



## Small Diameter Industrial PRT

5618A

- Small diameter sheath, 0.125" (3.2mm)
- Excellent stability
- Includes ITS-90 coefficients
- Calibrated from -200°C to 500°C

For secondary level performance with full ITS-90 calibration, Hart's new 5618A series PRTs are an excellent choice for critical temperature measurements. Featuring a 1/8-inch diameter (3.2 mm) sheath, these industrial standards probes have reduced response time without compromising precision. This small diameter 5618A probe works well in many applications where immersion depth is limited. Larger diameter probes give more measurement error in short immersion depth applications because they radiate more heat to or from ambient air.

With each probe you will receive a full calibration report traceable to NIST and compliant to ANSI/NC SL Z540. On the report you'll get the test data and the ITS-90 calibration coefficients that you can easily input into your Hart thermometer. If you are using a 1521 Handheld Thermometer readout, we'll program the coefficients directly into your INFO-CON connector.

The 5618A is also a great probe to use for calibrating your Hart 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 5618A. We recommend using the 5618A PRTs with the 1521, 1522, 1502A, 1529, or 1560 thermometer readouts.

### Technical Tip

#### Interim Checks Save Trouble Later

You spend good money getting your reference standards calibrated. How can you be sure that they continue to measure accurately prior to their next calibration? One way is to periodically compare them to other reference standards with higher accuracy. Such a test is called an interim check.

An interim check that most of us are familiar with is the use of a water triple point cell to check the stability of a PRT. The ISO 17025 suggests the use of interim checks as a quality safeguard. Do this regularly and keep good records. Your customers and your auditors will thank you. And if you find a problem, you'll be glad you found it sooner rather than later!

### Specifications

<b>Resistance</b>	Nominal 100Ω at 0°C
<b>Temperature Coefficient</b>	0.003923Ω/Ω/°C nominal
<b>Temperature Range</b>	-200°C to 500°C (-200°C to 300°C for 5618A-6-X)
<b>Drift Rate</b>	±0.1°C when used periodically to 500°C
<b>Sheath Material</b>	316 SST
<b>Leads</b>	22 AWG Teflon, 6'
<b>Termination</b>	Specify
<b>Hysteresis</b>	Less than 0.01°C at 0°C when using -196°C and 420°C as the end points.
<b>Time Constant</b>	9 seconds max for 63.2%
<b>Thermal EMF</b>	Less than 25 mV at 420°C
<b>Calibration</b>	Includes manufacturer's NIST-Traceable (Z540) calibration w/ITS-90 coefficients, R vs. T values in 1°C increments
<b>Size</b>	<b>5618A-12:</b> 12"L x 1/8" diameter <b>5618A-9:</b> 9"L x 1/8" diameter <b>5618A-6:</b> 6"L x 1/8" diameter
<b>Probe Accuracy (includes calibration uncertainty and short-term stability)</b>	±0.05°C over entire range

### Ordering Information

5618A-12X	12" Small Diameter Probe
5618A-9-X	9" Small Diameter Probe
5618A-6-X	6" Small Diameter Probe
2601	Protective Case

X = termination. Specify "B" (bare wire), "D" (5-pin DIN for Tweener Thermometers), "G" (gold pins), "I" (INFO-CON for 1521 or 1522 Handheld Thermometers), "J" (banana plugs), "L" (mini spade lugs), "M" (mini banana plugs), or "S" (spade lugs).



Don't forget a protective case!



See page 18 for triple point of water cells.