



Emergency Lighting Solutions



Emergency LED Drivers and Ballasts
IIS Series Mini and Micro Inverter Systems
Energy-Saving Switching Control Devices



Whose Lives Are Counting On You?

IOTA Emergency Lighting Solutions help you bridge the critical gulf between Life Safety and functional lighting performance. Our innovations in emergency lighting design are engineered to confidently achieve the egress safety requirements you need to make your lighting projects a success for the reasons that matter most.





LED Emergency Drivers

IOTA's patented Constant Power ILB-CP emergency drivers combine powerful, non-diminishing emergency illumination with versatile driver and array compatibility for both field and factory installations. • [Page 6](#)



Emergency Ballasts for Fluorescent and LED Retrofit

Our emergency battery pack designs keep pace with today's evolving lighting demands and offer solutions for both standard fluorescent installations as well as popular energy-efficient LED retrofit tube lamp technology. • [Page 18](#)



Emergency Unit Inverters

IOTA IIS Series Mini and Micro Inverter solutions deliver full light output for virtually any interior or exterior lighting load from a single convenient auxiliary supply. • [Page 32](#)



Energy-Saving Emergency Control Devices

Increase energy savings by eliminating night-lights and always-on fixtures with IOTA ETS control devices. Utilize sensors, controls, and switches on designated emergency circuits without compromising occupant safety. • [Page 40](#)





Delivering Solutions by Understanding Your Project Demands

IOTA emergency lighting products are shaped by our extensive industry insight and expertise to ensure confident results for your lighting applications. Our understanding of Life Safety requirements and evolving technology is your resource for meeting your lighting project objectives.



LED Retrofit

Updating your existing lighting with LED technology? Emergency requirements will differ depending on the nature of your LED selection. Whether replacing fluorescent lamps with new LED tubes or inserting an entire LED retrofit kit into your fixture, IOTA can provide the optimal emergency solution you need. IOTA offers UL Listed emergency ballasts for qualified replacement LED tubes, field-install emergency drivers for Class 2 systems, and unit inverters for internal-driver lamps or chip-on-board array designs.

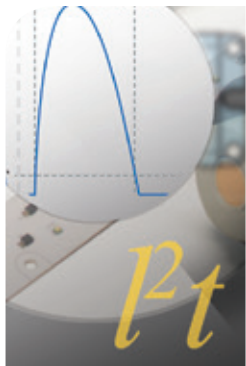
LED Retrofit Solutions - pg 30



CEC Compliance

Recent energy standards by the California Energy Commission (CEC) promote more sustainable utility practices by reducing unnecessary power consumption in lighting systems. IOTA has developed a unique micro-processor design that meets these efficiency standards without compromising emergency lighting performance. Look for the "HE" (high-efficiency) designator to identify IOTA emergency products that are registered with the CEC as qualified for use in the State of California.

Emergency Drivers - pg 10 Emergency Ballasts - pg 20 Inverter Systems - pg 35



NEMA 410

NEMA 410 guidelines help specifiers and electricians determine proper operation of all components in their LED lighting systems. Several IOTA emergency products are carefully qualified to NEMA 410 standards for handling increased in-rush in LED applications. IOTA's NEMA 410 products include IIS Inverter solutions as well as the ETS and ETS-20 emergency control devices for providing switching control on designated emergency LED loads.

Inverter Systems - pg 35 Auxiliary Control Devices - pg 42



Outdoor Paths of Egress

Outdoor paths of egress are an often-overlooked aspect of emergency lighting. Sufficient lighting must be provided so that occupants can reach a safe distance when exiting during an emergency. IOTA solutions for these harsher outdoor conditions include emergency battery packs with built-in protection against freezing and IIS Unit Inverters that can install indoors and remotely operate outdoor fixtures up to 1000 feet away.

Emergency Drivers - pg 13 **Emergency Ballasts** - pg 26 **Inverter Systems** - pg 37



Power Over Ethernet Solutions

IOTA's revolutionary PoE emergency LED drivers provide critical Life Safety egress lighting for today's intelligent Power-over-Ethernet systems. IOTA PoE-CP12 drivers balance the sophisticated data and power requirements of PoE and IoT projects with Life Safety and NEC code compliance...delivering peace of mind for building occupants and confident performance for project designers.

Emergency Drivers - pg 14



Extended Run-times

Applications such as elevators or FEMA safe-room installations typically require emergency lighting run-times that extend beyond the standard 90-minute operation dictated by the Life Safety Code. IOTA IIS Inverters can extend run-times to meet these requirements simply by balancing the connected load size with the battery capacity. Additionally, IOTA offers both emergency LED driver and fluorescent emergency products for select two-hour performance applications.

Emergency Drivers - pg 12 **Inverter Systems** - pg 39



Dimming and Energy Savings

Lighting controls deliver both energy-saving benefits as well as personalization of your lighting space...and with IOTA control devices and product features, you can expand those benefits to accommodate your emergency lighting. IOTA's ETS models eliminate the excessive power consumption of Always-On fixtures by allowing the use of switches or occupancy sensors on designated emergency loads. Dimming relay options on IOTA IIS Inverters enable the use of 0-10Vdc dimming features on your emergency circuit.

Inverter Systems - pg 36 **Auxiliary Control Devices** - pg 43-44

Questions about a particular project requirement? Our Sales and Customer Support Team can provide you with any additional guidance you may need in selecting the right emergency lighting solution...call us at 1-800-866-4682.





Emergency LED Drivers

IOTA's ILB-CP Series Emergency LED Drivers add confident emergency functionality to a wide range of LED luminaires. Combining patented Constant Power performance and auto-sensing Class 2 voltage output with wattages from 5 to 20 watts, the ILB-CP Series provides a versatile and simplified solution for a variety of LED designs.





- **Superior Performance with True Constant Power**

IOTA's patented Constant Power design provides the same wattage to the LED array for the entire emergency run-time, resulting in no degradation of illumination while in the emergency mode.

- **UL Listed for both Field and Factory Installation**

The ILB-CP Series paved the way for field installation LED emergency drivers and are UL 924 Listed, UL Classified to FTBV in accordance with project, as-installed code requirements.

- **Versatile Compatibility with Auto-Sense Class 2 Output**

The Auto-Sense 10-60Vdc Class 2 output of the ILB-CP Series will automatically adjust to match the forward voltage requirements of the LED array, simplifying the specification process and eliminating unnecessary output voltage SKUs.

- **Universal Voltage Input**

The ILB-CP Series features two-wire input that accepts voltages from 120 to 277 Vac, 50/60Hz, simplifying wiring and reducing installation errors.

- **RoHS Compliant**

IOTA's emergency LED drivers are responsibly designed and manufactured to RoHS standards for minimal environmental impact.



True Constant Power Performance

IOTA's patented Constant Power design provides the same wattage to the LED array for the entire emergency runtime, resulting in no degradation of illumination while in the emergency mode.

ILB-CP05

5 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
2.7 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
0.5A (@10Vdc) - 0.08A (@60Vdc)

Output Power (constant)
5 Watts

Power Factor
≥ 0.9

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 3.0 lbs.
(-B, -TM) 2.5 lbs.
(-J, -RJ) 2.75 lbs.

Approval
UL and cUL Listed
for field and factory installation.

Dimensions
9.5" x 2.4" x 1.5"
(mounting center 9.0")

ILB-CP07

7 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
3.5 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
0.7A (@10Vdc) - 0.12A (@60Vdc)

Output Power (constant)
7 Watts

Power Factor
≥ 0.9

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 3.0 lbs.
(-B, -TM) 2.5 lbs.
(-J, -RJ) 2.75 lbs.

Approval
UL and cUL Listed
for field and factory installation.

Dimensions
13.0" x 2.2" x 1.25"
(mounting center 12.6")

*Length is 13.3" for "TM" Configuration

ILB-CP10

10 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
3.7 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
1.0A (@10Vdc) - 0.16A (@60Vdc)

Output Power (constant)
10 Watts

Power Factor
≥ 0.9

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 4.0 lbs.
(-B, -TM) 3.5 lbs.
(-J, -RJ) 3.75 lbs.

Approval
UL and cUL Listed
for field and factory installation.

Dimensions
13.3" x 2.375" x 1.5"
(mounting center 12.75")

-B: 13.0" x 2.2" x 1.25"
(mounting center 12.6")

ILB-CP12

12 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
3.7 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
1.2A (@10Vdc) - 0.2A (@60Vdc)

Output Power (constant)
12 Watts

Power Factor
≥ 0.9

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 4.0 lbs.
(-B, -TM) 3.5 lbs.
(-J, -RJ) 3.75 lbs.

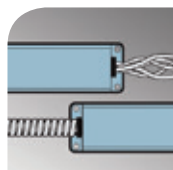
Approval
UL and cUL Listed
for field and factory installation.

Dimensions
13.3" x 2.375" x 1.5"
(mounting center 12.75")

-B: 13.0" x 2.2" x 1.25"
(mounting center 12.6")

Designed for Superior Performance

IOTA Emergency Lighting Products are engineered and manufactured for reliable performance in your egress applications...see Page 16 for more product details.



Versatile mounting design options



Single-piece charge indicator and test switch accessory



Rated for damp locations, enclosed & gasketed fixtures



Galvanized steel construction



RoHS-Compliant



5-Year Warranty



Slim Profile

IOTA's Slim Profile "SL" emergency drivers feature the same performance as IOTA's other field-install constant power solutions, but feature a narrow enclosure for installations with limited compartment space.



EMERGENCY LED DRIVERS

ILB-SL-CP05

5 WATT OUTPUT

Input Voltage

120-277VAC, 50/60Hz

Input Rating

2.7 Watts (max)

Output Voltage Range

10-60VDC Class 2 Compliant

Output Current

0.5A (@10Vdc) - 0.08A (@60Vdc)

Output Power (constant)

5 Watts

Power Factor

≥ 0.9

Emergency Operation

90 minutes

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.4 lbs.

Approval

UL and cUL Listed
for field and factory installation.

Dimensions

16.5" x 1.54" x 1.2"
(mounting center 16.07")

Slim Profile

ILB-SL-CP07

7 WATT OUTPUT

Input Voltage

120-277VAC, 50/60Hz

Input Rating

3.5 Watts (max)

Output Voltage Range

10-60VDC Class 2 Compliant

Output Current

0.7A (@10Vdc) - 0.12A (@60Vdc)

Output Power (constant)

7 Watts

Power Factor

≥ 0.9

Emergency Operation

90 minutes

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.0 lbs.

Approval

UL and cUL Listed
for field and factory installation.

Dimensions

22.44" x 1.2" x 1.2"
(mounting center 22.0")

Slim Profile

ILB-SL-CP10

10 WATT OUTPUT

Input Voltage

120-277VAC, 50/60Hz

Input Rating

3.7 Watts (max)

Output Voltage Range

10-60VDC Class 2 Compliant

Output Current

1.0A (@10Vdc) - 0.16A (@60Vdc)

Output Power (constant)

10 Watts

Power Factor

≥ 0.9

Emergency Operation

90 minutes

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.5 lbs.

Approval

UL and cUL Listed
for field and factory installation.

Dimensions

24.17" x 1.2" x 1.2"
(mounting center 23.78")

Slim Profile

ILB-SL-CP12

12 WATT OUTPUT

Input Voltage

120-277VAC, 50/60Hz

Input Rating

3.7 Watts (max)

Output Voltage Range

10-60VDC Class 2 Compliant

Output Current

1.2A (@10Vdc) - 0.2A (@60Vdc)

Output Power (constant)

12 Watts

Power Factor

≥ 0.9

Emergency Operation

90 minutes

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.5 lbs.

Approval

UL and cUL Listed
for field and factory installation.

Dimensions

24.17" x 1.2" x 1.2"
(mounting center 23.78")

Slim Profile



The "Original" Slim Profile Solution...

IOTA's Slim Profile "SL" emergency drivers were the first constant power and field-installable solutions to feature a narrow, galvanized steel enclosure for installations with limited compartment space. The innovative design merited selection of the ILB-SL-CP12 for the 2014 IES Progress Report. Although designed for integral installation, SL models can also be top-mounted when used in conjunction with the TMK-ISL mounting accessory.

ILB-CP-HE and SD Series High-Efficiency and Self-Diagnostics



High-Efficiency Design

IOTA's unique "HE" high-efficiency micro-processor designs minimizes power consumption in the standby mode to meet California Energy Commission (CEC) standards.



ILB-CP05-HE

5 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
2.3 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
0.5A (@10Vdc) to
0.08A (@60Vdc)

Output Power (constant)
5 Watts

Power Factor
≥ 0.9 @ 120Vac
≥ 0.8 @ 277Vac

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 10% (@ full charge)

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 3.0 lbs.
(-B, -TM) 2.5 lbs.
(-J, -RJ) 2.75 lbs.

Approval
UL and cUL Listed for
field and factory installation.

Dimensions
-A 14.95" x 2.2" x 1.375"
(mounting center 14.5")
-B 13.88" x 2.2" x 1.2"
(mounting center 13.5")



ILB-CP07-HE

7 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
2.7 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
0.7A (@10Vdc) to
0.12A (@60Vdc)

Output Power (constant)
7 Watts

Power Factor
≥ 0.9 @ 120Vac
≥ 0.8 @ 277Vac

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 10% (@ full charge)

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 4.0 lbs.
(-B, -TM) 3.5 lbs.
(-J, -RJ) 3.75 lbs.

Approval
UL and cUL Listed for
field and factory installation.

Dimensions
-A 15.37" x 2.24" x 1.30"
(mounting center 15.0")
-B 15.0" x 2.2" x 1.2"
(mounting center 14.64")



ILB-CP10-HE

10 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
3.7 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
1.0A (@10Vdc) to
0.16A (@60Vdc)

Output Power (constant)
10 Watts

Power Factor
≥ 0.9 @ 120Vac
≥ 0.85 @ 277Vac

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 4.0 lbs.
(-B, -TM) 3.5 lbs.
(-J, -RJ) 3.75 lbs.

Approval
UL and cUL Listed for
field and factory installation.

Dimensions
-A 15.37" x 2.24" x 1.30"
(mounting center 15.0")
-B 15.0" x 2.2" x 1.2"
(mounting center 14.64")



ILB-SL-CP08-HE

8 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
2.9 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
0.8A (@10Vdc) to
0.13A (@60Vdc)

Output Power (constant)
8 Watts

Power Factor
≥ 0.9 @ 120Vac
≥ 0.75 @ 277Vac

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 15% (@ full charge)

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
2.25 lbs.

Approval
UL and cUL Listed for
field and factory installation.

Dimensions
22.17" x 1.18" x 1.18"
(mounting center 21.77")



Slim Profile

ILB-SL-CP10-HE

10 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
3.7 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
1.0A (@10Vdc) to
0.16A (@60Vdc)

Output Power (constant)
10 Watts

Power Factor
≥ 0.9 @ 120Vac
≥ 0.85 @ 277Vac

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
3.0 lbs.

Approval
UL and cUL Listed for
field and factory installation.

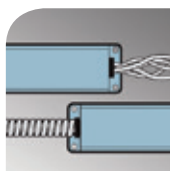
Dimensions
26.75" x 1.18" x 1.18"
(mounting center 26.33")



Slim Profile

Designed for Superior Performance

IOTA Emergency Lighting Products are engineered and manufactured for reliable performance in your egress applications...see Page 16 for more product details.



Versatile mounting design options



Single-piece charge indicator and test switch accessory



Rated for damp locations, enclosed & gasketed fixtures



Galvanized steel construction



RoHS-Compliant



5-Year Warranty

Enhanced Application Features

In addition to achieving CEC energy performance standards, these HE units feature expanded capabilities such as automatic self-testing, 20W output performance and high-voltage project requirements.



EMERGENCY LED DRIVERS

ILB-CP10-HE-SD

10 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
3.7 Watts (max)

Output Voltage Range
10-60VDC Class 2 Compliant

Output Current
1.0A (@10Vdc) - 0.16A (@60Vdc)

Output Power (constant)
10 Watts

Power Factor
≥ 0.9 @ 120Vac, ≥ 0.85 @ 277Vac

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(-A, -R) 4.0 lbs.
(-B, -TM) 3.5 lbs.
(-J, -RJ) 3.75 lbs.

Approval
UL and cUL Listed for field and factory installation.

