Rectifier Module

R4875G1

Introduction

R4875G1 is a 4000W, 97% efficiency, digital controlled high power density rectifier.

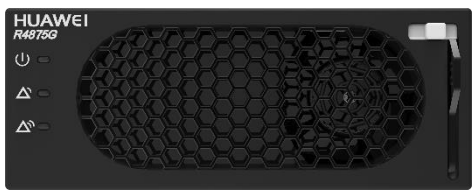
It converts input voltage ranges between 85 to 300 Vac into 42 to 58 Vdc adjustable output voltage.

With state-of-the–art technologies, the online-swappable rectifier module supports walk-in start, low noise operation and multiple functions on real-time state management.

Overview of R4875G1

Features

- **High efficiency**: 97%
- **Wide operating temperature range**:－40℃ to ＋75℃ (full output up to **55℃**)
- **Wide input voltage range**: 85 to 300 Vac
- **Total harmonic distortion (THD)** : ≤ 5%
- **Hot-swappable** rectifier
- **Digital control**
- **CAN communication**
- **Adjustable voltage and current**
- **TUV,CE,UL,FCC,CB** certifications

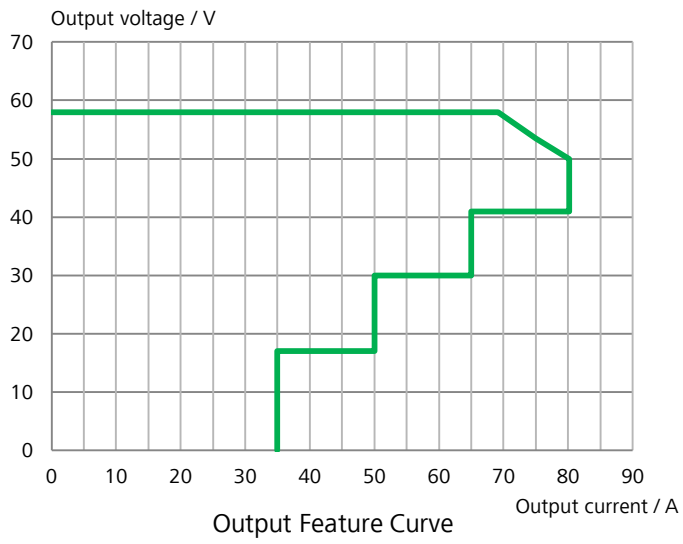


Front view of R4875G1

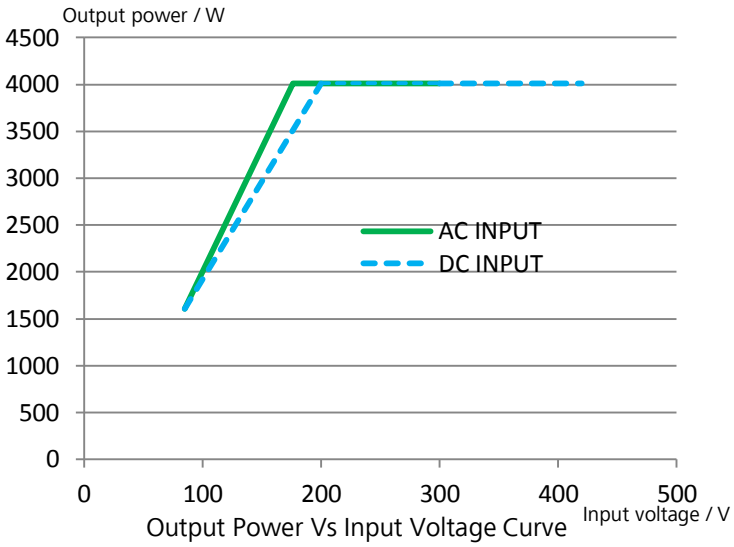
Scenarios

- Access network
- Transmission network
- Communication network of enterprises

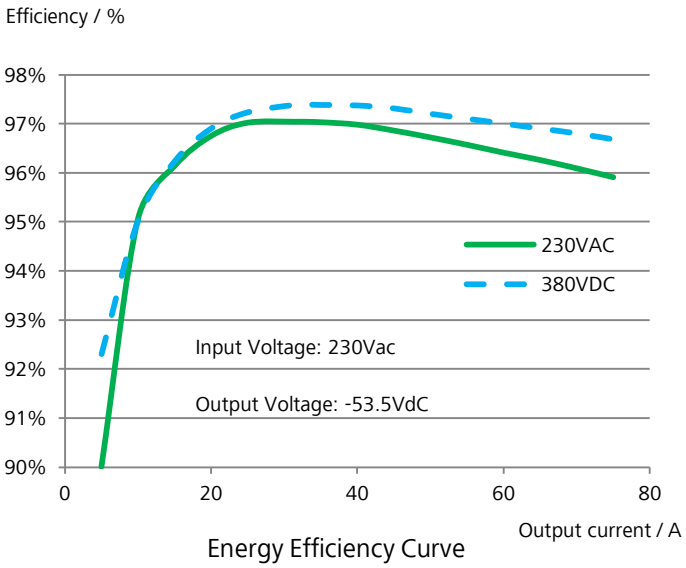
Feature Curve



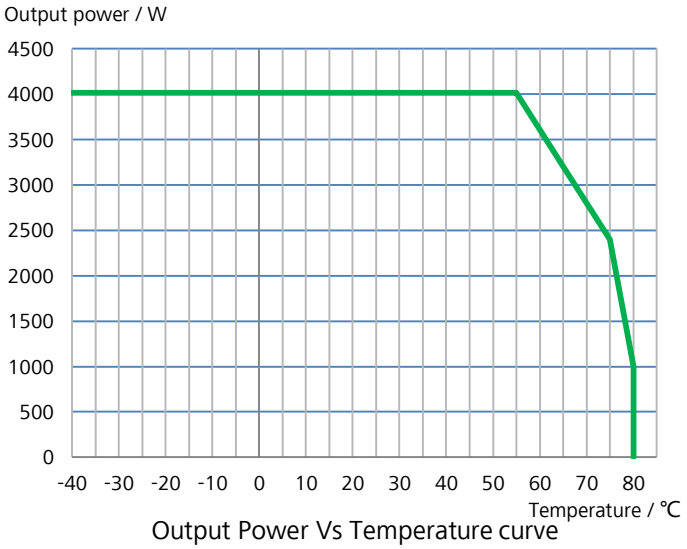
Output Feature Curve



Output Power Vs Input Voltage Curve

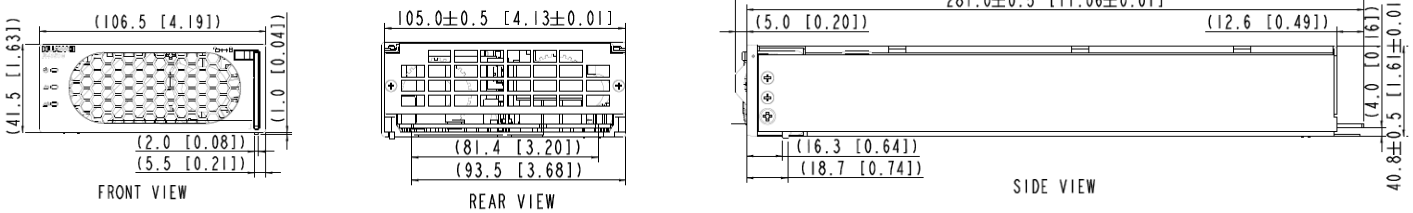


Energy Efficiency Curve



Output Power Vs Temperature curve

Dimension Drawings



Specifications

Product Type		R4875G1	
Basic Specifications	Dimension	105 mm(W) × 281 mm(D) × 40.8 mm(H)	
	Weight	≤ 2.2 kg	
	Cooling	Forced air cooling (Built-in fan)	
Input Feature	Input Voltage	85 to 300 Vac	85–420 Vdc
	AC Input Mode	220 Vac single-phase (or 110 Vac dual-live lines)	200-240VAC
	Frequency	45 to 66 Hz, rated: 50/60 Hz	-
	Maximum Input Current	≤ 24 A	
	Power Factor	≥ 0.99 (> 50% load at 230 Vac)	-
