

### DESCRIPTION

The LHV Power D-series precision power supplies offer 10 Watts of high voltage power in a package just 8 cubic inches. They are intended to be designed into customers equipment as a component.

These units are available in one of two input voltage ranges: +11.5 to +15 VDC or +22 to +32 VDC.

The output is enabled through a TTL compatible ENABLE+ signal (pin 8).

The output voltage is fully adjustable over the specified voltage range by one or more of the following means:

1. A 10 turn screwdriver adjustable potentiometer located at the top surface of the power supply (optional).
2. A remote ADJUST voltage feed (pin 6). Output voltage is  $1000 \times V_{ADJUST}^{(2)}$ .
3. A series programming resistor between the internal REFERENCE (pin 5) and ADJUST (pin 6), using the  $10k\Omega$  internal impedance of ADJUST to ANALOG GROUND (pin 7) as divider.

The D-series units provide two monitoring signals:

1. Voltage Monitor, a buffered  $1000:1^{(2)}$  divider with  $10k\Omega$  output impedance that provides the absolute output voltage reading.
2. Current Monitor, a buffered current sense resistor with  $10k\Omega$  output impedance that monitors output current, including the offset current in the internal feedback resistors.

Units ordered with the 'A' option (Fast Adjust) can be used as amplifiers to drive Piezo stacks at moderate speeds. Operating speed can be increased using a load resistor on the output.

The LHV Power D-series high voltage converters are fully encapsulated in UL approved RTV potting material, and packaged in an anodized aluminium case which provides electrostatic shielding. D-series units are 100% tested before shipment, and protected by warranty against defects in material or workmanship.

### SPECIFICATIONS

ENABLE+	
"0" Voltage	<0.7 VDC <sup>(1)</sup>
ENABLE+	
Input Impedance	$10k\Omega^{(1)}$
REFERENCE	
Output Voltage	5 VDC (10 VDC for D70)
REFERENCE	
Output Impedance	$100\Omega$ and $0.1\mu F$ to GND
ADJUST	
Input Impedance	$10k\Omega$ and $0.01\mu F$ to GND
Voltage and Current	
Monitor Impedance	$10k\Omega$ and $0.01\mu F$ to GND
ADJUST to Output Ratio	$1000 \times \text{Input Voltage}^{(2)}$
Voltage Monitor Ratio	ABS (1V/1000V) <sup>(2)</sup>
Current Monitor Ratio	ABS (1V/1mA) <sup>(3)</sup>
Output Arc	
Suppression Resistor	$1k\Omega$ Carbon Composition
Temp Coefficient	<100 ppm/°C

(1) - ENABLE+ has an internal  $10k\Omega$  pull-up resistor to +5VDC

(2) - For model D05 replace 1000 with 100

(3) - For model D05 replace with 1V/2mA



### FEATURES

- 10 Watt output
- <0.01% Line and load regulation
- Low temperature coefficient
- Low ripple and 1/F noise
- Compact size
- Remote adjust (fast adjust optional)
- Remote enable
- Remote voltage and current monitoring
- CE Marked

### APPLICATIONS

- Ultrasonic transducers
- Gamma cameras
- Electron beam deflection
- Electrorheological fluids
- Spectroscopy
- Scintillation counters
- Electrostatic lenses (SEMs, STMs)

### MODEL CONFIGURATION

	MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE
A	D05	0-500 VDC	20mA	<10mV
	D10	0-1000 VDC	10mA	<15mV
	D15	0-1500 VDC	7mA	<20mV
	D20	0-2000 VDC	5mA	<30mV
	D30	0-3000 VDC	3mA	<50mV
	D50	0-5000 VDC	2mA	<100mV
	D70	0-7000 VDC	1.4mA	<200mV
B	P	Positive Output		
	N	Negative Output		
C	12	11.5 to 15VDC Input		
	24	22 to 32 VDC Input		
D	-	Standard Adjust for use as HVP8		
	A	Fast Adjust for use as Amplifier		

### INPUT CONNECTOR PINOUT (IDC 10-pin)

Designation	Pin
+VCC (12 VDC or 24 VDC)	1 and 2
VOLTAGE MONITOR ABS (1V/1000V)	3
CURRENT MONITOR ABS (1V/1mA)	4
REFERENCE OUT 5 VDC (10 VDC for D70)	5
ADJUST	6
ANALOG GROUND	7
ENABLE+	8
-VCC (RETURN)/GROUND	9 and 10

Example of Model Configuration:

$\frac{D10 \ P \ 24 \ A}{A \ B \ C \ D}$

