

# bodine

## Unique flexibility

Emergency

Sinusoidal inverters







# A visible difference

Bodine is an award-winning solution leader. Our line of emergency lighting inverters is one reason why. Bodine inverters feature LED-compatible sinusoidal output and work with a variety of lighting and lamp types to provide code-compliant emergency illumination in settings that include commercial, retail, hospitality, educational facilities, healthcare environments and more. When normal power fails, Bodine is the visible difference you can count on.

# Unique flexibility

## Emergency backup with inverters

Bodine emergency lighting offers a range of sinusoidal output emergency lighting inverters. The inverters allow designated lighting fixtures (loads) to serve as code-compliant\* emergency lighting sources during failure of normal AC power.

Emergency lighting inverters work with a variety of lighting systems (e.g., LED, fluorescent) and lamp types (e.g., LED strip system, Edison-based, fluorescent linear, CFL). In addition, they are suitable for almost any setting, including retail, commercial, hospitality, schools and healthcare.

All Bodine emergency lighting inverters feature sinusoidal output. Sinusoidal output is characterized by low harmonic distortion and by clean power similar to that produced by utility-supplied electricity. Sinusoidal (sine wave) output, unlike square wave output, is compatible with LED systems.

Dimming is another important Bodine inverter feature and is intended for LED applications operating in emergency mode. Dimming delivers cost savings, flexibility and control. Currently, the Bodine ELI-S-10, ELI-S-100 and ELI-S-250 support dimming functionality making it possible to expand your emergency lighting coverage.

