



PT1812 Series



Instruments for Industry, PT1812 Series TWT Amplifiers provide outstanding RF performance. These 12.0 to 18.0 GHz Pulsed TWTA's (traveling wave tube amplifiers) have field proven reliability and industry leading performance. Making these amplifiers ideal for multiple high frequency high power applications including but not limited to RF immunity testing.

Operation safety and ease of use are paramount in IFI pulsed TWT amplifier product designs. The IFI PT1812 series include a full complement of RF and hardware protection systems including high VSWR, over-current and voltage protection as well as redundant thermal and airflow sensors to prevent the TWT from overheating. In addition, the PT1812 series includes a state-of-the-art touch screen interface that is sophisticated, comprehensive, but yet simple to use. Our amplifiers feature modular construction and this concept of modular design minimizes internally produced EMI signal leakage and provides easy access for field service and rapid turnaround at depot level repair facilities.

MAIN FEATURES

- Intuitive user interface
- Rugged Modular Design Construction
- USB, Ethernet, GPIB and RS232 interface
- 3 year warranty (1 Year on the tube)
- Solid State Power Supply

The touch screen interface shows forward/reverse power indication, system status and self-diagnostic information. All the TWTA operating parameters are simultaneously available via the touch screen interface as well as over the remote bus. For remote operation GPIB, RS232, USB & Ethernet remote interfaces are included as standard. To meet individual application needs, the PT1812 Series pulsed TWT power amplifiers can be easily customized with harmonic filters or other options. With this capability and its reliable elegant design, the PT1812 series amplifiers are the perfect amplifier for your microwave needs. IFI offers different size packages and configurations to best suit your application. A product and design built to last!

Models & General Specifications

Model Number	Frequency Range	Rated Power	Gain	Mains Power	Weight	Size
PT1812-2KW	12 GHz -	2 kW	63 dB	2 KVA	35 kg	19 inch, 6U Case, 680 mm Deep
PT1812-3.5KW	18 GHz	3.5 kW	65.5 dB	3.2 KVA	39 kg	19 inch, 8U Case, 680 mm Deep



RF Specifications

Pulse Width Range	100 nsec to 100 µsec
PRF Range	Up to 100 KHz
Duty Cycle	6% Standard, Lower & Higher PRF ranges subject to TWT spec
Rise & Fall Time	25 nsec nominal 45 nsec Maximum
Pulse to Pulse Jitter	+/-5 nsec maximum
Pulse Width Jitter (Distortion)	+/-5 nsec maximum
Pulse Recovery Time	150 nsec maximum
Pulse Delay	250 nsec maximum / 180 nsec typical
Pulse Droop	0.5 dB / 100 µsec, 0.25 dB / 10 µsec
Power Output Stability	0.2 dB Pulse to Pulse at Constant Drive Level
Pulse On / Off Ratio	80 dB
Modulation Formats	AM, FM, Pulse
Output VSWR Tolerance	< 3:1, Infinite any phase > 3.1 Safety Trip)
Stability	Unconditional
Output Impedance	50 Ohm
Input VSWR	2:1 (typical)
Output VSWR	2.5:1 (max)
Spurious	-50
Supply Voltage	< 3KVA Single Phase 90 to 264 VAC, > 3KVA Three Phase, 5 Wire STAR, 380 to 415 VAC / 4 Wire Delta, 208 to 240 VAC
Supply Frequency	47 to 63
Pulse Input	Front Panel BNC Female, (TTL into 50 ohms as Standard)
Maximum Input Power (no damage)	10 dBm

General Specifications

Safety Interlock	Via rear panel mounted BNC-female
RF Input Connector	Type N female
RF Output Connector	WR62
Com. Interface	GPIB, RS232, Ethernet & USB
Cooling System	Air Cooled, Self-contained
Available Options	Option 129, VSWR Reflected Power Protection "Graceful Degradation" which will automatically reduce the input drive and foldback the output power when the average reflected exceeds a preset limit of 3:1 Option 118R, RF Panel RF Connectors Option 118F, Front Panel Reflected RF Sample Port, -40, -50, -60 dB Option 118R, Rear Panel Reflected RF Sample Port, -40, -50, -60 dB Option 129, Harmonic Filter mounted either internally, externally or separate chassis mounted. (amplifier variant dependent)

Available Products

Product	Description
PT1812-2KW	12.0 to 18.0 GHz Pulsed TWT Microwave Power Amplifier, 2 kW
PT1812-3.5KW	12.0 to 18.0 GHz Pulsed TWT Microwave Power Amplifier, 3.5 kW