

DESCRIPTION

UNIPOWER's SABRE LITE Series INV1548 & INV1548H are 1500VA/1200W, sine wave, hot-swap inverter modules with a nominal output voltage of 120VAC & 230VAC respectively.

They are available with a number of different compatible, two-unit 19-inch shelves which are 1RU high (1.75 inches) and provide various AC output termination & distribution types as detailed in the table opposite.

Operating from a 48VDC (40.5-58V range) input two units in the shelf can provide either twice the capacity of a single unit or operate fully automatically in an N+1 model. The low distortion 50 or 60Hz sine wave is produced using an advanced DSP controlled architecture which achieve better than 89% efficiency and 10.5VA per cubic inch power density. Front panel LEDs indicate inverter status and the units are self-cooled by internal variable speed fans.

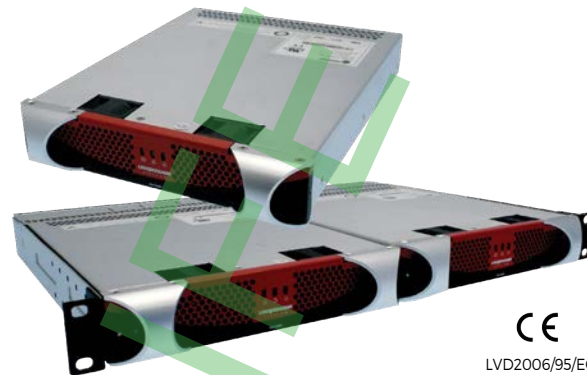
The normal capacity of the SABRE LITE Series is 3kVA; but when using the INVRIU2 inverter shelf it is possible to increase this to a maximum of 18kVA at either 120V or 230V by connecting up to 6 shelves in parallel using the link bar kits supplied.

For inverter systems using these inverter modules see the Inverter Systems section of the WEB site.

TWO-YEAR WARRANTY

SAFETY COMPLIANCE

UL60950-1 2nd Edition
 CSA22.2, No. 60950-1 2nd Edition
 EN60950-1 2nd Edition



CE
 LVD2006/95/EC
 ROHS2011/65/EU



FEATURES

- ◆ Hot-Swap Replacement in Shelf
- ◆ One Rack Spaces High: 1.75"
- ◆ 19-Inch or 23-Inch Rack Mounting
- ◆ 1500 VA Module Output
- ◆ 3000 VA for Two Units in 19" Shelf
- ◆ 10.5 VA per Cubic Inch Density
- ◆ 120VAC or 230VAC
- ◆ Low Distortion 50 or 60Hz Sine Wave
- ◆ 40.5 to 58 VDC Input
- ◆ Form C Alarm Output
- ◆ >89% Efficiency

INVERTER MODULES

| MODEL | OUTPUT POWER ¹ | OUTPUT VOLTS | FREQ. ² |
|-----------------------|---------------------------|--------------|--------------------|
| INV1548 ³ | 1500VA @ 0.8PF | 120VAC | 60Hz (50Hz) |
| INV1548H ³ | 1200W @ 1PF | 230VAC | 50Hz (60Hz) |

Notes:

1. If in doubt about load PF (Power Factor) assume that it is 1.0PF.
2. The frequency shown in brackets can be requested at time of order.
3. Up to 12 modules (18kVA capacity) may be used in parallel when using shelf model INVRIU2 as listed below.

INVERTER SHELVES (FOR STAND-ALONE USE)

| MODEL ¹ | OUTPUT CONNECTIONS | CIRCUIT BREAKERS | OPERATING VOLTAGE |
|----------------------|--------------------|------------------|-------------------|
| INVRIU2 ² | Bus Bars | none | 120V/230V |
| INVRIU2-LN | 2 x NEMA 5-15 | 2 x 15A | 120V |
| INVRIU2-LE | 2 x IEC320-C13 | 2 x 10A | 120V/230V |
| INVRIU2-LE20 | 1 x IEC320-C20 | 1 x 20A | 120V/230V |
| INVRIU2-LBL | 2 x Terminal Block | 2 x 15A | 120V |
| INVRIU2-LBH | 2 x Terminal Block | 2 x 10A | 120/230V |
| INVRIU2-LB20 | 2 x Terminal Block | 1 x 20A | 120/230V |
| INVRIU2-LB30 | 2 x Terminal Block | 1 x 30A | 120/230V |

Notes:

1. Module types may not be mixed in the same shelf or system.
2. Up to 6 may be connected in parallel.

INVERTER MODULE SPECIFICATIONS

Typical at 48V Input, Full Load and 25°C Unless Otherwise Noted.

