

## Modine/UT Ignition Control Board Failure Codes

A Green LED labeled "OK" is provided to indicate system faults.

<b>Steady OFF</b>	<b>Internal control fault or no power</b>
<b>Steady ON</b>	<b>Normal operation, no call for heat</b>
<b>Fast Flash</b>	<b>Normal operation, call for heat present</b>
<b>1 flash</b>	<b>Pressure switch does not close within 30 seconds of inducer energized.</b> <b>Pre-Purge</b> - The control energizes the induced draft motor and waits for the pressure switch to close. If the pressure switch does not close within 30 seconds of the inducer energizing, the control will flash "1" on the LED. The control will leave the inducer energized indefinitely as long as the call for heat remains and the pressure switch is open.
<b>2 flashes</b>	<b>Pressure switch is closed before inducer is energized.</b> <b>Call for Heat</b> - The control checks to see if the pressure switch is open. If the pressure switch is closed, the control will flash "2" on the LED and wait indefinitely for the pressure switch to open.
<b>3 flashes</b>	<b>Limit switch is open</b> <b>Limit Operation</b> - The limit switch is ignored unless a call for heat is present (W energized). If the limit switch is open and a call for heat is present, the control de-energizes the gas valve and runs the indoor blower motor on heat speed, and runs the induced draft motor. The control will flash "3" on the LED until the limit switch closes. When the switch re-closes or the call for heat is lost, the control runs the induced draft motor through post-purge and runs the indoor blower through the selected fan off delay. The control will return to normal operation after the blower off delay is completed.
<b>4 flashes</b>	<b>In lockout from failed ignitions or flame losses</b> <b>Ignition Retry</b> - If flame is not established on the fifth trial for ignition (initial try + 4 re-tries), the control de-energizes the gas valve and goes into lockout. The control flashes a "4" on the LED to indicate ignition failure lockout.
<b>5 flashes</b>	<b>Twin communications fault</b> A Twin Communications Fault will occur if the 24 VAC supply to the twins are not in phase with each other, or power is removed from one of the twins. While a Twin Fault exists, the control does not respond to thermostat commands and flashes "5" on the status LED. Open limit and undesired flame response are still operational. The control continually tries to establish communication and automatically resumes normal operation when communication is re-established. If a twin fault occurs during a heat cycle, both furnaces terminate the call for heat immediately. The only chance for blower mis-synchronization is if the blower off delays are set differently on the twins. If a twin fault occurs during high speed fan or continuous fan, both controls shut blowers off immediately.
<b>6 flashes</b>	<b>Limit Switch tripped 5 times during heat cycle</b> <b>Limit Operation</b> - If the limit switch has 5 trips per call for heat, the control will go into a hard lockout and the LED will flash "6". Lockout may be manually reset by removing power from the control for more than 1 second or removing the thermostat call for heat for more than 1 and less than 20 seconds
<b>7 flashes</b>	<b>5 flames losses during one heat cycle.</b> <b>Ignition Re-Cycle</b> - The control will re-cycle up to 5 flame losses (4 re-cycles) within a single call for heat before going to lockout. The LED will flash "7" during this lockout.

A Yellow LED labeled "FLAME" is provided to indicate flame status

**Flame Status** - When flame is sensed, the flame LED is lit. If the flame current is below 1.0 uA (+/-50%), the flame LED will flash slowly to indicate "weak" flame. The Flame LED will flash fast if flame is present with gas valve off. If flame is sensed longer than 4 seconds while the gas valve is de-energized, the control shall energize the induced draft motor and indoor blower motor on heat speed. When flame is no longer sensed, the induced draft motor will run through post-purge and the indoor blower motor will run through the selected heat fan off delay time. The control will do a soft lockout, but will still respond to open limit and flame. The Flame LED shall flash rapidly when lockout is due to undesired flame.

**Soft Lockout** - The control shall not initiate a call for heat or call for continuous fan while in lockout. A call for cooling operates as normal. The control will still respond to an open limit and undesired flame. Lockout shall automatically reset after 1 hour. Lockout may be manually reset by removing power from the control for more than 1 second or removing the thermostat call for heat for more than 1 and less than 20 seconds.

**Hard Lockout** - If the control detects a fault on the control board, the status LED will be de-energized and the control will lockout as long as the fault remains. A hard lockout will automatically reset if the hardware fault clears.