1000T8G18B

- M1, M3–M7
- 1000 Watts CW
- 7.5GHz–18GHz

Features

The Model 1000T8G18B is a self contained, forced air-cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth, high gain and high power output are required. Reliable TWT subsystems provide a conservative 1000 watts minimum at the amplifier output connector over most of the frequency range. Stated power specifications are at fundamental frequency.

The amplifier's front panel digital display shows forward and reflected output plus extensive system status information accessed through a series of menus via soft keys. Status indicators include power on, warm-up, standby, operate, faults, excess reflected power warning and remote. Standard features include a built-in IEEE-488 (GPIB) interface, 0 dBm input, VSWR protection, gain control, RF output sample ports, auto sleep, plus monitoring of TWT helix current, cathode voltage, collector voltage, heater current, heater voltage, baseplate temperature and cabinet temperature. Modular design of the power supply and RF components allow for easy access and repair. Use of a switching mode power supply results in significant weight reduction.

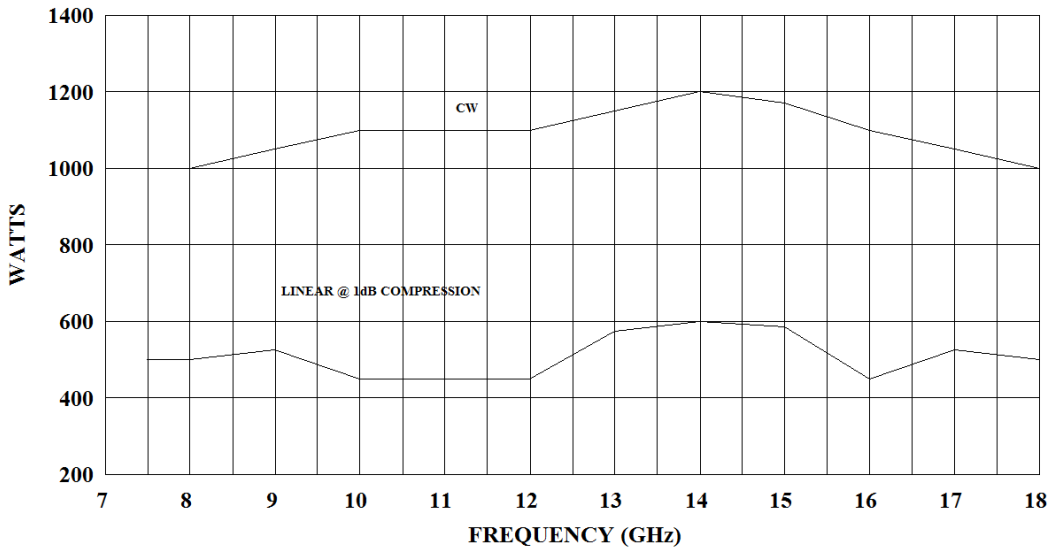
The rated power is developed by efficiently power combining the outputs from four 300 watts (nominal) microwave tubes that are factory matched in gain and phase to offer moderate harmonic levels without added filters. Amplifier includes wheels, leveling feet and hooks for lifting.

The Model 1000T8G18B provides readily available RF power for a variety of applications in Test and Measurement, (including EMC RF susceptibility testing), Industrial and University Research and Development, and Service applications.

Refer to the Model Configuration Chart for alternative configurations and special features.

The export classification for this equipment is EAR99. These commodities, technology or software are controlled for export in accordance with the U.S. Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

1000T8G18B TYPICAL POWER OUTPUT



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Specifications

POWER (fundamental), CW, @ OUTPUT CONNECTOR:

Nominal 1100 watts
Minimum 1000 watts 7.5-17 GHz,
925 watts 17-18 GHz
Linear @ 1dB Compression: 250 watts minimum

FLATNESS: ±11 dB maximum, equalized for ±3 dB maximum at rated power

FREQUENCY RESPONSE: 7.5–18 GHz instantaneously

INPUT FOR RATED OUTPUT: 1.0 milliwatt maximum

GAIN (at maximum setting): 60 dB minimum

GAIN ADJUSTMENT (continuous range): 35 dB minimum

INPUT IMPEDANCE: 50 ohms, VSWR 2.0:1 maximum

OUTPUT IMPEDANCE: 50 ohms, VSWR 2.5:1 typical

MISMATCH TOLERANCE: Output power foldback protection at reflected power exceeding 200 watts. Will operate without damage or oscillation with any magnitude and phase of source and load impedance. May oscillate with unshielded open due to coupling to input. Should not be tested with connector off.

MODULATION CAPABILITY: Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal. AM peak envelope power limited to specified power.

NOISE POWER DENSITY: Minus 70 dBm/Hz (maximum); Minus 72 dBm/Hz (typical)

HARMONIC DISTORTION: Minus 20 dBc maximum; Minus 27 dBc typical

PRIMARY POWER: See Model Configurations

CONNECTORS:
RF input: Type N female
RF output: Type WRD 750D24 waveguide flange on rear panel
RF output sample ports (forward and reflected): Type N female
GPIB: IEEE-488 female
Interlock: DB-15 female on rear panel

COOLING: Forced air (self contained fans), air entry and exit in rear.

WEIGHT (approximate): 295 kg (650 lb)

SIZE (WxHxD): 56 x 160 x 82.3 cm (22.1 x 63 x 32.4 in)

EXPORT CLASSIFICATION: EAR99

Model Configurations

1000T8G18B MODEL CONFIGURATIONS			
Model Number	**Primary Power**	**RF input and RF output sample ports connector location**	**Features**
1000T8G18B	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA maximum	rear panel	–
1000T8G18BM1	360-435 VAC, 3 phase, WYE (5 wire) 50/60 Hz, 8.0 KVA maximum	rear panel	–
1000T8G18BM2	See individual specification sheet. Version offers reduced harmonics and other special features.		
1000T8G18BM3	360-435 VAC, 3 phase, WYE (5 wire) 50/60 Hz, 8.0 KVA maximum	front panel	Tubes selected to offer minimum 950 watt 17-18 GHz, RF connectors have protective metal covers, Precision N RF input and RF output sample port connectors, RF output sample port minus 50 dB typical, harmonic distortion specification applies up to 36 GHz, maximum weight 300kg (660lbs)
1000T8G18BM4	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA maximum	front panel	–

continued

Model Configurations

1000T8G18B MODEL CONFIGURATIONS			
Model Number	**Primary Power**	**RF input and RF output sample ports connector location**	**Features**
1000T8G18BM5	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA maximum	rear panel	Custom Sample Port Calibration: Forward and reflected sample port calibration data supplied on disk in Excel format at 51 points equally spaced over specified frequency re-
1000T8G18BM6	360-435 VAC, 3 phase, WYE (5 wire) 50/60 Hz, 8.0 KVA maximum	rear panel	Custom Sample Port Calibration: Forward and reflected sample port calibration data supplied on disk in Excel format at 51 points equally spaced over specified frequency re-
1000T8G18BM7	190-255 VAC, 3 phase, delta (4 wire) 50/60 Hz, 8.0 KVA maximum	rear panel	Remote Interface changed from IEEE-488 to Ethernet. Supplied in four separate subassemblies for rack mounting. Total size: 48.3 x 120 x 65.7 cm (19 x 47.25 x