

PALMER

Designed and Built in Asheville,
North Carolina

Model 50A • 50AL Direct Drive Rigid Stem 5" Dial Thermometers with 1-1/4"-18 Swivel Nut Fitting and Tapered Bulb

Palmer's experience in the thermometer field enables us to offer a line of filled system Dial Thermometers with uncompromising accuracy. Used in many different applications, including power plants, chemical processing plants, breweries, canneries and HVAC equipment, our Dial Thermometers are engineered to provide long service life with an extremely dependable thermal system.

Direct-Drive Double-Wound Bourdon Coil: With this construction, the pointer shaft operates directly from the center coil. This eliminates the conventional sector and pinion type movement and its multiplying mechanism which are subject to wear and tear and subsequent inaccuracies. This unique feature results in a temperature indicator that is extremely responsive to temperature changes and will maintain its accuracy for many years.

Stainless Steel Bezel Ring and Glass Cover: provides a weather-tight seal.

Easy to Read Dial: Every thermometer dial is constructed of heavy gauge aluminum with a low glare finish. High contrast black numerals, graduations, and pointer all contribute to minimize reading errors.

Liquid Actuated Systems: These temperature systems are filled with a non-toxic, odorless, organic, and non-flammable liquid up to 500°F. It is non-hazardous, environmentally friendly with no hydrogens, and proven to be an excellent substitute for Mercury.

Mercury Actuated Systems: For ranges over 500°F mercury is used in an all stainless steel, welded system with direct drive coil, responding to the slightest change sensed in the bulb. This provides the most accurate temperature reading possible.

Calibration: Tapered-tip Pointer can be adjusted for calibration.

Interchangeability: All Model 50 Series Dial Thermometers have a .625" stem diameter with tapered sensing bulb interchangeable with a mercury-in-glass industrial thermometer type thermowell. A fast response is insured by the metal-to-metal contact of the tapered mercury filled bulb chamber and the internally tapered well.

Fully Adjustable All Angle Case: Model 50 Series Dial Thermometers may be adjusted during installation and locked to provide the best reading angle. Optional Center Back Connection allows for the head to be rotated to adjust orientation after installation.



50AL Direct Drive Rigid
Dial Thermometer

Models 50A • 50AL Series Specifications

Form:	Adjustable All Angle Case, Optional Center Back Connected Case
Case:	Polished 316 Stainless Steel Case. 5" Dial (127 mm)
Fill:	Liquid Actuated: Model 50AL < 500°F Mercury Actuated: Model 50A > 500°F
Dial Face:	Black Graduations and Numerals on White Background. Linear Scale with High-Visibility Tapered-Tip Black Pointer.
Bezel/Lens:	Stainless Steel Bezel Ring and Glass Cover, Gasket Sealed Plexiglas - Optional
Fitting:	1-1/4" UNEF-18 Swivel Nut Nickel Plated Brass. Optional Fittings available.
Stem:	.625" (15.9 mm) Diameter with Tapered Sensing Bulb, 304 Stainless Steel
Stem Lengths:	Standard Lengths from 3-1/2" (88.9 mm) to 24" (610 mm). Measure stem length from below Swivel Nut Fitting.
Bulb:	0.437" (11.1 mm) Diameter Tapered Bulb Chamber, 304 Stainless Steel
System:	Case Compensated System with Double Wound Direct Drive Bourdon Coil.
Accuracy:	± One Scale Division.

Applications

Chemical and Petrochemical	Pneumatics
Hazardous Environments	Compressor Controls
Process Engineering	Pump Protection
Pulp and Paper Industry	Shipping
Water Treatment Systems	



Specifications subject to change without notice.

