

# Vertiv™ eSure™ Rectifier

R400-25K



## Benefits

- Lower operating cost with high-efficiency eSure™ rectifiers, 96.9%
- Save space by using high power density (25 kW/1RU) 400V DC rectifier technology
- Operate your DC plant in the most demanding environments with wide input voltage range
- Easily expand capacity or perform maintenance during live system operation with hot-pluggable modules
- Rest assured with proven reliability that meets global safety standards no matter what the application or location demands

*Leverage high efficiency 400V DC power rectifiers to save both energy and space while securing best-in-class site availability.*

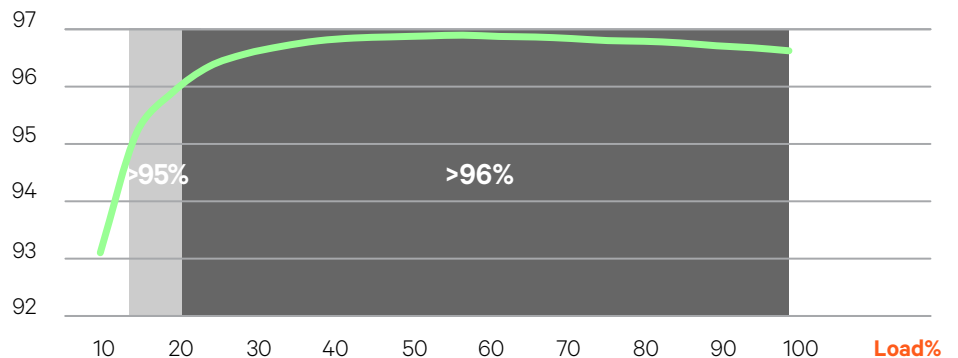
## Description

The 25 kW high-efficiency Vertiv™ eSure™ rectifier is designed to convert standard AC supply voltages into stable nominal 400V DC voltage that is adjustable to application needs. This constant power rectifier offers the latest patented switchmode technology, using DSP (Digital Signaling Processor) functionality for efficient operation.

For a higher load capacity, rectifiers can be connected in parallel to support a variety of telecom applications. Remote management and control of the power system is enabled when combined with a Vertiv™ controller.



## % Efficiency



R400-25 K Efficiency Curve at 400 VAC Nominal

## Technical Specifications

### AC Input

### R400-25K

Voltage	380 VAC to 480 VAC (nominal) 260 VAC to 530 VAC (see figure 1)
Frequency	45 Hz to 65 Hz
Maximum Current	50 A
Power Factor	>0.99 for 50%-100% load
THD (Total Harmonic Distortion)	<3% from 50 to 100% of rated load

### DC Output

Voltage	280 VDC to 400 VDC
Maximum Power	25000 W @45°C
Maximum Current	89.3 A (see figure 2)
Peak Efficiency	96.9%

### Control and Monitoring

Alarms and Signaling	Alarm and status reported via CAN bus to system controller
Visual Indications	Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure

### Environmental

Operating Temperature	-40°C to 70°C / -40°F to +158°F (figure 3)
Storage Temperature	-40°C to 75°C / -40°F to +167°F
Relative Humidity	0 to 95%
Altitude	3000 m / 6560 ft at full power

### Standards Compliance

Safety	EN 62368-1, IEC 62368, UL 62368
EMC	ETSI EN300 386: V1.6.1, EN55032
Environment	REACH, RoHS, WEEE

### Mechanics

Dimensions (H x W x D)	88 x 240 x 470 mm / 3.5 x 9.4 x 18.5 inches
Weight	13 kg / 28.6 lbs

## Ordering Information

Part Number	Description
1R40025K	eSure™ rectifier, 400 VDC, 25 kW

## Figures

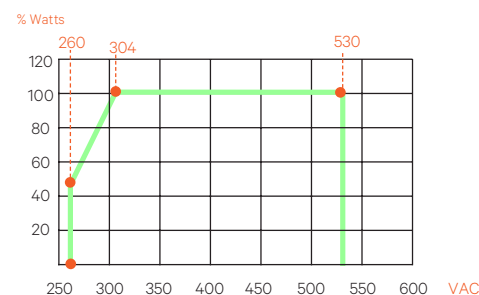


Figure 1: Output Power vs. Input Voltage and  $V_o \geq 240$  VDC at Temperature  $\leq 45^\circ\text{C}$

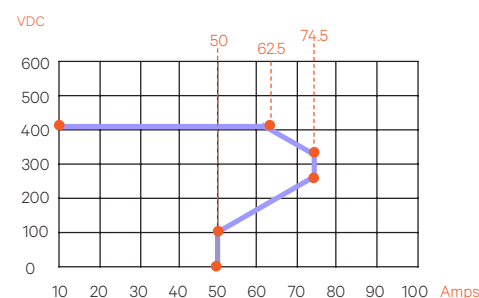


Figure 2: Output Voltage vs. Output Current at Maximum Power 25 kW

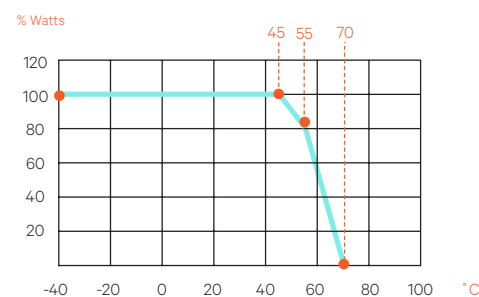


Figure 3: Output Power vs. Temperature at 530 VAC  $\geq V_{in} \geq 304$