

Built for Satellite Communications Uplink Applications

Provides 200 watts of power in a rugged and compact weatherproof package, digital ready, for satellite uplinks in the Ku-band frequency range. Ideal for transportable or fixed earth station applications.

Cost Effective and Efficient

Employs a high efficiency, dual-depressed collector helix traveling wave tube, reducing operating costs. Efficiently consumes only 650 W of prime power to achieve 175 W of output power at the flange.

Simple to Operate, Easy to Maintain

User-friendly microprocessor-controlled logic. Integrated Ethernet computer interface and forward power detection over CIF are standard. A variety of options, including integral BUCs and linearizers, is available. SNMP enabled (v1, v2, or v3). Modular design and built-in fault diagnostic capability via remote monitor and control.

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.



CPI 200 W Ku-band outdoor TWTA, Model T02UO-2G

OPTIONS:

- Integral linearizer
- Remote control panel
- Redundant and hybrid power combined-sub-systems
- L-Band block upconverter (BUC) --- see TD-168 for specifications when BUC is included. This option is available for the 13.75 to 14.50 GHz frequency only.
- Ethernet interface (standard) or serial (optional)
- Solid state IPA

Quality Management System - ISO 9001:2015



Specification	CPI Model T02UO-2G 200 W Ku-Band Outdoor TWTA
Output Frequency	13.75 to 14.50 GHz or 12.75 to 14.50 GHz
Output Power TWT Power Saturated (P _{sat} , CW)	200 W (53.00 dBm) min. 175 W (52.43 dBm) min.
Gain	38 dB min. at rated power (68 dB with SSIPA option) 40 dB min. small signal (70 dB with SSIPA option, 71 dB with SSIPA and linearizer)
RF Level Adjust Range	0 to 30 dB (via PIN diode attenuator) typ, 0.1 dB steps
Gain Stability	±0.25 dB/24 hour max,max. at constant drive and temperature, after 30 minute warmup
Small Signal Gain Slope	±0.04 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 80 MHz 3.5 dB pk-pk max. across 750 MHz 4.5 dB pk-pk max. across 1750 MHz band
Input/Output VSWR	1.3:1 max. / 2.2:1 max.
Load VSWR	2.0:1 continuous operation; any value operation without damage
Phase Noise	10 dB below IESS-308/309 phase noise profile; -36 dBc AC fundamentals; -41 dB sum of spurs (130 Hz to 1 MHz)
AM/PM Conversion	2.0°/dB max. for a single-carrier up to 7 dB below rated power (up to 4 dB below with optional linearizer)
Harmonic Output	-60 dBc at rated power
Noise Density (passband)	<-130 dBW/4 kHz max. below 12.7 GHz (below 11.7 GHz for 12.75 - 14.50 GHz model) <-70 dBW/4 kHz passband <-66 dBW/4 kHz passband with linearizer option
Intermodulation - with respect to each of 2 equal carriers 5 MHz apart	-24 dB max. at 7 dB OBO (at 4 dB OBO with optional linearizer)
Group Delay (over any 80 MHz)	0.02 ns/MHz linear max; 0.003 ns/MHz ² parabolic max; 0.5 ns pk-pk ripple max.
Primary Power	Voltage: Single phase, 90 - 264 VAC; Frequency: 47-63 Hz
Power Consumption	700 VA max. at 175 W output power; 600 VA typ. at 100 W output power
Power Factor	0.95 min.
Inrush Current	200% max.
Ambient Temperature	-40°C to +60°C operating, including solar loading; -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); 3 g _{rms} 50 to 500 MHz (non-operational)
Cooling	Forced air with integral blower
Connections	RF Input: Type N Female; RF output: WR75G grooved waveguide flange with 6-32 threaded holes; RF output monitor: Type N Female
M&C Interface	RJ45 Ethernet, includes embedded GUI control; RS422/485 serial interface optional
Dimensions, W x H x D	8.5 x 8.5 x 15 inches (216 x 216 x 381 mm)
Weight	24.25 lbs (11 kg) with no options; 25.41 lbs (11.5 kg) with BUC option (see TD)
Acoustic noise	68 dBA nom, as measured at 3 feet



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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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