



# Manufacturer Error Codes

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At Boiler Guide we've been producing heating guides and advice for customers for over 15 years. We're proud to say that we've become the trusted source for millions of customers who visit [boilerguide.co.uk](http://boilerguide.co.uk) every year looking for solutions to their heating requirements.

We also work with 1000s of Gas Safe registered installers providing a pay-as-you-go lead generation service helping companies of all sizes to grow their business.

Over the years we've been able to gather a wealth of industry knowledge and we've gained an understanding of the vast array of things people search for when it comes to heating. Safe to say '**what does this error code on my boiler mean?**' tends to feature quite heavily.

With so many makes, models and manufacturers of gas boilers available in the UK, it's impossible for even the most experienced of installers to know the system behaviour relating to every error code.

With this in mind we decided to take on the unenviable task of collating error codes from five of the most popular boiler brands to provide installers and homeowners with a quick go-to source when a boiler fault occurs - hopefully making your life a little easier.

We hope you find this easy to read guide helpful.

Best,

**David Holmes**  
**Boiler Guide Founder**

# Worcester Bosch Boiler Error Codes

- CDI Classic Combi
- CDI Highflow Combi
- CDi Compact, Greenstar 25/30 Si Combi, Greenstar 27/30 i System
- CDi Classic Regular
- Greenstar I System or Combi
- GB162 Commercial Boiler
- CDI Highflow Combi
- Greenstar Ri
- Greenstar 8000

## CDI Classic Combi Boiler

Fault Description	System Behaviour
<b>A1</b>	Water is leaking or the pump needs replacing or freeing due to the pump running dry.
<b>A7</b>	The hot water negative thermistor coefficient (NTC) sensor is defective – the hot water sensor or connecting leads need checking.
<b>A8</b>	Break communication to FX sensor controls electrical connections need checking.
<b>B1</b>	Code plug not detected .
<b>C6</b>	Fan speed too low – the fan lead and connector need checking and may need replacing.
<b>E2</b>	Central heating (CH) water flow negative thermistor coefficient (NTC) sensor defective check CH flow NTC sensor and connection leads.
<b>E9</b>	Safety temperature limiter in central heating (CH) flow has tripped the system pressure or safety temperature limiter needs checking
<b>EA</b>	Flame not detected due to a gas issue – the gas supply, power supply or igniter, electrode and lead need checking – contact a Gas Safe installer.
<b>F0</b>	Internal error – electrical connector contacts or programmer interface module – check ignition leads are not loose.
<b>F7</b>	Flame detected even though the appliance is switched off – check the electrode assembly is dry and the pcb and flue are clear.
<b>FA</b>	Flame detected after gas shut off – the gas valve needs checking – hire a Gas Safe installer.

FD	Reset button pressed by mistake – press reset button again.
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## CDI Highflow Combi

Fault Description	System Behaviour
A1	Pump dry run detection or pump is running in air the system pressure needs checking
A5	Tank negative thermistor coefficient (NTC) defect
A7	Domestic hot water (DHW) negative thermistor coefficient (NTC) defect
A8	Energy Management System (EMS) communication error
B1	Code plug not detected
B2, B3, B4, B5, B6	Data error
B7	Burner control error
C6	Fan defect
D3	External temperature limiter
D5	Condensate pump failure
D6	Internal heat bank overflow
EA	Flame not detected
E2	Primary negative thermistor coefficient (NTC) defect
E9	Safety temperature limiter in central heating (CH) flow stat tripped
F0	Internal error
F1	ROM fault
F7	Flame detected after appliance has been shut off
FA	Flame detected after gas shut off
FD	Reset button pressed – try pressing the reset button again

