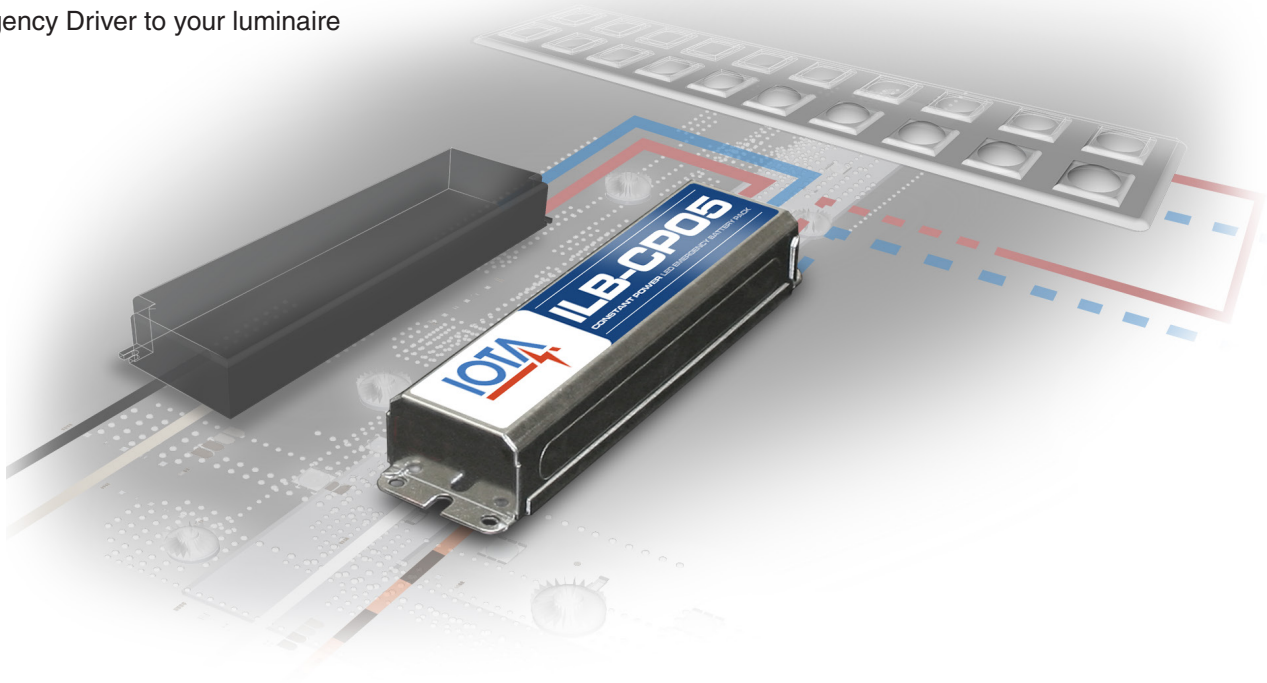
Wiring The IOTA ILB-CP LED Emergency Driver

Quick steps for properly adding an IOTA LED Emergency Driver to your luminaire



Benefits

- UL Classified for field installation.
- Provides constant wattage to the LED array, preventing degradation of emergency lumination for the required runtime.
- 10-60VDC output is UL 1310 Certified Class 2 compliant and automatically senses the LED array forward voltage requirements.
- Suitable for Plenum, Damp Location, Recessed Type IC, and Enclosed and Gasketed fixtures.

IOTA's **ILB-CP Series** Emergency Drivers bring dependable emergency lighting solutions for today's LED fixture designs. The IOTA ILB-CP Series operates in conjunction with the AC LED driver and array to provide code-required emergency illumination for both factory and field-install applications, delivering the added value of safety and compliance to a world of LED applications.

The IOTA ILB-CP Series combines 10-60 volt Class 2 output with IOTA's unrivaled Constant Power design, providing constant emergency illumination with no degradation of light output for the full 90-minute runtime. The innovative characteristics of the ILB-CP Series allow for both UL Classified field and factory installation.

