



INSTALLING AN ELCI PREVENTS ELECTRIC SHOCK DROWNING

Anyone who's come in contact with even a mild jolt of electricity knows the muscle spasms it can generate. Complete immersion after falling or unknowingly jumping into water that's been electrified by a boat's faulty wiring can trigger total body immobility and even stop a heart, tragically resulting in a drowning fatality. The cause is typically stray AC current exiting the boat and traveling back to its source on shore via the water instead of the ground wire. Fortunately, there are measures that can be taken to help prevent such occurrences, the centerpiece being an equipment leakage circuit interrupter or ELCI. SmartPlug Systems, pioneer in shore power safety, explains the importance of this critical piece of equipment and the simplicity of adding one by the average DIY boat owner.

An ELCI is similar to a residential GFCI (ground-fault circuit-interrupter). The circuitry inside the device measures the incoming and outgoing current flow. If it senses a problem with the ground, whether due to a damaged or severed wire or an incorrectly connected piece of equipment, it shuts off the power within a fraction of a second.

Some safety-minded marinas have installed GFI devices on their power pedestals, but many have not. This is why the American Boat and Yacht Council, the organization that sets boat manufacturing safety guidelines, mandates the inclusion of an ELCI on all new boats.

For owners of older boats familiar with marine wiring, installing an ELCI requires attention to detail but is straightforward. Connecting six wires is all it takes. Alternately, ABYC- and NMEA-certified electricians are eminently capable of undertaking the task and can also test the entire electrical system.

What the ABYC doesn't address, however, are the shortcomings of a twist-type shore power connector. Working in tandem with the ELCI, the SmartPlug provides over 20 times the metal-to-metal contact of a traditional plug and inlet—a design that hasn't changed in over 80 years. This maximizes the electrical transfer, and reduces the arcing, resistance and resultant overheating that leads to fire.

SmartPlug Systems' ELCI solution consists of two components, a ground fault sensor used in tandem with a UL-489 listed circuit breaker with built-in shunt trip and auxiliary switch. This combined package provides power and fault status indicators and identifies between a ground fault versus a short circuit trip. The trip level of the sensing device is <30mA (27mA nominal) with a trip time of <100mS (60mS nominal) to meet ABYC's E-11 Standard. The package is available in 30A and 50A versions.

Contact SmartPlug Systems, 2500 Westlake Ave N., Ste. G, Seattle, WA 98109-2262. 206-285-2990; Fax: 206-285-2981. Sales@smartplug.com; www.smartplug.com; www.facebook.com/SmartPlug; twitter.com/smartplugs