

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 and its high efficiency means it can produce at least 50% less waste energy than many other modern rectifiers, and with potentially greater savings over much older infrastructure.

The 3 kW 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 approaching 97% for typical operating loads, while also maintaining a very high minimum operating efficiency of 96% over a very wide range of loads (from 30% to 100% of the 3 kW 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

- 3000 W output power
- Energy saving efficiency near 97%
- 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

Technical Specifications

Input

AC Supply	120 V/208-240 V, 50/60 Hz (nominal) 185-275 V full output power up to 50°C [122°F] 85-185 V reduced output power @ 25°C
Power Factor	>0.99 (50 – 100% output current)
THD	<5% (50 – 100% output current)
Efficiency	Peak 96.9% >96% (30 – 100% output power)

Output

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

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 <50 dBA ambient temperature 25°C

Mechanical

Dimensions H,W,D	3U: 133 mm [5.25"], 42 mm [1.65"], 266 mm [10.45"] overall
Weight	2.2 kg [4.8 lb]

Certifications

North America	UL, FCC Verification
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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