



FEATURES

- Affordable primary standards
- Extremely low drift rate
- Temperature range: -200°C to 670°C
- $W(\text{Ga}) \geq 1.11807$
- $W(\text{Hg}) \leq 0.844235$
- Fully meets the ITS-90 criteria for standard thermometers
- ISO/IEC 17025 accredited calibration included

OVERVIEW

Standard Platinum Resistance Thermometers (SPRTs) are used to interpolate temperature in the range from -189.3442°C to 660.323°C on the International Temperature Scale of 1990 (ITS-90). They are widely used as standard or reference thermometers to calibrate other thermometers and to measure temperature precisely in primary and secondary laboratories. It's taken decades of our scientific expertise and original craftsmanship to create these world class products. They fully meet the ITS-90 criteria for standard thermometers, while offering a very competitive price.

These quartz-sheath SPRTs feature a very low drift rate. The sensing element and sensor support have been specially designed to reach the best performance in stability and repeatability. To protect the platinum sensing wire from contamination at high temperatures, all parts used in the thermometer are cleaned extremely well before assembly. The assembly process is well controlled to protect the sensor from any potential contamination. The gas mixture the thermometers are filled with makes the sensor wire oxidation effect as low as possible. Every SPRT is fully tested for stability after manufacture. An ISO/IEC 17025 accredited calibration is included.

SPECIFICATIONS

Model	AM1970
Temperature Range	-200°C to 670°C
Nominal Resistance at 0°C	25.5 Ω
Resistance Ratio	W(Ga) ≥ 1.11807 W(Hg) ≤ 0.844235
Calibration	ISO/IEC 17025 accredited calibration included
Repeatability	<0.001°C
Long Term Drift at 0.01°C*	<0.003°C at TPW after 100 hours at 661°C, <0.005°C/year typical
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
Insulation Resistance	>1000 MΩ at room temperature
Sheath Material	Quartz
Sheath Dimensions	7mm (OD) x 500mm (L)
External Leads	Insulated copper wire, 4 leads, 2 meters
Termination	Gold-plated spade
Handle Dimensions	21mm (OD) x 80mm (L)

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

STANDARD ORDERING OPTIONS (All include ISO/IEC 17025 accredited calibration, gold plated spade terminations, and a 9002 wooden carrying case)

AM1970 500mm, quartz-sheath SPRT (Range: -200°C to 670°C)

CUSTOM ORDERING OPTIONS (All include gold plated spade terminations, 9002 wooden carrying case)

AM1970-NC 500mm, quartz-sheath SPRT, **No Calibration Included** (Range: -200°C to 670°C)