## CDi Compact / Greenstar 25/30 Si Combi / Greenstar 27/30 i System

Fault Description	System Behaviour
<b>T1</b>	Ignition test – checking the igniter spark
<b>T2</b>	Fan test – checking the basic fan
<b>T3</b>	Pump test – checking the basic pump
<b>T4</b>	Three way valve test
<b>T6</b>	Ionisation oscillator test
<b>9A 362</b>	error – incorrect HCM fitted
<b>9U 233</b>	Heat Control Module (HCM) error – problem with code plug
<b>B7 257</b>	Internal error – possible control board problem
<b>C6 215</b>	Fan problem – fan running too fast
<b>C7 214</b>	Fan problem – fan not running
<b>D1 240</b>	Return sensor error – sensor may be wet or damaged
<b>E2 222</b>	Flow sensor short circuit error
<b>E5 218</b>	Flow temperature too high
<b>E9 219</b>	Safety sensor fault – temperature too high, sensor short circuit or open circuit
<b>EA 227</b>	No flame detected or flame signal loss during operation
<b>F0 237</b>	Internal error
<b>F7 228</b>	Flame error – false flame or flame detected before burner started
<b>FA 306</b>	False flame fault – flame detected after burner stop
<b>FD 231</b>	Mains power fault – electrical power interruption
<b>FA 364</b>	Gas valve EV2 leak test failed – gas valve leak
<b>FB 365</b>	Gas valve EV1 leak test failed
<b>A1 281</b>	Pump stuck or running with air in the system
<b>C1 264</b>	Airflow stopped during operation
<b>C4 273</b>	Airflow present during last 24 hour
<b>D1 240</b>	Return sensor short circuit
<b>D4 271</b>	Temperature difference between flow and safety sensor exceeds limit

<b>E9 224</b>	Max thermostat activated – flue gas thermostat overheat
<b>EA 227</b>	No ionisation detected after ignition
<b>EF 349</b>	Central heating boil detected – boiler operating at minimum burner load with temperature difference greater than 18°C between Flow & Return.
<b>NO CODE 212</b>	Safety or flow temperature rising too fast

## Greenstar I System / Combi Boiler Error Codes

Fault Description	System Behaviour
<b>226</b>	Service tool has been connected in the blocking error history menu
<b>FD 231</b>	The power has been interrupted during a lockout
<b>C7 214</b>	Fan does not run during the start up phase – fan harness connector needs checking
<b>C6 215</b>	Fan speed too high – check the fan harness and connector
<b>C7 216</b>	Fan speed too low – check the fan harness and connector
<b>C7 217</b>	Fan has stopped during appliance operation
<b>C1 264</b>	Fan stopped during operation
<b>C4 273</b>	Continuous fan operation for the last 24 hours – appliance temporarily blocked
<b>E2 222</b>	Flow temperature sensor shorted
<b>E2 233</b>	Flow temperature sensor disconnected
<b>E9 276</b>	Primary flow temperature exceeded 95°C
<b>E2 350</b>	Flow temperature sensor shorted
<b>E2 351</b>	Flow temperature sensor disconnected
<b>FA 306</b>	Ionisation detected after the gas valve closed
<b>EA 227</b>	No ionisation detected after ignition
<b>F7 228</b>	Ionisation current detected before burner start
<b>EA 229</b>	Loss of ionisation signal during operation
<b>EA 261</b>	Heat control module (HCM) potentially defective – reset the appliance
<b>9U 233</b>	Control box or heat control module (HCM) is defective or loose, the HCM needs to be checked
<b>C4 237</b>	Control box or heat control module (HCM) is defective
<b>F0 238</b>	Gas valve or control box error – gas valve coils need checking
<b>F0 239</b>	Control box or the heat control module (HCM) is defective – the control box connections need checking
<b>F0 242</b>	Control box or the heat control module (HCM) is defective – the HCM and control box connections need to be checked



<b>B7 257</b>	Control box or the heat control module (HCM) is defective- the HCM and control box connections need to be checked
<b>F0 258</b>	Control box or the heat control module (HCM) is defective – HCM or control box connections need to be checked
<b>EH 258</b>	Control box or the heat control module (HCM) is defective – HCM or control box connections need to be checked
<b>F1 259</b>	Control box or the heat control module (HCM) is defective – HCM or control box connections need to be checked
<b>F0 262</b>	Control box or the heat control module (HCM) is defective – HCM or control box connections need to be checked
<b>F1 263</b>	Control box or the heat control module (HCM) is defective – HCM or control box connections need to be checked
<b>F0 272</b>	Control box or the heat control module (HCM) is defective – control box and connections need checking or HCM might not be inserted properly and need replacing
<b>F0 280</b>	Control box or the heat control module (HCM) is defective – control box and connections need checking or HCM might not be inserted properly and need replacing
<b>F0 290</b>	Control box is defective – HCM needs checking as it might not be inserted properly or need replacing
<b>328</b>	Internal error with the mains voltage – frequency may be inconsistent
<b>235</b>	Incompatible heat control module (HCM) software versions – control box needs latest software
<b>356</b>	Low mains voltage – the voltage may be interrupted or inconsistent and needs checking
<b>360</b>	Heat control module (HCM) invalid – the inserted HCM does not correspond with the control box
<b>A8 362</b>	Low mains voltage – the voltage may be interrupted, inconsistent or heat control module (HCM) invalid
<b>CC 800</b>	Outdoor sensor defect available when accessory outdoor sensor is connected
<b>A1 281</b>	Pump stock or running dry
<b>E9 224</b>	Flue or high limit thermostat activated
<b>D4 341</b>	Primary flow temperature rising too fast

