



330 Bi-metal



Bi-metal



Pocket



Solar Digital Bimetal



Bi-metal Thermowells



Flange Thermowell



Sanitary Thermowells



Socket Weld Thermowell



Test Thermowell



Weld-In Thermowells



Clamp-on



Diesel



Hot Water



HVAC Bi-metal



HVAC THERMOMETER (GC SERIES)



HVAC Remote Reading



Industrial 5AS



Hydrometers, Alcohol Thermometer & Alcohol Trial Jar



Industrial 9IT Solar Powered



Industrial 9IT



Industrial 9IT Thermowells



Industrial Thermowells



Laboratory



Long Stem



Remote Reading



Non-Contact



Solar Digital Remote



Surface Magnet



Tridicators

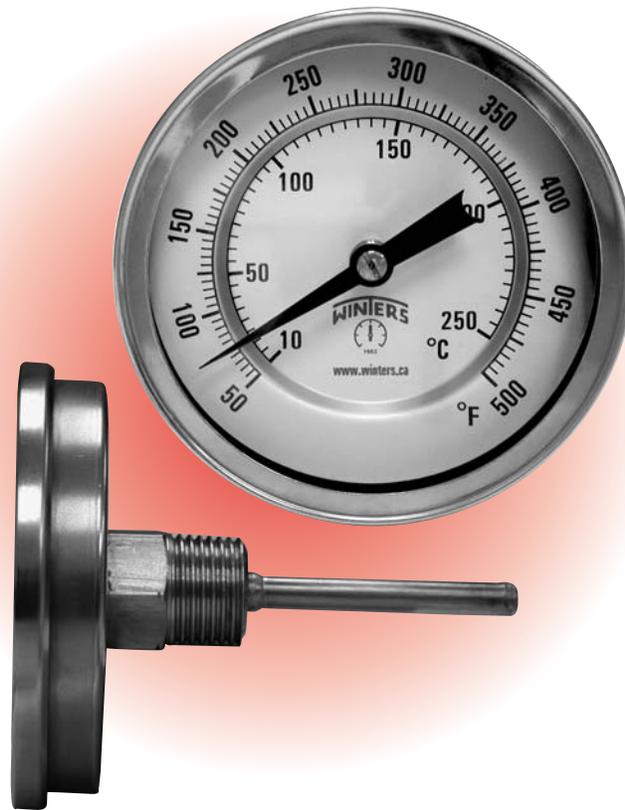


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330 Series Bi-Metal Thermometer



Description

Winters 330 Series Bi-Metal Thermometers are designed to provide an economical solution for accurate temperature readings. The name Bi-Metal is derived from the thermometers construction. The Bi-Metal Thermometer has two thin strips of metal with different degrees of heat co-efficient. The two strips are bonded together and form a helix or coil, which is attached to a pointer on a dial. When the temperature increases or decreases the two strips of metal react differently and cause the movement in the coil which then moves the pointer on the dial indicating the temperature.

Winters 330 Series Bi-Metal Thermometers, are simple to read, hermetically sealed (waterproof), equipped with a Lexan[®] lens (virtually unbreakable plastic) and are designed with a dished shaped dial (which prevents parallax error when a temperature reading is taken).

These Bi-Metal Thermometers are designed to provide fast and accurate temperature readings for most industrial applications (e.g. HVAC applications, food applications, etc.). Where vibration exists, liquid filling is available to dampen pointer movement.

Lexan[®] is a registered trademark of General Electric



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330 Series Bi-Metal Thermometer

How to order

Product Codes

T33025	3" (75 mm) dial with 2.5" (63 mm) stem
T33040	3" (75 mm) dial with 4" (100 mm) stem
T33060	3" (75 mm) dial with 6" (150 mm) stem
T33090	3" (75 mm) dial with 9" (225 mm) stem

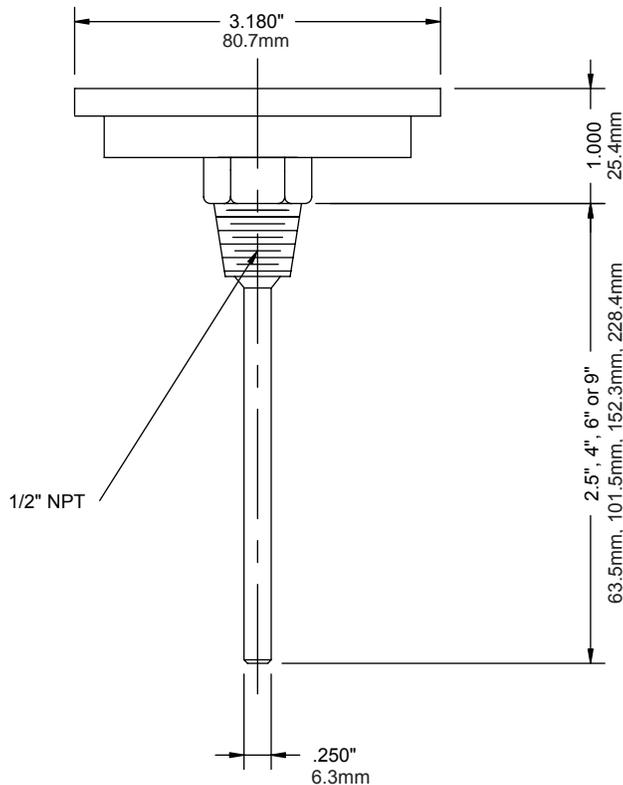
Available Temperature Ranges

Code	Ranges (F/C)
B2	(-40°F to 120°F / -40°C to 50°C)
B4	(-40°F to 160°F / -40°C to 70°C)
B6	(0°F to 200°F / -20°C to 90°C)
B8	(0°F to 250°F / -20°C to 120°C)
B9	(50°F to 300°F / 10°C to 150°C)
B10	(50°F to 400°F / 10°C to 200°C)
B11	(50°F to 500°F / 10°C to 260°C)
B12	(150°F to 750°F / 100°C to 400°C)
B13	(200°F to 1000°F / 100°C to 540°C)

Specifications

Dial:	3" (75mm) dial, aluminum with black markings, dished shaped
Case/Ring:	AISI 304 stainless steel
Lens:	Lexan [®] , hermetically sealed
Pointer:	Brass, painted black
Movement:	Bi-metallic coil
Stem:	AISI 304 stainless steel
Connection:	1/2" NPT, centre back
Welding:	TIG
Maximum Operating Pressure:	125 psi (861 kpa)*
Ambient Temperature:	Maximum +248F (+120C)
Operating Temperature:	Recommended maximum 75% of full scale value
Accuracy:	± 1% full scale
Protection:	IP65

(* For pressures above 125 psi (861 kPa) it is recommended that a Winters thermowell be used in conjunction with the Bi-Metal Thermometer.)



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12/02

Bi-Metal Thermometer

**NEW
4"
SIZE**



Description

Bi-Metal Thermometers are measuring instruments used to indicate temperature. The name Bi-Metal is derived from the thermometers construction. The Bi-Metal Thermometer has two thin strips of metal with different degrees of heat co-efficient. The two metal strips are bonded together and form a helix or coil, which in turn, is attached to a pointer on a dial. When the temperature increases or decreases the two strips of metal react differently and cause movement in the coil which moves the pointer on a dial thereby indicating the temperature.

Winters' Bi-Metal Thermometers are easy to read, hermetically sealed (waterproof), and have a recalibrator-reset screw to adjust the pointer if necessary. The Bi-Metal thermometer case and stem are made of 304 stainless steel.

Winters Bi-Metal Thermometers are designed to provide fast and accurate temperature readings for most industrial applications (eg. HVAC applications, food applications, etc.) A hermetically sealed, dished shaped dial prevents parallax error when a temperature reading is taken.

When vibration exists, liquid filling is available to dampen pointer movement. For food and other applications where glass is not permitted, an acrylic lens is available.

(* For pressures above 125 psi (861 kPa) it is recommended that a Winters Thermowell be used in conjunction with the Bi-Metal Thermometer.)

** N/A on 3" bottom.

Specifications

Dial:	2" (50mm), 3" (75mm), 4" (100mm) and 5" (125mm) dials, aluminum with black markings, dished shaped
Case:	AISI 304 stainless steel
Lens:	Glass standard, hermetically sealed
Ring:	AISI 304 stainless steel
Pointer:	Brass, painted black
Movement:	Bi-metallic coil
Stem:	AISI 304 stainless steel, centre back, bottom or adjustable angle configurations (note: 2" (50mm) dial only available with centre back connection)
Connection:	¹ / ₄ " NPT standard for 2" (50mm) dial ¹ / ₂ " NPT standard for 3" (75mm), 4" (100mm) and 5" dials (125mm)
Welding:	TIG
Recalibrator:	Standard**
Maximum Operating Pressure:	125 psi (861 kPa)*
Ambient Temperature:	-58°F - 248°F (-50°C - 120°C)
Operating Temperature:	Recommended maximum 75% of Full scale value
Accuracy:	± 1% full scale
Protection:	IP65



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Bi-Metal Thermometer

How to order: Specify product code

Dial Size	Stem length	Product #:		
		Fixed Center Back	Bottom	Adjustable Angle
1"(25mm) (Pocket thermometer)	5"(125mm)	T10050	N/A	N/A
2"(50mm) (Lab thermometer)	8"(200mm)	T20080	N/A	N/A
2"(50mm)	2.5"(63mm)	T20025	N/A	N/A
	4"(100mm)	T20040	N/A	N/A
	6"(150mm)	T20060	N/A	N/A
	9"(225mm)	T20090	N/A	N/A
	12"(300mm)	T20120	N/A	N/A
	3"(75mm)	2.5"(63mm)	T30025	T31025
4"(100mm)		T30040	T31040	T32040
6"(150mm)		T30060	T31060	T32060
9"(225mm)		T30090	T31090	T32090
12"(300mm)		T30120	T31120	T32120
4" (100mm)	2.5"(63mm)	T40025	T41025	T42025
	4"(100mm)	T40040	T41040	T42040
	6"(150mm)	T40060	T41060	T42060
	9"(225mm)	T40090	T41090	T42090
	12"(300mm)	T40120	T41120	T42120
5"(125mm)	2.5"(63mm)	T50025	T51025	T52025
	4"(100mm)	T50040	T51040	T52040
	6"(150mm)	T50060	T51060	T52060
	9"(225mm)	T50090	T51090	T52090
	12"(300mm)	T50120	T51120	T52120



RANGES

F & C (Dual)	Code #	F only	Code #	C Only	Code #
-100/150° F / -70/ 70° C	B1	-40/120° F	B14	-80/50° C	B26
- 40/120° F / -40/ 50° C	B2	-40/160° F	B15	-50/50° C	B27
0/140° F / -20/ 60° C	B3	0/140° F	B16	0/50° C	B28**
- 40/160° F / -40/ 70° C	B4	0/200° F	B17	-50/100° C	B29
25/125° F / - 5/ 50° C	B5**	20/240° F	B18	0/100° C	B30
0/200° F / -20/ 90° C	B6	0/250° F	B19	-20/120° C	B31
20/240° F / - 5/115° C	B7	50/300° F	B20	0/150° C	B32
0/250° F / -20/120° C	B8	50/400° F	B21	0/200° C	B33
50/300° F / 10/150° C	B9	50/550° F	B22	0/300° C	B34
50/400° F / 10/200° C	B10	150 / 750° F	B23	0/450° C	B35
50/500° F / 10/260° C	B11	0/800° F	B24	100/550° C	B36
150/750° F / 100/400° C	B12	200/1000° F	B25		
200/1000° F / 100/540° C	B13				

** Not available with a 2.5"(63mm) stem. Longer stem lengths are available. Silicone fill is available. (6" (150mm) dial available upon request)
Other dial sizes, ranges, connections and stem lengths are available upon request.

OPTIONS: • AP3 = 3" Acrylic lens • AP4 = 4" Acrylic lens
• AP5 = 5" Acrylic lens • SG = Safety Glass lens

Note: Add code "BG" for liquid filled dial; 3"(75mm), 4"(100mm) & 5"(125mm) only, up to 300°F (150°C)



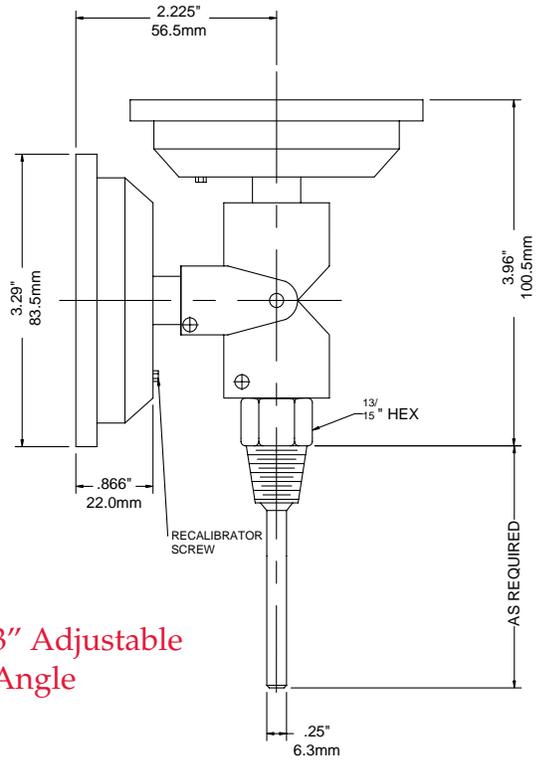
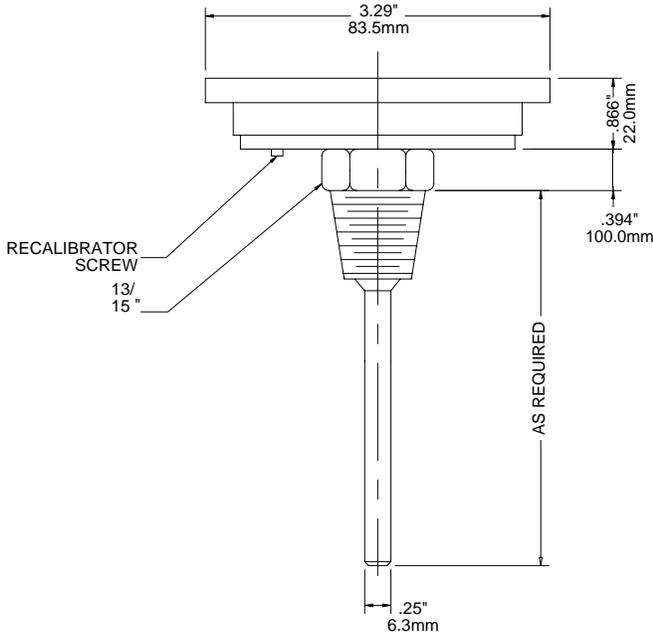
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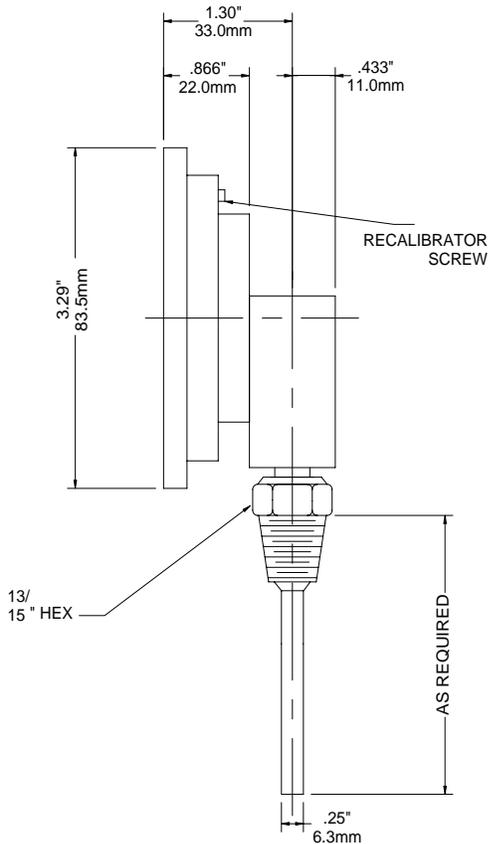
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Bi-Metal Thermometer

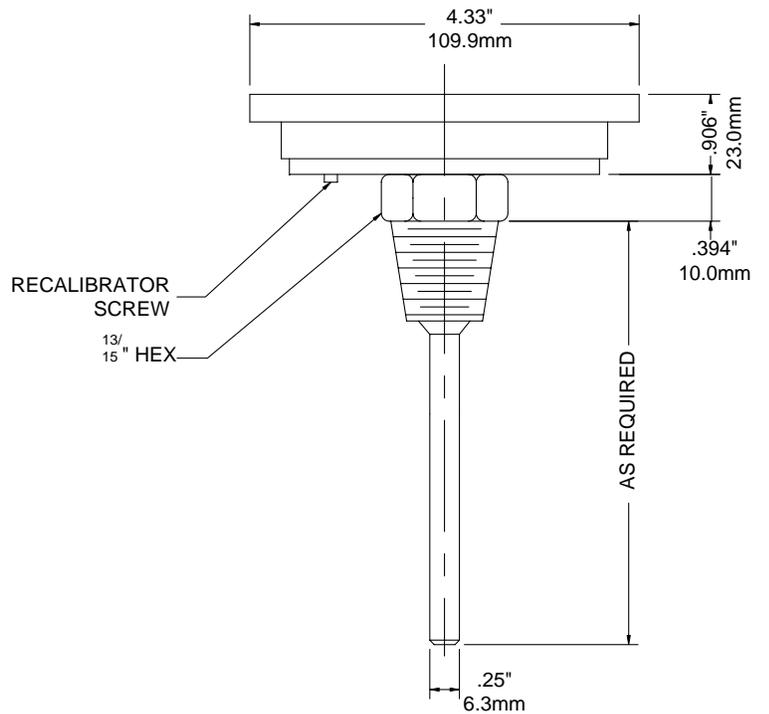
3" Back Connection



3" Bottom Connection



4" Back Connection



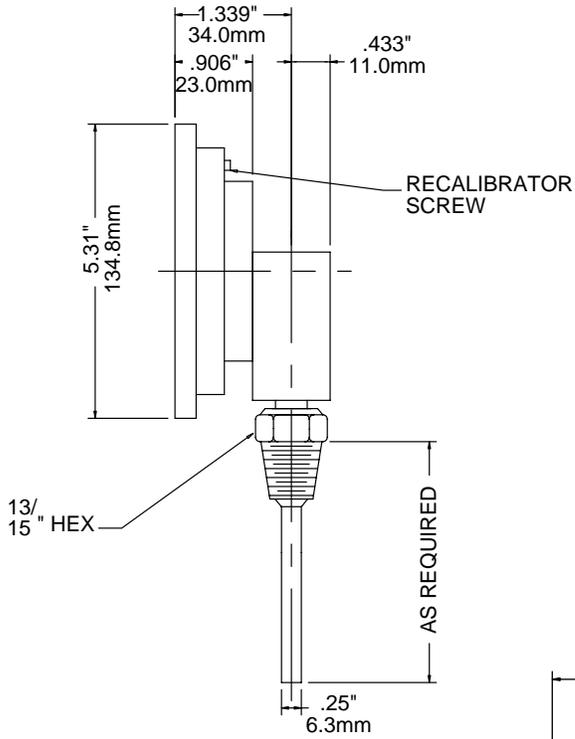
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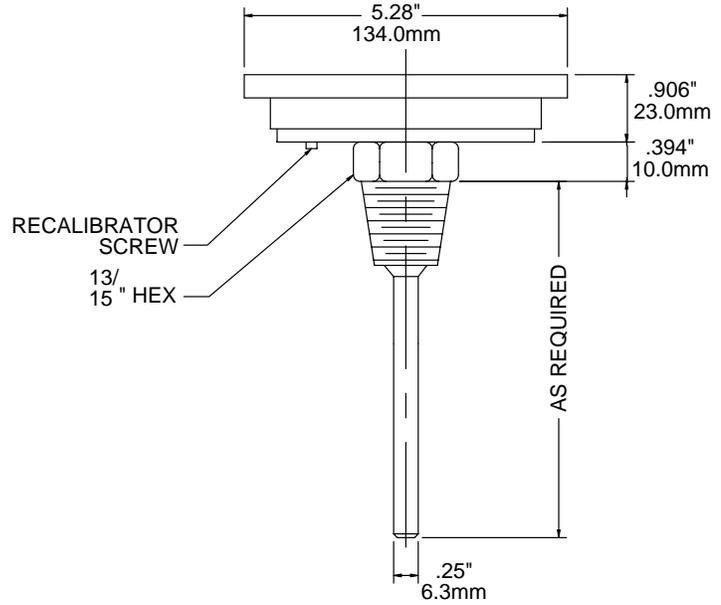
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Bi-Metal Thermometer