With 5-watt, 7-watt, 10-watt, and 12-watt constant power output, auto-sense 10-60 forward voltage, and a variety of mounting configurations, the ILB-CP Series brings reliable emergency lighting solutions to a wide range of new and retrofit applications.

The Constant Power Advantage

The Constant Power design of the IOTA ILB-CP Series delivers constant wattage to the LED array during emergency operation, maintaining illumination at a consistent level, with no degredation of emergency output for the full runtime. This unique and innovative design eliminates concerns of insufficient foot candles along the path of egress at the end of the required 90-minute duration. Insufficient foot candles can occur through the gradual depletion of the system battery and also by loss in normal operating performance over the lifespan of the LED array.

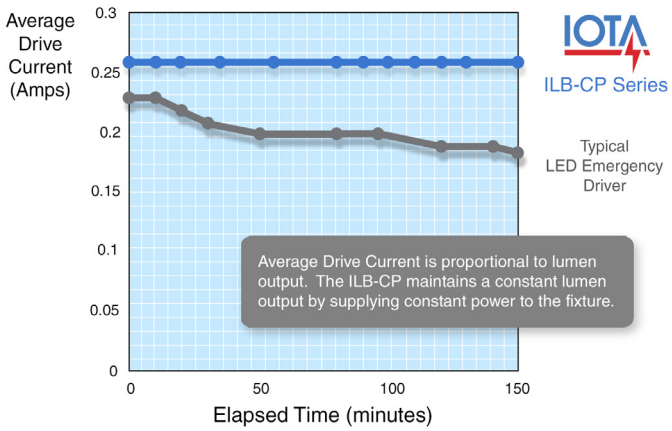
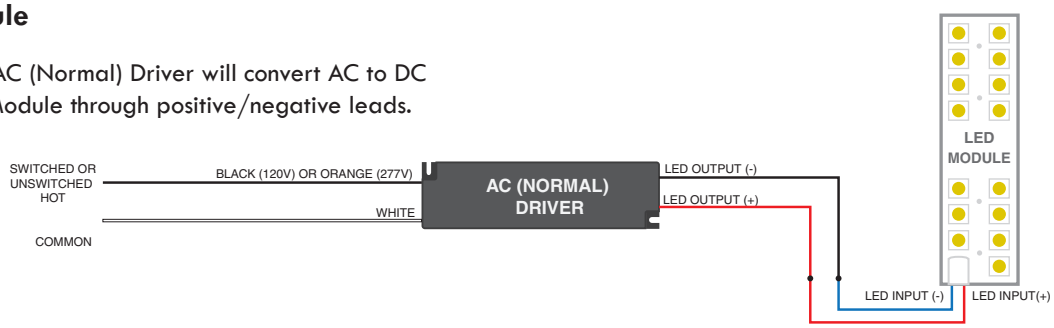


