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Remote Mounting Emergency Solutions

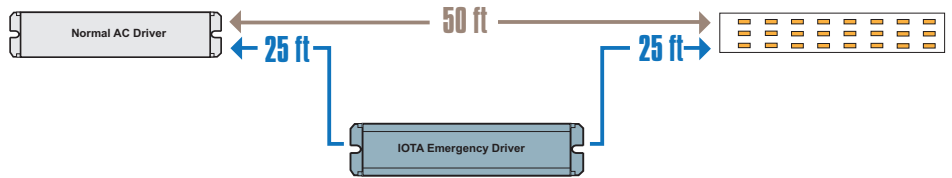
Emergency drivers and emergency inverters are popular choices for delivering required emergency lighting because they allow a facility to use existing light fixtures during a loss of power. This advantage avoids some of the considerations that come with wall-mounted emergency lighting unit equipment, such as ability to provide **needed foot-candles at significant distances** from the mounting location, or suitability of the additional emergency equipment in **harsh or extreme condition areas**. While using the existing fixtures for emergency lighting has advantages, integral installation of a back-up power supply can pose other challenges. Fortunately, these challenges can often be solved through remote mounting.

Remote Mounting and Emergency Drivers

In most circumstances, integrally installing the emergency driver within the fixture is adequate for the application, however some factors, such as fixture space limitations, environmental factors, or ease of access for testing, may necessitate a remote mounting solution.

The emergency driver is not simply an alternative power source for the luminaire, but is an operating component within the fixture and is working in conjunction with the driver and LED array during normal performance. Therefore, remote mounting must take into account any limiting factors of the other components.

Figure A: Example of distances between normal driver, emergency driver, and LED load.



A general rule of thumb is that the distance of the emergency driver from the LED load should be *half of the maximum distance* between the normal driver and LED load as recommended by the driver manufacturer. To put it simply, DC power from the normal driver must travel half the distance to the emergency driver, which passes the power to the LEDs over the remaining half (see **Figure A.**) Under no circumstances, should the distance of the emergency driver exceed 50 feet.

Note that distance and wire gauge has an impact on performance in any electrical system (ie. voltage drop.) If distances are too great or wire gauge is too small, remote mounting can result in reduced performance of the system. Know component limitations and use 18 gauge wire or greater to help avoid issues. Always install product in accordance with NEC requirements. IOTA also offers mounting accessories to facilitate the proper installation of remote-mounted equipment.

Remote Mounting and Inverters

Emergency inverters are ideal solutions for operating fixtures remotely, whether those fixtures are outdoors in harsh temperature conditions or within a washdown or extreme duty environment. Since emergency inverters do not deal with the same limitations of individual components as emergency drivers, remote mounting is a somewhat simpler practice. Emergency inverters are still subject to limitations of distance and wire gauge. Refer to **Figure B** for remote mounting practices for IOTA micro and mini inverter designs.

Figure B: Remote Mounting recommendations for inverters (by wattage)

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
750W*	107ft	166 ft	274 ft	571 ft

*Distances shown are for a single zone at max capacity. Greater distances can be achieved using IIS 750 3-Zone distribution. See the "IIS Remote Mounting Distances" Application Brief for details.



Knowing the remote mounting capabilities of your emergency driver solution can avoid the potential need and expense of specialized wall-mount equipment when meeting challenging egress requirements for your facility.

Find more information on emergency lighting solutions at www.iotaengineering.com or contact us at 1-800-866-4682