

Zone Sensing

General

Engineers and designers are always searching for innovations. Life safety egress lighting is no exception. The challenge is to provide maximum protection, but do so with an

eye towards energy management. When designing emergency lighting for multi-floor or multi-use facilities, there must be a method of monitoring each zone

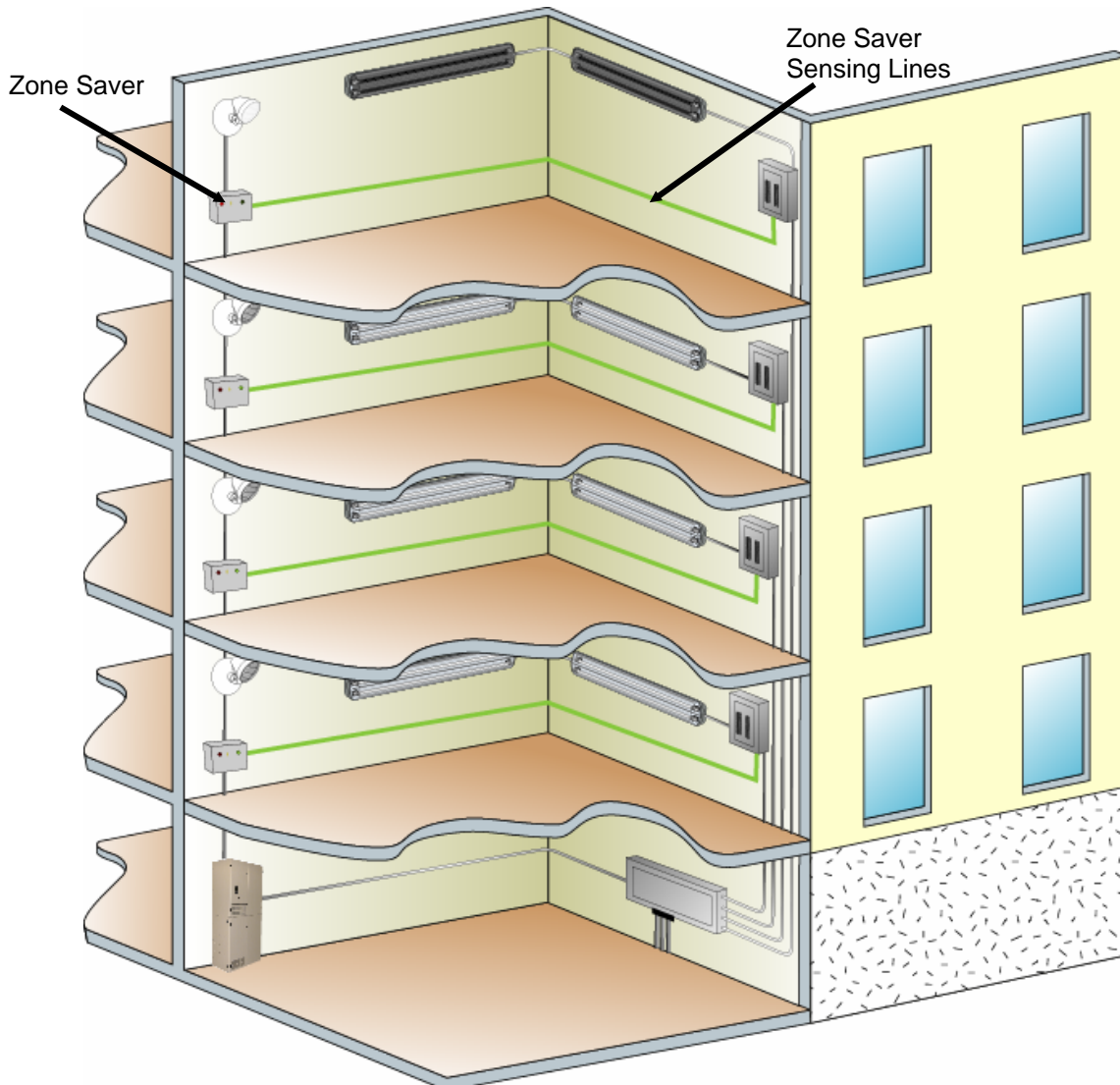
independently, while still maintaining mandatory compliance using UL924 listed accessories. In doing so utility expenses can be minimized.

Zone Sensing

Below is a diagram of a building which incorporates zone sensing as part of its design. As shown, an emergency lighting inverter supplies power to the

emergency lighting fixtures which are "Normally Off". In the event that there is a loss of power at a given zone lighting panel main, a sense signal is activated. This

signal directs the emergency lighting inverter to activate the "Normally Off" circuit for the corresponding zone only, not the entire facility.

