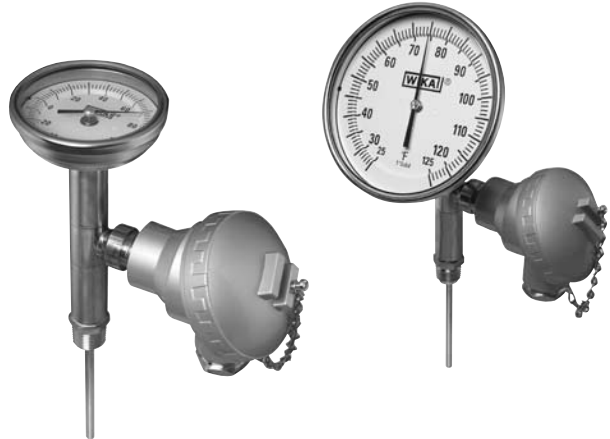


Twin-Temp Bimetal Thermometers with Thermocouple/RTD Output

Bimetal Thermometers with Thermocouple/RTD Output

Type TT.30, TT.32
TT.50, TT.52

- Twin-Temp with Reset
- Two Temperature Sensors
- Easy Readability



The Twin-Temp thermometer combines the convenience, simplicity, and self-powered actuation of a bimetal thermometer and data acquisition capabilities of a thermocouple or RTD electrical output. With standards traceable to the NIST, the Twin-Temp offers simplified calibration for ISO 9001 compliance and other statistical process control requirements. It is ideal in applications requiring quick and easy readability at the point of process, while still affording a means of electronic data acquisition and digital panel remote read-out. The Twin-Temp puts two temperature sensors to work at one location.

Standard Features

- **Case and Bezel:** 304 stainless steel
- **Case:** All angle or Back connected
- **Dial Size:** 3" or 5"
- **Process Connection:** ½" NPT standard
- **External Reset:** Slotted hex head, fully gasketed
- **Window:** Glass, fully gasketed
- **Hermetic Seal:** Per ASME B40.3
- **Stem:** 304 stainless steel, TIG welded at tip and case connector to prevent leakage.
¼" diameter standard, lengths available from 2½" to 48" for Thermocouple, 4" to 48" for RTD.
- **Over Range:** Maximum exposure 500°F
- **Thermocouple:** Type K grounded junction thermo couple standard. Types J, E, & T available
- **RTD:** 100-Ohm thin film Platinum DIN Curve (.00385 Ohm/Ohm/°C), 3 wire standard
- **Accuracy:** ± 1% of full range span
- **Warranty:** 1 year
- **Wiring:** Twin-Temp (RTD): Red- terminal 1, Green-terminal 2, Black- terminal 3 Twin-Temp (T/C): Negative- Red always, Positive- Colored (depends on t/c type)

Note: Silicone fill not available

Datasheets: [TT.30](#), [TT.32](#), [TT.50](#), [TT.52](#)

Ordering Twin-Temp Thermometers

Type TT.30, TT.32, TT.50, TT.52

HOW TO ORDER:

Select the appropriate codes and combine to complete thermometer part number.

Sample Part Number: 30 060 D 0 01 G 4 R1 A R

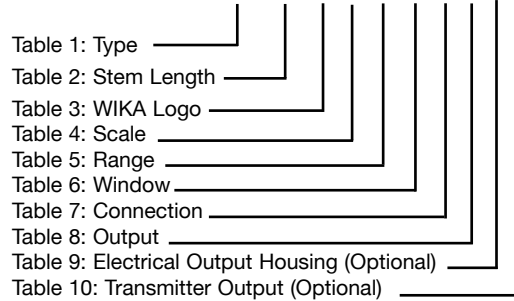


Table 1 - Type

Code	Description
30	3" Back connected (with reset)
32	3" All angle (with reset)
50	5" Back connected (with reset)
52	5" All angle (with reset)

Table 2 - Stem Length

(Pick stem length from either thermocouple or RTD table)

Code	Description
XXX	Length in inches with one decimal place (XX.X) RTD available only in 4" to 48" (040-480) stem length. Thermocouple available 2½"-48" (025-480).

Thermocouples- Types J, K, E, T Grounded Thermocouple Output (consult factory for ungrounded)

Stem Length	2.5	4	6	9	12	15	18	24	30	36	42	48
Code	025	040	060	090	120	150	180	240	300	360	420	480

Note: Thermocouple junction is welded to tip of stem

or

100 Ohm RTD-Output

Stem Length	2.5	4	6	9	12	15	18	24	30	36	42	48
Code	N/A	040	060	090	120	150	180	240	300	360	420	480

Note: RTD is placed in stem above bimetal helix (requires minimum 3½" insertion)

Table 3 - Dial Type

Code	Description
D	WIKAL standard
X	Special

Table 4 - Scale Type

Code	Description
0	Dual scale Fahrenheit and Celsius
1	Single scale Celsius only
2	Single scale Fahrenheit only

