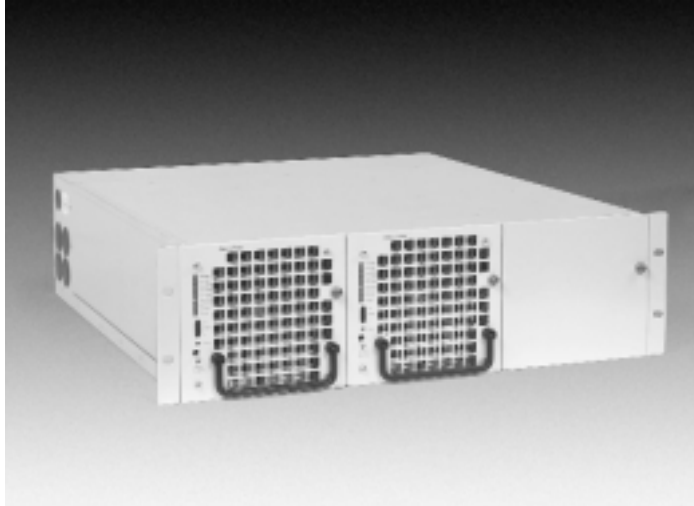


High Power Rack System - 3U & 4U

HPR4 SERIES

2800-8400 Watts



CE Marked - LVD

•

Accepts HPR2K8 Modules

•

50 A @ 48/54 V, 100 A @ 24/27 V

•

4U Version With Input Breakers

•

-40 °C To +65 °C (24/27 V to +55 °C)

•

91% Efficiency

•

Comprehensive Alarm Packages

Specification

Input Voltage	• 198-264 V AC single phase
Input Frequency	• 45-66 Hz
Power Factor	• Typical 0.99
Output Voltage	• 27.4 V nominal, 29 V max., 54.9 V nominal, 58 V max
Output Current	• (54 V) 150 A total, 50 A per rectifier, (27 V) or 300 A total, 100 A per rectifier
Efficiency	• Typical 90%
Input Current	• 13.9 A @ 230 V AC
Input Fuse	• Internally fitted rated @ 20AT 250 V
Input Circuit Breaker	• HPR2K8 enhanced versions only
OVP setting	• 31.5 V (24/27 V models), 59.9 V (48/54 V models) - mains recycle
Load Regulation	• 50 mV (24/27 V models), 75 mV (48/54 V models)
Line Regulation	• 50 mV (24/27 V models), 75 mV (48/54 V models)
Current Limit setting	• Constant or foldback via DIL switches
Remote sense	• 1 V maximum
Start up time	• 3.3 s
Rise time	• 100 ms
Noise, low frequency	• 40 mV peak - peak
Noise, Broadband	• (10 Hz - 100 MHz) 15 mV rms
Noise, Psophometric	• 29 dBnC - weighted to CCITT
Isolation	• Primary to earth 1500 V AC, secondary to earth 500 V AC, input to output 3000 V AC
Operating Temperature	• -40 °C To +65 °C (24/27 V to 55 °C) derate above 65 °C/55 °C - consult office
Humidity	• 85% non - condensing
Safety Approvals	• EN60950 CE marked to LVD, UL1950 CSA NRTL/C approved file number LR58666, C22.2 #950 CSA NRTL/C file number LR58666
EMC	• EN55022 class A, FCC - class A conducted
Indicators	• Front Panel LED's for input OK, output OK, current limit, overvoltage warning and thermal warning
Alarms	• A variety of alarms for the above functions and other features are available. DIN rail mount temperature compensation module available - See TCM Series
Size	• See dimensions

Output Voltage & Current Ratings

Output Voltage	Output Current	Breaker Option	Enhanced Signals	Voltage Adjustment	Model Number
54 V	50 A	✓	✓	48 - 58 V DC	HPR4-12-54-4U
	100 A	✓	✓	48 - 58 V DC	HPR4-21-54-4U
	150 A	✓	✓	48 - 58 V DC	HPR4-30-54-4U
	50 A	✗	✓	48 - 58 V DC	HPR4-12-54-3U
	100 A	✗	✓	48 - 58 V DC	HPR4-21-54-3U
	150 A	✗	✓	48 - 58 V DC	HPR4-30-54-3U
27 V	100 A	✓	✓	24 - 29 V DC	HPR4-12-27-4U
	200 A	✓	✓	24 - 29 V DC	HPR4-21-27-4U
	300 A	✓	✓	24 - 29 V DC	HPR4-30-27-4U
	100 A	✗	✓	24 - 29 V DC	HPR4-12-27-3U
	200 A	✗	✓	24 - 29 V DC	HPR4-21-27-3U
	300 A	✗	✓	24 - 29 V DC	HPR4-30-27-3U

