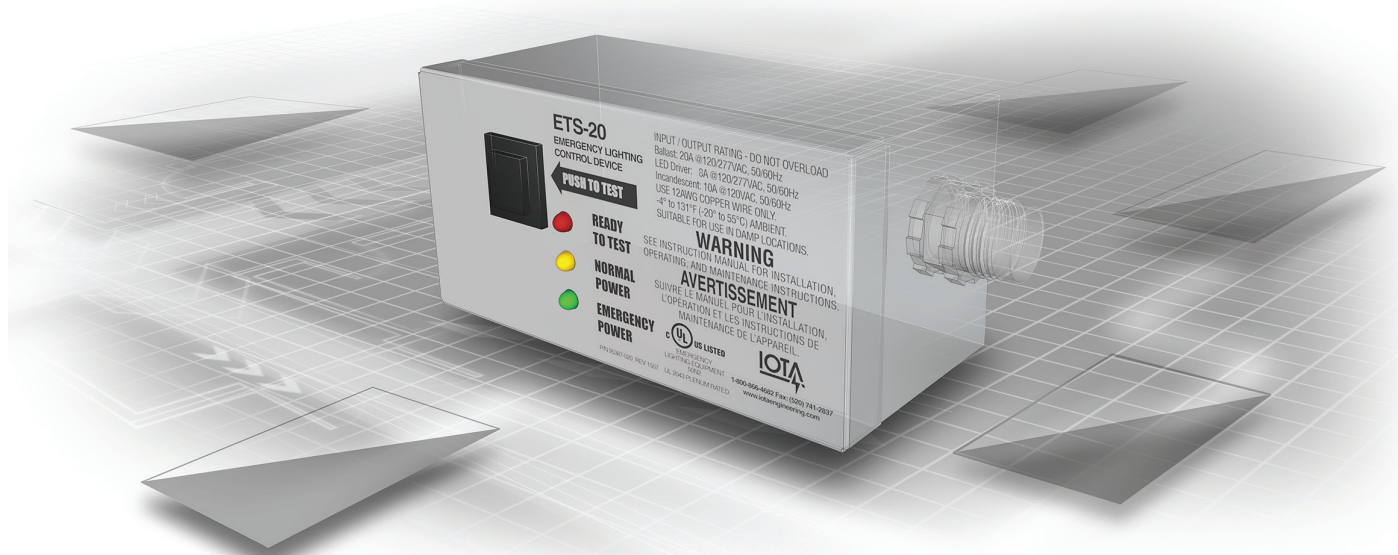




## The IOTA ETS-20 and ETS-20-DR

Combining emergency lighting capabilities with enhanced energy-saving performance



### Benefits

- Promotes higher energy savings by eliminating the need for Always-On fixtures.
- Allows controls on designated emergency fixtures without sacrificing the emergency function.
- Can utilize dual zone dimming controls on the EM circuit.
- Allows remote devices, such as fire alarms or security panels, to bypass controls on the emergency lighting circuit.

The IOTA ETS-20 and ETS-20-DR introduces a new level of emergency lighting capability for facilities and public spaces that utilize auxiliary power sources, such as a generator or inverter supply, for its code-required emergency egress lighting. The ETS-20 is a powerful control device that delivers increased functionality to the designated emergency loads connected to these auxiliary supplies.

In scenarios where emergency power is supplied by an auxiliary generator or inverter, the designated emergency circuit is separate from the normal switched or controlled lighting circuit. This arrangement prevents the emergency fixtures from being in an 'OFF' state during a loss of normal power. The emergency circuit is in an 'Always On' state, even when normal lighting is turned off and when the space is unoccupied, resulting in increased and inefficient energy consumption.