ABBREVIATIONS

N/A - this option is not available

Table 5 - Ranges

Code	Description	0	1	2
Code		Dual Scale °F & °C	Celsius Only	Fahrenheit Only
02*	-40/120°F & -40/50°C	-50/50°C	-	-40/120°F
03*	25/125°F & -5/50°C	0/50°C	-	25/125°F
04*	0/140°F & -20/60°C	0/140°F	-	-
05	0/200°F & -15/90°C	0/100°C	-	0/200°F
06	0/250°F & -20/120°C	-20/120°C	-	0/250°F
07	20/240°F & -5/115°C	-	-	20/240°F
08	50/300°F & 10/150°C	0/150°C	-	50/300°F
09	50/400°F & 10/200°C	0/200°C	-	50/400°F
10	50/500°F & 10/260°C	0/250°C	-	50/500°F
16	50/550°F & 10/260°C	-	N/A	50/550°F

* Not available with 2½" stem

Ordering Twin-Temp Thermometers continued

Table 6 - Window

Code	Description
G	Plain Glass
A	Acrylic
L	Lexan®
S	Shatterproof

Table 7 - Connection

Code	Description
2	¼" NPT
4	½" NPT

Choose an electrical output configuration from either the left column only or right column only.

Table 8 - Electrical Output & Connection Type Selections

Order from this column for direct thermocouple (female plug) or RTD (mini 3-pos terminal block) output only; **will not accept transmitter or enclosure head options.**

Electrical weatherproof housing connection is A 7/8-20 UNEF.
 Thermocouple= female plug
 RTD= 3-wire mini-terminal

Code	Description
TJ	Thermocouple output, Type J (female plug)
TK	Thermocouple output, Type K (female plug)
TE	Thermocouple output, Type E (female plug)
TT	Thermocouple output, Type T (female plug)
RA	100 ohm RTD output, 3 wire (terminal block)

Table 9 - Electrical Output Housing Options
(Match code to Table 8 output)

For non-transmitter units. Plug-in (RTD output wire-in) field connections only. (Match code to output selection in Table 8)

Code	Description
X	None
J	Straight barrel weather proof housing (7/8-20 UNEF) & plug
K	Straight barrel weather proof housing (7/8-20 UNEF) & plug
E	Straight barrel weather proof housing (7/8-20 UNEF) & plug
T	Straight barrel weather proof housing (7/8-20 UNEF) & plug
R	Straight barrel weather proof housing (7/8-20 UNEF)

Table 10 - Transmitter Output

For non-transmitter equipped units.

Plug-in (RTD output wire-in) field connection only.

Code	Description
X	None (mandatory on all non-transmitter models) (must use this code "X" for all TJ/TK/TE/TT/RA from Table 8)

Table 8 - Electrical Output & Connection Type Selections

Order from this column for unit with lead wires for both thermocouple or RTD output; **will accept enclosure head for transmitter or terminal block housing options.**

Electrical enclosure connection is A ½" NPT.
 Thermocouple or RTD is 6" flying lead wire.

Code	Description
*J1	Thermocouple output, Type J
K1	Thermocouple output, Type K
E1	Thermocouple output, Type E
T1	Thermocouple output, Type T
R1	100 ohm RTD output, 3 wire

* Longer lead wires available in 6" lead wire increments

Table 9 - Electrical Output Housing Options

For transmitter-equipped units.

Code	Description
X	None
A	*Standard aluminum head enclosure
H	*Exp. Proof Head

*(½" NPT Twin-Temp x ¾" NPT Field Conn.)

Table 10 - Transmitter Output

For transmitter equipped units.

Code	Description
X	None (mandatory on all non-transmitter models; must use this code "X" for all TJ/TE/TT/RA from Table 8)
T	^{1,2,4} -20mA transmitter for all thermocouple output
R	^{2,3,4} -20mA transmitter for all "R1" RTD output (from table 8)
B	³ Terminal Block (for field wiring termination (when transmitter not used)

¹only compatible with codes J1/K1/E1/T1;

²only compatible with code R1

³must use code A or H from table 9 for enclosure

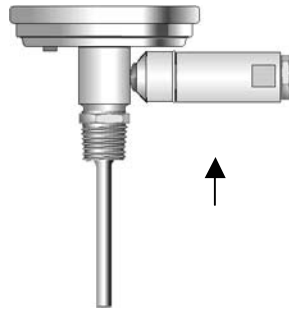
Possible combinations for Tables 6 & 10:

XX/JX/KX/EX/TX/RX

AX/AT/AR/AB

Twin-Temp Configurations

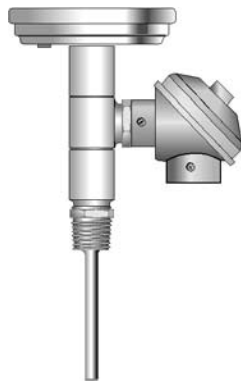
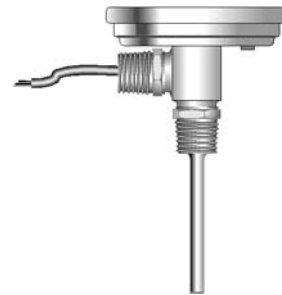
(cont.)



