

Model F1125/M1125

RF CALIBRATION AND MEASUREMENT PRODUCTS

- Used to calibrate RF Power Sensors in the 100 kHz to 4.2 GHz frequency range
- Standards are directly traceable to NIST
- Thermistor Standards are temperature controlled
- 0.01 to 25 mW dynamic range
- Primary and Working Transfer Standard configurations
- Rack mount option available
- Optional A2LA Accredited calibrations

Coaxial RF Power Transfer Standards

TEGAM Temperature Stabilized Coaxial RF Power Transfer Standards enable the precise measurement of microwave power in the 100 kHz to 4.2 GHz frequency range.

These units are extremely rugged, highly accurate, and stable with time and temperature. They are ideal for use as standards for the transfer of calibration factors to other RF standards and power sensors. Units are supplied with ANSI/NCSL Z540-1-1994 NIST traceable calibration data. A2LA Accredited Calibrations are optional.

These models are designed for use with dc self-balancing bridges such as the TEGAM Model 1806 and 1804, or with controllers such as the TEGAM Model 1805B.

System configurations employing instruments of this extreme accuracy typically achieve calibration factor transfer results normally found only in

primary standards laboratories.

The Model F1125 is a feedthrough Thermistor Standard and Power Splitter combination used for the calibration of bolometer, thermocouple, and diode terminating power sensors.

The Model M1125 is a terminating thermistor Primary Transfer Standard. It is designed to be calibrated directly by a national standards agency such as NIST. The M1125 is used for the calibration of feedthrough devices such as bolometer mount-coupler and bolometer mount-splitter RF Standards. It is also useful in other applications requiring direct measurement of RF power.

Both Models feature a Type N RF connector. Bias connectors are binding posts with standard 0.75" spacing for banana plugs. The internal heater is connected using cables provided with the Models F1125, 1805B, 1806, and 1820.



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COAXIAL RF POWER TRANSFER STANDARDS

Specifications

	F1125	M1125
Frequency Range	100 kHz to 4.2 GHz	100 KHz to 4.2 GHz
Power Range	0.01 to 25 mW (-20 to 14 dBm)	0.01 to 25 mW (-20 to 14 dBm)
Nominal Impedance	50 Ohms	50 Ohms
Max VSWR	1.06 from 100 kHz to 4.2 GHz	1.40 from 100 to 500 KHz 1.20 from 0.5 to 1 MHz 1.10 from 1 to 1000 MHz 1.20 from 1 to 4.2 GHz
Power Linearity	<0.1% from 1 to 10 mW	<0.1% from 1 to 10 mW
Insertion Loss	6 dB, 8.5 dB max	1 dB max
Individual calibrations traceable to NIST supplied at the following frequencies:	100, 200, 455 kHz 1, 1.25, 3, 5 MHz 10 to 100 MHz in 10 MHz steps 0.1 to 2 GHz in 50 MHz steps 2 GHz to 4 GHz in 100 MHz steps 4.2 GHz	100, 200, 455 kHz 1, 1.25, 3, 5 MHz 10 to 100 MHz in 10 MHz steps 0.1 to 2 GHz in 50 MHz steps 2 GHz to 4 GHz in 100 MHz steps 4.2 GHz
Calibration Factor Accuracy	+/-0.80% from 0.01 to 10 MHz +/-0.90% from 10 to 4200 MHz	+/-0.80% from 0.01 to 10 MHz +/-0.90% from 10 to 4200 MHz
Calibration Factor Drift	<0.5% per year	<0.5% per year
Thermistor DC Bias Power	30 +/- 0.7 mW	30 +/- 0.7 mW
Thermistor Resistance at Bias	200 Ohms	200 Ohms
Thermistor Power Sensitivity	Approximately 13 Ohms/mW	Approximately 13 Ohms/mW
Temperature		
Operating	+12° to +40°C (+54° to 104°F)	+12° to +40°C (+54° to 104°F)
Storage	-55° to +75°C (-67° to +167°F)	-55° to +75°C (-67° to +167°F)
Warm up time	2 hours	2 hours
Weight	5.5 lbs (2.5 kg)	2.875 lbs (1.3 kg)
Physical Dimensions		
Height	3.5 in (88.9 mm)	2.88 in (73.15 mm)
Width	8.5 in (215.9 mm)	4.00 in (101.6 mm)
Depth	15.4 in (390.7 mm)	7.45 in (189.23 mm)
Included Accessories		
Operation Manual	PN # IM-300	
Heater Cable for F1125	PN # CBL-F1125-48	
Options		
RF Mount Transport Case for M1125	PN # 8000	
Rack Mount Kit for F1125	PN # F1120-RMK	
A2LA Accredited Calibration	PN # OPT-A2LA	

This data sheet was current when it was produced. However, products are constantly being updated and improved. Because of this some differences may occur between the descriptions herein and the current product. Prices and specifications may be changed without notice.



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