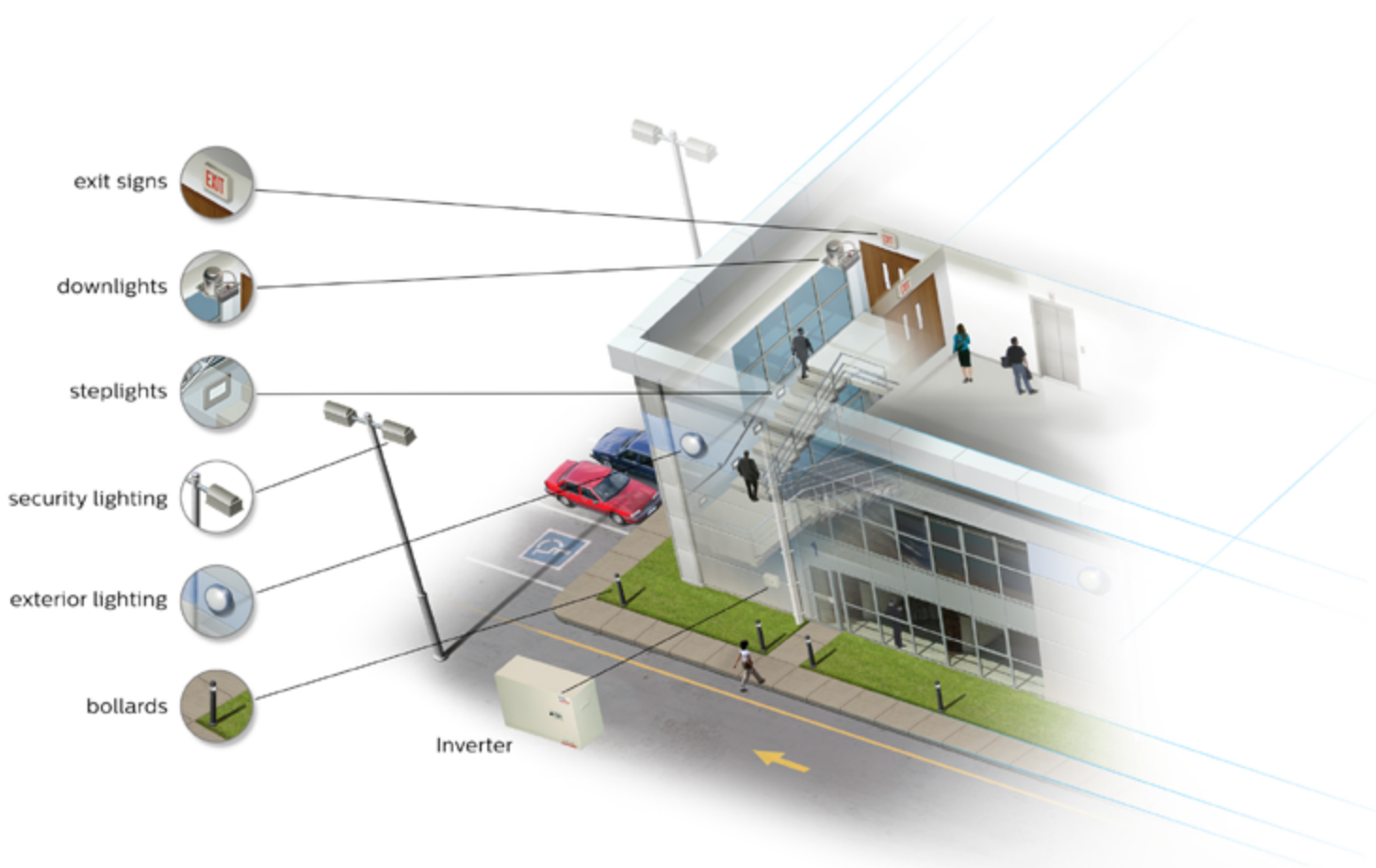
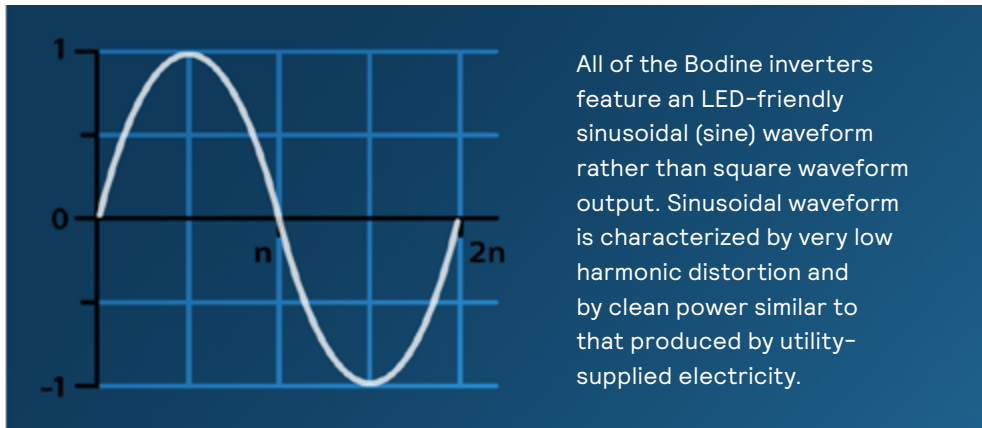
Emergency lighting inverters are an excellent choice for use with multiple fixtures and in cases where emergency LED drivers cannot be used, such as with integral-base lamps. They also offer the advantage of long-distance remote installation. Bodine emergency lighting inverters are certified for field installation.

\*See, for example, the NFPA® 101® Life Safety Code®.



# Sinusoidal Output

Bodine sinusoidal emergency lighting inverters work with a wide range of lighting applications.



The inverters are compatible with most lamps and fixture types.

# Applications

**Bodine emergency lighting inverters transform designated lighting loads into emergency lighting sources during loss of normal AC power.**



The inverters support lighting, including LED and fluorescent, for a minimum of 90 minutes as required by codes such as the NFPA® 101® Life Safety Code®. The inverters are ideal for almost any application or setting – retail, commercial, hospitality, healthcare, educational and more. Emergency Lighting offers models that are compatible with lighting loads up to 400W (ELI-S-400).

