CPI 750 W DBS-Band Outdoor TWTA

DBS-Band

Built for Satellite Communications Uplink Applications

Provides 750 watts of power in a rugged and compact weatherproof package, digital ready, for satellite uplinks from 17.3 to 18.4 GHz. Ideal for transportable or fixed earth station applications.

CPI 750 W DBS-band outdoor TWTA, Model T07DO-A1

Cost Effective and Efficient

Employs a high efficiency, dual-depressed collector helix traveling wave tube, reducing operating costs.

Reliable

Designed and built to survive in extremely adverse environmental conditions. CAN-Bus architecture improves reliability and noise immunity. Optional LifeExtender™ significantly increases TWT lifetime.

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.

OPTIONS:

- Remote control panel
- Serial interface
- Redundant and hybrid power combined systems
- Integrated 1:1 switch control and drive
- Integral linearizer
- Integral block upconverter (BUC) - see CPI document TD-187 for specifications.
- TWT LifeExtender/LifePredictor significantly extends TWT life
- Inlet air filter
- Liquid cooling - contact CPI for details
- Uplink Power Control

Quality Management System - ISO 9001:2015

CE

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 T07DO-A1 750 W DBS-Band TWTA
Output Frequency	17.3 to 17.8 GHz, 17.3 to 18.1 GHz or 17.3 to 18.4 GHz
Output Power TWT Power Saturated (Psat, CW)	 750 W (58.75 dBm) min. 630 W (58.00 dBm) min.
Gain	70 dB min, 78 dB max.
RF Level Adjust Range	0 to 30 dB (via PIN diode attenuator) typ, 0.1 dB steps
Gain Stability Over temp. range Over ±10°C	±0.25 dB/24 hour max,max. at constant drive and temperature, after 30 minute warmup ±1.6 dB max. from -40°C to +55°C, at 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; 4.0 dB pk-pk max. the 1100 MHz
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; -50 dBc 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 4 dB below with optional linearizer)
Harmonic Output	-60 dBc at rated power, second and third harmonics
Noise Density	<-150 dBW/4 kHz, 10.7 to 12.75 GHz; <-70 dBW/4 kHz passband
Intermodulation - with respect to each of 2 equal carriers 5 MHz apart	-24 dB max. at 51 dBm output power (-26 max. at 54 dBm with optional linearizer)
Spectral Regrowth	-30 dBc at 1 symbol rate at 3 dB OBO with optional linearizer
Group Delay	in any 80 MHz band: 0.02 ns/MHz linear max; 0.002 ns/MHz^2 parabolic max; 0.5 ns pk-pk ripple max.
Primary Power	Voltage: Single phase, 200 - 240 VAC ±10%; Frequency: 47-63 Hz
Power Consumption	2.8 kVA max; 2.3 kVA typ. at 3 dB backoff
Power Factor	0.95 min; 0.99 typ.
Inrush Current	200% max.
Ambient Temperature	-40°C to +60°C operating; -40°C to +55°C 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); 2.1 g rms, 5 to 500 MHz non-operating
Cooling	Forced air with integral blower
Connections	RF Input: Type SMA Female; RF output: WR62 grooved waveguide flange
RF Output Monitor	Type SMA Female
M&C Interface	RJ45 Ethernet, includes embedded GUI control; RS422/485, RS-232 serial interface optional
Dimensions, W x H x D	12.75 x 11.5 x 22.25 inches (324 x 292 x 566 mm)
Weight	79 lbs (35.9 kg) typ.
Heat Dissipation	2000 watts typ.
Acoustic noise	68 dBA nom, as measured at 3 feet

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