

Amplifiers

Model 500T6G18

Features:

- 500 W CW, 6 – 18 GHz
- 100% mismatch tolerant
- Built-in fault monitoring and protection
- Remote Control: GPIB (standard), Ethernet (optional)
- Modular design for easy maintenance and service

Applications:

- Industrial and University Research and Development
- Test and Measurement
- EMC Test applications

To view our full amplifier portfolio visit:

www.arworld.us/amplifiers

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ISO 9001:2015 Certified

ISO 17025 :2017 Certified

The Model 500T6G18 is a self-contained, forced air cooled, broadband traveling wave tube (TWT) microwave amplifier designed for applications where instantaneous bandwidth, reduced harmonics and high gain are required. A reliable TWT subsystem provides a conservative 500 watts minimum at the amplifier output connector. 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 port, 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.

Housed in a stylish contemporary cabinet, this unit is designed for benchtop use, but can be removed from cabinet for rack mounting. The Model 500T6G18 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.

See **Ordering Options** for optional 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.

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- 500 W
- 6 – 18 GHz

Electrical Specifications					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Rated Power Output (6 - 18 GHz)	PSAT	500	600		W
Input for Rated Output	Pin			1	mW
				0	dBm
Operating Frequency	BW	6		18	GHz
Gain (Small Signal)		57			dB
Gain Reduction Adjustment (when below compression)		35			dB
Flatness (maximum @ rated power)	ΔG			± 7	dB
Input Impedance	Z in			50	Ohm
				2.5:1	VSWR
Output Impedance	Z out		50		Ohm
			2.5:1		VSWR
Noise Figure	NF		-72	-70	dBm/Hz
Harmonic Distortion	H2, H3			-15	dBc
Spurious				-40	dBc
Power Consumption (maximum)	PD			4	KVA

Mechanical Specifications		
Parameters	Typical	Unit
Dimensions (With Cabinet) (W x H x D)	50.3 x 37.6 x 76.2	cm
	19.8 x 14.8 x 32	in
Dimensions (No Cabinet) – 8U for 19" Rack	50.3 x 35.6 x 71.1	cm
	19.8 x 14.0 x 28.0	in
Weight (With Cabinet)	91	kg
	201	lb
Weight (No Cabinet)	78	kg
	172	lb
Weight (No Cabinet – With Slides and Handles)	82.6	kg
	182	lb
Cooling (air entry and exit in rear)	Forced air (self-contained fans)	



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RF Connector Interfaces	
Function	Type
Input	N, female, rear
Output	WRD-650 waveguide, rear
RF Output Sample Port	N, female, rear

RF Communication Interfaces	
Function	Type
IEEE-488 (standard)	Female, rear
Ethernet (optional)	RJ-45
Interlock	15-pin subminiature D, female

Ordering Options

Model Number	Description	Primary Power	Weight	Size (W x H x D)
500T6G18	With removable enclosure	190-260VAC single phase 50/60Hz 4KVA maximum	91 kg (201lbs)	50.3 x 37.6 x 76.2 cm 19.8 x 14.8 x 32 in
500T6G18M1	Shipped w/o an outer cabinet	190-260VAC single phase 50/60Hz 4KVA maximum	78 kg (172 lbs)	50.3 x 35.6 x 71.1 cm 19.8 x 14.0 x 28.0 in
500T6G18M2	Enclosure removed for rack mounting – slides and front handles installed	190-260VAC single phase 50/60Hz 4KVA maximum	82.6 kg (182 lbs)	50.3 x 35.6 x 71.1 cm 19.8 x 14.0 x 28.0 in

Contact your AR RF/Microwave Instrumentation Sales Associate for specific model configuration pricing.



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Recommended Operating Conditions				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive Level - Peak		0	3	dBm
RF Load		1:1	2:1	VSWR
Ambient Temperature	0	+25	+40	°C
AC Power	190		260	VAC
AC Power			4	kVA
AC Power	50		60	Hz

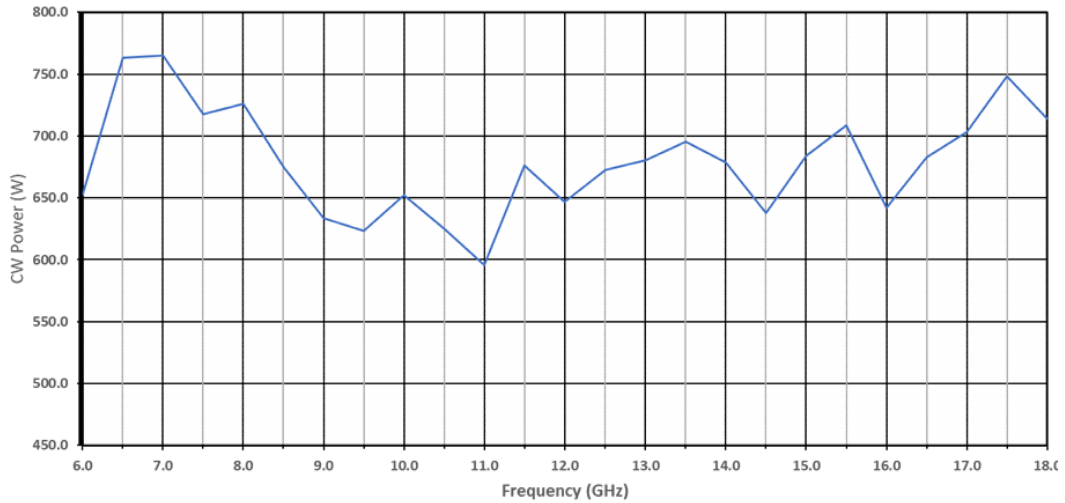
Absolute Maximum Rating				
Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their normal value. Exceeding any of the limits listed here may result in permanent damage to the device.				
Parameter	Minimum	Typical	Maximum	Unit
RF Drive			+13	dBm
RF Load Reflected Will operate without damage or oscillation when connected to any load impedance.	Warning at 60	Foldback at 75	Shutdown at 120	W
Storage Temperature	-40		+70	°C
Altitude			10,000 (derate 2°C/1000 ft above 3000 ft)	ft
Shock/Vibration	Normal Truck Transport			



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TYPICAL OUTPUT POWER (P_{sat} @ 0 dBm input)



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