NOTE:

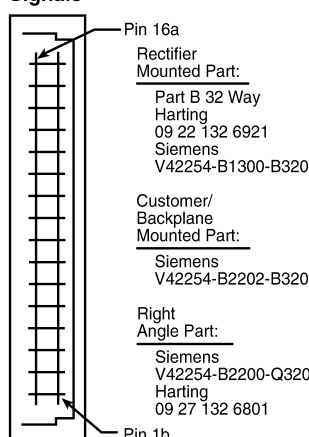
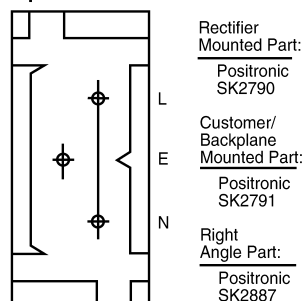
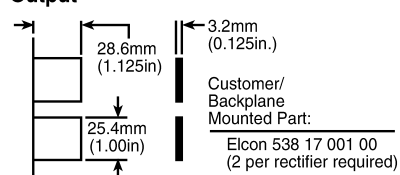
- For 48 V DC versions order code would be HPR4-xx-48-4U or HPR4-xx-48-3U (based on 54 V versions - available current as above).
- For 24 V DC versions order code would be HPR4-xx-24-4U or HPR4-xx-24-3U (based on 24 V versions - available current as above).

Output Voltage & Current Ratings - Modules

Output Voltage Nominal	Output Current	Breaker Option	Enhanced Signals	Voltage Adjustment	Model Number
24 V	100 A	No	Yes	See Spec	HPR2K8ES24-VE or HE
27 V					HPR2K8ES27-VE or HE
48 V	50 A				HPR2K8ES48-VE or HE
54 V					HPR2K8ES54-VE or HE

NOTE:

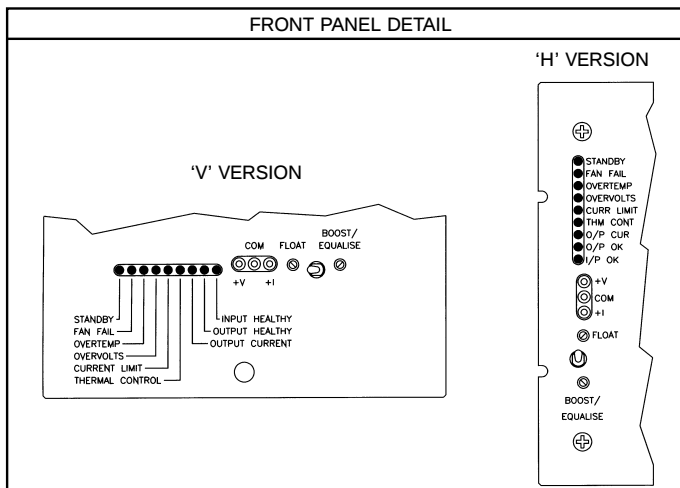
- VE version used in 4U racks, HE version used in 3U racks.

Signals & Connectors - Modules**Signals****Line Input****Output****PIN CONNECTIONS**

Pin	Function	Pin	Function
a1	Reserved	b1	Reserved
a2	Reserved	b2	Remote Boost(1)
a3	Post Mate Enable	b3	Boost (Equalise) Active Opto(1)
a4	Standby Opto(1)	b4	Reserved
a5	Program Down(1)	b5	Reserved
a6	Auxiliary Output	b6	Reserved
a7	Reserved	b7	Output Current Healthy Opto(1)
a8	Over Temp Opto(1)	b8	(-) Sense
a9	Thermal Control Opto(1)	b9	Voltage Trim
a10	Relay Normally Closed Contact	b10	Over Voltage Opto(1)
a11	Relay Common	b11	Current Limit Opto(1)
a12	Relay Normally Open Contact	b12	Output Healthy Opto(1)
a13	Current Share	b13	Input Healthy Opto(1)
a14	Remote On/Off (com)(1)	b14	Optos Common(1)
a15	Remote on/off (+ve)(1)	b15	Current Monitor
a16	Margin Low	b16	(+) Sense

