

NETSURE™ 4015 SERIES

30 kW 400V DC Power System



KEY FEATURES

- 30 kW capacity (15 kW N+1)
- Hot pluggable 15 kW rectifiers
- 97% power conversion efficiency
- Input to output isolation
- AC input: 380 VAC, 400 VAC or 480 VAC
- Up to (18) output load breakers
- Battery trays for up to 30 minutes of runtime at 15 kW
- UL 60950-1 Listed (US & Canada), CE Marked

Additional Information

- VertivCo.com/400VDC
- Power & Control Sub-Rack Data Sheet
- Load Distribution Sub-Rack Data Sheet
- Battery Tray Data Sheet
- System Application Guide
- NetSure™ 4015 Pre-Quote Form



30 kW System Shown in a 42U Rack

A safe, reliable and efficient AC to DC power system intended for 400V DC critical power applications.

Description

The NetSure 4015 is an AC to DC power system designed for applications operating up to 400V DC. The foundation of the system is our patented, next generation 15 kW eSure rectifier, featuring high frequency switching technology in a compact package. Equipped with these rectifiers, this 400V DC power system offers high efficiency over a wide operating range in addition to exceptional NetSure reliability.

Designed for easy deployment in lab evaluation or field installations, all components of this system fit into standard 19" IT racks. The three major components are:

1. Power and Control Sub-Rack (6U)
2. Load Distribution Sub-Rack (6U)
3. Battery Tray(s) (4U each)

The NetSure 4015 is a configurable system that can be integrated into a 24U or 42U tall rack, either with or without batteries.

Safety features include operation with high resistance mid-point ground. With permanent high resistance between both the positive and negative busses and ground [see Figure 1], personal safety is increased. Available current that could accidentally flow through an individual or equipment from line to ground is limited to a level consistent with today's -48V DC systems.

An independent, online ground fault detection (GFD) system is included to alert users to unintended insulation breakdowns in the system. The NetSure 4015 can also be factory configured for other grounding topologies upon request.

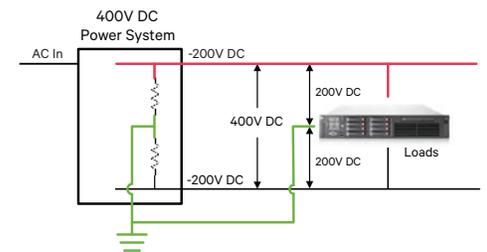
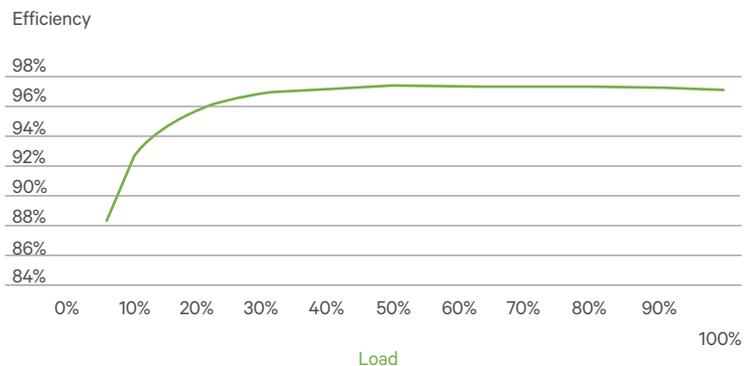


Figure 1:
High Resistance Mid-Point Ground Schematic



eSure R400-15000e Efficiency

Technical Specifications

SYSTEM INPUT

| | |
|--------------------------------|---|
| Nominal Voltage | 380 VAC, 400 VAC, 480 VAC; 3 phase, 4 wire |
| Input Voltage Range | Operating range: 260 VAC to 530 VAC Full power: 304 VAC to 530 VAC; Derated: 260 VAC to 304 VAC |
| Input Frequency | 45 Hz to 65 Hz |
| Upstream Breaker (recommended) | 63 A @ 400 VAC, 50 A @ 480 VAC; 30 kW full power |

SYSTEM OUTPUT

| | |
|--------------------------|--|
| Voltage Range | 290 VDC to 400 VDC adjustable |
| Output Power | 30 kW maximum @ Vout > 336 VDC |
| Voltage Regulation | 0.5% for full operating range |
| Grounding Configurations | <ul style="list-style-type: none"> High resistance mid-point ground with ground fault detection Negative pole ground |
| Efficiency | Peak: 97% |

ENVIRONMENTAL

| | |
|-----------------------|---|
| Operating Temperature | Full rating: -5 °C to +35 °C; Recommend 20 °C to 25 °C with batteries |
| Relative Humidity | 0% to 95% non condensing |
| Audible Noise | < 55 dB(A) |
| EMI | EN 300 386, Class A and FCC Part 15, Class A |
| RoHS | RoHS compliant (pending) |

OPTIONAL BATTERY TRAY

| | |
|------------------|--|
| Battery Type | High rate discharge lead acid (VRLA), flame retardant (VO) case |
| Battery Capacity | 35 Watt/cell (15 min. rate), see battery backup table below |
| Battery Details | 28 x 12 V blocks; Ensyrus DataSafe® NPX-35TFR or equivalent 336 VDC nominal, 378 VDC float |
| Tray Mechanical | 4 RU high, 118 kg (260 lbs) installed |

MECHANICAL CABINET SPECIFICATION

| | |
|-----------------------------|--|
| Rectifier Form Factor | Hot pluggable module |
| Rectifier Weight | 10 kg (22 lb.) |
| Rack Dimensions (H x W x D) | 24 RU: 1194 mm x 600 mm x 1000 mm (47" x 24" x 40") 42 RU: 2000 mm x 600 mm x 1000 mm (79" x 24" x 40") |
| System Weight | See System Application Guide |
| Cabling Details | Top or bottom cabling; front and rear access required |

SAFETY

| | |
|-----------------|--|
| Safety Agencies | UL Listed per UL60950-1 (cUL for Canada) CE Marking per low voltage directive (EN 60950) and the EMC directive |
| Cabinet | IP 20 |

Ordering Information

| PART NUMBER | DESCRIPTION |
|-------------|--|
| 584000300 | NetSure™ 4015, 30kW 400V DC Power System |

Overview



System Shown in a 24U Rack

1. Load Distribution Sub-Rack (6 RU high)

Up to (9) circuit breakers, output from 6 A-63 A
Optional 125 A main load breaker (req for UL)
Up to (2) sub-racks per system

2. Power and Control Sub-Rack (6 RU high)

2 x 15 kW rectifiers, ACU+ controller
2 x AC input circuit breaker, 3-phase, 4-wire
Local system shutdown
Ground fault detection (HRMG only)

3. Battery Tray (4 RU high)

28 x 35 W/cell – 336 VDC nominal; 378 VDC float
Remote trip c.b.; Up to (5) battery trays/system

Battery Backup Time (min.)

| Load | NUMBER OF STRINGS/TRAYS | | | | |
|-------|-------------------------|----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 |
| 5 kW | 15 | 50 | >60 | >60 | >60 |
| 10 kW | 9 | 18 | 31 | 44 | 50 |
| 15 kW | | 10 | 18 | 27 | 32 |
| 20 kW | | 7 | 12 | 18 | 24 |
| 25 kW | | 5 | 8 | 13 | 18 |
| 30 kW | | | 6 | 10 | 13 |

Note: Backup times based on 25 °C ambient with fully charged batteries.

