Temperature Probes Thermowells

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Smith Meter® Electronic Equipment

Smith Meter's temperature probes and wells are used to interface the temperature input necessary for Smith Meter's electronic presets and flow computers to make temperature-related calculations.

Features

- 316 stainless steel well
- Platinum probe
- Explosion proof
- UL- and CSA-approved

Applications

Applications include pipelines, shipping docks, loading racks, refineries, chemical plants, processing installations, and tank farms.

Applications	Probe/Well Model No.
Customer-installed in system piping. (3/4" NPT well)	TPW-3
Customer-installed in 3 or 4-inch 210 valve or system piping. (1/2" NPT Well)	TPW-4

Specifications

Probes (TP-3, 4)

Sheath Diameter: 1/4".

Number of Wires: Four (TP_-3, 4).

Material of Construction: High purity platinum wire, fiberglass insulation.

Resistance: At 32°F (0°C) - 100 Ω.

Temperature Coefficient: At 32°F to 212°F (0°C to 100°C) - 0.00385 Ω/Ω/°C.

Temperature Tolerance: At (0°C) - (±0.1°C).

Temperature Range: -50°F to 800°F (-45°C to 425°C).

Connection Head: Listed by FM or UL and CSA for Class I, Div. 1, Groups B, C and D; Enclosure - NEMA Type 4.

Model TPW-3

Thermowell (TPW-3)

Process Connection Size: 3/4" NPT (Standard).

Bore Size: 0.260.

Insertion Length: See Dimensional Table, Figure 2.

Material of Construction: 316 Stainless Steel.

Thermowell (TPW-4)

Process Connection Size: 1/2" NPT.

Bore Size: 0.260.

Insertion Length: See Dimensional Table, Figure 2.

Material of Construction: 316 Stainless Steel.

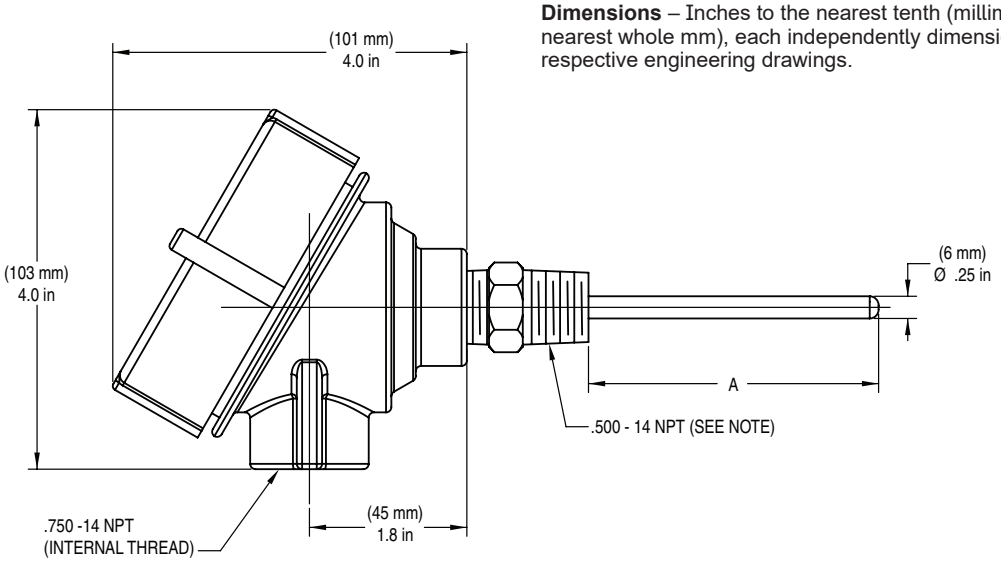
Note: Can be mounted in the body of a PD meter that has a temperature boss or in a port of a 3" or 4" valve.

Pipe size and well insertion length reference

Nominal Pipe Size	Well Insertion Length
2"	1.5
3-4"	2.5
6-8"	4.5
10-12"	7.5

Dimensions

Inches (mm)



Dimensions – Inches to the nearest tenth (millimetres to the nearest whole mm), each independently dimensioned from respective engineering drawings.

Note: Apply Loctite anti-seize compound (Part No. 005893-600) to threads before insertion.