NOTES:

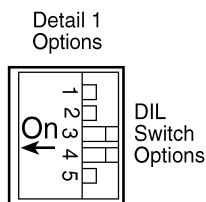
- Not available with basic signals.

FRONT PANEL DETAIL

Output Voltage & Current Ratings - Modules

		Minimum	Typical	Maximum
Test Points	Output Impedance 5.1 k Ω	97 mV/A	100 mV/A	103 mV/A
Float/Boost Adjust	Switch selectable higher or lower preset output voltage/current limit. Remote boost (input) overrides selection.			
Float Voltage Adjust	54 V models	52.0 V	-	58.0 V
	27 V models	26.0 V	-	29.0 V
Boost (Equalise)	54 V models	53.0 V	-	60.0 V
Voltage Adjust	27 V models	26.5 V	-	30.0 V

Operating Mode Switches



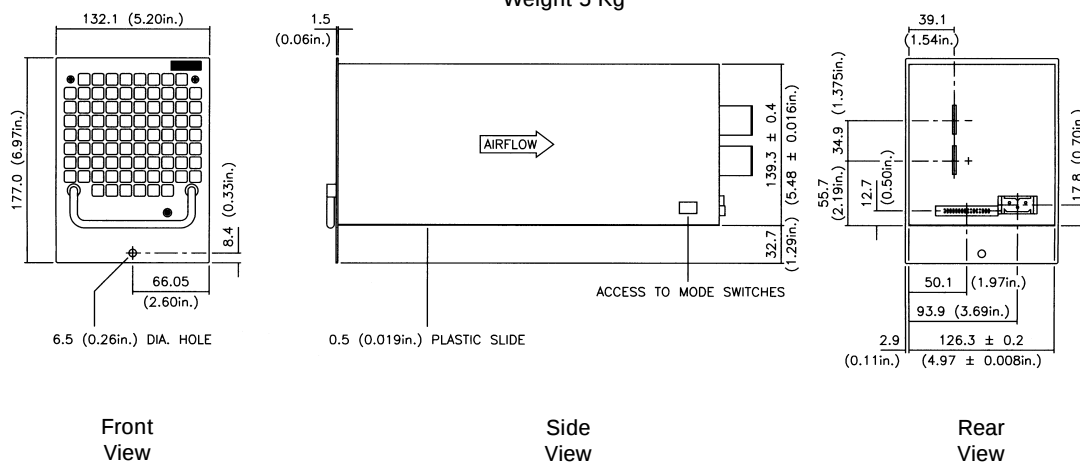
Located on side of unit

MODE SWITCHES			
Switch Number	Switch Set Off	Switch Set On	Standard Setting
1	(+) Sense Remote	(+) Sense Local	ON
2	(-) Sense Remote	(-) Sense Local	ON
3	Output Set 54.4 V/ 27.25 V	Reduce output by at least 4.2 V/2.1 V to offset output voltage adjust range	OFF
5	Constant Current Limit	Foldback Current Limit	ON