INPUT

| | |
|--|--|
| Voltage Range | 40.5-58VDC |
| Undervoltage Warning Threshold | 45VDC |
| Undervoltage Threshold | 40VDC |
| Overvoltage Warning Threshold | 58VDC |
| Overvoltage Threshold | 60VDC |
| Input Current, 48VDC Input @ Full Load | |
| INV1048 | 19.0A |
| INV1548 | 28.4A |
| Input Protection | Fused Reverse Polarity Protection |
| Inrush Current | Less than 2x Rated I _{in} (IEC62040-3-1999) |
| Isolation | |
| Input to Output | Reinforced Pri-Sec, 4242VDC / 1 min. |
| Input to Ground | 707VDC (Varistor & filter caps removed) |
| Psophometric Noise Voltage | <1mV ITU-T 0.41 (16.66-6000Hz) |
| Reflected Psophometrics Noise Current | <1% YD/T 777-2006 |
| Reflected Relative Band Wide Current | <10% YD/T 777-2006 (0-2MHz) |
| Wide Band Noise | <20mVrms (25Hz-20kHz) |
| Peak to Peak Noise | <150mV up to 100MHz |

OUTPUT

| | |
|---|---|
| AC Waveform | Pure Sine Wave |
| Output Power | 1500VA @ 0.8PF or 1200W @ 1PF |
| Power Factor or Load | -0.8 to +0.8 |
| Rated Output Voltage | 120VAC or 230VAC (see model table) |
| Output Voltage Variation | <±2% |
| Output Frequency | .50Hz or 60Hz (see model table) |
| Frequency Variation | <±0.5% |
| Crest Factor | 3:1 max. |
| THD of Voltage Waveform | |
| Linear Load | <3% |
| Non-Linear Load | <5% |
| Capacitive/Inductive Load | +0.8 to +0.8 PF |
| without exceeding permissible distortion for resistive load | |
| Efficiency | >89% |
| Overload Protection | Electronic Current Limit at Overload & Short Circuit |
| 1.25 x Rated Current, Temperature Controlled | |
| 1.50 x Rated Current for Periods <20 Seconds | |
| Dynamic Response | <±10% |
| Isolation, Output to Chassis | Basic Isolation (Pri-Gnd) 2121 VDC/1 min. |
| Surge Protection | EN61000-4-5 |
| | Telcordia GR-1089 Core ANSI C62.41-IEEE, STD 587-1980 |

CONTROL/STATUS

| | |
|--------------------------|-----------------------------|
| Load Sharing | <5% of Rated Load |
| LED Indicators | |
| Inverter Status | Green OK, Red FAIL |
| Overload | Off OK, Yellow for Overload |
| Reverse Polarity | Off OK, Red for Reversed |
| Status/Alarm Information | |
| Inverter Failure | Relay, Dry Contact |

