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Quick Start Guide

ICON System® Control - ICON E™

Operations Overview

The ICON E™ Electronic Control provides integrated control of both the upper and lower heating elements to achieve accurate, efficient water heating and temperature control. The control automatically decides which element to energize based on temperature readings taken from both an upper and lower temperature sensor. A solid-state relay assembly located above the lower heating element switches power to both upper and lower heating elements.



Quick Start Guide (First Fill)

1. **Fill the tank until water runs from the hot outlet of all faucets in the plumbing system.**
2. **Turn Power to the unit on.**

- The LED will alternate amber-green for approximately 5 seconds as the control powers up.

3. **Adjust the Setpoint Knob to the desired setting; The control will enter StartGuard™ only if the Setpoint Knob is moved after power is applied and set to a temperature that calls for the heating elements to turn on. StartGuard™ will test to ensure the tank is full of water and the elements are functioning correctly.**

- The LED will alternate amber-green during StartGuard™, as the control validates the heater is properly filled and all systems are operating correctly. This check lasts approximately 2-5 minutes, during the initial power-up only.
- The LED will change to one green flash (water heating) indicating normal operation during a call for heat.

Status Code	Definition	Service Action	Possible Parts Needed
Amber-green (continuous)	First 5 seconds of operation after power is applied to the Control	None. Control is operating normally.	None
Amber-green (continuous)	Self check (Initial startup only)	None. Control is operating normally.	None
Solid green	Thermostat satisfied - no fault	None. Control is operating normally.	None
1 flash green	Water is heating - no fault	None. Control is operating normally.	None
2 flash amber	Heating element fault detected	Disconnect power supply, remove wires from the elements, and check ohms resistance between the terminals.	Heating element(s)
3 flash amber	Power Switch Module (PSM) fault detected	Disconnect power supply and replace the Power Switch Module (PSM).	Power Switch Module (PSM)
4 flash amber	Temperature sensor fault detected	Disconnect power supply, verify wires are not damaged and terminals are connected properly at the ICON System® control. Replace the upper temperature sensor. If fault returns, replace the Power Switch Module (PSM).	1) Upper temperature sensor 2) Power Switch Module (PSM)
5 flash amber	Controller fault detected	Replace the ICON E™ Electronic Control.	ICON E™ Electronic Control
6 flash amber	Demand response event active (Adjust setpoint to override)	See service manual for further information.	None
7 flash red	High temperature detected	Check to see if high limit temperature sensor has tripped. Turn off power to the unit and check the impedance between terminals on the Power Switch Module. If there are shorts, replace the Power Switch Module.	1) Upper temperature sensor 2) Power Switch Module (PSM)