Technical Data Issue C June 2012

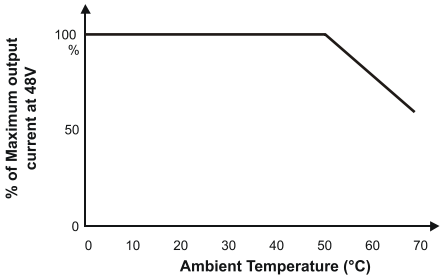
EPR48-3G Rectifier Module

Contents

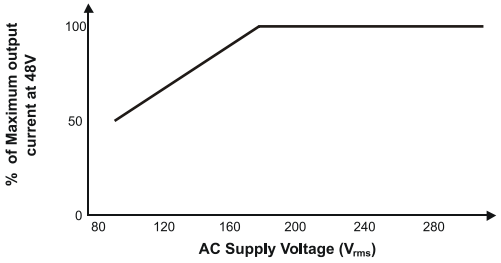
Powering Business Worldwide

AC Input

Nominal AC Input:	100V, 120V, 208V - 240V
Rated Operating Range:	175 to 275V rms
Extended Operating Voltage Range:	90 to 300V rms *Reduced output power below 175V (see derating curves).*
Frequency Range:	45 to 66Hz
Maximum Input Current:	5.7A rms (175Vac, 20°C)
Efficiency:	91% peak >90% (50 to 100% load, 230Vac)
Power Factor:	>0.98 (50 to 100% load)
Total Harmonic Distortion (THD):	<5% (50 to 100% load, rated 230 AC voltage)
Swell Tolerance:	Rectifier shuts down above 320V *Returns to normal operation when input is within operating range.*
Input Over-current Protection:	Fuses (phase and neutral) HRC
AC Fuse Ratings:	8A / 250V



Output current derating with Temperature (AC Input voltage > 175V)



Output current derating with AC input voltage (Ambient temperature ≤ 50°C)

DC Output

Nominal Voltage:	48V (constant power 48 to 57.5V)
Adjustable Voltage Range:	43 to 57.5V
Rated Output Power:	900W @ 175 to 275Vac (240V nominal) 550W @ 110 to 120Vac (120V nominal)
Rated Output Current:	240Vac: 18.75A @ 48V 120Vac: 11.45A @ 48V
Preset Accuracy	±0.1V
Regulation:	±0.1V *Constant voltage mode, AVC enabled from system controller.*
Default (Fail-safe) voltages	
Loss of System Communication:	Output voltage resets to system preset voltage
Preset voltage:	54.5 ±0.1V (manufacturer preset)
Hold-up Time:	10ms *At rated output power and rated AC voltage the DC output voltage change is 54.5V to 48V.*
Start-up time:	Soft start
Protection	
Current Limit:	Factory set to 18.75A
Over Temperature Turndown:	Automatic power turndown. See temperature derating graphs.
Over Voltage Shutdown:	<3ms delay
Short-circuit:	Full short-circuit protection. Output current limited to less than 130% of rated output current. *Rectifier will continue normal operation after short-circuit is removed. Non-urgent (Current Limit) alarm generated.*
Noise under stated conditions	
Ripple (<100Hz)	<20mV rms (unweighted)
Audio Frequency (300 Hz – 3.4 kHz):	<2mV (psophometric)
Wide band (5Hz – 1MHz):	<20mV rms (unweighted)
Peak to peak (0 – 20 MHz):	<200mV p-p (unweighted)
Discrete frequency (3.4kHz – 150kHz):	<5mV rms (1kHz wide selective frequency) *Conditions: 25°C, 54.5V output*

Environmental Requirements

Ambient Temperature	
Rated Operating Range:	-10°C to +50°C [14°F to 122°F]
Extended Operating Range:	-40°C to +70°C [-40°F to 158°F] *Output characteristics derate above 50°C and below -10°C [14°F]. Refer to derating graphs.*
Humidity	
Nominal:	50% RH
Range:	< 95% RH (non condensing)
Altitude:	< 3000m [9800']

Mechanical

Dimensions H, W, D:	3U (130mm, 5.1"), 42mm (1.6"), 266mm (10.5") overall
Weight:	1.7kg [3.7 lb]
Connector:	PCB Edge
Cooling:	Temperature controlled, high reliability fan
Front panel LEDs:	
Power on:	Green
Non-urgent alarm:	Amber
Urgent alarm:	Red

Compliances

Safety:	AS/NZS 60950.1, UL 60950-1, IEC 60950-1
EMC – immunity	
Electrostatic discharge:	EN 61000-4-2
Radiated radio frequency:	EN 61000-4-3
Electrical fast transients:	EN 61000-4-4
Surge:	EN 61000-4-5
Conducted radio frequency:	EN 61000-4-6
Dips, interruptions & variations:	EN 61000-4-11
EMC – emissions	
Conducted emissions (AC):	EN 55022 / CISPR 22 (Class B)
Conducted emissions (DC):	EN 300 386 (Class A)
Radiated emissions:	EN 55022 / CISPR 22 (Class B)
Harmonics:	EN 61000-3-2
Fluctuations and flicker:	EN 61000-3-3

Certifications

Europe	CE-mark
USA	UL and FCC (pending)
Canada	IC
China	MII
Australia	C-tick
New Zealand	C-tick, Telepermit