While Emergency Lighting does offer an excellent line of emergency LED drivers, inverters may be the best choice for your application. For example, in instances where multiple fixtures require support, such as a hallway or conference room, the inverter works well. Most Bodine inverters will supply multiple fixtures.

For the latest product updates,  
please visit: [www.bodine.com](http://www.bodine.com)



The inverter is also the best choice when emergency drivers simply cannot be used. This is the case with integral-base lamps, as an emergency LED driver cannot be wired in.

# ELI-S-10 inverter

The ELI-S-10 inverter is a battery-powered backup device that provides emergency power to a connected lighting load up to 10W.

The Bodine ELI-S-10 10W emergency lighting inverter is technology that fits. The 10VA unit's size helps simplify installation and provide flexibility. Two models are available: a conduit version and a non-conduit version.

ELI-S-10 allows you to dim a higher power fixture to 10VA automatically in emergency mode. You won't need a large inverter to work with your 100W fixture, and no dip switches need to be set.

ELI-S-10 works in applications when a standard emergency LED driver will not, such as with an LED screw-base lamp or a tunable white luminaire with limited access to the complete light engine for emergency illumination.

The inverter is UL Listed and California Energy Commission (CEC) Title 20 compliant for use in California.

## Features and Benefits

- Fused output load connections
- Works with LED and fluorescent fixtures
- Ideal for (but not limited to) screw-base LED lamps
- Auto select feature reduces wiring errors
- Compatible with AC (line voltage) driven TLED lamps

## Product Specifications

### UL listed for US and Canada

Listed to UL924 and tested to CSA 22.2, No.141  
For Field or Factory Installation (Indoor and Damp)

Output Load	Runtime	Voltage
10W, 10 VA max	90 minutes	120 or 277

### Battery type

Maintenance-Free Li-ion Battery

### Dimensions

15.34" L x 2.25" W x 1.16" H (mounting center 15.0")

### Warranty

5 year (not pro-rata)

### Temperature rating (ambient)

32° F to 122° F (0° C to 50° C)

### Remote mounting

Up to 250 feet

### Special feature

Sine wave output, transfer time - 1ms



ELI-S-10 includes auto select (120 or 277 VAC) to help reduce wiring errors.





ELI-S-10 is technology that fits! It's small form factor allows it to be utilized in applications where space is at a premium.

# ELI-S-20 inverter

The ELI-S-20 inverter is a battery-powered backup device that provides emergency power to a connected lighting load up to 25W.

The Bodine ELI-S-20 25W emergency lighting inverter transforms LED and fluorescent fixtures into code-compliant emergency lighting. ELI-S-20 is ideal for a variety of LED applications and a superior choice for office, retail, hospitality and similar spaces.

The ELI-S-20 inverter provides emergency power to a connected lighting load up to 25W. When normal power fails, it immediately begins supplying emergency power and will continue to support the connected load for a minimum of 90 minutes. Upon restoration of normal power, the device automatically returns to the charging mode, and the inverter battery is fully restored in 24 hours. A solid-state low voltage disconnect circuit protects the battery during prolonged power failures.

ELI-S-20 allows fixtures to be on, off, switched or dimmed. It supports 100% of AC rated output throughout its 90-minute runtime so fixtures operate at full brightness during emergency operation. The device provides power to the input side of the fixture, including the ballast.



ELI-S-20 includes auto select (120 or 277 VAC) to help reduce wiring errors.