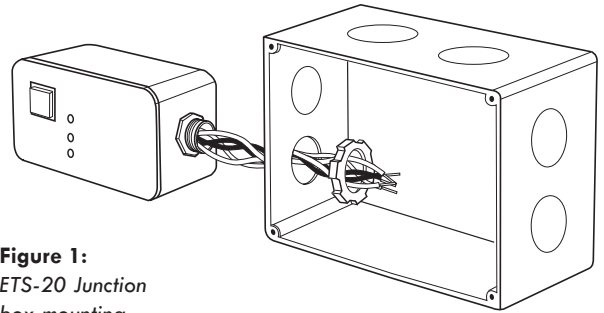
The IOTA ETS-20 eliminates the wasted energy consumption caused by these 'Always-On' fixtures by allowing the emergency circuit to utilize the setting of the normal circuit's control device, such as a wall switch, occupancy sensor or timer. In the event of a power loss, the IOTA ETS-20 will allow the emergency circuit to be powered at full output by the auxiliary supply, regardless of the position of the control device.



## How the IOTA ETS-20 Works

The IOTA ETS-20 uses power sense leads to determine the presence of normal AC power, as well as the switch position or setting of an ON/OFF control device. The designated emergency load is operated the same as the normal load per the settings of the control device. If the ETS-20 senses the loss of normal power, the ETS-20 allows power to the emergency load, bypassing the control setting and operating the designated fixtures at full output.

The ETS-20 can be installed in a facility closet or maintenance area and features a threaded coupling and necessary hardware for mounting to a junction box containing the emergency circuit wiring (see Fig. 1). The unit will allow operation of all fixtures at full output on the designated 20 amp circuit per the rated specifications (see Table A).



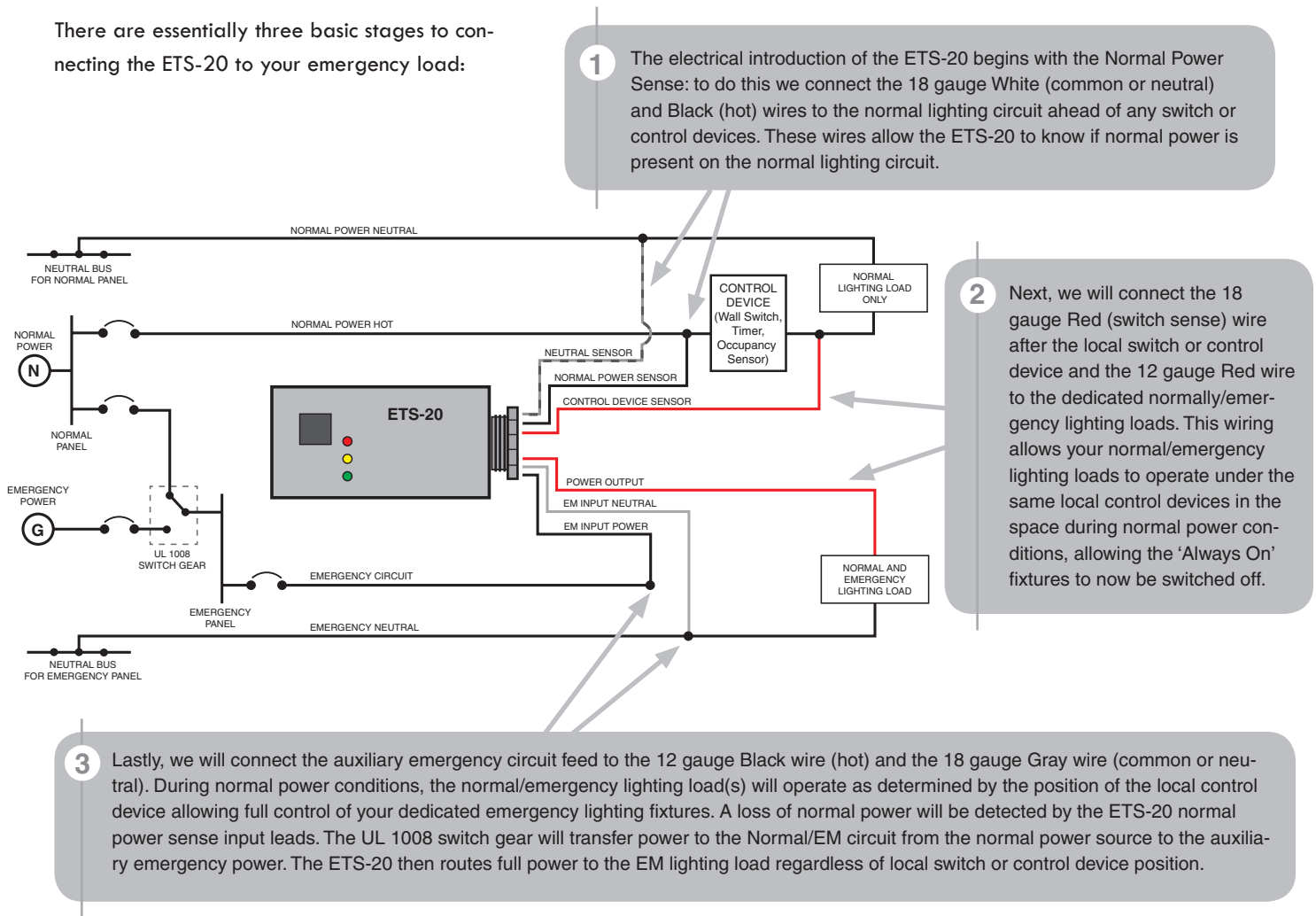
**Figure 1:**  
ETS-20 Junction box mounting.