Dimensions
-A 15.37" x 2.24" x 1.30"
(mounting center 15.0")
-B 15.0" x 2.2" x 1.2"
(mounting center 14.64")

HIGH-EFFICIENCY FOR CEC COMPLIANCE

Self-Diagnostic Capability

ILB-CP20-HE

20 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
5.5 Watts (max)

Output Voltage Range
20-60VDC Class 2 Compliant

Output Current
1.0A (@20Vdc) - 0.3A (@60Vdc)

Output Power (constant)
20 Watts

Power Factor
≥ 0.85

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(dual flex -A, -R) 6.0 lbs.
(single flex -S) 5.7 lbs.

Approval
UL and cUL Listed for field and factory installation.

Dimensions
17.75" x 2.5" x 2.375"
(mounting center 17.2")

HIGH-EFFICIENCY FOR CEC COMPLIANCE

ILB-CP20-HE-SD

20 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
5.5 Watts (max)

Output Voltage Range
20-60VDC Class 2 Compliant

Output Current
1.0A (@20Vdc) - 0.3A (@60Vdc)

Output Power (constant)
20 Watts

Power Factor
≥ 0.85

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(dual flex -A, -R) 6.0 lbs.
(single flex -S) 5.7 lbs.

Approval
UL and cUL Listed for field and factory installation.

Dimensions
17.75" x 2.5" x 2.375"
(mounting center 17.2")

HIGH-EFFICIENCY FOR CEC COMPLIANCE

Self-Diagnostic Capability

ILB-CP20-HE-HV

20 WATT OUTPUT

Input Voltage
120-277VAC, 50/60Hz

Input Rating
5.5 Watts (max)

Output Voltage Range
50-200VDC

Output Current
0.4A (@50Vdc) - 0.1A (@200Vdc)

Output Power (constant)
20 Watts

Max. AC Driver Output Current
5Adc

Power Factor
≥ 0.85

Emergency Operation
90 minutes

Operating Temp
0° to 55° C

THD
< 20%

Battery
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight
(dual flex -A, -R) 6.0 lbs.
(single flex -S) 5.7 lbs.

Approval
UL and cUL Listed for field and factory installation.

Dimensions
17.75" x 2.5" x 2.375"
(mounting center 17.2")

HIGH-EFFICIENCY FOR CEC COMPLIANCE

High Voltage Output



The BC Mark

The 'Circle BC' mark is the indication designated by the CEC for recognizing battery-charging equipment compliant with CEC's Title 20 standards.



Self-Diagnostic

Provides automatic monthly and annual testing to ensure proper operation and Life Safety compliance.



High Voltage Output

The HV design is compatible with Class 1 LED loads operating between 50 to 200VDC.



ILB-CP07-2H

2-HOUR OPERATION

Input Voltage

120-277VAC, 50/60Hz

Input Rating

3.7 Watts (max)

Output Voltage Range

10-60VDC Class 2 Compliant

Output Current

0.7A (@10Vdc) - 0.12A (@60Vdc)

Output Power (constant)

7 Watts

Power Factor

≥ 0.9

Emergency Operation

120 minutes per FEMA requirements

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium

24 Hour Recharge

7-10 Year Life Expectancy

Weight

(-A) 4.0 lbs.

(-B) 3.5 lbs.

Approval

UL and cUL Listed for field and factory installation.



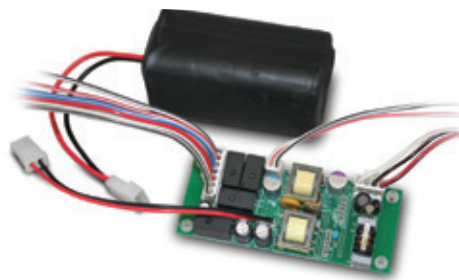
Dimensions

-A 13.3" x 2.375" x 1.5"
(mounting center 12.75")

-B 13.0" x 2.2" x 1.25"
(mounting center 12.6")

2-Hour Operation

FEMA requirements dictate a two-hour emergency runtime in tornado safe-rooms for providing occupants with a safely-lit environment when gathered in these designated areas. The two-hour runtime combined with the non-diminishing constant power performance make the ILB-CP07-2H an ideal solution for these applications.



ILB-CP10-L

OPEN BOARD 10 WATT

Input Voltage

120-277VAC, 50/60Hz

Input Rating

3.7 Watts (max)

Output Voltage Range

10-60VDC Class 2 Compliant

Output Current

1.0A (@10Vdc) - 0.16A (@60Vdc)

Output Power (constant)

10 Watts

Power Factor

≥ 0.9

Emergency Operation

90 minutes

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium

24 Hour Recharge

7-10 Year Life Expectancy

Weight

3.5 lbs

Approval

UL Component Recognized for Factory Installation.



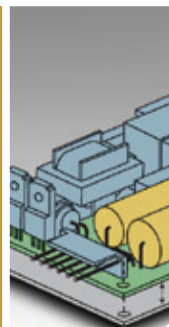
Dimensions

Circuit Board: 4.625" x 1.875" x 1.25"

Battery: 2.125" x 2.125" x 4.125"

Open Board Design

The open board ILB-CP10-L emergency driver provides versatility for OEM fixture designs. Includes the charger and inverter circuit board with separate battery for mounting within the fixture. UL Component Recognized for factory installation only.



ILB-CP10-LC

EXTERNAL BATTERY

Input Voltage

120-277VAC, 50/60Hz

Input Rating

3.7 Watts (max)

Output Voltage Range

10-60VDC Class 2 Compliant

Output Current

1.0A (@10Vdc) - 0.16A (@60Vdc)

Output Power (constant)

10 Watts

Power Factor

≥ 0.9

Emergency Operation

90 minutes

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium

24 Hour Recharge

7-10 Year Life Expectancy

Weight

3.5 lbs

Approval

UL Component Recognized for Factory Installation.



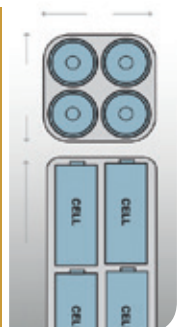
Dimensions

Enclosure: 4.625" x 1.875" x 1.25"

Battery: 2.125" x 2.125" x 4.125"

External Battery

The ILB-CP10-LC features an external battery with electronic circuitry enclosed in a minimal galvanized housing for integral installation with the fixture. UL Component Recognized for factory installation only.





ILB-1826

CONSTANT CURRENT DRIVER

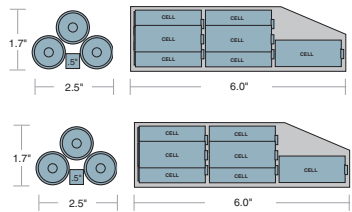
- Input Voltage**
(Dual) 120/277 VAC, 60Hz
- Input Rating**
Standard model: 5.5 Watts
Cold-Weather: 86W (w/ heating element on)
- Output Voltage**
18-26VDC
- Output Current**
750 mA (constant)
- Output Power**
Up to 20W (max)
- Power Factor**
≥ 0.9
- Emergency Operation**
90 minutes
- Operating Temp**
Standard: 0° to 50° C
Cold-Weather: -20° to 50° C
- Battery**
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy
- Weight**
4.0 lbs.

Approval
UL Component Recognized for Factory Installation.



Dimensions
Enclosure: 9.5" x 2.0" x 1.0"
Battery: 6.0" x 1.7" x 2.5" (x2)

The ILB-1826 features (2) 7-cell battery packs that connect to the galvanized steel enclosure. For cold-weather versions, add approx. 1/8" to battery dimensions to account for the external battery heating blanket.



ILB-3020

CONSTANT CURRENT DRIVER

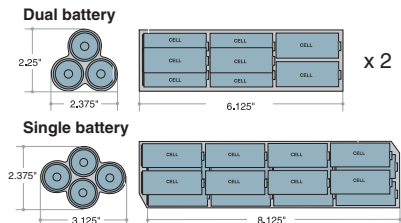
- Input Voltage**
(Dual) 120/277 VAC, 60Hz
- Input Rating**
Standard model: 5.5 Watts
Cold-Weather: 86W (w/ heating element on)
- Output Voltage**
27-30VDC
- Output Current**
750 mA (constant)
- Output Power**
Up to 24W (max)
- Power Factor**
≥ 0.9
- Emergency Operation**
90 minutes
- Operating Temp**
Standard: 0° to 50° C
Cold-Weather: -20° to 50° C
- Battery**
High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy
- Weight**
4.0 lbs.

Approval
UL Component Recognized for Factory Installation.



Dimensions
Enclosure: 9.5" x 2.0" x 1.0"
Battery (single): 2.125" x 2.125" x 4.125"
Battery (dual): 2.125" x 2.125" x 4.125" ea.

The ILB-3020 offers two battery profile options: (1) 16-cell battery pack or (2) 8-cell packs. For cold-weather versions, add approx. 1/8" to battery dimensions to account for the external battery heating blanket.



Constant Current and Cold-Weather
Constant current emergency LED drivers provide external battery configurations for versatile factory installations as well as optional cold-weather performance.



COLD WEATHER OPTION (-CW)
Cold-weather battery packs are designed specifically for use in applications such as outdoor egress or other freezing environments.

HEATING BLANKET
The specialized heating blanket protects the battery from extreme temperatures. When the temperature drops, the heating blanket is activated and maintains the battery temperature within operable parameters.

TEMPERATURE CONTROL CIRCUITRY
The temperature control circuitry activates the heating blanket at low temperatures and also ensures the battery temperature has reached acceptable levels before initiating the charging circuit.



RoHS-Compliant 5-Year Warranty

Power-Over-Ethernet Emergency Drivers



LFI 2018 Winner - Best in Category
Ballasts, Transformers, Drivers, Systems and Kits



United States Patents
US 9,609,706 B2
US 9,941,737 B2

The Ground-Breaking Solution for Today's Smart Lighting Systems!

- **PoE Compatible, UL 924 Emergency LED Driver**

The PoE-CP12 is a UL 924 Listed Emergency LED Driver compatible with PoE lighting luminaires, and compliant with IEEE 802.3 PoE Standard Systems to deliver required emergency egress performance to your PoE lighting.

- **Data Integrity**

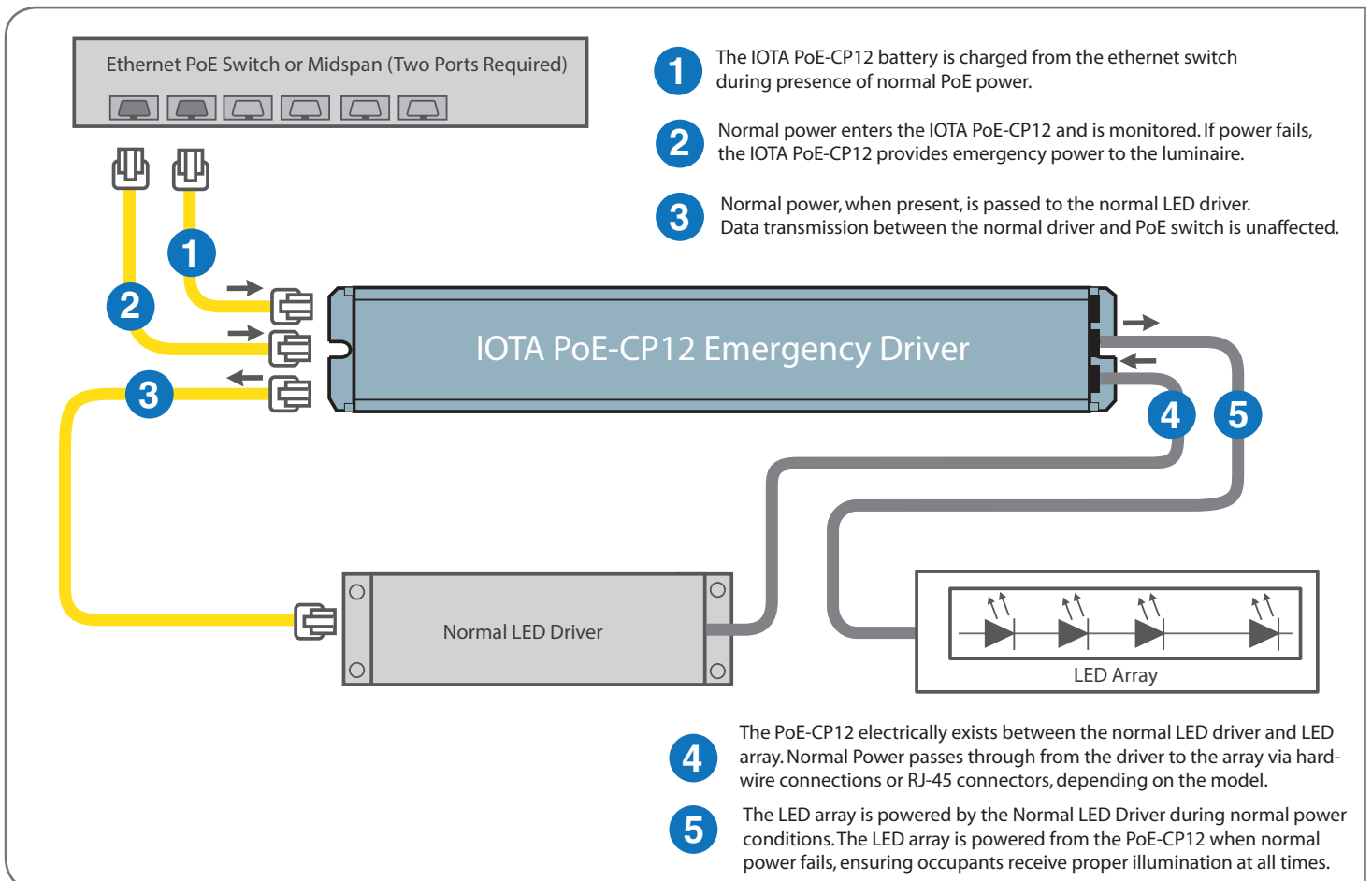
Connected IoT driver systems operate perfectly with data safeguarded against electrical interference. The PoE-CP12 monitors the normal input power status while seamlessly allowing transmission of luminaire data.

- **Proper Power Management**

Intelligently controlled battery charging ensures your emergency lighting system performs within the PoE PSE power management parameters to maintain a state of readiness and proper function.

- **Confident Life Safety Compliance**

The PoE-CP12 is the only emergency LED driver to achieve integral Life Safety emergency egress requirements within the sophisticated framework of today's IoT and PoE applications.





PoE-CP12-V1A and V1B

POWER-OVER-ETHERNET

PSE Ports Required

Two (RJ-45)

Input Voltage (Battery Charger Port)

37Vdc - 57Vdc (48Vdc nom.)

Input Wattage (Battery Charger Port)

4W (max)

Input Voltage (Battery Charger Port)

IEEE802.3af and IEEE802.3at Standards

Output Voltage

10-60Vdc

Output Power

12W (constant)

Emergency Operation

90 minutes

Operating Temp

Standard: 0° to 50° C

Battery

High-Temp Nickel-Cadmium

24 Hour Recharge

7-10 Year Life Expectancy

Weight

2.7 lbs.

Approval

UL Listed as an LED emergency driver for field and factory installation



Dimensions

15.6" x 2.8" x 1.2"

(mounting center 15.2" x 1.6")



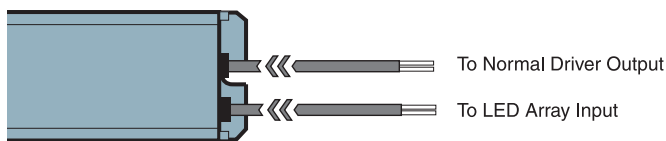
The IOTA PoE-CP12

IOTA's ground-breaking PoE-CP12 emergency LED driver brings critical Life Safety performance for today's sophisticated IoT and PoE applications. The innovative design achieves emergency egress requirements for occupants while meeting the technical power and data demands for your connected lighting system.

The IOTA PoE-CP12 is available in two different models: the PoE-CP12-V1A and PoE-CP12-V1B. Each features three RJ-45 ports for accommodating the needed PoE PSE power and data inputs for the normal LED driver. Connections for the driver and LED array outputs vary depending on your luminaire requirements:

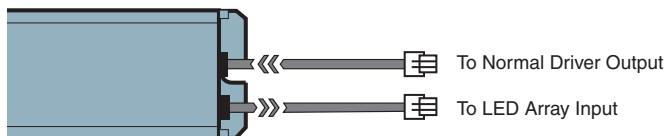
PoE-CP12-V1A

The PoE-CP12-V1A features two 20AWG stranded **hardwire** leads (approx. 36 inch length) for connecting to the normal driver output and the LED array.



