

Vertiv™ NetSure™ IPE Series

Outdoor DC Power System, R48-2000C2-6



Benefits

- Rapidly deploy your 5G network with outdoor rectifiers that easily mount directly to a pole or wall using quick connectors for battery, loads and alarms
- Power your critical infrastructure in hard to reach spaces with IP65-rated high-density modules that operate up to +75 °C
- Keep network operating costs to a minimum by using highly available DC power that operates at 96% efficiency and requires no energy for cooling
- Eliminate voltage drops and running massive cables to remote radio heads (RRHs) by placing these compact rectifiers directly on top of the tower
- Quietly support your network with silent, convection-cooled DC power

Lightweight and maintenance-free, Vertiv™ NetSure™ IPE outdoor power systems with lithium-ion batteries power your 5G network in harsh environments.

Description

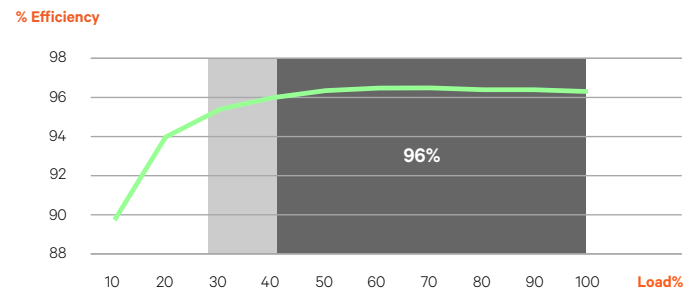
The Vertiv™ NetSure™ IPE series high-efficiency R48-2000C2 rectifier is designed to support 5G radio applications with low power requirements, such as small cells and remote radio heads (RRHs). Fanless cooling eliminates maintenance and results in silent operation. Ideal for rapid deployment in urban, rural, or protected public areas.



The rectifier meets IP65 rating for use in harsh outdoor environments. Flexible installation options include pole or wall mounting in flag or flat position. Quick connectors and a cable-strain relief plate ensure the time to install both rectifiers and batteries is kept to a minimum.

The 96% high-efficiency rectifier includes an integrated controller that offers Bluetooth communication for quick setup, or as a stand-alone power supply without a dedicated control unit. All rectifiers are equipped with relay alarm outputs and compatible with dedicated lithium-ion battery back-up banks.

The space-saving NetSure IPE Series is ideal for use in network edge applications including 5G small cells, RAN and Distributed Antenna Systems (DAS). Rapid deployment outdoors is easy since the unit is hardened and does not require a separate housing for protection against the elements.



R48-2000C2 Efficiency Curve at 230 VAC Nominal

Versatile Mounting Options



Pole mount, flag position



Wall mount, flat position



Pole mount, flat position



Pole mount, flag position side-by-side with battery

Technical Specifications

System Features	R48-2000C2-6
Voltage	85 VAC to 300 VAC (see figure 1), 100-120 VAC and 200-240 VAC (nominal)
Frequency	45 to 65 Hz
Power Factor	>0.90 for 25% to 50% load, >0.98 for 50% to 100%

Output

Voltage	-42 to -58 VDC
Maximum Power	2000 W (see figure 1)
Maximum Current	41.6 A @ -48 VDC (see figure 2)
Peak Efficiency	>93% at ≥ 100 VAC input, >96.3% at ≥ 230 VAC input
Load outputs	1x2kW and 2x1kW fuse protected outputs

Environmental

Operating Temperature	-40 to 75°C / -40 to +167°F (see figure 3)*
Storage Temperature	-40 to +70°C / -40 to +158°F
Relative Humidity	5 to 100%
Altitude	-61 to 3048 (m): up to 3000 m at full power / -200 to 10000 (feet): up to 9842 feet at full power

Control and Monitoring

User Interface	Bluetooth communication and App for settings. Bluetooth can be disabled by hardware switch. Ethernet port for SNMP communication.
Battery Monitoring	Via RS485 for NetSure IPE dedicated batteries
Alarms	Distribution fuse failure / SPD failure / mains failure / rectifier failure
Status Indicators	3 LEDs

Standards Compliance

Safety	CE, 62368-1, 60950-22 (EN, IEC, UL)
EMC	EN55022, ETSI EN300 386, FCC CFR 47 Part 15 (Class B), GR-1089-CORE Issue 7:2017
Environment	60529 (IEC), REACH, RoHS, WEEE, EQ Zone 4

Mechanics

Ingress Protection Rating	IP65
Service Panel for Fuse Access	Yes
Cable Connections	Quick connectors
Mounting Options	Flush / flag mounting
Dimensions (H x W x D)	400x 300 x 62 mm / 15.7 x 11.8 x 2.4 inches
Weight	9.5 kg / 21 lbs

Ordering Information

Part Number	Description
1R482000C2-6	NetSure IPE, -48 VDC, 2000 W, with controller, quick connections. Standard mounting kit included with cable-strain relief plate.

Rectifier Kits

10032448	NetSure IPE (1R482000C2-6) plus input cord, comms cord, and 2kW output cord
10032449	NetSure IPE (1R482000C2-6) plus input cord, comms cord, and (2) 1kW output cords
10032451	NetSure IPE (1R482000C2-6) plus input cord, comms cord, (2) 1kW output cords, and (2) 2kW output cords
Lithium Batteries	See separate datasheets

*Validated to IEC standards. Full power operation up to 46°C with solar load per GR-487

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Figures

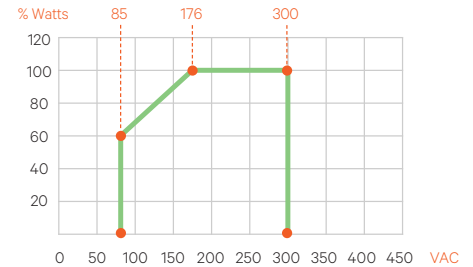


Figure 1: Output Power vs. Input Voltage and $V_o > 48$ VDC at $T_{amb} < 55^\circ\text{C}$

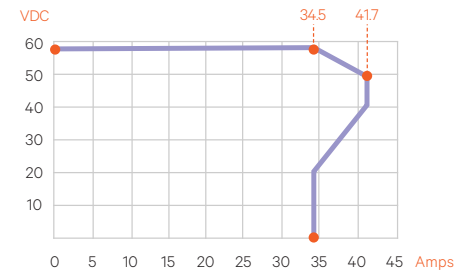


Figure 2: Output Voltage vs. Output Current at Maximum Output Power 2000 W

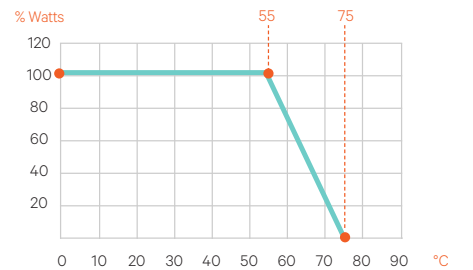


Figure 3: Output Power vs. Temperature at 290 VAC $\geq V_{in} \geq 200$ VAC