Mechanical Details - Module

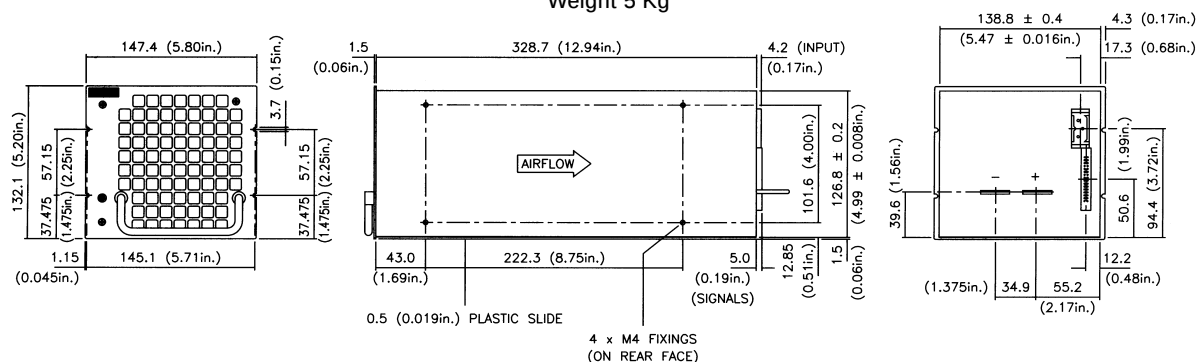
'VE' VERSION (4U)

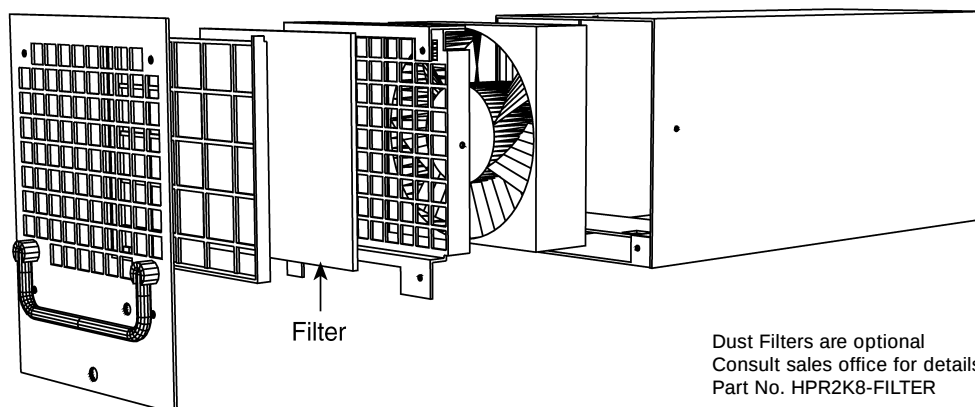
Weight 5 Kg



'HE' VERSION (3U)

Weight 5 Kg



Dust Filter Option

Dust Filters are optional
Consult sales office for details
Part No. HPR2K8-FILTER

HPR4 Power Shelf - Connection Detail

HPR4 - 3U RACK
Rear view showing gland plate
input/output connection

This HPR4-3U or 4U Power Shelf can hold up to three 2.8 kW rectifiers making a total of 150 A output at 54.4 V DC. AC input connection is at the rear of the shelf via terminal block. Either a three phase or a single phase supply may be connected to the shelf in order to supply between 198 V AC and 264 V AC. The input to each rectifier is protected by a single pole MCB (on 4U shelf only).

The DC output to the bus bars at the rear of the shelf (4U version), are designed to line up allowing connection of vertical interconnection bus bars. The positive (Black) bus bar is on the left and the negative (Blue) bus bar is on the right looking from the rear of the module.

A set of signals is available via 20 way IDC ribbon cable connector at the rear of the shelf.

Dimensions

	HPR2K8 Module	HPR4 Power Shelf (4U)	HPR4 Power Shelf (3U)
External Dimensions	See Mechanical Details	19.0" (23.0") x 4U x 18.0" (H x W x D)	19.0" (23.0") x 3U x 18.0" (H x W x D)
Front Panel Dimensions	See Mechanical Details	N/A	N/A
Weight	5.0 Kg	11.6 Kg (including ears)	11.0 Kg (including ears)
Fixings	Units are designed for power shelf mounting HPR4	N/A	N/A
Mounting Orientation	See Mechanical Details	N/A	N/A
Ventilation & Cooling	Free air flow through ventilation slots in the front & rear of the unit is required. Units are cooled by integral, replaceable fan	N/A	N/A
Finish	Front panel - Grey with black legend Body - Gold coloured chemical etch	Gold coloured chemical etch	Gold coloured chemical etch
Connectors	See Signals & Connectors	Consult Sales Office	Consult Sales Office
Dust Filter	Optional - Consult Sales Office Part no. HPR2K8-FILTER - See above	N/A	N/A