PoE-CP12-V1B

The PoE-CP12-V1B features two Cat 5 cables (approx. 36 inch length) enclosing 4-pair 24AWG wires terminating in standard **RJ-45** connectors for interfacing with the normal driver output and a compatible LED array. Contact Customer Service for details regarding RJ-45 connections.



Compatible with PoE Controls

The presence of any local controls will not affect the performance of the IOTA PoE-CP12. Connected controls, such as a switch, dimmer, or sensor, only affect the Normal AC Driver. The IOTA PoE CP12 activates into Emergency Mode when normal power fails at the Normal LED Driver PoE input and will independently power the luminaire in Emergency Mode from the battery supply regardless of any local control settings.

Designed for Superior Performance

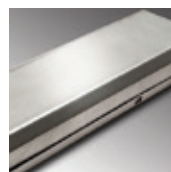
IOTA Emergency Lighting Products are engineered and manufactured for reliable performance in your egress applications... see Page 16 for more product details.



Single-piece charge indicator and test switch accessory



Rated for damp locations, enclosed & gasketed fixtures



Galvanized steel construction



RoHS-Compliant



5-Year Warranty



UL Listed for Field and Factory Installation

The innovative ILB-CP Series paved the way for field installation LED emergency drivers and are UL 924 Listed, UL Classified to FTBV in accordance with project, as-installed code requirements. The patented Constant Power design simplifies the specification process by providing predictable, non-degrading lumen performance. Additionally, the auto-sensing Class 2 output provides wider compatibility to accommodate 10 to 60Vdc LED loads. Selecting the right ILB-CP Emergency Driver for your project is simple:

1) Verify Electrical Compatibility

Confirm that your LED array operates on a Class 2 Voltage of 10-60Vdc. The auto-sensing output of the ILB-CP Series will automatically adjust to the required output voltage within that range. Also, confirm that the emergency driver will not exceed the power specifications (voltage and current) of the normal driver.

2) Calculate your Lumen Output

Multiply the ILB-CP's wattage with your luminaire's verified published efficacy (lumens per watt) to calculate your emergency lumen output. Verified efficacy performance for many luminaires can be found at the DesignLights Consortium website (www.designlights.org) or the Lighting Facts website (www.lightingfacts.com).

3) Determine Adequate Means-of-Egress Lighting Levels

Once you know your lumen performance, follow the industry standards as you normally would to ensure your emergency lumen package is in accordance with applicable Life Safety Codes for your project.



The ILB-CP Series Specifier's Toolkit

Visit www.iotaengineering.com/cptools for on-line resources that can assist in selecting and specifying the ILB-CP product for your application requirements. Our **ILB-CP Performance Calculator** will easily provide the operating current and lumen output for your LED luminaire system, and our on-line sample specifications provide simple Copy and Paste specs for use in your project documentation.

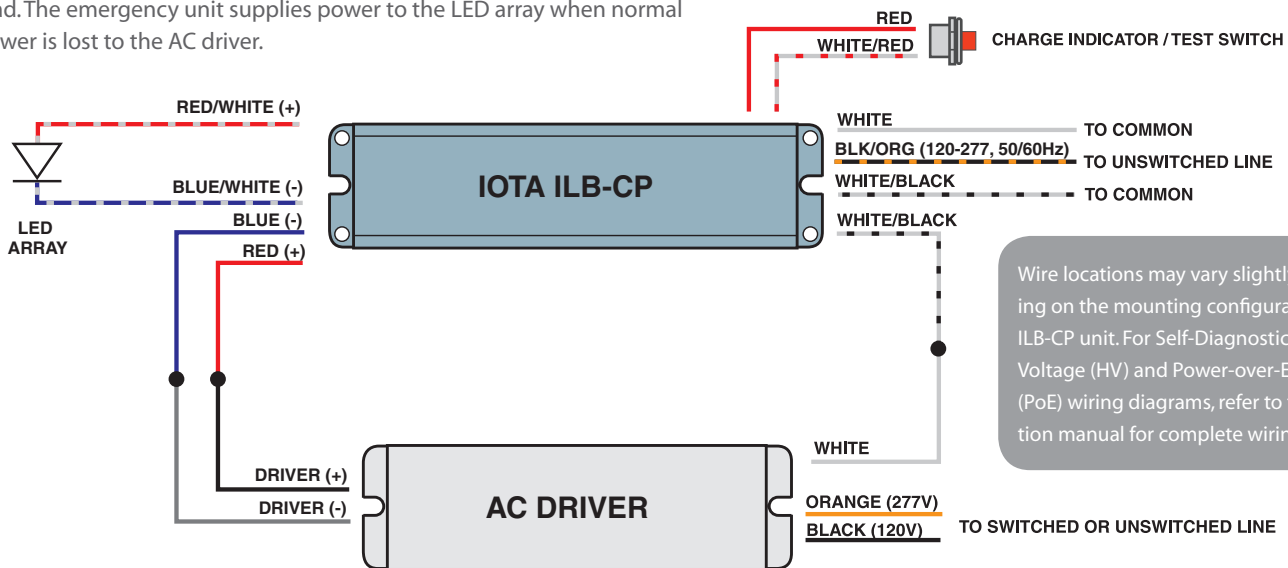
ILB-CP Series Compatibility and Suitability of Use

While accessing the ILB-CP Toolkit, be sure to reference the *Compatibility and Suitability of Use* Guidelines when specifying IOTA ILB-CP LED emergency drivers for field installation.

Need further assistance? You can always give our Customer Service team a call at 1-800-866-4682.

Wiring Diagram

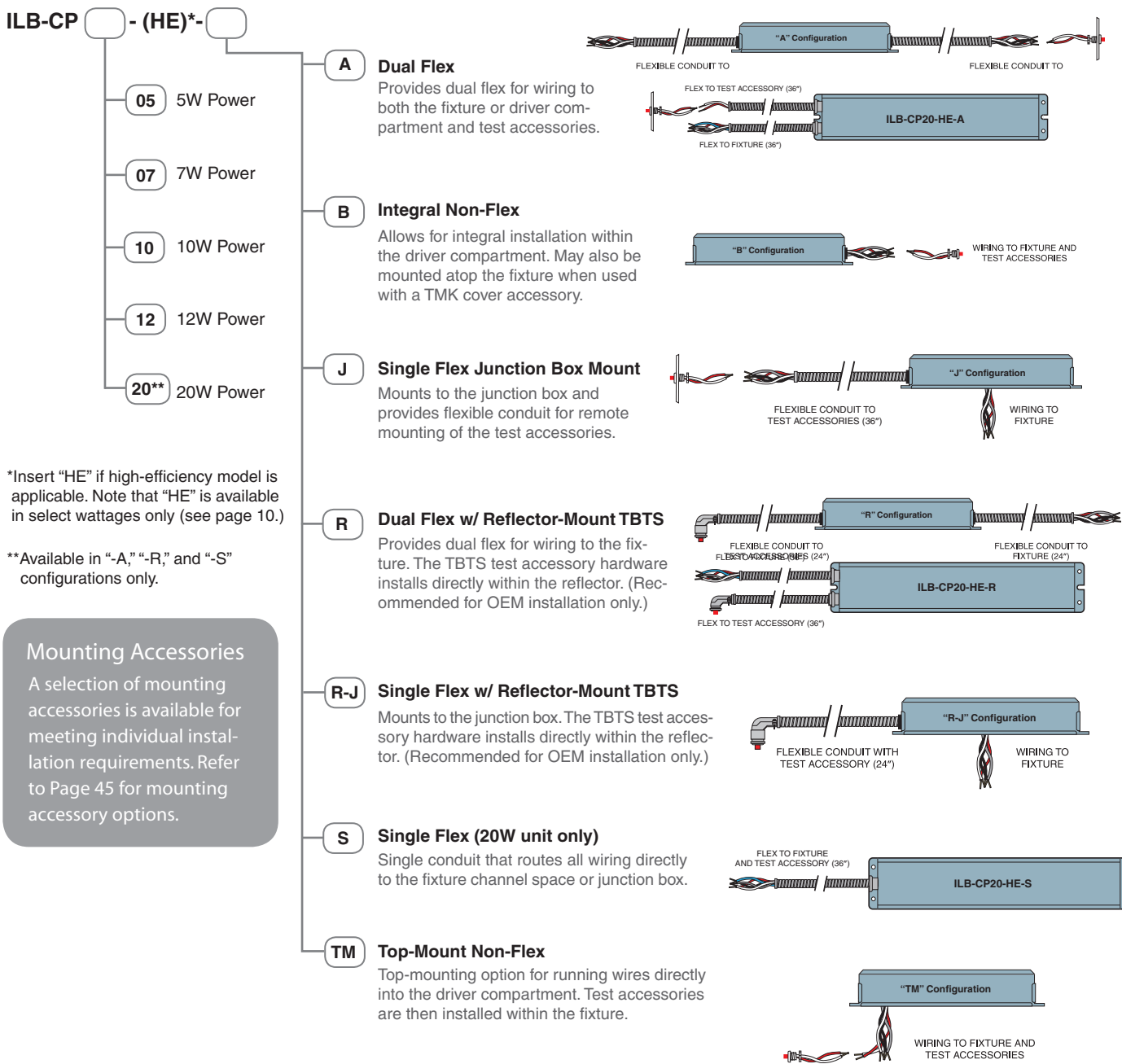
The ILB-CP unit electrically exists between the normal AC driver and LED load. The emergency unit supplies power to the LED array when normal power is lost to the AC driver.



Wire locations may vary slightly depending on the mounting configuration of the ILB-CP unit. For Self-Diagnostic (SD), High Voltage (HV) and Power-over-Ethernet (PoE) wiring diagrams, refer to the installation manual for complete wiring details.

Mounting Configurations

IOTA **ILB-CP** Emergency Drivers are available in a variety of wattage and mounting configurations. When specifying the ILB-CP unit for your project, add the desired wattage and mounting suffix to the ILB-CP model number. Mounting configurations are not applicable to ILB-SL-CP units.

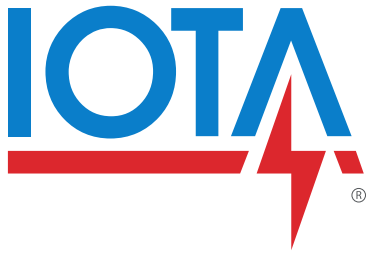


Learn more about the ILB-CP Series on YouTube...

You can find our popular ILB-CP wiring tutorial video on the IOTA YouTube channel. The video guides you through the simple steps of connecting an ILB-CP emergency driver to a normal AC driver and LED array. This and several other helpful videos can all be viewed at <https://www.youtube.com/user/iotaengineering>.



SCAN TO WATCH!



Emergency Ballasts

for Fluorescent and LED Retrofit

IOTA emergency ballasts keep pace with evolving lighting technology to deliver confident emergency solutions for today's environmentally-friendly fluorescent lamp designs as well as state-of-the-art LED retrofit tube models.





- **Linear and Compact Lamp Compatibility**

IOTA offers a full line of emergency ballast solutions for operating T5 through T8 linear lamps and 2-pin or 4-pin compact lamps and compatible with a full range of lamp lengths and wattages.

- **Lumen and Application Options**

IOTA emergency ballasts can provide illumination from 500 to 3000 lumens and meet unique fixture and installation needs such as damp location, enclosed and gasketed fixtures, cold-weather applications, parallel operation, and self-diagnostic requirements.

- **LED Retrofit Solutions with AC Output**

Many IOTA emergency ballasts feature AC output, making them ideally suited for operating low-mercury content amalgam fluorescents many LED retrofit tube replacements types.

- **Time Delay and Open Circuit Isolation**

IOTA emergency ballasts utilize enhanced protection features for optimal performance with the latest AC ballast technology. Time Delay and Open Circuit Isolation allows the emergency ballast to operate seamlessly with 'end-of-life' and lamp removal safeguards.

- **RoHS Compliant**

IOTA emergency ballasts are responsibly designed and manufactured to RoHS standards for minimal environmental impact.

Linear Lamp Emergency Ballasts



IOTA's linear fluorescent products provide practical solutions for most linear lamp type fixtures utilizing 2-ft to 8-ft T5 through T12 lamps.

I-32

500 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

2.5 Watts

Lamps Operated

Most 2'-4' single, bipin T8 thru T12 and 28W T5 fluorescent lamps

Emergency Operation

(1) 2'-4' lamp
90 minutes

Initial Illumination

(1) Lamp up to 500 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

1.5 lbs

Approval

UL Listed for U.S. & Canada.



Rated for plenum and enclosed & gasketed fixtures.

Dimensions

9.5" x 2.0" x 1.0"
(mounting center 9.0")

I-40

700 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

Most 2'-4' single, bipin T8 thru T12, fluorescent lamps & 40W long compacts

Emergency Operation

(1) 2'-4' lamp
90 minutes

Initial Illumination

(1) Lamp up to 700 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.4 lbs

Approval

UL Listed for U.S. & Canada.



Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

9.5" x 2.4" x 1.5"
(mounting center 9.0")

I-48

700 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

Most 2'-8' single, bipin T8 thru T12, HO, VHO fluorescent lamps incl. long compacts

Emergency Operation

(1) 2'-8' or (2) 2'-4' lamps*
90 minutes

Initial Illumination

(1) Lamp up to 700 lumens
(2) Lamps up to 350 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.4 lbs

Approval

UL Listed for U.S. & Canada.



Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

9.5" x 2.4" x 1.5"
(mounting center 9.0")

*Long Compacts - 1 lamp only

I-320

1350 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

Most 2'-4' single, bipin T8, 2'-4' 14W-54W T5, HO and VHO fluorescent lamps

Emergency Operation

(1) 2'-4' lamp
90 minutes

Initial Illumination

(1) Lamp up to 1350 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.5 lbs

Approval

UL Listed for U.S. & Canada.



Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

13.0" x 2.2" x 1.25"
(mounting center 12.6")

LED Retrofit Solution

I-320-HE

1350 LUMENS

Input Voltage (Universal)

120-277VAC, 50/60Hz

Input Wattage

3.7 Watts

Lamps Operated

Most 2'-4' single, bipin T8, 2'-4' 14W-54W T5, HO and VHO fluorescent lamps

Power Factor

≥ 0.9 @120Vac
≥ 0.85 @277Vac

Emergency Operation

(1) 2'-4' lamp - 90 minutes

Initial Illumination

(1) Lamp up to 1350 lumens

Operating Temp

0° to 55° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.0 lbs

Approval

UL Listed for U.S. & Canada.



Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

16.35" x 2.3" x 1.2"
(mounting center 16.0" x 1.57")

LED Retrofit Solution



Designed for Superior Performance

IOTA Emergency Lighting Products are engineered and manufactured for reliable performance in your egress applications...see Page 27 for more product details.



Time Delay and Open Circuit Isolation



Single-piece charge indicator and test switch accessory



Rated for damp locations, enclosed & gasketed fixtures



Galvanized steel construction



RoHS-Compliant



5-Year Warranty



FLUORESCENT & LED RETROFIT

Increased emergency illumination and additional safety features are beneficial assets to projects such as municipal facilities, retirement communities, schools, and daycares. These IOTA units deliver unique advantages to these types of critical applications.

I-880

2000 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

4.5 Watts

Lamps Operated

Most 2'-8' single, bipin T8 thru T12, HO & VHO fluorescent lamps incl. long compacts, 2'-4' 28W & 54W T5

Emergency Operation

(1) 2'-8' or (2) 2'-4' lamps*
90 minutes

Initial Illumination

(1) Lamp - 2000 lumens
(2) Lamps - 1000 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

4.4 lbs

Approval

UL Listed for U.S. and Canada.



Suitable for plenum fixtures.

Integral Profile Dimensions

18.6" x 2.4" x 1.5"
(mounting center 18.1")

*Long Compacts - 1 lamp only

I-160

3000 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

4.5 Watts

Lamps Operated

Most 2'-4' single, bipin T8 and T5 and 18 to 70W 4-pin compact fluorescent lamps

Emergency Operation

(1) 2'-4' lamp, (2) 17W T8, 26W 4-pin
90 minutes

Initial Illumination

(1) Lamp - 3000 lumens
(2) Lamps - 1500 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

7.5 lbs

Approval

UL Listed for U.S. and Canada.



Suitable for damp location and plenum fixtures.

Dimensions

16.375" x 3.0" x 3.0"
(mounting center 15.875")

LED Retrofit Solution

I-232

1400 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

4 Watts

Lamps Operated

(2) 2'-4' single, bipin T8 thru T12 HO and VHO fluorescent lamps **in parallel**

Emergency Operation

(2) 2'-4' lamp
90 minutes

Initial Illumination

(2) Lamps - 1400 lumens
700 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.6 lbs

Approval

UL Listed for U.S. and Canada.



