

## Category: Thermosystems

Document Number: PI009RC

Date Posted: 03/15/2007

Description: ERROR CODE DESCRIPTIONS - THERMO 230/300/350

Error/Fault		Probable Cause	Check and Correct
Flash code Ind. Light/timer	PC diagnostic tool code		
1 x Flash/ (F01)	No Start 03	<ul style="list-style-type: none"> <li>Fuel system</li> <li>Combustion air</li> <li>Ignition</li> <li>Flame detector</li> <li>Drive coupler</li> </ul>	<ul style="list-style-type: none"> <li>Type of fuel being used</li> <li>Fuel filter</li> <li>Fuel lines (air in fuel lines)</li> <li>Fuel nozzle plugged</li> <li>Air intake or exhaust restricted or plugged</li> <li>Check ignition electrode for proper adj.</li> <li>Check flame detector and window for any carbon/dirt accumulation, clean if necessary</li> <li>Check drive coupler, if stripped look for the cause before replacing (seized fuel pump, blocked fuel return line etc.)</li> </ul>
2 x Flashes/ (F02)	Flame out (during burner operation) 04	<ul style="list-style-type: none"> <li>Fuel supply (shortage of fuel)</li> <li>Combustion air</li> <li>Flame detector</li> </ul>	<ul style="list-style-type: none"> <li>Restriction in the fuel system</li> <li>Fuel filter</li> <li>Fuel line connections (air in fuel lines)</li> <li>Type of fuel being used</li> <li>Air intake or exhaust restricted or plugged</li> <li>Check flame detector and window for any carbon /dirt accumulation, clean if necessary</li> </ul>
3 x Flashes/ (F03)	Under/Over voltage 05	<ul style="list-style-type: none"> <li>Electrical system</li> </ul>	<ul style="list-style-type: none"> <li>Check battery voltage</li> <li>20...21 V – under voltage cutout</li> <li>32...33 V – over voltage cutout</li> <li>Corrosion at the electrical connectors</li> <li>Loose electrical connections</li> </ul>
4 x Flashes/ (F04)	Flame detector recognizes false flame (light) during pre-start or cool down cycle 09	<ul style="list-style-type: none"> <li>Defective flame detector</li> <li>Solenoid valve stuck in open position in cool down cycle</li> </ul>	<ul style="list-style-type: none"> <li>Replace flame detector</li> <li>Check solenoid valve and replace if defective</li> </ul>

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5 x Flashes/ (F05)	Flame detector 06	<ul style="list-style-type: none"> <li>Electrical connection</li> </ul>	<ul style="list-style-type: none"> <li>Check flame detector electrical connections</li> <li>Check flame detector with Ohm meter and replace if defective</li> </ul>
6 x Flashes/ (F06)	Temperature sensor 08	<ul style="list-style-type: none"> <li>Wiring</li> <li>Defective temperature sensor</li> </ul>	<ul style="list-style-type: none"> <li>Damaged wiring, open or short circuit</li> <li>Check temperature sensor with Ohm meter and replace if defective</li> </ul>
7 x Flashes/ (F07)	Fuel solenoid valve 0A or 10	<ul style="list-style-type: none"> <li>Wiring</li> <li>Defective solenoid valve</li> </ul>	<ul style="list-style-type: none"> <li>Damaged or corroded wiring, open or short circuit</li> <li>Check solenoid valve and replaced if defective</li> </ul>
8 x Flashes/ (F08)	Electric motor 0B or 11	<ul style="list-style-type: none"> <li>Wiring</li> <li>Electric motor</li> </ul>	<ul style="list-style-type: none"> <li>Damaged or corroded wiring, open or short circuit</li> <li>Check electric motor and replace if defective</li> </ul>
10 x Flashes/ (F10)	Temperature limiter 07	<ul style="list-style-type: none"> <li>Overheat condition</li> <li>Defective temperature limiter</li> </ul>	<ul style="list-style-type: none"> <li>Check coolant level or coolant flow restrictions (closed valve)</li> <li>Air trapped in coolant circuit</li> <li>Check coolant pump, replace if defective</li> <li>Check temperature limiter and replace if defective</li> </ul>
11 x Flashes/ (F11)	Electronic ignition unit 0C or 12	<ul style="list-style-type: none"> <li>Electric system</li> <li>Defective ignition unit</li> </ul>	<ul style="list-style-type: none"> <li>Check electric connections</li> <li>Check ignition unit and replace if needed</li> </ul>
12 x Flashes/ (F01)	Heating unit interlocked 01	<ul style="list-style-type: none"> <li>Heater lockout due repeated malfunctions during startup or during heater operation</li> </ul>	<ul style="list-style-type: none"> <li>Reset unit by switching heater on and disconnecting power supply (three way connector) during start up. Active error/fault will be displayed during next start up.</li> </ul>