

PALMER

*Designed and Built in Asheville,
North Carolina*

Model 50B • 50C Direct Drive Remote Reading 5" Dial Thermometer, Wall or Flush Mount

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.



50C Direct Drive Remote Reading Flush Mount Dial Thermometer

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.

Fully Adjustable All Angle Case: Model 50B Wall Mount Dial Thermometers have the All Angle Case may be adjusted during installation and locked to provide the best reading angle.

Center Back Connected Case: Model 50C Flush Mount Dial Thermometers is a Center Back Connected Style which allows for the head to be rotated to adjust orientation after installation for the best reading angle.

Models 50B • 50C Series Specifications	
Form:	50B - Wall Mount, All Angle Case furnished complete with flange and linkage for positioning case. 50C - Flush Mount, Center Back Connected Case furnished complete with steel bezel and 3 mounting studs, nuts and washer. Black finish.
Case:	Polished 316 Stainless Steel Case. 5" Dial (127 mm)
Fill:	Liquid Actuated: < 500°F Mercury Actuated: > 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
Capillary:	1/4" Diameter Stainless Steel Flexible Armor, 5 feet, Standard. 3/16" Diameter Stainless Steel Bendable Stiff Armor, 5 feet, Optional. Capillary Lengths longer than 5 ft. specify desired length in terms of feet. Mercury Actuated available up to 50 feet. Liquid Actuated limited to 15 feet.
Bulb:	Liquid Actuated Dials use 81 Series Bulbs. Mercury Actuated Dials use 51 Series Bulbs.
System:	Case Compensated System with Double Wound Direct Drive Bourdon Coil. Liquid Actuated Dials use 1-B Systems. Mercury Actuated Dials use 5-B Systems.
Accuracy:	± One Scale Division.

Applications

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



Specifications subject to change without notice.

Dial Models 50B • 50C Series Ordering Guide

MODEL 50B • 50C SERIES - DIRECT DRIVE REMOTE READING DIAL

Step 1 - Select: Dial Size and Case Style

Code	Dial Size and Case Style
50B	5" Direct Drive Remote Reading Dial, Wall Mount, All Angle Case
50C	5" Direct Drive Remote Reading Dial, Flush Mount, Center Back Connected Case

Step 2 - Select: Capillary Length

Code	Capillary Length. Insert number of desired feet up to 15 ft max for Liquid Filled, 50 ft max for Mercury.
5	5 Feet (1524 mm) (Std)
6	6 Feet (1828 mm)
7	7 Feet (2133 mm)
8	8 Feet (2438 mm)
9	9 Feet (2743 mm)
10	10 Feet (3048 mm)
11	11 Feet (3352 mm)
12	12 Feet (3657 mm)
13	13 Feet (3962 mm)
14	14 Feet (4267 mm)
15	15 Feet (4572 mm)
XX	For capillary over 15 Feet, Mercury only, Length Code in increments of feet, example: 20 feet = Code 20.

Step 3 - Select: Armor or Capillary Type

Code	Armor or Capillary Type
F	1/4" Diameter Stainless Steel Flexible Armor, 5 feet, Standard
B	3/16" Diameter Stainless Steel Bendable Stiff Armor, 5 feet

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	Liquid Actuated
-30/130F	-30° to 130°	1°	-30/60C	-30° to 60°	1°		
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°		
0/500F	0° to 500°	5°	0/280C	0° to 280°	2°	High Range	Mercury Actuated
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°		
200/1200F	200° to 1200°	10°	NA	NA		Ultra High Range	

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

Dial	Capillary Length	Armor Type	Temperature Range
50____			
Insert Codes in boxes above to build part number			



**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 50B • 50C Series Ordering Guide

All systems conform to ASME, ISA, SAMA or other codes designed as 5B or 1B systems.

See the following pages for dimensional drawings of Remote Bulbs.

