

Foxboro® Model RTT30 Temperature Transmitter



Model RTT30 Description

For demanding temperature measurement applications that require a rugged, robust and reliable temperature transmitter, the Foxboro® RTT30 Temperature Transmitter provides the best solution.

The RTT30 is a new pinnacle in temperature transmitter engineering, design and manufacturing. The RTT30 Intelligent Temperature transmitter is a full-featured, 2-wire transmitter, which is available in HART, Foundation Fieldbus and Profibus PA communication protocols. Remote communication is provided with a HART communicator or PC-based Configurator. Input signals are received from RTDs and thermocouples, and from resistance and millivolt sources. There can be two measuring inputs in 2-, 3-, and 4-wire connections. An optional backlit LCD can be provided that shows the current primary temperature measurement and can indicate alarms.

Summary

The Foxboro RTT30 Temperature Transmitter represents a new generation, exemplifies best in class, the highest tiered offering in the marketplace today and is available in HART, Foundation Fieldbus and Profibus PA protocols .

Business Value

The rich diagnostics of the RTT30 enables cost savings via alarms to trigger predictive maintenance scenarios and is capable of automatically switching to a back up sensor and notify the control room that a primary sensor has gone bad. A failed temperature sensor can translate into major productivity losses.

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Features / Benefits

Dual Compartment Housing

Electronics are isolated from the terminal block. Longer service life and better protection of the electronics from corrosive environments.

Intelligent “Hot Sensor Backup”

Should the primary sensor burn out, the RTT30 is able to intelligently switch to a secondary backup sensor. This prevents unexpected downtime and maintains productivity within the plant.

Sensor Corrosion

The RTT30 is capable of measuring corrosion on the Sensor. Maintenance is able to better predict the quality of their temperature sensors and their life expectancy.

Sensor Drift Detection

This diagnostic enables the Control room to evaluate their temperature measurements over time and make better decisions concerning sensor stability.

Automatic Temperature Range Sensor Change

The RTT30 is capable of switching the primary temperature measurement from sensor 1 to sensor 2 (a different sensor type) which is accurate for a certain temperature range.

