

Built for Troposcatter Uplink Applications

Provides up to 400 watts of linear power (with linearizer) in a rugged and compact weatherproof package, digital ready, for extended satellite or troposcatter uplinks from 14.9 to 15.4 GHz.

Cost Effective and Efficient

CPI SuperLinear® TWTAs are among the most power efficient in the industry. Also employs a high efficiency, dual-depressed collector helix traveling wave tube, further reducing operating costs.

Reliable

Designed and built to survive in extremely adverse environmental conditions and features increased cooling margin for longer life. CAN-Bus architecture improves reliability and noise immunity.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated Ethernet computer interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance. SNMP (v1, v2, or v3) facilitates high level M&C integration.

Easy to Maintain

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



CPI 1.1 kW Peak Power Ku-band outdoor TWTA, Model TL12UO-A1-T

OPTIONS:

- 1 RU remote control panel
- Serial interface (Ethernet standard)
- Redundant and hybrid power combined systems
- Integrated 1:1 switch control and drive
- Integral linearizer
- Integral block upconverter (BUC)
- TWT LifeExtender/LifePredictor extends TWT life by up to 50%
- Inlet air filter

Quality Management System - ISO 9001:2015



Meets Global Requirements

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

Worldwide Support

Backed by over 40 years of satellite communications experience, and CPI's worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

Specification	CPI Model TL12UO-A1-T 1.1 kW Peak Power Tropo TWTA
Output Frequency	14.9 to 15.4 GHz
Output Power TWT Peak Power Flange Peak Power Guaranteed CW Power Maximum CW Power	1135 W (60.55 dBm) min. 1000 W (60.00 dBm) min. 485 W (56.85 dBm) min. at the flange 540 W (57.35 dBm) max. at the flange
Note on Output Power	This amplifier guarantees 485 W of CW power at the flange. The peak power specifications are provided so that desired backoff may be more easily calculated.
Gain	70 dB min.
RF Level Adjust Range	0 to 30 dB (via PIN diode attenuator) typ, 0.1 dB steps
Gain Stability Over temp, constant drive	±0.25 dB/24 hour max,max. at constant drive and temperature, after 30 minute warmup ±1.0 dB typ. over operating temperature range
Small Signal Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 80 MHz 4.0 dB pk-pk max. across 500 MHz with optional linearizer
Input/Output VSWR	1.3:1 max.
Load VSWR	2.0:1 continuous operation; 1.5:1 for full spec. compliance; any value operation without damage
Phase Noise	12 dB below IESS-308/309 phase noise profile
AM/PM Conversion	2.0°/dB max. for a single-carrier at 52.85 dBm output power (at 56.85 dBm with optional linearizer)
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise Density	<-70 dBW/4 kHz passband
Intermodulation	-25 dBc or better at output level of 400 watts with optional linearizer, with respect to each of two carriers; -28 dBc or better at output level of 400 watts with optional linearizer, with respect to the sum of two carriers
Group Delay	0.01 ns/MHz linear max; 0.001 ns/MHz ² parabolic max; 0.5 ns pk-pk ripple max.
Primary Power	Voltage: Single phase, 208 - 240 VAC ±10%; Frequency: 47-63 Hz
Power Consumption	2.725 kVA typ. at 485 W output power
Power Factor	0.95 min; 0.99 typ.
Inrush Current	200% max.
Ambient Temperature	-40°C to +55°C in direct sunlight; -40°C to +60°C out of direct sunlight; -54°C to +71°C non-operating
Relative Humidity	100% condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft. operating; 50,000 ft. non-operating
Shock and Vibration	20 g peak, 11 ms (1/2 sine pulse); 2.1 g rms, 5 to 500 MHz non-operating
Cooling	Forced air with integral blower
Connections	RF Input: Type N Female; RF output: WR-75 waveguide flange; RF output monitor: Type N Female
M&C Interface	RJ45 Ethernet, includes embedded GUI control; RS422/485, RS232 serial interface optional
Dimensions, W x H x D	12.75 x 11.5 x 22.25 inches (324 x 293 x 562 mm)
Weight	85 lbs (38.6 kg) typ.
Heat Dissipation	2200 watts typ. at 485 W output power
Acoustic noise	70 dBA (as measured at 3 ft.) nom.



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For more detailed information, please refer to the corresponding CPI technical description if one has been published, or contact CPI. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI before using this information for system design.

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