

TECHNICAL DATA

5618B Small Diameter Industrial RTD



Key features

- Secondary level performance with full ITS-90 calibration.
- Sheath diameter of 3.2mm (0.125 in), ensuring reduced response time without compromising precision.
- NVLAP-accredited calibration from -200°C to 500°C, lab code 200706-0.
- Reduced measurement error in short immersion depth applications by conducting less heat between ambient and the sensor.

Product overview: 5618B Small Diameter Industrial RTD

With each probe you will receive a full NVLAP-accredited calibration report. On the report you'll get the test data and the ITS-90 calibration coefficients that you can easily input into your Fluke Calibration thermometer.

The 5618B is also a great probe to use for calibrating your Fluke Calibration 9132 or 9133 infrared calibrators. In fact, these IR black body heat sources were designed to be calibrated with this type of probe. Now you can calibrate these targets in your own lab!

For use from -200 °C to 500 °C (the six-inch model goes to 300 °C), you won't find a better industrial standard in this configuration than our 5618B. We recommend using the 5618B PRTs with the 1523, 1524, 1502A, 1529, or 1560 thermometer readouts.

Specifications: 5618B Small Diameter Industrial RTD

Specifications	
Resistance	Nominal 100 Ω at 0 °C
Temperature Coefficient	0.003923 $\Omega/\Omega/^\circ\text{C}$ nominal
Temperature Range	-200 °C to 500 °C (-200 °C to 300 °C for 5618B-6-X)
Drift Rate	$\pm 0.1^\circ\text{C}$ when used periodically to 500 °C
Sheath Material	316 SST
Leads	22 AWG PTFE, 6'
Termination	Specify
Hysteresis	Less than 0.01 °C at 0 °C when using -196 °C and 420 °C as the end points.
Time Constant	Four seconds maximum for 63.2 % response to step change in water moving at 3 fps.
Thermal EMF	Less than 25 mV at 420 °C
Calibration	Includes manufacturer's NVLAP-accredited calibration w/ITS-90 coefficients, R vs. T values in 1 °C increments, lab code 200706-0
Size	5618B-12: 305 mm L x 3.2 mm dia. (12 x 1/8 in) 5618B-9: 229 mm L x 3.2 mm dia. (9 x 1/8 in) 5618B-6: 152 mm L x 3.2 mm dia. (6 x 1/8 in)

Calibrated Accuracy† (k=2)	$\pm 0.026\text{ }^{\circ}\text{C}$ at $-200\text{ }^{\circ}\text{C}$ $\pm 0.066\text{ }^{\circ}\text{C}$ at $0\text{ }^{\circ}\text{C}$ $\pm 0.219\text{ }^{\circ}\text{C}$ at $500\text{ }^{\circ}\text{C}$	
†Includes calibration uncertainty and drift specification.	NVLAP† Calibration Uncertainty	
	Temperature	Expanded Uncertainty (k=2)
	$-196\text{ }^{\circ}\text{C}$	$0.024\text{ }^{\circ}\text{C}$
	$-38\text{ }^{\circ}\text{C}$	$0.011\text{ }^{\circ}\text{C}$
	$0\text{ }^{\circ}\text{C}$	$0.010\text{ }^{\circ}\text{C}$
	$200\text{ }^{\circ}\text{C}$	$0.018\text{ }^{\circ}\text{C}$
	$420\text{ }^{\circ}\text{C}\ddagger$	$0.029\text{ }^{\circ}\text{C}$
	Note: Calibration uncertainties depend on the uncertainties of the lab performing the calibration. Subsequent calibrations of this probe performed with different processes, at different facilities, or with changed uncertainty statements may state different uncertainties. †Lab code 200706-0 ‡300 °C for 5618B-6	

Ordering information



5618B Small Diameter Industrial RTD

5618B-12-X

305 mm (12 in) Small Diameter Probe, lead wire (cable) 6 ft

(17025 accredited calibration included. Traceable to NIST standards.)

X = termination. Specify "A" (INFO-CON for 914X), "B" (bare wire), "D" (5-pin DIN for Tweener Thermometers), "G" (gold pins), "J" (banana plugs), "L" (mini spade lugs), "M" (mini banana plugs), "P" (INFO-CON for 1523 or 1524), or "S" (spade lugs).

5618B-9-X

229 mm (9 in) Small Diameter Probe, lead wire (cable) 6 ft

(17025 accredited calibration included. Traceable to NIST standards.)

X = termination. Specify "A" (INFO-CON for 914X), "B" (bare wire), "D" (5-pin DIN for Tweener Thermometers), "G" (gold pins), "J" (banana plugs), "L" (mini spade lugs), "M" (mini banana plugs), "P" (INFO-CON for 1523 or 1524), or "S" (spade lugs).

5618B-6-X

152 mm (6 in) Small Diameter Probe, lead wire (cable) 6 ft

(17025 accredited calibration included. Traceable to NIST standards.)

X = termination. Specify "A" (INFO-CON for 914X), "B" (bare wire), "D" (5-pin DIN for Tweener Thermometers), "G" (gold pins), "J" (banana plugs), "L" (mini spade lugs), "M" (mini banana plugs), "P" (INFO-CON for 1523 or 1524), or "S" (spade lugs).

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