Plasma & Reactive Gas Solutions

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SM 445

POWER SUPPLY FOR 1.25 kW MAGNETRON @ 2.45 GHz SWITCHING TECHNOLOGY WITH PC CONNECTIVITY

The SM 445 magnetron power supply is a compact, air-cooled, switch-mode power supply designed to drive a 1.25 kW magnetron. The SM 445 is able to power and control MKS Type TMx12 or TI012 magnetron heads with a maximum power of 1.25 kW @ 2.45 GHz. Depending on the model, the output power can be adjusted from 10% up to 100%, while operating, using an external linear 1 – 10 V analog signal, RS232 or directly through front panel controls.

The SM 445 is a resonant switch-mode power supply which incorporates a Power Factor Correction (PFC) stage that provides a usable input line voltage range from 180 VAC to 250 VAC and improves the efficiency of the entire system. The SM 445 is designed to power MKS TMx12 and TI012 microwave heads; however it may be used to power electrically compatible microwave magnetron heads from other manufacturers. In addition, it autonomously manages the working status of the magnetron, providing power to drive correct preheating of the filament and to automatically shut off the output power in the event of an alarm condition, such as over current or over voltage of the magnetron. Industry standard electrical terminal blocks with separate terminals for all electrical functions provide simple and easy set up. The high voltage output, carrying the anodic current, is available with an HV connecter or, upon request, with a preassembled HV wire. The SM 445 front panel is 19" wide and 2U high, and is constructed with a rugged steel base and an easily removable aluminum cover. The air cooling flow runs from side to rear.

Features & Benefits

- Proven resonant topology design significantly improves efficiency
- Power Factor Correction (PFC) stage widens the input voltage range for compatibility with line voltages of many countries
- High efficiency power supply design requires only air cooling - simplifies installation and reduces cost
- Low output ripple, suitable for most applications, and stable filament control result in long magnetron life
- Very low harmonics and inrush current from efficient power stage design
- Generator is designed with a "Plug & Play" concept: when installed with our cable set the user has to supply only two signals
- Two different versions are available to suit most application requirements, for example PLC control only or manual commands and simple PC control (see Version Overview Table on back)

Specifications and Ordering Information

Output Power	2000 W max
Line Input	230 VAC +10%/ -15%
Line Frequency	50/60 Hz
Efficiency	92%
Output Current	475 mA max
Alarm Management	In the event of an alarm condition, the alarm contact opens, the output power is switched off and the alarm contact is latched. A reset procedure is required to turn the unit back on.
Dimensions	
Width, Rack	445 mm (17.52")
Width, Front Panel	483 mm (19.02")
Height, Rack	88.5 mm (3.48")
Length, Rack	420 mm (16.54")
Weight	14 kg/31 lbs
Cooling Type	Forced air, 100 m^3/h
Working Ambient Temperature (max)	40°C/104°F
Compliance	CE
Preferred Microwave Head	TM012 or TMA12 or TI012

SM 445 Version Overview		
Version Abbreviation	**Basic**	**Display**
Version Number	0	2
External Control (PLC)	✓	✓
LED Panel Indicators	✓	NA
Local Commands (Manual)	NA	✓
Graphic Interface	NA	✓
Network Control	NA	NA
RS232 Control (USB Port)	NA	✓
Firmware Upgrade	NA	✓

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