Step 5 - Select: Bulb Type			
Code	Mercury Actuated, 51 Series - 5B Bulbs	Bulb Length	Connection
51-5	Plain SS Bulb	6" Std. Multiples of 6" up to 10 ft.	Drop-in or Hanging Style
51-11	Plain SS Bulb, Bendable Stiff	6" Std.	Adjustable Union Compression Fitting
51-12	Plain SS Bulb, Bendable Stiff, Liquid/Air Temp	6" Std.	1-1/4"-18 Swivel Nut Fitting
51-13	Plain SS Bulb, Tapered	3.5", 6", 8", 12" Std. Multiples of 6" to 10 ft.	1-1/4"-18 Swivel Nut Fitting
51-29	Plain SS Bulb, Air Temperature	12" Std.	5/8" Coupling and Hanging Rings
51-30	Plain SS Bulb, Air Temperature	12" Std.	1-1/4"-18 Swivel Nut
Code	Liquid Actuated, 81 Series - 1B Bulbs	Bulb Length	Connection
81-4	Plain SS Bulb	4", 6", 9", 12", 18", 24", 36"	1/2"-14 Swivel Nut Fitting
81-5	Plain SS Bulb	6" Std. Multiples of 6" up to 10 ft.	Drop-in or Hanging Style
81-11	Plain SS Bulb, Bendable Stiff	Specify Stem Length and Fitting	Adjustable Union Compression Fitting
81-12	Plain SS Bulb, Bendable Stiff, Liquid/Air Temp	Specify Stem Length	1-1/4"-18 Swivel Nut Fitting
81-13	Plain SS Bulb, Tapered	3.5", 6", 8", 12" Std. Multiples of 6" up to 3 ft.	1-1/4"-18 Swivel Nut Fitting

Step 6 - Select: Bulb Length	
Code	Bulb Length
(3.5")	3.5 inches (88.9 mm) (51-13 and 81-13 only)
(4")	4 inches (101.6 mm) (81-4 only)
(6")	6 inches (152.4 mm)
(8")	8 inches (203.2 mm)
(9")	9 inches (228.6 mm)
(12")	12 inches (304.8 mm)
(18")	18 inches (457.2 mm)
(24")	24 inches (609.6 mm)

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

Step 7 - Select: Options	
Code	Options
(F&R)	Dual Range Scale
(PC)	Plexiglas Cover
(SS)	316 Stainless Steel Fitting and Stem

Step 8 - Select: Optional Adjustable Union for 51-11 or 81-11 Bulbs	
Code	Adjustable Union
1/2" NPT	1/2" NPT Adjustable Union
3/4" NPT	3/4" NPT Adjustable Union
1" NPT	1" NPT Adjustable Union

Bulb Type	Bulb Length	Options	Adjustable Union
Insert Codes in boxes above to build part number			

Model Number Example:
50B12F-30/130F81-4(6")(PC): 5 inch Dial, Wall Mount, 12 foot Capillary Length, 1/4" Dia. SS Flexible Armor Type, -13° to 130°F Liquid Actuated Temperature Range, 81-4 Liquid Actuated Bulb, 6 inch Bulb Length, Plexiglas Cover.

Final Part Number:

Dial	Capillary Length	Armor Type	Temperature Range	Bulb Type	Bulb Length	Options	Adjustable Union
50__							
Insert Codes in boxes above to build Final Part Number							

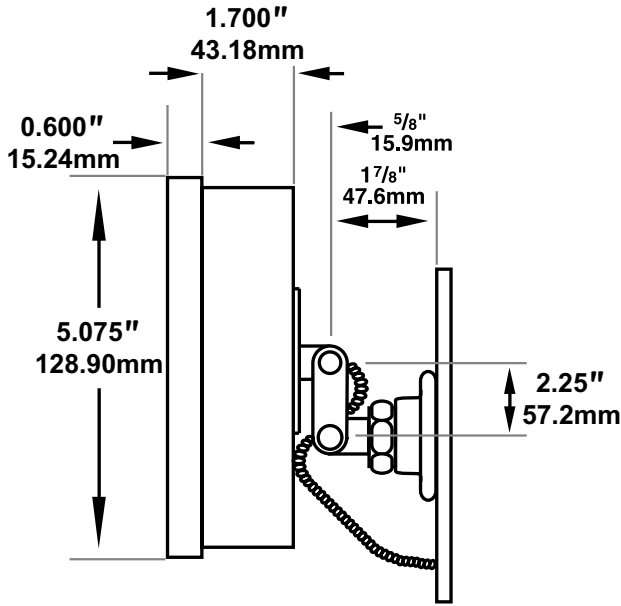


Specifications subject to change without notice.

