HAYWARD®

Resolving GFCI Nuisance Trips

NOTE: As of June 29, 2015, UL has issued major revisions to UL943, the standard for GFCI safety. These changes now require GFCI breakers to "auto-monitor" or "self-test" the ability of the GFCI to respond to a ground fault. Due to these recent changes, breakers could be more susceptible to nuisance tripping. If you are experiencing this issue please read the following information.

Symptom

- An isolated transformer for low volt lighting is installed.
- Turning the light(s) OFF or ON/OFF either via light switch or relay causes a GFCI breaker to trip, even on an unrelated circuit.

Cause

- The inductive kick of an isolation transformer causes a brief arc across the switch contacts which injects arc noise into the supply wiring. This brief noise feeds back to the panel and to all the installed breakers. The circuitry inside the GFCI breaker may react to the arc noise and trip, even though there is no ground fault current present.

Approved Solution

- Connection of a Hayward GLX-HAL-XSNUB snubber capacitor (arc suppressor) across the primary leads (line to neutral) of the transformer on the load side of the light switch or relay.

What does a Snubber do?

A snubber is a plastic-film high voltage capacitor that will suppress ("snub") the voltage spikes in electrical systems such as the inductive kick from a transformer attached to a switch. Although inductive spikes are not harmful to users, they increase the likelihood that a GFCI will be more susceptible to nuisance trips if no arc suppression is used.

Only the Hayward GLX-HAL-XSNUB has been tested and UL recognized for this application.

This item is now included with the following Hayward Low Voltage transformers:
LTBUY11H70
LTBUY11H14
LTBUY11300

Resolving Voltage Drop Issues

IMPORTANT: If the pool light is not connected directly to the transformer, calculate voltage drop for any wire runs before the light. For example, if using a junction box, use a voltage drop calculator to determine the voltage at the light cord's connection in the box. When calculating voltage drop, it's important to consider that the current load is the combined current of ALL lights attached to the run. Undersizing the wire at this connection can result in poor performance. For optimal operation, please ensure the voltage applied to the light meets the following:

No less than 12V for 30' & 50' models
No less than 13V for 100' models
No less than 14V for 150' models

Refer to the example below. There are three 50' pool lights being fed by a single 60' common wire from the 14V transformer. Each light draws approximately 5.4 amps. Therefore, the common feed wire must be sized to provide 12V at the junction box with a current load of 16.2 amps (5.4 amps x 3). After referring to a voltage drop calculator, we find that the common feed wire must be at least 10AWG or voltage will drop below 12V.