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EMERGENCY LIGHTING INSIDER



Tools and Tips to Help Contractors Succeed

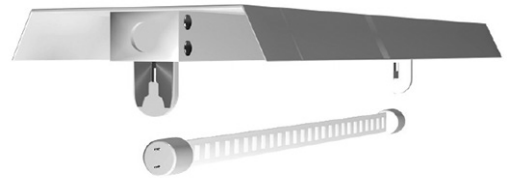
LED Retrofits and Emergency Lighting (Types A and C)

LED Retrofits are a practical and popular way to update fluorescent lighting in a public or commercial space and take advantage of the life and efficiency of modern LED technology. However, in the process of changing the normal lighting, the emergency lighting must remain intact. If the existing space *solely* relies on wall-mounted emergency lighting units or combination emergency lighting/exit signs, then they are likely not impacted by the LED retrofit project. But if the fixtures being upgraded to LED are equipped with emergency ballasts to operate fluorescent lamps during a loss of normal power, then considerations must be given in order to preserve the required emergency egress lighting (ie. what type of LED components are being installed.)

An LED retrofit project can take many forms. In this *Contractor Emergency Lighting Insider*, we'll focus primarily on the use of **Type A** and **Type C** LED retrofit emergency options and dive deeper into **Type B** solutions in our next *Insider* edition.

Type A - LED Tube Lamps

LED Tube Lamps (commonly referred to as 'T-LEDs') are popular retrofit options because they allow the use of LED technology in place of a fluorescent tube without having to remove and replace the entire fixture or re-wire the fixture's existing internal fluorescent ballast. Ballasts deliver regulated AC current to the load, but LEDs require a DC voltage to operate. **Type A** LED lamps are designed to accept the ballast's AC regulated current and convert it to DC power so that the internal LEDs of the tube lamp will operate just as a fluorescent lamp would in the fixture.

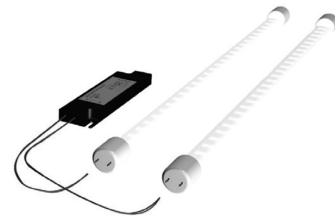


If an *emergency ballast* is present in the fixture, there's a possibility that the **Type A** lamp will not operate in the emergency mode. The reason for this is that emergency ballasts traditionally generate DC current from the internal battery but the Type A lamp requires AC current.

Many IOTA® fluorescent emergency ballasts that are already in service in existing facilities today **feature AC output and are capable of running select Type A lamps**. If the fixture is already equipped with an IOTA Series AC emergency ballast, then visit the IOTA website at www.iotaengineering.com/resources/emergency-solutions-for-led-retrofit. There, you can find a list of compatible Type A lamp models tested and UL Listed for use with your IOTA emergency ballast. A UL certification verifies two critical aspects of the emergency system: 1) that the emergency solution will safely operate the intended load and 2) that the emergency system will operate for the required duration outlined by the Life Safety code. **Currently, IOTA is the only manufacturer that offers UL 924 Listed emergency ballast solutions for these types of LED tube lamps.**

Type C - LED Retrofit Kits

LED Retrofit Kits are LED tubes or LED boards paired with their own LED driver that replace the lamp and ballast components of the existing fluorescent fixture. LED Retrofit Kits are popular because they eliminate uncertainty regarding compatibility between the LED lamp components and the AC driver.



Applying an emergency solution with these types of retrofit solutions is relatively simple - an emergency LED driver can be wired in conjunction with the AC driver and LED components. The only requirement is that the emergency driver must be UL Listed for field installation and the emergency driver must be able to deliver the proper forward voltage to operate the LED array or lamps.

IOTA's **ILB Constant Power emergency drivers are UL Listed for field installation and feature Auto-Sense forward voltage** that automatically detects the required voltage needed to operate the LED load (see our February *Contractor Emergency Lighting Insider* for more info on Auto-Sense!) Additionally, IOTA Constant Power emergency drivers deliver undiminished emergency output and avoid the dangers of not meeting required light levels at the end of the 90 minute emergency runtime.



Emergency battery systems require unswitched line power to maintain the battery in a state of preparedness. By keeping the emergency functionality of a designated emergency fixture, you avoid the labor of running unswitched lines elsewhere, or disrupting the building's existing egress plans. IOTA AC Series emergency ballasts and field-installable emergency drivers make it easy to retain that functionality during a retrofit.

You can find more information at www.iotaengineering.com/resources/emergency-solutions-for-led-retrofit or contact us at 1-800-866-4682