



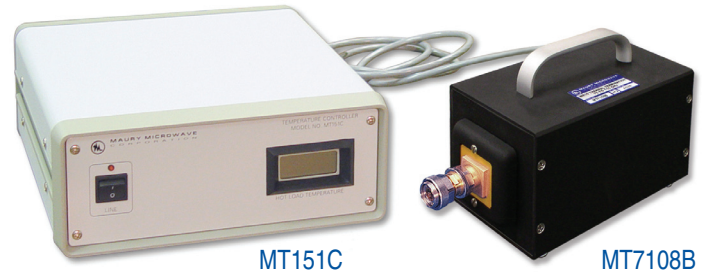
7mm COAXIAL THERMAL TERMINATION

MT7108B (DC – 18.0 GHz)

Description

Maury offers a single coaxial thermal noise termination model (the MT7108B), which is equipped with a precision 7mm coaxial output connector, and operates from DC to 18 GHz. This compact, reliable instrument is equally suited for both field measurements and laboratory use. It is generally used to make accurate low noise figure/temperature measurements and for calibration of solid state noise generators. The flexibility and versatility of the MT7108B are enhanced by an extensive selection of options and accessories. These include calibrated adapters to other coaxial connector series and waveguide flanges, and factory calibration at user-specified frequencies. (Maury's MT7250 series Noise Calibration Swept Data Module is offered as a tool that allows users to work with non-standard data points in addition to, or in place of the factory standards¹.)

The MT7108B comes with a MT151C controller, with which it is precisely matched during the initial factory calibration. For accurate performance, these units must be used together. The MT151C's internal proportional controller responds to sensors in physical proximity to the termination and directs the MT7108B's heater circuit to maintain the physical temperature of the termination at 373.1 kelvins (100°C). Heavy insulation of the entire termination assembly minimizes the effects of the external environment. The MT151C's line voltage must be specified at the time of order. This ensures that the MT151C will be properly fused and shipped with the appropriate power



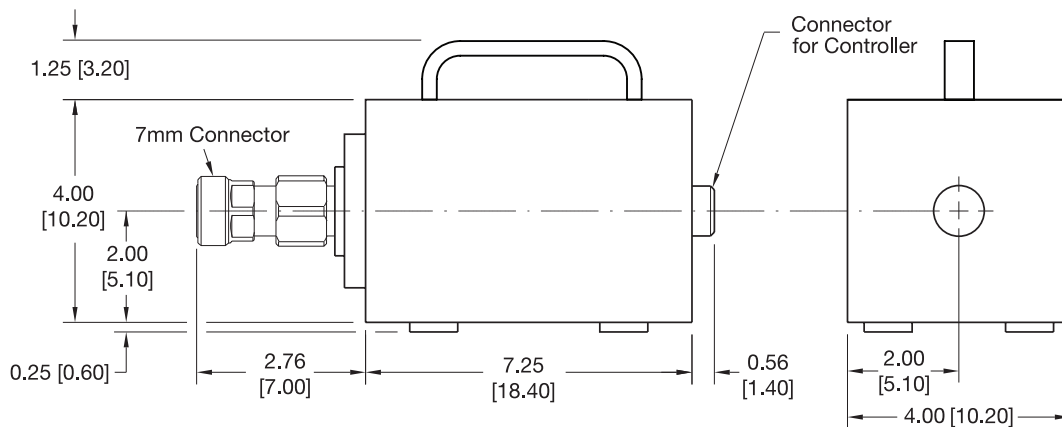
cable (AC power option 22 for 100/120 VAC, 50/60 Hz, or option 32 for 220/240 VAC, 50/60 Hz).

VSWR and noise temperature data are provided at four frequencies (3.95 GHz, 7.5 GHz, 12.4 GHz and 18.0 GHz). A certified calibration report with traceability to NIST is provided with each unit.

Specifications

Frequency Range	DC to 18 GHz
Nominal Physical Load Temperature.....	373.1 K
Load Temperature Stability.....	±0.2 K
VSWR (maximum):	
DC to 4 GHz	1.06
4 to 12 GHz	1.10
12 to 18 GHz	1.15
AC Power (User specifies one of two options):	
Option 22.....	100/120 VAC, 50/60 Hz
Option 32.....	220/240 VAC, 50/60 Hz
Noise Temperature Uncertainty	±0.7 K
Connector	Precision 7mm ²
Accessories Provided (1 ea.):	MT151C controller MT151P controller cable wood Instrument case

Dimensions – Inches [cm]



¹ See Maury data sheet 4E-020 for details.

² Precision 7mm per Maury data sheet 5E-060.