ENVIRONMENTAL

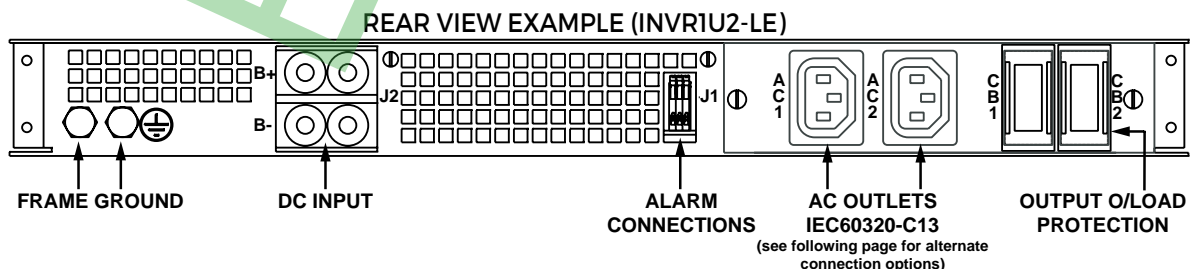
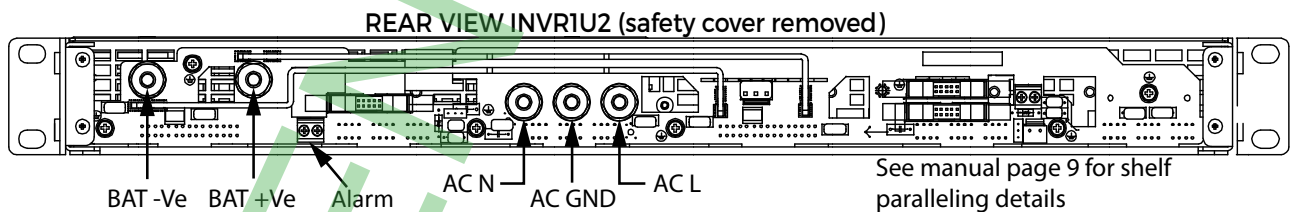
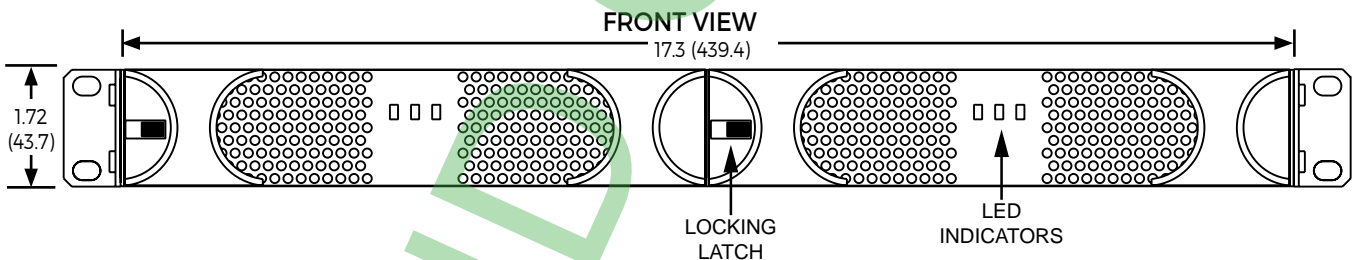
| | |
|-----------------------|--|
| Operating Temp. Range | |
| Without Derating | -5°C to 50°C |
| With Derating | -20°C to 70°C |
| Storage Temp. Range | -40°C to +85°C |
| Humidity | 0% to 95%, Non-Condensing |
| Cooling | Variable Speed Internal Fans (Field Replaceable) |

REGULATORY

| | |
|----------------|--|
| Safety | UL60950-1 2nd Ed., EN60950-1 2nd Ed., IEC60950-1 2nd Ed. |
| EMC | EN300 386:2001 Class B |
| Acoustic Noise | 55dB ETS300 753, Class 3.1 |

PHYSICAL SPECIFICATIONS (Shelf)

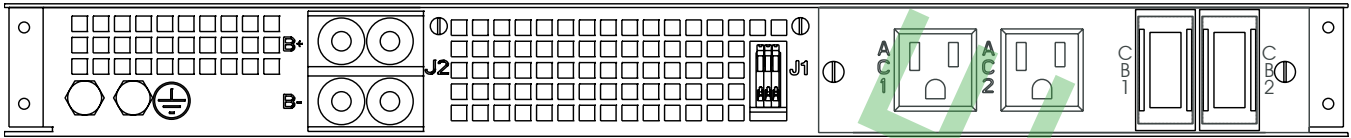
| | |
|-------------------------|--|
| Case Material | Steel |
| Dimensions, Inches (mm) | |
| Module | 1.59H x 8.46W x 10.6D (40.4 x 214.9 x 269.2) |
| Front Panel | 1.72H (43.7) |
| Shelf | 1.72H x 17.3W x 15.4"D (43.7 x 439.4 x 390.0) |
| Rack Mounting | 19" or 23", 1U High |
| Weights | |
| Module | 5.7lbs (2.6kg) |
| Shelf | 7.0lbs (3.2kg) |



SHELF CONFIGURATIONS

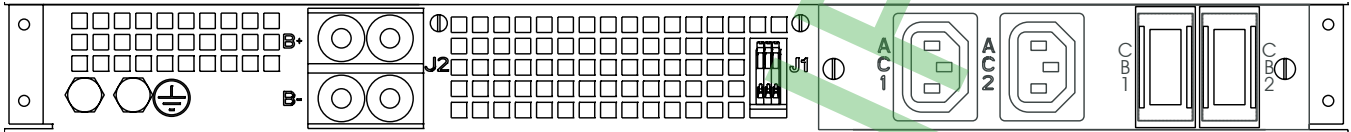
(REAR VIEWS)

