# Vertiv™ NetSure™ Solar Converter Shelf

## Benefits

- Lower operating costs by supplementing grid or generator power at on-grid, off-grid, or bad-grid sites with Vertiv's solar converter shelf
- Easily integrate with most existing DC power systems while saving rack space
- Maximize efficiency with high-density 4300W Vertiv eSure Solar Converters and MTTP technology, optimized for wide temperature ranges
- Reduce site visits through remote access with the NetSure system controller
- Ensure reliable performance with proven NetSure™ technology and expert Vertiv support

*Achieve your environmental goals and reduce operating costs by augmenting your existing DC power system with the exceptional solar power density of a Vertiv™ NetSure™ Solar Converter Shelf utilizing Vertiv's eSure™ 4300W solar converter modules.*

The NetSure™ Solar Converter Shelf is a compact -48 VDC solution that can easily be added to an existing telecom DC power plant from any manufacturer. Built on the proven reliability of the Vertiv™ eSure™ Solar Converter, the NetSure Solar Converter Shelf delivers industry-leading system density and full power up to 55°C. It can support one or two 4300W solar converter modules, features front access connections and is available in two versions.

The **Add-on** version of the shelf is for use with an existing *third-party* DC power system and *includes* a mini-NCU M831A controller to manage the solar shelf.

The **Expansion** version of the shelf is for use with an existing *Vertiv* DC power system and *utilizes the existing host* NCU controller to manage the DC power systems and the solar shelf.

For larger applications, multiple **Expansion** shelves can be connected to a single Vertiv™ DC power system. **Expansion** shelves can also be added to an **Add-on** shelf to increase system capacity. Please see the manual for additional information.

### Application

With the **rising** cost of energy and the environmental need to minimize carbon emissions, adding the Vertiv™ NetSure™ Solar Converter Shelf to your existing network infrastructure is a cost-effective way to decrease operating costs.

- Reduce energy consumption at on-grid sites
- Minimize battery stress and replacement at bad-grid sites
- Decrease generator run-time, maintenance and fuel costs at off-grid sites

# Vertiv™ NetSure™ Solar Converter Shelf

| | Specification | Add-On Shelf | Expansion Shelf |
|---|---|---|---|
| **Electrical** | | | |
| DC input | Voltage Range | 70 VDC to 420 VDC | 70 VDC to 420 VDC |
| | Maximum Current | 48 A (24A per Converter) | 48 A (24A per Converter) |
| DC output | Voltage, Nominal | -48 VDC | -48 VDC |
| | Voltage Range | -20 VDC to -58.5 VDC | -20 VDC to -58.5 VDC |
| | Maximum Power | 8640 W | 8640 W |
| | Maximum Current | 163 A | 163 A |
| | Peak Efficiency | 97.3% | 97.3% |
| | Temperature Performance | 100% up to 55C , derate from 55C to 80C | 100% up to 55C , derate from 55C to 80C |
| **Distribution** | | | |
| -48 VDC Distribution | Circuit Breaker Type | High density - UL 1077 | High density - UL 1077 |
| | Circuit Breaker Positions | 2 | 2 |
| | Circuit Breaker Rating | 125 A | 125 A |
| **Monitoring** | | | |
| Control module | Module Name | M831A | - |
| | Local Display | Yes | - |
| | Protocols | HTTPS, SNMP V2/V3, Modbus RTU-485 and EEM | - |
| | Analog Inputs | 1 | - |
| | Digital Inputs | 5 | 2 |
| **Rated output capacity** | | | |
| System | Power Capacity | 8640 W | 8640 W |
| | Current Capacity | 163 A | 163 A |
| Converter | Power Capacity | 4320 W | 4320 W |
| | Current Capacity | 81.5 A | 81.5 A |
| **Environmental** | | | |
| | Operating Temperature | -40°C to 75°C / -40°F to 167°F | -40°C to 75°C / -40°F to 167°F |
| | Storage Temperature | -40°C to 80°C / -40°F to 176°F | -40°C to 80°C / -40°F to 176°F |
| | Relative Humidity | 0% to 95% | 0% to 95% |
| | Altitude | 3000 m / 9842 ft at full power | 3000 m / 9842 ft at full power |
| **Physical characteristics** | | | |
| | Color | Grey | Grey |
| | Height | 44.45 mm / 1.75 in | 44.45 mm / 1.75 in |
| | Width | 482.6 mm / 19 in | 482.6 mm / 19 in |
| | Depth | 425 mm / 16.73 in | 425 mm / 16.73 in |
| | Empty Weight (Approximate) | 9.5 kg (20.9 lbs) | 9.0 kg (19.8 lbs) |
| | Mounting width | 482.6 mm or 584.2 mm / 19 in or 23 in | 482.6 mm or 584.2 mm / 19 in or 23 in |
| | Mounting depth | Flush, 127 mm / 5 in recess or wall | Flush, 127 mm / 5 in recess or wall |
| | Cable Entry | Front | Front |
| **Standards compliance** | | | |
| | Safety | IEC/UL 62368 | IEC/UL 62368 |
| | EMC | ETSI EN300 386 V1.6.1,<br>EN55022 Class A conducted and Class B radiated,<br>Telcordia GR-1089-CORE issue 6: 2009 | ETSI EN300 386 V1.6.1,<br>EN55022 Class A conducted and Class B radiated,<br>Telcordia GR-1089-CORE issue 6: 2009 |
| | Environment | REACH, RoHS, WEEE | REACH, RoHS, WEEE |
| | Ingress Protection | IP20 | IP20 |

| Part number | Description |
|---|---|
| 1S484300E4 | Vertiv eSure Solar Converter 48 VDC, 4320 W |
| 744900180006 | NetSure 8.6kW Solar Converter Add-On Shelf with NCU M831A Controller |
| 744900180007 | NetSure 8.6kW Solar Converter Expansion Shelf – **CAN Connection Cable Must Also Be Ordered** |
| 562868 | CAN connection cable ~32' – **Must Be Ordered When Using Expansion Shelf** |
| 556155 | Temperature Sensor Probe -10' |
| 552992 | Temperature Sensor Probe - 33' |
| 1M831ANA10207933 | Replacement: M831 Mini-NCU Controller for Add-on Shelf |
| 280401252110 | Replacement: 125A UL-1077 Output Breaker |

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