

Mini-Inverter Series

Interruptible unit equipment

nexus Nexus® Pro cUL



Features

The **Mini-Inverter** is a cUL Listed stand-alone pure sine wave output inverter designed to provide power to designated emergency lighting fixtures. In a power loss situation, it will supply power from the onboard battery supply. The **Mini-Inverter** works in conjunction with incandescent, LED, and fluorescent fixture types and will automatically run switched, normally-on, or normally-off designated emergency fixtures. The **Mini-Inverter** is ideal for applications requiring an emergency source for lighting arrangements that utilize multiple lamp and fixture types and is available in surface mount and comes with a one-year warranty and nine-year pro-rata battery warranty.

- Lamps operated: Incandescent LED, fluorescent lamps and ballast combinations, including TRIAC dimmable ballasts
- High-efficiency pure sine wave inverter
- Temperature-compensated charger
- Construction: 18-gauge steel for 300W & 600W/ 14-gauge steel for 1000W & 1440W, factory white powder coat paint finish
- Emergency lighting supplied from one convenient, reliable source
- Input/output voltage 120/120V 60Hz or 347/347V 60 Hz
- Replaceable output fuse protection
- Operating temperature is 20° to 30°C (68° to 86°F)
- Line voltage allows for remote mounting of emergency fixtures at distances up to 1000 feet
- Low battery voltage disconnect
- Unit comes standard with electronic lockout and brownout circuits
- Non audible auto-diagnostic is standard
- Nexus® system interface available with an improved minimum load detection of 10%
- Standard lighting control override for 0-10V dimming systems
- Meets or exceeds the requirements of CSA 141-15
- **Consult your sales representative for:**
 - high-bay applications
 - after-market LED lamp applications
 - fixtures with a power factor less than 0.9

Load shedding for 0-10V fixtures

- During a power outage the emergency fixtures are dimmed to field selectable levels of 25%, 50% or 75% brightness output. Reducing wattage draw from the fixture will allow for more fixtures to be connected to the mini inverter
- **When using fixtures with a power factor of 0.9 or higher, ensure the mini-inverter is loaded to no more than 80% of its rated capacity**
- Maximum 100 emergency fixtures can be daisy chained per circuit

Load shedding

Mini inverter load	Voltage (V)	80% capacity of 1000W ¹	If emergency load-shedding illumination is set to:	Maximum standby mode load capacity (W)	Maximum capacity per circuit cannot exceed (W) standby mode	Minimum number of circuits to load inverter to full capacity
EMI-1000/60-4-LD	120	800W	100%	800	800	1
			75%	1067	1067	1
			50%	1600	1600	1
			25%	3200	1600	2

¹20% derating is standard load safety factor

Typical specifications

Emergency lighting shall be provided by inverter unit equipment designed to operate designated incandescent, fluorescent and LED fixtures on emergency power at their full nominal lumen rating during the full 30 minute emergency discharge cycle. System output will be rated at watts for 30 minutes and provide fused output connections to the load. The system's voltage rating shall be VAC input/output nominal. The inverter unit shall allow for fused connected emergency fixture(s) to be normally on, normally off, switched or dimmed without affecting lamp operation during a power failure.

Upon utility power loss, the inverter unit shall deliver 100% of its rated output to the emergency fixtures regardless of the local switch or dimmer (TRIAC) position, and will provide power to emergency fixtures at distances of up to 304.8m (1000 feet). The housing shall be manufactured using 18-gauge steel for 300W & 600W/ 14-gauge steel for 1000W & 1440W with a white baked-on powder coat paint finish. The unit's electronics shall include a self-contained inverter section with a fully automatic, thermalcompensating variable-rate battery charger, AC lockout feature, low battery voltage disconnect, overload, short circuit and brownout protection as standard. The unit shall utilize a sealed lead acid battery with a 10-year design life. The inverter system shall be cUL Listed and labeled. The unit shall be covered under a 1-year warranty on the electronics and battery and a 9-year pro-rata warranty on the battery. It shall meet or exceed the requirements of CSA 141-15.

Specifications

Transfer time: 400W-268ms, 600W-264ms,
1000W-540ms, 1000W/60-510ms,
1440W-510ms, 1440W/60-560ms

Voltage regulation on emergency: + 3%

Frequency regulation on emergency: 60 Hz +/- 1%

Load power factor range: 0.9 leading to 0.9 lagging

Operating temperature: 20° to 30°C (68° to 86°F)

Warranty details at: www.tnb.ca/en/brands/emergi-lite

Load shedding - fixture quantity calculation (see table below)

