



FEATURES

Rtpw drift of <math><1\text{mK}</math> after thermal cycle

Temperature range: -260°C (13K) to 100°C (373K)

Short-term stability: $<0.001^{\circ}\text{C}$ at 0.01°C

Nominal Rtpw: 25Ω at 0°C

Fully meets the ITS-90 criteria for reference thermometers

OVERVIEW

The AM1968 Platinum Capsule SPRT covers temperatures from -260°C to 100°C . The capsule construction makes this SPRT a preferred primary standard for cryogenic applications and other applications where space is limited or stem conduction is a concern for a long stem SPRT.

The sensing element is made of pure platinum wires with a temperature coefficient of $0.003925 \Omega/\Omega/^{\circ}\text{C}$. The coiled platinum wires are mounted in a way that is strain free, and are enclosed in a platinum capsule, which is sealed by glass. The special sealing glass has a thermal expansion coefficient that matches with that of the platinum wire to ensure the capsule SPRT is sealed permanently through the entire temperature range. A uniquely designed support structure provides excellent performance with regards to stability, mechanical shock resistance, and thermal cycle performance. This SPRT achieves a high level of stability and repeatability in performance, and fully meets the ITS-90 criteria for reference thermometers.

SPECIFICATIONS

Model	AM1968
Temperature Range	-260°C to 100°C
Nominal Resistance at 0°C	25 Ω
Temperature Coefficient	0.003925 Ω/Ω/°C
Resistance Ratio	W(Ga) ≥ 1.11807 W(Hg) ≤ 0.844235
Long Term Drift at 0.01°C*	<0.003°C/year, <0.001°C/year typical
Short Term Stability	<0.001°C at 0.1°C
Thermal Shock	<0.001°C after 10 thermal cycles from minimum to maximum temperatures
Self-heating	0.0015°C at 1 mA current
Measurement Current	1 mA
Sensor Length	42 mm
Filling Gas	Helium
Sheath Material	Platinum
Sheath Dimensions	60mm (L), Sheath: 5mm (OD), Glass head: 7.5mm (OD)
External Leads	4 platinum wires, 30mm

*Long-term drift rate is for reference only. It could be affected by such facts as handling, application, and maintenance, etc.

ACCESSORY OPTIONS

Model	Description
9007	Carrying case (included with AM1968)