



Efficiency	The peak point is $\geq 96\%$; $\geq 95\%$ (230V AC,30%–100% load)
Height x Width x Depth	40.8 mm x 105 mm x 281 mm (1.61 in. x 4.13 in. x 11.06 in.)
Weight	$\leq 2\text{kg}$
Cooling	Built-in fan(The rotation of fan depends on the internal temperature.)

Description

The R4850G2 is a digital rectifier with high efficiency and power density. It converts 85–300 V AC input voltage to 53.5 V DC output voltage. The output voltage can be adjusted by the host.

It performs comprehensive protection functions, supports soft start, and produces low noise. With the latest power monitoring technology, states of the rectifier and load are monitored in real time.

Multiple rectifiers can be paralleled.

Key Features

- Input voltage range: 85–300 V AC
- Operating temperature range: -40°C to $+75^{\circ}\text{C}$
- Total harmonic distortion (THD): $\leq 5\%$
- Digital control mode
- Hot swap
- Supports intelligent electric meter
- Supports CAN communication
- Supports LED display
- Supports voltage adjustment, current adjustment, and current sharing
- Meet Rohs requirement
- Passes the TUV, CE, UL certifications and gets the CB certificate.
- Disconnect above 320 VAC

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	$\leq 4000\text{ m}$

Note: If the altitude is within the range of 3000 m to 4000 m, the maximum operating temperature decreases by 1°C (1.8°F) as the altitude increases by 200 m.

Electrical Specifications

Item	Specification
Input	
Operating voltage	85–300 VAC
Frequency	45–66 Hz Rated : 50Hz and 60 Hz
Rated input current	$< 17\text{A}$
Power factor	≥ 0.99 (load $\geq 50\%$)
THD	$\leq 5\%$ (load $\geq 50\%$)
Output	
Output voltage	42–58 VDC Rated voltage: 53.5 VDC
Output power	3000 W (176–290 VAC); 1250 W (85–175 VAC decreased linearly)
Regulated voltage precision	$\leq \pm 0.6\%V_o$
Ripple and noise	$\leq 200\text{ mVp-p}$ (Bandwidth $\leq 20\text{MHz}$)
Dynamic response	Over shoot: $\leq \pm 5\% V_o$ Recovery time: $\leq 200\text{ us}$
Standby power	$\leq 5\text{W}$
Turn-on output delay	3–8 s
Hold up time	$> 10\text{ ms}$
Psophometrically weighted noise	$\leq 2\text{ mV}$
Wideband noise voltage	$\leq 50\text{ mV}$ (3.4k–150 kHz) $\leq 20\text{ mV}$ (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:<80 VAC
	Recovery range:80–90 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	Passes TUV, CE, UL certifications. Catch the CB certificate. 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	≤55dB(40 °C / 77 °F ,full load)

Output Feature

Figure 1 Output feature

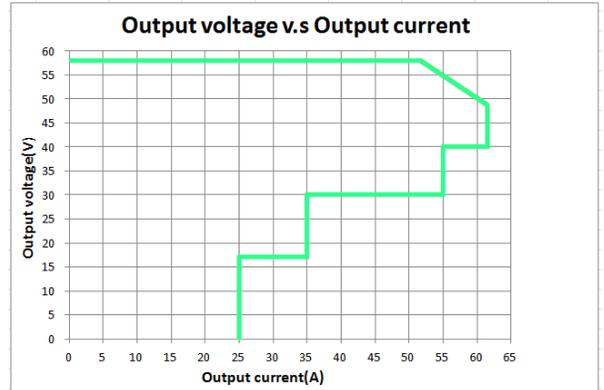


Figure 2 Efficiency (Vin = 230 VAC, Ta:25 °C / 77 °F)

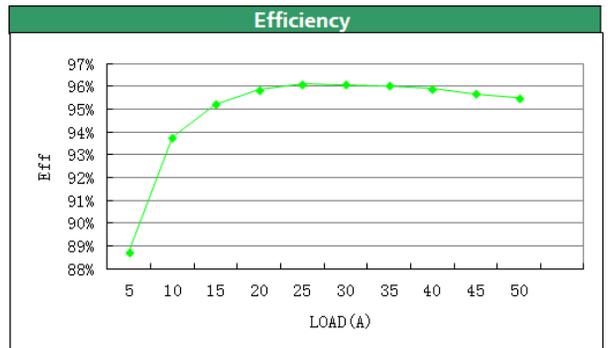
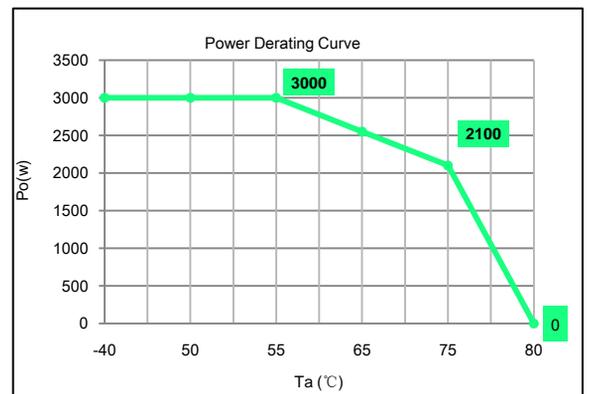


Figure 3 Power derating curve



Interface Description

The rear panel of the rectifier provides an golden finger connection which is used as AC input, DC output and signal connection. For the location of the pins, see Figure 4. For the definitions of the pins, see Table 1.