Figure 1: *Constant Power Performance*

Wiring Step-Thru

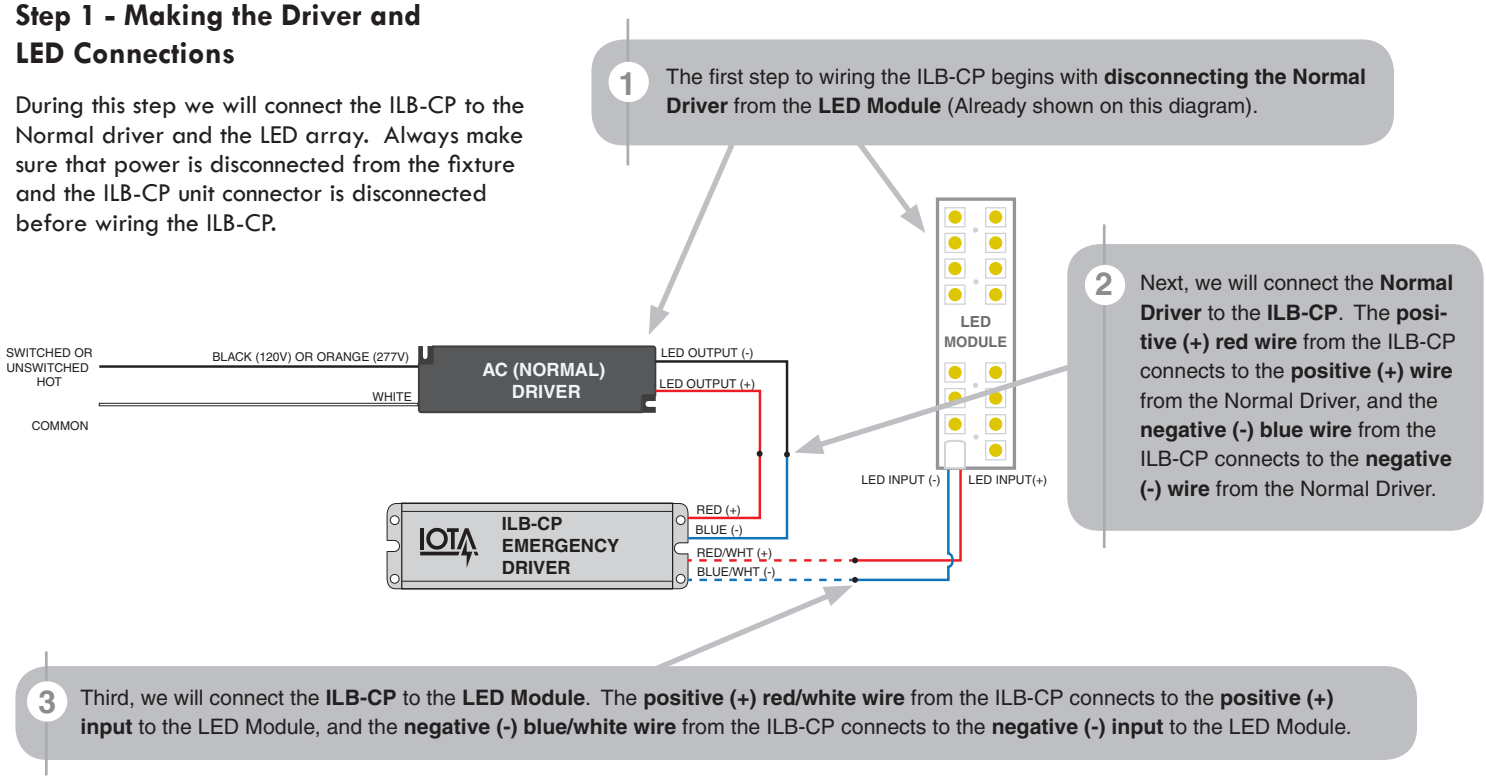
Typical LED Luminaire with a Normal Driver and LED Module

In a typical luminaire, an AC (Normal) Driver will convert AC to DC current to power an LED Module through positive/negative leads.



Step 1 - Making the Driver and LED Connections

During this step we will connect the ILB-CP to the Normal driver and the LED array. Always make sure that power is disconnected from the fixture and the ILB-CP unit connector is disconnected before wiring the ILB-CP.

