

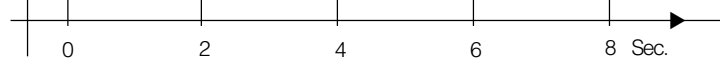
Fault Error Codes - Eberspacher Hydronic 16/24/30/35

Function and fault test		Fault signal / flashing code
Fault code	Remedy	
Fault description		
000 No fault		
001 Advance warning – overvoltage	Check to see if voltage between 13 and 14 of control unit (external plug) is greater than 15 V or 30 V	
002 Advance warning – undervoltage	Check to see if voltage between 13 and 14 of control unit (external plug) is less than 10 V or 20 V	
009 TRS 003 cutout	Switch heater off and on again (TRS case due to D* or HA/NA must be cancelled)	
010 Overvoltage cutout	Check to see if voltage between 13 and 14 of control unit (external plug) is greater than 15 V or 30 V	
011 Undervoltage cutout	Check to see if voltage between 13 and 14 of control unit (external plug) is less than 10 V or 20 V	
012 Overheat	Overtemperature sensor signals temperature of greater than 115 °C. Impedance at overtemperature sensor < 400 ohms. Ventilate heater (water level too low). Open the heater slide valve. Check water throughflow and sensor. Check the impedance at the control unit (internal plug). For this purpose, dismantle the control unit, disconnect the internal plug from the control unit and measure the impedance between 5 and 8. Overtemperature sensor values: 150 kohms at – 25 °C 10 kohms at + 25 °C	
013 Excess temperature at flame sensor	Flame sensor signals temperature of greater than 700 °C. Impedance at flame sensor > 3400 ohms. Check the impedance at the control unit (internal plug). For this purpose, dismantle the control unit, disconnect the internal plug from the control unit and measure the impedance between 10 and 12. Flame sensor values: 900 ohms at – 25 °C 1100 ohms at + 25 °C	
014 Difference between overheat and water temperature too large	Temperature difference between measurements of overtemperature sensors is greater than 70 K. Ventilate heater (water level too low). Open the heater slide valve and check water throughflow. Check the overtemperature sensor. Check the impedance between 5 and 8 at the control unit (internal plug). Overtemperature sensor values: 150 kohms at – 25 °C / 10 kohms at + 25 °C	
015 Too many overheats	The control unit is interlocked after three successive overheats (error codes 012, 013 and 014). Eliminate the case of the overheat. Unlocking by deleting the error memory with diagnosis unit/PC or plus signal for 0.5 to 5 sec. on connection 7 (0.5 v) on the control unit (ext. plug) with heater switched on.	

0 2 4 6 8 Sec.



Function and fault test			
Fault code	Fault description	Remedy	
020	Glow plug interruption	Check glow plug (nominal value: approx. 2 ohms), replace it if necessary. Check terminal 4 (1.5 white) on the control unit	
021	Short-circuit at glow plug	leading to glow plug to terminal 3 (1.5 brown) for continuity/short-circuit. If O.K. → replace control unit.	
033	Burner motor or speed controller defective, speed deviation	Speed deviation for longer than 60 seconds. Nominal values: 7300 rpm (POWER), 5700 rpm (HIGH), 3600 rpm (MEDIUM), 2000 rpm (LOW). • Check burner motor: apply supply voltage to motor. Connect + to 1.5 black and - to 1.5 orange. Motor does not turn → replace burner motor with integrated sensor. • Check sensor supply. Switch on heater and measure voltage between output 13 (0.25 red) and 14 (0.25 green) at the control unit (internal plug). Nominal value: 8 V. If deviation → replace control unit. • Check sensor: Measure voltage between terminal 15 (0.25 violet) and 14 (0.25 green) with an analog voltmeter when the blower is running. Nominal value: 4 V (+/- 0.3 V) average value (8 V square-wave signal). If deviation → replace motor with integrated sensor. If sensor signal is O.K., then the speed controller is defective. → Change control unit.	
037	Water pump is not working	Check water pump (driven externally)	
042	Short-circuit at water pump output	Test connection 6 (0.5 swrt) on the control unit (int. plug) for short circuit. Test water pumps and cables	
043	Short-circuit at external components	Check terminal 2 (1 green) of control unit (external plug) for short-circuit. Check connected components (max. current 6 A), replace them if necessary.	
047	Short-circuit of metering pump	Check terminal 1 (1 blue) of control unit (external plug) and leads up to metering pump for short-circuit/interruption.	
048	Metering pump interruption	Check the metering pump. Nominal value: approx. 20 ohms. Replace if necessary.	
050	Too many failed starts	The control unit is interlocked after it has been switched on 10 times in succession (= 20 failed starts) without flame detection (fault code 052). Check the fuel supply, glow plug, exhaust piping, combustion air piping and flame sensor. Unlocking by deleting the error memory with diagnosis unit/PC or plus signal for 0.5 to 5 sec. on connection 7 (0.5 v) on the control unit (ext. plug) with heater switched on.	
051	Flame message is displayed when heater is switched on	Flame sensor signals a temperature of greater than 80 °C despite 4 minutes of cooling with cold air. Impedance at flame sensor > 1300 ohm. If no combustion takes place → check the flame sensor, replace it if necessary. Flame sensor values: 900 ohms at - 25 °C 1100 ohms at + 25 °C	



Function and fault test

Fault signal / flashing code

Fault code
Fault description

Remedy

052 Safety time exceeded – heater does not start
No flame was detected during the start-up phase. Flame sensor value of less than 80 °C (1310 ohms). Check the fuel supply, glow plug, exhaust piping, combustion air piping and flame sensor.
Flame sensor values: 900 ohms at – 25 °C
1100 ohms at + 25 °C

