

HDR48-ES Energy Saver Rectifier



The **Eaton® HDR48-ES Energy Saver Rectifier** is designed for communications network operators who are striving to cut energy costs across the network, and/or to meet aggressive carbon footprint reduction targets. Its power density is 50% better than existing Eaton rectifiers. Operating with peak 97% efficiency, it produces at least 50% less waste energy than most other modern rectifiers, and with potentially greater savings over older infrastructure.

The 3kW Energy Saver Rectifier is the ideal module size for powering access applications within a telecom network such as 5G base stations, VDSL equipment, and fibre nodes.

This rectifier features intelligent digital signal processing for enhanced

control, producing peak efficiency up to 97% for typical operating loads, while also maintaining a very high minimum operating efficiency of 96 to 97%, over a very wide range of loads (from 30% to 100% of the 3kW capacity).

The high-power density, short depth and flexible mounting options makes the Energy Saver Rectifier well suited to limited space applications such as ETSI and roadside cabinets.

The Energy Saver Rectifier is fully compatible with existing Eaton 3G systems and it is one of the easiest rectifiers to use, with a simple plug-and-go insertion. It operates under a wide range of AC power conditions and in temperatures at up to 70°C (158°F).

Features

- 3000W output power
- Energy saving efficiency up to 97%
- Wide efficiency curve
- Industry leading power density
- Fast on-line expansion of rectifiers (hot swap)
- Simple 'plug and go' insert
- Unity power factor
- Digital signal processing for enhanced control
- Wide AC supply conditions
- Wide output voltage range
- Constant power output
- Compliance with international standards



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Technical Specifications

Input

AC Supply	120V/208-240V, 50/60Hz (nominal) 185-275V full output power up to 50°C [122°F] 90-185V reduced output power
Power Factor	>0.99 (50 – 100% output current)
Efficiency	>97% peak >96% (20 – 100% output power)

Output

DC Output Voltage Range	43 – 57.5V
DC Output (maximum)	3000W @ 48V

Environmental

Operating Temperature Range	-40°C – +70°C [-40°F – +158°F] Output power derates above 50°C [122°F]
Cooling	Temperature controlled, variable speed, high reliability fan <50dBA ambient temperature 25°C

Mechanical

Dimensions H,W,D	3U: 133mm [5.25"], 42mm [1.65"], 266mm [10.45"] overall
Weight	1.7kg [3.7 lb]

Certifications

North America	UL, FCC Verification, CSA, IC
Europe	CE

In the interests of continual product improvement all specifications are subject to change without notice. Performance ratings are valid with all other variables at Nominal.

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