## Features and Benefits

- Fused output load connections
- Works with LED and fluorescent fixtures
- Ideal for (but not limited to) screw-base LED lamps
- Auto select feature reduces wiring errors
- Compatible with AC (line voltage) driven TLED lamps

## Product Specifications

### UL listed for US and Canada

UL listed for 25W, CSA certified for 20W  
UL924 emergency lighting compliant

Output Load	Runtime	Voltage
25W, 25 VA max	90 minutes	120 or 277

### Battery type

High-temperature, maintenance-free, nickel-cadmium battery

### Dimensions

16.6" x 2.8" x 2.85" (mounting center - 16.05")

### Warranty

5 year (not pro-rata)

### Temperature rating (ambient)

32° F to 122° F (0° C to 50° C) for 20W  
32° F to 113° F (0° C to 45° C) for 25W

### Remote mounting

Up to 250 feet

### Special feature

Sine wave output, transfer time - 1ms



ELI-S-20 is the ideal emergency backup for a variety of LED applications and a superior choice for office, retail, hospitality and similar spaces.

# ELI-S-100 inverter

ELI-S-100's sinusoidal output and dimming feature delivers cost-savings, flexibility and control in LED applications.

The dimming capability allows a higher power fixture to operate at a dimmed (100W maximum) emergency-mode level. This eliminates reliance on a high power inverter to run the fixture.

Alternately, ELI-S-100 allows a string of multiple fixtures to be driven in emergency mode at a combined 100W maximum. For example, four 100W LED fixtures may be connected to one ELI-S-100 and dimmed for emergency operation to 20% of normal power, with each LED fixture supplying 20W of output power (20W x 4 = 80W).\*

The ELI-S-100 provides a dimming control output of 2-10 volts, and the emergency-mode dimming voltage is field-settable in five steps to provide nominally 20%, 40%, 60%, 80% or 100%. The dimming feature requires a dimming AC driver.

The ELI-S-100 provides emergency output power of 100W maximum and supports the lighting load for a minimum of 90 minutes. While the ELI-S-100 works with both fluorescent and LED lighting, it offers two important features for LED applications: dimming capabilities and sinusoidal output.



## Features and Benefits

- Automatic output voltage select
- Automatic dimming (0 to 10V) of connected load
- Adjustable maximum dim setting
- Works with LED and fluorescent fixtures
- Ideal for (but not limited to) screw-base LED lamps
- Compatible with AC (line voltage) driven TLED lamps
- Remote-mounting up to 250 feet maximum
- Meets CEC Title 20 efficiency standards

## Product Specifications

### UL listed for US and Canada

UL924 emergency lighting compliant – field Install (indoor/damp)  
Output Class 2 Compliant

Output load	Runtime	Voltage
100W, 100 VA	90 minutes	Automatic Output Voltage Select

### Battery type

Maintenance-free sealed lead calcium

### Dimensions

12.6" x 9.8" x 4.7" (319 x 249 x 119 mm)

### Warranty

5 year full coverage (not including battery)  
3 year battery warranty, plus 7 years additional pro-rata

### Temperature rating (ambient)

32° F to 104° F (0° C to 40° C)

### Remote mounting

Up to 1,000 feet

### Special feature

Sine wave output, transfer time – 1ms

\* Dimming drivers are less efficient at reduced power. This inefficiency must be accounted for in the design.



**120**  
Volt

**277**  
Volt

**Output voltage automatically selected**

The ELI-S-100 outputs 120 VAC or 277 VAC in emergency mode by automatically detecting the input voltage.

# ELI-S-250 inverter

The ELI-S-250 has the unique ability to adjust the emergency light output of connected luminaires during a power outage by means of the (0-10Vdc) dimming control interface.

The ELI-S-250 features an auto-sensing dimming control output with an industry standard 0-10 Volts. This automatic dimming capability allows a group of multiple luminaires to be driven in emergency mode at a combined 250W maximum input power.\*

The ELI-S-250 is programmed to sense and calculate the necessary output needed to illuminate the connected fixtures, without the use of pre-set dip switches. For example, ten 100W (input) dimmable LED fixtures may be connected to one ELI-S-250 and automatically dimmed in emergency operation to a combined total of 250W. This would allow approximately 25W of power consumption for each luminaire. The 250W output power level is internally sensed and maintained throughout the emergency situation for 90 minutes minimum. The 0-10V room dimmer controls, where used, are passed through the ELI-S-250 during normal, non-emergency conditions so normal dimming operations are not affected.

