Rectifier Module

R4850S1 – The Leading Efficiency Rectifier In the Industry

Introduction

R4850S1 is the first 98% super high efficiency rectifier module in industry, which has set the new generation benchmark for rectifier efficiency and had large-scale commercial application.

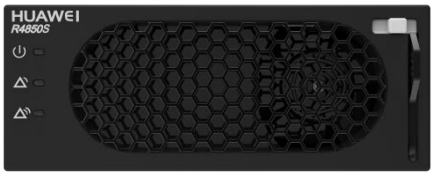
It converts input voltage which ranges between 85 to 300 Vac into 42 to 58 Vdc adjustable output voltage.

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

Overview of R4850S1

Features

- **Highest efficiency**: the first 98% peak efficiency rectifier in the industry, facilitating huge energy saving
- **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, CB, FCC, RCM** certificate

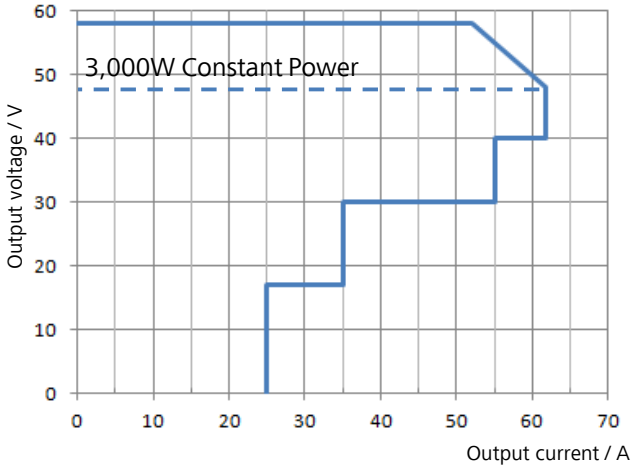


Front view of R4850S1

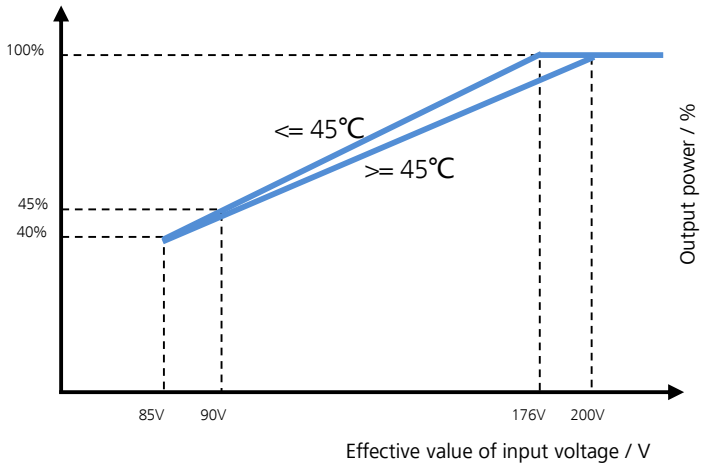
Scenarios

- Access network
- Transmission network
- Communication network of enterprises

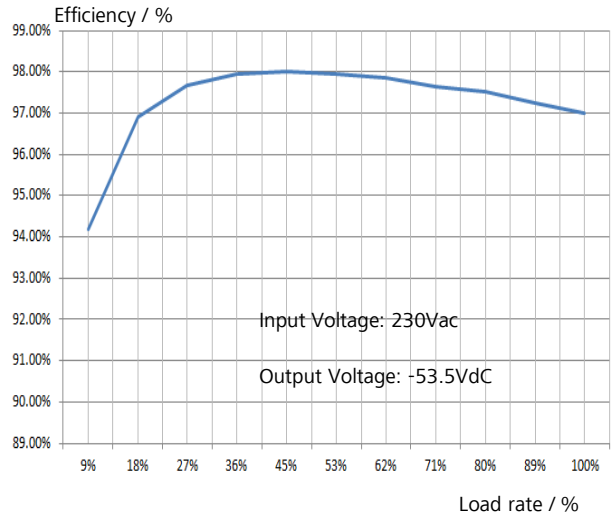
Feature Curve



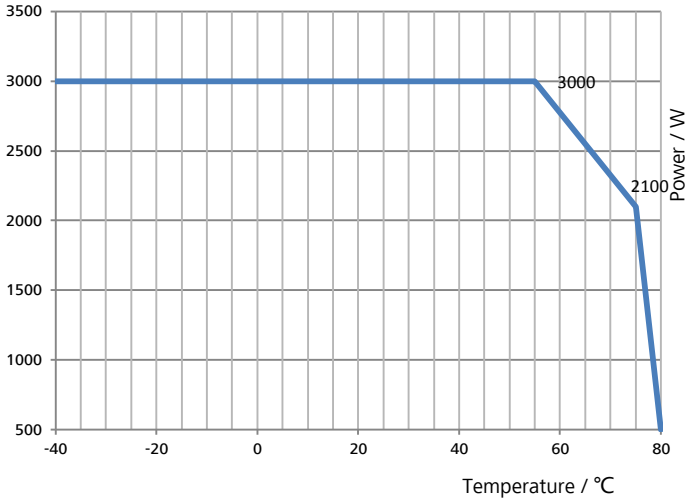
Output Feature Curve



Output Power Vs Input Voltage Curve

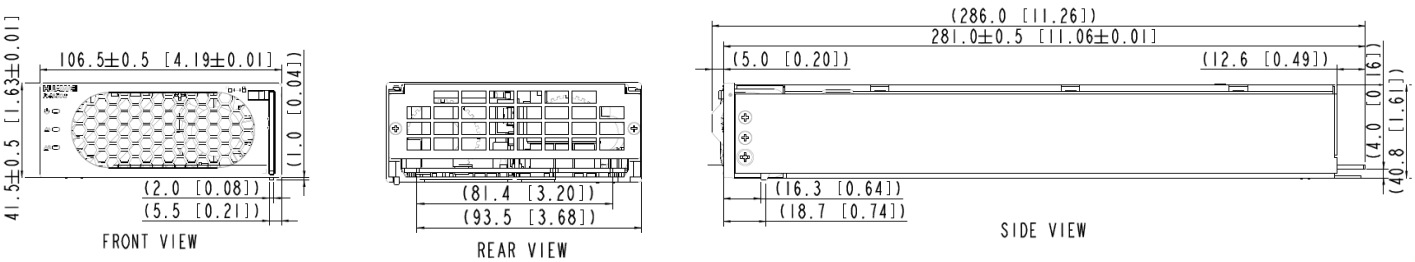


Energy Efficiency Curve



Output Power Vs Temperature curve

Dimension Drawings



Specifications

Product Type		R4850S1
Basic Specifications	Dimension	105 mm(W) × 281 mm(D) × 40.8 mm(H)
	Weight	≤ 2.5 kg
	Cooling	Forced air cooling (Built-in fan)
Input Feature	Input Voltage	85 to 300 Vac
	AC Input Mode	220 Vac single-phase (or 110 Vac dual-live lines)
	Frequency	45 to 66 Hz, rated: 50/60 Hz
	Maximum Input Current	≤ 17 A
	Power Factor	≥ 0.99 (> 50% load at 230 Vac)
	THD	≤ 5% (> 50% load at 230 Vac)
Output Feature	Efficiency	≥ 96% (30% to 100% load) 98% Max
	Output Voltage	42 to 58 Vdc, rated voltage: 53.5 Vdc
	Output Power	3000W (176 to 300 Vac)