January
2022

Palmer Wahl Instruments, Inc. • Toll Free: 800-421-2853 • Phone: 828-658-3131 • www.palmerwahl.com

Palmer Wahl
BEYOND THE SCALE

Dial Models 50A • 50AL Series Ordering Guide

MODEL 50A SERIES - DIRECT DRIVE RIGID STEM DIAL

Step 1 - Select: Dial Size, Style and Fill

Code	Dial Size, Style and Fill
50A	5" Direct Drive Rigid Stem Dial, All Angle Case, Mercury Actuated
50AR	5" Direct Drive Rigid Stem Dial, Center Back Connected Case, Mercury Actuated
50AL	5" Direct Drive Rigid Stem Dial, All Angle Case, Liquid Actuated
50ARL	5" Direct Drive Rigid Stem Dial, Center Back Connected Case, Liquid Actuated

Step 2 - Select: Stem Length

Code	Stem Length (Includes Bulb)
3.5	3.5 inches (89 mm)
6	6 inches (152 mm)
8	8 inches (203 mm)
9	9 inches (229 mm)
12	12 inches (305 mm)
15	15 inches (381 mm)
18	18 inches (457 mm)
24	24 inches (610 mm)

If Stem lengths over 24" are required please call Customer Service.

Step 3 - Select: Temperature Range

Code	°F Range	° Div	Code	°C Range	° Div	Fill
-100/100F	-100° to 100°	2°	-60/40C	-60° to 40°	1°	Low Range
-30/130F	-30° to 130°	1°	-30/60C	-30° to 60°	1°	Liquid Actuated
30/180F	30° to 180°	1°	NA	NA		
0/150F	0° to 150°	1°	-10/80C	-10° to 80°	1°	
0/240F	0° to 240°	2°	-10/120C	-10° to 120°	1°	
0/300F	0° to 300°	2°	-10/150C	-10° to 150°	1°	
0/400F	0° to 400°	5°	0/220C	0° to 220°	2°	Mercury Actuated
0/500F	0° to 500°	5°	0/280C	0° to 280°	2°	
0/600F	0° to 600°	5°	0/320C	0° to 320°	2°	
0/750F	0° to 750°	5°	0/400C	0° to 400°	2°	
200/750F	200° to 750°	5°	100/400C	100° to 400°	2°	
200/950F	200° to 950°	5°	100/500C	100° to 500°	5°	Ultra High Range
200/1200F	200° to 1200°	10°	NA	NA		

Mercury Bulbs are available below 500°F if products containing mercury can be shipped to your state. Contact us for details.

Dual Scale Ranges: specify F&C Fahrenheit and Réaumur: 0° to 240°F&R; 0° to 150°F&R

Step 4 - Select: Options

Code	Options
F&C	Dual Range Scale
(PC)	Plexiglas Cover
(S)	7/8"-22 Swivel Nut Fitting
(SS)	316 Stainless Steel Fitting and Stem

Dial / Fill	Stem Length	Temperature Range	Options
50__			

Insert Codes in boxes above to build part number

Model Number Example:

50AL24-30/60C(PC): 5 inch Dial, Liquid Actuated, 24 inch Stem Length, -30° to 60°C Temperature Range, Plexiglas Cover.



We build to order: if your process requires an option not shown here please call Customer Service.