In the event of normal AC power failure, the ELI-S-250 provides emergency power to the connected lighting luminaires for a minimum of 90 minutes. A low battery-voltage disconnect circuit protects the inverter batteries from deep-discharge damage during prolonged power outages. When power is restored the ELI-S-250 returns to normal battery-charging mode and the batteries are fully restored within 24 hours.



In normal conditions the total power of the connected luminaires can be up to 1,000 Watts.

\* AC input power is always more than the LED or fluorescent output power rating. Additionally, LED drivers and fluorescent ballasts operate at a lower input-to-output power ratio in a dimmed condition than they do when operated at full brightness level.

\*\* Output Voltage is automatically selected.

## Features and Benefits

- Sinusoidal (sine wave)
- Automatic output voltage select
- Auto dimming (0 to 10V) of connected load
- 250 Watts power maximum output
- Compatible with AC (line voltage) driven TLED lamps

## Product Specifications

### UL listed for US and Canada

UL924 emergency lighting compliant – field Install (indoor/damp)

Output voltage**	Runtime	AC input voltage
120 VAC +/- 10%, or 277 VAC +/- 10%	90 minutes	120 VAC, 60 Hz or 277 VAC, 60 Hz

### Battery type (2 ea. required)

12V (nominal), 35Ah maintenance-free sealed lead acid battery

### Dimensions

12.0" H x 12.5" W x 10.0" D (317 x 305 x 254 mm)

### Warranty

5 year full coverage (not including battery)

3 year battery warranty, plus 7 years additional pro-rata

### Temperature rating (ambient)

68° F to 86° F (20° C to 30° C)

### Total connected output load

Dimmable lighting loads, Input power 800W maximum.

Non-dimmable lighting loads, input power 250W maximum.

### Maximum output power

250W into load PF +/- 0.90 (280 VA)

### Weight

Enclosure and Electronics only: 16 lbs. (7.26 Kg)

Batteries, 25 lbs. ea., total: 50 lbs. (22.6 Kg)

### Remote mounting

Up to 1,000 feet

### Special features

Automatic dimming of connected lighting with industry standard 0-10Vdc interface





The ELI-S-250 may be installed up to 1,000 feet from the emergency fixture.

# ELI-S-400 inverter

The battery-powered unit supports LED, fluorescent and incandescent lighting for 90 minutes.

The Bodine ELI-S-400 emergency lighting inverter delivers up to 400W of supplemental power to emergency lighting fixtures whenever normal AC power fails.

The inverter, which operates LED, fluorescent and incandescent lighting, provides a code-compliant 90-minute runtime (see NFPA® 101® Life Safety Code®). The ELI-S-400, like all other Bodine inverters, features LED-friendly sinusoid output and is UL Listed for field installation.

The ELI-S-400 emergency lighting inverter is a battery-powered unit that supports lighting for 90 minutes during loss of normal AC power. The inverter immediately senses the loss and begins supplying power to the designed lighting load. Transfer time from utility to inverter is one millisecond.

Bodine sinusoidal line voltage inverters, like the ELI-S-400, are a great choice for LED lighting. Sine wave output is characterized by low harmonic distortion and by clean power similar to that produced by utility-supplied electricity, conditions that are ideal for LED applications. The ELI-S-400 supports 400 VA of emergency illumination for a minimum of 90 minutes.