## GB162 Boiler Error Codes

Fault Description	System Behaviour
<b>208</b>	The boiler is in chimney sweep mode
<b>200</b>	The boiler is in heating mode
<b>201</b>	The boiler is in domestic hot water (DHW) mode
<b>202</b>	The boiler is waiting – there was a heat demand from the on off or modulating control
<b>203</b>	The boiler is on standby
<b>204</b>	The boiler is waiting – the actual temperature is higher than the calculated or selected boiler temperature
<b>212</b>	The temperature recorded by the flow temperature sensor or the safety sensor is rising too quickly
<b>226</b>	Diagnosis tool was connected and is now locked out
<b>260</b>	The flow temperature sensor is not detecting a rise in temperature following a burner start
<b>265</b>	The boiler is waiting in response to a heat demand – the boiler regularly switches to partial load
<b>268</b>	Component test phase
<b>270</b>	The boiler is modulating upwards
<b>283</b>	The boiler is preparing for a burner start – the fan and pump are activated
<b>284</b>	The gas valve is switched
<b>305</b>	The boiler is waiting for domestic hot water (DHW) operation to end
<b>235</b>	The KIM (boiler identification module) is too new for the burner control unit
<b>360</b>	The KIM that has been fitted is not compatible with the burner control unit
<b>9A 361</b>	The burner control unit that has been fitted is not compatible with the KIM (boiler identification module)
<b>9U 233</b>	The burner control unit or KIM (boiler identification module) is faulty
<b>A3 317</b>	Short circuit in the flue gas temperature sensor contacts
<b>B7 257</b>	The burner control unit or the KIM (boiler identification module) is faulty

<b>C1 264</b>	No control signal or power supply to the fan during operation
<b>C4 273</b>	The boiler was switched off for a maximum of 2 minutes because it had been operating continuously for more than 24 hours
<b>C6 215</b>	The fan speed is too high
<b>C6 216</b>	The fan speed is too low
<b>C7 214</b>	The fan does not run during the start phase
<b>C7 217</b>	The fan speed is irregular when starting up
<b>CE 207</b>	Water pressure is too low
<b>CE 266</b>	Pump test failed
<b>D1 240</b>	The contacts of the boiler return temperature sensor have been short circuited
<b>D1 241</b>	The contacts of the boiler return temperature sensor have been interrupted
<b>D3 232</b>	The external switching contact has opened
<b>D4 213</b>	The actual temperature recorded by the flow temperature sensor or return temperature sensor is rising too quickly
<b>D4 271</b>	Actual temperature differential between flow and safety temperature sensor is too high
<b>D4 286</b>	The boiler return temperature sensor has detected a return temperature higher than 105°C
<b>E2 222</b>	Short circuit in the flow temperature sensor contacts
<b>E2 223</b>	The flow temperature sensor contacts have been interrupted
<b>E5 218</b>	The temperature captured by the flow temperature sensor exceeded 105°C
<b>E9 210</b>	The temperature measured by the flue gas sensor is too high and is open
<b>E9 219</b>	The safety temperature sensor has captured a temperature in excess of 105°C
<b>E9 220</b>	The contacts for the safety temperature sensor have shorted or the safety temperature sensor has detected a temperature higher than 130°C
<b>E9 224</b>	The contacts of the safety temperature sensor have been interrupted
<b>E9 276</b>	The temperature flow sensor has measured a temperature in excess of 95°C

