

## Model 1806

RF CALIBRATION AND MEASUREMENT PRODUCTS

- Internal temperature controller
- Compatible with Agilent Thermistor mounts and all TEGAM Thermistor power standards
- Power meters bias either 100 or 200 ohm mounts
- Fault LED indicator illuminates when loop balance is prevented
- One-year warranty
- Optional A2LA Accredited Calibrations

# Dual Type IV Power Meter

## 0.01 mW to 30 mW

The Model 1806 Dual Type IV Power Meter is designed for use with thermistor elements (mounts) to measure high frequency or microwave power. It also functions as a standard for the calibration of bolometer mounts, detectors, RF voltmeters, and for precision insertion loss measurements when used as part of the TEGAM System IIA Automatic Power Meter Calibration System.

The exclusive use of 100% dc substituted power eliminates the effect of ac components on the bridge circuit which has been shown to introduce a substantial error in the substituted power due to the short-term time constant of some bolometer elements. Substituted dc power levels ranging from 0.01 mW to 30 mW can be measured to within  $\pm 0.003\%$  which also makes this an ideal instrument for insertion loss measurements.

Regardless of the application, all measurements can be made directly traceable to primary voltage and resistance standards.

The 1806 contains two Type IV Power Meters and two built-in temperature controllers for use with all TEGAM RF Power Transfer Standards (refer to applicable data sheets for mount specifications). The power meters are designed to bias either 100 or 200 ohm mounts. Therefore, they are compatible with Agilent (HP) 478A, 486A, and 8478A thermistor mounts (when used with cable P/N 138-652). Operating resistance for each power meter is selected by a front panel switch. Each power meter has a bolometer current meter and fault LED indicator which illuminates under any condition preventing loop balance. Terminals are provided for an external DVM, positive and negative bolometer, and voltage sense.



# Model 1806

## DUAL TYPE IV POWER METER

### Specifications

Power Range	0.01 mW to 30 mW
Substitution Bridge Accuracy	±0.003%
Temperature Range	
Operating	+10 to +40°C (+25° to 104°F)
Storage	-40 to +75°C (-67° to +167°F)
Temperature Controller	
Bias Power Temperature Sensitivity	2 $\mu$ W/°C per hour
Ambient Temperature Dynamic Range	+12°C to +40°C (+54° to 104°F)
Mount Warm-Up Time	2 hours nominal
Internal Temperature	+60°C (+140°F) nominal
Loop Gain	80 dB minimum
Open Loop Frequency Response	0.1 Hz
Warm-Up Drive (saturated)	8-10 V @ 200 mA minimum
Indicator	Voltmeter
Connectors	Binding Post, standard 0.75" spacing for Banana plugs.
Power Requirements	110/120/220/240 Vac $\pm$ 5 -10%, 48 to 62 Hz, 25 Watts
Weight	Net: 16 lbs. (7.26 kg)
Physical Dimensions	
Height	5.2 in (132.1 mm)
Width	17.05 in (433.1 mm)
Depth	18.35 in (466.1 mm)
Rack Mounting	The Model 1806 can be mounted in any cabinet or rack designed according to EIA RS-310 and MIL-STD-189 using the Rack Adapter Kit (P/N 138-606).

*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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