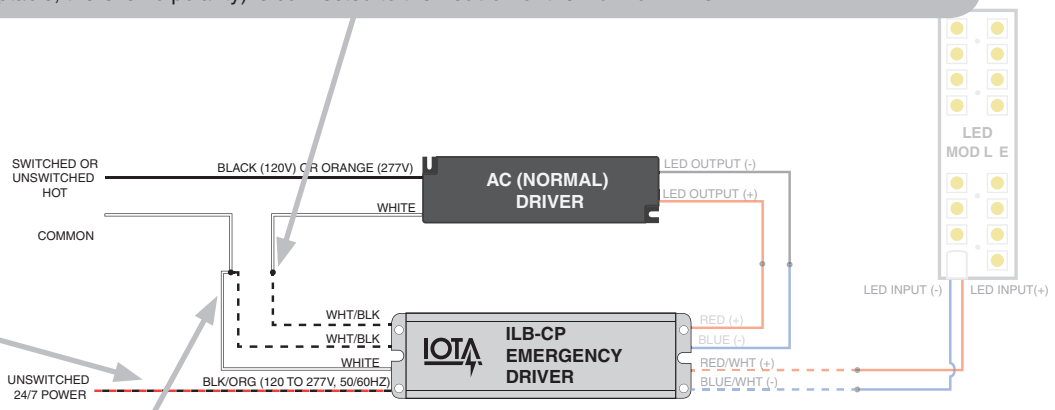


Step 2 - Making the Power Connections

During this step we will make the Power Connections to the ILB-CP.

1. The first step to connecting power is to **disconnect the incoming neutral wire** from the **Normal Driver**. Next, a **white/black wire** from the ILB-CP (Note: either wire is acceptable, there is no polarity) is connected to the **neutral** for the **Normal Driver**.

2. Next, the **black/orange wire** from the ILB-CP is connected to **constant unswitched power** from the circuit panel. The ILB-CP requires an unswitched circuit for charging the battery.



3. Lastly, we will take the remaining **white/black wire**, and the **white wire** from the ILB-CP. These wires will be connected together to the **incoming neutral**. Note: if you have an electrical panel that is dedicated to emergency operation, the **white wire** from the ILB-CP will be connected to the **dedicated emergency neutral** instead of connected at the same point as the second white/black wire (**see Figure 2**).

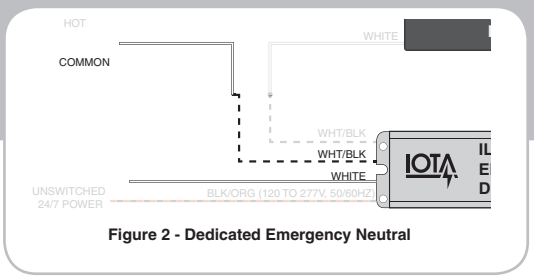
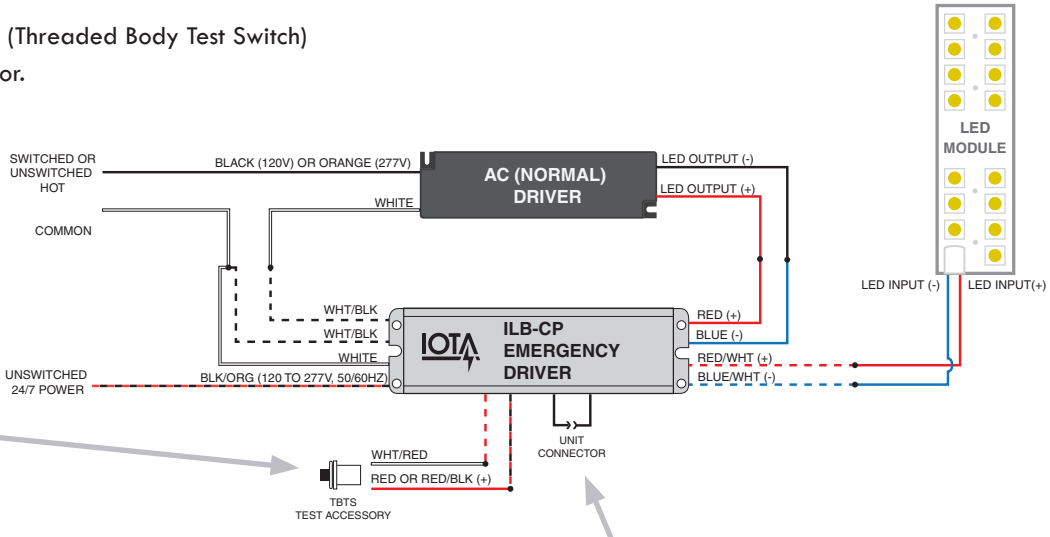


Figure 2 - Dedicated Emergency Neutral

Step 3 - Test Button and Unit Connector

During this step we will connect the TBTS (Threaded Body Test Switch) to the ILB-CP and mate the Unit Connector.

