

# RX48A4500RBM Rectifier Module

CE FC RoHS



## Introduction

- RX48A4500RBM is a high-efficiency, high-power-density rectifier module utilizing digital control. It features a wide input voltage range, low operational noise, and built-in comprehensive circuit protection mechanisms to ensure safe and reliable system performance. It can be applied in scenarios such as pure optical base stations and newly built base stations.

## Features

### ▪ High Efficiency & Flexibility:

Functional modules support hot-swapping and can be flexibly configured based on customer and scenario requirements, facilitating easy installation, maintenance, and redundant design expansion.

### ▪ High-Efficiency Conversion:

The module ensures continuously optimized output under various environmental conditions, achieving a conversion efficiency of over 95%.

### ▪ Safe & Reliable:

The power supply module utilizes an electrically isolated circuit to effectively suppress interference, enhancing system immunity and electrical safety to ensure long-term stability and reliability.

### ▪ Smart Control (Wide Range):

Supports a wide input voltage range of 170Vac-285Vac, along with voltage adjustment and current limiting features to guarantee stable system operation.

\*Product dimensions and parameters refer to the latest documents;

\*The product shall be subject to the actual item.

## Configuration

### RX48A4500RBM Base Station Isolated 4500W Rectifier Module for Hybrid Solar & Storage Systems

| Product Category                                       |                                                                                                                                 |                |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------|
| Model                                                  | RX48A4500RBM                                                                                                                    | RX48A4500RBM-L |
| Peak Conversion Efficiency                             | ≥ 95%                                                                                                                           |                |
| Standby Power Consumption                              | Output powered on: ≤ 2.0W; Input powered on: ≤ 4.0W                                                                             |                |
| Cooling Method                                         | Air cooling                                                                                                                     |                |
| Input Parameters                                       |                                                                                                                                 |                |
| Input Protection Voltage (OVP / UVP)                   | 285Vac/170Vac                                                                                                                   | 145Vac/85Vac   |
| Input Protection Recovery Voltage (OVP / UVP recovery) | 280Vac/175Vac                                                                                                                   | 140Vac/90Vac   |
| Input Voltage Range                                    | 170Vac~285Vac                                                                                                                   | 85Vac~140Vac   |
| Input Frequency Range                                  | 45Hz~55Hz                                                                                                                       | 55Hz~65Hz      |
| Max. Input Current                                     | 18A                                                                                                                             | 36A            |
| Max. Input Power                                       | 4500W                                                                                                                           |                |
| Charging Parameters                                    |                                                                                                                                 |                |
| Output DC Voltage Range                                | 40V ~ 60VDC (Factory default: 54VDC), (adjustable)                                                                              |                |
| Applicable Battery Type                                | Lead-acid battery / Lithium-ion battery                                                                                         |                |
| Battery Management                                     | Output charging parameters and protection parameters are configurable                                                           |                |
| Output DC Current                                      | Rated: 75A                                                                                                                      |                |
| Display & Communication                                |                                                                                                                                 |                |
| Status Indication                                      | LED indicators: Red (fault & alarm); Blue (standby & run); Green (power)                                                        |                |
| Communication Method                                   | Rs485 Bus / Standard Modbus Protocol /CAN2.0B                                                                                   |                |
| Protection Functions                                   |                                                                                                                                 |                |
| PV Input Protection                                    | PV input over voltage and under voltage protection                                                                              |                |
| Output Protection                                      | Voltage regulation protection, battery reverse polarity protection, battery disconnection protection, and overcharge protection |                |
| General Protection                                     | Over-temperature protection, fan fault protection, over-current protection, and surge protection                                |                |
| Safety / Dielectric Withstand                          | Input / output to ground: 1.0KV/20mA/60S                                                                                        |                |
|                                                        | Communication Port to Ground: 0.7KV/20mA/60S                                                                                    |                |
| Insulation Resistance                                  | ≥10MΩ                                                                                                                           |                |
| Grounding Resistance                                   | ≤0.1Ω                                                                                                                           |                |
| Other Parameters                                       |                                                                                                                                 |                |
| Installation Method                                    | Embedded inside a combiner box or cabinet system chassis                                                                        |                |
| Product Dimensions                                     | 333*105*41mm                                                                                                                    |                |
| Product Weight (kg)                                    | 2.025                                                                                                                           |                |
| Operating Ambient Temperature                          | -20℃ ~+50℃ (Derating occurs above 40℃)                                                                                          |                |
| IP Rating                                              | IP20                                                                                                                            |                |
| Altitude                                               | ≤ 4000m(Derates by 1℃ for every 100m increase above 3000m)                                                                      |                |

\*Product dimensions and parameters refer to the latest documents;

\*The product shall be subject to the actual item.