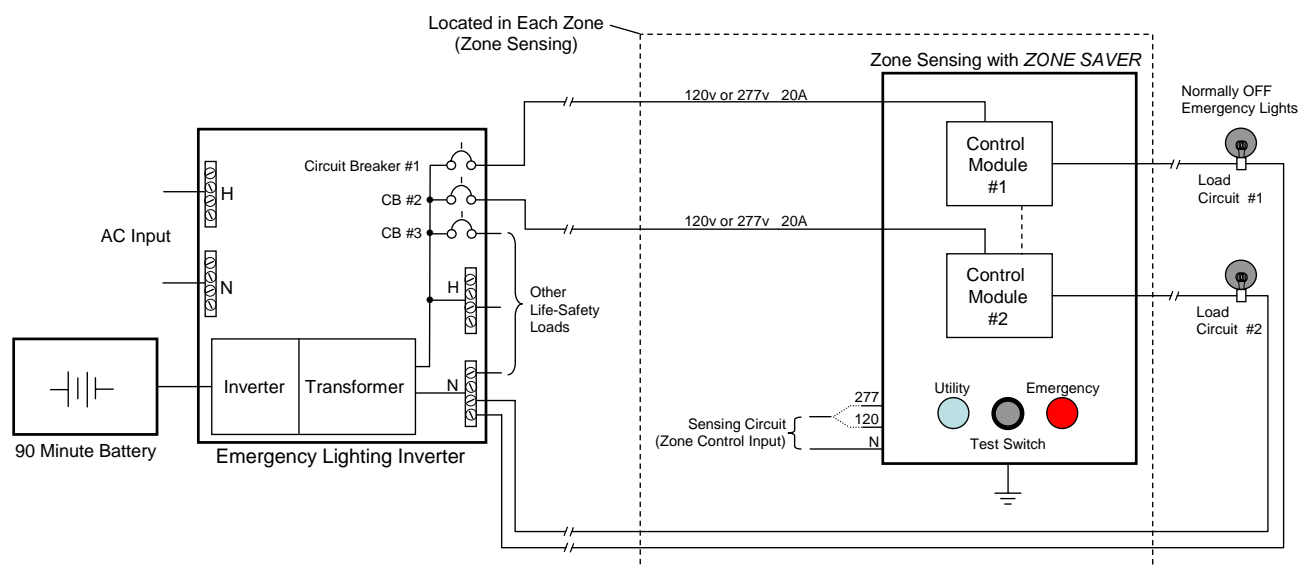


Zone Saver

Controlled Power Company is able to provide this premium option on the eLITE and UltraLITE line of emergency lighting inverters. ZoneSaver is a remotely installed option that allows for independent zone control of normally off emergency lighting. In the event that there is a loss of

power, inadequate voltage or a main circuit breaker trip to a lighting panel in a specific zone, ZoneSaver assures that the emergency egress fixtures will illuminate in that zone, without illuminating emergency egress fixtures in other zones, thus saving money and eliminating emergency

power use in unaffected areas. The ZoneSaver delivers only what is required to the affected zone maximizing runtime, limiting deep discharge cycling and extending battery life. The drawing below indicates how ZoneSaver can be applied in a zone sensing application.



Internal Control Modules #1 and #2 are separate switching mechanisms that allow up to two separate circuits to be controlled from one ZoneSaver. Under normal operation, the “green” utility light is illuminated indicating that utility power is being sensed

by ZoneSaver. When a power loss or fault condition occurs, the “red” emergency light will illuminate and the lighting inverter will feed power to the emergency lights (circuits #1 and #2 shown). The sensing of the power loss or fault condition is through the Sensing

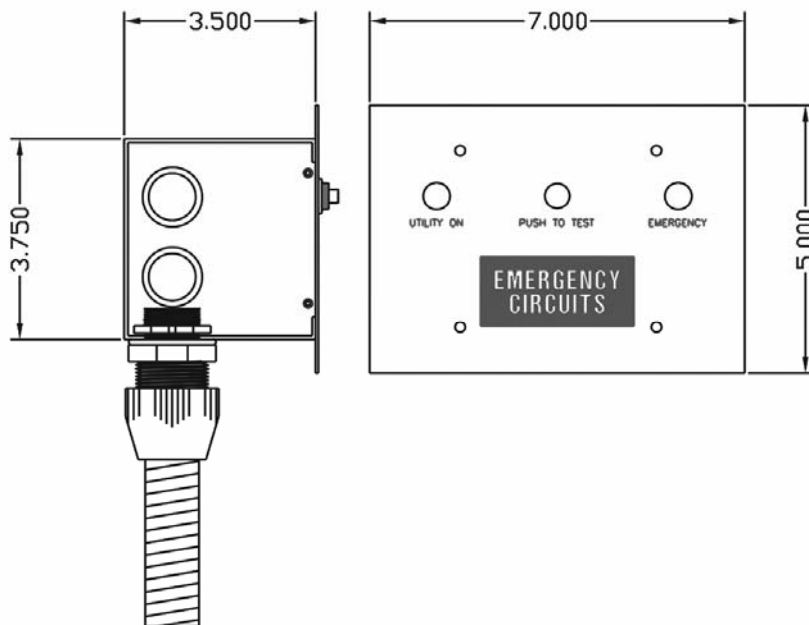
Circuit. Once the fault or power failure is corrected, the emergency lights will shut off and the ZoneSaver will indicate a normal operating condition. A Test Switch is provided to manually test the emergency circuits per NFPA 101.

Housing

The Zone Saver is provided in an enclosure constructed of a 3-gang masonry box fabricated from 16 gauge

galvanized steel. It has an acid resistant, off-white powder coat finish, a faceplate made of 18 gauge

galvanized steel and pre-wired, color coded leads routed through the attached 6' flexible conduit.



Summary

In addition to providing a premium life safety system, the Zone Saver also provides a considerable energy savings. Controlled Power Company recently engineered a municipality with 4 Zone Savers. The facility housed 4 hockey rinks, each with a separate

lighting panel. On many occasions, only 1 rink was in use at a time. The municipality specified a 12kW emergency lighting inverter with Zone Saver. Each of the 4 rinks required 3kW of egress lighting. The engineers for the municipality determined that

for every 90 minute outage at 1 rink, they would save over \$1,200.00 in unnecessary energy and maintenance costs. Based on their average of 3 outages per year, the municipality can expect to save \$3,600.00 per year!