

## POWER SUPPLY VR-6MU



### Product description:

VR-6U is designed to power tunable monochromatic quasi-optical sources of terahertz radiation based on Backward-Wave Oscillators (BWOs) operating in the frequency range 0.03 – 1.42 THz.

VR-6MU consists of three modules: cathode power supply, grid power supply and heater power supply unit. All the voltages are highly regulated, insuring stable BWO operation with very low level of incidental modulation on the output power. An optional software package and digital-to-analog converter (DAC-16) enable computer control of the system.

#### **CATHODE POWER SUPPLY:**

- Output voltage: 0...6000V DC
- Output current at the external load: 0...50mA DC
- Output voltage polarity:  
negative relative to the grounded BWO- anode.
- Output voltage ripple and noise: not more than 40mV (p-p).
- Output voltage change (at 5% line voltage change): 0.002%.
- Output voltage change (at 100% load change): 0.002%.
- Manual voltage control:  
Coarse: 0...6000V via 10-turn potentiometer,  
Fine: 3V via 1-turn potentiometer.
- Automatic voltage control: via the external voltage (+10...-10)V using Digital-to-Analog Converter (DAC-16).
- Output voltage slew rate: 1 V/ $\mu$ s
- Internal modulation: triangle form 2.5kHz, 0...50V(p-p).
- Metering: 6kV-voltage panel meter, 60mA-current panel meter.
- Protection: overload and short circuit protection.

#### **GRID POWER SUPPLY:**

- Voltage DC: 200V
- Maximum current: 7mA
- Automatically switched off, if the cathode voltage is less than 200V

#### **HEATER POWER SUPPLY:**

- Output current: 0...2.75A AC, 360Hz (sinusoidal).
- Output voltage: 0 ... 8V AC (eff.).
- Manual current control: via 3-digit tumble-wheel switch.
- Automatic current loading/unloading system.
- Metering: 3A-current panel meter.

#### **INPUT POWER REQUIREMENTS:**

- Input AC Voltage: 110 V or 220 V +/-5%
- Power consumption 500 W (typical).

#### **MECHANICAL SPECIFICATIONS:**

Height: 250 mm; Width: 500 mm; Depth: 500 mm; Weight: 29 kg.

Pricing information is available on request at [sales@mtinstruments.com](mailto:sales@mtinstruments.com)

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