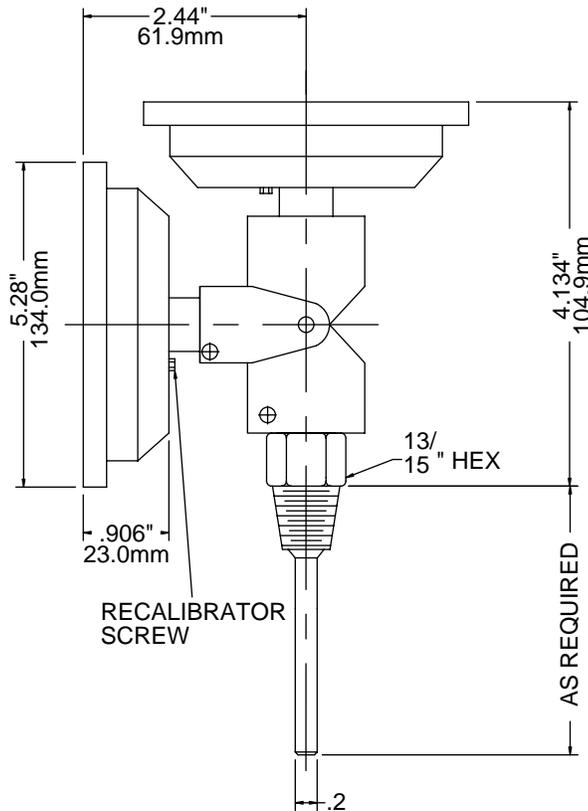
5" Bottom Connection



5" Back Connection



5" Adjustable Angle



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Pocket Test Thermometer



Specifications

Dial:	1.025" (26.035mm), aluminum painted white with black markings
Case:	AISI 304 stainless steel
Lens:	Plexiglass
Ring:	AISI 304 stainless steel
Pointer:	Brass, painted black
Welding:	TIG
Movement:	Bi-metallic coil
Stem:	AISI 304 stainless steel, centre back
Recalibrator:	Standard
Accuracy:	± 1% full scale
Protection:	IP65

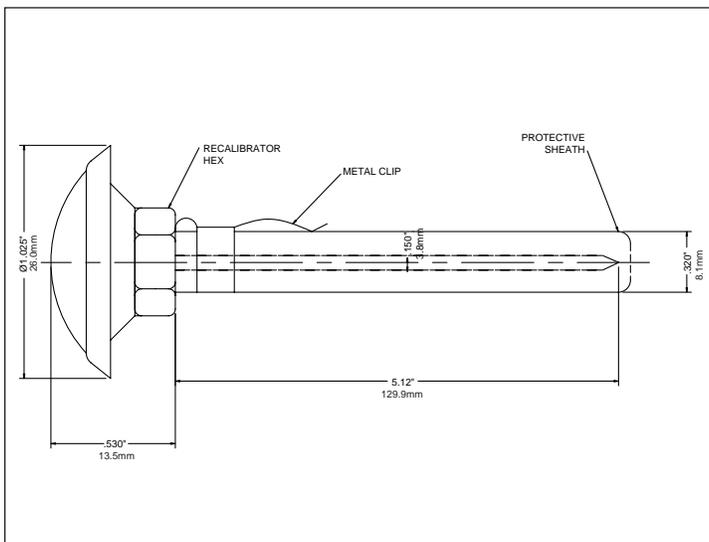
Description

Winters Pocket Test Thermometer is useful for applications requiring fast and accurate temperature readings. This thermometer is popular for use in the food, heating/air conditioning and refrigeration industries. Each thermometer comes standard with a plastic pocket carrying case with clip.

How to order: Specify product code

Product Code	Temperature Range
T10050B5	25°F/125°F only
T10050B15	-40°F/160°F only
T10050B17	0°F/220°F only
T10050B22	50°F/550°F only
T10050B30	0°C/100°C only

Note: Other temperature ranges available upon request.



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Solar Digital Bi-Metal Thermometer



- 10 Second Response Time
- LUX Rating 35
- Hermetically Sealed
- NEMA 4

Description

Winters' Solar Digital Bi-metal Thermometer provides fast and accurate temperature measurement under minimal lighting conditions. It is available with a 3" (75mm) dial and comes in various stem lengths from 2 1/2" (63mm) to 24" (600mm). This Solar Digital Thermometer is available in a °F scale or °C scale.

The Winters' Solar Digital Bi-Metal Thermometer offers a state-of-the-art ceramic resistance sensor which allows for a 10 second response time and a 35 LUX rating.

The Solar Digital Bi-metal Thermometer is recommended for most industrial applications such as; heating, cooling, pipelines, pumps and tanks.

Specifications

Dial:	3" (75mm)
Case:	304 stainless steel case
Lens:	Glass (3mm thickness)
Ring:	304 stainless steel, bezel, hermetically sealed
Display:	LCD
Stem:	304 stainless steel, 0.25" diameter, with various lengths 2 1/2" (63mm) to 24" (600mm)
Connection:	1/2" NPT fully adjustable
Sensor:	Ceramic resistance
Lux Rating:	35 LUX
Temperature Range:	-50-320°F or -50-180°C
Ambient Temperature:	-50°F - 122°F (-20°C - 50°C)
Operating Temperature:	-50°F - 122°F (-20°C - 50°C)
Response Time:	10 seconds
Accuracy:	1%
Protection:	NEMA 4 / IP 65



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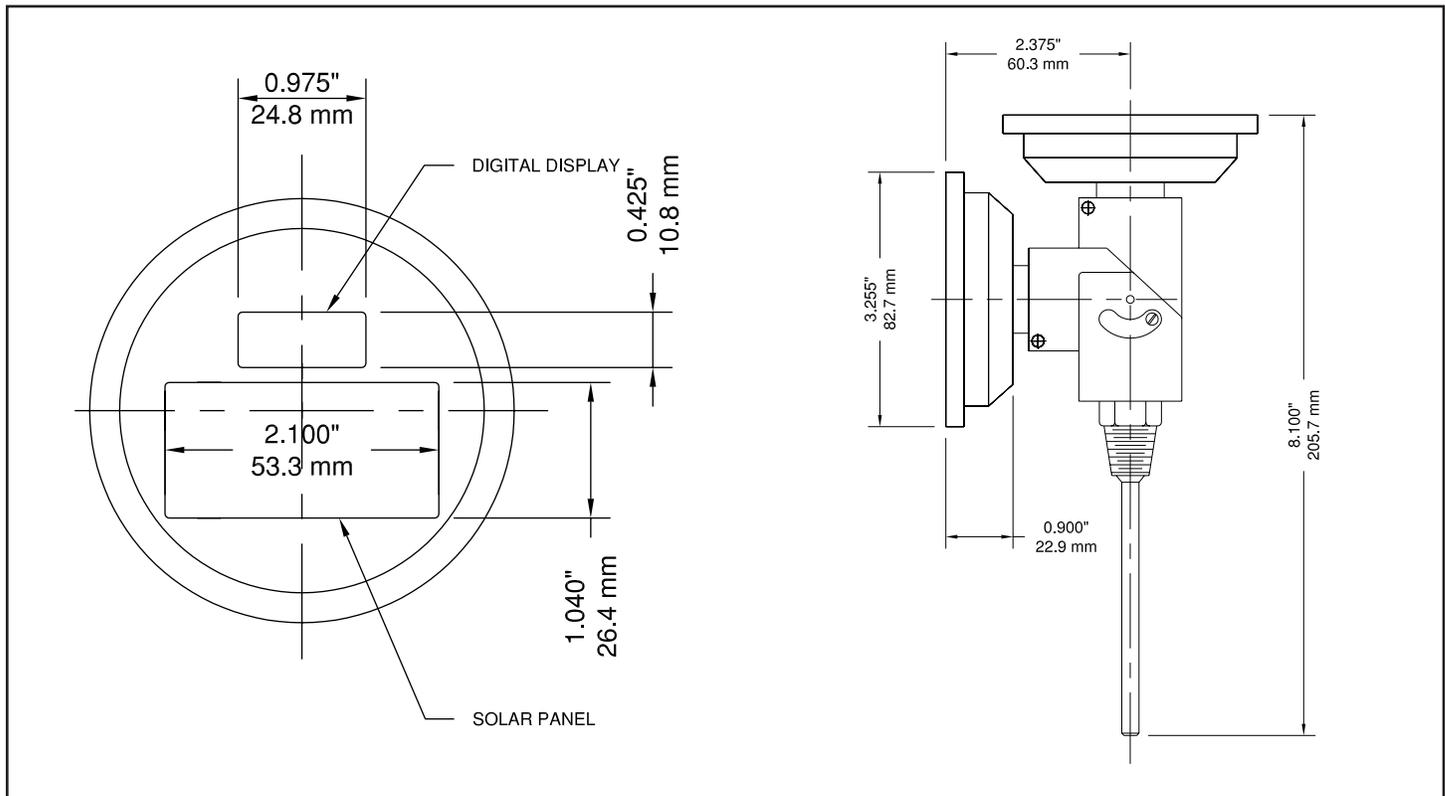
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Solar Digital Bi-Metal Thermometer

Dial Size	Stem Length	Product Codes	
		°F Scale	°C Scale
3" (75mm) (Adjustable Angle)	2.5" (63mm)	TD32025F	TD32025C
	4" (100mm)	TD32040F	TD32040C
	6" (150mm)	TD32060F	TD32060C
	9" (225mm)	TD32090F	TD32090C
	12" (300mm)	TD32120F	TD32120C
	15" (370mm)	TD32150F	TD32150C
	18" (450mm)	TD32180F	TD32180C
	24" (600mm)	TD32240F	TD32240C

Options:

- $\frac{1}{4}$ " NPT and $\frac{3}{8}$ " NPT connection
- Longer stem lengths available up to 72"
- 316 Stainless Steel Wetted parts and sharp tip are available



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06/03

Bi-Metal Thermowells

CRN



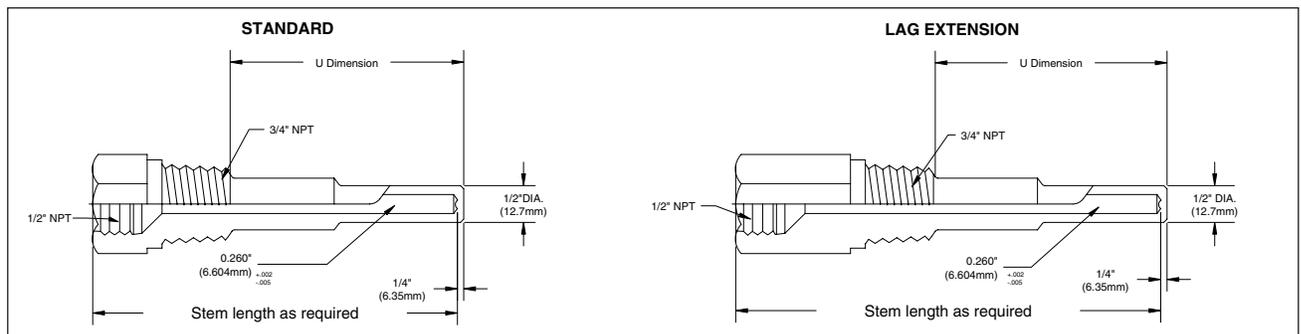
Description

Winters CRN registered Bi-Metal Thermometer Thermowells are available in a wide range of materials for use on most applications. The use of a Bi-Metal Thermometer Thermowell allows for the creation of a “sealed system” whereby the thermometer can be removed from the application without the need for shutting down or draining the system. Also, an additional benefit of a thermowell is to protect the thermometer from possible exposure to the process media.

Our standard “stepped construction” offering is complemented by an array of custom thermowells including: straight, tapered, sanitary and flanged configurations.

Specifications

Thermometer Connection:	1/2" NPT female connection
Process Connection:	Standard; other thread sizes are available upon request
Process Connection:	3/4" NPT connection standard; other thread sizes are available upon request
Bore:	0.260" (6.604mm) bore standard
Construction:	Stepped construction standard; tapered construction available upon request
Material:	Brass, AISI 304 stainless steel and AISI 316 stainless steel standard. Other materials available upon request.



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Bi-Metal Thermowells

Bi-Metal Thermowell Product Codes:

Thermometer Stem Length	NPT CONN.	Material	Standard	Standard Insertion Length (U Dimension)	Lag Extension	Lag Extension Insertion Length (U Dimension)	
2.5"(63mm)	3/4"	Brass	B25	1 ³ / ₈ "(34.925mm)	N/A	N/A	
	3/4"	304 St/St.	B25-1	1 ³ / ₈ "(34.925mm)	N/A	N/A	
	3/4"	316 St/St.	B25-2	1 ³ / ₈ "(34.925mm)	N/A	N/A	
	1/2"	Brass	B2550	1 ³ / ₈ "(34.925mm)	N/A	N/A	
	1/2"	304 St/St.	B25-150	1 ³ / ₈ "(34.925mm)	N/A	N/A	
	1/2"	316 St/St.	B25-250	1 ³ / ₈ "(34.925mm)	N/A	N/A	
	4"(100mm)	3/4"	Brass	B35	2 ¹ / ₂ "(63mm)	N/A	N/A
3/4"		304 St/St.	B35-1	2 ¹ / ₂ "(63mm)	N/A	N/A	
3/4"		316 St/St.	B35-2	2 ¹ / ₂ "(63mm)	N/A	N/A	
1/2"		Brass	B3550	2 ¹ / ₂ "(63mm)	N/A	N/A	
1/2"		304 St/St.	B35-150	2 ¹ / ₂ "(63mm)	N/A	N/A	
1/2"		316 St/St.	B35-250	2 ¹ / ₂ "(63mm)	N/A	N/A	
1"		Brass	B35100	2 ¹ / ₂ "(63mm)	N/A	N/A	
1"		304 St/St.	B35-1100	2 ¹ / ₂ "(63mm)	N/A	N/A	
1"		316 St/St.	B35-2100	2 ¹ / ₂ "(63mm)	N/A	N/A	
6"(150mm)		3/4"	Brass	BR6	4 ¹ / ₂ "(115mm)	BN6	2 ¹ / ₂ " (50.8mm)
	3/4"	304 St/St.	BR6-1	4 ¹ / ₂ "(115mm)	BN6-1	2 ¹ / ₂ " (50.8mm)	
	3/4"	316 St/St.	BR6-2	4 ¹ / ₂ "(115mm)	BN6-2	2 ¹ / ₂ " (50.8mm)	
	1/2"	Brass	BR650	4 ¹ / ₂ "(115mm)	N/A	N/A	
	1/2"	304 St/St.	BR6-150	4 ¹ / ₂ "(115mm)	N/A	N/A	
	1/2"	316 St/St.	BR6-250	4 ¹ / ₂ "(115mm)	N/A	N/A	
	1"	Brass	BR6100	4 ¹ / ₂ "(115mm)	N/A	N/A	
	1"	304 St/St.	BR6-1100	4 ¹ / ₂ "(115mm)	N/A	N/A	
	1"	316 St/St.	BR6-2100	4 ¹ / ₂ "(115mm)	N/A	N/A	
	9"(228.6mm)	3/4"	Brass	BR9	7 ¹ / ₂ "(190.5mm)	BN9	5" (127mm)
		3/4"	304 St/St.	BR9-1	7 ¹ / ₂ "(190.5mm)	BN9-1	5" (127mm)
3/4"		316 St/St.	BR9-2	7 ¹ / ₂ "(190.5mm)	BN9-2	5" (127mm)	
1/2"		Brass	BR950	7 ¹ / ₂ "(190.5mm)	N/A	N/A	
1/2"		304 St/St.	BR9-150	7 ¹ / ₂ "(190.5mm)	N/A	N/A	
1/2"		316 St/St.	BR9-250	7 ¹ / ₂ "(190.5mm)	N/A	N/A	
1"		Brass	BR9100	7 ¹ / ₂ "(190.5mm)	N/A	N/A	
1"		304 St/St.	BR9-1100	7 ¹ / ₂ "(190.5mm)	N/A	N/A	
1"		316 St/St.	BR9-2100	7 ¹ / ₂ "(190.5mm)	N/A	N/A	
12"(304.8mm)		3/4"	Brass	BR12	10 ¹ / ₂ "(266.7mm)	BN12	7 ³ / ₄ " (203mm)
	3/4"	304 St/St.	BR12-1	10 ¹ / ₂ "(266.7mm)	BN12-1	7 ³ / ₄ " (203mm)	
	3/4"	316 St/St.	BR12-2	10 ¹ / ₂ "(266.7mm)	BN12-2	7 ³ / ₄ " (203mm)	
	1/2"	Brass	BR1250	10 ¹ / ₂ "(266.7mm)	N/A	N/A	
	1/2"	304 St/St.	BR12-150	10 ¹ / ₂ "(266.7mm)	N/A	N/A	
	1/2"	316 St/St.	BR12-250	10 ¹ / ₂ "(266.7mm)	N/A	N/A	
	1"	Brass	BR12100	10 ¹ / ₂ "(266.7mm)	N/A	N/A	
	1"	304 St/St.	BR12-1100	10 ¹ / ₂ "(266.7mm)	N/A	N/A	
	1"	316 St/St.	BR12-2100	10 ¹ / ₂ "(266.7mm)	N/A	N/A	

Options:

- 1/4" NPT thermometer connection available
- 1" NPT process connection available
- BSP threads available upon request
- Tapered construction available upon request
- Other materials such as Monel, Inconel, Hastelloy C and Titanium are available upon request
- 1/2" NPT process connection available
- Other lengths available up to 48"(welded construction only)
- Flanged thermowells available upon request
- SCK - Socket Conversion Kit



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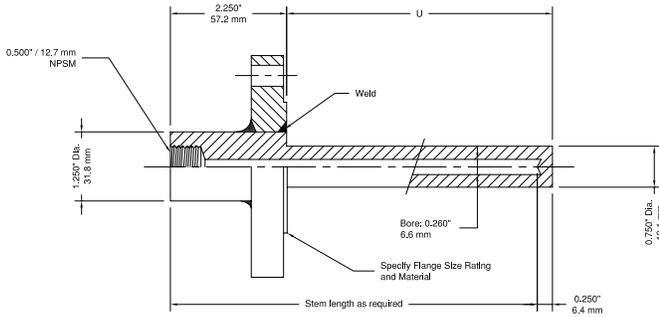
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03/03

Thermowells

FLANGED

New!



