

120/150/175 W Outdoor TWT Amplifiers

Plays in the Rain

Rugged, compact and lightweight amplifier designed for outdoor use.

Efficient and Cost Effective

Mounting at the antenna improves performance through minimized cable losses and saves cost in system design. Employs a high efficiency helix traveling tube, reducing operating costs. Includes integral block upconverter (BUC) as standard.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated RS422/485 computer interface. Digital metering is standard.

Easy to Maintain

Modular design and built-in fault diagnostic capability via remote monitor and control.

Global Applications

Meets International Safety Standard EN-60215, Electromagnetic Compatibility 2014/30/EU and Harmonic Standard EN-61000-3-2 to satisfy worldwide requirements.

Worldwide Support

Backed by over two decades of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes over twenty regional factory service centers.



Model T01KO B-Series

120/150/175 Watt Outdoor TWT Amplifiers for **satellite uplink communications**

OPTIONS

- 1 RU Remote Control Panel
- Integrated 1:1 Switch Control
- Redundant and Power Combined Subsystems
- Integral Harmonic Filter
- Ethernet Interface
- Circuit Breaker Package



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120/150/175 W Ka-Band Outdoor TWTAs

Specification	Model T01KO B-Series		
	120 W	150 W	175 W
Power Levels	120 W	150 W	175 W
Frequency	User-specified frequency range within the 27.5 to 31.0 GHz band, as limited by bandwidth capability of amplifier ¹		
Output Power Average Power (TWT) CW Power Flange	120 W (50.79 dBm) 100 W (50.0 dBm)	150 W (51.76 dBm) 125 W (50.97 dBm)	175 W (52.43 dBm) 145 W (51.61 dBm)
Bandwidth	1000 to 2500 MHz, depending on desired frequency range ¹		
Gain	70 dB min. at rated power 75 dB min. at small signal		
RF Level Adjust Range	0 to 25 dB		
Attenuator Step Size	0.1 dB		
Small Signal Gain Slope	±0.4 dB/MHz max.		
Small Signal Gain Variation	1.0 dB pk-pk (across any 40 MHz segment within the passband); 5.0 dB pk-pk (across any 1000 MHz)		
VSWR	1.3:1 Input; 1.3:1 Output; 1.5:1 max. Load --- no degradation, infinite VSWR without damage		
Phase Noise	-60 dBc/Hz @100 Hz offset; -70 dBc/Hz @1 kHz; -80 dBc/Hz @10 kHz; -90 dBc/Hz @100 kHz		
AM/PM Conversion	2.5°/dB max. for a single carrier up to 7 dB OBO (1.0°dB max, up to 3 dB OBO with linearizer option)		
Noise and Spurious (at rated gain)	<-145 dBW/4 kHz, below 21.2 GHz; <-65 dBW/4 kHz, passband		
Spectral Regrowth	-30 dBc at 7.5 dB backoff (at 3.5 dB with linearizer option)		
Intermodulation	-25 dBc or better with two equal carriers at total output power level 7.5 dB below rated single carrier output (3.5 dB below with linearizer option)		
Group Delay (over 40 MHz) Linear Parabolic Ripple	0.01 nsec/MHz max. 0.001 nsec/MHz ² max. 2.0 nsec pk-pk max.		
Primary Power	100-240 VAC ± 10% single phase, 47-63 Hz		
Power Consumption	120 W: 600 VA typ, 700 VA max; 150 W: 650 VA typ, 750 VA max; 175 W: 700 VA typ, 800 VA max.		
Power Factor	0.95 min.		
Ambient Temperature	-40°C to +60°C operating with extra margin for solar loading		
Relative Humidity	100% condensing		
Rain	100 mm/hr		
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft.		
Shock and Vibration	20 g pk at 11 mS (1/2 sine); 2.1 g _{rms} , 5 to 500 Hz		
Cooling	Forced air with integral blower		
RF Connection	Type N Female, input and output		
RF Output Monitor	2.9 mm SMA Female		
Dimensions (W x H x D)	13.25 x 9.5 x 20 inches with BUC option (337 x 242 x 508 mm)		
Weight	58 lbs (26.4 kg)		
Heat Dissipation	600 W typ.		
Acoustic Noise	65 dBA typ.		

Note 1: Please consult CPI representative to confirm that desired bandwidth is available over desired frequency range.
Mounting hardware is provided with each amplifier.