**Table A: IOTA ETS-20 Load Ratings**

LED Driver	8A @ 120/277 VAC per NEMA 410
Ballast	20A @ 120/277 VAC
Incandescent	10A @ 120/277 VAC

## Wiring Step-Thru

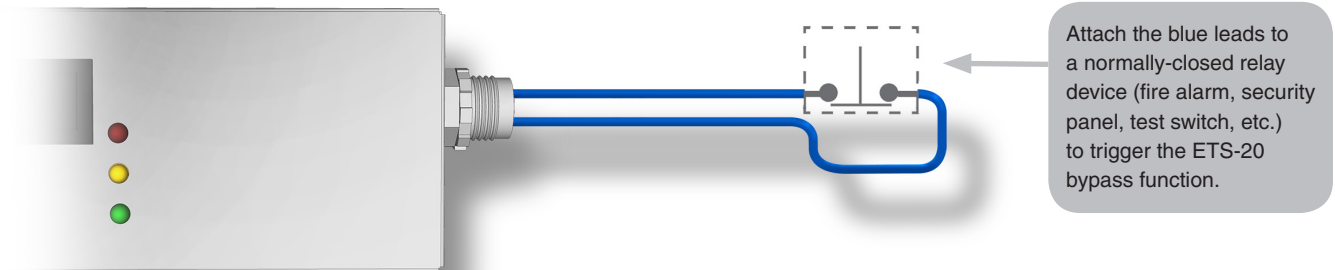
There are essentially three basic stages to connecting the ETS-20 to your emergency load:



## Additional Control Capabilities

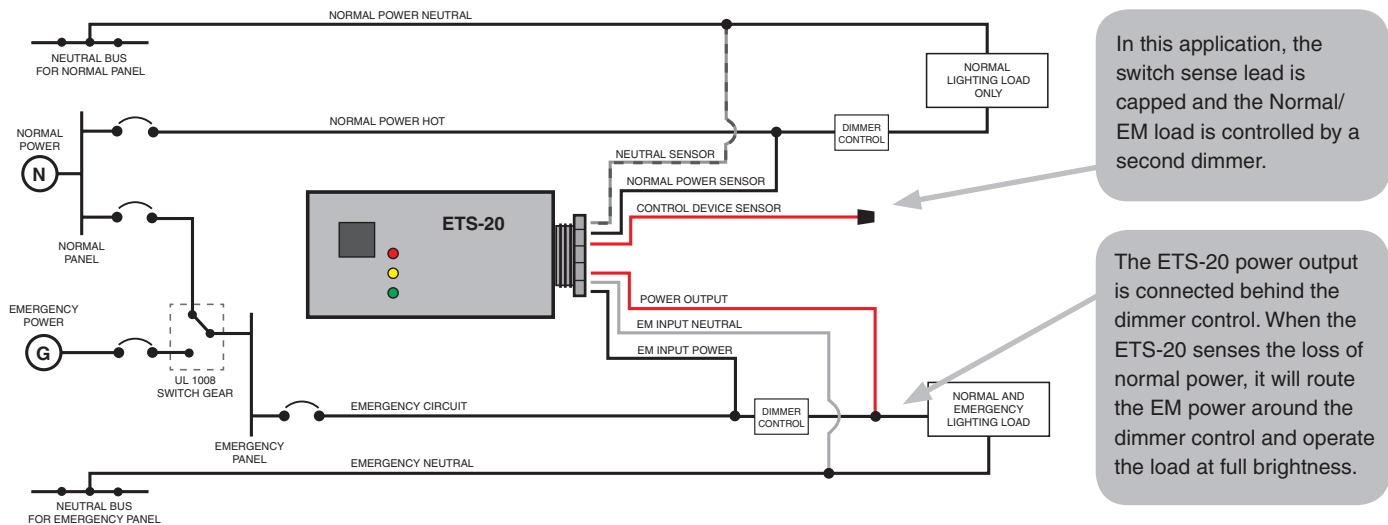
### Using a Secondary Trigger Device to Bypass Normal Switch Controls

The ETS-20 is provided with a blue jumper wire for optional connection to dry relay contacts in a security panel or fire alarm panel. When the fire or security panel is activated, the ETS-20 will activate the EM load as it would during an emergency state of operation. To achieve this function, cut the blue jumper and route it electrically to a normally closed relay in the panel. During normal conditions, electrical continuity must be present across the blue wire. At any time the continuity of the blue wire is sensed as open the ETS-20 will automatically transfer to the emergency state, causing your luminaires to operate at full light output regardless of the control device status.



### Using Dimming Controls with the ETS-20

The ETS-20 can also be used with dimming applications by applying a second dimmer to the Normal/EM circuit. This 'emergency dimmer' arrangement provides separate dimming capability to the Normal load and the Normal/EM load. In this scenario, both the EM circuit and ETS-20 power output are connected to the load. The red Control Device Sensor of the ETS-20 remains disconnected and there is no power output from the ETS-20 unless normal AC power is lost. If emergency power is activated, the ETS-20 will then route power around the dimmer on the EM circuit.

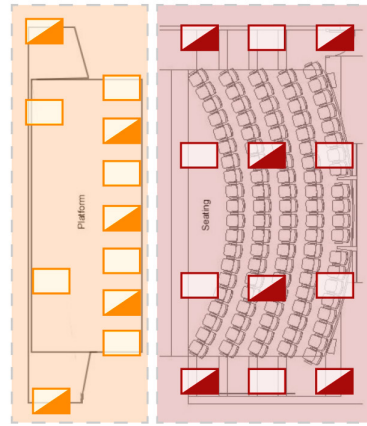


### 'ETS-20 Dimming' vs. 'ETS-20-DR Dual Zone Dimming'

A distinction should be made between the ETS-20 dimmer application and the ETS-20-DR 'Dual Zone' dimming (see page 4). The ETS-20 optional dimming application shows two dimmers where the second 'emergency dimmer' control dims *only the emergency circuit*. The ETS-20-DR on the other hand, allows for *dimming of zones* that would be comprised of both normal and EM fixtures - ideally where 0-10 volt dimming systems are being utilized.

## Dual Zone Dimming with the ETS-20-DR

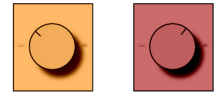
The ETS-20-DR provides two sets of dimming relays that allow for Dual Zone dimming in 0-10 volt dimming applications. Using an auditorium as an example, separate dimming zones are desired (full brightness on the platform and dimmed lighting over the audience seating.) In the event of a power loss, the ETS-20-DR enables the emergency fixtures in either zone to switch to the emergency supply and come on at full brightness.



## DUAL ZONE DIMMING

### Dimmer Controls

Zone 1      Zone 2



□ Normal Light

▣ Emergency Light

## ETS-20-DR Wiring

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.

