



Efficiency	The peak point is $\geq 96\%$; $\geq 95\%$ (230V AC, 20%–90% load)
Height x Width x Depth	88.9 mm x 103 mm x 243 mm (3.50 in. x 4.06 in. x 9.57 in.)
Weight	≤ 2.8 kg (6.17 lb)

Product Description

The R4850G1 is a digital rectifier converts the 85 VAC ~300 VAC input to 53.5 VDC output that possesses the characters of high efficiency, high power density, soft start, parallel, complete protection, and low noise. Adopting the latest power topology and latest intelligence control technology to realize the high efficiency under widest load range.

Key Features

- Input voltage range: 85 VAC–300 VAC
- Operating temperature range: -40°C to $+75^{\circ}\text{C}$ (-40°F to $+167^{\circ}\text{F}$)
- Total harmonic distortion (THD): $\leq 5\%$
- Hot plug
- Digital control
- Intelligent electric meter
- Communication over RS485
- LED display
- Supports voltage adjustment, current adjustment, and current sharing
- RE ,CE, ClassB
- Active load sharing
- Passing the TUV, CE, CB, UL certifications
- Online update the embedded software for future need
- Meet Rohs requirement
- Disconnect above 320 VAC
- Patented high efficiency technology

Environmental Specifications

Item	Specification
Operating temperature	-40°C to $+75^{\circ}\text{C}$ (referring to Figure 3) (-40°F to $+167^{\circ}\text{F}$)
Storage temperature	-40°C to $+75^{\circ}\text{C}$ (not packaged) (-40°F to $+167^{\circ}\text{F}$)
Relative humidity	5%-95% (non-condensing)
Altitude range	≤ 4000 m (13,123.2 ft)

Note: If the altitude is between 3000 m (9842.4 ft) and 4000 m (13,123.2 ft), the temperature derates by 1°C (1.8°F) for each additional 200 m (656.2 ft).

Electrical Specifications

Electrical Specifications	Specification
Input	
Operating voltage	85–300 VAC
Frequency	45–66 Hz Rated : 50Hz and 60 Hz
Maximum input current	≤ 18.5 A
Power factor	≥ 0.99 (50% load or more)
THD	$\leq 5\%$ (50% load or more)
Output	
Output voltage	43.2–58 .0VDC Default voltage: 53.5 VDC
Output power	3000 W (176–300 VAC); 1200 W (85–175 VAC)
Regulated voltage precision	$\leq \pm 0.6\% V_o$
Ripple and noise	≤ 200 mVp-p (Bandwidth $\leq 20\text{MHz}$)
Static voltage regulation	$\pm 0.5\%$ (from no load to 100% load)
Dynamic regulation	Over Shoot: $\leq \pm 5\% V_o$ Recovery time: $\leq 200\mu\text{s}$
Standby power	$\leq 5\text{W}$
Turn-on output delay	3–8 s
Hold up time	>10 ms
Psophometric noise	≤ 2 mV
Broad frequency noise	≤ 50 mV (3.4–150 kHz) ≤ 20 mV (0.15M–30MHz)

Other Features

Item	Specification
Protection	
Input overvoltage protection	Protection point:>300 VAC
	Recovery range:290 –300 VAC
Input undervoltage protection	Protection point:<85 VAC
	Recovery range:85–90 VAC
Output overvoltage protection	58.5–60.5 VDC (can be set by monitoring unit) 1.If the overvoltage occurs inside the rectifier due to a fault, the rectifier will latch off. 2.If the output voltage is higher than 63 V and lasts for more than 500 ms, the rectifier will latch off.
Output current limiting protection	See Figure 1.
Output short circuit protection	A long term short circuit is allowed. After the fault is rectified, the rectifier is restored to a healthy state automatically.
Over-temperature protection	The module protects against overtemperature.
Safety/EMC/Lightening protection	
Safety certification	TUV, CE, UL CB Complies with UL60950-1;IEC60950-1;EN60950-1;CAN/CSA C22.2 No. 60950 -1 ;
EMC	EN55022 Class B ; EN55024; EN61000-3-2; EN61000-3-3; ETSI EN300 386; ETSI EN301489; ITU-T K.20;
Lightning	5KA
Reliability	
MTBF	> 500,000 hours
Audible Noise	
Specification	≤ 50dB(25°C / 77 °F full load)

Output Feature

Figure 1 Output feature

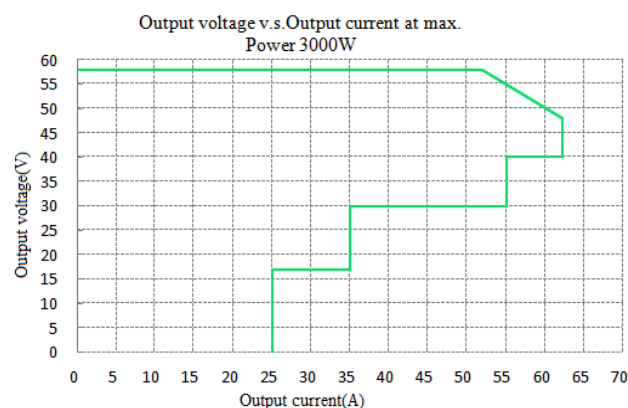


Figure 2 efficiency($V_{in} = 230 \text{ VAC}$, $T_a: 25^\circ \text{C} / 77^\circ \text{F}$)

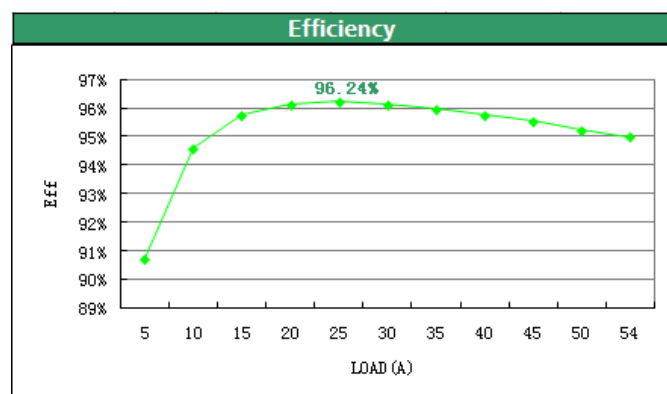


Figure 3 Power derating curve