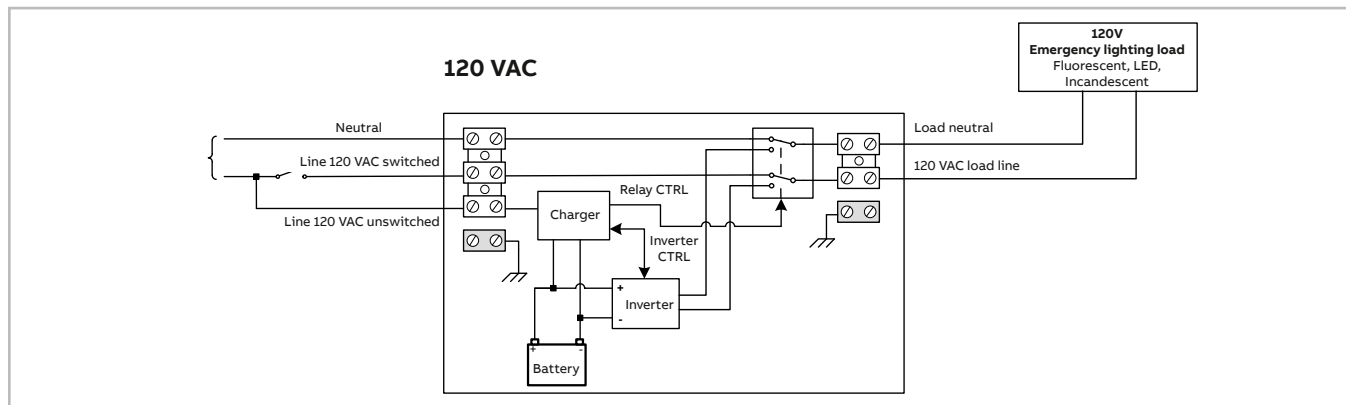
EMI-1000/60-4-LD fixture quantity calculation example:

- 120V Operation 80% capacity of 1000W= 800W
- 800W @ 100% brightness in emergency= 800W
(ex. 40W x 20 fixtures= 800W, on min. of 1 circuit)
- 800W dimmed in emergency to 75% brightness= 1067W
(ex. 40W x 26 fixtures= 1040W, on min. of 1 circuit)
- 800W dimmed in emergency to 50% brightness= 1600W
(ex. 40W x 40 fixtures= 1600W, on min. of 1 circuit)
- 800W dimmed in emergency to 25% brightness= 3200W (ex. 40W x 80 fixtures= 3200W, split across 2 circuits) (1600W maximum capacity per circuit in standby mode)

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Wiring diagram



Electrical characteristics & dimensions

Power rating	Max. input rating		Sine wave	Installation	Cabinet dimensions			No. of batteries	Weight		Weight w/o battery	
	120VAC	347VAC			W"	H"	D"		120V	347V	120V	347V
300W	3.10	N/A	Pure	Wall	27"	12.25"	7.25"	1	55 lbs	N/A	30 lbs	N/A
600W	6.00	2.30	Pure	Wall	24"	20.25"	10.5"	2	105 lbs	117 lbs	55 lbs	67 lbs
1000W	11.60	3.60	Pure	Wall	24"	20.25"	14.5"	2	150 lbs	169 lbs	70 lbs	89 lbs
1000W/60	14.00	N/A	Pure	Wall	24"	40.75"	14.5"	4	320 lbs	N/A	198 lbs	N/A
1440W	15.00	5.00	Pure	Wall	24"	20.25"	14.5"	2	190 lbs	214 lbs	75 lbs	99 lbs
1440W/60	17.60	N/A	Pure	Wall	24"	40.75"	14.5"	4	390 lbs	N/A	148 lbs	N/A

Power consumption and unit rating

Model number	AC specs	Emergency power available for load					
		30 min	1H00	1H30	2H00	4H00	
EMI-300	120VAC	3.10 Amps	300W	175W	125W	100W	50W
EMI-600	120 / 347VAC	6.00 / 2.30 Amps	600W	350W	250W	200W	100W
EMI-1000			1000W	585W	415W	330W	165W
EMI-1000/60	120VAC	14.00 Amps	1000W	1000W	1000W	778W	473W
EMI-1440	120 / 347VAC	15.00 / 5.00 Amps	1440W	842W	600W	480W	240W
EMI-1440/60	120VAC	17.60 Amps	1440W	1440W	1440W	1136W	673W

Ordering information

Series/capacity ¹	Voltages in/out	Diagnostic features	Options
EMI-300= 300W EMI-600= 600W EMI-1000= 1000W EMI-1000/60= 1000W EMI-1440= 1440W EMI-1440/60= 1440W	-1= 120/120VAC, 60 Hz -3= 347/347VAC, 60 Hz ²	Blank= Auto-Diagnostics, non-audible ¹ -U= Auto-Diagnostics, audible ¹ -NU= Diagnostics/no self-testing -NEXP= Nexus®Pro IoT ² -NEXRF= Nexus® wireless system interface ²	-4= 4 output circuits ¹ -4-LD= 4 output circuits with load shedding for 0-10V fixtures ¹ -LC= Line cord (120V only) -SAC= service alarm contact -T3= Time delay (15 minutes) -TL= Cord and twist lock plug (120V only)
Example: EMI-1440-1	¹ Available only with 600W, 1000W & 1440W	¹ Minimum load required: 10% of unit capacity ² Please consult your sales representative	¹ Available with 1000W/60 and 1440W/60 models at 120V only