

Vertiv™ NetSure™ Converter System

-48V DC to -58V DC



Benefits

Modular design

Provides for system redundancy and easy expansion of operating capacity in small increments

Expandable

Optional converter shelves and distribution panel allow for system growth as site needs dictate

Hot insertion capability

Allows for system expansion without disruption

Surge Protection

Built-in surge protection protects equipment from damages

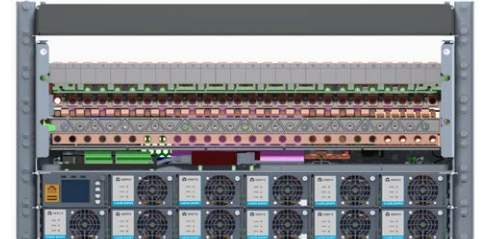
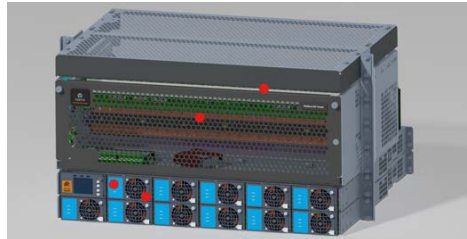
Load Shedding

Optional load disconnect contactor allows for shedding non-critical loads

Standard Features

- Safety compliance - NEBS, UL
- Nine (9) Form-C alarm outputs
- Current limiting
- Over-voltage protection
- Over-temperature protection
- Load sharing for parallel operation
- Easily accessible input and output connections for simplified installation
- Emergency Power Off

The Vertiv™ NetSure™ Converter System is ideal for powering remote radios over long cable lengths.



Description

The Vertiv™ NetSure™ Converter System provides up to 600 amps at -58 volts DC via high frequency switch mode converters, each rated at 2000 watts peak, 1600 watts average. The modular design allows the converter's capacity to expand as your system expands. The base system can accept eleven individual, plug-in converter modules that can be easily installed live without system interruption. Up to two six-expansion converter shelves can be added for increased capacity. The distribution panel is available with four large GJ/218 type circuit breaker positions or twenty-six bullet type device positions. The large positions accommodate up to a 250 amp breaker per position and up to an 800 amp breaker in four positions. The bullet type panel accommodates devices from 1 amp to 300 amps. A second 26-position bullet type panel can be added for expansion. The NetSure NCU controller provides system management, monitoring and alarming.

Application

The Vertiv™ NetSure™ Converter System is compact and easy to expand, making it ideal for radio base station sites requiring -58 VDC output.

Ordering Information

Part Number	Model Number	Description
58464100001	DCS48/58-600	Converter System, (26) Bullet Positions, without Contactor
58464100002	DCS48/58-600	Converter System, (26) Bullet Positions, with Contactor
58464100003	DCS48/58-600	Converter System, (4) GJ/218 CB Positions, without Contactor
58464100004	DCS48/58-600	Converter System, (4) GJ/218 CB Positions, with Contactor
58464100010	DCS48/58-600	Expansion Converter Shelf, six positions
584641000AL	DCS48/58-600	Expansion Distribution Panel, (26) Bullet Positions, without Contactor
584641000CL	DCS48/58-600	Expansion Distribution Panel, (26) Bullet Positions, with Contactor
1M830BNA10044525	M830B	NCU Controller, 10044525 Configuration
1C48582000P3	C48/58-2000P3	eSure DC/DC converter, -48VDC to -58VDC, 2000 watts Peak

Technical Specifications

Input

Voltage	-48.0 volts DC nominal, with range of -41.0 to -58.5 volts DC
Current	41.9 amps maximum (at full load for one module, -41VDC input)
Circuit Protection	Fuse is located in the negative input lead of each converter module
Filtering	Noise reflected back to the battery is less than 38dBnC and is within the parameters set forth in Telcordia technical reference TR-TSY-000009, using test measurements in PUB43802, pages 5 and 6
Efficiency	95.6% peak

Output

Voltage	-56.0 VDC to -58.0 VDC adjustment range
Current	26-position Bullet Panel = 400 amps 4-position GJ/218 Breaker Panel = 600 amps
Regulation	Steady state output voltage remains within $\pm 1\%$ of the pre-adjusted voltage for any load current from no load to full load and over the specified input voltage range
Dynamic Response	For a step load change of 25%, the maximum voltage transient will not exceed 5% of the initial steady state voltage
Filtering	Wide band noise does not exceed 250 mV peak to peak over the frequency range of 1 Hz to 100 MHz. Wide band noise does not exceed 20 mV rms over the frequency range of 25 Hz to 20 kHz.

Protection

Overvoltage	Two independent over-voltage shutdown circuits are included in each converter module. 1) Settable via NCU controller from -56V to -59V. 2) Backup (hardware employed) at -59.5VDC When the output current of a DC-DC converter module increases to a value set via the NCU
Overcurrent	controller between 10% to 100% of rated full load, the output voltage of the module will automatically decrease to limit current to this value. The output will recover to within specified limits when the overload condition is removed.
Over Temperature	Each DC-DC converter module will automatically shut down if the internal temperature of the module exceeds a predetermined value. Operation will automatically resume after the over-temperature condition is removed.

Environmental

Operating Temperature	-40°C to +65°C (-40°F to +149°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Humidity	0% to 95% relative humidity, non-condensing
Altitude	Maximum operating ambient temperature should be derated linearly (3°C per 1000 ft.) at elevation above 6562000 ft.
Audible Noise	The audible noise at 1 meter shall not exceed 560dB-A per ANSI S1.4.
EMI/RFI Suppression	This unit conforms to the requirements of FCC Part 15, Subpart B, Class B; EN55022, Class B for radiated and GR-1089 CORE for conducted noise.



C48/58-2000P3 Converter Module