

# Rectifier Module

R48100G1



## Introduction

R48100G1 is a 6000W, 96% efficiency, digital controlled high power density rectifier.

It converts input voltage ranges between 260 to 530 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  
R48100G1

## Features

- **High efficiency:** 96%
- **Wide operating temperature range:**  $-40^{\circ}\text{C}$  to  $+75^{\circ}\text{C}$  (full output up to  $45^{\circ}\text{C}$ )
- **Wide input voltage range:** 260 to 530 Vac
- Total harmonic distortion (THD) :  $\leq 5\%$
- **Hot-swappable** rectifier
- **Digital control**
- **CAN communication**
- Adjustable voltage and current
- **TUV, CE, UL, CB** certifications



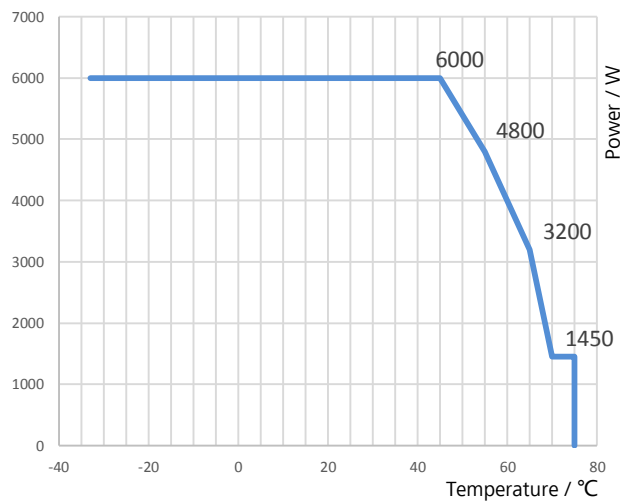
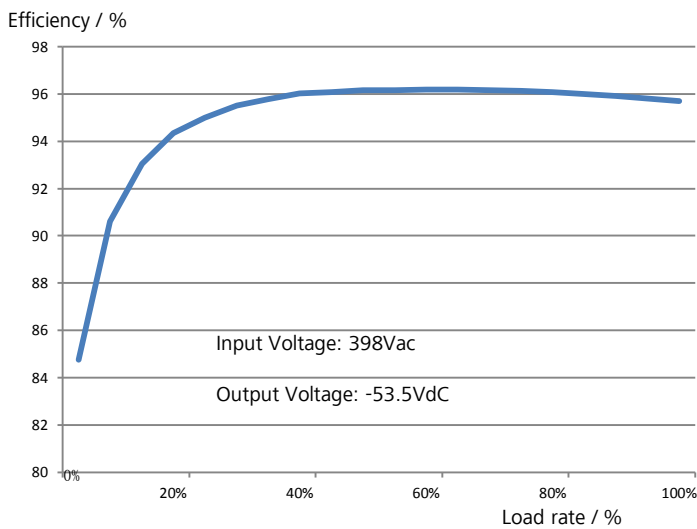
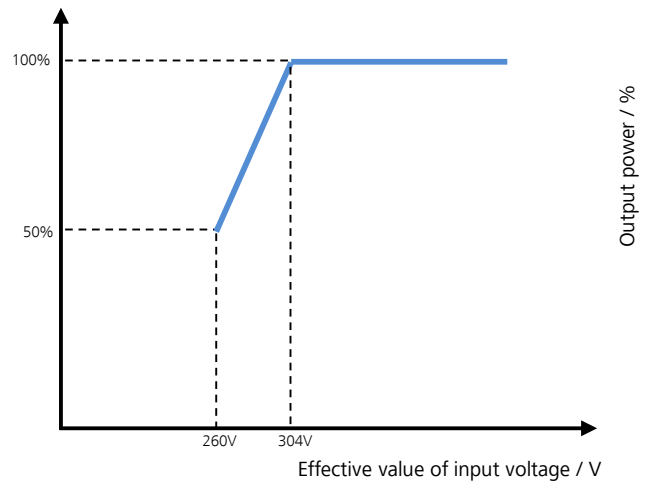
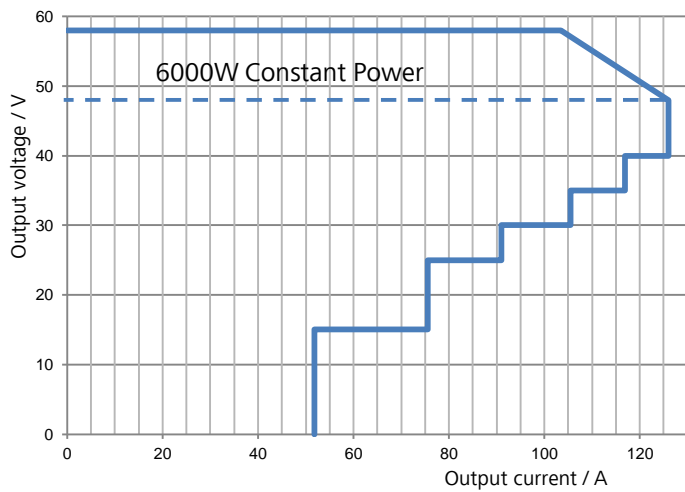
Front view of  
R48100G1

