



FEATURES

Affordable primary standards

Extremely low drift rate

AM1860 Temperature range: -200°C to 670°C

AM1850 Temperature range: -200°C to 500°C

$W(\text{Ga}) \geq 1.11807$

$W(\text{Hg}) \leq 0.844235$

Fully meets the ITS-90 criteria for standard thermometers

MULTIPLE OPTIONS AVAILABLE

Model	Sheath Length	OD	Temp Range	Quartz Sheath
1960	500mm	7mm	-200°C to 670°C	✓
1950	480mm	7mm	-200°C to 500°C	✓

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.

Both of our 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.

SPECIFICATIONS

	1960	1950
Temperature Range	-200°C to 670°C	-200°C to 500°C
Nominal Resistance at 0°C	25.5 Ω	
Resistance Ratio	W(Ga) ≥ 1.11807 W(Hg) ≤ 0.844235	
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	<0.002°C at TPW after 100 hours at 500°C, <0.004°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)	7mm (OD) x 480mm (L)
External Leads	Insulated copper wire, 4 leads, 2.5 meters	
Termination	Gold-plated spade	
Handle Dimension	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.

ORDERING OPTIONS

Model	Description
9002	Wooden carrying case for 20" probe (included)
5007	NIST traceable calibration
5033	ISO 17025 accredited calibration