



## GENERAL INFORMATION

The 30 kW microwave generator is an air-cooled power supply for a 30 kW magnetron 915 MHz. This power supply is designed based on high modular technology with reduced input and output ripple as well as having the ability to protect the magnetron from over voltage and over current.

The 30 kW autonomously manages the operating status of the magnetron and adjusts the filament voltage and E-Magnet according to the input power of the magnetron and switches off the output when alarm events such as overcurrent or overvoltage of the magnetron occur. Redundant Fail-Safe Design: Due to the high modular design of this power supply system, its reliability is very high, so that even if one module fails, the power supply system can continue to emit microwaves. This SMPS includes 3 identical, self-ventilated 19" aluminum enclosures with 5 height units.

## FEATURES

- Ability of the generator to continue operation at a lower power level in the event of a power supply module failure in the SMPS.
- Ability to replace a failed module with a functional one in less than 5 minutes.
- Air cooling
- Accurate anodic voltage and anodic current measurement and control
- Cutting edge resonance switching topology
- Adaptive to all 30 kW magnetrons made by different companies
- High efficiency up to 97%
- Fault tolerant SMPS
- Protections: Over temperature/ Over current/ Overvoltage/ Over load/ Under voltage/ Under load/ Short circuit
- High reliability (designed based on MIL-HDBK-338B and MIL-HDBK-217 standards)
- Low noise SMPS
- Adjusting the magnetron power from 3 kW to 30 kW in 0.5 kW steps
- Constructed using high quality power electronics and mechanical components all provided in Germany

## SPECIFICATION ELECTRICAL AND TECHNICAL DATA

	BPA30kW400	30kW480	30kW600	30kW690
Input voltage	400VAC ±10 %	480VAC ±10 %	600VAC ±10 %	690VAC ±10 %
efficiency	up to 96 %	up to 96 %	up to 97 %	up to 97 %
Input frequency			47 Hz to 63 Hz	
Output voltage adaptivity			11 kV-13 kV	
Anode current variation range		300 mA to 3000 mA		
Absolute Max. output power		42 kW		
Output voltage ripple		Less than 1%		
Anode current ripple		Less than 2%		
Active operating temperature		-20 °C to 50 °C		
Working humidity		20 % ~ 90 % RH non-condensing		
Storage temperature, humidity		-30 °C ~ +70 °C, 10% ~ 95% RH non-condensing		
Withstand voltage		20 kV		
Dimension		744*670*483 mm		

### KEY ADVANTAGES IN COMPARISON TO CONVENTIONAL SYSTEMS:

- **High reliability & uptime** through modular, fault-tolerant design (no single point of failure)
- **Seamless operation under failure:** automatic fault detection and load redistribution ensure uninterrupted output
- **Fast maintenance** with module replacement in under 5 minutes
- **Very high efficiency (up to 97%)** with low ripple, improving magnetron lifetime, and air-cooled system
- **Flexible operation:** compatible with different magnetron brands and adjustable from 3 kW to 30 kW
- **Advanced control & integration:** options for selecting the industrial communication protocols for control and monitoring the magnetron using **PROFINET, EtherCAT, and Modbus TCP**
- **High availability, robustness and operational flexibility**