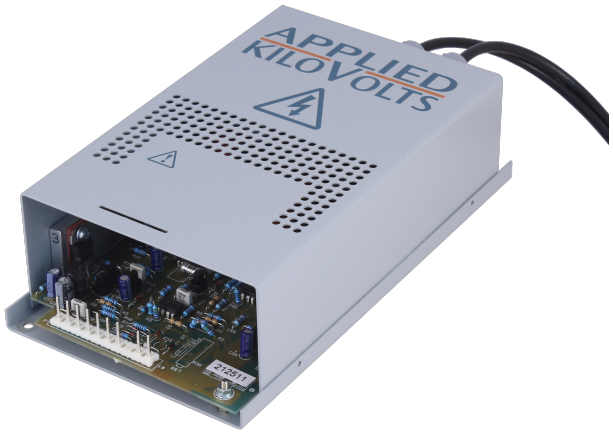
3.5kV FLOATING MICROCHANNEL PLATE POWER SUPPLIES AT UP TO 30kV ISOLATION

APPLIED KILOVOLTS

HF Series

Application:

Microchannel plates for mass spectrometers & electron microscopes, floating grid & bias voltages



Features:

- 2.5kV, 10kV, 20kV or 30kV isolation
- Remote, ground referenced voltage programming
- 24V ground referenced supply
- Ground referenced voltage monitor
- Flashover & short circuit protected
- High stability, (temp-co <200ppm/°C)

These power supplies are intended to power microchannel plate and imaging detectors, that are isolated by many kV from ground. They give 0 to +3.5 kV and can be floated on voltages up to ±2.5 kV (HFxx2.5), ±10 kV (HFxx010), ±20 kV (HFxx020) & ±30 kV (HFxx030).

All control and monitor signals are ground referenced.

ELECTRICAL SPECIFICATION: **HF SERIES**

UNIT TYPE	OUTPUT VOLTAGE[1]	ISOLATION	RIPPLE AT FULL LOAD	INJECTED RIPPLE[2]	SIZE (mm)	WEIGHT (kg)
HF003PAL2.5	150V to 3.5kV @ 1mA	±2.5kV[3]	<50mV (pk-pk)	<25mV (pk-pk)	210 x 120 x 60	1.1
HF003PAL010	300V to 3.5kV @ 1mA	±10kV[4]	<75mV (pk-pk)	<35mV (pk-pk)	210 x 120 x 60	1.3
HF003PAL020	600V to 3.5kV @ 1mA	±20kV[4]	<100mV (pk-pk)	<75mV (pk-pk)	210 x 120 x 60	1.5
HF003PAL030	900V to 3.5kV @ 1mA	±30kV[5]	<150mV (pk-pk)	<200mV (pk-pk)	210 x 120 x 60	1.5

1. Output voltages controllable down to 100V when biased positive.
2. ripple injected into the power supply providing the floating voltage, measured assuming load capacitance of 1000 pF.
3. resistance to ground 400 Mohm on each output.
4. resistance to ground 600 Mohm on each output.
5. maximum terminal voltage [floating + o/p] is 30kV, i.e. isolation to -30kV & +26.5kV at 3.5kV output.

ELECTRICAL SPECIFICATION

Input:	+24V dc ±10% <0.7A. 0V input common to chassis
Control of output at ground potential:	- 0V to +10V for 0% to 100% ±3%, (Zin = 200Kohm) - internal or external potentiometer—see options
Voltage monitor:	0V to +10V ±3% for 0% to 100%. (Zout= 10k)
Line regulation:	<0.1% for 1V change in input voltage
Load regulation:	<0.1% for 100uA to maximum load
Temp co-efficient:	<0.02%/ °C
Drift (after 1 hour warm up):	<0.1% per hour
Protection (all outputs):	Protected against intermittent arcing and continued short circuit to ground