053 Flame loss in „Power“ setting
054 Flame loss in „High“ setting
055 Flame loss in „Medium“ setting
056 Flame loss in „Low“ setting
Heater has started (flame detected) and indicates flame loss in a power setting. Check fuel flow rate, blower speed, fuel supply, exhaust pipe and combustion air piping. If combustion is O.K., check flame sensor, replace if necessary.
Flame sensor values: 900 ohms at – 25 °C
1100 ohms at + 25 °C

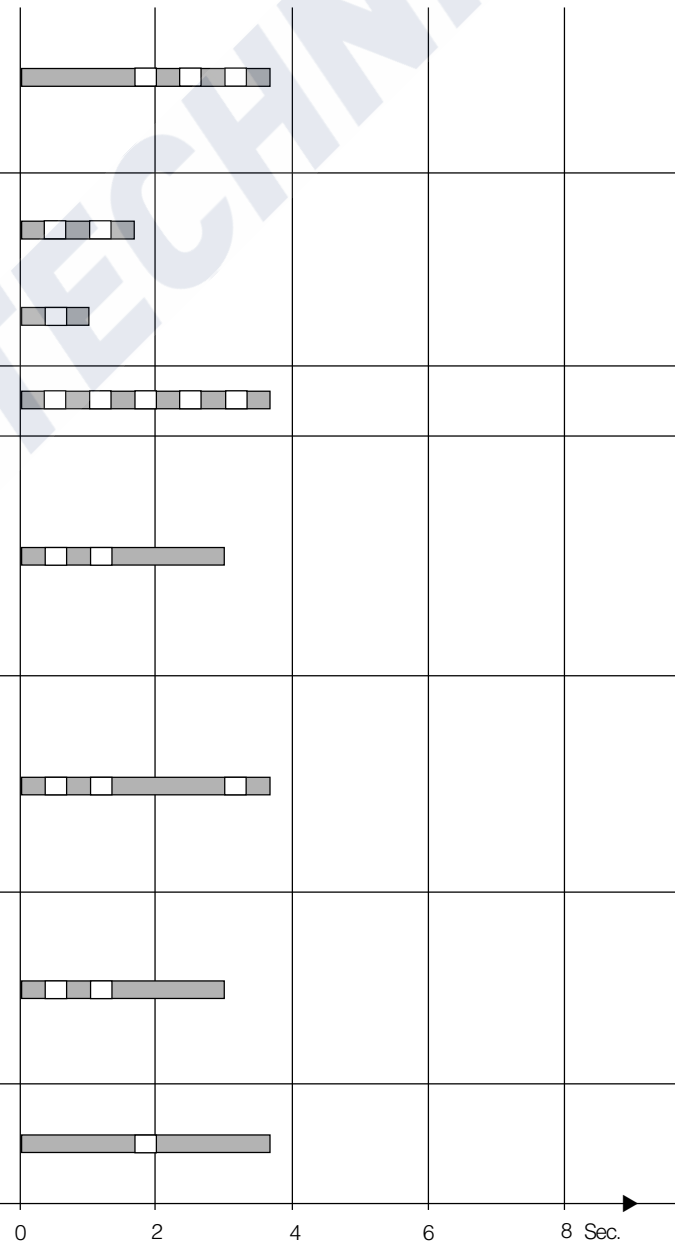
059 Water temperatur rises too quickly
Check water circulation (012) and temperature control sensor (060/061)

060 Temperature control sensor interruption
061 Short circuit in temperature control sensor
Control sensor signals temperature value outside measurement range. Check the connecting leads (0.35 yellow). For this purpose, dismantle the control unit, disconnect the internal plug from the control unit and measure the impedance between 9 and 11. Impedance between terminals 9 and 11 of the control unit (internal plug): greater than 10 kohms (in the event of interruption) less than 100 ohms (in the event of short-circuit)
Temperature sensor values: 650 ohms at – 25 °C
1000 ohms at + 25 °C

064 Flame sensor interruption
065 Short circuit in flame sensor
Flame sensor signals temperature value outside measurement range. Check the connecting leads (0.35 green). Impedance between terminals 10 and 12 of the control unit (internal plug): greater than 50 kohms (in the event of interruption) less than 100 ohms (in the event of short-circuit)
Flame sensor values: 900 ohms at – 25 °C
1100 ohms at + 25 °C

071 Overheat sensor interruption
072 Short circuit in overheat sensor
Overheat sensor signals temperature value outside measurement range. Check the connecting leads (0.35 blue). Impedance between terminals 5 and 8 of the control unit (internal plug): greater than 700 kohms (in the event of interruption) less than 100 ohms (in the event of short-circuit)
Overheat sensor values: 150 kohms at – 25 °C
10 kohms at + 25 °C

090 Control unit defective (internal reset)
093 Control unit defective (RAM fault)
094 Control unit defective (EPROM fault)
097 Control unit defective (general fault)
Internal control unit error in microprocessor/memory detected.
Replace control unit



Faults which are not displayed:

Faults		Cause	Remedy
Combustion generates soot		Combustion air pipe/ exhaust pipe clogged Metering pump conveying too much Combustion air blower speed too low Deposits inside heat exchanger	Clear obstruction Measure fuel quantity Measure CO ₂ content. If $\geq 13\%$ in „High” setting, replace blower. Remove heat exchanger and clean
No hot air in interior		Heater lever closed Vehicle blower not switched on Vehicle blower relay defective Vehicle blower fuse blown	Open heater lever Switch on vehicle blower Replace relay Renew fuse