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ILB CP18 HE CW

COLD WEATHER
HIGH EFFICIENCY EMERGENCY
LIGHTING EQUIPMENT
FOR LED

Patented. See iotaengineering.com/patents for more details

INSTRUCTION MANUAL

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. **WARNING** – Risk of personal injury or property damage. When installing sealed lead-acid (SLA) batteries in sealed and gasketed luminaires a method of proper venting must be incorporated.
2. **CAUTION** – This fixture provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency sources by turning off the A.C. branch circuit and by disconnecting the battery unit connector.
3. **CAUTION** – Installation and servicing should be performed by **qualified personnel only**. De-energize before opening.
4. Do not join the battery unit connector until installation is complete. If AC voltage is supplied to the unit with the unit connector open, the **IPS** Test Switch will start blinking after 10 seconds. This indicates that either the battery is disconnected or the unit connector is open.
5. The battery is field replaceable. Contact Customer Service for information on replacement. Use caution when replacing battery, and dispose of battery properly.
6. The **ILB CP18 HE CW** is for use with grounded LED luminaires listed to UL standards. Not for use in heated air outlets or hazardous locations.
7. The **ILB CP18 HE CW** requires an unswitched A.C. power source of 120 to 277 volts AC, 50/60Hz.
8. The **ILB CP18 HE CW** and A.C. driver **must** be on the same branch circuit.
9. Do not mount near gas or electric heaters.
10. The **ILB CP18 HE CW** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
11. The **ILB CP18 HE CW** will supply 20-58 VDC output at 18 Watts for 90 minutes.
12. The **ILB CP18 HE CW** is certified in the CA Title 20 Modernized Appliance Efficiency Database System (MAEDBS) as a small battery charger.
13. Suitable for use in damp locations and enclosed and gasketed fixtures if proper ventilation method is present.
14. For use in -20° C minimum, 60° C maximum ambient temperatures.
15. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition, void warranty, and result in non-compliance with UL specifications.
16. Do not use this equipment for other than intended use.
17. Install in accordance with the National Electrical Code and local regulations.
18. Lighting fixture manufacturers, electricians, and end-users need to ensure product system compatibility before final installation. See addendum for compatibility and covered luminaire requirements.

SAVE THESE INSTRUCTIONS



EMERGENCY LED DRIVER FOR USE
WITH LED LUMINAIRES IDENTIFIED
IN THE MANUFACTURER'S
INSTALLATION INSTRUCTIONS
E99113



HIGH EFFICIENCY PERFORMANCE
MEETS CA T20 BATTERY CHARGER
EFFICIENCY STANDARDS



THIS UNIT CONTAINS
SEALED LEAD ACID BATTERIES
PLEASE RECYCLE OR DISPOSE OF PROPERLY

VERIFYING COMPATIBILITY

The ILB CP18 HE CW can be used with most LED loads that operate at 20-58 VDC up to a load rating of 18 Watts.

1. The ILB CP18 HE CW series has been evaluated to and found compliant to UL standard 924. The as-installed performance of system must meet or exceed all Federal, State, and Local code requirements.
2. Refer to Addendum 11042014 for detailed specifications and methods to calculate emergency light levels.

INSTALLATION INSTRUCTIONS

CAUTION: Before installing, make certain A.C. power is off and the IP Rated Test Switch (IPS) is disconnected.

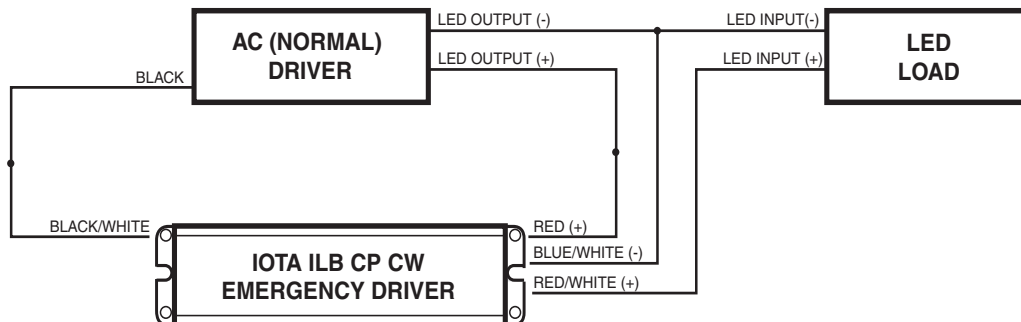
STEP 1 - MOUNTING THE ILB CP18 HE CW

Mount the **ILB CP18 HE CW** in the driver/lamp compartment or enclosed wireway so the wire leads are not exposed, at least ½" away from the AC Driver.