INVR1U2-LN



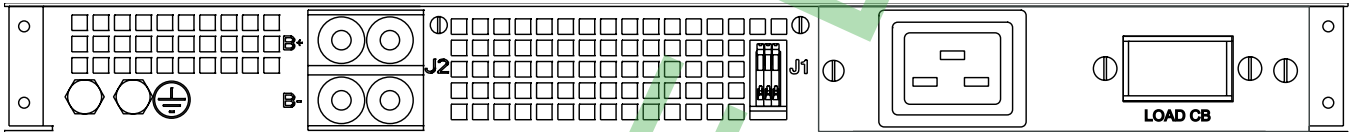
2 NEMA 5-15 load circuits protected by individual 15A circuit breakers - suitable to 120VAC operation only.

INVR1U2-LE



2 IEC60320-C13 load circuits protected by a individual 10A circuit breakers - suitable to 120VAC or 230VAC operation.

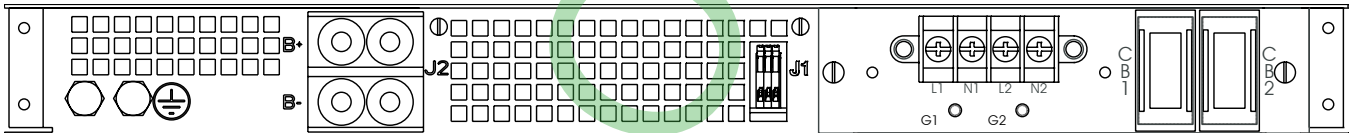
INVR1U2-LE20



1 IEC60320-C19 load circuit protected by a single 20A circuit breakers - suitable to 120VAC or 230VAC operation.

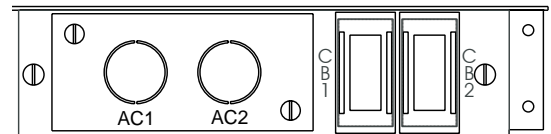
INVR1U2-LBL & INVR1U2-LBH

(Top view shown with safety cover removed to show cable terminations)



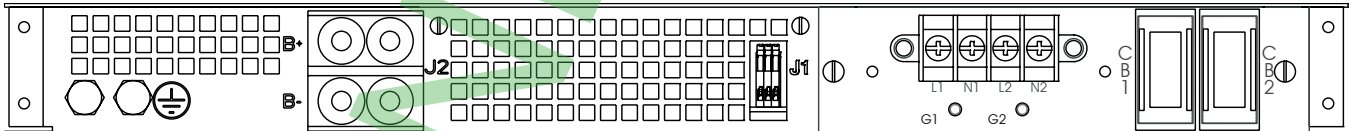
Type **LB** - 2 load circuits protected by individual 15A circuit breakers.
(suitable to 120VAC operation only)

Type **LBH** - 2 load circuits protected by individual 10A circuit breakers.
(suitable to 120VAC or 230VAC operation)



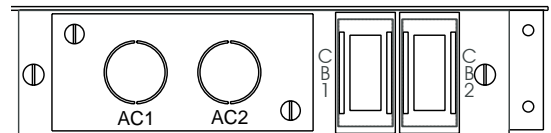
INVR1U2-LB20 & INVR1U2-LB30

(Top view shown with safety cover removed to show cable terminations)



Type **LB20** - 2 load circuits protected by a single 20A circuit breakers.
(suitable to 120VAC or 230VAC operation)

Type **LB30** - 2 load circuits protected by a single 30A circuit breakers.
(suitable to 120VAC or 230VAC operation)



INVR1U2-LB20 LOCKING CABLE KITS

| USER TERMINATION | VOLTS / AMPS | ORDER CODE |
|------------------|--------------|---------------|
| L5-20R | 120 / 20 | 775-1498-0000 |
| L6-20R | 240 / 20 | 775-1498-0020 |

INVR1U2-LB30 LOCKING CABLE KITS

| USER TERMINATION | VOLTS / AMPS | ORDER CODE |
|------------------|--------------|---------------|
| L5-30R | 120 / 30 | 775-1498-0010 |
| L6-30R | 240 / 30 | 775-1498-0030 |