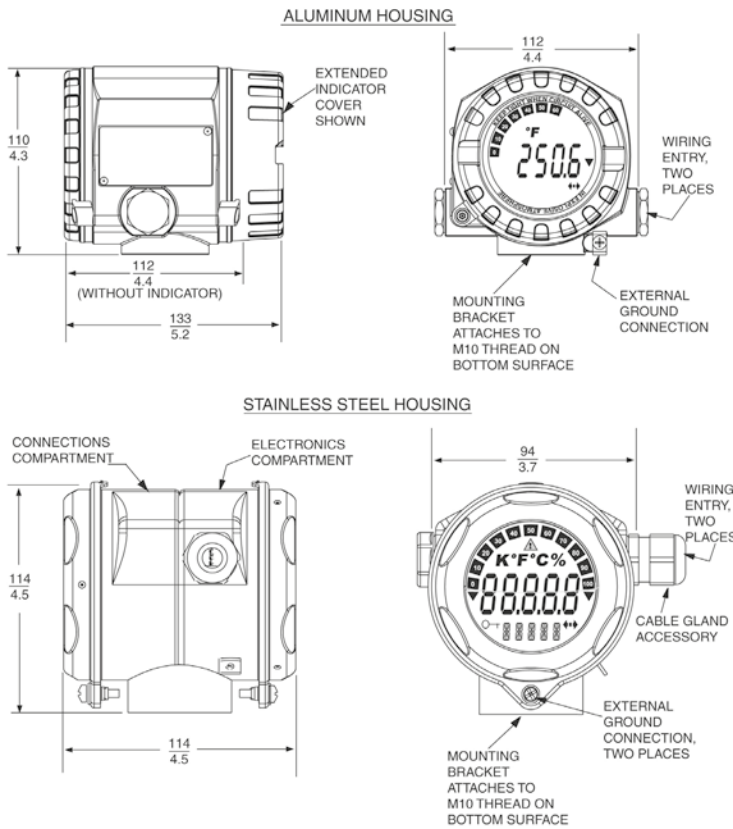
Specifications

Temperature Inputs:	2-, 3- and 4- wire RTD (Cu100, Ni100, Ni120, Pt100, Cu50, Ni1000, Pt50, Pt1000, Pt500, Cu10 and Pt200) Thermocouples; B,C,D,E,J,K,L,N,R,S,T and U Resistance and Millivolt input devices
Ambient Temperature Range Operative Limits:	Without Integral Indicator: -40 and +85°C (-40 and +185°F) With Integral Indicator: -40 - +70°C (-40 and +158°F)
Relative Humidity:	0 and 100% (condensation permitted)
Supply Voltage:	With HART Indicator: 18 – 40 V dc Without HART Indicator 11 – 40 V dc
Repeatability:	±0.0015% of the input range of the sensors
Long Term Stability:	<0.1°C (<0.18°F) per year or < 0.5% per year (whichever is greater)
Response Time:	1 second per channel
Fault Information per NAMUR NE 43:	Under-range: Linear drop to 3.8 mA Over-range: Linear rise to 20.5 mA Failure (sensor break or short circuit) <3.6 mA low or > 21 mA high (Selectable) High alarm is adjustable between 21.6 and 23 mA for flexibility with various control systems.
Warm-Up Time:	4 seconds
Electrical Conduit:	½ NPT and M20
Weight:	Aluminum Housing: 1.4 kg (3.1 lb) Stainless Steel Housing: 4.2 kg (9.3 lb)

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Model Code – RTT30 Temperature Transmitter



Description

Field Temperature Transmitter RTT30

Output Communication

HART -A
 Profibus PA -E
 Foundation Fieldbus -K

Housing

Alu, w/o display 1
 Alu + display 2
 316L w/o display 3
 316L + display 4

Cable Entry

2x thread NPT 1/2 1
 2x thread M20x1.5 2

Mounting Bracket

None 1
 Wall / pipe 2", L-shape 304 2
 Pipe 2", U-shaped, 316L 3

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Approval

Non-hazardous area.....	A
FM IS, NI I/1+2/ABCD	C
FM XP, DIP, IS, NI I,II,III/1+2/A-G	J
FM XP, NI, DIP I,II,III/1+2/A-G	F
CSA General Purpose.....	O
CSA IS, NI I/1+2/ABCD	D
CSA XP, DIP, IS, NI I,II,III/1+2/A-G	K
CSA XP, NI, DIP I,II,III/1+2/A-G	G
ATEX EEx d, EEx ia	H
ATEX II1/2D.....	N
ATEX II1/2GD EEx ia IIC T4/T5/T6	T
ATEX II1G EEx ia IIC T4/T5/T6.....	B
ATEX II2G EEx d IIC T6.....	E
ATEX II3G EEx nA nL IIC T4/T5/ T6None	L

Device Setup

Factory Default Setup	A
Setup According to Configuration Sheet.....	B

Marking

w/o Metal TAG.....	N
Tagging (TAG) metal, acc. To submitted configuration sheet	A

Optional Model Suffix(es) included:

Works calib cert. 6-point 60 Hz filter -B

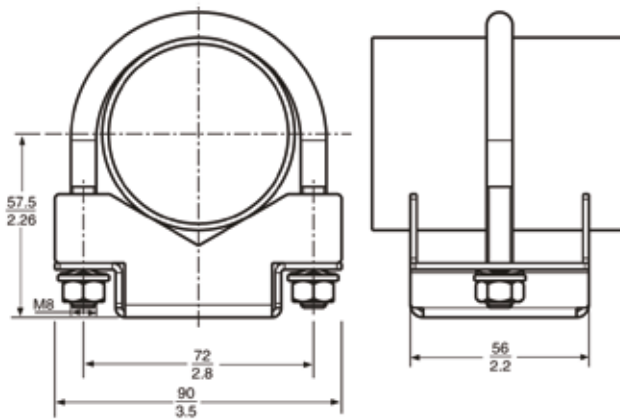
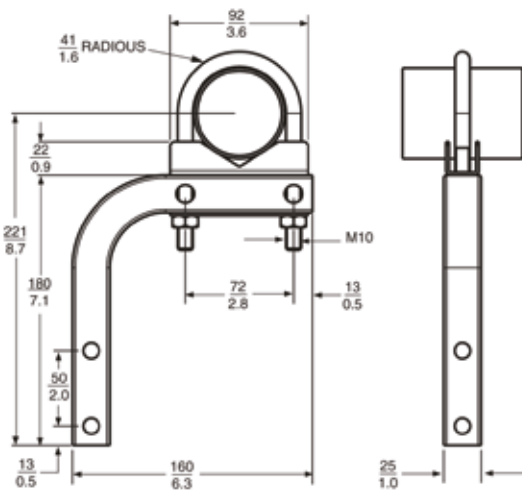
Example: RTT30-A213AA0-B

(a) The M20 threaded connection is not available with FM explosionproof approval Codes F and J.

(b) The Works Calibration Certificate is an evaluation and documentation of 6 fixed resistance values over the complete measuring range.

L-SHAPED MOUNTING BRACKET

U-SHAPED MOUNTING BRACKET



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