Remote Mounting: When the **ILB CP18 HE CW** is remotely mounted, consult Customer Service for the maximum allowable distance between the battery pack and the load.

STEP 2 - WIRING TO THE LED LOAD AND NORMAL DRIVER

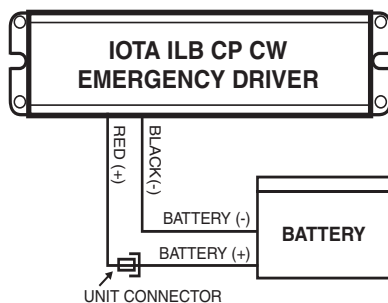
Refer to the appropriate wiring diagram below. Make sure all connections are in accordance with NEC and any other local requirements.



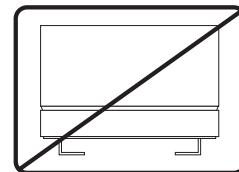
STEP 3 - INSTALLING THE BATTERIES

The battery must be mounted securely. If the luminaire doesn't include accessories to secure the battery within the luminaire housing, see *page 5 - Recommended Battery Installation Method for Luminaires Without Battery Installation Accessories*.

Once the battery is secure, connect the battery to the unit using the provided connection wires.

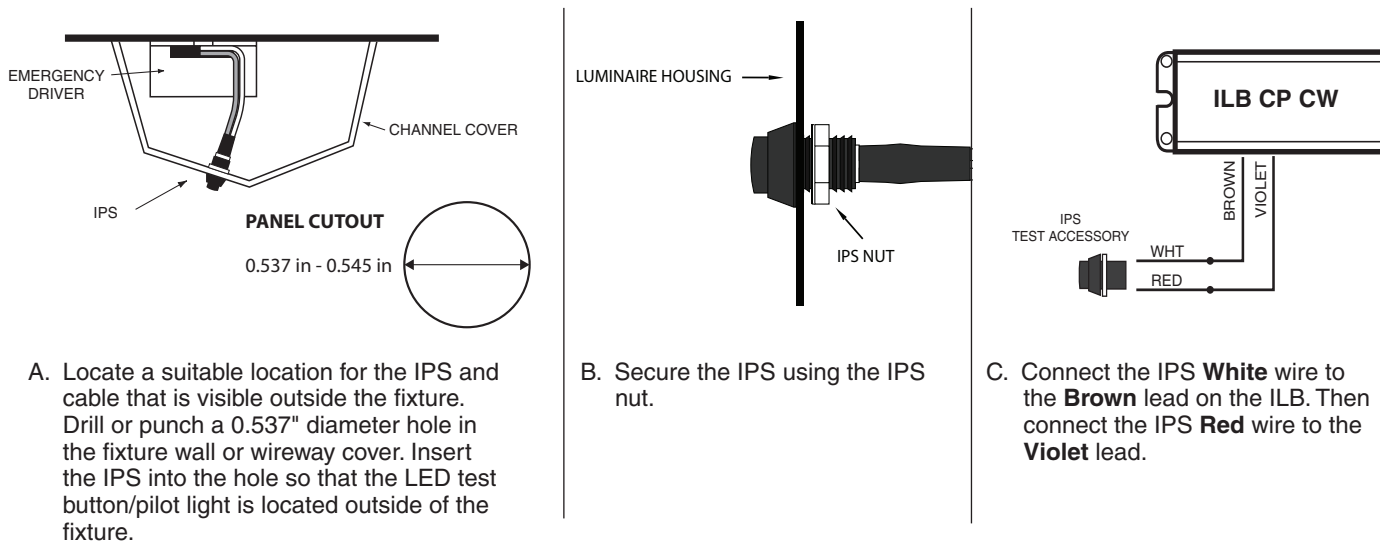


Do NOT install SLA batteries upside down.



Never charge or discharge a SLA battery in a hermetically sealed enclosure. When installing in sealed and gasketed luminaires, a method of proper venting must be incorporated. Do not place batteries in close proximity to objects that can product sparks.