1. Weatherproof Housing and Plug

$\frac{7}{8}$ -20 UNEF threaded barrel with bushing and compression nut provide environmental protection to thermocouple/RTD connection. (Order code J,K,E,T or R from Table 9)

2. $\frac{1}{2}$ " NPT electrical connection with lead wire
Available in thermocouple or RTD. This allows site installation using other enclosures or piping systems. (Order code J1, K1, E1, T1, or R1 from Table 8)



3. Enclosure Head

A protective enclosure threads onto the optional $\frac{1}{2}$ " NPT electrical connection. The housing protects electrical connections from the environment. Houses a 4-20 mA transmitter or terminal block. Aluminum housing is standard. (Order code A from Table 9).

4. Terminal Block

Provides a connection point for the thermocouple or RTD. Mounts to thermocouple head with two screws. Requires lead-wire output connection (order code J1/K1/E1/T1/R1 from Table 8) and aluminum head enclosure (order code A from Table 9).



5. T-23 Thermocouple or T-24- RTD, 4-20 mA Transmitter

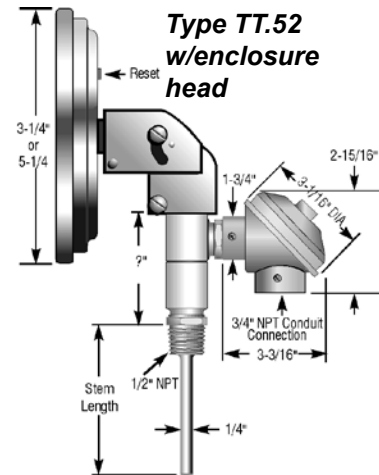
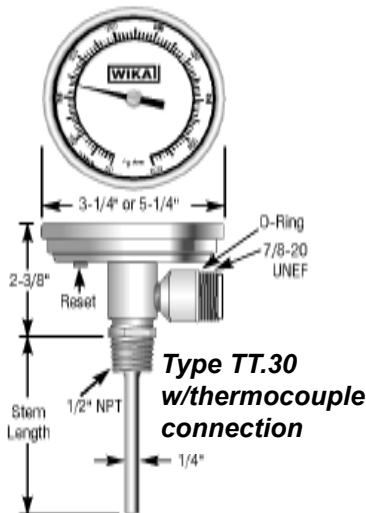
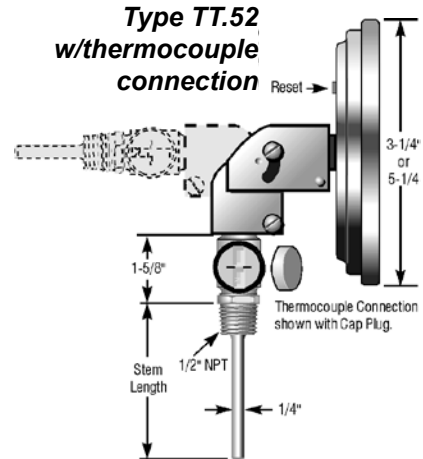
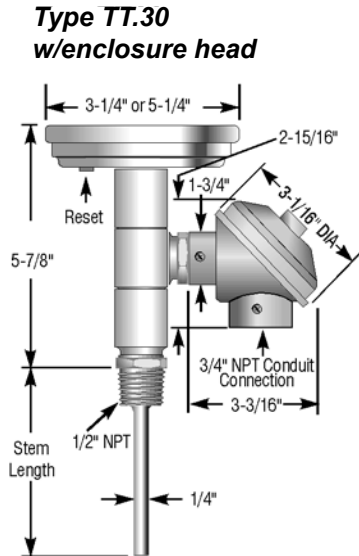
Provides a clean 4-20 mA signal to control room, data acquisition equipment, panel readout, etc. Requires lead-wire output connection (order code J1/K1/E1/T1/R1 from Table 8) and aluminum head enclosure (order code from Table 9)

Spare Parts	
Description	Part Number
Std. Aluminum Head	102-02
Terminal Block	2246228
¹⁾ Thermocouple Transmitter	4363278
¹⁾ RTD Transmitter	4363295
Weatherproof Housing	TA6S0-0608

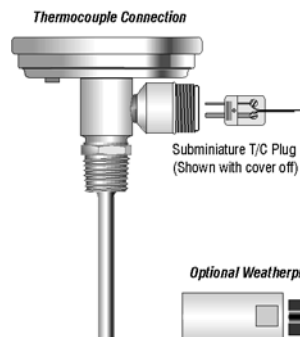
¹⁾ When order separate of a twin-temp, range must be specified

Twin-Temp Configurations

Examples



**Type TT.30
w/thermocouple Plug-in**



**Type TT.30
w/RTD terminal block**