	Ripple and Noise	< 200 mV pk-pk, 20 M bandwidth, < 2 mV rms psophometric
	Hold-up Time	> 15 mS at 2700 W
	Output Regulated Voltage Precision	≤ 0.6% Vo from no load to full load
	Current Share	±5% output rated current from 20% to 100% load
Environmental Specifications	Operating Temperature	-40 ℃ to +75 ℃ (non-derating below 55 ℃), ETS EN 300-019
	Storage Temperature	-40 ℃ to +75 ℃; ETS EN 300-019
	Relative Humidity	5% to 95% (non-condensing), ETS EN 300-019
	Altitude Range	≤ 4000 m (If the altitude is within the range of 3000 m to 4000 m, the maximum operating temperature decreases by 1℃ as the altitude increases by 200 m)
Protection	Input Overvoltage Protection	Protection point: > 300 Vac
	Input Under-voltage Protection	Protection point: < 80 Vac
	Output Over-voltage Protection	56 to 60 Vdc (can be set by monitoring unit)
	Output Short Circuit Protection	A long term short circuit is allowed. After the fault is rectified, the rectifier will restore automatically
	Over-temperature Protection	Protection point: ≥ 80 ℃
Reliability	MTBF	≥ 500,000 hours (Telcordia SR-332 issue2 Method 1 at 25 ℃)
Audible Noises	Specification	≤ 55dB (40 ℃, full load); sound presure@1m distance, ISO3744
Safety/EMC/ Lightening Protection	Safety Certification	Passed TUV, CE, UL, FCC, RCM certifications; got the CB certificate; complies with UL60950-1, IEC60950-1, EN60950-1, CAN/CSA C22.2 No. 60950-1
	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 EN300 386, ETSI EN301489, ITU-T K.20, FCC CRF47 Part 15 Subpart B, AS/NZS CISPR22
	Lightening Protection	Common model (input to earth) / differential model (input to input): 5KA (8/20uS, ITU-T K.44)

HUAWEI TECHNOLOGIES CO., LTD.

Huawei Industrial Base

Bantian Longgang

Shenzhen 518129, P.R. China

Tel: +86-755-28780808

www.huawei.com