

HPZ Series

UP TO ±10 KV HIGH VOLTAGE

ZERO CROSSING REVERSIBLE MODULES



Application:

Bipolar Lens Supplies, Mass Spectrometers, Focus & High Voltage Bias, High Voltage Amplifiers, E-Chucks

- 1kV, 2.5kV, 3kV, 5kV, 8kV, 10kV, [15kV consult factory]
- Through Zero voltage programming & settling
- Fast reversing, slewing & settling
- Differential Control input
- High Voltage Amplifier
- High Stability, temp-co <25ppm/°C
- Flashover & short circuit protected



The HPZ range is a unique family of high voltage power supplies, extending the operation and versatility of Applied Kilovolts High Precision HP series. The HPZ units feature very fast slewing and settling times, together with the ability to slew cleanly through zero. With a differential control input, they operate like a high voltage amplifier with very tight temperature co-efficient of <25ppm/°C. Note – the HPZ range also features a 4 quadrant output stage, so the unit can source or sink up to its maximum output current, in either polarity.

SPECIFICATIONS FOR: HPZ SERIES

UNIT TYPE	OUTPUT VOLTAGE	OUTPUT CURRENT	RIPPLE AT FULL LOAD	SLEWING & SETTLING TIME, -FS TO +FS	SIZE (mm)	WEIGHT (kg)
HP001ZIP025	-1kV to +1kV	1mA	55mV (pk to pk)	20mSec	159 x 184.5 x 47	2.3
HP2.5ZIP025	-2.5 kV to +2.5 kV	400µA	65mV (pk to pk)		159 x 184.5 x 47	2.3
HP003ZIP025	-3 kV to +3 kV	400µA	75mV (pk to pk)	40msec	159 x 184.5 x 47	2.3
HP005ZIP025	-5 kV to +5 kV	400µA	170mV (pk to pk)	40msec	159 x 184.5 x 47	2.3
HP008ZIP025	-8 kV to +8 kV	400µA	300mV (pk to pk)		159 x 184.5 x 47	2.3
HP010ZIP025	-10 kV to +10 kV	400µA	300mV (pk to pk)	50msec	159 x 184.5 x 47	2.3

Input:	+24V dc ±10% <1A. 0V input common to HV return and chassis.
Control of output:	0V to ±10V for 0% to ±100% ±2%, (Zin = 200Kohm) {0V to +10V plus Polarity see option}
Voltage monitor:	-10V to +10V ±2% for -100% to +100%. (Zout= 10k)
Polarity Control — OPTION:	Low <0.8V = +ve, High >2.5V or oc = -ve
Precision Current Monitor:	-10V to +10V ±2%, Offset ±0.1% of FS for -100% to +100%. (Zout= 10k)
Output Temperature Co-efficient:	<25ppm/°C
Drift (after 1 hour warm up):	<0.01% per hour, <0.05% over an 8 hour period
Line regulation:	<10ppm for 1V change in input voltage
Load regulation:	<10ppm for 100uA to maximum load
Protection (all outputs):	Protected against intermittent arcing and continued short circuit to ground

HPZ Series

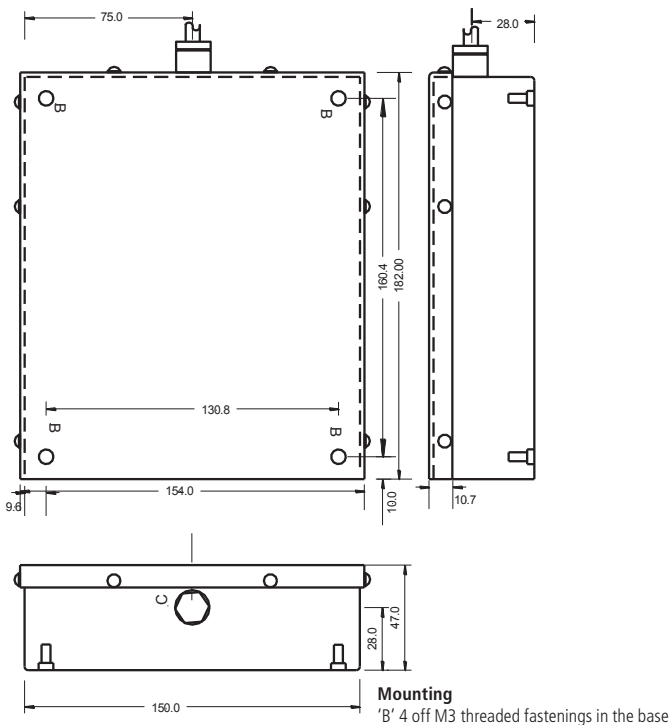
MECHANICAL SPECIFICATION

Mountings:	4 off M3 blind fasteners—see outline drg
Input & contro:	Berg 20Way IDC header Part No 65863-069 for use with ribbon cable.
Outputs:	By 1.0m screened (shielded) lead type URM43

ENVIRONMENTAL SPECIFICATION

Temperature, operating:	+10°C to +50°C.	Humidity (RH) <31°C non condensing:	80% maximum
Temperature, storage:	-35°C to +85°C.	Humidity (RH) >30°C non condensing:	Decrease linearly to 50% at 40°C
Altitude, operating:	Up to 2,000m.	Altitude, storage	Up to 18,000m

The unit is to be supplied from a current limited supply providing 24Vdc, impulse limited to overvoltage Category I (of IEC60364-4-443). For use in an environment of pollution degree 2.



PIN ASSIGNMENT

1. +24V dc input ¹	11. Supply 0V ¹
2. nc	12. Supply 0V ¹
3. +24V dc input ¹	13. Supply 0V ¹
4. Voltage Monitor o/p	14. Signal ground
5. +24V dc input ¹	15. Supply 0V ¹
6. Current Monitor o/p	16. nc
7. +24V dc input ¹	17. Supply 0V ¹
8. Voltage Control i/p ²	18. nc ³ Polarity i/p
9. +24V dc input ¹	19. Supply 0V
10. Control Return ²	20. nc ³ TTL Inhibit (H= Inhibit)

Notes:

- The input connector pins are not rated at the full input current of the power supply. Please use at least 2 pins in parallel for the +24V power supply input & the power ground.
- Control input is fully differential, but -0.6V > Control Return pin 10 > +0.6V -10.25V < Voltage Control i.e. pin8 - Vpin10 < +10.25V
- Polarity Option – height increases to 52mm: Pin 8 Control input becomes 0V to +10V only. Pin 18 becomes Polarity Input H= Pos

About Harris Corporation

Harris Corporation is a leading technology innovator, solving our customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports customers in more than 125 countries, has approximately \$8 billion in annual revenue and 22,000 employees worldwide. The company is organized into four business segments: Communication Systems, Space and Intelligence Systems, Electronic Systems, and Critical Networks.

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PART NUMBER SELECTION

SERIES CODE: HP

O/P KV	POLARITY	OPTIONS CODE	TEMP CO
001 = 1.0kV	Z= Thu Zero	IP= no options	25
2.5=2.5kV	R if Pol option	OP= Polarity Option fitted	
010=10kV			

Example: HP2.5ZIP025 = 10kV version with no options fitted.

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 INFORM AND PROTECT™