

# Capillary 8000

Remote Polarity Switching High Voltage PSU.



Total Power	3.2 Watts
Input Voltage	24VDC Nominal
# of Outputs	Single

- Wide Input range (20V to 30V dc)
- Remote polarity switching
- Remote voltage programming (0 to +10V)
- Flashover and short circuit protected
- Voltage & current monitor outputs
- Output enable
- Fully screened metal case construction

Temperature	Operating	0 to +45°C.
	Storage	-10 to +75°C.
Humidity (RH)	<31°C	80% maximum.
	>30°C	decrease linearly to 50% at 40°C.
Pollution category		II

UL3101-01\*

Input voltage range		+20V to +30V dc
Input current	(full load)	<1A (static loading).
	(full load)	<1.7A (polarity transition).
Output voltage range		0 to 8kV, operating range.
Output polarity		Positive or negative, selectable.
Output current		0 to 400µA, as power source.
Protection	I Limit	560µA ±15µA fixed constant I.
	Flash	Intermittent flash-over to chassis.
Control of output		Analogue input 0 to +10V dc varies output from zero to 8kV.
Control input		Differential, either input pin may be grounded or floating ±10V common mode.
Scale factor		V <sub>hv</sub> = V control x 800 ±5% typical adjustment range, with externally accessible individual pre-set potentiometers for +Ve & -Ve polarity.
Output range		Full specification available between ±500V to ±8kV.
Output enable	Enable	Logic 1 (>4.5V).
	Inhibit	Logic 0 (<3.4V or o/c, 100k pull down to 0V).
Polarity control	-Ve	Logic 0, <0.8V
	+Ve	Logic 1, >2.4V (or o/c, internal 47k pull-up to 15V, voltage range = 0 to +24V).
Polarity change	Time	<100mS (typ <70mS) between ±8kV, ±0.1% of target voltage into full load and 1nF of external load capacitance.
Line regulation		<100ppm (for a 5% input voltage change).
Load regulation		<100ppm (for zero to full load change).
Temperature coefficient		<50ppm per 1°C typ.
Drift (after 3h warm up)		<100ppm, over 1 hour period. <150ppm, over 8 hour period.
Output ripple		<0.8V pk-pk into full load and 1nF (b/w 10Hz to 100kHz).

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Output monitor	Voltage	0-10V $\pm 0.05V$ for 0 to 8kV (polarity as o/p, Z = 10k ohm).	HV output	Flying lead(RG178C/U), 1m long
	Current	0-10V $\pm 0.1V$ for 0 to 500 $\mu A$ (polarity as o/p, Z = 10k ohm).	HV return	Screen of o/p cable & case.
Reference	Fixed	+10V $\pm 0.05\%$ , 3mA max I, temp' co' 50ppm/ degC.	Input & signals	20 way IDC (Thomas & Betts type 636-2027)
	Variable	0-10V via a user accessible 10 turn potentiometer	Pins	+24V dc input.
			1,3,5,7,9	} 0V, Power & signal return.
			11,13,14	
			15,17,19	
			2	Fixed reference o/p.
Dimensions		216 x 155 x 52mm (8.5" x 6.1" x 2")	12	Variable reference o/p.
Weight		1600g (56 oz.) approx.	4	V. Monitor o/p.
Mounting centres		196 x 145mm, 4 off M4 clearance. (7.717" x 5.709")	6	I Monitor o/p.
			8	+Ve control i/p.
			10	-Ve control i/p.
			18	Polarity logic i/p.
			20	Inhibit logic i/p.
			16	Not connected.

Input Voltage	Output Voltage	Output Current	Ordering Code
24V dc Nominal	$\pm 8kV$	400 $\mu A$	2540-301

**Other output voltages and connector options available upon request.**

Electron Tubes Inc. 100 Forge Way, Unit F, Rockway, NJ 07866  
 T: 973-586-9594 or 800-521-8382 F: 973-586-9771  
 E: sales@electrontubes.com W: www.electrontubes.com