Suitable for damp location, plenum, and enclosed and gasketed fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

Parallel Operation

I-162

3000 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

4.5 Watts

Lamps Operated

(2) 2'-4' single, bipin T8 thru T12, 28W & 54W T5, 24W-50W long compacts **in parallel**

Emergency Operation

(2) 2'-4' lamp
90 minutes

Initial Illumination

(2) Lamps - 3000 lumens
1500 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

7.5 lbs

Approval

UL Listed for U.S. and Canada.



Suitable for damp location and plenum fixtures.

Dimensions

16.375" x 3.0" x 3.0"
(mounting center 15.875")

LED Retrofit Solution

Parallel Operation



High-Efficiency Design

The I-320-HE features a unique micro-processor design that maintains the emergency battery fully while also minimizing power consumption in the standby mode. IOTA "HE" products meet CEC energy requirements for the State of California.



LED Retrofit Solution

The AC Output design provides compatibility with many LED retrofit tube lamps as well as proper operation of environmentally-friendly low-mercury content amalgam fluorescents. See page 30 for LED compatibility details.



Parallel Operation

Parallel Operation design operates two lamps in parallel in the emergency mode. If one of the lamps is inoperable, the emergency ballast will continue to operate the remaining lamp.



Compact 4-Pin

With AC output and different mounting options, IOTA emergency ballasts for compact lamps provide versatile solutions for 4-pin downlight lamp and fixture applications.

I-42

650 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

10W-42W 4-Pin Rapid Start Twin, Triple, Quad Tube, 2D, Straight Compacts & 18-36W Long Compacts

Emergency Operation*

(1) 10W-42W or (2) 10W-18W
90 minutes

Initial Illumination

(1) lamp 650 lumens
(2) lamps 325 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

4.4 lbs (dual flex)
2.5 lbs (no flex)

Approval

UL Listed for U.S. and Canada.



Suitable for damp location, plenum, and enclosed and gasketed fixtures.

Dimensions

9.5" x 2.4" x 1.5"
(mounting center 9.0")

LED Retrofit Solution

*Long Compacts - 1 lamp only

I-42-L

650 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

10W-42W 4-Pin Rapid Start Twin, Triple, Quad Tube, 2D, Straight Compacts & 18-36W Long Compacts

Emergency Operation*

(1) 10W-42W or (2) 10W-18W
90 minutes

Initial Illumination

(1) lamp 650 lumens
(2) lamps 325 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.5 lbs

Approval

UL Component Recognized for Factory Installation.



Dimensions

Circuit board: 4.0" x 2.75" x 1.25"
Battery: (Refer to Page 23 sidebar)

Open Board Design

I-420

1100 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

10W-57W 4-Pin Rapid Start Twin, Triple, Quad Tube, 2D, Straight Compact Lamps

Emergency Operation

(1) 10W-57W or (2) 10W-26W
90 minutes

Initial Illumination

(1) lamp 1100 lumens
(2) lamps 550 lumens each

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

5.4 lbs (dual flex)
3.5 lbs (no flex)

Approval

UL Listed for U.S. and Canada.



Suitable for damp location, plenum, and enclosed and gasketed fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

LED Retrofit Solution

I-320-HE-A

1350 LUMENS

Input Voltage (Universal)

120-277VAC, 50/60Hz

Input Wattage

3.7 Watts

Lamps Operated

13W-42W 4-Pin Rapid Start Twin, Triple, Quad Tube, 2D, Straight Compact Lamps

Power Factor

≥ 0.9 @ 120Vac
≥ 0.85 @ 277Vac

Emergency Operation

(1) lamp - 90 minutes

Initial Illumination

(1) Lamp up to 1350 lumens

Operating Temp

0° to 55° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.5 lbs (dual flex)

Approval

UL Listed for U.S. & Canada.



Rated for damp location and plenum fixtures.

Dimensions

16.35" x 2.3" x 1.2"
(mounting center 16.0" x 1.57")

LED Retrofit Solution



I-462

1850 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

4.5 Watts

Lamps Operated

13W-42W 4-pin Compacts
18W-50W Long Compacts
in parallel

Emergency Operation

(2) lamps
90 minutes

Initial Illumination

(2) lamps up to 1850 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

7.5 lbs

Approval

UL Listed for U.S. and Canada.



Suitable for plenum and damp location fixtures.

Dimensions

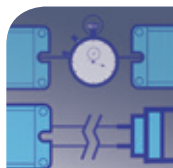
16.375" x 3.0" x 3.0"
(mounting center 15.875")

LED Retrofit Solution

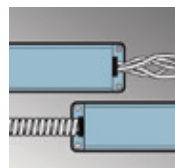
Parallel Operation

Designed for Superior Performance

See Page 27 for more product details.



Time Delay and Open Circuit Isolation



Versatile mounting design options



Includes charge indicator and test switch accessories



Rated for damp locations, enclosed & gasketed fixtures



Galvanized steel construction



RoHS-Compliant



5-Year Warranty

Compact 2-Pin

The IOTA I-13 and I-26 emergency ballasts are specifically designed to operate 2-pin compact lamps from 7W to 26W and feature a two-piece test switch and charge indicator accessory kit.



I-26

650 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

18W-26W Quad Tube
2-Pin compact lamps
with integral starter

Emergency Operation

(1) lamp
90 minutes

Initial Illumination

(1) lamp up to 650 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

4.4 lbs (dual flex), 2.5 lbs (no flex)

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum,
and enclosed & gasketed fixtures.



Dimensions

9.5" x 2.4" x 1.5"
(mounting center 9.0")

I-13

650 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

7,9,13 Watt Twin Tube 2-Pin &
9W-13 Watt Quad 2-Pin lamps
with integral starter

Emergency Operation

(1) lamp
90 minutes

Initial Illumination

(1) lamp up to 650 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

4.4 lbs (dual flex), 2.5 lbs (no flex)

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum,
and enclosed & gasketed fixtures.



Dimensions

9.5" x 2.4" x 1.5"
(mounting center 9.0")

I-13-L

650 LUMENS OPEN BOARD

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

7,9,13 Watt Twin Tube 2-Pin &
9W-13 Watt Quad 2-Pin lamps
with integral starter

Emergency Operation

(1) lamp
90 minutes

Initial Illumination

(1) lamp up to 650 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.5 lbs

Approval

UL Component Recognized
for Factory Installation.



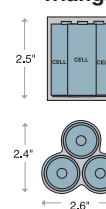
Dimensions

Circuit board: 4.0" x 2.75" x 1.25"
Battery: (Refer to sidebar)

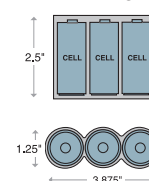
Battery Profiles

The 3-cell battery for open board designs is available in three configurations:

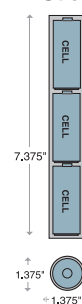
Triangle



In-Line



Stick



Open Board Design



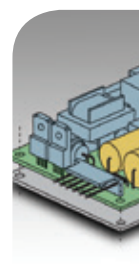
LED Retrofit Solution

The AC Output design provides compatibility with many LED retrofit tube lamps as well as proper operation of environmentally-friendly low-mercury content amalgam fluorescents. See page 30 for LED compatibility details.



Parallel Operation

Parallel Operation design operates two lamps in parallel in the emergency mode. If one of the lamps is inoperable, the emergency ballast will continue to operate the remaining lamp.



Open Board Designs

Open board emergency ballast kits provide versatility for OEM fixture installations. Includes the charger and inverter circuit board with separate battery. UL Recognized Component only. Refer to the sidebar above for battery options.



Slim Profile

IOTA's "ISL" emergency ballasts feature a slim profile enclosure for installation in fixture designs with limited compartment space.

ISL-28

500 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

2.5 Watts

Lamps Operated

Most 2'-4' 28W T5 and T8 linear fluorescent lamps

Emergency Operation

(1) lamp
90 minutes

Initial Illumination

(1) lamp up to 500 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.0 lbs.

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum, and enclosed and gasketed fixtures.

Dimensions

14.2" x 1.18" x 1.15"
(mounting center 13.7")

ISL-54

825 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

2.5 Watts

Lamps Operated

Most 2'-4' 14W to 54W T5 or 17W to 30W T6 and T8 lamps including HO and 36W-55W 4-pin long compact lamps

Emergency Operation

(1) lamp
90 minutes

Initial Illumination

(1) lamp up to 825 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

2.4 lbs.

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

17.5" x 1.18" x 1.15"
(mounting center 17.0")

LED Retrofit Solution

ISL-540

1300 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Lamps Operated

Most 2'-4' 14W to 54W T5 or 17W to 40W T8 lamps including HO and 36W-55W 4-pin long compact lamps.*

Emergency Operation

(1) lamp
90 minutes

Initial Illumination

(1) lamp up to 1300 lumens

Operating Temp

0° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.0 lbs.

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

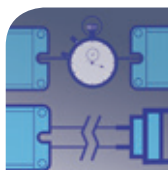
21.5" x 1.18" x 1.15"
(mounting center 21.0")

LED Retrofit Solution

*Modification available for 54W lamps

Designed for Superior Performance

IOTA Emergency Lighting Products are engineered and manufactured for reliable performance in your egress applications...see Page 27 for more product details.



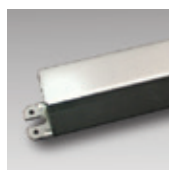
Time Delay and Open Circuit Isolation



Single-piece charge indicator and test switch accessory



Rated for damp locations, enclosed & gasketed fixtures



Galvanized steel construction



RoHS-Compliant



5-Year Warranty

IOTA ISD Self-Diagnostics

IOTA ISD Series Emergency Ballasts provide automatic monthly and annual testing for both linear (ISD-80) or 4-pin compact (ISD-420) applications. In the event that the ISD unit encounters a fault, it will indicate the diagnosis via the dual-color indicator switch.



ISD-80

1100 LUMENS

Input Voltage

Universal 110-277VAC, 50/60Hz

Input Wattage

5 Watts (max)

Power Factor

≥ 0.9

Lamps Operated**

Most 2'-4' bipin T8 and T12 HO or VHO fluorescent lamps including long compact and 2'-4' 14W to 54W T5 lamps

Emergency Operation

(1) lamp - 90 minutes

Initial Illumination

(1) lamp up to 1100 lumens

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.6 lbs

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

Self-Diagnostic Capability

LED Retrofit Solution

ISD-420-EM-A

1100 LUMENS

Input Voltage

Universal 110-277VAC, 50/60Hz

Input Wattage

5 Watts (max)

Power Factor

≥ 0.9

Lamps Operated

13W-57W 4-pin Rapid Start compact lamps including Twin, Triple, Quad Tube, 2D, and Straight

Emergency Operation

(1) lamp - 90 minutes

Initial Illumination

(1) lamp up to 1100 lumens

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

5.6 lbs

Approval

UL Listed for U.S. and Canada.
Rated for damp location and plenum fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

Self-Diagnostic Capability

LED Retrofit Solution

ISD-420-EM-B

1100 LUMENS

Input Voltage

Universal 110-277VAC, 50/60Hz

Input Wattage

5 Watts (max)

Power Factor

≥ 0.9

Lamps Operated

13W-57W 4-pin Rapid Start compact lamps including Twin, Triple, Quad Tube, 2D, and Straight

Emergency Operation

(1) lamp - 90 minutes

Initial Illumination

(1) lamp up to 1100 lumens

Operating Temp

0° to 55° C

THD

< 20%

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.6 lbs

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

Self-Diagnostic Capability

LED Retrofit Solution

FLUORESCENT & LED RETROFIT

**Not for use with single-pin lamps



LED Retrofit Solution

The AC Output design provides compatibility with many LED retrofit tube lamps as well as proper operation of environmentally-friendly low-mercury content amalgam fluorescents. See page 30 for LED compatibility details.



Self-Diagnostic Capability

The self-diagnostic function provides automatic monthly and annual testing of the emergency battery, charging system, and lamp to ensure proper operation and compliance with Life Safety requirements. Includes a single-piece dual-color LPTS test switch and charge indicator.

ICE Series Cold-Weather Emergency Ballasts



Cold Weather and Outdoor Egress

Designed to operate within **-18° to 50° C**, ICE Series Emergency Ballasts provide emergency lighting for outdoor paths of egress, such as covered walkways, parking garages, or exit points. The internal heating element and thermal control circuitry protect and maintain the battery in these harsher conditions.

ICE-80

1300 LUMENS

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Wattage Draw (with heating element on)

100 Watts

Lamps Operated

Most 2'-8' single, bipin T8 and T12 HO or VHO fluorescent lamps including long compact and 2'-4' 28W to 54W T5 lamps

Emergency Operation

(1) 2'-8' lamp or (2) 2'-4' lamp*
90 minutes

Initial Illumination

(1) lamp up to 1300 lumens
(2) lamps up to 650 lumens each

Operating Temp

-18° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.6 lbs

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

Cold Weather and Outdoor Egress

ICE-420-EM-A

1300 LUMENS - DUAL FLEX

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Wattage Draw (with heating element on)

100 Watts

Lamps Operated

10W-70W 4-pin Rapid Start compact lamps including Twin, Triple, Quad Tube, 2D, and Straight

Emergency Operation

(1) 10W-70W or (2) 10W-32W
90 minutes

Initial Illumination

(1) lamp up to 1300 lumens
(2) lamps up to 650 lumens each

Operating Temp

-18° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

5.6 lbs

Approval

UL Listed for U.S. and Canada.
Rated for damp location and plenum fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

Cold Weather and Outdoor Egress

ICE-420-EM-B

1300 LUMENS - NON-FLEX

Input Voltage

Dual 120/277VAC, 60Hz

Input Wattage

3.5 Watts

Wattage Draw (with heating element on)

100 Watts

Lamps Operated

10W-70W 4-pin Rapid Start compact lamps including Twin, Triple, Quad Tube, 2D, and Straight

Emergency Operation

(1) 10W-70W or (2) 10W-32W
90 minutes

Initial Illumination

(1) lamp up to 1300 lumens
(2) lamps up to 650 lumens each

Operating Temp

-18° to 50° C

Battery

High-Temp Nickel-Cadmium
24 Hour Recharge
7-10 Year Life Expectancy

Weight

3.6 lbs

Approval

UL Listed for U.S. and Canada.
Rated for damp location, plenum, and enclosed & gasketed fixtures.

Dimensions

13.3" x 2.4" x 1.5"
(mounting center 12.75")

Cold Weather and Outdoor Egress

*Long Compacts - 1 lamp only

Designed for Superior Performance

IOTA Emergency Lighting Products are engineered and manufactured for reliable performance in your egress applications...see Page 27 for more product details.



Time Delay and Open Circuit Isolation



Single-piece charge indicator and test switch accessory



Rated for damp locations, enclosed & gasketed fixtures



Galvanized steel construction



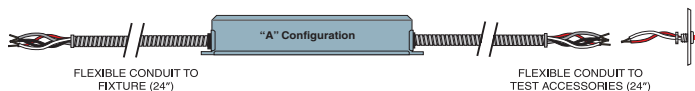
RoHS-Compliant



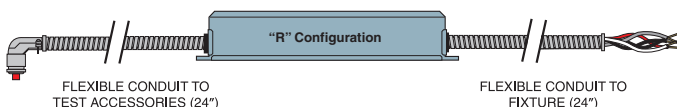
5-Year Warranty

Mounting Configurations

IOTA emergency ballasts for compact lamps are available in a variety of mounting configurations to accommodate various fixture types and mounting scenarios. Refer to individual product specifications to determine which mounting options are available for each emergency ballast model.



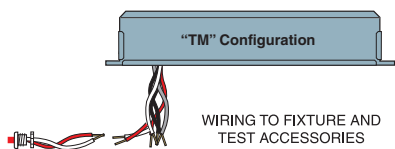
The EM-A provides dual flex for wiring to both the fixture or ballast compartment and test accessories.



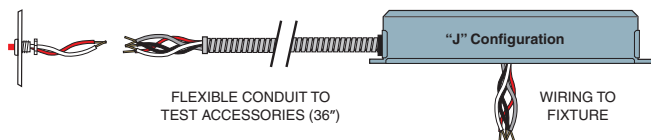
The EM-R provides dual flex for wiring to the fixture or ballast compartment. The single-piece test accessory is provided with hardware for installation directly within the reflector. (Recommended for OEM installation only.)