Features:

- 304 stainless steel or 316 stainless steel construction
- 1/2" NPSM thermometer connection
- 0.260" (6.604mm) bore standard (0.385 (9.779mm) bore available)

Applications:

Designed for use on a closed system. The flanged thermowell allows a closed system to easily be disassembled.

How to order: Specify product code

Element Length	"U" Dimension	Material	Product Codes		
			Flange Size and Rating		
			1", 150#	1.5", 150#	2", 150#
4" stem	2"	304 St/St.	TWF11504304	TWF151504304	TWF21504304
4" stem	2"	316 St/St.	TWF11504316	TWF151504316	TWF21504316
6" stem	4"	304 St/St.	TWF11506304	TWF151506304	TWF21506304
6" stem	4"	316 St/St.	TWF11506316	TWF151506316	TWF21506316
9" stem	7"	304 St/St.	TWF11509304	TWF151509304	TWF21509304
9" stem	7"	316 St/St.	TWF11509316	TWF151509316	TWF21509316
12" stem	10"	304 St/St.	TWF115012304	TWF1515012304	TWF215012304
12" stem	10"	316 St/St.	TWF115012316	TWF1515012316	TWF215012316
15" stem	13"	304 St/St.	TWF115015304	TWF1515015304	TWF215015304
15" stem	13"	316 St/St.	TWF115015316	TWF1515015316	TWF215015316

Element Length	"U" Dimension	Material	Flange Size and Rating		
			1", 300#		
			1", 300#	1.5", 300#	2", 300#
4" stem	2"	304 St/St.	TWF13004304	TWF153004304	TWF23004304
4" stem	2"	316 St/St.	TWF13004316	TWF153004316	TWF23004316
6" stem	4"	304 St/St.	TWF13006304	TWF153006304	TWF23006304
6" stem	4"	316 St/St.	TWF13006316	TWF153006316	TWF23006316
9" stem	7"	304 St/St.	TWF13009304	TWF153009304	TWF23009304
9" stem	7"	316 St/St.	TWF13009316	TWF153009316	TWF23009316
12" stem	10"	304 St/St.	TWF130012304	TWF1530012304	TWF230012304
12" stem	10"	316 St/St.	TWF130012316	TWF1530012316	TWF230012316
15" stem	13"	304 St/St.	TWF130015304	TWF1530015304	TWF230015304
15" stem	13"	316 St/St.	TWF130015316	TWF1530015316	TWF230015316

Other configurations available.

SANITARY

Features:

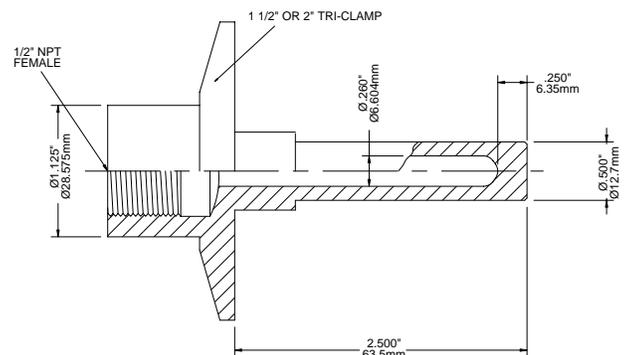
- 316 stainless steel
- 1.5" (40mm) or 2" (50mm) Tri-Clamp® connection
- 1/2" NPT thermometer connection
- Lengths to fit all standard bimetal thermometers

Applications:

Designed specifically for sanitary requirements of the food and dairy industry. Winters Sanitary Thermowells allow for easy installation and replacement of bimetallic dial thermometers without draining the process.

How to order: Specify product code

Stem Length	Code	Tri-Clamp® connection
2.5" (63mm)	15SANI2	1.5" (40mm)
4" (100mm)	15SANI4	1.5" (40mm)
6" (150mm)	15SANI6	1.5" (40mm)
9" (225mm)	15SANI9	1.5" (40mm)
Over 9"	15SANIX	1.5" (40mm)
2.5" (63mm)	2SANI2	2" (50mm)
4" (100mm)	2SANI4	2" (50mm)
6" (150mm)	2SANI6	2" (50mm)
9" (225mm)	2SANI9	2" (50mm)
Over 9"	2SANIX	2" (50mm)



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Sanitary Thermowells



Description

Winters Sanitary Thermowells are designed for use with a Bi-metal thermometer or RTD for use in the food and dairy industry, or any application requiring sanitary equipment. Winters Sanitary Thermowells allow for easy installation and replacement of a Bi-metal thermometer or RTD while maintaining a sealed system.

Specifications

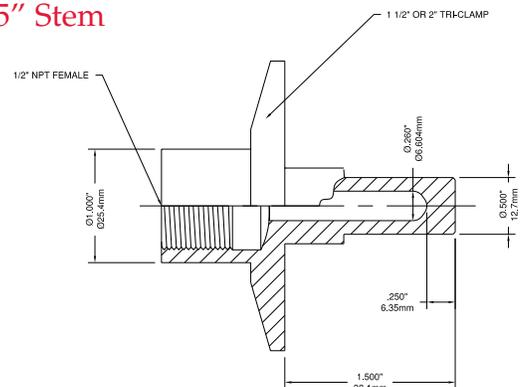
Thermometer Connection:	1/2" NPT female connection standard; other thread sizes are available upon request.
Process Connection:	1 1/2" (40mm) and 2" (50mm) Tri-clamp® connection.
Bore:	0.260" (6.604mm) bore standard
Construction:	Stepped construction thermowell with welded Tri-clamp® connection
Material:	AISI 316 stainless steel

® Tri-clamp is a registered trademark of Tri-Clover

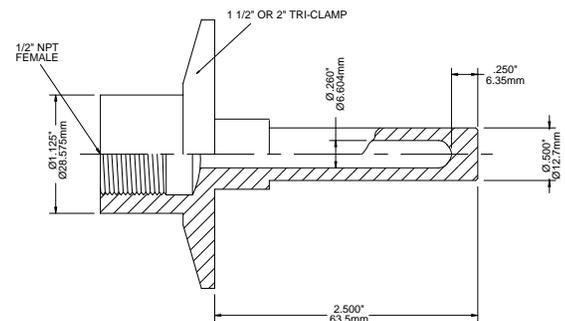
How to order: Specify product code PRODUCT CODES

Stem Length	Code	Tri-Clamp® connection
2.5" (63mm)	15SANI2	1.5" (40mm)
4" (100mm)	15SANI4	1.5" (40mm)
6" (150mm)	15SANI6	1.5" (40mm)
9" (225mm)	15SANI9	1.5" (40mm)
Over 9"	15SANIX	1.5" (40mm)
2.5" (63mm)	2SANI2	2" (50mm)
4" (100mm)	2SANI4	2" (50mm)
6" (150mm)	2SANI6	2" (50mm)
9" (225mm)	2SANI9	2" (50mm)
Over 9"	2SANIX	2" (50mm)

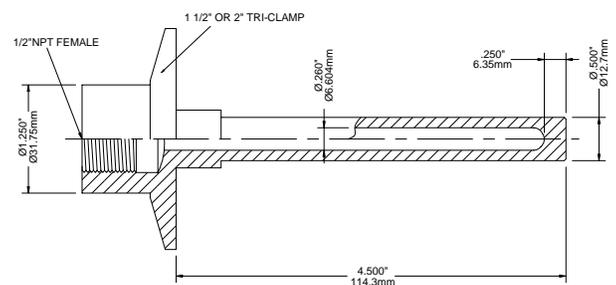
2.5" Stem



4" Stem



6" Stem



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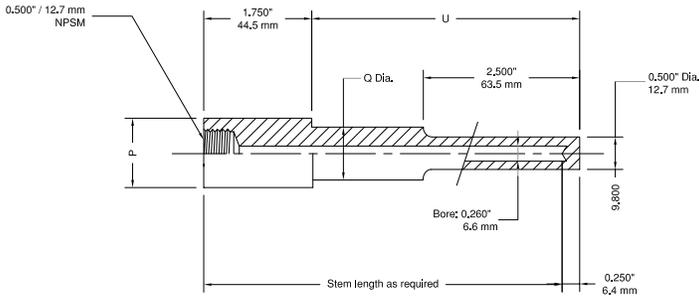
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Thermowells

SOCKET WELD

New!

How to order: Specify product code
PRODUCT CODES



Features:

- 304 stainless steel or 316 stainless steel construction
- 1/2" NPSM thermometer connection
- 0.260" (6.604mm) bore
- Other configurations available

Applications:

Designed to be welded in place within the system. Common applications include: slow velocity applications, for example, a feed water system on a boiler.

Stem Length	"U" Dimension	Material	Code
3/4" Pipe Size			
4" (100mm)	2.5"	304 St./St.	TWSW754304
4" (100mm)	2.5"	316 St./St.	TWSW754316
6" (150mm)	4.5"	304 St./St.	TWSW756304
6" (150mm)	4.5"	316 St./St.	TWSW756316
9" (228.6mm)	7.5"	304 St./St.	TWSW759304
9" (228.6mm)	7.5"	316 St./St.	TWSW759316
12" (304.8mm)	10.5"	304 St./St.	TWSW7512304
12" (304.8mm)	10.5"	316 St./St.	TWSW7512316
1" Pipe Size			
4" (100mm)	2.5"	304 St./St.	TWSW14304
4" (100mm)	2.5"	316 St./St.	TWSW14316
6" (150mm)	4.5"	304 St./St.	TWSW16304
6" (150mm)	4.5"	316 St./St.	TWSW16316
9" (228.6mm)	7.5"	304 St./St.	TWSW19304
9" (228.6mm)	7.5"	316 St./St.	TWSW19316
12" (304.8mm)	10.5"	304 St./St.	TWSW112304
12" (304.8mm)	10.5"	316 St./St.	TWSW112316

TEST

New!

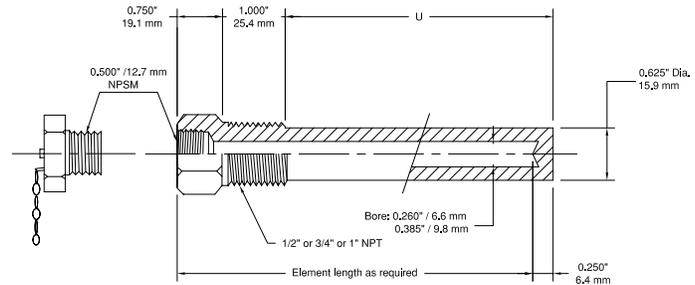
Features:

- 304 stainless steel or 316 stainless steel construction
- 1/2" NPSM thermometer connection
- 0.260" (6.604mm) bore
- Other dimensions available

Applications:

Utilized to provide a closed system, even when the process is not being tested. The thermowell allows a place to test the system at random with a portable instrument without opening or shutting down the process. When the thermowell is not being used, a cap and chain cover keep the dirt, dust, etc out of the thermowell.

To order, please contact Winters.



To order, please contact Winters;

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(1-800-946-8377)

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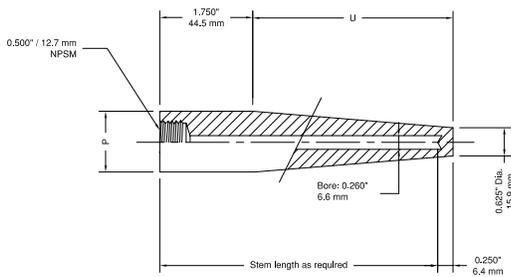
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Thermowells

WELD-IN

New!



Features:

- 304 stainless steel or 316 stainless steel construction
- 1/2" NPSM thermometer connection
- 0.260" (6.604mm) bore standard (0.385 (9.779mm) bore available)
- 1 1/2" connection pipe size standard (Other configurations available)

How to order: Specify product code
PRODUCT CODES

Stem Length	"U" Dimension	Material	Code
4" (100mm)	2.5"	304 St/St.	TWW154304
4" (100mm)	2.5"	316 St/St.	TWW154316
6" (150mm)	4.5"	304 St/St.	TWW156304
6" (150mm)	4.5"	316 St/St.	TWW156316
9" (228.6mm)	7.5"	304 St/St.	TWW159304
9" (228.6mm)	7.5"	316 St/St.	TWW159316
12" (304.8mm)	10.5"	304 St/St.	TWW1512304
12" (304.8mm)	10.5"	316 St/St.	TWW1512316

Applications:

Utilized anywhere that a welded thermowell is required. Common applications include high pressure and/or high vibration, for example on the steam side of the construction of steam boilers.

Winters offers you a choice of many different thermowell materials to suit your application.

Some of the materials available include:

- Carbon steel
 - Brass
- 304 Stainless Steel
- 316 Stainless Steel
 - Titanium
 - Alloy 20
- Hastelloy B and C
 - Inconel
 - Monel
 - Nickel

Whatever your requirements are, Winters will have a thermowell to suit your application!

Notes:

- Winters offers Tapered Thermowells, Van Stone Thermowells and Threaded Thermowells for Industrial Glass Thermometers. Please contact Winters for more information.

- Please refer to the Industrial 5AS Thermometer for the Industrial 5AS Thermowell

- Please refer to the Industrial 9IT Thermometer page for the Industrial 9IT Thermowell



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Clamp-On



Description

Winters' Clamp-On Thermometers provide fast and accurate temperature readings of pipes with diameters between 1/2" (12.7mm) and 4" (100mm). The thermometers are attached to the pipe using a flexible steel spring which is included.

The Clamp-On Thermometers are the ideal instrument to "strap on" a pipe to determine the approximate media temperature within the pipe. Accuracy is +/- 3% full scale.

Specifications

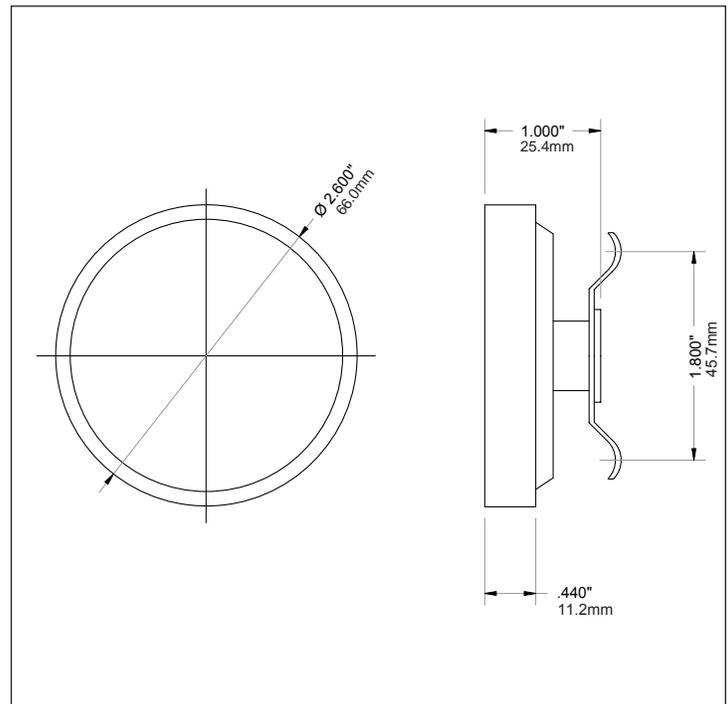
Dial:	2.5" (63mm) aluminum with black markings
Case:	Mild steel
Lens:	Plexiglass
Ring:	Steel, chrome plated
Pointer:	Aluminum, painted black
Over-Range Protection:	25% of full scale value
Ambient Temperature:	-40°F to 390°F (-40°C to 200°C)
Process Temperature:	-40°F to 390°F (-40°C to 200°C)
Accuracy:	± 3% full scale
Protection:	IP52

How to order: Specify product code

PRODUCT CODES

Range	Code
-40/110° F & -40/40° C	T166
30/240° F & 0/115° C	T167
30/390° F & 0/200° C	T168

Other ranges available upon request.



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12/02

Diesel Thermometer



Description

Winters Diesel Thermometer is used to measure the temperature of diesel exhaust (eg. ship engines). The dial and movement are immersed in special high temperature silicone to prevent damage due to excessive vibration.

