UNIPOWER
Powering Technology

SABRE LITE SERIES
3kVA HOT-SWAP INVERTERS WITH BUILT-IN Ø RU AC PDU

DESCRIPTION

UNIPOWER's SABRE LITE Series INV1048 & INV1548 are 1000VA/800W and 1500VA/1200W, sine wave, hot-swap inverter modules which are available with a number of different compatible, two-unit 19-inch shelves.

These shelves 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 these units produce either 120VAC or 230VAC nominal output. 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.

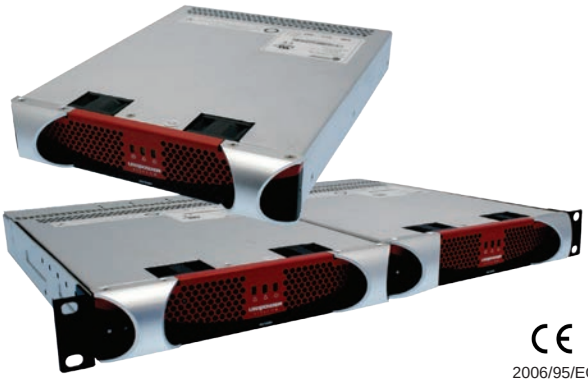
SABRE Series inverters can also be integrated with a matching Controller and Static Transfer Switch along with a Power Distribution & Maintenance By-Pass unit and multiple inverter shelves can be connected together in parallel to provide up to a maximum 18kVA output. When the controller is employed a remote communications option provides connection to a PC via TCP/IP Ethernet, USB, RS232 or RS485 serial connections.

See separate SABRE system brochure for information about these additional features.

TWO-YEAR WARRANTY

SAFETY COMPLIANCE

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



CE 2006/95/EC RoHS

FEATURES

- Hot-Swap Replacement in Shelf
- One Rack Spaces High: 1.75"
- 19-Inch or 23-Inch Rack Mounting
- 1000 or 1500 VA Module Output
- 2000 or 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]
INV1048	1000VA @ 0.8PF 800W @ 1PF	120VAC	60Hz (50Hz)
INV1048H		230VAC	50Hz (60Hz)
INV1548	1500VA @ 0.8PF 1200W @ 1PF	120VAC	60Hz (50Hz)
INV1548H		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.

INVERTER SHELVES (FOR STAND-ALONE USE)

MODEL	OUTPUT CONNECTIONS	CIRCUIT BREAKERS	OPERATING VOLTAGE
INVR1U2-LN	2 x NEMA 5-15	2 x 15A	120V
INVR1U2-LE	2 x IEC320-C13	2 x 10A	120V/230V
INVR1U2-LE20	1 x IEC320-C20	1 x 20A	120V/230V
INVR1U2-LBL	2 xTerminal Block	2 x 15A	120V
INVR1U2-LBH	2 xTerminal Block	2 x 10A	120/230V
INVR1U2-LB20	2 xTerminal Block	1 x 20A	120/230V
INVR1U2-LB30	2 xTerminal Block	1 x 30A	120/230V

Notes:
1. Module types may not be mixed in the same shelf or system.
2. For inverter systems requiring higher output capacities or 'system' level features as described opposite please consult the separate SABRE Series Systems Brochure.

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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 Iin (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
  INV1048 ..... 1000VA @ 0.8PF or 800W @ 1PF
  INV1548 ..... 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)

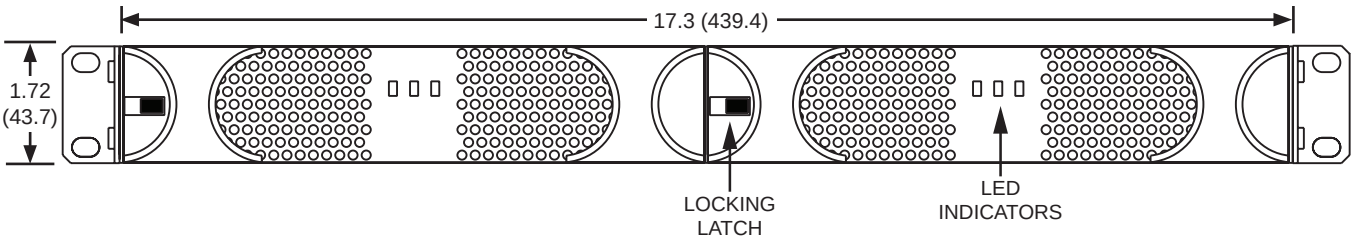
REGULATORY

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

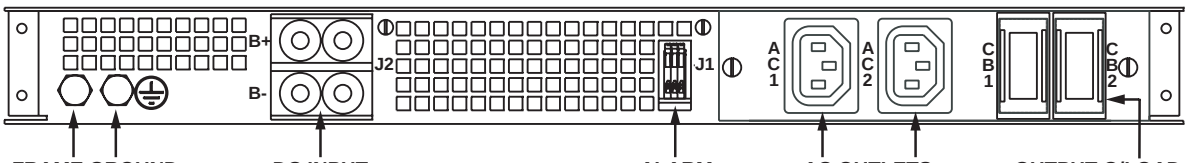
PHYSICAL SPECIFICATIONS (Shelf)

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)