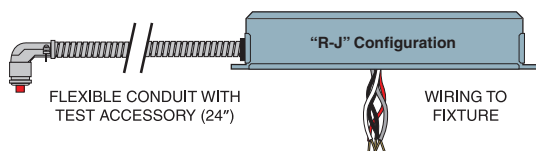
The EM-B allows for integral installation within the ballast compartment. The EM-B may also be mounted atop the fixture when used with a TMK cover accessory.



The EM-TM provides a top-mounting option for running wires directly into the ballast compartment. Test accessories are then installed within the fixture.



The EM-J is designed to be mounted to the junction box and provides flexible conduit for remote mounting of the test accessories.



Like the EM-J, the EM-R-J can be mounted to the junction box. The single-piece test accessory is provided with hardware for installation directly within the reflector. (Recommended for OEM installation only.)

Series D and Series AC

Time Delay Enhancement

'End of Lamp Life' circuitry in AC ballasts can activate when power switches from an emergency battery pack to the AC supply. IOTA emergency battery packs provide a brief delay that allows the AC ballast to verify that the lamp is still functioning, eliminating conflicts with testing and operation of the emergency battery pack.

Open Circuit Isolation

All IOTA emergency ballasts guard against the dangers of an open circuit caused by an absence of load - such as when the lamps are burned out or are being removed for replacement.

AC Output Performance

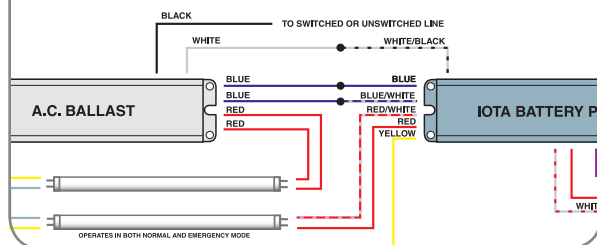
Select IOTA emergency ballasts feature AC output ("Series AC") while in the emergency mode, which allows for proper operation of low-mercury content amalgam lamps, as well as compatibility with certain LED tube lamp designs.

See Page 30 for details on LED lamp compatibility.

FLUORESCENT & LED RETROFIT

Wiring Diagrams

Wiring of the emergency ballast will vary depending on the IOTA model, AC ballast, and lamp requirements. For wiring of a specific IOTA emergency ballast, call our Technical Services team at **1-855-363-9527** or find a full selection of wiring resources in our online Technical Library at www.iotaengineering.com/services.



International Voltages



Select IOTA emergency ballasts are available in various international voltage standards of 220VAC and 240VAC input. For more information on IOTA emergency ballasts for international voltages, contact our Customer Service team.

Lumen Reference Chart for IOTA Emergency Ballasts

REDUCED PROFILES

For shallow compartments



SELF-DIAGNOSTICS AND COLD WEATHER

Automatic Self-Testing Units and Outdoor Battery Packs



PARALLEL OPERATION



Emergency illumination even if one lamp is inoperable.

IOTA MODEL	I-32	I-40	I-48	I-320	ISD-80	ICE-80	I-232	I-880	I-160	I-162	ISL-28	ISL-54	ISL-540	I-13	I-26	I-42	I-420	ISD-420	ICE-420	I-462	
LAMP (# OF LAMPS)																					
F16 T8 (1)						1125															
F16 T8 (2)						1100															
F17 T8 (1)	450	450	450	1125	780	1125			1600		320	650	950								
F17 T8 (2)			650			1100	1000		2420												
F25 T8 (1)				1200	1080	1200					360	650	950								
F25 T8 (2)						1150															
F28 T8 (1)	460	630	630	1215	1090	1215		1800			380	630	990								
F28 T8 (2)			600			1175	1260	1665		2700											
F32 T8 (1)	475	700	700	1350	1140	1350		2000	3060		425	700	1100								
F32 T8 (2)			675			1350	1400	1850		3000											
F40 T8 (1)												600	1150								
F59 T8 (1)									2835												
FO96 T8 (1)			675			1300		1650													
14W T5 (1)				850	740	600					375	450	700								
21W T5 (1)				1150	990						425	500	850								
24W T5 (1)				925	900				1750		500	450	700								
28W T5 (1)	500			1050	970	1050		1450	2965		500	800	1200								
28W T5 (2)										2400											
35W T5 (1)					1100								1300*								
39W T5 (1)				1100	960	1100			2240			700	1100								
47W T5 (1)									2650												
54W T5 (1)				1150	1190	1150		1600	2630			825	1300								
54W T5 (2)										2500											
95W T5 (1)									2935												
17W T6 (1)												500									
27W T6 (1)												600									
30W T6 (1)												650									
F15 T12	375																				
F20 T12 (1)	425	390	390		650	680															
F20 T12 (2)			650				900														
F40 T12 (1)	450	660	660		1030	1150		1600													
F40 T12 (2)			650				1200	1575		2675											
F48 T12 (1)						1150															
F96 T12 (1)			650			1125		1575	2850												

FOR QUESTIONS REGARDING LAMP OR LUMEN INFORMATION, CONTACT CUSTOMER SERVICE.

*Requires ISL-540 modified for 35W operation



The IOTA Lumen Reference Chart

The Lumen Reference Chart is your guide in selecting the right IOTA emergency ballast for your designated lamp type and desired output level. Many IOTA units feature lamp selector leads which will optimize the lumen output of the designated lamp(s) when operating during an emergency. Refer to the installation instructions of the specific IOTA unit to determine if the selector leads should be connected or disconnected to achieve the best performance. Looking for a solution for a specific lamp? Contact IOTA Customer Service regarding other lamp options.

Lumen Reference Chart for IOTA Emergency Ballasts

SLIM PROFILE



For narrow ballast compartments

SELF-DIAGNOSTICS AND COLD WEATHER

Automatic Self-Testing Units and Outdoor Battery Packs



PARALLEL OPERATION

Emergency illumination even if one lamp is inoperable.



IOTA MODEL	I-32	I-40	I-48	I-320	ISD-80	ICE-80	I-232	I-880	I-160	I-162	ISL-28	ISL-54	ISL-540	I-13	I-26	I-42	I-420	ISD-420	ICE-420	I-462	
LAMP (# OF LAMPS)																					
18W Long Compact (1)					710											500					
18W Long Compact (2)																					850
24W Long Compact (1)					860											575					
24W Long Compact (2)										1120											1200
25W Long Compact (1)									2300												
25W Long Compact (2)										1485											1600
28W Long Compact (1)					1160																
30W Long Compact (1)									2300												
36W Long Compact (1)					1120	1050						675	1025			650					
36W Long Compact (2)																					1500
39W Long Compact (2)										1450											
40W Long Compact (1)	450	600	600		1120	1050		1500				675	1025								
40W Long Compact (2)										1900											1700
50W Long Compact (1)			625		1120	1100		1525	2300			650	1000								
50W Long Compact (2)										1900											1700
55W Long Compact (1)			650		1100	1100		1600				650	1000								
7W PL CF 2-Pin (1)														350							
9W PL CF 2-Pin (1)														500							
13W PL CF 2-Pin (1)														650							
18W PL CF 2-Pin (1)															550						
26W PL CF 2-Pin (1)															650						
13W PL CF 4-Pin (1)				935												350	570	740	600		
13W PL CF 4-Pin (2)																400	900		675	1000	
18W PL CF 4-Pin (1)				955					1125							350	680	780	600		
18W PL CF 4-Pin (2)									1800							550	1010		950	1150	
26W PL CF 4-Pin (1)				1110					1275							425	810	1000	725		
26W PL CF 4-Pin (2)									1500								1200		1200	1300	
32W PL CF 4 Pin (1)				1070					1550							600	910	1060	1050		
32W PL CF 4 Pin (2)																			1250	1450	
42W PL CF 4 Pin (1)				1160					1750							750	1040	1060	1300		
42W PL CF 4 Pin (2)																				1850	
57W PL CF 4 Pin (1)						1160		1600									1180	1190	1160		
70W PL CF 4 Pin (1)						1200		1680	1725										1200		
9W Circline (T5)					970																
12W Circline (T5)					1100																
20W Circline (1)		625	390			1125															
22W Circline T9 (1)			400		730																
22W Circline T5 (1)			425									425									
40W Circline T8 (1)	450	650	650			1125															
40W Circline T5 (1)			650									650									
55W Circline T5 (1)			650		980																
F282 D/42 (1)																475			800		
F282 D/42 (2)																500			850		
F382 D/42 (1)																500			850		
F382 D/42 (2)																650			1125		

FLUORESCENT & LED RETROFIT

IOTA LED Retrofit Solutions



LED Retrofit Technology is a popular way to bring the benefits of LED energy savings to your existing fluorescent fixtures. IOTA provides solutions for three common types of LED retrofit options - A) LED Tube Lamps, B) LED Tube Lamps with Internal Drivers and C) LED Retrofit Kits. These solutions will enable you to make a seamless transition to modern LED lighting while maintaining your emergency egress requirements. For further details on all of IOTA's LED Retrofit Solutions, visit our on-line resources at www.iotaengineering.com/retrofit.

A LED Tube Lamps (T-LEDs)

LED Tube Lamps are linear, compact, or U-bent LED lights, also known as T-LEDs, which directly replace the fluorescent tubes in your fixture. These T-LED lamps are designed to convert the AC voltage coming from your fluorescent ballast to DC current to operate the lamp's LED arrays. These T-LED designs allow you to simply replace the fluorescent tube with the LED lamp without removing or re-wiring the existing AC ballast.

IOTA Emergency Solution - IOTA Ballasts with AC Output

LED Tube Lamp retrofit technology limits the use of existing fluorescent emergency ballasts due to the fact that some emergency ballasts provide only DC current to the lamp load. Therefore, it is important that your emergency battery pack be capable of providing **true AC output** to your T-LEDs (see Fig. 1).

IOTA Engineering offers six different emergency ballasts that are capable of providing true AC output. All of these emergency ballasts have been tested and are **UL Listed** to work with select T-LEDs from major LED tube manufacturers. See the chart below for details on available AC output IOTA Emergency Ballast options.

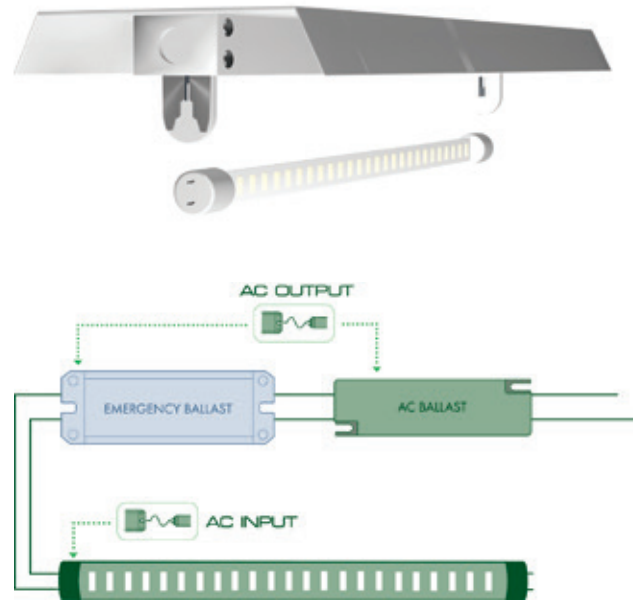


Fig.1 - The LED tube lamp that would typically accept the AC output of a normal AC ballast will function with an emergency ballast that also provides AC output.

I-320	Reduced Profile, Damp Location Rated, Suitable for Use in Enclosed and Gasketed Fixtures
I-160	High Lumen Output, Damp Location Rated
I-162	Parallel Operation, High Lumen Output, Damp Location Rated
ISL-54	Slim Profile, Damp Location Rated, Suitable for Use in Enclosed and Gasketed Fixtures
ISL-540	Slim Profile, Damp Location Rated, Suitable for Use in Enclosed and Gasketed Fixtures
ISD-80	Self Diagnostic, Universal Input, Damp Location Rated, Suitable for Use in Enclosed and Gasketed Fixtures



The reference chart is a complex table with multiple columns including Lamp Model, Ballast Type, and various technical specifications. It provides a comprehensive list of compatible LED tube lamps and ballasts for different fixture types and applications.

New tube lamp options are continually being tested and evaluated for compatibility with IOTA emergency ballasts for proper operation and compliance with Life Safety requirements. To see the current list of compatible tube lamp options, visit our LED Retrofit Solutions guide at www.iotaengineering.com/retrofit or download the PDF version at www.iotaengineering.com/IOTA-LED-Retrofit.pdf. If you are an LED tube lamp manufacturer and would like to submit a lamp for evaluation, contact our Technical Services Team at 1-855-363-9527.

B LED Tube Lamps (T-LEDs) with Internal Drivers

LED Tube Lamps with Internal Drivers (may include downlight retrofit kits or linear LED lamps) feature built-in drivers that accept AC *line voltage* and allow you to replace both your existing fluorescent lamps *and* fluorescent ballast to convert your fixture to LED.



IOTA Emergency Solution - IIS Series Inverters

Since these LED Lamps are wired directly to the line voltage, an emergency battery pack cannot be introduced between the driver and the lamp. Therefore your emergency lighting solution must deliver line voltage to the LED lamps from an auxiliary supply. This can be done with a generator or an IOTA IIS Series emergency Inverter (Figure 2). A single IIS Inverter will be capable of running multiple fixtures, regardless of whether they are using LED retrofit lamps or traditional fluorescent tubes. For further details on IOTA IIS Inverter options, refer to Page 32.



Fig.2 - LED tube lamps with internal drivers do not require a fluorescent ballast. When no external ballast is available to wire the emergency ballast to, an auxiliary supply such as a generator or inverter must be used to provide emergency line power.

C LED Retrofit Kits

LED Retrofit Kits include LED tubes or board arrays paired to an LED Driver. The LED lamps and LED driver take the place of your fluorescent lamps and your fluorescent ballast within your existing fluorescent fixture.

IOTA Emergency Solution - ILB-CP Emergency Drivers

When completely replacing the fluorescent technology with LED technology in these retrofit fixtures, the emergency lighting solution of choice is an **emergency LED driver suitable for field installation**. The emergency LED driver installs between the normal LED driver and LED tubes or arrays provided in the kit, and will operate the LEDs during a power loss situation.

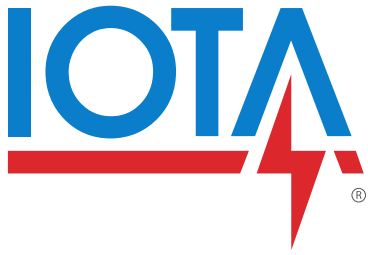
Many LED emergency drivers on the market today are UL Recognized Components for factory installation only and therefore are not typically acceptable for retrofit installation. **IOTA ILB-CP LED Emergency Drivers are UL Listed for field installation**, are fully compatible with retrofit installations, and offer a full line of wattage and mounting styles. Full ILB-CP Series details can be found on Page 6.



Learn more about LED Retrofit on YouTube...

Our popular LED Retrofit Video is a useful resource to understanding the nature of LED retrofit options and emergency requirements. You can find the video on our IOTA YouTube Channel or visit www.iotaengineering.com/retrofit.

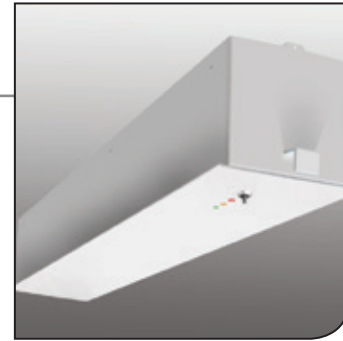




IIS Series Inverter Solutions

IOTA Inverter Systems offer powerful emergency egress solutions for virtually any type of lighting application. Deliver full emergency light output to multiple LED, fluorescent, and incandescent indoor or outdoor fixtures from one reliable auxiliary supply.





- **Mini and Micro Designs**

IOTA IIS Inverters include a full range of wattages to meet your individual load sizes, from 25 to 50 watt micro-inverters to 125 to 550 watt mini-inverter designs.

- **Reliable Solutions for your Lighting Technology**

The IIS Series operates lighting loads consisting of LED, fluorescent, and incandescent fixtures. Specialized models provide unique features to accommodate inrush requirements or dimming preferences.

- **Deliver Full Light Output**

IOTA inverters replicate normal AC line power during a power loss, operating the designated fixtures at full light output along your paths of egress just as they would during normal operation. The IIS inverters will bypass wall switch and dimming settings, ensuring your egress illumination is not compromised in an emergency situation.

- **Indoor and Outdoor Egress Possibilities**

The IIS Series can operate lighting loads at distances up to 250 to 1000 feet, allowing for indoor installation while operating bollards or walkway lighting along the building's outdoor paths of egress.