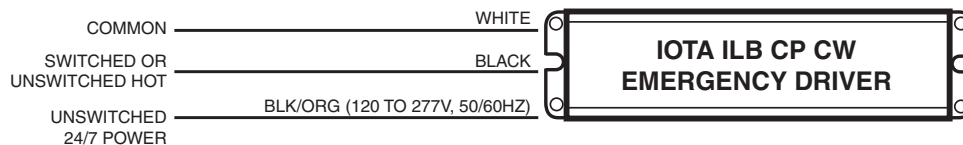
STEP 4 - INSTALLING THE IP RATED TEST SWITCH (IPS)



COMPLETING INSTALLATION

STEP 5 - WIRING THE AC INPUT

The **ILB CP18 HE CW** requires an **unswitched AC input** of 120/277 volts. Connect the **BLACK/ORANGE** wire to the **unswitched 120/277 Line**, and the **WHITE** wire to the **Neutral**. Connect the **BLACK** wire to a **switched or unswitched AC input** of 120/277 volts.



STEP 6 - APPLY AC POWER

- Apply continuous AC power to the unit, and allow the unit to charge for at least 1 hour before performing a functional test.**
- Verify that the IPS light is solid on.
- Press and hold the IPS button. The LED Module should be operating in the emergency mode at a reduced light output. Release the IPS button. If the LED Module in the fixture returns to normal operation, the unit is ready for normal and emergency service. If not, contact Customer Service.

OPERATION

Normal Mode

A.C. power is present. The A.C. Driver operates the LED Module as intended. The **ILB CP18 HE CW** is in the standby charging mode. The **IPS** will be lit providing a visual indication that the battery is being charged.

Emergency Mode

The A.C. power fails. The **ILB CP18 HE CW** senses the A.C. power failure and automatically switches to the *Emergency Mode*. The LED Module is illuminated for a minimum of 90 minutes. When the A.C. power is restored, the **ILB CP18 HE CW** switches the system back to the *Normal Mode* and resumes battery charging.

TESTING & MAINTENANCE

Pressing the **IPS** turns off the light on the **IPS** and forces the unit into emergency mode, interrupting power to the designated A.C. driver. The LED load is now being lit by the **ILB CP18 HE CW** unit. After releasing the **IPS**, the fixture returns to normal operation after a momentary delay.

Initial Testing – Allow the unit to charge approximately 1 hour, then conduct a short discharge test. Allow a 24 hour charge before conducting a one hour test.

The **ILB CP18 HE CW** is a maintenance free unit, however, periodic inspection and testing is required. NFPA 101, Life Safety Code, outlines the following schedule:

Monthly – Insure that the **IPS** light is illuminated. Conduct a 30 second discharge test by depressing the **IPS**. At least one LED should operate at reduced output.

Annually – Insure that the **IPS light** is illuminated. Conduct a full 90 minute discharge test. The unit should operate as intended for the duration of the test.

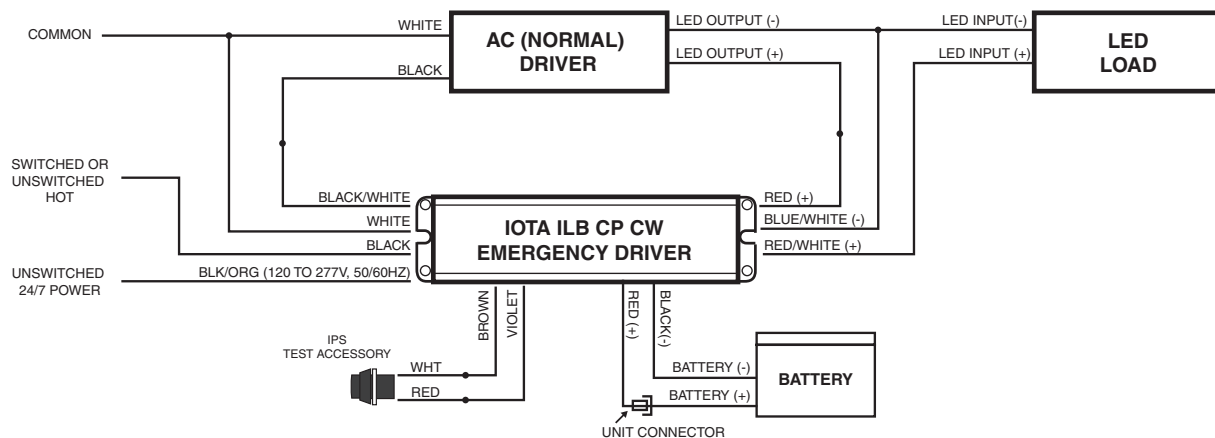
“Written records of testing shall be kept by the owner for inspection by the authority having jurisdiction.”

SERVICING SHOULD BE PERFORMED BY QUALIFIED PERSONNEL.

