



# Rectifier Module

## R4830N2

### Introduction

R4830N2 is a 1740W, 94% 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 comprehensive protection functions, it supports walk-in start function, with low noise operation and latest technology on real time state monitoring.

### Features

- **High efficiency:**  $\geq 94\%$
- **Wide operation temperature range:** from  $-40\text{ }^{\circ}\text{C}$  to  $75\text{ }^{\circ}\text{C}$  (full output up to  $45\text{ }^{\circ}\text{C}$ )
- **Wide input voltage range:** 85 to 300 Vac
- Total harmonic distortion(THD):  $\leq 5\%$
- **Hot-swappable** rectifier
- **Digital control**
- **CAN communication**
- Adjustable voltage and current
- **UL,TUV,CE,CB** certifications



Overview of R4830N2



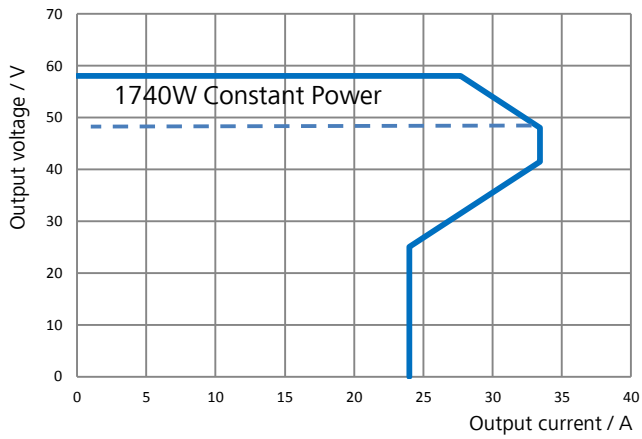
Front view of R4830N2

### Scenarios

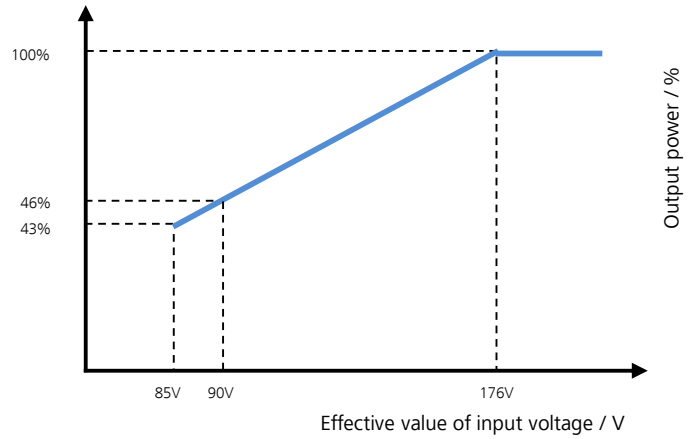
- Access network
- Transmission network
- Communication network of enterprises



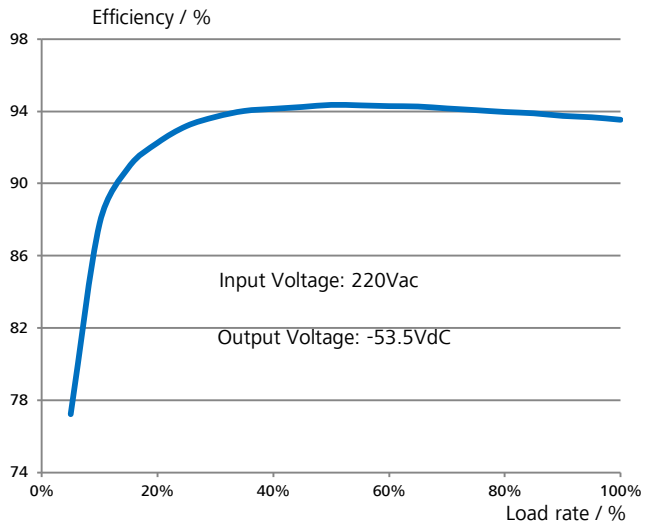
## Feature Curve



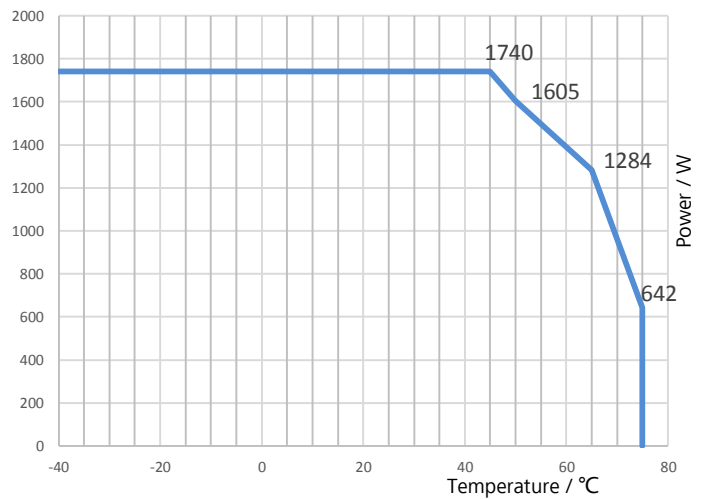
Output Feature Curve



Output Power Vs Input Voltage Curve

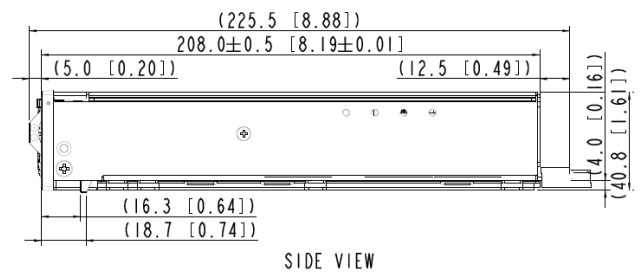
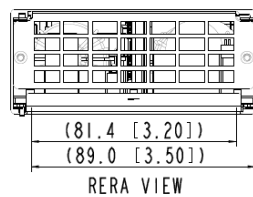
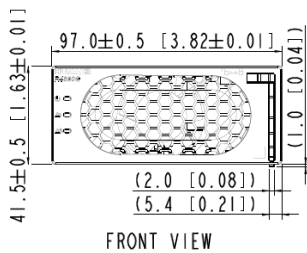


Energy Efficiency Curve



Output Power Vs Temperature Curve

## Dimension Drawings



## Specifications

Product		R4830N2
Basic specifications	Dimension	95.5 mm(W) × 208 mm(D) × 40.8 mm(H)
	Weight	≤ 1.3 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 Hz / 60 Hz
	Input Current	≤ 10 A
	Power Factor	≥ 0.98 (> 50% load at 230 Vac), ≥ 0.99 (100% load at 230 Vac)
	THD	≤ 5% (> 50% load at 230 Vac)
Output feature	Efficiency	> 93% (30% to 100% load) > 94% Max
	Output Voltage	42 to 58 Vdc, rated voltage: 53.5 Vdc
	Output Power	1740W (176 to 300 Vac)
	Ripple and Noise	<200 mV pk-pk, 20 M bandwidth, < 2 mV rms psophometric
	Hold-up Time	> 10 mS at 1740 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	-40 °C to +75 °C (full output 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 3000 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: > 300 Vac
	Input Under-voltage Protection	Protection point: < 80 Vac
	Output Overvoltage 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: ≥ 75 °C
Reliability	MTBF	≥ 500,000 hours (Telcordia SR-332 issue2 Method 1 at 25 °C)
Audible noises	Specification	≤ 45 dB (25 °C, full load); sound pressure@1m distance, ISO3744
Safety/EMC/ Lightning 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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