

5616 | Sekundäres Referenz-PRT



Produktübersicht: 5616 | Sekundäres Referenz-PRT

The 5616's temperature range is -200°C to 420°C. Its high-purity platinum element and ruggedness make it particularly suitable for calibration in the lab or in the field. When selecting a reference with a platinum element, two things are important to consider: short-term reproducibility and long-term drift. When PRTs thermally cycle through their temperature range, as they do during calibration, their resistance at the triple point of water can move up or down in an unexpected range. Fluke Calibration defines this range (called "short-term reproducibility") as the reproducibility at the triple point of water during thermal cycling. The 5616 PRTs are among the best performing in their class, with short-term reproducibility of better than $\pm 0.010^{\circ}\text{C}$ ($\pm 0.004^{\circ}\text{C}$ is normal). In addition, the drift of the 5616 is $\pm 0.007^{\circ}\text{C}$ at the triple point of water and maximum temperature (420 °C) for 100 hours. These specifications are for $k=2$ and therefore have a 95% confidence level.

The 5616's sealed INCONEL® 600 shaft is 11.75" long and 1/4" diameter. The PTFE-sheathed cable is silver-plated copper terminated with four-wire leads to eliminate lead wire resistance from affecting measurements. Use the 5616 with the 1523/1524 [1523 Portable Reference Thermometer](#) , [1524 Portable Reference Thermometer](#) , [the 1560 Black Stack](#) , [the 1529 Chub-E4](#) , or [the Tweener](#) thermometers with digital displays.

Each sensor is supplied with a manufacturer's calibration report. The report includes expanded uncertainty ($k=2$) at seven calibration temperature points, ITS-90 calibration coefficients, and a temperature versus resistance table in 1°C increments. Compare the 5616 to other secondary reference PRTs. You'll love the price, but it's the performance that will really win you over.

Technische Daten: 5616 | Sekundäres Referenz-PRT

Technical data	
parameter	Value
Temperature range	-200 °C to 420 °C
Nominal resistance at 0.01 °C	100Ω ±0.5Ω
Temperature coefficient	0.003925 Ω/Ω/°C nominal
Calibrated accuracy ^[1] (k=2)	± 0.012 °C at 200 °C ± 0.011 °C at 0 °C ± 0.028 °C at 420 °C
Short-term repeatability ^[2]	± 0.007 °C at 0.010 °C
Drifting ^[3]	± 0.007 °C at 0.010 °C
Hysteresis	± 0.010 °C maximum
Sensor length	50.8mm
Sensor position	9.5 mm ± 3.2 mm from tip
Tolerance for sheath diameter	± 0.08mm
Sheath material	INCONEL® 600
Minimum insulation resistance	500 MΩ at 23 °C
Transition temperature range ^[4]	-50 °C to 150 °C (see footnote)
Minimum immersion length ^[5] (< 5 mK error)	102mm
Maximum immersion length	254mm
Reaction time ^[5]	8 seconds normal
Self-heating (in 0 °C bath)	60 mΩ/°C
Conductor wire cable type	PTFE-jacketed cable, PTFE-insulated conductors, 24 AWG silver-plated copper
Lead wire length	182.9cm ± 2.5cm
Lead wire temperature range	-50 °C to 150 °C
calibration	NIST-traceable calibration

<p>^[1] Includes calibration uncertainty and 100 hr drift.</p> <p>^[2] Three thermal cycles from minimum to maximum temperature, including hysteresis, 95% confidence (k=2).</p> <p>^[3] After 100 hours at maximum temperature, 95% confidence (k=2)</p> <p>^[4] Temperatures outside this range will cause irreparable damage. For optimum performance, the junction should not be too hot to touch.</p> <p>^[5] According to ASTM E 644</p>	<p>Calibration uncertainty</p> <table data-bbox="758 313 1420 548"> <thead> <tr> <th>Temperature</th> <th>Expanded uncertainty (k=2)</th> </tr> </thead> <tbody> <tr> <td>-197 °C</td> <td>0.012°C</td> </tr> <tr> <td>-80 °C</td> <td>0.012°C</td> </tr> <tr> <td>-38 °C</td> <td>0.011°C</td> </tr> <tr> <td>0°C</td> <td>0.009°C</td> </tr> <tr> <td>156°C</td> <td>0.011°C</td> </tr> <tr> <td>230°C</td> <td>0.013°C</td> </tr> <tr> <td>420°C</td> <td>0.021°C</td> </tr> </tbody> </table> <p>Note: Laboratories should reassess uncertainties periodically. Calibration uncertainties depend on the calibration process, standards used, and instrument performance.</p>	Temperature	Expanded uncertainty (k=2)	-197 °C	0.012°C	-80 °C	0.012°C	-38 °C	0.011°C	0°C	0.009°C	156°C	0.011°C	230°C	0.013°C	420°C	0.021°C
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Modelle



5616-12-X

Sekundärreferenz-Platin-Widerstandsthermometer, 6,35 mm x 298 mm -200 bis 420 °C

X = Anschluss. Geben Sie Folgendes an: „A“ (INFO-CON für 914X), „B“ (Blankdraht), „D“ (5-Stift-DIN für Tweener-Thermometer), „G“ (Goldstifte), „J“ (Bananenstecker), „L“ (Mini-Gabelkabelschuhe), „M“ (Mini-Bananenstecker), „P“ (INFO-CON für 1523 oder 1524) oder „S“ (Gabelkabelschuhe).

Fluke. *Damit Ihre Welt intakt bleibt.*

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