


#### 14.4 Failure (lock-out) codes (requires user intervention, manual reset of control)

When a failure code is displayed, both the **code** window and the  window will flash alternately. Except for failure **F03** (does not flash).

Failure	Description	Cause/check points
<b>00</b>	Flame simulation, (flame detected in the off position)	- Burner glows as a result of high CO <sub>2</sub> percentage (> 10% CO <sub>2</sub> ) - Check ignition/ionization electrode gap 1/8" or [3-4mm] Gas valve is leaking or is stuck open, check and replace
<b>01</b>	Short Circuit in 24v circuit	Check; - Wiring to sensors - Wiring to gas valve
<b>02</b>	No flame or ionization signal after 5 attempts	a) N° ignition spark, Check; - Connection of ignition cable and spark plug cover - Ignition cable and electrode for breakdown - For 'flash over' between spark plug cover and earth - Electrode distance, should be 1/8" or 3.5mm - Condition of burner set (burner set / electrode seal) earth b) Ignition spark is present, but no flame. Check; - The gas main cock valve is open - There is sufficient inlet gas pressure > 3,5 "w.c. [8.7 mbar] - The gas pipe has been purge of air - The gas valve multiblock is energized, during ignition - The electrode is clean and fitted correctly - The gas pip is not blocked or fitting correctly - The air supply or flue gas discharge is not blocked/fitted incorrectly - The gas/air mixture is set correctly c) There is flame, but there is insufficient ionization < 2µA, Check; - The condition of the electrode and earth - The temperature sensors for leakage current
<b>03</b>	Gas valve multiblock defective	Control unit does not recognize gas valve multiblock, check; - The wiring on the gas valve has been disconnected or not fitted - The gas valve is not defective (burned °out or short-circuit)
<b>F03</b>	Fuse 3 blown	Replace fuse 3
<b>04</b>	Permanently locked out	Mains voltage has been disconnected during lock out, solution; reset (original lock-out usually return automatically)
<b>05</b>	No processor handshake (or external influences)	Fault in control unit or fault due to EMC influences, Reset first if fault persists, replace control unit. If fault still persists, locate and remove possible external EMC sources
<b>06</b>	Input failure; sensors are short circuiting	Check the wiring of the temperature sensors. If fault persists, replace control unit. If fault still persists, locate and remove possible EMC sources.
<b>07</b>	Gas valve multiblock relay fault	Gas valve multiblock defective or not connected.
<b>08</b>	Air pressure differential sensor does not maintain check level	Check;
<b>08</b>	Air pressure differential sensor does not maintain check level	- The air supply or flue gas discharge for blockages/ installation faults. - The air pressure differential switch and connections
<b>11</b>	Fault on internal communication bus (I <sup>2</sup> C-bus) when reading EPROM	Check - The multiple wire cable in the instrument panel for short circuit - Moisture on the display - Find and remove and EMC sources
<b>12</b>	Locked input open (external safety controls) LWCO & Hi Limit	- Maximum thermostat (=external protection), connected to terminals X29.1 & 29.2 on the terminal strip, has tripped or jumper has been removed. - Fuse F3 on automatic burner unit is defective
<b>17</b>	Gas multiblock protection	Gas valve multiblock defective or not connected.
<b>18</b>	Flow temperature too high	Check; - Flow - System as has proper air elimination - Temperature sensors for deviations - Water pressure in the system
<b>20</b>	Excessive fan speed	Check; - Fan setting parameters - Fan cable is defective or poor connection, if failure persist fan or control unit may be defective.

2 8	Fan not operating	- Fan defective - Fan cable is corroded, resulting in absence of voltage or control signal.
2 9	Fan operates continuously or signal incorrect	- Check the fan cable connectors on both the fan and the automatic burner unit side. - Fan electronics defective - Excessive negative chimney pressure
3 0	Max $\Delta T$ exceeded	Check; - Flow - System as has proper air elimination - Water pressure in the system
3 1	Temperature sensor fault	Short circuit of flow temperature sensor
3 2	Temperature sensor fault	Short circuit of return temperature sensor
3 5	Temperature sensor fault	Short circuit of flue gas temperature sensor
3 6	Temperature sensor fault	Flow temperature sensor not connected or defective
3 7	Temperature sensor fault	Return temperature sensor not connected or defective
3 8	Air pressure differential sensor short circuited	- Check the connecting cable of the air pressure differential sensor - Air pressure differential sensor is defective or not connected
3 9	Air pressure differential sensor open	- Check the air pressure differential sensor connecting cable for short circuiting, etc. - Air pressure differential sensor is defective
4 0	Temperature sensor fault	Flue gas temperature sensor not connected or defective
4 3	one or more parameters are out of limits	The input of the parameter(s) are incorrect
4 5	Hydraulic pressure sensor short circuited	- Check the hydraulic pressure sensor connecting cable for short circuit, etc... - Hydraulic pressure sensor is defective
4 6	Hydraulic pressure sensor open	- Check connecting cable of the hydraulic pressure sensor for short circuit, etc... - The hydraulic pressure sensor is defective or not connected
5 2	Maximum flue gas temperature exceeded	Check the heat exchanger for fouling on the flue gas side
6 1	Air pressure differential sensor not opening	Check; - Is the air pressure differential sensor defective - Has the wiring been short circuited - Excessive positive chimney pressure
7 7	Weak flame ionization signal during operation (after 4 restarts during 1 heat demand)	- Flue gas recirculation, check venting & heat exchanger for leaks - Insufficient air flow due to blockage - Check the boiler settings
8 3	Boiler block temperature too high	Check; The heating pump is operating - There is sufficient water flow through the boiler - The water pressure is > 11 psi or 0.8 bar
8 9	Gas leak VA1 (optional)	The VPS gas leakage control has detected a leak, Check for external leaks, otherwise replace gas valve multiblock
9 0	Gas leak VA2 (optional)	The VPS gas leakage control has detected a leak, Check for external leaks, otherwise replace gas valve multiblock
9 1	Air pressure differential sensor fault	Air pressure differential sensor fault during pre-purge (after 4 restarts) Check; Is the air pressure differential sensor defective - Has the wiring short circuited - Excessive high positive chimney pressure
9 4	Boiler block temperature > flow temperature + hysteresis	Check; - The heating pump is operating - There is sufficient water flow through the boiler - The water pressure is < 11 psi or 0.8 bar
9 5	Temperature sensor fault	Short circuit of boiler block sensor
9 6	Temperature sensor fault	Boiler shut-off sensor is not connected or defective
9 7	Boiler block temperature too high	Check; - The heating pump is operating - There is sufficient water flow through the boiler - The water pressure is < 11 psi or 0.8 bar
other codes	Control unit has internal fault	Proceed as follows with all non-listed codes - Press the reset button once - Check that the wiring is not short circuited - If the fault persists, contact our service department

Table 23 Failure codes



**WARNING!!** Do not reset the boiler control until you can identify and have resolved the problem. Unresolved problems could cause personal injury or damage to the boiler and controls.