

## FACTSHEET

# GP100 Rectifier For Edge Power Architecture

## Advanced Technology to Simplify Your Network



### Description

The OmniOn GP100 rectifier for Edge Power Architecture is a true three-phase rectifier. The rectifier efficiently transforms energy from any standard three-phase source into the 48-volt DC power needed for modern data center architectures. The rectifier operates using any three-phase input voltage from 208VAC to 240 VAC without need for a neutral conductor. This means that one single rectifier can be used globally to meet all your at scale 48-volt powering needs. The GP100 efficiency is market leading for diode protected, true hot pluggable, three-phase 48-volt rectifiers. The GP100 rectifier for Edge offers a powerful combination of efficiency, data center architecture simplicity and reliability.

### True System Solution

- GP100 rectifiers are part of the proven Global Platform Line of rectifier products designed to meet the demanding needs of data center and wireless and telecommunications customers.
- Monitoring/Control – the built in microprocessor controls and monitors all critical rectifier functions and communicates with the system controller using the built in Galaxy Protocol serial interface.
- Designed and tested with in rack battery modules to support a safe, reliable and low cost way to provide five nines data center reliability.

### Features & Advantages

- Compact – 1RU form factor provides high power density 27 Watts/cubic inch.
- Efficient – Flat efficiency curve maintains 96% efficiency over a wide range of loads.
- Flexible Output – Provides up to 125 Amps of 48-volt power for fast charging of discharged batteries.
- Programmable – Output is programable between 42 and 58 VDC to support traditional lead-acid and advanced battery chemistries.
- Wide Range Input – Operates at any three-phase AC voltage from 320 to 530 VAC.
- Temperature Hardened – Operates -40°C to 70°C
- Fail-Safe Performance – hot insertion capabilities allow for rectifier replacement without system shutdown; soft start and inrush current protection prevent nuisance tripping of upstream breakers.
- Extended Service Life – parallel operation with automatic load sharing ensures that load is distributed across all units.
- Plug and Play – installation of the rectifier in a shelf connected to a system controller initializes all set up parameters, automatically.
- Compliant to RoHS Directive 2011/65/EU and amended Directive (EU) 2015/863
- Compliant to REACH Directive (EC) No 1907/2006

# Technical Specifications

## Electrical Specifications

INPUT					
Parameter	Symbol	Min	Typ	Max	Unit
Startup Input Voltage	V <sub>IN</sub>		176		V <sub>ac</sub>
Operating Voltage Range (3Ødelta with safety frame ground)	V <sub>IN</sub>	180	200/208/ 240	275	V <sub>ac</sub>
Voltage Swell (no damage)	V <sub>IN</sub>			300	V <sub>ac</sub>
Frequency	F <sub>IN</sub>	47	50/60	63	Hz
Operating Current (3Ø - all phases operational 200-240Vac)	I <sub>IN</sub>		24-16		A <sub>ac</sub>
Inrush Transient (per Ø at 208V <sub>ac</sub> , 25°C, excluding X-Capacitor charging)	I <sub>IN</sub>		25	30	A <sub>PK</sub>
Leakage Current (per Ø, 275V <sub>ac</sub> , 60Hz)	I <sub>IN</sub>			5	%
Power Factor (50 – 100% load)	PF	0.96	0.995		
Efficiency Peak	h		95.0		%
Holdup time (output allowed to decay down to 40V <sub>DC</sub> )	T		8		ms
Ride through (at 208V <sub>ac</sub> , 25°C)	T		1/2		cycle

OUTPUT –48V <sub>DC</sub> MAIN					
Parameter	Symbol	Min	Typ	Max	Unit
Output Power ( 200 – 240V <sub>AC</sub> -3Ø)	W	6000			W <sub>dc</sub>
Default Set point			54.5		V <sub>dc</sub>
Overall regulation (load, temperature, aging and compensated for droop)	V <sub>OUT</sub>	-1		+1	%
Output Voltage Set Range - Set by firmware		42		58	V <sub>dc</sub>
Output Current (54 / 48V <sub>DC</sub> , T <sub>amb</sub> = 45°C )	I <sub>OUT</sub>	1		111 / 125	A <sub>dc</sub>
Output Ripple Peak-to-Peak (5Hz to 20MHz)	V <sub>OUT</sub>			250	mV <sub>p-p</sub>
External Bulk Load Capacitance	C <sub>OUT</sub>	0		1700	uF/A

## Environmental, Compliance & Physical

Operating Ambient Temperature Range	-10°C to +75°C (Output derates at 2%/°C beginning at 50°C)
Cooling Method	Front to back airflow with onboard temperature controlled fans
Operating Relative Humidity	0 - 95% (non-condensing) for use in a controlled environment
Electromagnetic Compatibility	FCC Part 15, EN 55022 (CISPR22), EN 55024, Level A, GR-1089
Agency Certifications* planned	UL1950, EN60950, CSA*234/950, NEBS GR-1089, GR-63-CORE, CE Mark
Heat Release	316 Watts, or 1080 BTU/hr at full load of 6000 Watts
Mean Time Between Failure (MTBF)	1183k Hours @ 25°C per Telcordia Issue 4
Height x Width x Depth, Weight, Packaged weight	1.61x7.97x17.36in (41x202x441mm), 8.95 lbs (4.1 kg), 9.85 lbs (4.5 kg)

## Change History (excludes grammar & clarifications)

Revision	Date	Description of the change
1.1	12/15/2021	Initial Release
1.2	03/21/2022	Removed 80 plus logo from 1 <sup>st</sup> page
1.3	01/11/2024	Updated as per OmniOn template

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