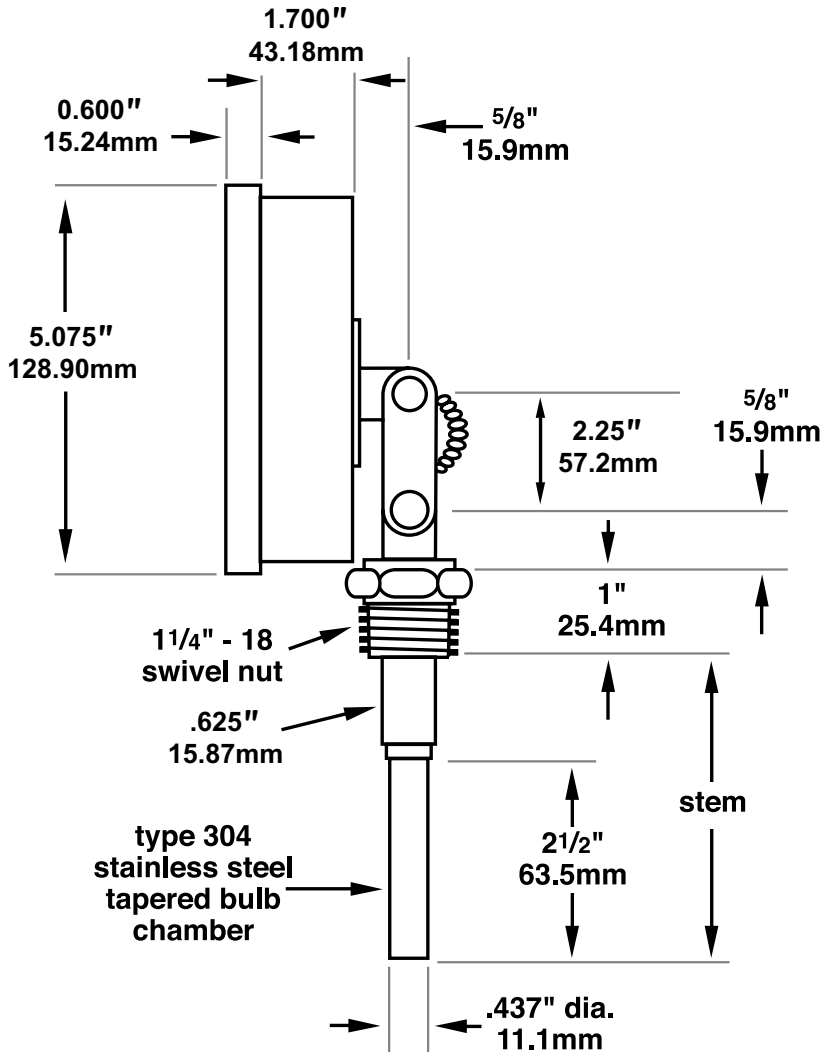
Specifications subject to change without notice.

Dial Models 50A • 50AL Series Dimensional Drawings

Adjustable All Angle Case Rigid Dial Thermometer with 1-1/4"-18

Swivel Nut Fitting and Tapered Bulb

5" Dial - Model 50A, Model 50AL



**We build to order:
if your process requires
an option not shown here
please call
Customer Service.**

To measure stem length measure from 1/2" up on threads of fitting to tip of stem.



Specifications subject to change without notice.

January 2022

Palmer Wahl Instruments, Inc. • Toll Free: 800-421-2853 • Phone: 828-658-3131 • www.palmerwahl.com



Connections and Thermowells for Rigid Dial Thermometer Bulbs

		RIGID STEM DIAL THERMOMETERS				
		Models 50A/50AL	Model 1050		Model 950	
	Stem Diameter	5/8"	3/16"	3/16"	3/8"	3/8"
	Bulb Diameter	7/16"	1/4"	1/4"	3/8"	3/8"
	Probe Connection	1-1/4"-18 UNEF Swivel Nut	1/2" NPT Fixed Fitting	7/8"-22 Swivel Nut Fitting	1/2" NPT Adjustable Union	3/4" NPT Adjustable Union
Open End	Standard Union Connection 3/4" NPT	1140-7	1120-7	1150-7	1120-7	NA
	Standard Union Connection 1" NPT	1140-8	1120-8	1150-8	1120-8	NA
	Extension Neck Lagging Union Connection 3/4" NPT	1141-7	1121-7	NA	1121-7	NA
	Extension Neck Lagging Union Connection 1" NPT	1141-8	1121-8	NA	1121-8	NA
	Surface Mount Flanged Union Connection	1140-9	1120-9	1150-9	1120-9	NA
Closed Receptacle	Standard Thermowell	1140 Series Thermowell	NA	CP-990-1 (3.5" Probe Length Only)	1130 Series Thermowell	NA
	Extension Neck Lagging Thermowell	1141 Series Thermowell	NA	NA	1131 Series Thermowell	NA
	Built-up Heavy Wall Thermowell	1144 Series Thermowell	NA	NA	NA	NA
	Built-up Extension Neck Lagging Heavy Wall Thermowell	1145 Series Thermowell	NA	NA	NA	NA
	Weld-in Thermowell	1146 Series Thermowell	NA	NA	1136 Series Thermowell	NA
	Flanged Thermowell	1147 Series Thermowell	NA	NA	1137 Series Thermowell	NA