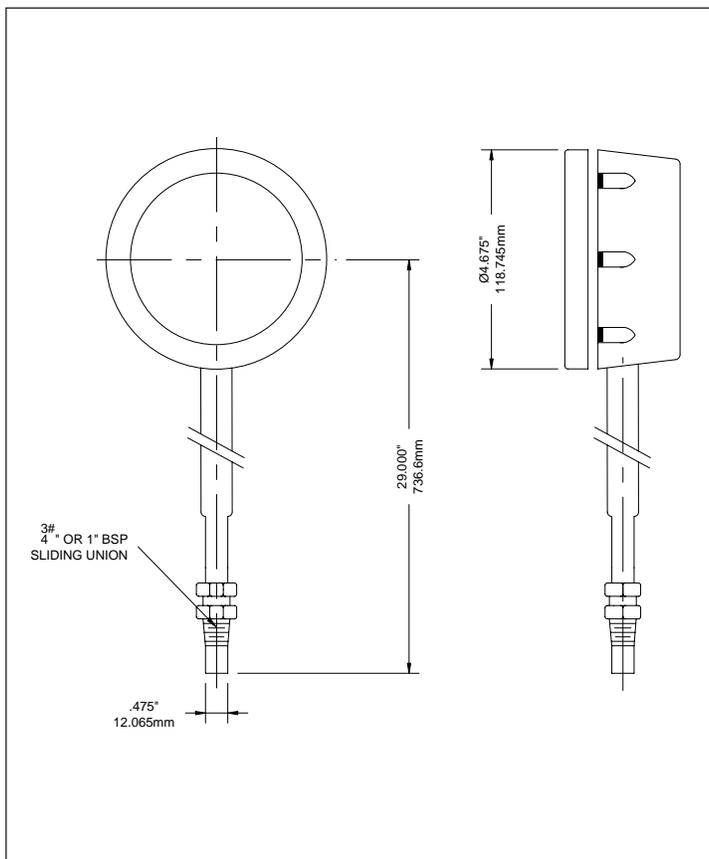
Specifications

Dial:	4.5" (115mm), aluminum with black markings
Case:	Mild steel, painted black
Lens:	Glass
Pointer:	Aluminum, painted black
Movement:	Steel, mercury actuated
Stem:	Steel, 0.475" (16mm) diameter, length 24 1/4" (61.5cm)
Union Connection:	Steel
Protection:	IP52
Ambient Temperature:	-22°F to 158°F (-30°C to 70°C)
Process Temperature:	-22°F to 1200°F (-30°C to 650°C)
Over Range Protection:	± 25% of full scale value
Accuracy:	+/- 2% of full scale

PRODUCT CODES

Product Code	Connection	Code
TDSL75	3/4" BSP	+120/1200 F & +50/650 C
TDSL100	1" BSP	+120/1200 F & +50/650 C

- Single scale ranges and other connections available upon request.



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Hot Water Thermometers

Dial Type



Scale Type



Description

Winters' Hot Water Thermometers are suitable for use in numerous applications that require an accurate temperature readings such as in hot water lines, boilers/hydronic heating, etc.

Each thermometer comes standard with a 1/2" NPT brass separable socket which allows for easy thermometer removal while maintaining a "sealed" system.

Dial Type Specifications

Dial:	2.5" dial (63mm), aluminum, painted white with black and red markings
Case:	Aluminum
Lens:	Glass
Ring:	Steel, chrome plated
Pointer:	Aluminum, painted black
Stem:	Brass
Movement:	Bi-metallic element
Socket:	Brass, 1/2" NPT (standard), separable
Recalibrator:	Standard
Accuracy:	± 1 increment

Scale Type Specifications

Scale/Case:	8" (200mm) scale with steel case , painted white with black markings
Tube:	#N-16 glass
Fill Liquid:	Kerosene, tinted red
Socket:	Brass, 1/2" NPT (standard), separable
Accuracy:	1% full scale



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Hot Water Thermometers

PRODUCT CODES - Dial Type

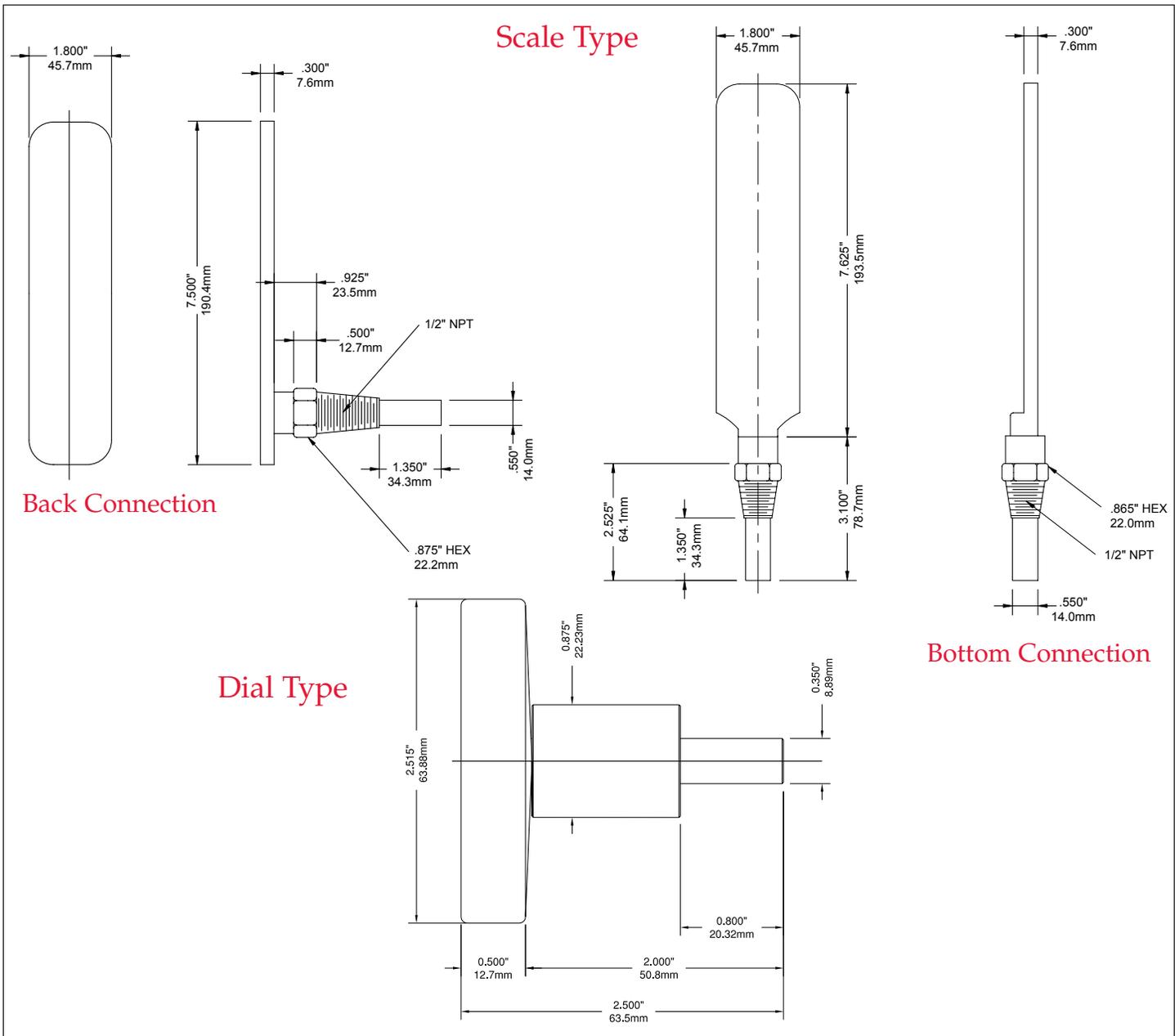
RANGE	CONNECTION	CODE
30/250°F & 0/120°C	1/2" NPT centre back	T174
Add 3/4" NPT centre back	Sweatwell	T174-SW

Other ranges, stem lengths, dial and thread sizes available upon request.

PRODUCT CODES - Scale Type

RANGE	CONN.	CODE
40/280°F & 5/135°C	Straight	T172
40/280°F & 5/135°C	Angle	T173

Other ranges and thread sizes available upon request



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HVAC Bi-Metal Thermometer



Description

Winters' Quality HVAC Bi-metal Thermometers, used extensively by the HVAC industry for small boilers, tanks, pipes, etc., offer accuracy and reliability at an economical price.

Available in a 3¹/₂" dial and steel case, this thermometer comes equipped with a 1/2" NPT separable thermowell.

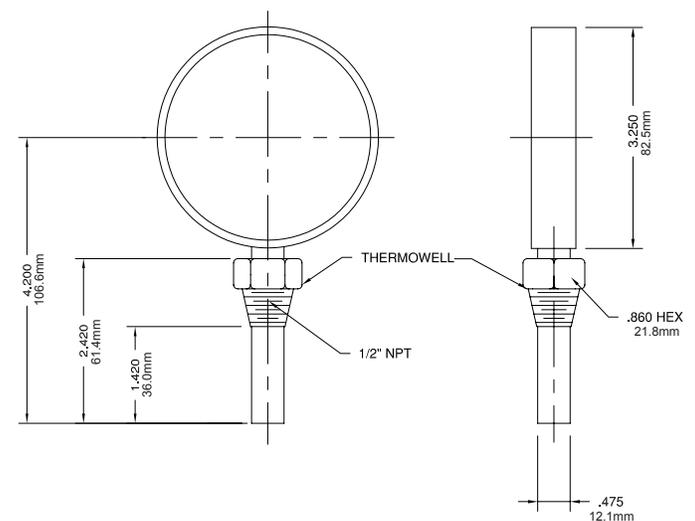
How to order: Specify product code PRODUCT CODES

Specifications	
Dial:	3 ¹ / ₂ " (90mm), aluminum with black markings
Case:	Steel
Lens:	Glass
Ring:	Steel chrome plated
Pointer:	Aluminum, painted black
Stem:	Brass
Thermowell:	Brass, 1/2" NPT (standard), separable
Recalibrator:	Standard
Movement:	Bimetallic coil
Ambient Temperature:	-22°F to 158°F (-30°C to 70°C)
Process Temperature:	-22F/250F (-30C-120C)
Over Range Protection:	± 25% of full scale value
Protection:	IP50
Reset:	Standard
Accuracy:	2% of full scale

RANGE	CODE
30-250°F & 0/120°C (Back)	T160
0-120°F (Back)	T161
30-250°F & 0/120°C (Bottom)	T165

Other ranges and thread sizes available upon request

Bottom Connection



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HVAC Thermometer (GC Series)



Description

Winters HVAC (GC Series) Thermometer is used in heating, plumbing, air conditioning and ventilation (HVAC) applications. Winters gold-coloured aluminum case thermometers are available in 4 1/2" (110mm) or 6"(150mm) scales. The HVAC thermometer (GC Series) offers ruggedness and durability in harsh industrial environments. A brass socket 1/2" NPT is standard (stainless steel optional) and the thermometer is available in either a straight model (bottom connection) or 90° angle model (back connection).

Specifications

Case:	4 1/2" (110 mm) or 6" (150 mm) aluminum, anodized gold
Scale:	Aluminum, black markings
Tube:	Glass cushioned
Liquid Filling:	Organic liquid (red)
Stem:	Brass standard, or stainless steel optional
Connection:	1/2" NPT (1/2" BSP optional)
Swivel Nut:	Brass standard, or stainless steel optional (swivel & stem one unit)
Operating Pressure:	Maximum 710 psi (50 kg/cm ²)
Ambient Temperature:	-40F-400F (-40C-200C)
Process Temperature:	-40F-400F (-40C-200C)
Operating Temperature:	Maximum 80% of full scale value recommended
Accuracy:	± 2% of full scale
Protection:	IP65



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HVAC Thermometer (GC Series)

How to order: Specify product code

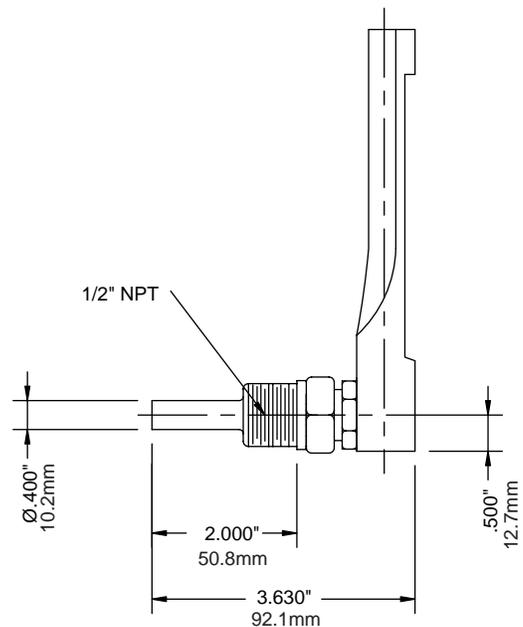
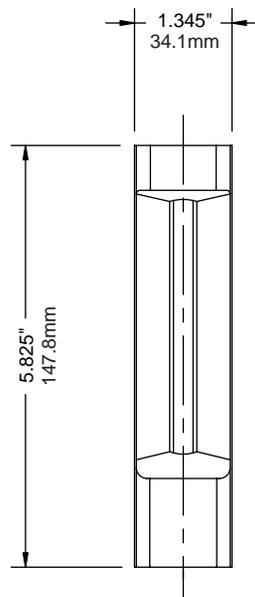
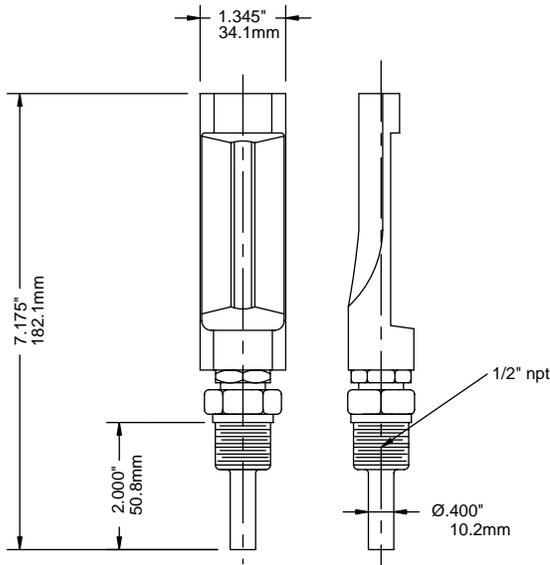
PRODUCT CODES				
RANGES	Straight		Angle	
	4 1/2" (110mm)	6" (150mm)	4 1/2" (110mm)	6" (150mm)
-40/110 F & -40/40 C	T130AG4	T130AG6	T140AG4	T140AG6
20/180 F & -5/80 C	T131AG4	T131AG6	T141AG4	T141AG6
30/240 F & 0/115 C	T132AG4	T132AG6	T150AG4	T150AG6
30/300 F & 0/150 C	T134AG4	T134AG6	T143AG4	T143AG6
50/400 F & 10/200 C	T133AG4	T133AG6	T142AG4	T142AG6

Options:

- 304 st/st thermowell available upon request
- Other ranges and connection sizes available

4.5" Straight

6" Angled



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HVAC Remote Reading Thermometer



Description

Winters' HVAC Remote Reading Thermometers are designed specifically for use in the HVAC industry anywhere a remote temperature reading is required (eg. freezers, heating/air conditioning, etc.). These vapour actuated thermometers are available in both front flange and u-clamp mounting configurations and are available with either a 2" (50mm) or 2 1/2" (63mm) dial size.

The thermometers are vapour actuated and equipped with 9 feet (3m) of 304 st/st capillary.

Specifications

Dial:	Aluminum, painted white with black markings
Case:	AISI 304 stainless steel for 2" (50mm) front flange and u-clamp case style and 2.5" (63mm) front flange case style. Steel, painted black for 2.5" (63mm) u-clamp case style
Lens:	Plexiglass
Pointer:	Aluminum, painted black
Tube / Movement:	Phosphor bronze/brass
Welding:	Silver alloy
Capillary:	9 feet (3m) of 304 st/st capillary
Bulb:	Nickel plated brass
Protective Spring:	Stainless steel
Operating Temperature:	Recommended maximum 75% of full scale value
Accuracy:	+/- 2.5% of full scale
Protection:	IP52



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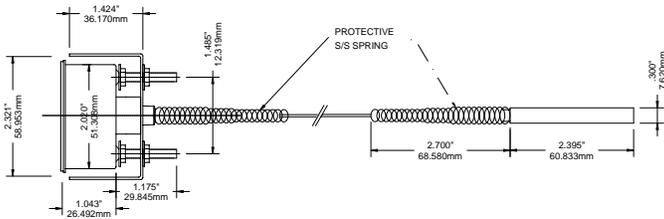
HVAC Remote Reading Thermometer

How to order: Specify product code
PRODUCT CODES

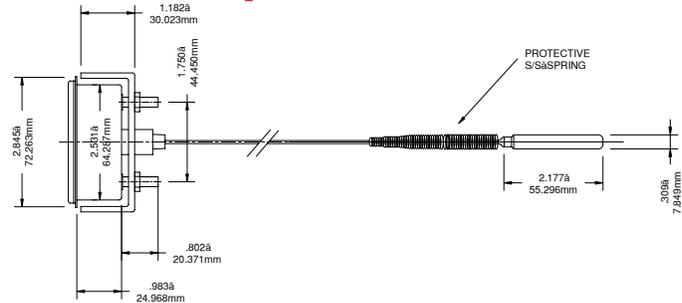
Dial Size	Panel Cut-out	Case Material	Case Style	Range	Product Code
2" (50mm)	2.05" (52.07mm)	stainless steel	front flange	-40/60° F & -40/15° C	R2214090R4
2" (50mm)	2.05" (52.07mm)	stainless steel	front flange	-20/120° F & -30/50° C	R2214090R5
2" (50mm)	2.05" (52.07mm)	stainless steel	u-clamp	-40/60° F & -40/15° C	R2514090R4
2" (50mm)	2.05" (52.07mm)	stainless steel	u-clamp	-20/120° F & -30/50° C	R2514090R5
2.5" (63mm)	2.55" (64.77mm)	stainless steel	front flange	-40/60° F & -40/15° C	R3214090R4
2.5" (63mm)	2.55" (64.77mm)	stainless steel	front flange	-20/120° F & -30/50° C	R3214090R5
2.5" (63mm)	2.55" (64.77mm)	steel	u-clamp	-40/60° F & -40/15° C	R3514090R4
2.5" (63mm)	2.55" (64.77mm)	steel	u-clamp	-20/120° F & -30/50° C	R3514090R5

• Other ranges and configurations available upon request.