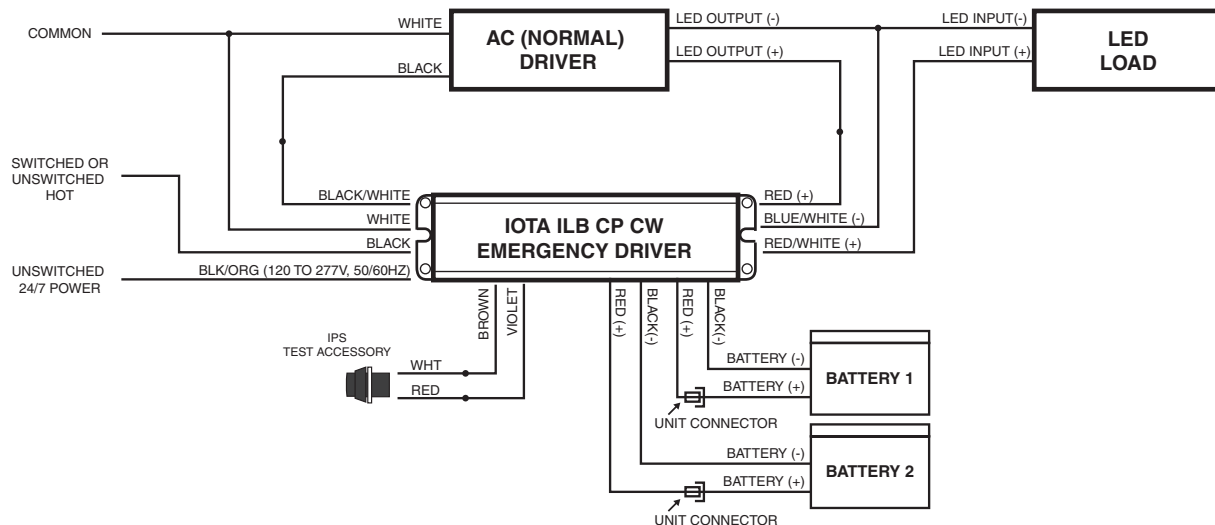
Consult Customer Service or visit www.iotaengineering.com for current warranty information.

COMPLETE WIRING DIAGRAMS

Typical Wiring Diagram - Single Battery Configuration



Typical Wiring Diagram - Dual Battery Configuration



Recommended Battery Installation Method for Luminaires Without Battery Installation Accessories.

If the luminaire doesn't include accessories to secure the battery within the luminaire housing, IOTA recommends mounting the battery/batteries as follows:

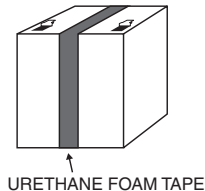
Components Needed (not Provided)

- **Urethane Foam Tape (3M 4318)** - 30" Long (Min) x 0.5" Wide
- **Heavy-Duty Cable Tie** - 20" Long (Min) x 0.5" Wide
- **(2) Cable Tie Mounts** - for 0.5" Wide Cable Ties

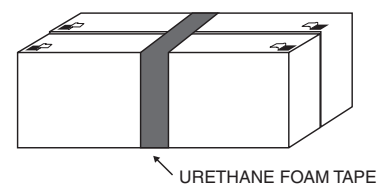
STEP 1

Vertically wrap the battery with the **urethane foam tape**. Start by placing the tape between the battery terminals and wrap around the battery twice so that there are **at least two layers/loops of tape** around the battery. For **dual battery configuration** place the batteries side-by-side and then wrap with urethane foam tape.

1LA - Single Battery Model



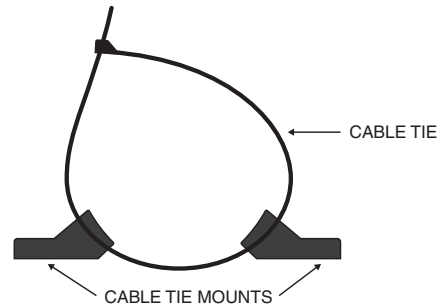
2LA - Dual Battery Model



Side View

STEP 2

Insert the **heavy-duty cable tie** in the **cable tie mounts**, making sure the screw holes are in opposition to each other as shown in the *Side View* illustration to the right. Lock the cable tie in the first serration to later fit the battery into the loop.