Dial Models 50B • 50C Series Dimensional Drawings

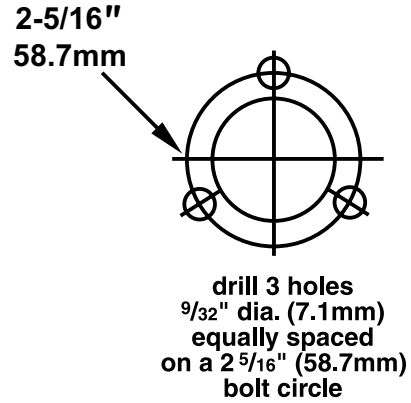
Wall Mount Dial Thermometer

5" Dial - Model 50B



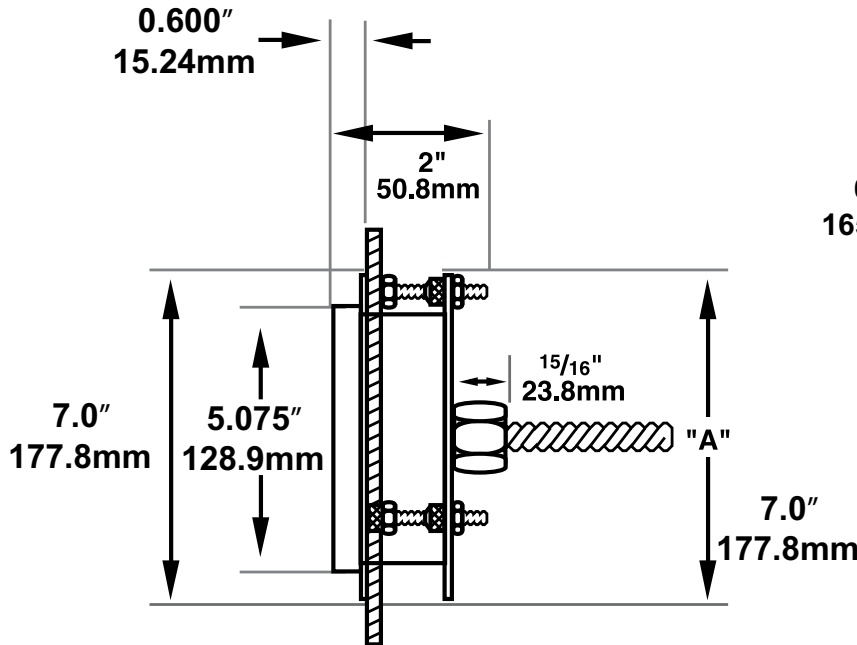
Wall Mount Dial Thermometer Drill Hole Diagram

5" Dial - Model 50B



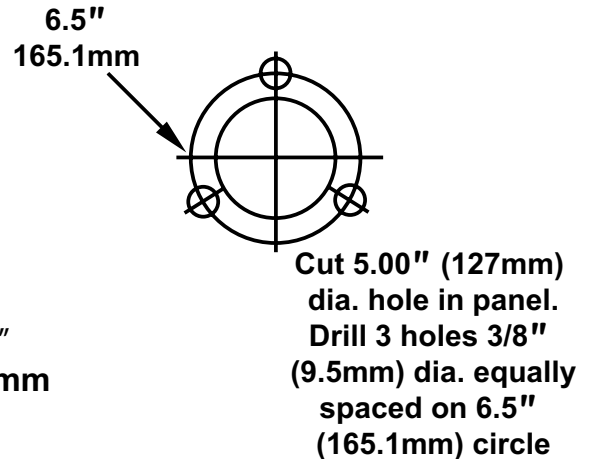
Flush Mount Dial Thermometer

5" Dial - Model 50C



Flush Mount Dial Thermometer Drill Hole Diagram

5" Dial - Model 50C



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