT process connection, 1.8" insertion length,117 VAC power input, -50 to 350 process temperature, single switch point with 3 amp contact rating, explosion proof enclosure.

[1] Not available with TM Series

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