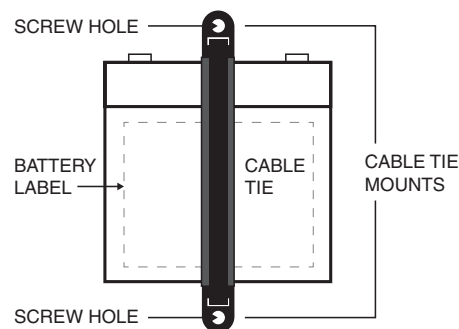


Top View

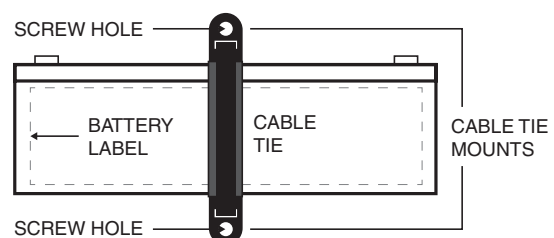
STEP 3

On a flat surface/workspace, separate the cable tie mounts by 4" (single battery) or 3" (dual battery) and fit the battery inside the cable tie loop in-between the mounts. Note: the battery should be laid down **with the battery label facing up** and the mounts flush with the work surface as shown in the *Top View* illustration to the right.

1LA - Single Battery Model



2LA - Dual Battery Model



STEP 4

Slowly tighten the cable tie, making sure the cable tie mounts don't move from the surface and the cable tie stays aligned with the foam tape. Note: the cable tie should be on top of the foam tape to avoid sideways movement of the battery.

STEP 5

Place the whole battery assembly inside the luminaire housing. Once a suitable place is found, mark the screw hole locations, remove the battery assembly, and drill the mounting screw holes.

STEP 6

Screw the cable tie mounts in the drilled holes to secure the battery assembly. Finally, verify the battery is securely held in place by the cable tie. If needed, the cable tie may be tightened.

CP Series Compatibility and Suitability of Use Guidelines Addendum (Rev.11042014)

The purpose of this addendum is to sufficiently identify electrical compatibility and predictable emergency light output of the LED luminaire when used with the IOTA ILB-CP Series LED emergency drivers. Verification of these operating traits does not constitute a code-compliant, as-installed emergency egress system. It is still the responsibility of the Designer/Specifier to assure appropriate light levels are achieved during emergency operation of the luminaire in accordance with Federal, state and local municipal codes regarding path of egress illumination.

1. Determining Electrical Compatibility

- 1.1 Verify Class 2 compliant driver per driver manufacture specifications.
- 1.2 Verify that the Emergency Driver (ILB-CP Series) selected does not exceed the power delivered to the LED array (voltage and current) of the normal driver.

2. Calculating Lumen Output During Emergency Operation

2.1 Assess luminaire/fixture data.

2.1.1 DESIGNLIGHTS CONSORTIUM

- Log onto the DesignLights Consortium website (www.designlights.org).
- Click on "search the DLC Qualified Product List" button on the DLC homepage.
- In the "search by keyword" text window enter: luminaire manufacturer name and part number.
- Click on "Search" tab to open the "Qualified Products List."
- Determine per "RATED DATA" efficacy shown in lumens per watt - (lm/w).
- Multiply lumens per watt by ILB-CP rated output (example: lm/w x 5 watts). Refer to table "ILB MODEL SPECIFICATION CHART" below for the wattage of the specific ILB-CP model to be used in the luminaire. (lm/w) x (ILB-CP Watts) = Minimum emergency lumens of fixture.
- Determine per "RATED DATA" the "wattage of the luminaire".

ILB MODEL SPECIFICATION CHART

MODEL #	OUTPUT POWER (CONSTANT)
ILB CP05	5 WATTS
ILB CP07	7 WATTS
ILB CP10	10 WATTS
ILB CP12	12 WATTS
ILB CP18	18 WATTS
ILB CP20	20 WATTS
ILB CP30	30 WATTS
ILBSL CP05	5 WATTS
ILBSL CP07	7 WATTS
ILBSL CP08	8 WATTS
ILBSL CP10	10 WATTS
ILBSL CP12	12 WATTS

3. Determining Adequacy of Means-of-Egress Lighting Levels

- 3.1 Follow industry standards by utilizing available .ies files and lighting design software for your dedicated emergency luminaires, with the above calculated emergency lumens, and validate your as-installed plans in accordance with the applicable life safety codes governing your project, typically 1 fc on the ground along the full means of egress.

While the ILB-CP series has been found compliant with the requirements of UL Standard 924, it is ultimately the responsibility of the Designer/Specifier to assure the as-installed system delivers code-compliant path of egress illumination in accordance with Federal, State or local municipal requirements.