<b>E9 277</b>	The safety temperature sensor has measured temperature in excess of 95°C
<b>E9 285</b>	The boiler return temperature sensor has measured a temperature higher than 95°C
<b>E9 318</b>	The flue gas temperature sensor contacts have been interrupted
<b>EA 227</b>	An insufficient ionisation current was measured following ignition of the burner
<b>EA 229</b>	The ionisation current detected by the system during the burning phase was insufficient
<b>EA 234</b>	The contacts of the gas valve have been interrupted
<b>EA 261</b>	The burner control unit is faulty
<b>EA 269</b>	The ignition device has been activated for too long
<b>F0 238</b>	The burner control unit KIM (boiler identification module) is faulty
<b>F0 239</b>	The burner control unit KIM (boiler identification module) has an error. Cabling might have poor contact breaks and pinching or the plug and wiring of the burner control unit needs checking, also check the operating characteristics of the boiler by replacing the burner control unit.
<b>F0 242, F0 243. F0 244. F0 245, F0 246. F0 247, F0 248, F0 249, F0 250, F0 251, F0 252, F0 253, F0 255, F0 259, F0 263, F0 267, F0 272</b>	The burner control unit (KIM) is faulty – the wiring of the burner control unit needs checking, also check the operating characteristics of the boiler by replacing the burner control unit.
<b>F0 278</b>	The sensor test has failed – cabling and plug sensors need checking
<b>F0 279</b>	The burner control unit, or KIM, is faulty – control unit may need replacing
<b>F0 280</b>	The burner control unit is faulty
<b>F0 287</b>	The burner control unit, or KIM, has an error
<b>F0 290</b>	The burner control unit, or KIM, is faulty
<b>F7 228</b>	An ionisation current was measured before the burner started
<b>F7 328</b>	A brief power failure has occurred
<b>FA 306</b>	An ionisation current was measured after the burner went out

<b>FD 231</b>	The mains voltage was interrupted during an interlocking fault
<b>EC 256</b>	The burner control unit has an error
<b>EH 258</b>	The burner control unit is faulty – check the plug and wiring of the burner control unit.
<b>H07</b>	The current water pressure is too low, limiting the performance in heat mode as well as domestic hot water (DHW) mode
<b>HrE</b>	The boiler keeps resetting
<b>rE</b>	The boiler resets

## CDI Highflow Combi

A light on the boiler will flash to indicate that there's a fault. Depending on the type of fault, the light will flash in a different sequence.

There will be 4 quick flashes followed by a 5 second gap when the light is off and finally a series of longer flashes. The number of long flashes tells you which fault the boiler has.

Fault Description	System Behaviour
<b>Light off</b>	No boiler demand
<b>Light on</b>	Heating demand on boiler is OK
<b>1 flash 5 seconds off</b>	No ionisation detected after ignition
<b>2 flashes 5 seconds off</b>	Loss of ionisation signal during operation
<b>3 flashes 5 seconds off</b>	Gas valve error
<b>4 flashes 5 seconds off</b>	First safety timing error / ignition timing error
<b>5 flashes 5 seconds off</b>	Ionisation detected after burner stopped Gas valve EV2 leak test failed Gas valve EV1 leak test failed Ionisation current detected before burner start Gas valve error Ionisation sensor shorted
<b>4 flashes 5 second gap 1 long flash</b>	Sensor test failed
<b>4 flashes, 5 second gap, 2 long flashes</b>	Safety temperature too high
<b>4 flashes, 5 second gap, 3 long flashes</b>	Max safety thermostat activated
<b>4 flashes, 5 second gap, 4 long flashes</b>	Return temperature too high
<b>4 flashes, 5 second gap, 5 long flashes</b>	Flow temperature too high – supply sensor exceeded 110°C
<b>1 long flash, 4 quick flashes, 5 second gap, 1 long flash, 4 quick flashes</b>	Heating control module (HCM) defective
<b>2 long flashes, 4 quick flashes, 5 second gap, 2 long flashes, 4 quick flashes</b>	Fan running too fast Fan running too slow No airflow after defined period of time Fan not running
<b>3 long flashes, 4 quick flashes, 5 second gap, 3</b>	Mains voltage interrupted after locking error

<p><b>long flashes, 4 quick flashes</b></p>	
<p><b>4 long flashes, 4 quick flashes, 5 second gap, 4 long flash, 4 quick flashes</b></p>	<p>Internal control board faults</p>
<p><b>5 long flashes, 4 quick flashes, 5 second gap, 5 long flash, 4 quick flashes</b></p>	<p>All other miscellaneous faults – reset the boiler by turning the control knob anti-clockwise to the reset position</p>

