



Innovator In Spectroscopy Equipment

## PRECISION HIGH VOLTAGE $\pm 5\text{KV}$ $500\mu\text{A}$ MODEL PHV 2011



NUCLEAR INSTRUMENTS MODULE



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### Features:

- Compact single width NIM package
- Regulated up to  $\pm 5000\text{ V dc}$   $500\mu\text{A}$  output for negative and positive separately
- Noise and ripple  $\leq 10\text{mV}$  peak to peak
- Overload and short circuit protected
- Overload, inhibit status indicators
- Inhibit and overload latching circuits
- Analogue front panel meter
- CFP Instrument Control Bus (optional)
- LAN, USB, RS485 CFP port available

### Description:

The CFP Model 2011 High Voltage Power Supply is a single-width NIM module designed primarily for use with photomultiplier and electron multiplier tubes. But it can be used with any detector requiring a bias voltage up to  $5000\text{ V}$  and a current level of  $500\mu\text{A}$  or less.

The 2011 allows the user to select from two continuously adjustable outputs, ranging from  $\pm 15$  to  $\pm 5000\text{ V dc}$ . The output voltage is measured and displayed by a analogue voltmeter. In addition, this unit allows the user to has fully separately positive and negative output voltage polarity. The 2011 unit are fully arc and short circuit protected and will limit continuous short circuit output current to less than 150% of maximum rated output current.

### Specifications:

#### Inputs

- Input Power: The Model 2039 is powered from a standard NIM Bin and power supply
- Inhibit: TTL Logic low or ground inhibits the HV outputs; max logic low  $\leq 0.4\text{ V}$ ; logic high  $\geq 2.5\text{ V}$

#### Outputs

- HV Output:  $\pm 15$  to  $\pm 5000\text{ V dc}$ , continuously adjustable,  $500\mu\text{A}$  output current

#### Indicators

- HV Output: Analogue panel meter 0 to  $5000\text{ V}$
- Inhibit: LED indicates Inhibit status
- Overload: LED indicates overload status

#### Controls

- ON/OFF: Front panel toggle switch enables or disables output
- Voltage: Front panel Multi turn controls switch continuous adjustment of the output voltage
- Remote Control: Model 2011 have provisions for remote high voltage output control via an USB port.







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## Performance

- Voltage Regulation
  - Line:  $\pm 0.001\%$  of rated output voltage for a  $+1\%$  input line chang
  - Loade:  $\pm 0.001\%$  of rated output voltage for a full load chang
  - Ripplee: See 10mVpp tabl
  - Stabilitye:  $\leq 0.005\%$  per hour, 0.02% per 8 hours, after a  $\frac{1}{2}$  hour warm up
- Temperature
  - Temperature Coefficient:  $\leq 50\text{ppm}/^\circ\text{C}$
  - Operating Temperature:  $0^\circ\text{C}$  to  $+50^\circ\text{C}$
  - Storage Temperature:  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$
  - Arc/Short Circuit: All units are fully arc and short circuit protected and will limit continuous short circuit output current to less than 150% of maximum rated output current
- Other
  - Humidity: 20% to 85% RH, non-condensing
  - Interface Connector: LAN, USB, RS232, Rs485
  - Voltage: Front panel Multi turn control switch continuous adjustment of the output voltage
  - Output Connector: SHV connector
  - Cooling: Convection cooled

## Electrical and Mechanical Power Required:

### Typical Power Requirements

- Standard version  $+12V$  (120mA),  $-12V$  (110mA),  $+24V$  (70mA)
- $-24V$  (10mA)

### Physical

- Size: Single width NIM module 3.43 X 22.12 cm (1.35 X 8.71 inches) per TID-20893 (rev.) NET
- Weight: 0.9kg (2.0lbs.) - Shipping Weight - 2.2 kg (4.9 lbs.)

### Accessories Included

- LAN, USB, RS232, RS485 cable (opt),

Model	Output Voltage	Output Current	Output Number	Ripple (Vpp)
NPHV2039	0 to +500	0 to +8ma	2POS	5mv
NPHV2039A	0 to +1000	0 to +4ma	2POS	4mv
NPHV2039B	0 to +2000	0 to +2ma	2POS	2mv
NPHV2039C	0 to +3000	0 to +1ma	2POS	6mv
NPHV2039D	0 to +5000	0 to +500 $\mu A$	2POS	10mv
NPHV2039E	0 to +7500	0 to +250 $\mu A$	2POS	100mv