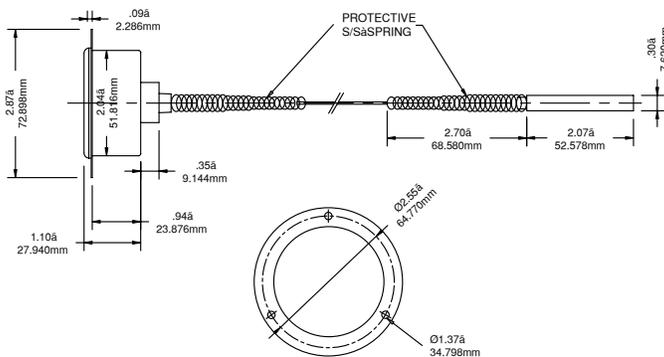
2" with U-Clamp



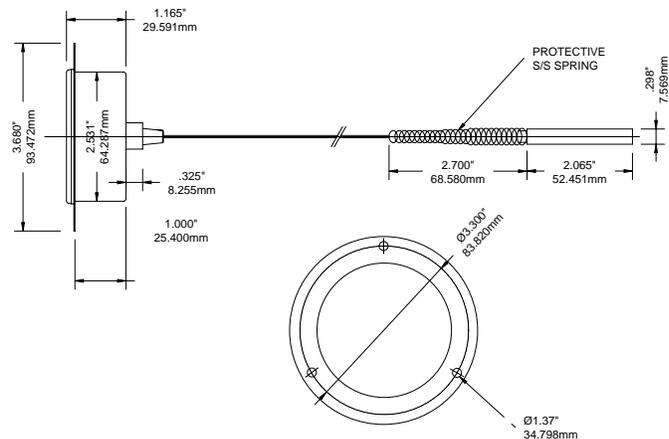
2.5" with U-Clamp



2" with Front Flange



2.5" with Front Flange



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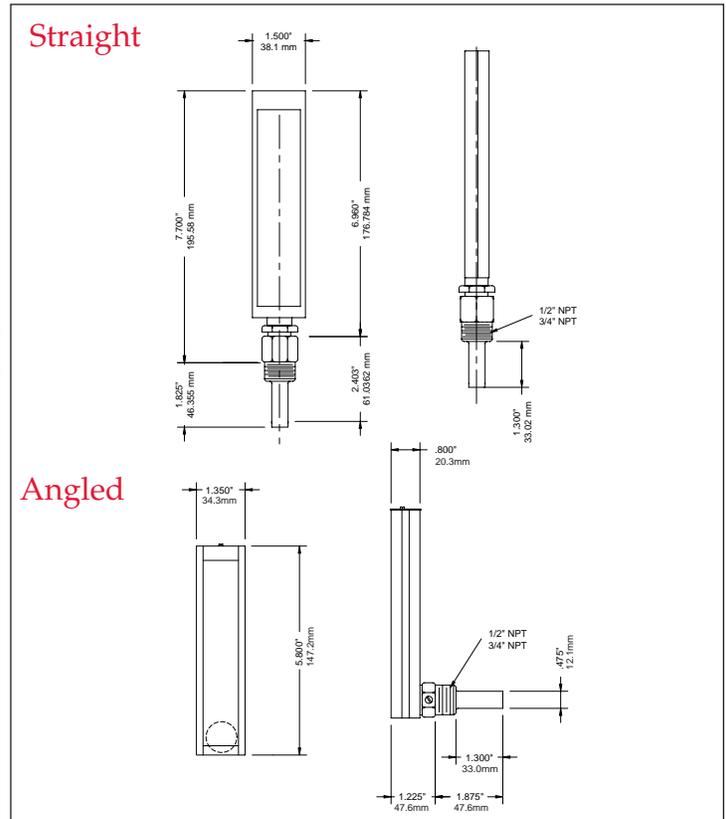
Industrial 5AS



Description

The Winters 5AS Industrial Thermometer is used in heating, ventilation and air conditioning applications within the plumbing and construction industry. The thermometer features an impact resistant black polypropylene case that will not chip, peel or disfigure. A brass separable socket is standard and the thermometer is available in either a straight (bottom connection) or 90° angled (back connection) case style.

Specifications	
Scale:	Aluminum, painted white with black markings
Case:	Polypropylene, black
Lens:	Glass
Tube:	Glass, cushioned
Liquid Filling:	Kerosene, tinted red
Stem:	Brass
Swivel Nut:	Brass
Thermowell:	Brass 1/2" NPT standard
Operating Pressure:	Maximum 710 psi (50 kg/cm) ²
Ambient Temp:	-40 to 122° F (-40/50° C)
Process Temp.:	-40 to 400° F (-40/200° C)
Accuracy:	+/-2% of full scale
Protection:	IP54



How to order: Specify product code

PRODUCT CODES

RANGES	STRAIGHT	ANGLE
-40 / 110° F & -40/40° C	T130	T140
20 / 180° F & -5/80° C	T131	T141
30 / 240° F & 0/115° C	T132	T150
30 / 300° F & 0/150° C	T134	T143
50 / 400° F & 10/200° C	T133	T142

THERMOWELL CODES

PRODUCT CODE	MATERIAL	CONNECTION
W62 (included with 5AS thermometer)	Brass	1/2" NPT
W62-1	304 St/St	1/2" NPT
W64	Brass	3/4" NPT
W64-1	304 St/St	3/4" NPT

- Options:**
- 3/4" NPT connection available upon request.
 - 304 st/st. thermowell available upon request.
 - Plastic lens available upon request.
 - Other ranges and connection sizes available upon request.



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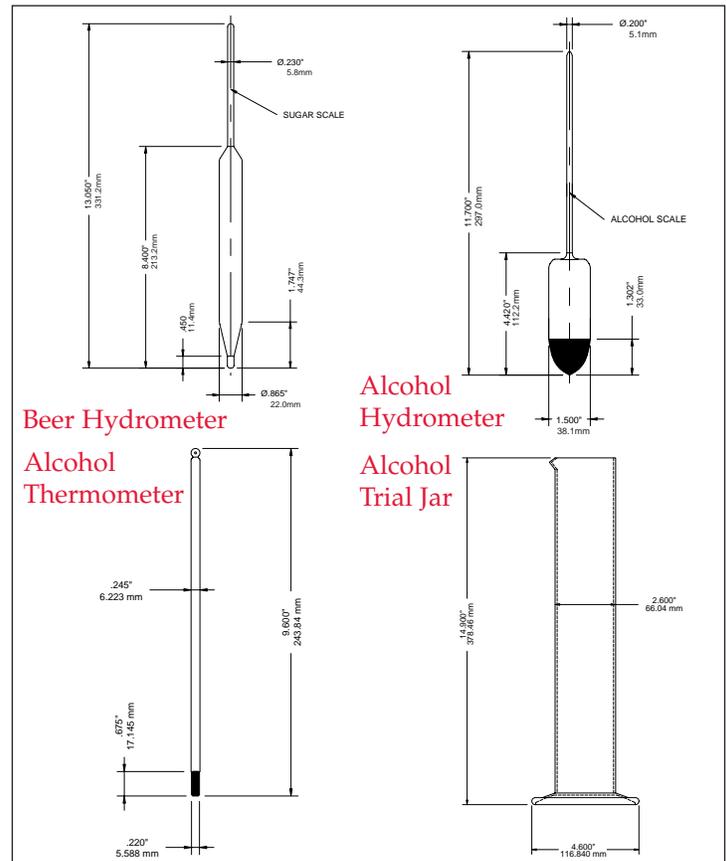
Hydrometers



Description

Winters' Hydrometers are designed to measure the percentage of alcohol content for spirits or beer. Winters Alcohol Hydrometers are manufactured in accordance with guidelines set by Revenue Canada and are certifiable by Revenue Canada Customs and Excise.

Specifications	
Case:	Soda Glass
Bulb:	Shot poised, sealed with specially formulated wax
Maximum Temperature:	+176°F (+80°C)
Minimum Temperature:	+32°F (0°C)



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Hydrometers

ALCOHOL HYDROMETERS

Used to measure the alcoholic strengths/contents of spirits, based on the percentage of alcohol by volume at 20° Celsius.

The Alcohol Hydrometer has an overall length of 300mm with a 38mm bulb and a 4mm stem, all manufactured of glass. The scale is white paper with black graduations and figures with graduations every 0.2 kg/m3.

Accuracy is +/-0.2 of full scale.

SUGAR HYDROMETERS

Brix Scale - temperature calibration 20° Celsius.

BREWERY SACCHAROMETERS

(Balling) percent sugar by weight (Plato scale) combined form with built in thermometer, standardized at 14 Reaumur, with temperature correction table for brew house and laboratory.

ALCOHOL THERMOMETER

250mm mercury filled glass thermometer with scale range -25/+45° Celsius engraved on stem. Subdivided every 0.5° Celsius. Calibrated for total immersion with glass ring top for suspension in trial jar. Maximum allowable error +/-0.3° Celsius.

ALCOHOL HYDROMETER	
Product Code	Range (Kg/m3)
H7310	780-800
H7311	800-820
H7312	820-840
H7313	840-860
H7314	860-880
H7320	880-900
H7315	900-920
H7316	920-940
H7317	940-960
H7318	960-980
H7319	980-1000
H7309	Thermometer
H7307	Trial Jar

Comparison table to show which instruments would be necessary to cover approximate equivalent range on Sikes or Proof Spirit scale

Product Codes	Density kg/m ³ 29°C	%Alcohol by Volume	America Proof Spirit	Sikes	Proof Spirit	% Proof Spirit
H7310	780	100	200	100-0A	70	170
H7311	800	90	180	100-0A	60	160
H7312	820	80	160	100-0A	50	150
H7313	840	70	140	100-0A	40	140
H7314	860	60	120	100-0A	30	130
H7320	880	50	100	100-0A	20	120
H7315	900	40	80	100-0A	10	110
H7316	920	30	60	100-0A	0	100
H7317	940	20	40	100-0A	0	90
H7318	960	10	20	100-0A	0	80
H7319	980	0	0	100-0A	0	70
	1000	0	0	100-0A	0	60

BEER HYDROMETER		
Product Code		Range (%)
H800	Sugar Hydrometer	-5/0/5 %
H801	Sugar Hydrometer	0/12 %
H802	Sugar Hydrometer	9/12 %
H803	Sugar Hydrometer	19/31 %
H1000	Brewery Hydrometer	0/8.5 %
H1001	Brewery Hydrometer	7.5/16.5 %
H1002	Brewery Hydrometer	15.5/24.5 %
H1003	Brewery Hydrometer	0/10 %
H1004	Brewery Hydrometer	10/20 %
H1005	Brewery Hydrometer	0/14 %
H1006	Brewery Hydrometer	0/24 %
H1007	Brewery Hydrometer	0/20 %



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Industrial 9IT Solar Digital



Description

The Winters Industrial 9IT Solar Digital Thermometer is a versatile instrument used in many industrial applications. The display on the thermometer is a switchable dual range scale (F/C) and offers a +/-1% accuracy. The thermometer is solar powered with a battery backup. The Industrial 9IT Solar Digital Thermometer is made of high impact ABS plastic housing, with a 3 1/2" (90mm) or 6" (150mm) stem length and a 3/4" NPT brass thermowell standard. The instrument is mercury-free and environmentally friendly.

UNIQUE FEATURES INCLUDING:

- ☼ Switchable dual scale F/C
- ☼ Battery backup
- ☼ Aluminum adjustable angle

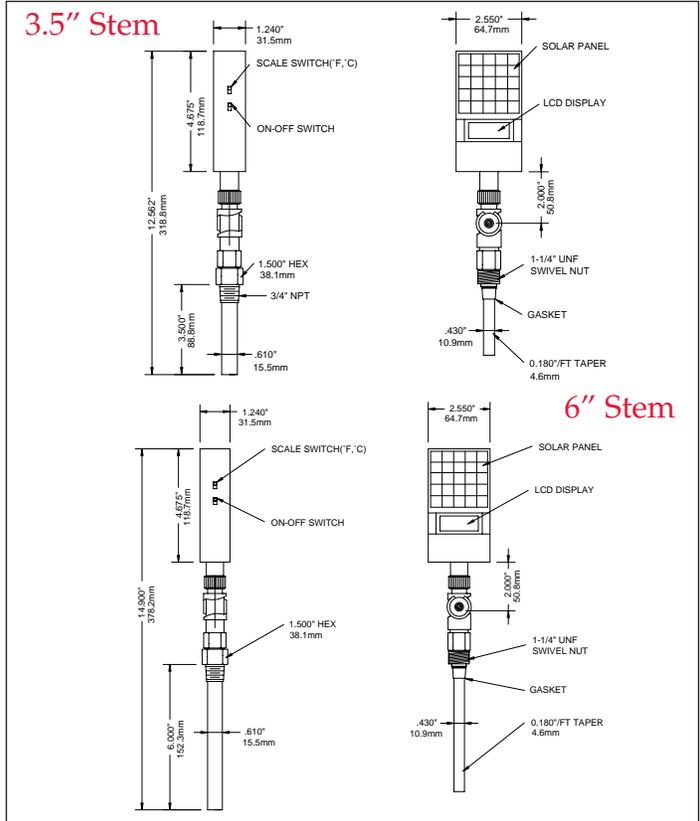
Specifications	
Size / Scale:	2.55" x 4.67" (63.75mm x 116.75mm) sensing display readout
Angle:	High impact ABS plastic housing with aluminum movable parts
Temperature Range:	Switchable between -50°F to 320°F (-45°C to 160°C) 6 second response with battery back up
Stem length:	3 1/2" (90mm) or 6" (150mm)
Connection / Thermowell:	3/4" NPT, with brass thermowell standard 1 1/4" unf swivel nut (without thermowell)
Ambient Temperature:	14°F to 150°F (-10°C to 65°C)
Process Temperature:	-50°F to 320°F (-45°C to 160°C)
Accuracy:	1% full scale
Environmental Protection Rating:	IP54

How to order: Specify product code PRODUCT CODE

3 1/2" (90mm) Stem (-50F-320F/-45C-160C)	9ITSD
6" (150mm) Stem (-50F-320F/-45C-160C)	9ITSD6
(Includes Thermowell)	

- Options:**
- Duct flange available upon request.
 - Union connection available upon request.
 - Other ranges and connection sizes available upon request.
 - Battery replacement - SDBAT
 - 6" (150mm) stem available

For an Industrial 9IT Thermowell, please refer to the Industrial 9IT Thermowell product page.



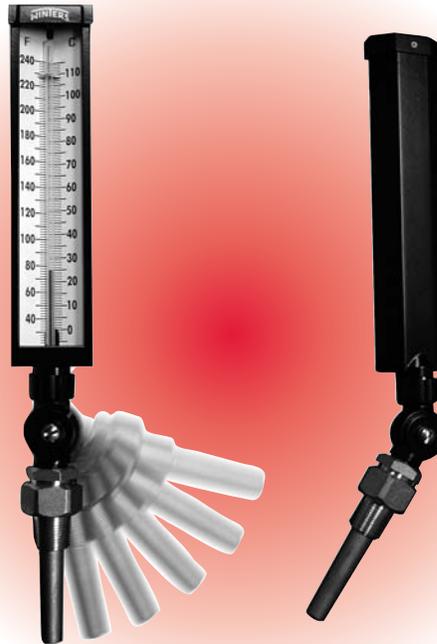
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Industrial 9IT Thermometer

Available in
Aluminum or
Valox Case



Description

The Winters adjustable angle 9" industrial thermometer is widely used by the construction industry in HVAC applications. Winters 9IT thermometer comes standard with 9" (228mm) Aluminum or Valox® case, a 3¹/₂" stem (or 6" stem) and a ³/₄" NPT brass separable socket (thermowell). An air duct stem with an aluminum duct flange is optional.

Highly visible black numerals on white coated aluminum. Dual scale (F&C) is standard and single scale is optional.

The instrument is fully adjustable to provide full 360 degree positioning on the vertical axis and 180 degree rotation on the horizontal axis. The thermometer can be "locked" into any position within this arc.

The thermometer stem features a tapered cast aluminum bulb chamber with graphite filling to allow for maximum heat conduction.

Specifications

Case:	9" (228mm) Aluminum or Valox® case, impact resistant
Lens:	Glass
Scales:	Aluminum painted white with black markings
Bulb Chamber:	Tapered cast aluminum with graphite fill
Connection:	¹ / ₄ " NPT with thermowell 1 ¹ / ₄ " UNF swivel nut (no thermowell)
Liquid Filling:	Organic liquid filled tube
Adjustment:	Fully adjustable
Accuracy:	± 1% accuracy
Thermowell:	³ / ₄ " brass separable socket Other thermowells available
Protection:	IP54

For an Industrial 9IT Thermowell, please refer to the Industrial 9IT Thermowell product page.



