

Built for Satellite Communications Uplink Applications

Provides 2220 watts CW power (1110 watts linear) in a compact, nine rack-unit package, digital ready, for wideband, single- and multi-carrier satellite service in X-band. Designed to operate at up to 2220 watts CW power for multi-carrier uplinks.

Cost Effective and Efficient

CPI TWTAs are one of the industry's most power-efficient amplifiers. Optimized for maximum performance at linear output operating levels.

Simple to Operate

User-friendly microprocessor-controlled logic with integrated computer interface, digital metering, pin diode attenuation, integrated linearizer for improved intermodulation performance, and an optional BUC for use with L-band modems.

Easy to Maintain

Modular design and built-in fault diagnostic capabilities, with convenient and clearly visible indicators for easy maintainability in the field.

Meets Global Requirements

Meets International Safety Standard EN-60215 and Electromagnetic Compatibility 2014/30/EU to satisfy worldwide requirements. CE marked.



CPI 2500 W X-band TWT,
Model T25XI-B

FEATURES

- Integral linearizer
- Ethernet, Serial, SNMP, and USB
- Touchscreen user interface

OPTIONS

- Remote control panel
- SIM switch control
- Redundant and hybrid power combined systems
- Integral block upconverter (BUC):
Contact CPI for specifications.
- External receive band reject filter
- LifeExtender/LifePredictor technology to significantly extend TWT life

Quality Management
System - ISO 9001:2015



Worldwide Support

CPI satcom amplifiers are backed by over 40 years of satellite communications experience, and CPI's global customer support network, including regional service centers located worldwide.

Specification	CPI Model T25XI-B, 2.5 kW X-Band TWTA
Output Frequency	7.9 to 8.4 GHz
Output Power (min.) TWT CW Power Flange CW Power Linear Power at Flange	2500 W (63.98 dBm) min. 2220 W (63.45 dBm) min. 1110 W (60.45 dBm) min.
Note on Output Power	This amplifier guarantees 1110 W of linear power at the flange.
Gain	70 dB min.
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	±0.02 dB/MHz max.
Small Signal Gain Variation	1.0 dB pk-pk max. across any 40 MHz; 4.0 dB pk-pk max. across the 500 MHz band
Input/Output VSWR	1.3:1 max.
Load VSWR	1.5:1 for full spec. compliance; 2.0:1 max. continuous; any value operation without damage
Phase Noise	10 dB below IESS-308/309 phase noise profile; -50 dBc AC fundamentals related; -47 dBc sum of spurs;
AM/PM Conversion	2.5°/dB max up to 1110 W
Harmonic Outputs	-60 dBc max.
Noise Density	<-70 dBW/4 kHz in passband
Intermodulation - with respect to the sum of two equal carriers 5 MHz apart	-25 dBc max. at rated power (1110 W)
Group Delay	0.02 ns/MHz linear max; 0.002 ns/MHz ² parabolic max; 0.5 ns pk-pk ripple max.
Primary Power	Voltage: Three phase with neutral and ground, 208 VAC ±10% with or without neutral OR 380 to 415 VAC; Frequency: 47-63 Hz ±10% five wire;
Power Consumption	9.5 kVA max. at 2220 W output power; 7.5 kVA typ. at 1110 W output power
Power Factor	0.90 min; 0.95 typ.
Ambient Temperature	0°C to +50°C operating; -54°C to +71°C non-operating
Relative Humidity	95% non-condensing
Altitude	10,000 ft. with standard adiabatic derating of 2°C/1000 ft. operating; 50,000 ft. non-operating
Shock and Vibration	Designed for normal transportation environment per Section 514.4 MIL-STD-810E. Designed to withstand 20g at 11 ms (1/2 sine pulse) in non-operating condition
Cooling	Forced air with integral blower. Maximum external pressure loss allowable: 0.25 inch water gauge.
Connections	RF Input: Type N Female; RF output: CPR-112 waveguide flange, grooved, threaded, UNC 2B 8-32; RF output monitor: Type N Female
M&C Interface	RJ45 Ethernet, includes embedded GUI control; RS422/485 serial interface
Weight and Dimensions	165 lbs (74.8 kg) max. / 19 W x 15.75 H x 24 D inches (483 W x 400 H x 610 D mm)