## Greenstar Ri

Fault Description	System Behaviour
No light	No power at control board
Light on	Appliance on but not operating during demand
Slow flash ( mostly off flashes on)	Ignition lockout
Slow flash ( mostly on flashes off)	Flue overheat or heat exchanger overheat
Fast flash	Volatile lockout sensor fan or code plug
2 pulses	Check service mode switch is in minimum position
5 pulses	Check service mode switch is in max position



## Greenstar 8000 Boiler Error Codes

Fault Description	System Behaviour
<b>200 O</b>	Boiler in heating mode
<b>201 O</b>	Boiler in hot water mode
<b>202 O</b>	Boiler in anti-cycle mode
<b>203 O</b>	Boiler in standby – no heat energy demand
<b>204 O</b>	Current primary water temperature higher than set value
<b>208 O</b>	Chimney sweep demand
<b>224 V</b>	Safety temperature limiter has tripped – top-up water until the reset pressure is reached
<b>227 V</b>	No flame signal after ignition burner control unit could need replacing
<b>228 V</b>	Flame signal without flame present – air/gas ratio control valve may need replacing as might the ionisation cable
<b>305 O</b>	Boiler in hot water anti-cycle mode
<b>306 V</b>	Flame signal after closing the fuel supply – the air/gas ratio control valve might need replacing
<b>360 V</b>	Incompatible code plug – check if a correct code plug is installed and exchange or reconnect code plug
<b>815 W/B</b>	Low loss header temperature sensor faulty – check the sensor port or check the differential sensor for incorrect installation position or breakage
<b>1010 O</b>	No BUS communication cable, EMS-Bus isn't connected or damaged – connect the cable for the EMS-Bus or replace the damaged cable exchange fuse
<b>1017 W</b>	Water pressure too low – the water needs topping up and the vent system or pressure sensor may need replacing
<b>1021 B</b>	Hot water temperature sensor is defective – the plug to the hot water temperature sensor may not be connected
<b>1022 B</b>	Hot water storage temperature sensor is defective – connect the plug to the hot water temperature sensor correctly, mount the hot water temperature sensor correctly or replace the hot water temperature sensor
<b>1037 W</b>	Outside temperature sensor is defective – check the connecting lead

<b>1065 B</b>	Pressure sensor defective or not connected – check pressure sensor connection as it may need replacing
<b>1068 W</b>	Outside temperature sensor defective – check the connecting lead
<b>1073 W</b>	Short circuit of the flow temperature sensor – the temperature sensor may need replacing
<b>1074 W</b>	No signal from the flow temperature sensor available – connect the plug to the flow temperature sensor correctly or temperature sensor could need replacing
<b>1075 W</b>	Short circuit of the temperature sensor at the heating block – temperature sensor may need replacing
<b>1076 W</b>	No signal from the temperature sensor at the heating block available – replace the temperature sensor, the connecting lead or the control unit
<b>2920 V</b>	Error with the flame monitoring
<b>2924 V</b>	No feedback from the modulating gas valve. The gas valve relay is defective – press the reset button and apply burner start, wait to see if fault reoccurs, if it does the gas valve needs replacing
<b>2925 V</b>	Feedback from the modulating gas valve is too low
<b>2927 B</b>	Flame failed during burner operation. Open the main shut off valve, shut down the appliance and check gas line, replace the ionisation electrode, set burner correctly and minimum rated load, check the integrity flue system and if the interconnected room air supply is too small, or the size of the ventilation opening is too small, clean the heating block on the flue gas side or replace the control unit/burner control unit
<b>2946 V</b>	Incorrect code plug detected – the code plug needs replacing
<b>2948 B</b>	No flame signal. With low output the burner starts automatically after cleaning. If the fault occurs repeatedly, the setting of the CO2 valves need checking
<b>2950 B</b>	No flame signal. Following the starting procedure the burner starts automatically. After cleaning set the correct gas / air ratio correctly
<b>2963 B</b>	Signal from flow and heat exchanger temperature sensor outside the permissible range – the connecting lead needs connecting correctly
<b>2964 B</b>	Flow rate in heat exchanger is too low
<b>2965 B</b>	Flow temperature too high

<b>2966 B</b>	Flow temperature rise in heat exchanger too rapid
<b>2967 B</b>	Flow / heat exchanger temperature sensor differential too great
<b>2970 B</b>	Pressure drop in heating system too rapid
<b>2971 B</b>	System pressure too low – the heating system needs venting or water needs topping up until the preset pressure is reached. Replace the cable to the pressure sensor replace the pressure sensor



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