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Industrial 9IT Thermometer

ALUMINUM CASE

VALOX® CASE

How to order: Specify product code

How to order: Specify product code

PRODUCT CODES		
STEM	3½" (75mm)	6" (150mm)
RANGES	CODE	CODE
-40 / 110° F & -40/40° C	T101A	T101-6A
0 / 120° F & -15/50° C	T102A	T102-6A
0 / 160° F & -15/70° C	T103A	T103-6A
30 / 180° F & 0/80° C	T104A	T104-6A
30 / 240° F & 0/115° C	T100A	T100-6A
30 / 300° F & 0/150° C	T105A	T105-6A
**170/270 F&P (retort)	T114A	*
**80/135 C/kg (retort)	T116A	*

PRODUCT CODES		
STEM	3½" (75mm)	6" (150mm)
RANGES	CODE	CODE
-40 / 110° F & -40/40° C	T101	T101-6
0 / 120° F & -15/50° C	T102	T102-6
0 / 160° F & -15/70° C	T103	T103-6
30 / 180° F & 0/80° C	T104	T104-6
30 / 240° F & 0/115° C	T100	T100-6
30 / 300° F & 0/150° C	T105	T105-6
**170/270 F&P (retort)	T114	*
**80/135 C/kg (retort)	T116	*

** Retort only available with 316 stainless steel stem and union. (Retort only available as a straight angle.)

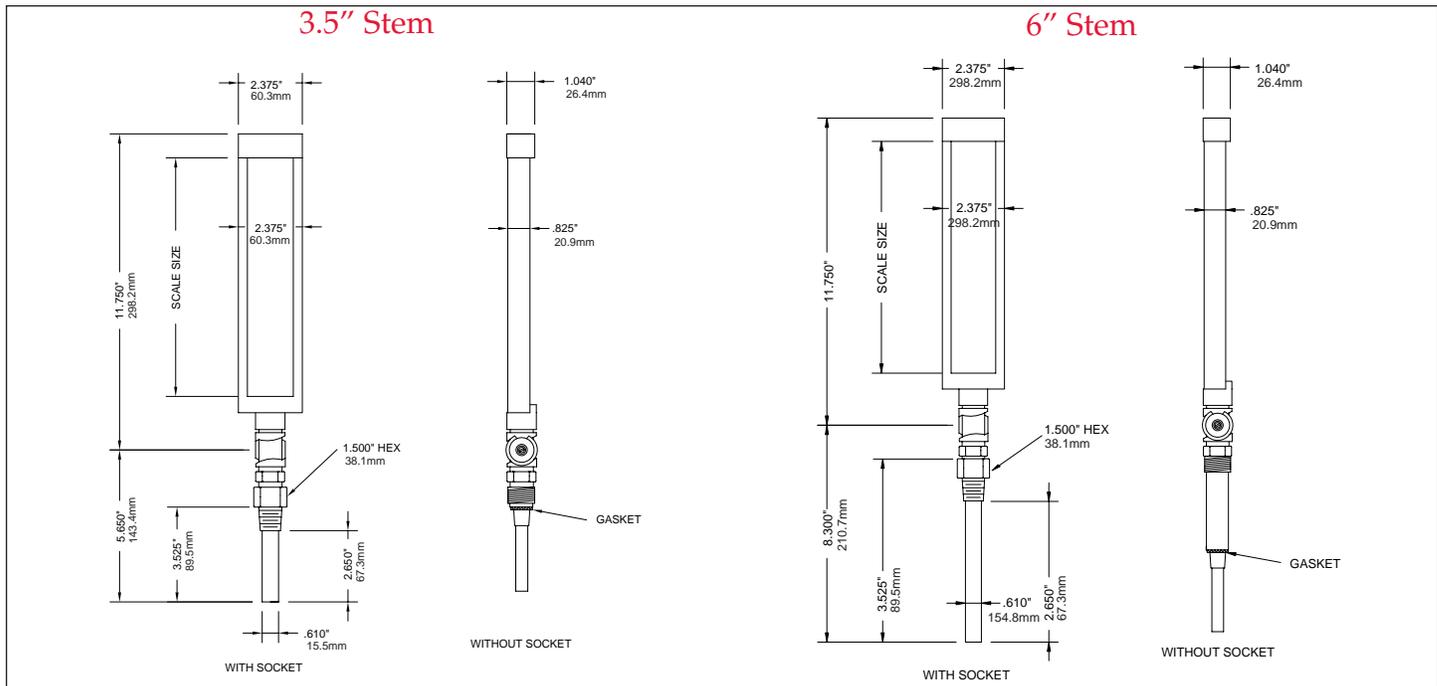
Options:

- Mercury filling available upon request.
- Union connection available upon request.
- Duct flange available upon request.
- Other ranges and connection sizes available upon request.

® Valox is a registered trademark of General Electric Co.

3.5" Stem

6" Stem



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Industrial 9IT Thermowells



CRN

Description

Winters Industrial 9IT Thermowells are designed for use with all 9" (228mm) industrial thermometers to create a "sealed system" which allows the easy replacement of the thermometer without the need to shut down or drain the system.

Overall Length	Material	Insertion Length	Lagging Extension	Process Connection	Product Code	
4 1/4" (107.95mm)	Brass	2 1/2" (63mm)	No	3/4" NPT	W01	
	304 St/St.	2 1/2" (63mm)	No	3/4" NPT	W01-1	
	316 St/St.	2 1/2" (63mm)	No	3/4" NPT	W01-2	
4 1/4" (107.95mm)	Brass	1 3/4" (44.45mm)	1" (25.4mm)	1/2" NPT	W02	
	304 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	1/2" NPT	W02-1	
	316 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	1/2" NPT	W02-2	
4 1/4" (107.95mm)	Brass	1 3/4" (44.45mm)	1" (25.4mm)	3/4" NPT	W03	
	304 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	3/4" NPT	W03-1	
	316 St/St.	1 3/4" (44.45mm)	1" (25.4mm)	3/4" NPT	W03-2	
6 3/4" (171.45mm)	Brass	5" (127mm)	No	3/4" NPT	W04	
	304 St/St.	5" (127mm)	No	3/4" NPT	W04-1	
	316 St/St.	5" (127mm)	No	3/4" NPT	W04-2	
6 3/4" (171.45mm)	Brass	2 1/2" (63mm)	2 1/2" (63mm)	3/4" NPT	W07	
	304 St/St.	2 1/2" (63mm)	2 1/2" (63mm)	3/4" NPT	W07-1	
	316 St/St.	2 1/2" (63mm)	2 1/2" (63mm)	3/4" NPT	W07-2	

Options:

- Longer thermowells available upon request
- Other materials such as Monel, Inconel, Hastelloy C and Titanium are available upon request
- Caps and chains available upon request
- Other thread sizes available upon request

Specifications

Material:	Brass, AISI 304 and AISI 316 stainless steel
Bore Diameter:	7/16" tapered
Form:	Stepped standard, straight available
Thermometer Connection:	1 1/4" NF
Process Connection:	3/4" NPT male standard



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12/02

Industrial Thermowells



Description

Winters Industrial Thermowells are designed for use with all types of thermometers and RTDs in order to create a sealed system which eliminates the need to drain or shut down a system if a thermometer or RTD needs to be replaced.

Winters Instruments offers a wide range of industrial thermowells to meet all of your requirements. Winters offers many standard industrial thermowells such as:

- Glass thermometer test wells
- Flanged thermowells
- Socket-Weld thermowells
- Tapered and straight wells for $1/4''$ (6.35mm) to $3/8''$ (9.525mm) bore diameters
- Lagging extensions
- Caps and chains

Winters also offers you a choice of many different thermowell materials to suit your application. Some of the materials available include:

- Carbon steel
- Brass
- 304 stainless steel
- 316 stainless steel
- Titanium
- Alloy 20
- Hastelloy B and C
- Inconel
- Monel
- Nickel

Whatever your requirements are, Winters will have a thermowell to suit your application!



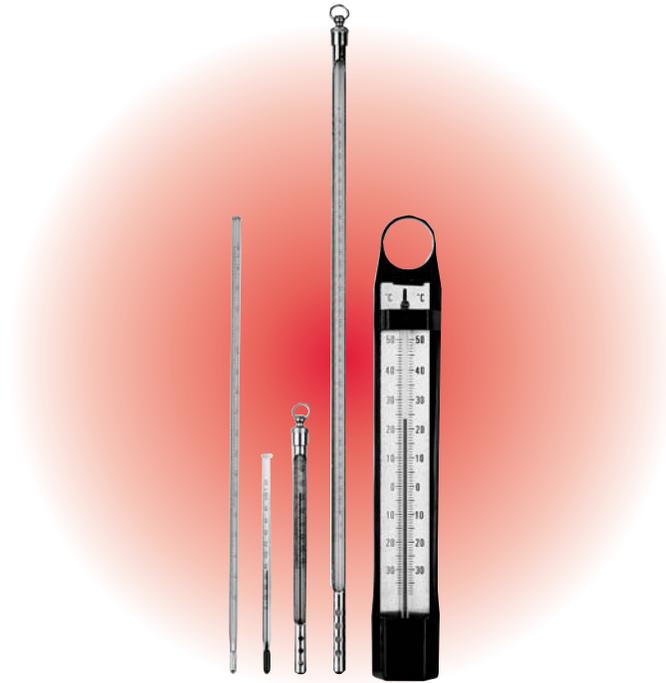
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12/02

Laboratory



Description

Winters' Laboratory Thermometers are available in 5" (125mm) up to 20" (500mm) scale lengths. These thermometers are available with a ring-top for use where a protective armour is not required or with a button-top for use with a protective armour.

Winters Laboratory Thermometers are available in every configuration from the most basic general use thermometer to the most specialized A.S.T.M. or fractional degree thermometer for use in laboratories, quality control departments and miscellaneous tests. For special applications, please consult Winters for a quotation.

How to order: Specify product code

Specifications	
Scale:	5" (125mm) up to 20" (500mm)
Filling:	Mercury, red-reading mercury or red-reading alcohol
Immersion:	Full or partial (as specified)
Armour:	Aluminum chrome plated steel or stainless steel available as an option for all scale lengths
Accuracy:	± 0.1% to ± 1.5%

Product #	Description
T12A	12"(305mm) Stainless steel armour for glass thermometer
T16A	16"(406mm) Stainless steel armour for glass thermometer
T187	Wide cup refill -30°C/50°C
T188	Red dip case refill -40°C/50°C
T189	Red dip case refill -30°F/120°F
T190	Wide copper dip case
T191	Wide cup refill -20°F/120°F
T192	Wide cup refill -20°F/220°F & -30°C/105°C
T193	Red plastic dip case
T1802	12"(305mm) Glass Thermometer 0°F/120°F
T1808	12"(305mm) Glass Thermometer 30°F/300°F

Product #	Description
T1820	12"(305mm) Glass Thermometer -20°C/50°C
T1822	12"(305mm) Glass Thermometer -10°C/110°C
T1824	12"(305mm) Glass Thermometer -20°C/150°C
T1900	Wheat Pool Thermometer -5°C/45°C red liquid
T1920	Glass Therm. 5"(13mm), -30°F/120°F red liquid
T1924	Glass Therm. 5"(13mm), 0°F/220°F, red liquid
T1928	Glass Therm. 5"(13mm), -10°C/110°C, red liquid

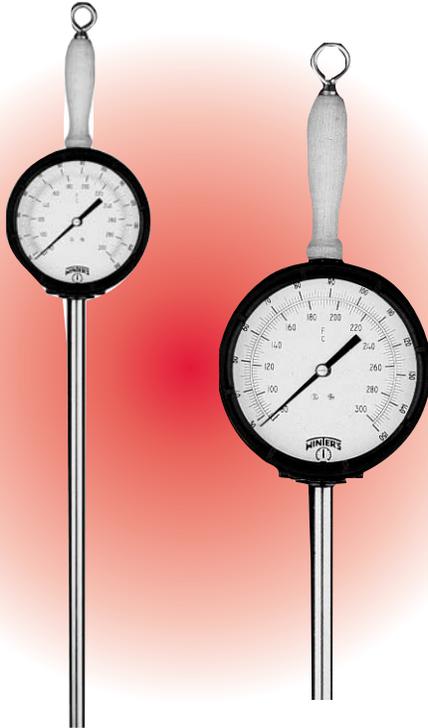


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Long Stem Dial Thermometer



Description

Winters Long Stem Dial Thermometer is designed specifically to meet the sanitary requirements of the food and dairy industry. Replacing the traditional mercury-in-glass thermometers, this instrument features a shatter-resistant plexiglass lens, aluminum case, AISI 316 stainless steel stem and a gas actuated system. Winters Long Stem Dial Thermometer is also exceptionally easy to read and can be recalibrated.

Specifications

Dial:	4 1/2" (115mm) aluminum, painted white with black markings
Case:	Aluminum, painted black
Lens:	Plexiglass
Pointer:	Aluminum, anodized black, slotted adjustable
System:	Gas actuated with heavy-duty movement
Stem:	AISI 316 stainless steel, 11/16" to 1" O.D. with lengths from 12" (30.48cm) up to 48" (122cm)
Handle:	Wood standard, aluminum hook optional
Accuracy:	± 1% of full scale
Protection:	IP65

How to order: Specify product code PRODUCT CODES

Stem Length	Code
24" (60.96cm)	T45LS24
30" (76.2cm)	T45LS30
36" (91.44cm)	T45LS36
48" (120cm)	T45LS48

• Other lengths available upon request.
• Other ranges available upon request.

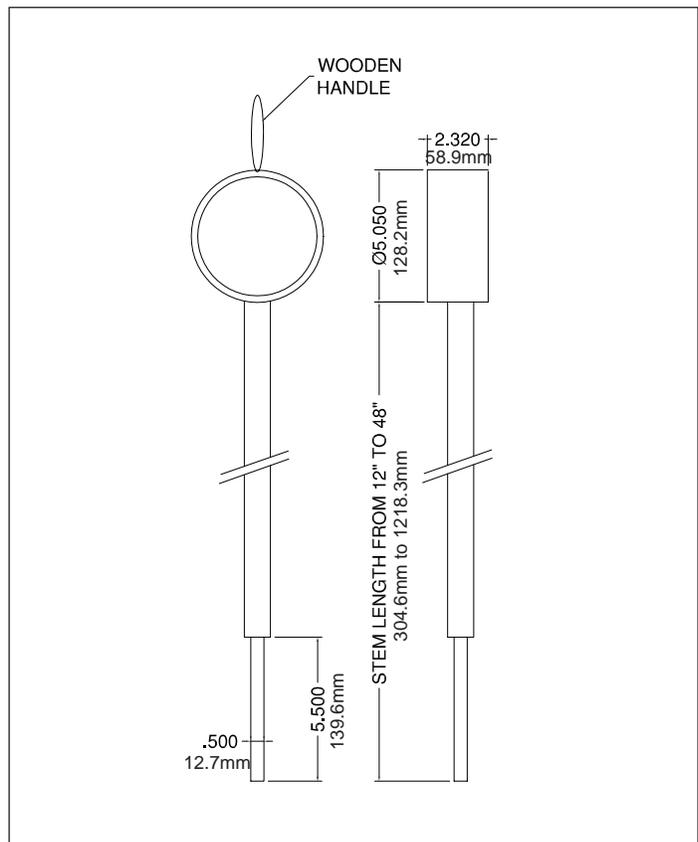
Standard Ranges:

40/220° F

0/300° F

80/300° F

200/400° F



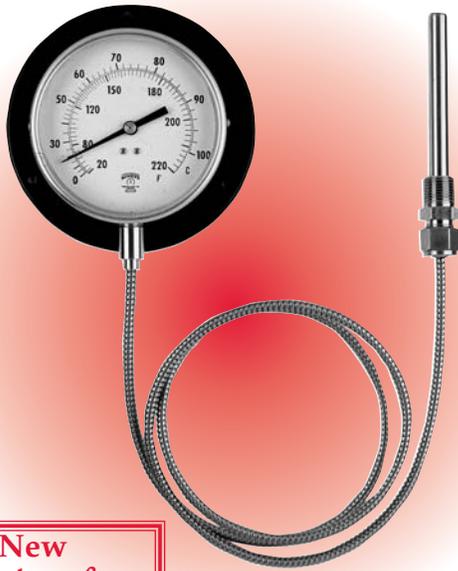
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12/02

Remote Reading Thermometer



**New
Custom &
Stock Products
Available**

Description

A remote reading thermometer allows you to take a temperature reading of the media while being in a different location. The bulb, which is the sensing portion of the thermometer is installed in the media while the dial that indicates the temperature can be located several feet (meters) or 100 feet (30 meters) or more away. Industrial applications where there are difficult to access locations or non-operator friendly conditions are prime uses for remote reading thermometers.

The capillary in remote reading thermometers are filled with either gas or vapour. The gas filled versions have linear scales on the dials (equal graduations across the entire scale) and are more accurate (0.5% accuracy of full scale value) than vapour thermometers which have non-linear dials and an accuracy of 2%. As the temperature of the bulb or sensing portion of the thermometer changes, the pressure on the gas or vapour inside the capillary changes, causing the pointer to move across the dial.

Winters complete line of remote reading vapour and gas thermometers provide quick and accurate temperature readings for any application. Each thermometer type is available in several case sizes and mounting formats, with a large choice of temperature ranges.

How to order Custom Products:

E.g. Vapour Remote Reading, 3 1/2" (90mm) dial, 5ft. (1.5m) copper capillary, back connection, front flange with 1/2" brass union, 50-250 °F and °C

Section	I	II	III	IV	V	VI	Range
Product Code	R3	2	35	1	05	1	50-250 °F/C

ORDER # is: R32351051 50 - 250 °F&C

Section	Code	Description	Section	Code	Description				
I	R1	Gas Remote Reading	IV	1	Plain Brass				
	R2	Gas Direct Reading				Capillary	Capillary		
	R3	Vapour Remote Reading						Copper	Copper
	R4	Vapour Direct Reading							
		Case Type, Connection (see opposite page for case material)							
II	1	Bottom connection, back flange	V	05	Standard, 5 feet (1.5m)				
	2	Back connection, front flange				Use 2 digits ie: 15 = 15 feet			
	3	Back connection, back flange							
	4	Vari-angle connection, (Direct reading only)							
		Capillary Length (measured in feet)							
III	25	2 1/2" (63mm)	VI	0	None				
	35	3 1/2" (90mm) (back connection only)							
	40	4" (100mm)							
	45	4 1/2" (115mm)							
	60	6" (150mm)							
	80	8" (200mm)							
						Connection			
		Dial Size	1	1/2" NPT brass union					
			2	1/2" NPT st/st union					
			3	3/4" NPT brass union					
			4	3/4" NPT st/st union					
			5	1/2" NPT brass thermowell					
			6	1/2" NPT st/st thermowell					
			7	3/4" NPT brass thermowell					
			8	3/4" NPT st/st thermowell					



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Remote Reading Thermometers

Vapour Ranges:

	°F only	F&°C	°C only
3½" (90mm) and 4" (100mm)	-40-0-110	-40-0-110° / -40-40	-40-40°
	0-100	0-100 / -20-40	-20-40
	0-180	0-180 / -20-80	-20-80
	20-220	20-220 / 0-100	0-100
	50-250	50-250 / 10-120	0-150
	50-300	50-300 / 10-150	40-175
4½" (115mm)	100-350	100-350 / 40-175	
	200-450	200-450 / 100-230	
	-40-0-110°	-40-0-110 / -40-40°	-40-40°
	0-100	0-110 / -20-40	-20-40
	0-180	0-180 / -20-80	0-100
	20-220	20-220 / 0-100	0-150
6" (150mm)	50-250	50-250 / 10-120	40-175
	50-300	50-300 / 10-150	
	100-350	100-350 / 40-175	
	200-450		
	-40-0-110°	-40-0-110 / -40-40°	0-100°
	0-100	0-100 / -20-40	0-150

Gas Ranges:

	°F only	°F & °C	°C only
All Dial Sizes	-40-0- 110°	0-100F / -20 - 38C°	-30-0- 40° <i>0-300</i>
	-20-0- 120	30-150 / 0 - 75	-20-0- 80 <i>0-400</i>
	30- 150	40-220 / 0 -100	-40-0- 50 <i>0-600</i>
	30- 240	80-300 / 20 -150	- 5-0-105
	40- 220	0-180 / -15 - 80	0- 50
	80- 300	0-160 / -15 - 70	0- 60
	100- 400	30-240 / - 0 -115	0-100
	<i>100- 500</i>	<i>0-600 / -20 -320</i>	0-150
	<i>200-500</i>	-40-110 / -40 - 40	0-160
	<i>200-1000</i>		0-200

Ranges in *red italics* require stainless steel capillary and bulb.

Options: • Duct flanges. • Sliding union. • Stainless steel 4"(100mm) and 6"(150mm) cases and capillary available on Gas remote/direct reading models • Various bulb dimensions. • Averaging bulb (gas only) • Other ranges are available upon request.