IIS Inverters combine IOTA's extensive emergency lighting experience with durable and reliable inverter system design. The IIS Series delivers maximum illumination for LED, fluorescent, and incandescent loads in demanding egress applications from one convenient supply...



Micro-Inverter Models

IOTA's IIS Micro-Inverters offer solutions for single fixture or smaller wattage applications. The units can be remotely mounted using available accessory options to provide 25, 35, or 50 watt emergency power to the designated fixture(s). IIS Micro-Inverters feature a replaceable nickel-cadmium battery and are covered under IOTA's 5-year warranty.



Mini Inverter Models

IOTA IIS Mini-Inverters are designed to operate multiple fixtures from a single supply. Models range from 125 watts to 550 watts with design options to accommodate specific load criteria such as inrush potential, dimming requirements, and ceiling grid or surface mount preferences. IOTA IIS Mini-Inverters utilize a maintenance-free valve regulated lead acid (VRLA) battery and is covered under IOTA's 3/7 year pro-rata warranty.



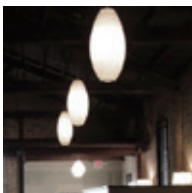
Elevated Ceilings

The full light output of the IIS Inverter is perfect for vaulted or high atrium ceilings in lobbies, foyers, and other critical points of egress.



Stairwells

The IIS Series can operate multiple fixtures in a building's stairwell and can bypass dimmers or occupancy sensors, keeping egress corridors lit without sacrificing your energy-saving controls.



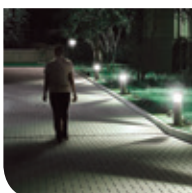
Decorative Fixtures

Hospitality and restaurants can utilize existing decorative LED or incandescent fixtures for emergency lighting, eliminating unattractive wall-mount fixtures in your design space.



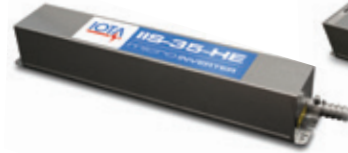
High Bay

High bay fixtures can take advantage of the full light output of IIS Inverters. A single IIS-550-I can operate up to ten 54W T5 lamps.



Outdoor Egress

The IIS Inverter installs within the building's interior, unaffected by exterior conditions. Illuminate walkways, steplights, or bollards along outdoor paths of egress up to 1000 feet away.



IIS-25-I

25-WATT MICRO-INVERTER

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

32 Watts

Output Voltage

Slide Switch Selectable
120/277Vac, 60Hz

Output Power

25 Watts
(@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED (per NEMA 410)
Fluorescent
Incandescent

Emergency Operation

90 minutes

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

0° to 50° C

Battery

High-temp rechargeable,
replaceable nickel-cadmium

Weight

6.5 lbs

Approval

UL 924 Listed for U.S. and Canada.
CSA C22 No. 141 Unit Equipment
for Emergency Lighting.



Damp Location Rated.
RoHS Compliant.

Dimensions

17.77" x 3.0" x 2.75"
(mounting center 17.25")

Qualified to NEMA 410

RoHS Compliant

IIS-35-I

35-WATT MICRO-INVERTER

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

44 Watts

Output Voltage

Slide Switch Selectable
120/277Vac, 60Hz

Output Power

35 Watts
(@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED (per NEMA 410)
Fluorescent
Incandescent

Emergency Operation

90 minutes

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

0° to 50° C

Battery

High-temp rechargeable,
replaceable nickel-cadmium

Weight

6.5 lbs

Approval

UL 924 Listed for U.S. and Canada.
CSA C22 No. 141 Unit Equipment
for Emergency Lighting.



Damp Location Rated.
RoHS Compliant.

Dimensions

17.77" x 3.0" x 2.75"
(mounting center 17.25")

Qualified to NEMA 410

RoHS Compliant

IIS-35-HE

35-WATT MICRO-INVERTER

Input Voltage

Universal 120-277Vac, 50/60Hz

Input Rating (bulk)

43 Watts

Output Voltage

Slide Switch Selectable
120/277Vac, 60Hz

Output Power

35 Watts
(@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED (per NEMA 410)
Fluorescent
Incandescent

Emergency Operation

90 minutes

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

0° to 50° C

Battery

High-temp rechargeable
nickel-cadmium

Weight

6.5 lbs

Approval

UL 924 Listed for U.S.



Meets CEC energy requirements
Damp Location Rated.
RoHS Compliant.

Dimensions

19.94" x 2.88" x 2.75"
(mounting center 19.4")

Qualified to NEMA 410

RoHS Compliant

IIS-50-I

50-WATT MICRO-INVERTER

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

60 Watts

Output Voltage

Slide Switch Selectable
120/277Vac, 60Hz

Output Power

50 Watts
(@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED (per NEMA 410)
Fluorescent
Incandescent

Emergency Operation

90 minutes

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

0° to 50° C

Battery

High-temp rechargeable,
replaceable nickel-cadmium

Weight

9.0 lbs

Approval

UL 924 Listed for U.S. and Canada.
CSA C22 No. 141 Unit Equipment
for Emergency Lighting.



Damp Location Rated.
RoHS Compliant.

Dimensions

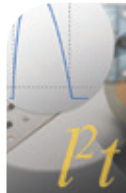
22.5" x 3.0" x 2.75"
(mounting center 22.0")

Qualified to NEMA 410

RoHS Compliant



5-Year Warranty



Qualified to NEMA 410

Qualified to NEMA 410 to handle increased inrush in LED load applications and provide confident operation with LED lighting system components.



RoHS Compliant

IOTA's IIS Micro-Inverters are responsibly designed and manufactured to RoHS standards for minimal environmental impact.



High-Efficiency Design

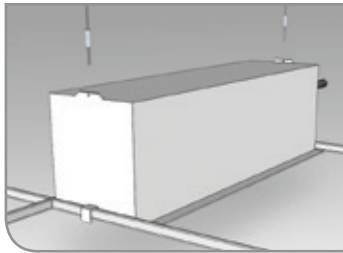
Features controlled power consumption to meet CEC energy requirements for the State of California.

Mini-Inverter Mounting

The 125W mini-inverter model is available in two mounting designs: Ceiling Grid (-CG) and Surface Mount (-SM). Larger wattage IIS units are available as surface mount models. See below for descriptions of the two mounting options.

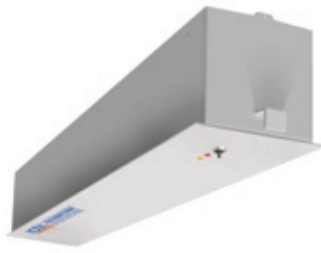
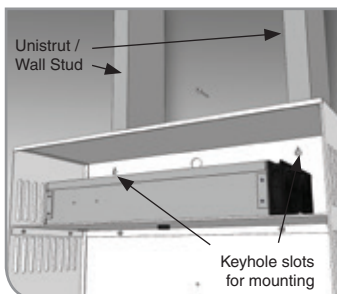
Ceiling Grid Mounting

The ceiling grid model (IIS-125-CG) mounts across the 2-ft T-bars of a grid ceiling. Support wires are connected to the mounting tabs at the top of the unit and secured to the building framework. Knock-outs are located on one end of the unit for connecting conduit containing the AC supply and fixture leads. The 1.25-inch flange on either side provides support for the re-sized ceiling tile.



Surface Mounting

Surface mount models install directly to the wall. Keyhole slots at the back of the unit are spaced for secure mounting to the wall's unistrut or studs. Knockouts provide rear or side access for connection of wiring conduit. An additional hole is provided to prevent inadvertent lifting of the unit from the keyholes.



IIS-125-CG

125-WATT CEILING GRID MOUNT

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

150 Watts

Output Voltage

Dual 120/277Vac, 60Hz

Output Power

125 Watts (@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED*

Fluorescent

Incandescent

Transfer Time

< 50 milliseconds

Emergency Operation

90 minutes

Voltage Regulation (emergency)

+ / - 10%

Frequency Regulation (emergency)

+ / - 3%

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

20° to 30° C

Battery

Maintenance-free valve-regulated lead-acid (VRLA)

Weight

42.5 lbs

Approval

UL 924 Listed for U.S.



Dimensions

23.75" x 6.50" x 7.625"

(incl. mounting brackets and flange: 23.375" x 8.0")

Dimming Relay Option

IIS-125-SM

125-WATT SURFACE MOUNT

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

150 Watts

Output Voltage

Dual 120/277Vac, 60Hz

Output Power

125 Watts (@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED*

Fluorescent

Incandescent

Transfer Time

< 50 milliseconds

Emergency Operation

90 minutes

Voltage Regulation (emergency)

+ / - 10%

Frequency Regulation (emergency)

+ / - 3%

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

20° to 30° C

Battery

Maintenance-free valve-regulated lead-acid (VRLA)

Weight

46.0 lbs

Approval

UL 924 Listed for U.S.



Dimensions

23.15" x 11.71" x 4.5"

Dimming Relay Option

Designed for Superior Performance

IOTA IIS Mini-Inverters are engineered and manufactured for reliable performance in your egress applications...see Page 38 for more product details.



Long-Life VRLA Battery Supply



Low Battery Disconnect and Line Latch Protection



Durable Steel Construction with Powder Coat Finish



3/7 Pro-Rata Warranty



IIS-375-I

375-WATT MINI-INVERTER

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

500 Watts

Output Voltage

Dual 120/277Vac, 60Hz

Output Power

375 Watts (@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED*

Fluorescent

Incandescent

Transfer Time

< 50 milliseconds

Emergency Operation

90 minutes

Voltage Regulation (emergency)

+ / - 2% @ 15% to 110% load

Frequency Regulation (emergency)

+ / - 0.5%

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

20° to 30° C

Battery

Maintenance-free valve-regulated lead-acid (VRLA)

Weight

114.0 lbs

Approval

UL 924 Listed for U.S.



Dimensions

23.0" x 17.83" x 8.2"



IIS-375-LED

375-WATT LED MINI-INVERTER

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

500 Watts

Output Voltage

Dual 120/277Vac, 60Hz

Output Power

375 Watts (@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED loads

per NEMA 410

Transfer Time

< 50 milliseconds

Emergency Operation

90 minutes

Voltage Regulation (emergency)

+ / - 2% @ 15% to 110% load

Frequency Regulation (emergency)

+ / - 0.5%

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

20° to 30° C

Battery

Maintenance-free valve-regulated lead-acid (VRLA)

Weight

114.0 lbs

Approval

UL 924 Listed for U.S.



Dimensions

23.0" x 17.83" x 8.2"

Qualified to NEMA 410

Dimming Relay Option



IIS-550-I

550-WATT MINI-INVERTER

Input Voltage

Dual 120/277Vac, 60Hz

Input Rating (bulk)

675 Watts

Output Voltage

Dual 120/277Vac, 60Hz

Output Power

550 Watts (@0.9 leading to 0.9 lagging PF)

Lamps Operated

LED*

Fluorescent

Incandescent

Transfer Time

< 50 milliseconds

Emergency Operation

90 minutes

Voltage Regulation (emergency)

+ / - 2% @ 15% to 110% load

Frequency Regulation (emergency)

+ / - 0.5%

Load Power Factor Range

0.9 leading to 0.9 lagging PF

Operating Temp

20° to 30° C

Battery

Maintenance-free valve-regulated lead-acid (VRLA)

Weight

145.0 lbs

Approval

UL 924 Listed for U.S.



Dimensions

23.0" x 17.83" x 8.2"

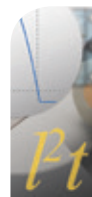
Dimming Relay Option

*IIS units not qualified to NEMA 410 require a 20% de-rating for LED applications



Dimming Relays

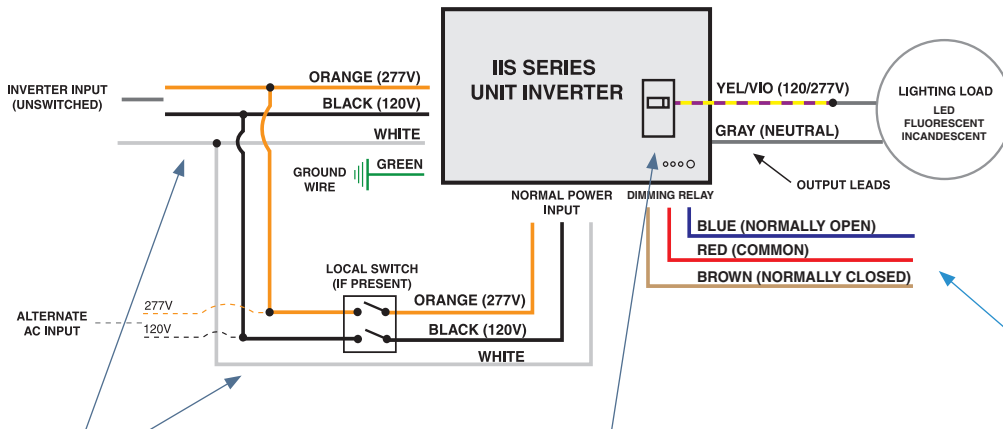
The Dimming Relay (DR) option allows the fixtures to operate at a 0-10vdc dimmed setting and enables the IIS Inverter to bypass the dimming signal to function at full power in the emergency mode.



Qualified to NEMA 410

The IIS-375-LED Inverter is qualified to NEMA 410 to handle increased inrush in LED load applications and provides confident operation with LED lighting system components.

Typical Wiring Diagram - Mini-Inverter



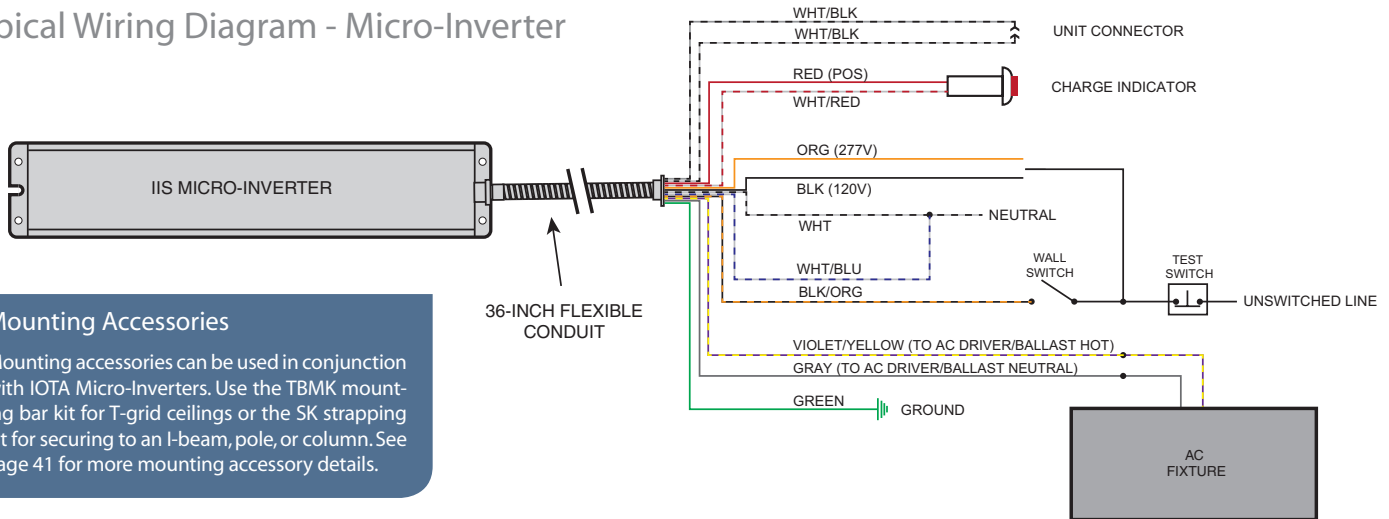
Wiring of the IIS Inverter may vary depending on the specific model. Always refer to the product specification sheet or installation manual for specific wiring details. Find a full selection of IIS Inverter resources in our online Technical Library at www.io-engineering.com/services or call our Technical Services team at 1-855-363-9527.

AC Input Leads
IIS Inverters utilize two sets of input leads: one to provide unswitched power to the inverter system and a second to serve as a normal power input to the lighting circuit. Any switch for the designated load will be present on the Normal Power Input leads. For emergency operation only, the Normal Input leads would be disconnected and capped.

