

Specifications for the Model 56S/T Thermoelectric Sensor and Model 36S/C Cryogenic Sensor

Dimensions	3.05 cm Dia, 3.18 cm Length
Connector	Model 56T & 36C Sensor has 8 Pin Male Connector -mates with 46E & 26E Electronics Module
Sensor Frequency	15 MHz
Sensor Crystals	Two 15 Mhz, AT cut, gold plated, optically polished quartz crystals. Produces output beat frequency ~ 1kHz
$\Delta F / \Delta M$	1.73 x 10 ⁻⁹ Hz/ g cm ²
Dynamic range	Solid film 50kHz + ; Non-Solid 10-20 kHz
Base Frequency (Crystals Clean)	1.0 - 1.5 kHz
Sensor Field of View Angle	140 °
Aperture Diameter	0.64 cm
Weight	65 g
Temperature Sense Device (RTD)	Wirewound Ceramic Platinum Thermometer 113 Ω @ 0°C Temperature Coefficient 3850ppm/K
Temperature Range Model 56S/T Thermoelectric Sensor	-60°C to +100°C
Temperature Control: Model 56S/T Thermoelectric Sensor	Thermoelectric Device (TED) 2 Stage Peltier Provides $\pm 70^\circ\text{C}$ ΔT from Heat Sink Temperature
Thermoelectric Device (TED) Power	10 W full cool ; 7 W full heat
Thermoelectric Device (TED) Current	3A Max
Heat Sinking Requirements Model 56S/T	10W of Heat Sinking Dissipation Required @ 20 °C
Temperature Range Model 36S/C Cryogenic Sensor	-199°C to +100°C
Temperature Control: Model 36S/C Cryogenic Sensor	Resistive Heater Element Provides approx + 80°C ΔT above Heat Sink Temperature
Heat Sinking Requirements Model 36S/T	Heat sink requires active cooling (LN2) to achieve low temperatures

Specifications for the Model 46E/T Thermoelectronics Module and 26E/C Cryoelectronics Module

Electronics Module Models 46E/T & 26E/C	Crystal oscillator electronics, provides beat frequency output from sensor crystals
Dimensions	Approx 3cm dia x 3.7 cm length
Sensor Connector	46E & 26E/C Electronics Module has 8 Pin Female Connector -mates with Model 56T & 36C Sensor
I/O Connector	13 Pin Amphenol JT02H-10-13P Mates with Cable Connector Amphenol JT06RE-10-13S
Voltage Input	15V
Voltage Output	14.3V Square Wave
Supply Current	2 mA
Weight	34 g
Internal Electronics Temp	Monitors electronics module internal temperature
Model 46 E/T Electronics Module	Designed for use with Model 56S/T Sensor
Model 46 E/T Temperature Range	-55 °C to +125°C
Model 26 E/C Electronics Module	Designed for use with Model 36S/C Sensor. Electronics Module is Thermally Isolated from Sensor
Model 26 E/C Temperature Range	-199 °C to +125°C Uses internal heater ~ 300mW to operate at LN2 temperatures
Model 26 E/C Internal Electronics Heater	Supplies ~ 300mW heating to 26E/C electronics module thru pin 10

Model 66T Controller Specifications

Dimensions	Standard Rackmount, 19" (48cm) Wide x 10" (25.5cm) Deep, 1.75" (4.45cm) Height (1U)
Weight	8 lbs
Power	120 / 230 Vac @ 0.4 / 0.2 A
Connectors	TQCM Cable Connector - 10 Pin Amphenol MS3102A18-1P; RS232 9 Pin D-sub Data Port;
Software	CVI/Labwindows Software for windows based PC. Stand alone executable program
Temperature Control	Controls TQCM sensor temperature to $\pm 0.5^\circ\text{C}$; CQCM sensor temperature to $\pm 0.5^\circ\text{C}$
Temperature Set	Allows Manual Temperature Set Point Entry in 1 °C Increments, Synchronized with Computer Display
Temperature Display	Displays current TQCM/CQCM sensor temperature to $\pm 0.1^\circ\text{C}$
Temperature Accuracy	> 0.5 °C
Frequency Display	Displays current TQCM/CQCM sensor frequency up to 500kHz $\pm 1\text{Hz}$
Sensor Status	Displays current Temperature Set Point with Activated or Deactivated status
Sensor Type	Displays Sensor Type (Thermo/Cryo)