1. Be sure to mount the TBTS Test Button where it is visible and accessible for testing, prior to connecting it to the ILB-CP. The **red wire** from the Test Button connects to the **red/black wire** from the ILB-CP, and the **white wire** from the Test Button connects to the **white/red wire** from the ILB-CP. **Always use the TBTS Component provided with the unit to ensure proper operation.**

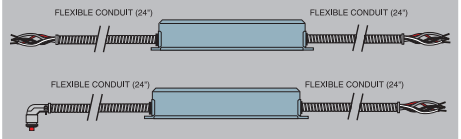


2. The last connection that will be made is the Unit Connector. **Do NOT make this connection until permanent power has been applied to the fixture.** Connecting the Unit Connector will enable emergency mode on the ILB-CP.

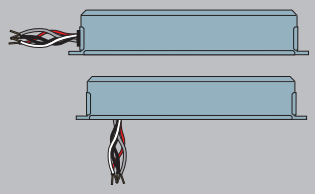
Mounting Configurations

Integral emergency battery packs are designed to accommodate different fixture types:

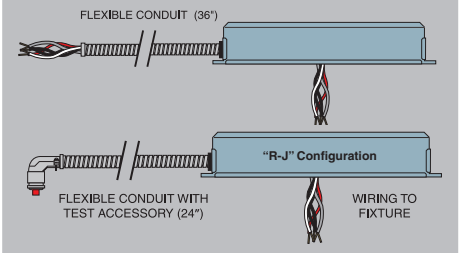
Dual-flex units install atop or adjacent to the fixture and wiring is routed to the junction box and test accessories via flexible conduit.



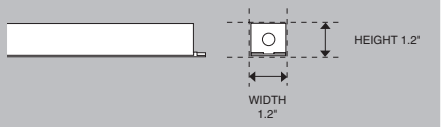
Non-flex units mount within or atop the fixture, and wiring is routed directly within the driver compartment.



Single-flex units mount onto the junction box or driver compartment and wiring runs to the test accessories via flexible conduit.

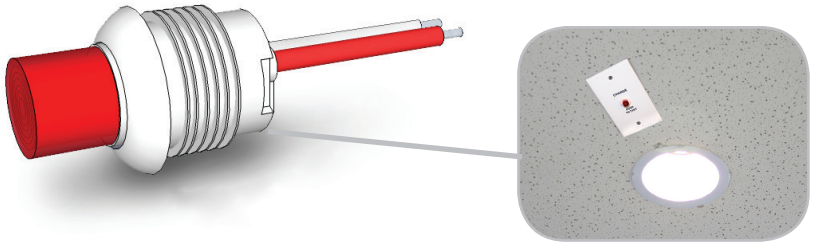


Slim-line units (available for Constant Power units only) feature a 1.2 inch profile for installation within the narrow and shallow compartments of LED strip fixtures.



ILB-CP10L open-board and ILB-CP10LC external battery options are also available. Visit www.iotaengineering.com/led for more information.

Figure 3: *The TBTS Test Switch uses a single component for both testing the ILB-CP and for indicating charge state of the battery.*



Testing the ILB-CP LED Emergency Driver

Testing the ILB-CP is required to ensure proper operation. To perform a test, **press and hold the TBTS Test Button**. Pressing the TBTS forces the ILB-CP unit into emergency mode, interrupting power to the designated A.C. driver. The LED load is now being lit by the ILB-CP unit. After releasing the TBTS, the fixture returns to normal operation after a momentary delay.

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

Consult the ILB-CP installation manual for the required **monthly** and **annual** testing schedule as outlined by the NFPA 101, Life Safety Code. Also note that local codes may require a more extensive testing schedule.

Need More Information?

To learn more about the ILB-CP Series LED Emergency Drivers, or answer any questions about wiring your unit, please contact IOTA at **1-855-363-9527** or visit us online at **www.iotaengineering.com**.

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