Internal Circuit Breaker
The internal circuit breaker protects the inverter from overload on the output side of the unit. Internally, the appropriate voltage lead is selected for connection to the line side of the circuit breaker and the designated emergency load connects to the single Yellow/Violet 120/277V hot lead. *Note: circuit breaker wiring may vary depending on model.*

Dimming Relay (optional)
Dimming Relay options are available on select models for accommodating energy-saving control settings. See below for dimming relay ('DR') details.

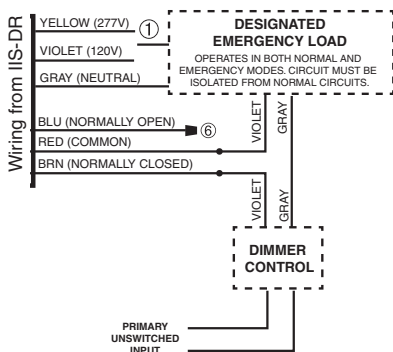
Typical Wiring Diagram - Micro-Inverter



Mounting Accessories
Mounting accessories can be used in conjunction with IOTA Micro-Inverters. Use the TBMK mounting bar kit for T-grid ceilings or the SK strapping kit for securing to an I-beam, pole, or column. See Page 41 for more mounting accessory details.

Dimming Relay Options

The **"DR" Dimming Relay** option provides additional capability when used with dimming controls. The DR option interfaces with 0-10V leads to allow for the use of dimming settings without interfering with the emergency lighting function. See below for application details. The Dimming Relay option is available on select IIS Inverter Models (IIS-125, IIS-375-LED, and IIS-550-I). Add the "-DR" suffix to specify the Dimming Relay feature.



Dimmer Bypass Application

The Dimming Relay contacts provide electrical continuity during normal power conditions, allowing your dimming signal to operate the luminaire in the desired, dimmed state. When the inverter transfers into the emergency mode, the dimming relay contacts electrically open the 0-10V dimming reference signal and force the luminaire to operate at full lumen output regardless of the dimmer setting.

Add '-DR' to the IIS Model Number when requiring the Dimming Relay option.

- IIS-125-CG
- IIS-125-SM
- IIS-375-LED
- IIS-550-I



Extended Run-times

Emergency lighting for Tornado Safe Rooms require a two hour minimum of emergency operation to meet FEMA requirements. While IOTA IIS Inverters are typically used for 90-minute run-times per the Life Safety Code, they can fulfill the FEMA requirement by balancing the load demand with the battery capacity. Use these load wattages for the IIS Inverters to achieve the FEMA two hour run-time.

For more information regarding IOTA products for FEMA applications, contact our Customer Service team or visit the FEMA website at www.fema.gov. The FEMA criteria regarding safe room occupancy can be found in Chapter 8 of FEMA's **Design and Construction Guidance for Community Safe Rooms** Section 8.2.1, Section 8.8, and Section 8.10.

Model	De-rating
IIS-25	20W
IIS-35	26W
IIS-50	40W
IIS-125	100W
IIS-375	300W
IIS-550	440W



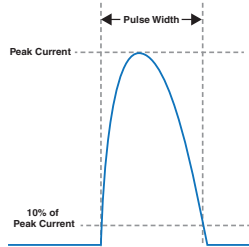
Remote Mounting Distances

The distance at which the IIS Inverter will operate a load is determined by a combination of the voltage, load wattage, and wire gauge. This table will help determine the maximum remote mounting distance (in feet), allowing for a 3% voltage drop.

Watts	120V			277V
	14 gauge	12 gauge	10 gauge	14 gauge
50W	1600 ft	2468 ft	4084 ft	8623 ft
100W	809 ft	1249 ft	2066 ft	4311 ft
125W	646 ft	997 ft	1649 ft	3445 ft
150W	537 ft	829 ft	1372 ft	2874 ft
200W	404 ft	624 ft	1033 ft	2155 ft
250W	323 ft	493 ft	827 ft	1722 ft
300W	268 ft	414 ft	686 ft	1437 ft
350W	230 ft	356 ft	589 ft	1230 ft
375W	214 ft	331 ft	548 ft	1146 ft
550W	146 ft	226 ft	374 ft	779 ft

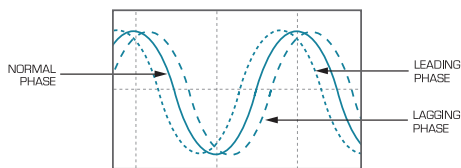
Inverter Terminology

Inrush Current - The maximum, instantaneous input current drawn from electrical devices when first turned on and which is greater than the input current generated during normal operation. This condition is prevalent in LED technology. Where inverters are concerned, the design must be capable of handling the combined draw of all equipment on the circuit without triggering over-current protection features. Inrush is calculated by using the expression I^2t where I equals the maximum Peak Current and t is the Pulse Width duration (ms). The combined I^2t values of all devices on the circuit will provide the total inrush value.



Interruptible - Indicates a measurable transfer time exists when the designated emergency load is switched between the normal AC supply to the emergency supply of the inverter. The transfer time (less than 5 milliseconds) is acceptable for LED, fluorescent, and incandescent loads, but not for HID lamp types that require an uninterrupted supply of power (zero transfer time) when used for emergency lighting.

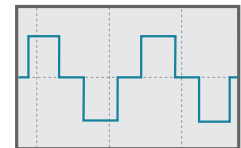
Leading to Lagging - Leading to Lagging is a measurement of the phase difference between two sinusoidal waves. The phase difference varies depending on the load. IIS Inverters are designed for operating loads with a .9 leading to .9 lagging power factor (PF).



Low Battery Voltage Disconnect - The Low Battery Voltage Disconnect is a safeguard that disconnects the battery when battery voltage drops to an insufficient level. Disconnecting the battery prevents damage that could occur to the inverter equipment from a low voltage condition.

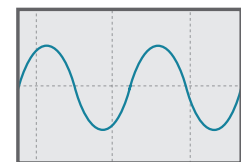
Line-Latch Protection - The Line-Latch protection feature prevents the battery from prematurely resuming operation after Low Battery Voltage Disconnect. To prevent deep discharge, the battery will not resume emergency operation until AC power has been restored and has charged the battery to sufficient levels.

Modified Sine Wave - A modified sine wave (sometimes referred to as a 'simulated' sine wave) is an AC current that is not a pure sine wave. Modified sine waves have some load limitations in regard to electronic equipment. Lighting loads, however, are typically unaffected by modified sine wave current.



Example of a modified sine wave

Pure Sine Wave - A pure sine wave is indicative of normal AC voltage. There are no load limitations with pure sine wave output.



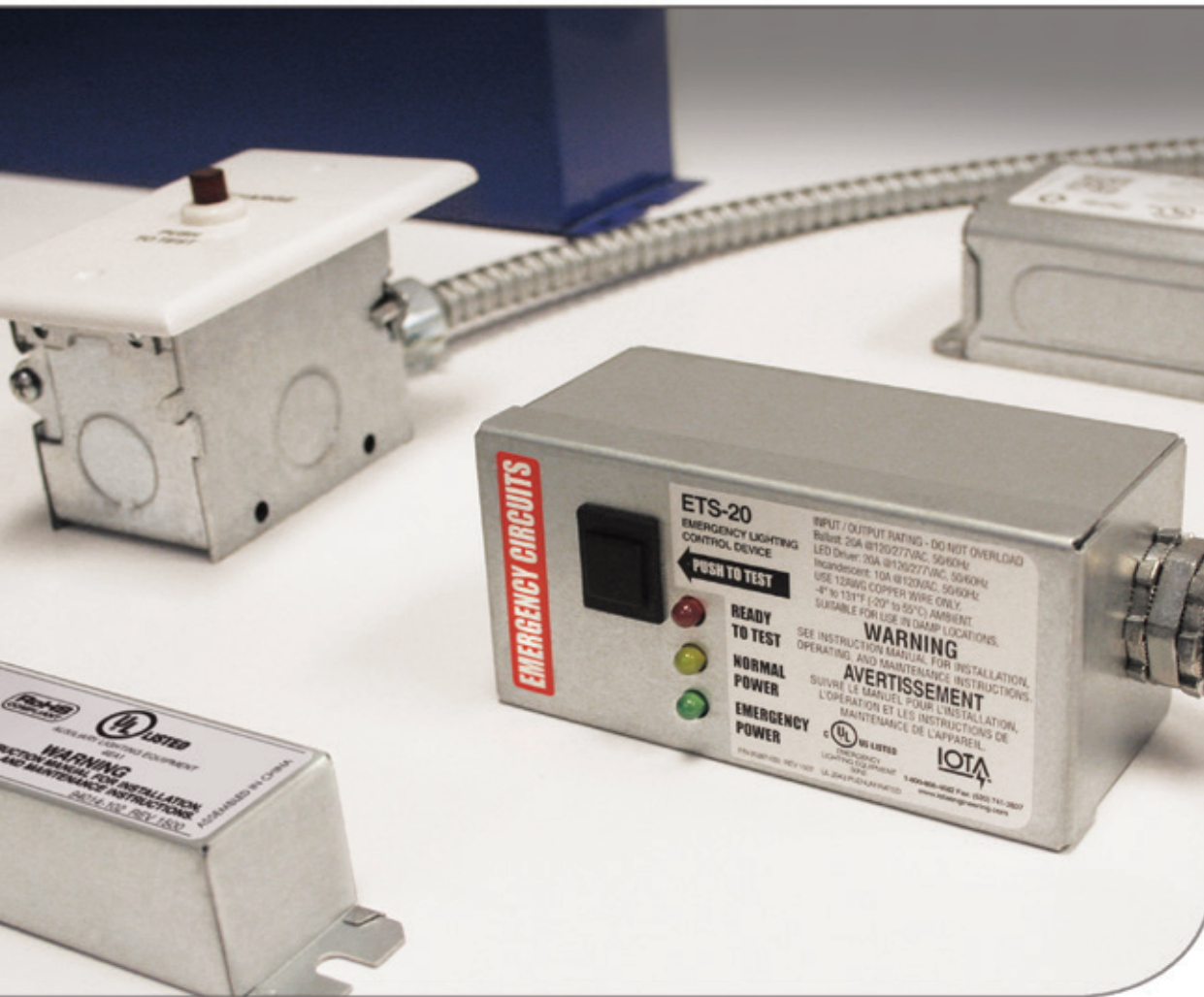
Example of a pure sine wave

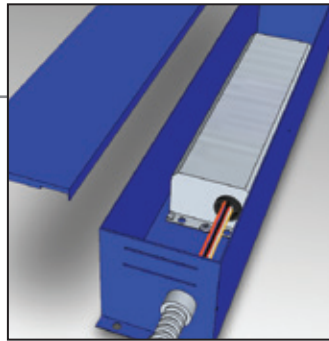
VRLA (Valve Regulated Lead Acid) Battery - A VRLA battery is a sealed maintenance-free lead-acid battery. The valve design keeps the battery sealed while allowing the venting of gasses that may be generated by over-charging.



Auxiliary Control Devices and Installation Accessories

IOTA's emergency control devices and mounting accessories work in conjunction with your emergency lighting and auxiliary supplies to deliver improved energy savings, enhanced lighting control, or ease of installation and access.





- **Energy-Saving Controls for Emergency Lighting**

IOTA ETS and ETS-20 products eliminate the need for energy-wasting night lights and always-on fixtures by allowing the use of switches and controls on auxiliary generator and inverter circuits.

- **Dimming Relays**

Use ETS “DR” and ETS-STEP models to bring enhanced 0-10V dimming control for operating fixtures at your preferred lighting level. During a loss of normal power, the IOTA ETS device will allow operation of the fixture at full brightness from the auxiliary supply.

- **Dual Zone Dimming**

IOTA’s innovative ETS-20-DR provides enhanced dimming control on emergency fixtures with Dual Zone Dimming capability, bypassing up to two different dimming control settings during a loss of normal power.

- **Mounting Accessories**

Our mounting accessories offer convenient solutions to make your IOTA emergency battery pack or micro-inverter a perfect fit for your fixture or facility application.



Energy Savings and Enhanced Control

IOTA's ETS-20 and ETS-20-DR allow you to regain the use of switching or other controls, such as dimmers, timers, or occupancy sensors, on your designated emergency fixtures powered by an auxiliary AC supply. In the event of a power loss, the ETS unit will bypass the local control device to allow emergency power to the fixture. This promotes increased energy savings by eliminating the need for unswitched or "always-on" night lights in your facility.

ETS-20

FOR 20-AMP LOADS

Input Voltage

Dual 120/277VAC, 50/60Hz

Maximum Load Ratings

LED Driver: 8A@120Vac, 50/60Hz per NEMA 410

LED Driver: 8A@277Vac 50/60Hz per NEMA 410

Ballast: 20A@120/277Vac, 50/60Hz

Incandescent: 10A@120Vac, 50/60Hz

Emergency Operation

The ETS-20 will operate in conjunction with any lighting load as noted in the specifications in the designated 20 amp circuit for the duration of the auxiliary supply.

Initial Illumination

Full light output

Operating Temp

-20° to 55° C (-4° to 131° F)

Weight

1.0 lbs

Approval

UL 924 Listed.

Rated for damp location and plenum applications.

Dimensions

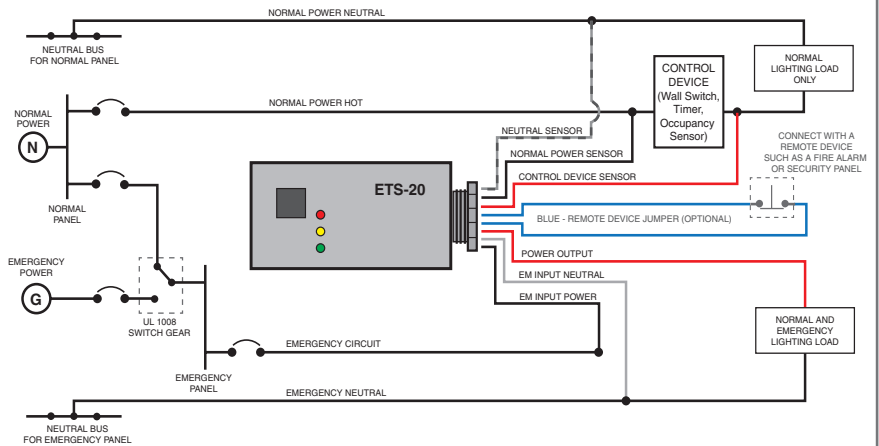
4.625" x 2.25" x 2.25"

Threaded Coupling: 1" with 0.5 diam.

Qualified to NEMA 410

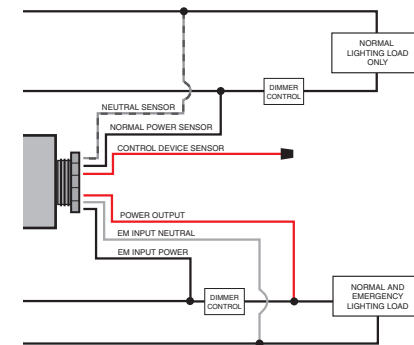
Typical Application

During presence of normal power, the ETS-20 senses the setting of the 'ON/OFF' control device through the red wire (Control Device Sensor) and operates the Normal/EM mode accordingly. When normal power is lost, the ETS-20 allows operation of the Normal/EM load at full output from the auxiliary supply, regardless of control device status.



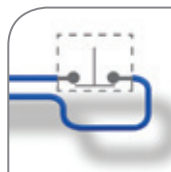
Dimming Option Application

The ETS-20 can also be used with dimming applications by applying a second dimmer to the Normal/EM circuit. This 'two dimmer' arrangement provides dimming capabilities to the Normal and Normal/EM loads separately. In this scenario, when emergency power is activated, the ETS-20 will then route power around only the dimmer on the EM circuit. For more enhance dimming functionality, see the ETS-20-DR.



Designed for Superior Performance

IOTA Emergency Lighting Products are engineered and manufactured for reliable performance in your egress applications.



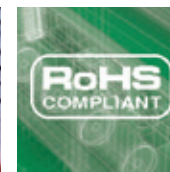
Jumper lead for connection to optional trigger device.



Galvanized steel construction



Suitable for damp, freezing, or plenum applications



RoHS-Compliant



5-Year Warranty



Dual Zone Dimming with the ETS-20-DR

The ETS-20-DR provides two sets of dimming relays for use with Dual Zone dimming (such as a classroom that would demand full brightness on the speaker and a dimmed zone over the audience). The ETS-20-DR allows for two-wire dimming of zones that would be comprised of both normal and EM fixtures. In the event of a power loss, any dimmed emergency fixtures in either zone will switch to the emergency supply and come on at full brightness.