## Scenarios

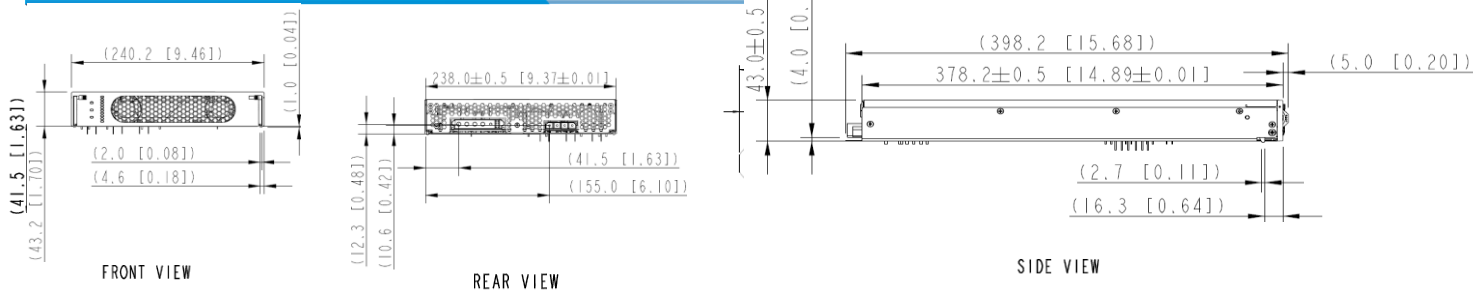
- Central office of telecommunication
- Integrated data center
- Communication network of enterprises



## Feature Curve



## Dimension Drawings



# Specifications

Product Type		R48100G1
Basic Specifications	Dimension	238 mm(W) × 378 mm(D) × 43 mm(H)
	Weight	≤ 6.0 kg
	Cooling	Forced air cooling (Built-in fan)
Input Feature	Input Voltage	260 to 530 Vac
	AC Input Mode	380 Vac three-phase three-line
	Frequency	45 to 66 Hz, rated: 50/60 Hz
	Maximum Input Current	≤ 13 A
	Power Factor	≥ 0.99 (Vin: 360 Vac, 380 Vac, 415 Vac, three-phase balance)
	THD	≤ 5% (Vin: 308 to 480 Vac)
Output Feature	Efficiency	> 96% Max
	Output Voltage	43.2 to 58 Vdc, rated voltage: 53.5 Vdc
	Output Power	6000W (304 to 530 Vac)
	Ripple and Noise	< 200 mV pk-pk, 20 M bandwidth, < 2 mV rms psophometric
	Hold-up Time	> 10 mS at 6000 W, output voltage > 42 V
	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	-33 °C to +75 °C (non-derating below 45 °C), ETS EN 300-019
	Storage Temperature	-40 °C to +75 °C; 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 2000 m to 4000 m, the maximum operating temperature decreases by 1°C as the altitude increases by 200 m)
Protection	Input Overvoltage Protection	Protection point: 530 to 550 Vac
	Input Under-voltage Protection	Protection point: < 260 Vac
	Output Over-voltage Protection	58.5 to 60.5 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: > 75 °C
Reliability	MTBF	≥ 500,000 hours (Telcordia SR-332 issue2 Method 1 at 25 °C)
Audible Noises	Specification	≤ 45dB (25 °C, full load); sound pressure@1m distance, ISO3744
Safety/EMC/Lightening Protection	Safety Certification	Passed TUV, CE, UL 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
	Lightening protection	Common model (input to earth) / differential model (input to input): 5KA (8/20uS, ITU-T K.44)

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