

3.5kV Floating Detector Power Supplies at up to 30kV Isolation

- Electron multipliers and MCP for mass spectrometers & electron microscopes, floating grid & bias voltages
- 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 electron multipliers, 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). Contact factory for voltages other than 3.5kV.

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)
HF003PAL010	300V to 3.5kV @ 1mA	± 10 kV *4)	<75mVp-p	<35mVp-p	210 x 120 x 60	1.3
HF003PAL020	600V to 3.5kV @ 1mA	± 20 kV *4)	<75mVp-p	<75mVp-p	210 x 120 x 60	1.5
HF003PAL030	900V to 3.5kV @ 1mA	± 30 kV *5)	<150mVp-p	<200mVp-p	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 400M Ω on each output.

*4) resistance to ground 600M Ω on each output.

*5) maximum terminal voltage [floating + o/p] is 30kV, i.e. isolation to -30 kV & $+26.5$ kV at 3.5kV output.

Electrical Specification

Input	+24V dc $\pm 10\%$ <0.7A. 0V input common to chassis
Control of output at ground potential	- 0V to +10V for 0% to 100% $\pm 3\%$, ($Z_{in} = 200k\Omega$) - internal or external potentiometer—see options
Voltage monitor	0V to +10V $\pm 3\%$ for 0% to 100%. ($Z_{out} = 10k\Omega$)
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

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