ETS-20-DR

20-AMP WITH DIMMING RELAY

Input Voltage

Dual 120/277VAC, 50/60Hz

Maximum Load Ratings

LED Driver: 8A@120Vac, 50/60Hz per NEMA 410

LED Driver: 8A@277Vac 50/60Hz per NEMA 410

Ballast: 20A@120/277Vac, 50/60Hz

Incandescent: 10A@120Vac, 50/60Hz

Emergency Operation

The ETS-20-DR will operate in conjunction with any lighting load as noted in the specifications in the designated 20 amp circuit for the duration of the auxiliary supply.

Initial Illumination

Full light output

Operating Temp

-20° to 55° C (-4° to 131° F)

Weight

1.0 lbs

Approval

UL 924 Listed.

Rated for damp location and plenum applications.

Dimensions

4.625" x 2.25" x 2.25"

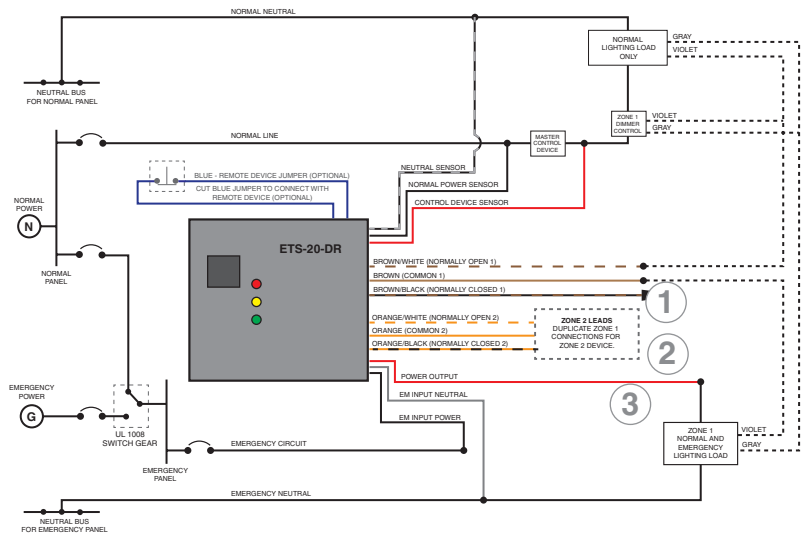
Threaded Coupling: 1" with 0.5 diam.

Qualified to NEMA 410

Dimming Relay Option

Typical Application

Function and wiring of the ETS-20-DR is identical to that of the ETS-20 but with the addition of the Dimming Relay leads. The red wire serves as the 'switch sense' for the master switch position for all zones, allowing all of the emergency fixtures to be switched off or dimmed when not needed.



Connecting the Dimming Relays

- 1 The first relay leads connect to the dimming control for Zone 1. The dimming signal is passed through the ETS-20-DR to the EM load. During a power loss, the dimming signal is bypassed and full power is given to the EM load.
- 2 For this application, the unused relay lead is capped. However, this lead can be connected to another control device (such as an alternative dimmer) to accept a signal other than full output while in the EM mode.
- 3 Duplicate the connections for the second set of relays to Zone 2.

CONTROLS & ACCESSORIES



Qualified to NEMA 410

IOTA ETS products are qualified to NEMA 410 to handle increased inrush in LED load applications and provide confident operation with LED lighting system components.



Dimming Relays

The ETS-20-DR features two sets of dimming relays that enable users to bypass two separate dimming controls, providing dimming in up to two different zones without compromising emergency lighting.

Learn more on YouTube...

Our YouTube video provides helpful insight into operation and installation of the ETS-20 and ETS-20-DR control unit.



SCAN TO WATCH



ETS

EMERGENCY CONTROL DEVICE

The IOTA ETS allows the use of local controls, such as a wall switch, timer, or occupancy sensor, on a designated emergency fixture powered by an auxiliary power supply. In the event of a power loss, the ETS will bypass the local control to allow power from the auxiliary supply. This promotes increased energy savings by eliminating the need for unswitched or “always-on” night lights in your facility.

Input Voltage

Dual 120/277Vac, 60Hz

Input Current

35 mA

Maximum Switching Voltage

3 Amps @ 120Vac
3 Amps @ 277Vac

Circuit Protection

3A on Control Input
3A on Neutral and 120/277V Outputs

Emergency Operation

The ETS allows operation of any lamp type in the designated fixture for the duration of the auxiliary supply.

Initial Illumination

Full light output

Operating Temp

0° to 55° C

Weight

1.0 lbs

Approval

UL 924 Listed for U.S.



Rated for use in plenum fixtures.

Dimensions

8.0" x 1.18" x 1.125"
(mounting center: 7.5")

Qualified to NEMA 410



ETS-DR

EMERGENCY CONTROL DEVICE FOR 0-10V DIMMING

The IOTA ETS-DR provides the same enhanced energy-saving control for fixtures using 0-10V dimming leads. The ETS-DR interfaces with the 0-10V leads to allow fixtures to operate normally at the preferred illumination level but will bypass those settings to operate the emergency fixture at full output while in emergency mode.

Input Voltage

Dual 120/277Vac, 60Hz

Input Current

35 mA

Maximum Switching Voltage

3 Amps @ 120Vac
3 Amps @ 277Vac

Circuit Protection

3A on Control Input
3A on Neutral and 120/277V Outputs

Dimming Capability

For use in 0-10 volt dimming circuits up to 100mA

Emergency Operation

The ETS-DR allows operation of any lamp type in the designated fixture for the duration of the auxiliary supply.

Initial Illumination

Full light output

Operating Temp

0° to 55° C

Weight

1.0 lbs

Approval

UL 924 Listed for U.S.



Rated for use in plenum fixtures.

Dimensions

8.0" x 1.18" x 1.125"
(mounting center: 7.5")

Qualified to NEMA 410

0-10Vdc Dimming Relays



ETS-STEP

EMERGENCY CONTROL DEVICE FOR STEP DIMMING

The IOTA ETS-STEP utilizes a dual relay design to accommodate bi-level controls for step dimming applications. The ETS-STEP allows the fixture to be controlled at the different switched states during normal power but will bypass those settings to operate the fixture at full output while in emergency mode.

Input Voltage

Dual 120/277Vac, 60Hz

Input Current

35 mA

Maximum Switching Voltage

3 Amps @ 120Vac
3 Amps @ 277Vac

Circuit Protection

3A on Control Input
3A on 120/277V Outputs

Dimming Capability

For use in step dimming applications

Emergency Operation

The ETS-STEP allows operation of any lamp type in the designated fixture for the duration of the auxiliary supply.

Initial Illumination

Full light output

Operating Temp

0° to 55° C

Weight

1.0 lbs

Approval

UL 924 Listed for U.S.



Rated for use in plenum fixtures.

Dimensions

8.0" x 1.18" x 1.125"
(mounting center: 7.5")

Qualified to NEMA 410

Step Dimming Relays

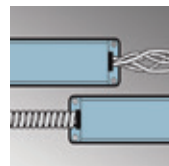


Qualified to NEMA 410

The IOTA ETS is qualified to NEMA 410 to handle increased inrush in LED load applications and provide confident operation with LED lighting system components.



Galvanized steel construction



Integral and Flex Models Available



RoHS-Compliant



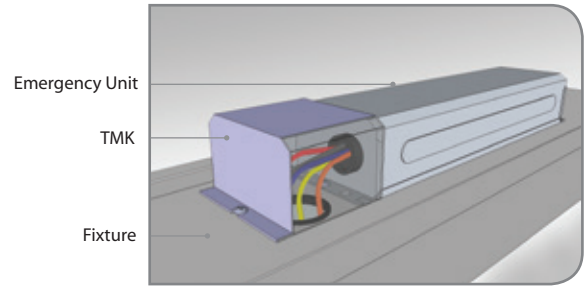
5-Year Warranty

IOTA mounting accessories provide options for remote installation of the emergency ballast and test equipment and for ensuring compliance with national and local code requirements. For further details on IOTA mounting accessories, contact our Customer Service team.

TMK-80, TMK-32 and TMK-ISL Top Mount Cover

Use the **TMK** accessory when a unit is mounted on top of the fixture. To avoid exposed wiring when emergency battery packs are top-mounted, the **TMK** is used to cover the wiring that goes from the battery pack into the fixture. **TMK** models are available for standard profile (TMK-80), reduced profile (TMK-32), or slim profile (TMK-ISL) units.

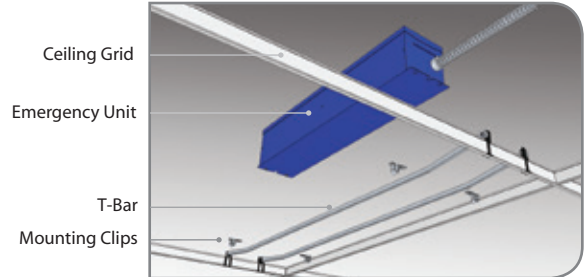
Can be used with [IOTA EMERGENCY LED DRIVERS](#) [IOTA EMERGENCY BALLASTS](#)



TBMK Mounting Kit

Use the **TBMK** in instances where the battery pack cannot be mounted on the fixture, such as with downlights or other compact T-grid applications. The battery pack is mounted on the **TBMK**, which is then mounted on the T-bars of the ceiling grid. The battery pack is secured to the **TBMK** with mounting clips. Wiring runs to the fixture via flexible conduit. The **TBMK** can accept any size IOTA emergency battery pack, and can also be used in conjunction with the RME1 remote mounting enclosure.

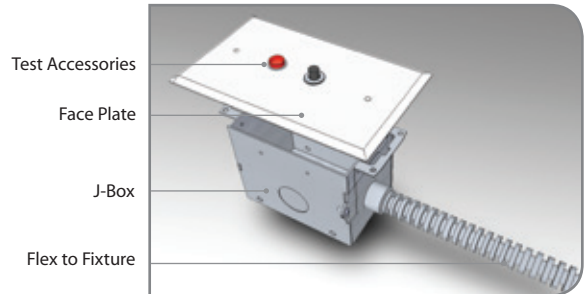
Can be used with [IOTA EMERGENCY LED DRIVERS](#) [IOTA EMERGENCY BALLASTS](#) [IOTA IIS MICRO-INVERTERS](#)



RTK Remote Test Kit

The Remote Test Kit (RTK) allows for remote mounting of the test switch and charge indicator light. The kit consists of 3 feet of flex, the junction box containing the test switch and charge indicator, and faceplate. Also available with single-piece TBTS test accessory (TBTS-RTK). When ordering, specify which IOTA models are being equipped with RTK accessories to ensure component compatibility.

Can be used with [IOTA EMERGENCY LED DRIVERS](#) [IOTA EMERGENCY BALLASTS](#)

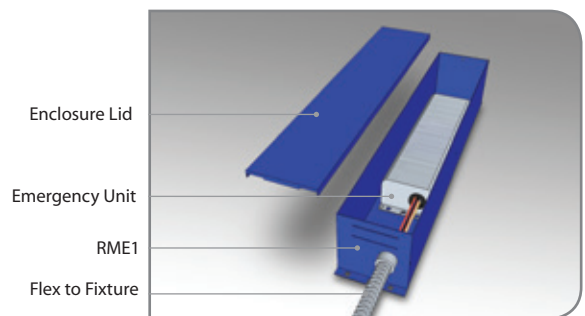


RME1 Remote Mounting Enclosure

The **RME1** enclosure is the perfect size to accept most IOTA non-flexed battery packs for remote mounting. The emergency battery pack is secured within the enclosure and wiring is routed through the 2-ft flexible conduit of the **RME1** to the fixture.

Enclosure Dimensions: 16.375" x 3.0" x 3.0"

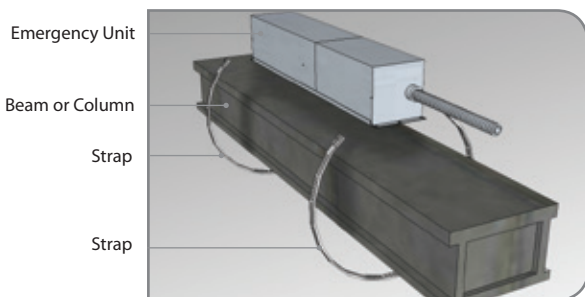
Can be used with [IOTA EMERGENCY LED DRIVERS](#) [IOTA EMERGENCY BALLASTS](#)



SK Strapping Kit

The strapping kit provides (2) straps that run through the mounting tabs on select IOTA units for securing to a beam or column near the fixture. Overall strap length is 18".

Can be used with [IOTA EMERGENCY LED DRIVERS](#) [IOTA IIS MICRO-INVERTERS](#)



Below are pertinent sections of the Life Safety Code concerning the use, maintenance, and testing of emergency lighting equipment. Referencing local state and municipal safety codes is also advised, as these may supersede national requirements.

“7.9.2.1 Emergency illumination shall be provided for a minimum of 1 1/2 hours in the event of failure of normal lighting. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 ft-candle (10.8 lux) and, at any point, not less than 0.1 ft-candle (1.1 lux), measured along the path of egress at floor level. Illumination levels shall be permitted to decline to not less than an average of 0.6 ft-candle (6.5 lux) and, at any point, not less than 0.06 ft-candle (0.65 lux) at the end of the 1 1/2 hours. A maximum-to-minimum illumination shall not exceed a ratio of 40 to 1.”

Periodic Testing of Emergency Lighting Equipment

7.9.3.1.1 Testing of required emergency lighting systems shall be permitted to be conducted as follows:

- (1) Functional testing shall be conducted monthly, with a minimum of 3 weeks and a maximum of 5 weeks between tests, for not less than 30 seconds, except as otherwise permitted by 7.9.3.1.3.
- (2) The test interval shall be permitted to be extended beyond 30 days with the approval of the authority having jurisdiction.
- (3) Functional testing shall be conducted annually for a minimum of 1 1/2 hours if the emergency lighting system is battery powered.
- (4) The emergency lighting equipment shall be fully operational for the duration of the tests required by 7.9.3.1.1 (1) and 7.9.3.1.1 (3).
- (5) Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.

Testing of Self-Diagnostic Equipment

7.9.3.1.2 Testing of required emergency lighting systems shall be permitted to be conducted as follows:

- (1) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.
- (2) Not less than once every 30 days, self-testing/self-diagnostic battery-operated emergency lighting equipment shall automatically perform a test with a duration of a minimum of 30 seconds and a diagnostic routine.
- (3) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall indicate failures by a status indicator.
- (4) A visual inspection shall be performed at intervals not exceeding 30 days.
- (5) Functional testing shall be conducted annually for a minimum of 1 1/2 hours.
- (6) Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be fully operational for the duration of the 1 1/2 hour test.
- (7) Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.”

Project Notes



Committed to Providing the Best Products and Service in the Industry...

Our mission is to provide you with both reliable emergency solutions and unparalleled customer service throughout all stages of your lighting project - from product specification and selection to installation and assistance in the field if needed. Our industry experience is your resource for making your emergency egress requirements a success.

Call us at 1-800-866-4682

Our Customer and Technical Support teams are only a phone call away. Our calls are answered by IOTA personally during business hours, so you don't have to deal with frustrating automated dialing directories. We're happy to assist you with any pricing, product, or ordering information you may need. Have a technical question? You can call our Tech Support team directly at 1-855-363-9527.



Visit us at www.iotaengineering.com

The IOTA website is full of useful product and technical references to help you with your lighting project. Product specifications, wiring, and installation manuals can be found in our on-line technical library, as well as useful tech bulletins and application articles. While on our website, you can locate your nearest IOTA lighting representative or sign up to receive our informative News and Product announcements.



Connect with us on Social Media

You can find IOTA on Facebook, Twitter, Linked In, and YouTube. It's a great way to stay up-to-date with the latest product news, find shared industry insight, receive our handy #IOTA Tech Tips, review our emergency lighting product videos, or learn about upcoming IOTA events and exhibits!





Five Decades of Innovation and Excellence in the Lighting Industry

Based in Tucson, Arizona, IOTA Engineering has been designing and manufacturing advanced lighting solutions since 1968. Initially involved with the development of high-intensity fluorescent DC ballast technology for NASA's Skylab, IOTA has since grown to be an industry leader in reliable emergency solutions for today's sophisticated lighting designs. With a clear focus on innovation, quality, and service, IOTA's emergency lighting products continue to set new standards for public and commercial egress applications.



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P.O. Box 11846 Tucson, AZ 85734
1361 E. Wieding Road Tucson, AZ 85706
T. 1-800-866-4682 • F. (520) 741-2837
www.iotaengineering.com

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