

Built for Satellite Communications Uplink Applications

Provides 400 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.

Reliable

Designed and built to survive in extremely adverse environmental conditions and features increased cooling margin for longer life.

Simple to Operate

User friendly microprocessor-controlled logic with integrated RS422/485 interface. Digital metering, pin diode attenuation and optional integrated linearizer for improved intermodulation performance. Ethernet interface optional.

Easy to Maintain

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 400 W Ku-band outdoor TWTA, Model T04U

OPTIONS:

- 1 RU remote control panel
- Ethernet interface
- Redundant and hybrid power combined systems
- Integrated 1:1 switch control and drive
- Integral linearizer
- Integral block upconverter (BUC)
- External receive band reject filter (increases loss by a minimum of 50 dB up to 11.7 GHz)
- Inlet air filter

Quality Management System - ISO 9001:2015



Specification	CPI Model T04UO 400 W Ku-Band TWTA
Output Frequency	13.75 to 14.50 GHz or 12.75 to 14.50 GHz
Output Power TWT Power Saturated (P _{sat} , CW)	400 W (56.02 dBm) min. 350 W (55.44 dBm) min.
Gain	70 dB min. (46 dB min. with low gain option), 75 dB min. at small signal (52 dB with low gain option)
RF Level Adjust Range	0 to 30 dB (via PIN diode attenuator) typ, 0.1 dB steps
Gain Stability Over temperature Over ±10°C	±0.25 dB/24 hour max,max. at constant drive and temperature, after 30 minute warmup ±1.0 dB max. at any frequency from -40°C to +55°C, constant drive ±0.75 dB typ, constant drive
Small Signal Gain Slope	±0.02 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 80 MHz 2.5 dB pk-pk max. across 750 MHz (4.5 dB with optional linearizer) 4.0 dB pk-pk max. across 1750 MHz band (6.0 dB 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	10 dB below IESS-308/309 phase noise profile; -42 dBc AC fundamentals; -47 dB sum of spurs (130 Hz to 1 MHz)
AM/PM Conversion	2.5°/dB max. for a single-carrier at 7 dB below rated power (at 3 dB below with optional linearizer)
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise Density (passband)	<-70 dBW/4 kHz max. with no options, or IPA only <-65 dBW/4 kHz max. with BUC, linearizer or BUC + linearizer
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)
Noise Power Ratio (NPR)	19 dB at 4 dB OBO with optional linearizer (18 dB at 7 dB OBO without optional linearizer)
Spectral Regrowth	-30 dB at 6 dB OBO (at 4 dB OBO with linearizer)
Group Delay (over any 80 MHz)	0.01 ns/MHz linear max; 0.002 ns/MHz ² parabolic max; 0.5 ns pk-pk ripple max.
Primary Power	Voltage: Single phase, 100 - 240 VAC ±10%; Frequency: 47-63 Hz
Power Consumption	1.35 kVA typ, 1.5 kVA max.
Power Factor	0.95 min.
Inrush Current	200% max.
Ambient Temperature	-40°C to +55°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)
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	RS422/485 or RS232 serial interface (Ethernet optional)
Dimensions, W x H x D	10.25 x 10.5 x 20.5 inches (260 x 267 x 521 mm)
Weight	55 lbs (25 kg) typ.
Acoustic noise	68 dBA nom, as measured at 3 feet



SMP Division
Satcom Products
tel: +1 (669) 275-2744
email: satcommarketing@cpii.com
web: www.cpii.com/satcom

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.

© 2020 Communications & Power Industries LLC. Company proprietary; use and reproduction is strictly prohibited without written authorization from CPI.