## Features and Benefits

- Sine wave output
- 400W power maximum
- Transfer time (1 ms)

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## Product Specifications

### ETL listed for US and Canada

UL924 emergency lighting compliant

### Output load

400W, 400 VA,  $\pm 0.5$  pF minimum

Load power factor capability is 0.5 lag to 0.5 lead not to exceed maximum VA rating

Runtime	Voltage
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90 minutes	120 or 277
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### Battery type

Maintenance-free sealed lead calcium

### Dimensions

22" x 8" x 16" (mounting center - 16.05")

### Warranty

Unit - 3 year full coverage;

Battery - 1 year full, 4 year pro-rata

### Temperature rating (ambient)

68° F to 86° F (20° C to 30° C)

### Remote mounting

Up to 1,000 feet

### Special feature

Sine wave output, transfer time 1ms





**A solid-state low voltage disconnect circuit protects the inverter battery from severe damage by deep discharge during prolonged power failures.**

# Sinusoidal Inverters

Bodine sinusoidal emergency lighting inverters support a variety of lighting loads. All are certified for field installation. Please see product specification sheets for more information on each inverter.



## ELI-S-10

Sinusoidal (sine wave) output  
Dimming output feature  
10 watts power  
Auto select 120 or 277 VAC

### UL listed for US and Canada

Listed to UL924 and tested to CSA 22.2. No. 141  
For field installation (indoor/damp)

### Illumination time

90 Minutes

**Maximum load power** (including AC ballast/driver)  
10W, 10 VA (0°C to 50°C)

### Full warranty

5 year (not pro-rata)

### AC input voltage

120 or 277 VAC, 60 Hz

### Output voltage

120/277 VAC (Auto Select), 60Hz

### Output current

120 V, 83.3 mA & 277 V, 36 mA

### Test Switch

Single pole (momentary)

### Battery

Maintenance-free li-ion battery  
7 to 10 year life expectancy

### Recharge time

24 Hours

### Charging indicator light

LED

### Temperature rating (ambient)

32° F to 122° F (0° C to 50° C) for 10W

### Dimensions

15.34" x 2.25" x 1.16" (390 x 57 x 29 mm)

### Weight

3.45 lbs. (1.56 kg)



## ELI-S-20

Sinusoidal (sine wave) Output  
Code-compliant 90-min runtime  
20 or 25 watts power  
Auto select 120 or 277 VAC

### UL listed for US and Canada

Listed to UL924 and tested to CSA 22.2. No. 141  
For field installation (indoor/damp)

### Illumination time

90 Minutes

**Maximum load power** (including AC ballast/driver)  
20W, 20 VA (0°C to 50°C) UL and CSA  
25W, 25 VA (0°C to 45°C) UL only

### Full warranty

5 year (not pro-rata)

### AC input voltage

120 or 277 VAC, 60 Hz

### AC input current

90 mA

### AC input power rating

9.5 W

### Output voltage

120/277 VAC (Auto Select), 60Hz

### Output current

120 V, 165 or 210 mA & 277 V, 72 or 90 mA

### Test Switch

Single pole (momentary)

### Battery

High-temperature  
Maintenance-free nickel-cadmium battery  
7 to 10 year life expectancy

### Recharge time

24 Hours

### Battery charging current

250 mA

### Charging indicator light

LED

### Temperature rating (ambient)

32° F to 122° F (0° C to 50° C) for 20W  
32° F to 113° F (0° C to 45° C) for 25W

### Dimensions

16.6" x 2.8" x 2.85" (422 x 71 x 71 mm)

### Weight

5 lbs. (2.3 kg)



## ELI-S-100

Sinusoidal (sine wave) output  
Dimming output feature  
100 watts power maximum  
Auto select 120 or 277 VAC

### UL listed for US and Canada

Listed to UL924 and tested to CSA 22.2. No. 141  
For field installation (indoor/damp)

### Illumination time

90 Minutes

**Maximum load power** (including AC ballast/driver)  
100W, 100 VA ± 0.9 pF

### Full warranty

Unit - 5 year full coverage  
Battery - 3 year plus 7 year additional pro-rata

### AC input voltage

120 VAC, 60 Hz

### AC input current

370 mA max charge

### AC input power rating

45W max charging

### Output voltage

120 or 277 VAC, 60Hz, automatically selected

### Output current

Maximum output 100VA  
Minimum load P.F. +/- 0.75

### Charging Indicator Light/Test Switch

Integrated LED/test switch

### Battery

Maintenance-free sealed lead acid battery

### Recharge time

24 Hours

### Charging indicator light

LED

### Temperature rating (ambient)

32° F to 104° F (0° C to 40° C)

