

Vertiv™ NetSure™ IPE Series

R48-1000C



Benefits

- Rapidly deploy your 5G network with outdoor rectifiers that easily mount directly to a pole or wall
- Power your critical infrastructure in harsh environments with durable IP65-rated modules that operate up to +75 °C
- Keep network operating costs to a minimum by using highly available DC power that operates at 95% efficiency
- Eliminate voltage drops and running massive cables to remote radio heads (RRHs) by placing these compact rectifiers directly on top of the tower
- Avoid disrupting the neighborhood by running your network on silent, convection-cooled DC power

The high efficiency NetSure™ IPE Series reduces power consumption and lowers operating costs while delivering superior performance and uncompromised reliability.

Description

The NetSure IPE series high-efficiency R48-1000C rectifier is designed for applications with low power requirements, such as small cells and remote radio heads (RRHs). Fanless cooling eliminates maintenance and results in silent operation, enabling deployment in public areas.

IP55 rated models accept either AC or DC input and can be used in a variety of applications, such as remote powering with a centralized battery plant. Modules can be connected in parallel for higher load capacity.

IP65 rated models accept AC input and are designed for outdoor applications in harsh environments. Connections to these units are made through quick-connect connectors. Simply mount the R48-1000C module indoors or outdoors and connect to your local power source.

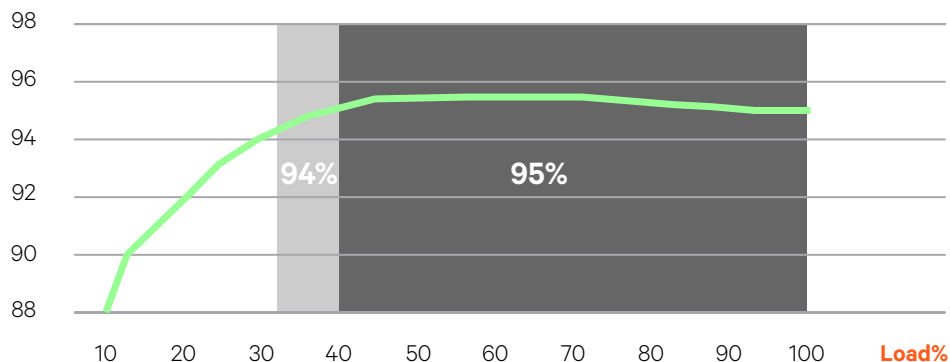
Both models accommodate several different -48 VDC distribution options and offer relay output for remote alarms.



Application

The NetSure IPE Series is ideal for use in network edge applications including 5G, DAS and multi-dwelling units (MDUs). Rapid deployment outdoors is easy since the unit is hardened and does not require a separate housing for protection against the elements.

% Efficiency



R48-1000C Efficiency Curve at 220 VAC Nominal



Technical Specifications

| Input | IP55 Models | IP65 Models |
|---------------------------|--|----------------------------------|
| Voltage | 85 VAC to 300 VAC, 200 VDC to 400 VDC | 85 VAC to 300 VAC (see figure 1) |
| Voltage, Nominal | 100 VAC to 250 VAC, 200 VDC to 400 VDC | 100 VAC to 250 VAC |
| Frequency | 45 to 65 Hz | |
| Maximum Current | 7.5A (AC), 5.6A (DC) | 7.5A (AC) |
| Power Factor | >0.90 for 25% to 50% load, >0.98 for 50% to 100% | |
| Total Harmonic Distortion | ≤5% for 50% to 100% load | |

Output

| | |
|-----------------|--|
| Voltage | -54 VDC |
| Maximum Power | 1000 W |
| Maximum Current | 20.8 A @ -48 VDC, limit set point 0 to 20.8 A (see figure 2) |
| Peak Efficiency | 95% |

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 2000 m at full power / -200 to 10000 (feet): up to 6560 feet at full power |

Standards Compliance

| | | |
|-------------|--|---------------------------------------|
| Safety | 60950-1, 60950-22 (EN, IEC, UL) | |
| EMC | EN55022, ETSI EN300 386, FCC CFR 47 Part 15, Telcordia GR-1089-CORE Issue 6 (Class B conducted and radiated) | |
| Environment | IP55 60529 (IEC), REACH, RoHS, WEEE, Zone 4 | IP65 60529 (IEC), REACH, RoHS, Zone 4 |

Mechanics

| | |
|------------------------|---|
| Dimensions (H x W x D) | 360 x 180 x 90 mm / 14.2 x 7.1 x 3.5 inches |
| Weight | 5 kg / 11.0 lbs |

Ordering Information

| Part Number | Description |
|---------------------|---|
| IP55 Rated | |
| 02131008* | R48-1000C, -48 VDC, 1000 W, IP55, terminal connection |
| 02131013* | R48-1000C, -48 VDC, 1000 W, IP55, (2) 12A CBs |
| 02131018* | R48-1000C, -48 VDC, 1000 W, IP55, 6 GMT fuse holder |
| IP65 Rated | |
| 02131023 / 561664** | R48-1000C, -48 VDC, 1000 W, IP65, bulk distribution |
| 2131028 / 561665** | R48-1000C, -48 VDC, 1000 W, IP65, 30A CB |
| 02131033 / 561666** | R48-1000C, -48 VDC, 1000 W, IP65, 6 GMT fuse holder |

*IP55 rated models are not available in North America.

**Use part numbers 561664, 561665, 561666 for North America.

Figures

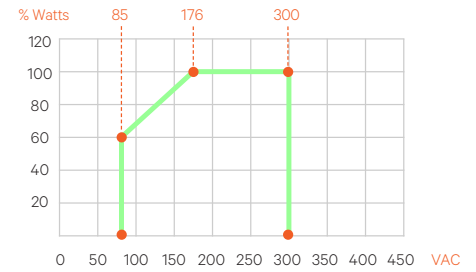


Figure 1: Output Power vs. Input Voltage and $V_o > 48$ VDC at $T_{amb} \leq 55^\circ\text{C}$

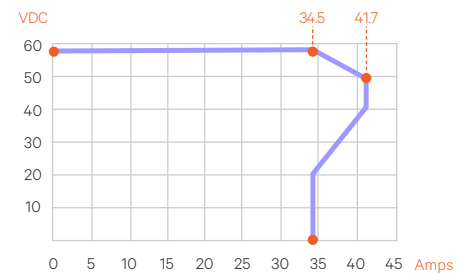


Figure 2: Output Voltage vs. Output Current at Maximum Output Power 1000 W

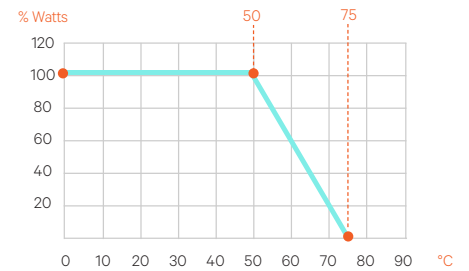


Figure 3: Output Power vs. Temperature at 290 VAC $\geq V_{in} > 176$ VAC

GMT Fuses

| AMPS | part number | Fuse Color |
|----------------|-------------|-------------|
| 18/100 (GMT-A) | 248610301 | - |
| 1/4 | 248610200 | Violet |
| 1/2 | 248610300 | Red |
| 3/4 | 248610500 | Brown |
| 1-1/3 | 248610700 | White |
| 2 | 248610800 | Orange |
| 3 | 248610900 | Blue |
| 5 | 248611000 | Green |
| 7-1/2 | 248611300 | Black-white |
| 10 | 248611200 | Red-white |

Note: For part number 561666 only.