*Please note standard bulb length is 6" (150mm) in length and 4" (100mm) immersion is required for optimum performance.

Standard Remote Reading Thermometers Available From Stock

Features

• 3.5" (90mm) dial • Plain brass bulb with 10 feet of copper capillary • ½" NPT brass union connection

	Btm conn. Bk Flange Part Number	Back conn. Frt. Flange Part Number	Temperature Ranges Available (State one range per thermometer)
Vapour	R31351101	R32351101	-40-110 F/C, 0-100 F/C, 20-220 F/C, 50-300 F/C
Gas	R11351101	R12351101	-40-110F/C, 0-100F/C, 30-240F/C 40-220F/C, 80-300 F/C

Features

• 3.5" (90mm) dial • Plain brass bulb with 5 feet of copper capillary • ½" NPT union connection

	Btm conn. Bk Flange Part Number	Back conn. Frt. Flange Part Number	Temperature Ranges Available (State one range per thermometer)
Vapour	R31351051	R32351051	-40-110 F/C, 0-100 F/C, 20-220 F/C, 50-300 F/C
Gas	R11351051	R12351051	-40-110 F/C, 0-100 F/C, 30-240 F/C 40-220 F/C, 80-300 F/C

Features

• 4.5" (115mm) dial • Plain 316 stainless steel bulb with 10 feet of stainless steel armour capillary • ½" NPT stainless steel union connection

	Btm conn. Bk Flange Part Number	Back conn. Frt. Flange Part Number	Temperature Ranges Available (State one range per thermometer)
Vapour	R31453102	R32453102	-40-110 F/C, 0-100 F/C, 20-220 F/C, 50-300 F/C
Gas	R11453102	R12453102	-40-110F/C, 0-100F/C, 30-240F/C, 40-220F/C, 80-300 F/C, 0-600F/C



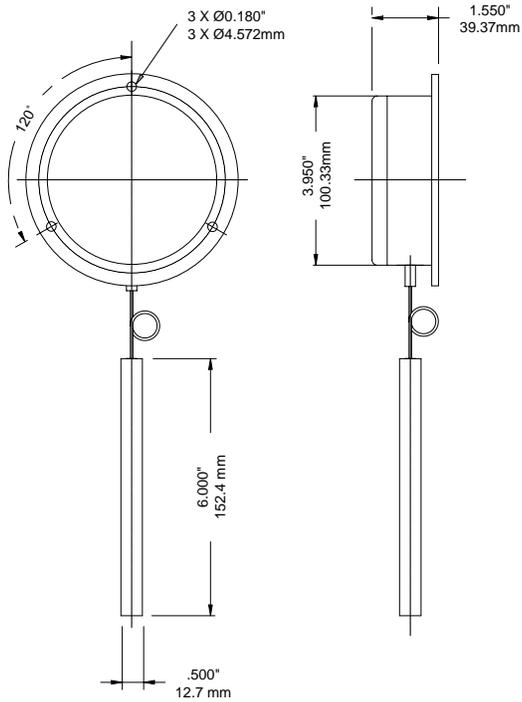
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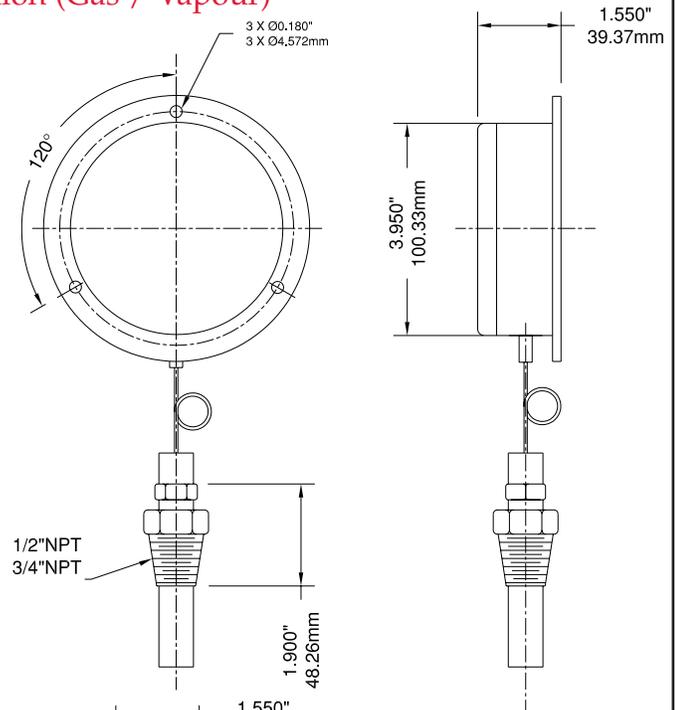
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Gas / Vapour Filled Dial Thermometers

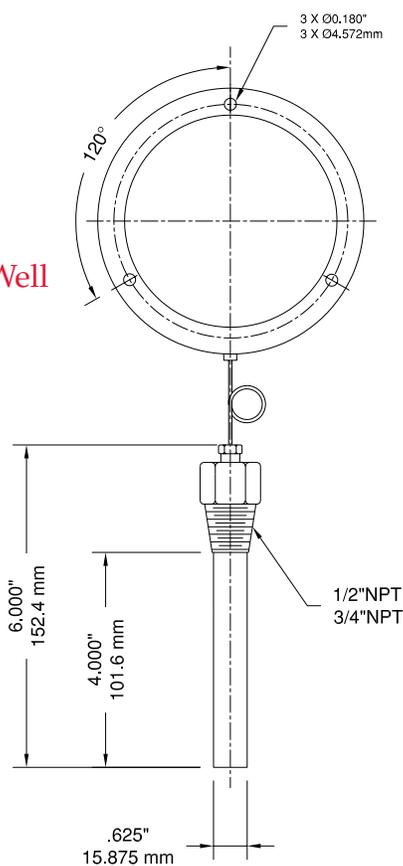
4" Bottom Connection, Back Flange, Plain Bulb (Gas / Vapour)



4" Bottom Connection, Back Flange, Sliding Union (Gas / Vapour)



4" Bottom Connection, Back Flange, Separate Well (Gas / Vapour)



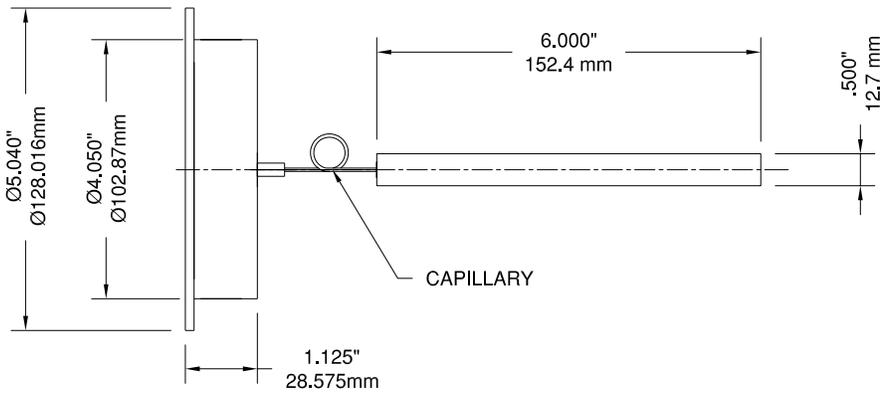
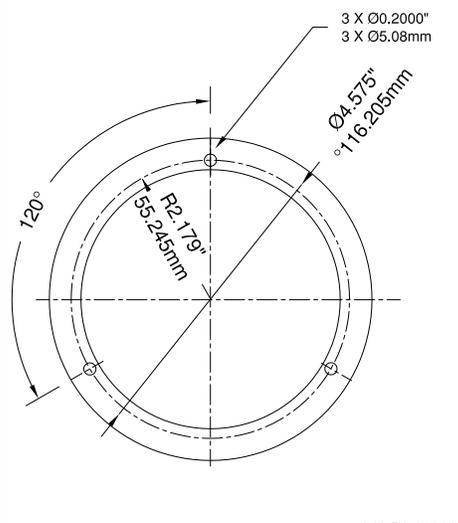
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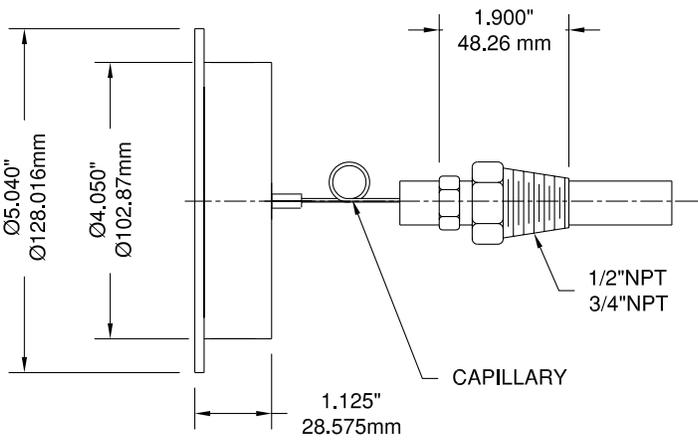
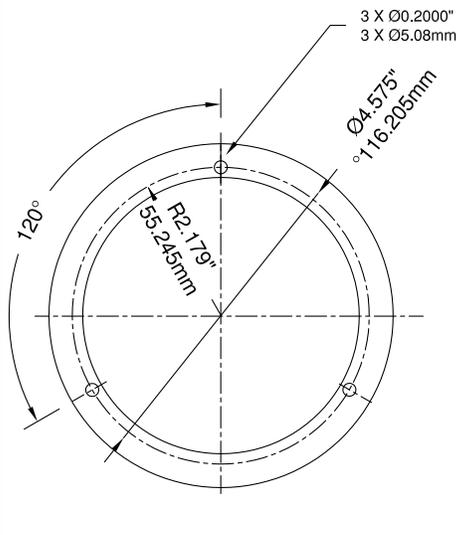
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Gas / Vapour Filled Dial Thermometers

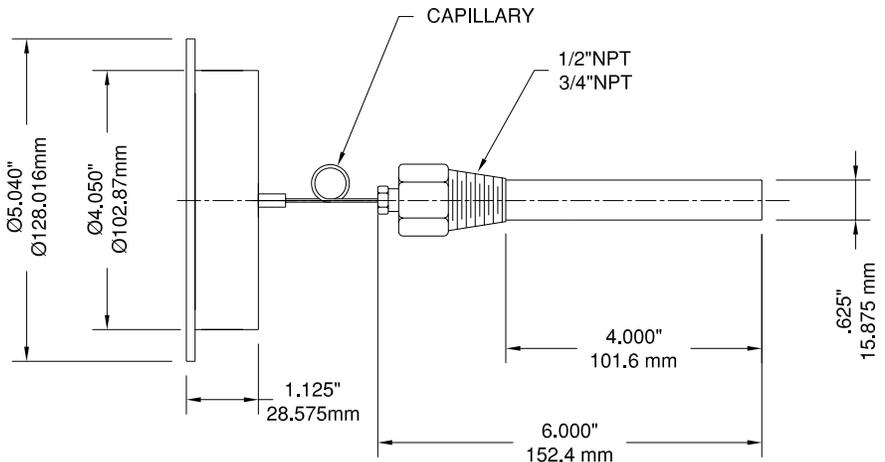
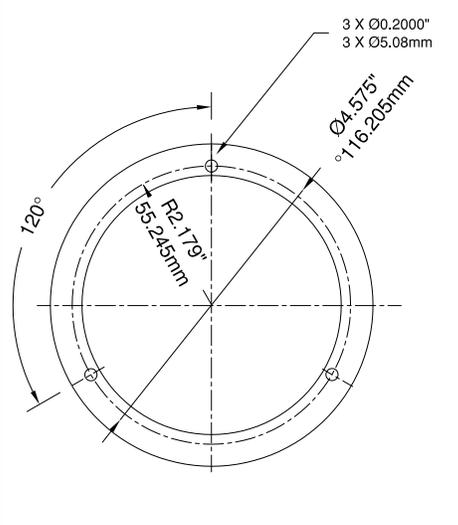
4" Back Connection, Front Flange, Plain Bulb (Gas / Vapour)



4" Back Connection, Front Flange, Sliding Union (Gas / Vapour)



4" Back Connection, Front Flange, Separate Well (Gas / Vapour)



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Gas Filled Dial Thermometers

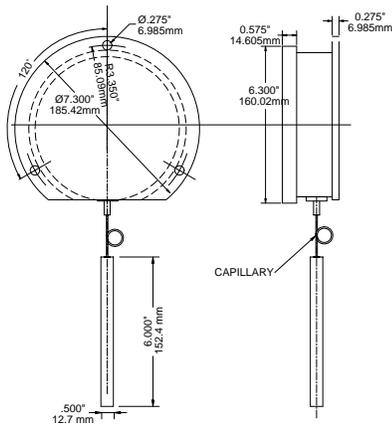
Description

Winters Gas Filled Dial Thermometers are designed for industrial applications requiring accurate and uniform response over the entire range. The bulb, capillary and instrument internals are filled under pressure with inert gas for positive movement, accuracy and sensitivity.

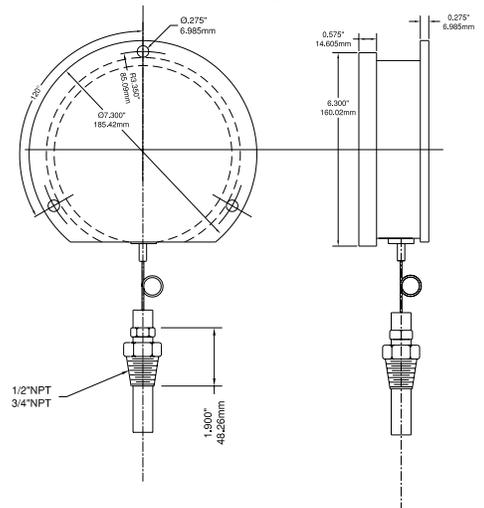
Gas Filled Dial Specifications

Dial:	Aluminum, painted white with black markings
Case:	2 1/2" (63mm) dial, AISI 304 stainless steel 3 1/2" (90mm) dial, steel painted black 4" (100mm) dial, steel painted black 4 1/2" (115mm) dial, black phenolic or aluminum painted black 6" (150mm) dial, aluminum painted black 8" (200mm) dial, aluminum painted black
Lens:	Polycarbonate or glass
Pointer:	Aluminum, anodized black
Internals:	Phosphor bronze tube, brass movement
Capillary:	Brass or AISI 316 stainless steel
Bulb:	Brass or AISI 316 stainless steel, 1/2" OD x 6" standard
Connection:	Brass or AISI 316 stainless steel as specified
Operating Temperature:	Recommended maximum 75% of full scale value
Accuracy:	± 0.5 % full scale

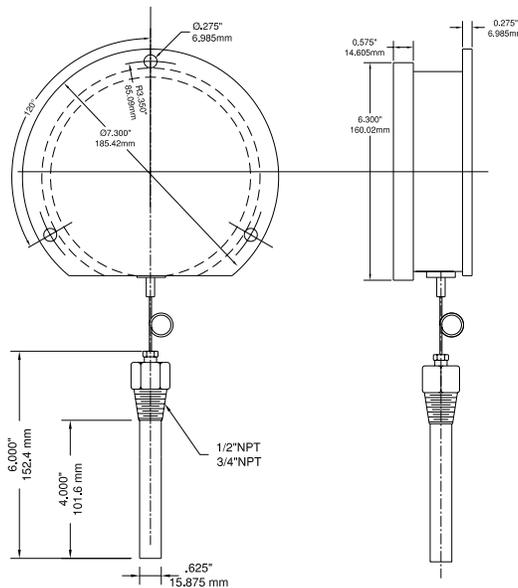
6" Gas, Bottom Connection, Back Flange, Plain Bulb



6" Gas, Bottom Connection, Back Flange, Sliding Union



6" Gas, Bottom Connection, Back Flange, Separate Well



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Vapour Filled Thermometers

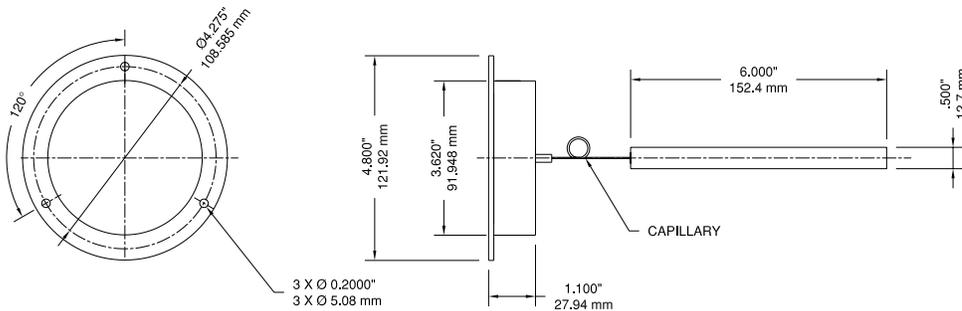
Description

Winters Vapour Filled Thermometers provide economical and reliable remote reading service for most industrial applications. Vapour Filled Thermometers have non-linear scales, as the temperature increases the increments of measure become proportionately wider. To ensure exceptionally close readings, the operating temperature should fall in the upper half of the thermometer's scale.