	THD	≤ 5% (> 50% load at 230 Vac)	-
Output Feature	Efficiency	97% Max ≥96% (230V AC, 20%-90% load);	
	Output Voltage	42 to 58 Vdc, rated voltage: 53.5 Vdc	
	Output Power	4000W(176~300VAC) , 1600W at 85 V (85–175 V AC linear derating)	4000W
	Ripple and Noise	≤ 200 mVp-p (bandwidth ≤ 20 MHz)	
	Hold-up Time	> 10 ms	
	Output Regulated Voltage Precision	≤ 0.6% Vo from no load to full load	
	Current Share	±5% output rated current from 10% to 100% load	
Environmental Specifications	Operating Temperature	-40 ℃ to +75 ℃	
	Storage Temperature	–40°C to +75°C (without packaging	
	Relative Humidity	5%–95% RH (non-condensing)	
	Altitude Range	≤5000m	
Protection	Input Overvoltage Protection	AC protection threshold: > 300 V AC DC protection threshold: > 420 V DC	
	Input Under-voltage Protection	AC protection threshold: < 80 V AC DC protection threshold: < 80 V DC	
	Output Over-voltage Protection	Protection range: 56–60 V DC (can be set on the monitoring module)	
	Output Short Circuit Protection	A long term short circuit is allowed. After the fault disappears, the rectifier is restored to a healthy state automatically.	
	Over-temperature Protection	Protection point: ≥80℃(176℉)	
Reliability	MTBF	≥ 500,000 hours	
Audible Noises	Specification	≤ 55dB (40 ℃, full load)	
Safety/EMC/ Lightening Protection	Safety Certification	TUV, CE, UL, and FCC certifications, CB certificate Complies with UL60950-1, IEC60950-1, CAN/CSA C22.2 No. 60950-1, and EN60950-1.	
	Isolation	Input to output: 4242 Vdc; input to earth: 2121 Vdc; output to earth: 707 Vdc	
	EMC	EN55022 Class B; EN55024; EN61000-3-2; EN61000-3-3; ETSI EN300386; ETSI EN301489; ITU-T K.20 FCC CFR47 Part 15 Subpart B:2012	
	Lightening protection	5kA	

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