Figure 4 Pins on the rear panel

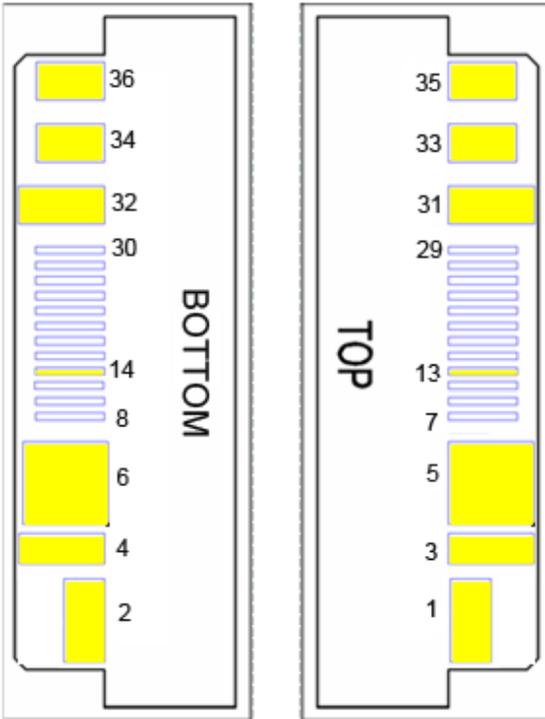


Table 1 Definitions of the pins on the rear panel

Pin	Definition	Function
35、36	L	Live line
33、34	N	Neutral line
31、32	PE	Protect earth
13	CANL	CANL
14	CANH	CANH
5、6	OUTPUT+	Output:48V+
1、2	OUTPUT-	Output:48V-
3、4	Pre-Charge	Pre-Charge
7-12、15-30	Reserved	Reserved

CAUTION

- Only trained and qualified personnel can be allowed to install or service the rectifier. To avoid electric shock or burning, Wear antistatic clothes, antistatic gloves, and ESD wrist straps before operating the rectifier.
- Each rectifier input is protected by two fuses, one for the live wire and the other for the neutral wire.

Removing the Rectifier

Figure 5 Removing a PSU



Step 1: Push the locking latch left.

Step 2: Remove the PSU out of the PDU by externally drawing the handle, as shown in Figure 5.

Installing the Rectifier

Figure 6 Installing a PSU



Step 1: Push the locking latch left and pull out the handle.

Step 2: Push the PSU slowly into the subrack along the guide rail and push the locking latch right to fix the handle, as shown in Figure 6.

Transport

The product must be packed with firmly packing box when transport. Out of the box the mark "prevent moisture", "lay down carefully" and other required mark must have. Any transport tools are permitted if the product in the packing box. When transport must avoid rain and snow attack directly and mechanical shock.

Storage

Product should be packaged in the packing box before use. The store room should be meet: -40°C to $+70^{\circ}\text{C}$ ambient temperature, related humidity less than 80%, dry, ventilation and hasn't any corrosive gas.

Maintenance

DANGER

- The high -voltage power supply energize equipment. Contacting the high-voltage power supply directly or through a dampened object may cause you to death.
- Improper operations on the high-voltage power supply may cause accidents such as fire or electric shock.

Base on following suggestion, Simple fault can be dealt with .

Table 2 Describes the states of LEDs and the causes for abnormal.

Indicator	Color	Status	Description	Measures
Power indicator 	Green	Steady on	The rectifier is supplied with alternating current (AC) input power.	The rectifier runs properly, and no measure is required.
		Off	The rectifier is not supplied with AC input power.	Replace the rectifier if the AC input is normal.
			The rectifier is faulty.	Replace the rectifier.
		Blinking at 0.5 Hz	The rectifier is being queried.	No measure is required.
		Blinking at 4 Hz	The rectifier is loading an application program.	The rectifier automatically recovers after loading, and no measure is required.
Alarm indicator 	Yellow	Off	No alarm is generated.	The rectifier runs properly, and no measure is required.
		Steady on	The rectifier generates a prewarning for power limiting due to overtemperature. The rectifier generates an alarm for shutdown due to ambient overtemperature or undertemperature protection.	Check that the air vent is not blocked and the ambient temperature is within a normal range.
			The rectifier generates an alarm due to AC input overvoltage protection.	Check that the electrical grid voltage is within a normal range.
			The rectifier is hibernated.	No measure is required.
		Blinking at 0.5 Hz	The rectifier communication is interrupted.	Replace the rectifier or monitoring module.
Fault indicator 	Red	Off	The rectifier is not faulty.	No measure is required.
		Steady on	The rectifier is locked due to output overvoltage.	Pull out the rectifier and reinsert it after 1 minute.
			There is no output because the rectifier is faulty.	Replace the rectifier.

Suggestions

1. Rectify the faults by referring to Table 2.
2. If you cannot rectify the fault according to Table 2, replace the rectifier.
3. Return the faulty rectifier to Huawei for repairing.

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