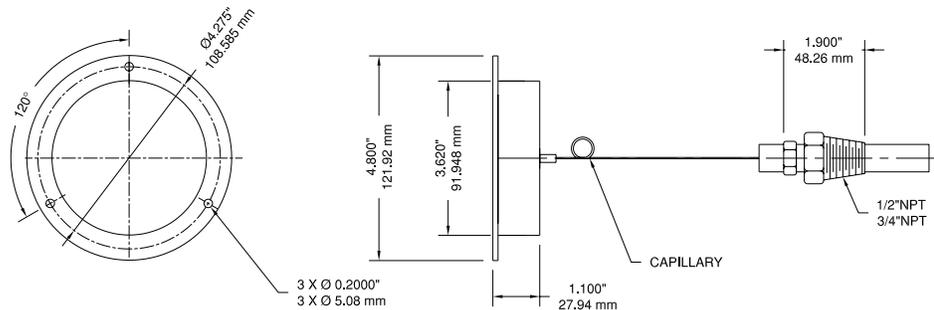
Vapour Actuated Specifications

Dial:	Aluminum, painted white with black markings
Case:	2 1/2" (63mm) dial, AISI 304 stainless steel 3 1/2" (90mm) dial, steel painted black 4" (100mm) dial, steel painted black 4 1/2" (115mm) dial, black phenolic 6" (150mm) dial, aluminum painted black 8" (200mm) dial, aluminum painted black
Lens:	Polycarbonate or glass
Pointer:	Aluminum, anodized black
Internals:	Brass tube and movement
Capillary:	Brass or AISI 316 stainless steel
Bulb:	Brass or AISI 316 stainless steel, 1/2" OD x 6" standard
Connection:	Brass or AISI 316 stainless steel as specified
Operating Temperature:	Recommended maximum 75% of full scale value
Accuracy:	± 2% full scale (ANSI/ASME Grade B)

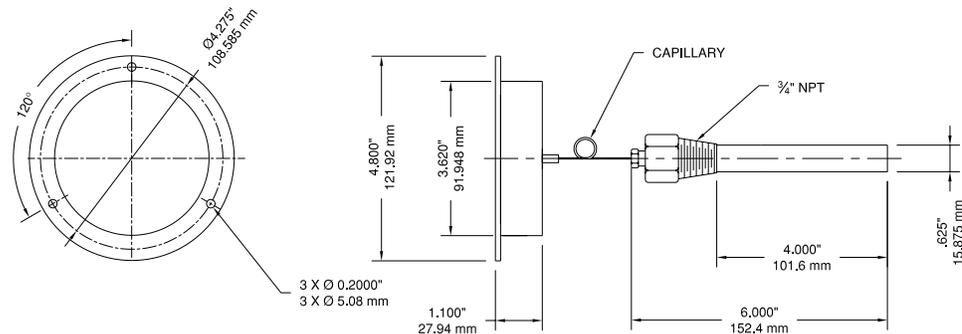
3.5" Vapour,
Back
Connection,
Front Flange,
Plain Brass
Bulb



3.5" Vapour,
Back
Connection,
Front Flange,
Sliding Union



3.5" Vapour,
Back
Connection,
Front Flange
with optional
Well



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Non-Contact Thermometer

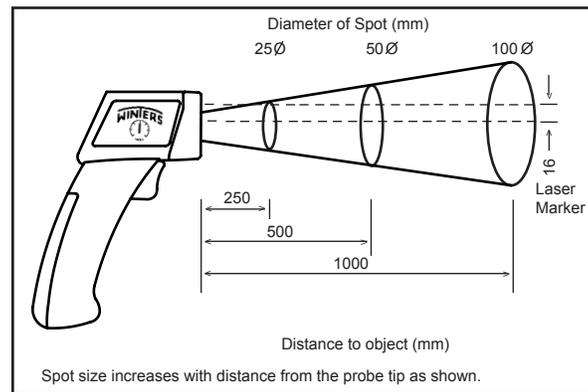


Applications

The Non-Contact Thermometer is suited for plant maintenance (checking circuit breakers, bearings, etc.), HVAC systems (air conditioning, piping insulation), stack temperature, food service /preparation, automotive, roads and construction, research labs and chemical & petrochemical industries.



**Blister
Packaging Standard**



Specifications

Housing:	ABS
Dimensions:	5.8" (h) x 4.1" (w) x 1.68" (d) (148mm x 105mm x 42mm)
Temp. Range:	-22°F to 1022°F (-30°C to 550°C)
Accuracy:	2% of reading
Response Time:	0.25 seconds
Field of View:	10:1 with laser mark
Sensor Thermopile:	6-14µm
Fixed Emissivity (E):	0.95
Laser Safety:	Class 2 use less than 1 milliwatt of power and project up to 50 feet away
Auto Power Off:	10 seconds
Battery:	9 Volt

Product Codes

Description	Code
With Laser -22-1022°F / (-30-550°C)	NCT150

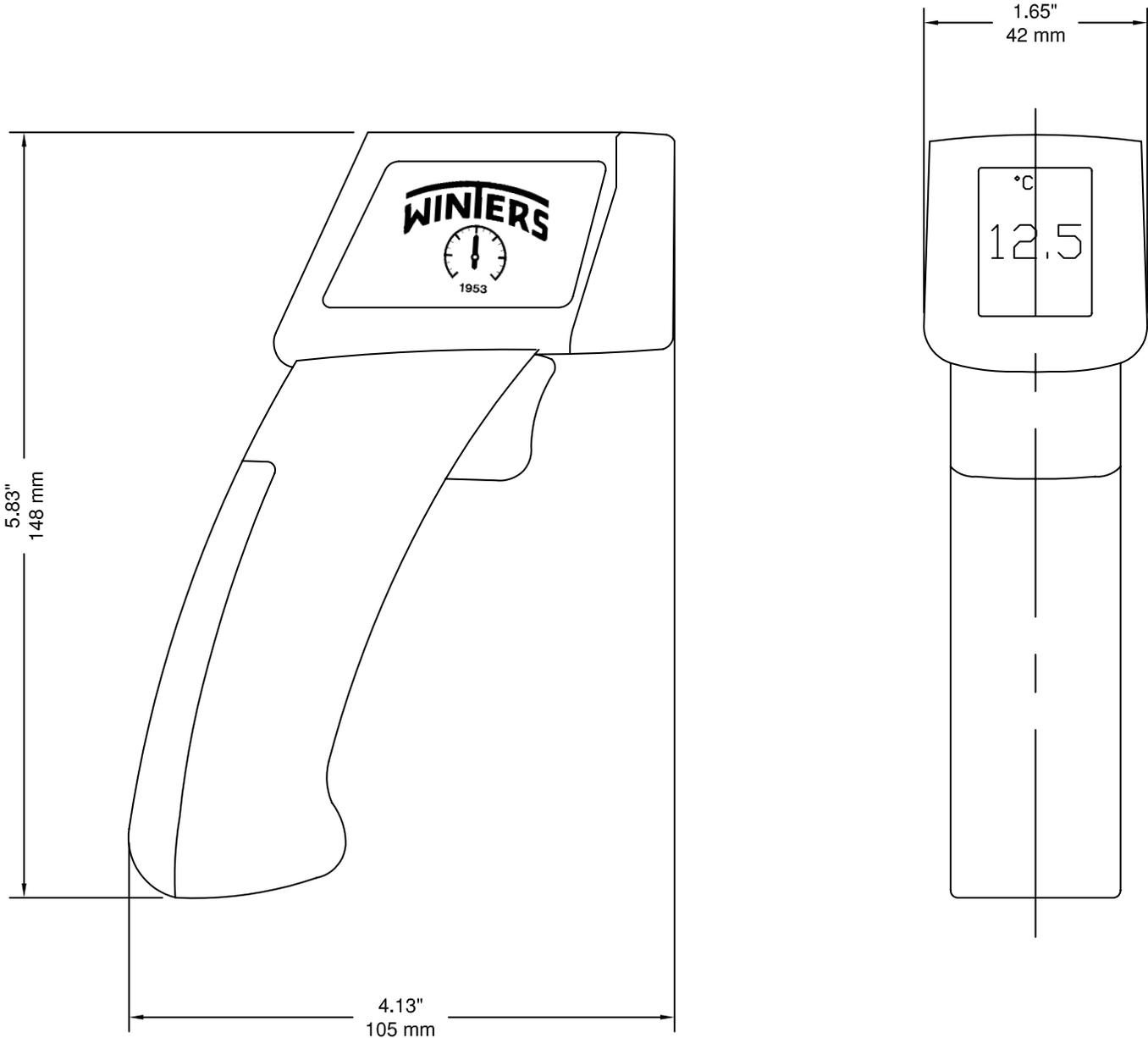


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Non-Contact Thermometer



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Solar Powered Digital



Description

Winters' Solar Powered Digital Thermometers provide an excellent alternative to conventional analog liquid and gas filled remote reading thermometers. The instrument is ideal for any application that requires quick and accurate response to temperature change, an easy to read display and a wide temperature range.

Specifications

Dial:	Polycarbonate
Case:	AISI 304 stainless steel, polished
Lens:	Polycarbonate
Capillary:	PVC, 4' (1.21m) long, standard
Probe:	AISI 304 stainless steel
Power Supply:	Solar cell with lithium battery back-up
Ambient Temperature:	-58.°F to 140°F (-10.°C to 60°C)
Process Temperature:	-58.°F to 302°F (-50.°C to 150°C)
Smallest Reading:	0.1°F or 0.1°C
Accuracy:	± 2°F (±1°C)

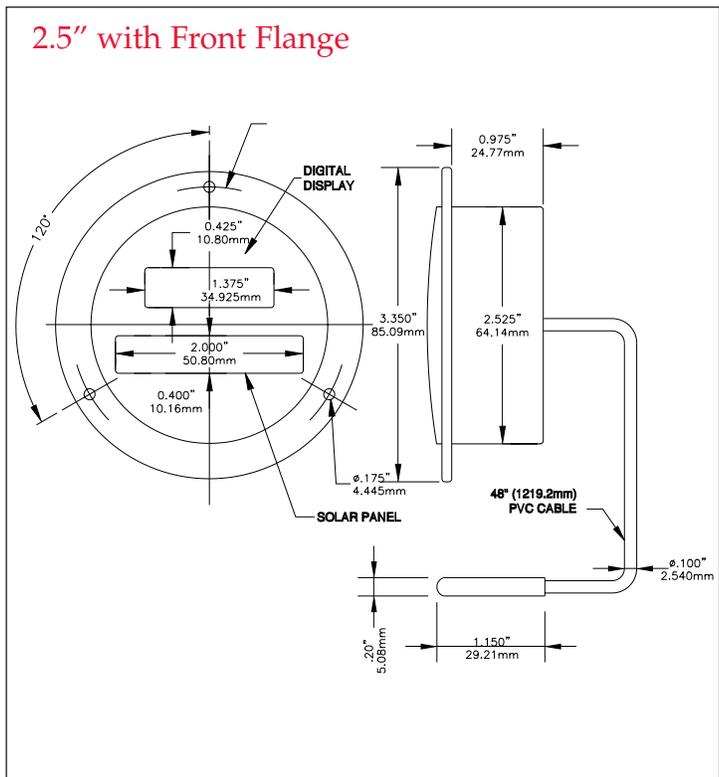
How to order: Specify product code PRODUCT CODES

2" (50mm)	ET7214040
2 1/2" (63mm)	ET7224040 - F
2 1/2" (63mm)	ET7224040 - C

PVC cable available in lengths up to 108" (27cm) (-58/158F only)

- Options:**
- -58/302 F only (single scale) range available upon request on 2" dials.
 - -50/150 C only (single scale) range available upon request on 2" dials.

2.5" with Front Flange



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12/02

Surface Magnet Thermometer



Description

Winters Bi-metal Surface Magnet Thermometers are ideal for use on bearings, ovens, pipes, engines, tanks, dies, molds or any other flat metallic surface that requires accurate temperature monitoring. Available in several ranges, these instruments are permanently calibrated and are guaranteed to be within the specified accuracy.

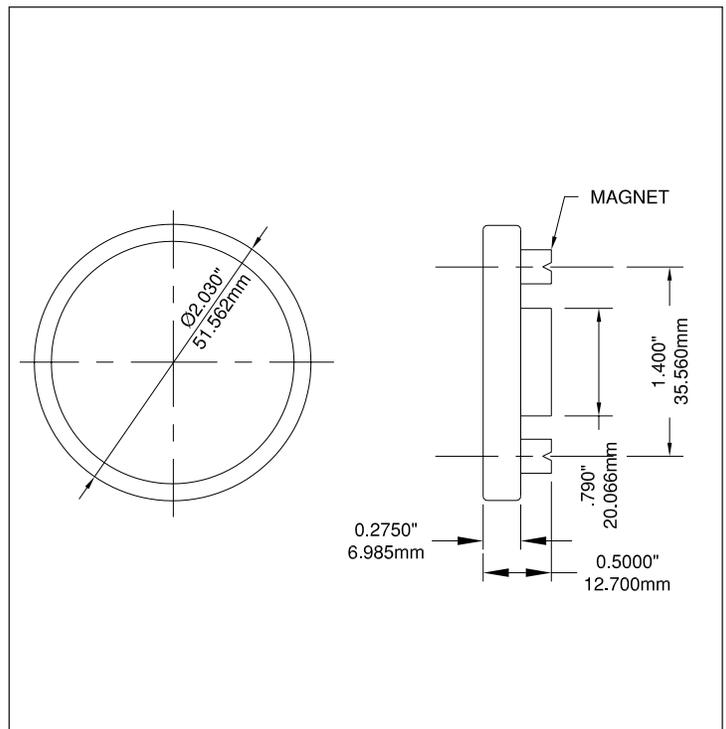
Specifications

Dial:	2" (50mm) aluminum with black and red markings
Case:	Steel, painted black
Lens:	Glass
Pointer:	Aluminum, painted black
Movement:	Bi-metallic coil
Ambient/Process Temperature:	Recommended maximum 75% of full scale value
Accuracy:	± 2% of full scale value
Enclosure:	IP52

How to order: Specify product code PRODUCT CODES

Range	Code
0/250° F & -20/120° C	T7412
0/500° F & -15/260° C	T7410
50/750° F & 10/400° C	T7409

Other ranges available upon request.



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Tridicators



Description

Winters' Tridicators are specially constructed to indicate both pressure and temperature in one compact instrument. The instrument is intended for use on all types of hot water heating systems and are available in 2 1/2" (63mm) and 3" (75mm) dial size formats.

The Tridicators are available in dual scale for both temperature and pressure measurements.

Specifications

Dial:	2 1/2" (63mm), 3" (75mm) aluminum, painted white with black markings
Case:	Steel, painted black
Lens:	2 1/2" (63mm) plexiglass 3" (75mm) - glass
Ring:	2 1/2" - steel, 3" stainless steel
Pointer:	Aluminum, anodized black
Socket:	Brass
Stem:	Brass
Tube:	Brass
Movement:	Brass and phosphor bronze
Protection:	IP50
Welding:	Tin-alloy solder
Ambient Temperature:	23°F to 122°F (5°C to 50°C)
Process Temperature:	Recommended 2/3's of full scale range
Pressure Limit:	Recommended 2/3's of full scale range
Accuracy:	Pressure: ± 3%-2%-3% Temperature: ± 3% of full scale range



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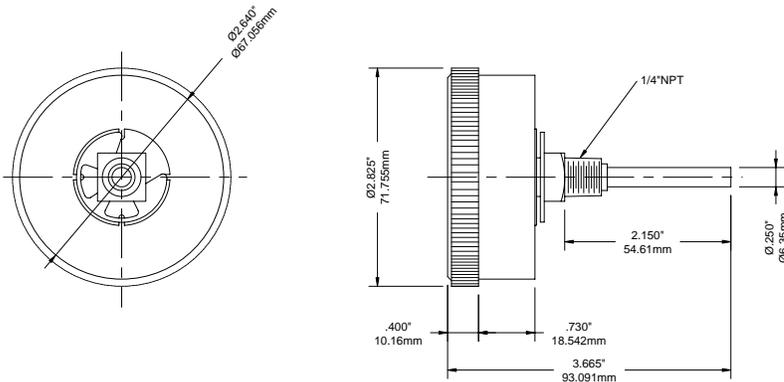
Tridicators

How to order: Specify product code

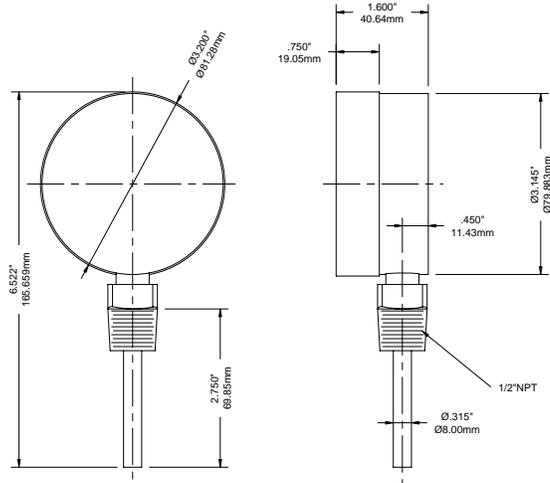
PRODUCT CODE	DIAL SIZE	CONNECTION	RANGE
T400	2 1/2" (63mm)	1/4" NPT, Back	0-75psi/kPa, 60-320F&C
T401	2 1/2" (63mm)	1/4" NPT, Extension Back	0-75psi/kPa, 30-240F&C
T404	2 1/2" (63mm)	1/4" NPT, Back	0-75psi/kPa, 30-240F&C
T403	3" (80mm)	1/2" NPT, Bottom	0-75psi/kPa, 30-240F&C
T402	3" (80mm)	1/2" NPT, Back	0-75psi/kPa, 30-240F&C
T405	3" (80mm)	1/2" NPT, Bottom	0-200psi/kPa 30-240F&C
T407	3" (80mm)	1/2" NPT, Back	0-200psi/kPa 30-240F&C
T408	3" (80mm)	1/2" NPT, Back	0-100psi/kPa 30-240F&C
T409	3" (80mm)	1/2" NPT, Bottom	0-100psi/kPa 30-240F&C

Other ranges and thread sizes available upon request

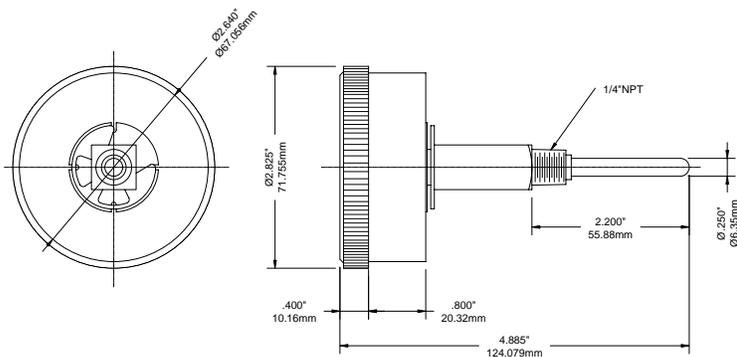
2.5" Back Connection



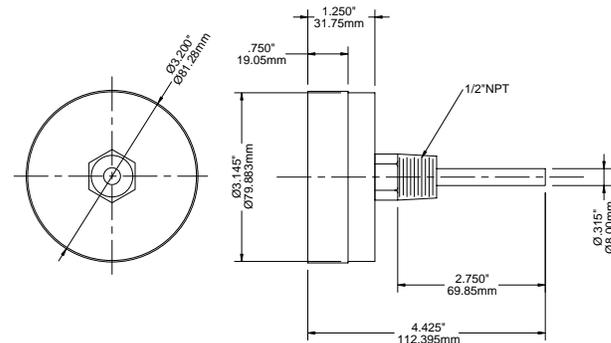
3" Bottom Connection



2.5" Extension Back Connection



3" Back Connection



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