PTL-50kW 902-928 MHZ SOLID-STATE HIGH-POWER MICROWAVE GENERATOR

Key Features/Benefits

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- Generator is controlled with utilizing an easy to use, Windows™ based software package allowing control of:
  - Frequency (902-928 MHz)
  - Pulse and Average power settings
  - Plasma Start mode, more easily ignites plasma processes
  - High power frequency sweeping menu enabling electronic stirring within customer's applicator
  - Graphical display comparable to a vector network analyzer (VNA) showing best frequency selection based on load measurements
  - Built in Forward and Reflected power measurement when not using external high-power isolator
- Frequency and phase coherent capable between multiple generators
- Long Life, highly reliable construction
- WR975 Waveguide output (*external circulator required for applications exceeding reflected power specifications*)

Frequency Range

- 902-928 MHz
- Frequency Step Size: 100 kHz

Operating Modes

- Fixed, single frequency
- Frequency Sweeping
- Band Map
- Internal Pulse Mode:

Min Pulse Repetition Rate	Max Pulse Repetition Rate	Min Duty Cycle	Max Duty Cycle
1 Hz	1,000 Hz (1 kHz)	10%	90%
1,001 Hz (1 kHz)	10,000 Hz (10 kHz)	50%	90%

Control System

- Windows-based interactive control software
- External E-Stop
- Local or remote operation
- Ethernet remote control
- PLC-type hardware control interface with 24VDC and 20ma current loop inputs and outputs
- Arc detection emergency stop inputs

Microwave Power Output

Model	Max Nominal Power	AC Power In 3 Ph (50/60 Hz)	Full Load Amperes (FLA)
PTL-50W9-PREHU-00	50 kW	400	144 A
PTL-50W9-PREHV-00	50 kW	480	120 A

- Power set resolution input values: 1 watt
- Power Amplifiers: Rugged LDMOS transistors
- Comprised of Qty 22, 2.5 kW modular power blades
- Integrated RF output timer
- Power measurement indicators: Forward & Reflected
- Maximum Reverse Power Handling: 12,000 W absolute

Software Highlights

- Point-Click power and frequency setting across the band
- Forward/Reflected power and return loss indicators
- Best frequency selection based on load measurements
- Variable power over frequency sweep creation tool
- Programmable initial pulse for applications such as gas / plasma ignite

Power Supply

- AC mains: 400 or 480 VAC three phase delta 50/60 Hz
- 50-volt switch mode power supply
- Air Cooled

Dimensions and Weight

- 52 in (132.1 cm) High x 54 in (137.2 cm) Deep x 54 in (137.2 cm) Wide
- Weight: 1650 lb (748.4 kg)

Facility Requirements

- Input Water Flow Min: 25 GPM (95 LPM)
- Input Water Temperature: 59°F - 68°F (15°C - 20°C)
- Input Water Pressure: 60 Max PSI (2.5 Min–4.0 Max atm)
- Environmentally Controlled:
  - Ambient Room: 59°F - 77°F (15°C - 25°C)
  - Relative Humidity: < 95%
  - Conditions must be non-condensing
- Water Hook Up: 1-1/4 in OD NPT Threaded
- Heat Load: ~150kBTU/hr (44.1 kW) @ Full Power with matched load > -20dB (1.22:1 VSWR)
  Note: higher reflected power requires larger cooling

DO NOT PRINT

REVISIONS:

AJones, 09-09-2024: was

1,001 Hz (1 kHz)	10,000 Hz (10 kHz)	10%	50%

Changed Crescend Logo

Added Frequency Sweep, Band Map