FRONT VIEW



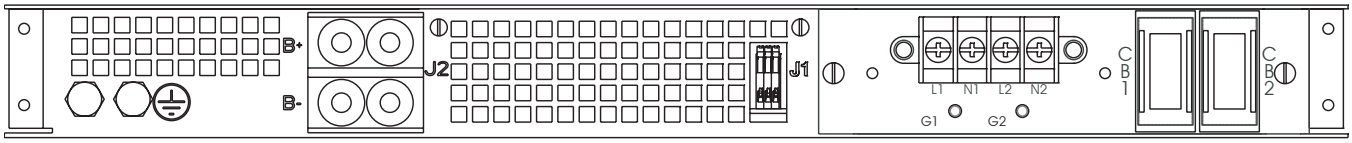
REAR VIEW EXAMPLE (INVR1U2-LE)



SHELF CONFIGURATIONS

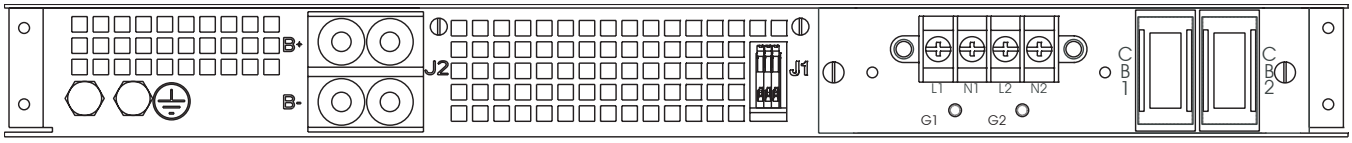
(REAR VIEWS)

INVR1U2-LN



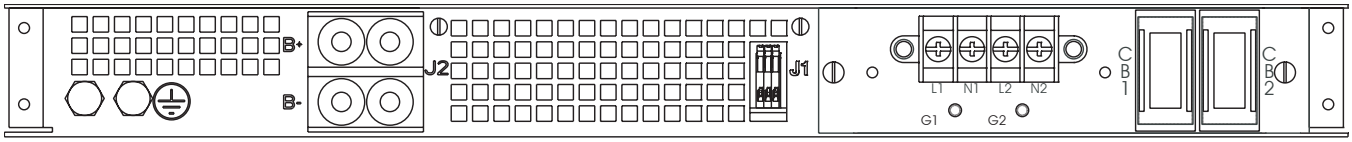
2 NEMA 5-15 load circuits protected by individual 15A circuit breakers - suitable to 120VAC operation only.

INVR1U2-LE



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

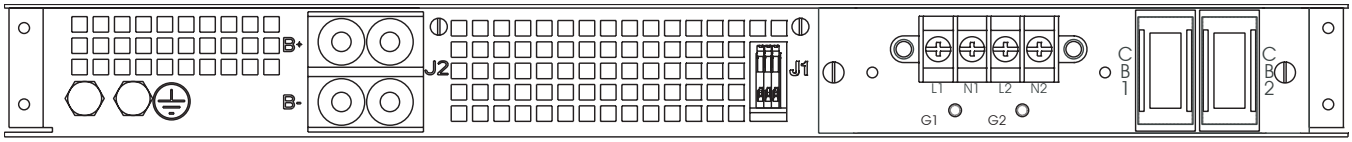
INVR1U2-LE20



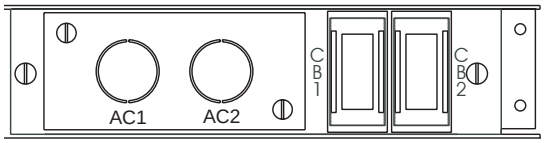
1 IEC60320-C19 load circuit protected by a single 20A circuit breakers - suitable to 120VAC or 230VAC operation.

INVR12U-LBL & INVR1U2-LBH

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

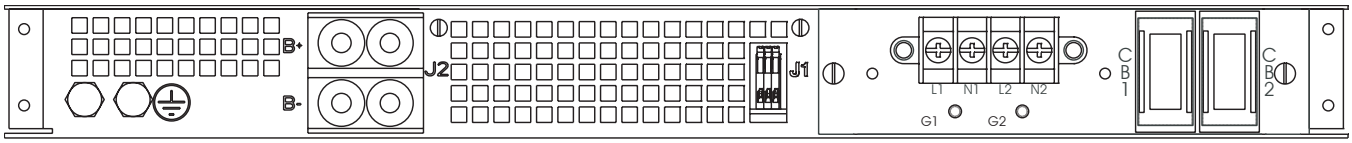


Type **LB** - 2 load circuits protected by individual 15A circuit breakers.
(suitable to 120VAC operation only)
Type **LBH** - 2 load circuits protected by individual 10A circuit breakers.
(suitable to 120VAC or 230VAC operation)

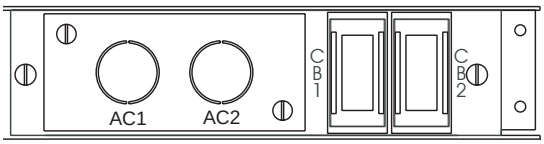


INVR1U2-LB20 & INVR1U2-LB30

(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)

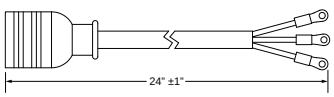


INVR1U2-LB20 LOCKING CABLE KITS

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



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NORTH AMERICA • 3900 Coral Ridge Drive, Coral Springs, Florida 33065, USA • Tel: +1-954-346-2442 • Fax: +1-954-340-7901 • Sales-NorthAmerica@unipowerco.com
EUROPE • Parkland Business Centre, Chartwell Road, Lancing, BN15 8UE, ENGLAND • Tel: +44(0)1903 768200 • Fax: +44(0)1903 764540 • Sales-Europe@unipowerco.com