Figure 1 – Explosion-Proof Temperature Probe

Explosion-Proof Temperature Probe

Model	Dimensions – inches (mm)
	A
TP -__3-1.5	2.2 (57)
TP -__3-2.5	3.2 (83)
TP -__3-4.5	5.2 (133)

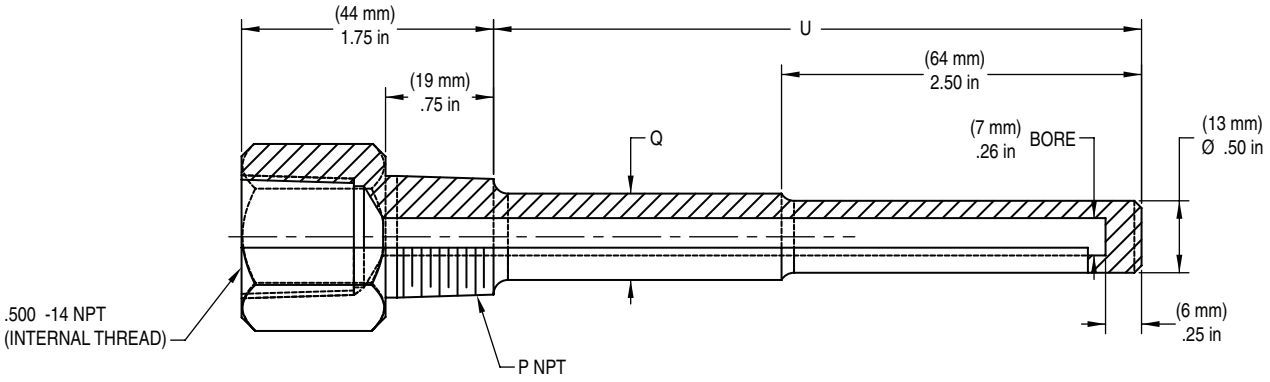
Model	Dimensions – inches (mm)
	A
TP -__4-1.5	2.2 (57)
TP -__4-2.5	3.2 (83)
TP -__4-4.5	5.2 (133)
TP -__4-7.5	8.2 (210)

Note: Insert model designation for thermowell at the __line. (See Modeling, Page 4.)

Dimensions

Inches (mm)

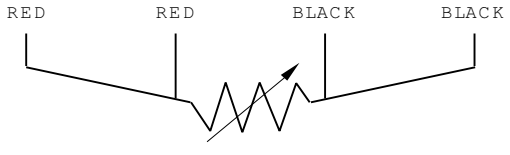
Dimensions – Inches to the nearest tenth (millimetres to the nearest whole mm), each independently dimensioned from respective engineering drawings.



Note: The temperature well should be filled with thermal grease (Part No. 644802-401) before temperature probe is inserted.

Figure 2 – Explosion-Proof Temperature Well

Probe	External Thread	Dimensions – Inches (mm)	Diameter – Inches (mm)
	P	U	Q
Application 3			
TP - W 3-1.5	.750-14 NPT	1.5 (38)	.5 (13)
TP - W 3-2.5	.750-14 NPT	2.5 (64)	.5 (13)
TP - W 3-4.5	.750-14 NPT	4.5 (114)	.8 (19)
Application 4			
TP - W 4-1.5	.500-14 NPT	1.5 (38)	.5 (13)
TP - W 4-2.5	.500-14 NPT	2.5 (64)	.5 (13)
TP - W 4-4.5	.500-14 NPT	4.5 (114)	.6 (16)
TP - W 4-7.5	.500-14 NPT	7.5 (191)	.6 (16)



Note: Refer to Installation Manual of receiving equipment for terminal connections.

Figure 3 – Wiring – Four-Wire Probe (TPW-3, 4)

Modeling Code – Temperature Probe and Well (For Direct RTD Input)

TP W — 3 — 2.5

Model Designation

TP – Temperature probe (4 wire) with explosion-proof-junction box

Thermowell

Blank – 1/2" NPT Probe; No Well
W – With Thermowell

Application

3 – Used with AccuLoad II and III; 1/2" NPT Probe and 3/4" NPT Well

4 – Used with AccuLoad II and III; 1/2" NPT Probe and 1/2" NPT Well; Well can be installed in a port on 3" or 4" 210 Valves

Well Insertion Length

For No Well, use pipe size to determine length

1.5"

2.5"

4.5"

7.5"

Note: For applications other than AccuLoad II and III, reference probe specifications for compatibility to other instrumentation.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

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