

MAGNETRON SWITCHED MODE POWER SUPPLY

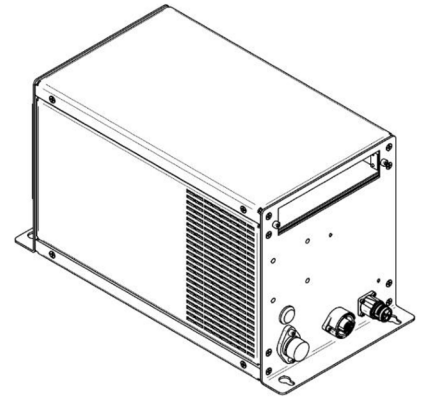
BPAPFC Series, 3 kW 2450 MHz

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GENERAL INFORMATION

The BPAPFC3kWSB is a single phase air-cooled, power factor corrected (PFC) switched-mode power supply (SMPS) engineered for 2450 MHz magnetron applications. The system delivers tightly regulated high-voltage DC output with low ripple characteristics, ensuring stable magnetron operation and extended device lifetime.

Advanced digital control algorithms continuously regulate anode voltage, anode current, and filament supply to precisely maintain the magnetron operating point, with fast and reliable response to all abnormal conditions.



FEATURES

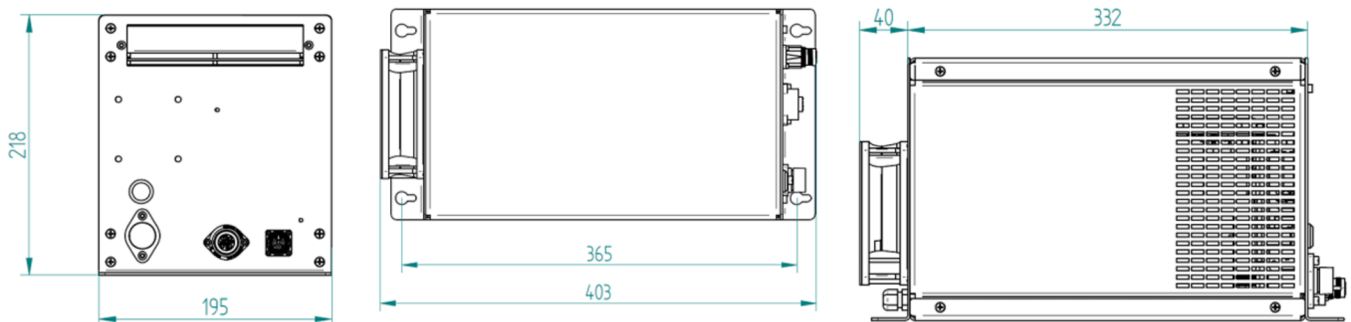
- Air-cooling high efficiency system, no external water circuit required for the SMPS
- Power factor correction (PFC) up to 0.97
- Accurate anode voltage and anode current measurement and closed-loop control using DSP microprocessor
- Cutting-edge resonant switching topology with low output ripple, less than 1 % voltage, less than 2 % current
- Comprehensive protection suite: over/under temperature, over/under voltage, overcurrent, overload, and short-circuit
- High reliability design compliant with MIL-HDBK-338B and MIL-HDBK-217 standards
- Flexible output power range: adjustable from 10 % to 100 % of the rated power
- Compatible with multiple magnetron brands and models
- Industrial communication options: PROFINET, EtherCAT, analog 0 V to 10 V, or Modbus TCP
- All high-quality power electronics and mechanical components sourced from Germany

SPECIFICATION ELECTRICAL AND TECHNICAL DATA

BPAPFC3kWSB

Input voltage (Single phase)	182 V _{AC} to 260 V _{AC}
Efficiency	up to 93 %
Power Factor Correction	up to 0.97 (0.95 at 230 V _{AC} at full load)
Input frequency	47 Hz to 63 Hz
Power consumption	4.5 kVA
Output voltage adaptivity	4.8 kV to 5.4 kV
Anode current variation range	90 mA to 900 mA
Absolute Max. output power	3 kW
Output voltage ripple	Less than 1 %
Anode current ripple	Less than 2 %
Active operating temperature	-20 °C to 50 °C
Working humidity	20 % to 90 % RH, non-condensing
Storage temperature, humidity	-30 °C to +70 °C, 10 % to 95 % RH non-condensing
Withstand voltage	10 kV

DIMENSIONS OF SMPS



Note: All dimensions are in mm.