

FURNACE FAULT DIAGNOSTICS

LED FLASH	LED FLASH
Slow Flash	Normal standby
Fast Flash	Normal with a call for heat.
Continuous ON	Internal fault in the IFC.
2 Flashes	System lockout - no flame. Total of three tries. Automatic reset in one hour.
3 Flashes	Pressure switch error. (Fault may be caused by a vent problem or a wiring connection in the switch circuit.) On two speed furnaces, if there is a high heat pressure switch fault, the IFC will not lock out. It will go back to low heat, cancel the three flash indication for ten minutes and again try high heat.
4 Flashes	Thermal protection device open.
5 Flashes	Flame being sensed with gas valve de-energized (stuck open). Vent motor and indoor blower will be energized.
6 Flashes	No ground or power leads to furnace reversed, or line voltage too low.
7 Flashes	20VAC at gas valve with no call for heat or if no flame is present; keep vent motor on.
8 Flashes	Low flame sense signal.
9 Flashes	Ignitor fault or improper ground or low voltage.

2 Flash code:

- HSI Check (sini) 11-18 ohms & 85 volts
- Flame sensor 2-4 DCMA 1 MIN
- Inlet & Manifold pressure 5' min. inlet
- 1.4" - 1.7" 1st stage 3.5" 2nd stage nat.
- 6.0" 1st stage 10.5" - 11" 2nd stage lp

3 Flash code:

- Monitor negative pressure developed by inducer
- Check against pressure switch rating
- Check for restriction in vent
- Check to see if inducer is running at correct speed

4 Flash code:

- Check filter
- Check blower operation
- Check supply and return registers
- Measure static pressure
- For flame rollout check inducer, vent pipe
- Combustion air

5 Flash code:

- DO NOT TURN OFF POWER
- Check for grounded flame sensor
- Replace gas valve

6 Flash code:

- Voltage check 120 hot to neutral
- Neutral to ground should be 0 volts
- Check furnace grounds
- IFC CNT4677 & 4678 ohm & volt check
- On HSI

7 Flash code:

- Check for 24 volts at gas valve & IFC
- Valve energized before HSI replace IFC

8 Flash code:

- Check flame sensor, clean

9 Flash code:

- Ohm ignitor 11 - 18 for sini
- Check ground
- Check voltage between neutral & b/c term on IFC less than 2 vac
- CNT4677 & 4678 boards inducer limit open



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The diagnostics will indicate the specific fault through the following code:

GREEN LED FLASH	AMBER LED FLASH	RED LED FLASH	ERROR
		1	Flame sensed when no flame should be present
		2	Pressure switch stuck closed
		3	1st stage pressure switch is open / not closing
		4	Open thermal limit or open rollout
		5	Open low voltage fuse
		6	1st stage pressure switch opened 5 times within one cycle—1 hour lockout
		7	System lockout - retry
		8	System lockout - recycle
		9	Reverse polarity or poor grounding
		10	Gas valve energized without call for heat
		12	Ignitor relay failure internal in board. Replace IFC
		Solid	Gas valve relay failure internal board. Replace IFC
		3 Double	2nd stage pressure switch open; system reverts back to 1st stage heat
	1		1st stage call for heat
	2		2nd stage call for heat
	3		W2 call present without W1
	4		Y call present withough G
	Rapid		Low flame sense current
1			Standby mode or call for cooling