### Dimensions

12.56" x 9.81" x 4.68" (319 x 249 x 119 mm)

### Weight

25 lbs. (11.34 kg) with batteries installed

### Special features

Fused Output Load Connections  
Battery Quick Connect Dimming Output Feature



### ELI-S-250

Sinusoidal (sine wave) output  
 Dimming output feature  
 250 watts power maximum  
 Auto select 120 or 277 VAC

#### UL listed for US and Canada

Listed to UL924 and tested to CSA 22.2. No. 141  
 For field installation (indoor/damp)

#### illumination time

90 Minutes

#### Total connected output load

Dimmable lighting loads, Input power 1000W Maximum.  
 Non-Dimmable lighting loads, Input power 250W Maximum.

#### Maximum output power

250W into load PF +/- 0.90 (280 VA)

#### Full warranty

5 year (not including batteries)  
 Battery - 3 year plus 7 year additional pro-rata

#### AC input voltage

120 VAC, 60 Hz or 277 VAC, 60 Hz

#### Battery (2 ea. required)

12V (nominal), 35Ah  
 Maintenance-Free Sealed Lead Acid Battery

#### Recharge time

24 Hours Charging Indicator Light / Test Switch  
 2W-ITS (Integrated LED / Test Switch)

#### Charging indicator light / test switch

2W-ITS (Integrated LED / Test Switch)

#### Output voltage, automatically selected

120 VAC +/- 10%, or 277 VAC +/- 10%

#### Temperature rating (ambient)

68° F to 86° F (20° C to 30° C)

#### Dimensions

12.0" H x 12.5" W x 10.0" D  
 (317mm x 305mm x 254mm)

#### Weight

Enclosure and Electronics only: 16 lbs. (7.26 kg)  
 Batteries, 25 lbs. ea., Batteries total: 50 lbs. (22.6 kg)

#### Special features

Auto-Sensing Emergency Light Output  
 Remote Install Up to 1,000 Feet



### ELI-S-400

Sinusoidal (sine wave) output  
 Code-compliant 90-min runtime  
 400 watts power maximum  
 Transfer time - 1 ms

#### ETL Listed for US and Canada

UL924 Emergency Lighting Compliant  
 Field Installation

#### illumination time

90 Minutes

#### Maximum output power

400W, 400 VA ± 0.5 pF minimum

#### Full warranty

Unit - 3 year full coverage  
 Battery - 1 year full, 4 year pro-rata

#### Input

- Input voltage: 120 or 277VAC
- Maximum input current: 5.8 A (120V), 2.6 A (277V)
- Input frequency: 60 Hz
- Synchronizing slew rate: 1 Hz per second nominal
- Input surge protection: Meets UL 924

#### Output

- Output voltage: 120 or 277VAC, 60Hz
- Output regulation: (static) ± 5% based on a 0-100% resistive load
- Output distortion: Less than 3% THD linear load
- Load Power Factor: .5 lag to .5 lead
- Output frequency: Normally, synchronized to utility, ± 2 Hz during emergency
- Overload: 150% for five seconds
- Time to transfer to inverter after utility power failure: 1 ms.

#### Battery type

Maintenance-free sealed lead calcium

#### Recharge time

72 hours (meets UL924)

#### Battery protection

Automatic low-battery voltage disconnect and reverse polarity protection  
 Automatic restart upon utility return.

#### Temperature rating (ambient)

68°F to 86°F (20°C to 30°C)

#### Relative humidity

95% non-condensing

#### Dimensions

22"W x 8"D x 16"H (559 x 203 x 406 mm)

#### Weight

132 lbs (59.9 kg)

