

248 High Voltage Supply

VOLTAGE RANGE: 0 to $\pm 5000\text{V DC}^1$

Output Voltage	Maximum Output Current	Conditions
0 to $\pm 5000\text{V DC}$	5.000 mA DC	NO FILTER
0 to $\pm 3000\text{V DC}$	5.000 mA DC	FILTER 1
0 to $\pm 5000\text{V DC}$	3.000 mA DC	FILTER 2

VOLTAGE SET ACCURACY: $\pm(0.01\%$ of setting + 0.05% of range).

VOLTAGE DISPLAY ACCURACY: Voltage Set Accuracy $\pm 1\text{V}$, typical ($\pm 2\text{V}$, max.).

VOLTAGE RESOLUTION: 1V (set and display).

VOLTAGE RESETTABILITY: 1V.

VOLTAGE LIMIT RANGE: 0 to 100% of full scale.

VOLTAGE REGULATION²:

Line: 0.001% for $\pm 10\%$ line voltage change.

Load: 0.005% for 100% load change, typical.

OUTPUT RIPPLE (10Hz–100kHz)³:

0.002% of full scale, Vrms, max.	NO FILTER
1.0mV rms @ 1kV	FILTER 1 or FILTER 2
2.0mV rms @ 3kV	FILTER 1 or FILTER 2
3.0mV rms @ 5kV	FILTER 2

CURRENT VOLTAGE	CURRENT LIMIT AND TRIP RANGE	FILTER
0 V to 1.5 kV	0.4 mA to 5.25 mA	NO FILTER or FILTER 1
	0.4 mA to 3.25 mA	FILTER 2
1.5 kV to 5.0 kV	0.5 mA to 5.25 mA	NO FILTER or FILTER 1
	0.5 mA to 3.25 mA	FILTER 2

CURRENT LIMIT ACCURACY: 0.01% + 2.5 μA .

CURRENT RESOLUTION: 1 μA .

CURRENT DISPLAY ACCURACY: Current Set Accuracy $\pm 1\mu\text{A}$, typ. ($\pm 2\mu\text{A}$, max.).

STABILITY: $\pm 0.02\%$ per hour typical for ambient temperature within 2°C.

TEMPERATURE DRIFT: 50ppm/°C, 0° to 50°C, typical.

PROTECTION: Arc and short circuit protected; programmable voltage and current limits and current trip.

SETTLING TIME:

From 0 to Programmed Voltage: To within 99.9% of final value within 3s.

Discharge Time from Programmed Voltage to Within 50V of Zero: Within 6s for no load (faster with load, slower with filters on).

MONITOR OUTPUTS:

Output Scale: 0 to +10V for 0 to full range output regardless of polarity.

Current Rating: 10mA maximum.

Output Impedance: $< 1\Omega$.

Accuracy: $\pm 0.2\%$ of full scale.

Update Rate: 8Hz.

EXTERNAL VOLTAGE SET:

Input Scale: 0 to +10V for 0 to full range output regardless of polarity.

Input Impedance: 1M Ω .

Accuracy: $\pm 0.2\%$ of full scale.

Update Rate: 16Hz.

Output Slew Rate: $< 0.3\text{s}$ for 0 to full range under full load.

NOTES:

¹ Polarity of output is set with a rear panel switch. The unit must be powered off and the output fully discharged before changing polarity.

² Regulation specifications apply for greater than 25V DC (with full load) or 50V DC (with no load). Below these values, the unit may not regulate correctly.

³ Peak to peak values are within five times the rms value.

GENERAL

DIMENSIONS: 89mm high \times 206mm wide \times 406mm deep (3.5 in \times 8.1 in \times 16 in).

WEIGHT: 3.7 kg (8 lbs).

INPUT POWER: 55 watts; 100, 120, 220, 240V AC $\pm 10\%$, 50 or 60Hz.

OUTPUT HIGH VOLTAGE CONNECTOR: SHV male (Kings Type 1704-1 or equivalent), on rear panel.

REMOTE INTERFACE: GPIB (IEEE-488.1).

WARRANTY: One year parts and labor on materials and workmanship.

WARM-UP TIME: 1 hour.

OPERATING ENVIRONMENT: 0°C to 50°C.

ACCESSORIES AVAILABLE

248-MHV High Voltage Female-to-Male Cable, 3m (10 ft)

248-SHV High Voltage Female-to-Female Cable, 3m (10 ft)

248-RMK-1 Single Fixed Rack Mount Kit: Mounts a single Model 248 in a standard 19-inch rack.

248-RMK-2 Dual Fixed Rack Mount Kit: Mounts two Model 248s side-by-side in a standard 19-inch rack.

Specifications are subject to change without notice.