

## Product Description

The rectifier EP3000AC48TE is a high Efficiency, single phase, hot-pluggable, fan-cooled rectifier and battery charger for stand-alone use or for working in parallel as part of a DC power system equipped with advanced digital controller. The constant output power (3000W i.e. 55.5A at 54V) characteristic supplies the specified power over the full output voltage range (48 to 58Vdc). It's backwardly compatible to earlier version of EP rectifier i.e. EP2500AC48/EP3000AC48.

There is a digital communication (RS-485 bus) between rectifier and controller which allows flexible system design.



## Key Features

### Highly efficient rectifier

Efficiency  $\geq 95\%$

### Highly rugged rectifier

Exclusively designed to take care of wide line fluctuations and extreme climatic conditions prevailing typically in rural/semi-urban areas ("B" & "C" telecom Circles) of India

- > Can withstand up to 500Vac (Line-Neutral) continuously without any damage (for battery floated application)
- > Can withstand 96 hrs of salt spray test (as per ASTM B117), Special protective coating on the PCBs and superior plating on the metal parts
- > Can work up to  $+70^{\circ}\text{C}$

### Optimum power performance

Constant power between 176V ... 300V ac, linearly de-rated power between 175V ... 90V ac

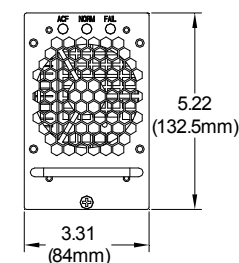
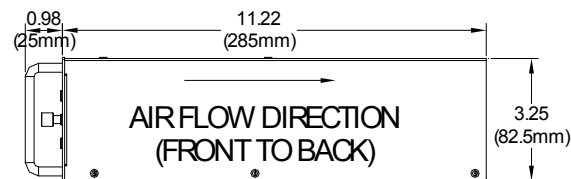
### Compact and light

Six rectifiers can be accommodated in one row (23" shelf) implying more compact system

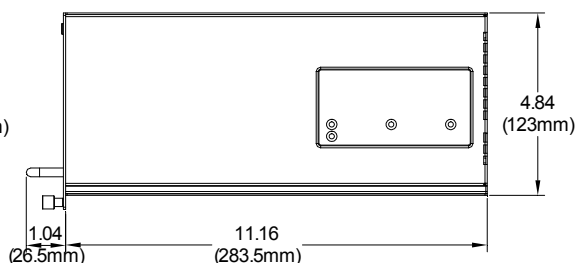
## Applications

The typical applications for this rectifier are both in indoor and outdoor environments and include:

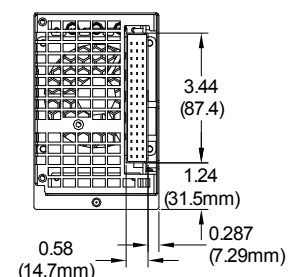
- Telecommunication Equipment Power
- Wireless Cell Site Power Systems
- Central Office Power Plants
- Base Station Power Plants



FRONT VIEW



SIDE VIEW



## Technical Specifications

### Input Parameters

Operating Voltage range	90 - 300 Vac Disconnect: < 90Vac & > 300Vac No damage up to 500Vac (battery floated application)
Input voltage range for de-rated power	Linear de-ration of output power from 175 to 90Vac 3000W @176Vac 1320W @90Vac
Frequency	45 to 65Hz
Maximum Current	19A (rms)
Power Factor	> 0.99 at 230Vac, 100% load
Total Current Harmonic Distortion (THD)	< 5% at 230Vac, 100% load
Efficiency	≥ 95%
Input protection	In built surge protection (6kV/3kA) Mains fuse in both lines

### Output Parameters

Voltage, nominal	48 Vdc
Voltage adjust range	42 ... 58 Vdc
Rated output Power	3000W
Output Current @...V	55.5A@54V
Maximum current	62.5A
Static Voltage regulation	±0.5% from 10% to 100% load
Noise (Ripple + spikes)	≤ 250 mV (p-p)
Load sharing	± 3 A <sub>dc</sub>
I/P and O/P connector	Rear side
Output protection	Over voltage shutdown Blocking diode Short circuit proof High temperature protection

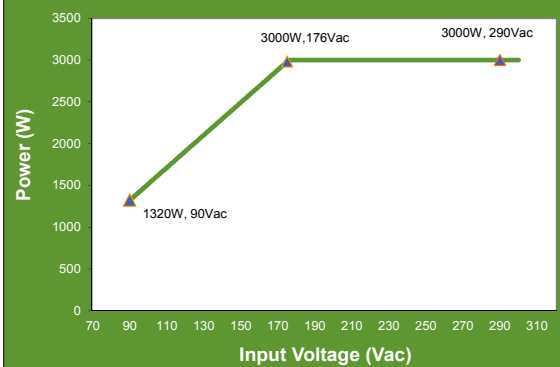
### Backward Compatibility

Backwardly compatibility	EP2500AC48 / EP3000AC48
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### Other Parameters

Isolation	3.0 KVAC – I/P & O/P 1.5 KVAC – input & earth 0.5 KVDC – output & earth
Visual Indications	Normal LED (Green): 4 status (Blink, Wink, OFF, ON) Fail LED (Red): 3 status (Blink, OFF, ON) AC Fail LED (Amber): 2 status (OFF, ON)
Operating temp	-10°C to +70°C
Power De-rating	+50°C to +70°C, de-ration @ 2.4%/°C
Operating Humidity	5% to 95% RH non-condensing > 300,000 hours Telcordia SR-332, Method 1, Case 3 (Ambient Temperature.: 25°C)
MTBF	< 60dBA at an ambient noise level of 45dBA, and at ambient temperature of 25°C
Audible Noise	
Mechanical	
Width	84 mm (3.3")
Height	123 mm (4.84")
Depth	310mm (11.2")
Weight	3.3 kg (7.26 lbs)

### Output Power Characteristics w.r.t input



**Note:** As a result of continuous product improvement, all specifications are subject to change without prior notice. All performance parameters are valid at Nominal input (230Vac) and nominal output (48Vdc) conditions unless otherwise specified.

### Applicable Standards - Reference

Electrical safety	IEC 60950-1 UL 60950-1 CSA 22.2
EMI	As per CISPR-22
EMC	IEC 61000-4-5, Level 1 (Surge immunity limits) IEC 61000-4-6, Level 3 (RF Conducted susceptibility immunity limits) IEC 61000-4-3, Level 3 (Radiated Electromagnetic Field immunity limits) IEC 61000-4-4, Level 4 (EFT/ Burst immunity limits) IEC 61000-4-2, Level 4 (ESD Immunity limits)
Harmonics	EN 61000-3-2
Environment	RoHS 5compliant

### Ordering Information

Product	Description	Comcode
EP3000AC48TE	3000W rectifier at 48-58V (95% efficiency)	150032706

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Document Rev No: 8.0, Date: 6<sup>th</sup> March 2015

PDF name: EP3000AC48TE PDS.pdf