




4.7 Fault code table

Fault code P000... for EasyScan and TP 7.1 (if con- nected via CAN) (...) for TP 7 (LIN)	Error description	Cause <ul style="list-style-type: none"> ▪ Remedial action
P000100 (071) P000101 (072) P000102 (073)	Overheating/air outlet sensor <ul style="list-style-type: none"> – Interruption – Short circuit – Short circuit to battery (+) 	<ul style="list-style-type: none"> ▪ Check overheating sensor. <ul style="list-style-type: none"> – Check cables for continuity, short circuit and damage. – Unplug connector -XB2, measure resistance between cable BU (chamber 1) and cable GN (chamber 2). – Measured values see page 27, in case of deviating values → renew lead harness of heater.
P000110 (087) P000111 (088) P000112 (089)	Water/air inlet error <ul style="list-style-type: none"> – Interruption – Short circuit – Short circuit to battery (+) <p>i Note! Fault code P000110 (087) and P000111 (088) are displayed only if</p> <ul style="list-style-type: none"> ▪ the heater is in operation ▪ Temperature reached at water outlet sensor at least 80 °C. 	<ul style="list-style-type: none"> ▪ Check the water inlet sensor. Check cables for continuity, short circuit and damage. <ul style="list-style-type: none"> – Unplug connector -XB2, measure resistance between cable BU (chamber 1) and cable GN (chamber 2). – Measured values see page 27, in case of deviating values → renew lead harness of heater.
P00010A (051)	Cold blowing <ul style="list-style-type: none"> – Timeout 	The combustion chamber has not cooled sufficiently for a restart. <ul style="list-style-type: none"> ▪ Check whether hot combustion air is drawn in. If not → check flame sensor, see Fault code P000120 (064) and Fault code P000121 (065).
P000114 (014)	Possible risk of overheating (implausible signal) <p>i Note! Fault code P000114 (014) is displayed only if</p> <ul style="list-style-type: none"> ▪ the heater is in operation ▪ Temperature reached at overheating sensor at least 80 °C. 	Temperature difference between the flame and overheating sensor is too large. <ul style="list-style-type: none"> ▪ For remedial action see Fault code P000115 (012). ▪ Check flame sensor. <ul style="list-style-type: none"> – Unplug connector -XB4, measure resistance between cable BU (chamber 5) and cable BU (chamber 6). – Measured values see page 27, in case of deviating values → renew lead harness of heater.
P000115 (012)	Overheating <ul style="list-style-type: none"> – Software threshold exceeded 	Temperature at overheating sensor >125 °C <ul style="list-style-type: none"> ▪ Check air throughput ▪ Check overheating sensor <ul style="list-style-type: none"> – Check cables for continuity, short circuit and damage. – Unplug connector -XB4, measure resistance between cable RD (chamber 9) and cable RD (chamber 10). – Measured values see page 27, in case of deviating values → renew lead harness of heater.
P000116 (017)	Overheating <ul style="list-style-type: none"> – Hardware threshold exceeded 	Temperature at overheating sensor >130 °C <ul style="list-style-type: none"> ▪ For remedial action see Fault code P000115 (012). ▪ Check overheating sensor. <ul style="list-style-type: none"> – Check cables for continuity, short circuit and damage. – Unplug connector -XB4, measure resistance between cable RD (chamber 9) and cable RD (chamber 10). – Measured values see page 27, in case of deviating values → renew lead harness of heater.

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P00011A (015)	Operating lock-out – Too many overheating events detected	The control box is locked due to too frequent consecutive overheating (Fault code P000114 (014) , Fault code P000115 (012)). <ul style="list-style-type: none"> ▪ For remedial action see Fault code P000114 (014), Fault code P000115 (012). ▪ Unlock control box, see Chapter 4.3, p. 13.
P000120 (064) P000121 (065) P000122	Flame sensor – Interruption – Short circuit – Short circuit to battery (+)	<ul style="list-style-type: none"> ▪ Check flame sensor. – Check cable for continuity, short circuit and damage. – Unplug connector -XB2, measure resistance between cable BU (chamber 1) and cable GN (chamber 2). – Measured values see page 27, in case of deviating values → renew lead harness of heater. ▪ Further display Fault code P000120 (064) and Fault code P000121 (065) → replace control box, see Chapter 5.4.2, p. 23.
P000125 (057) P000126 (053) P000127 (054) P000128 (055) P000129 (056)	Flame cutout from start process Flame cutout within the control range 0% – 25% Flame cutout within the control range 25% – 50% Flame cutout within the control range 50% – 75% Flame cutout within the control range 75% – 100%  Note! In case of flame cutout during the start phase or in normal operation the heater is restarted (max. 3 times). If the restart was successful, the fault code display is deleted.	<ul style="list-style-type: none"> ▪ Check exhaust and combustion air system. ▪ Check fuel quantity and fuel supply, see Chapter 5.6, p. 34. ▪ Check flame sensor, see Fault code P000120 (064) and Fault code P000121 (065).
P00012A (052)	Safety time 1 – Exceedance	<ul style="list-style-type: none"> ▪ Check exhaust and combustion air system. ▪ Check fuel quantity and fuel supply, see Chapter 5.6, p. 34. ▪ Renew the fuel filter. ▪ Clean the fuel filter in the connection socket of the metering pump.
P00012B (050)	Operating lock-out, too many safety timeouts	Following three unsuccessful start attempts the control box is locked. <ul style="list-style-type: none"> ▪ Unlock control box, see Chapter 4.3, p. 13. ▪ Check fuel quantity and fuel supply, see Chapter 5.6, p. 34.

Fault code P000... for EasyScan and TP 7.1 (if connected via CAN) (...) for TP 7 (LIN)	Error description	Cause <ul style="list-style-type: none"> ▪ Remedial action
P000130 (060)	External air inlet temperature sensor (LEF2) – Interruption	<ul style="list-style-type: none"> ▪ Test external air inlet sensor ▪ Disconnect the GYRD / BNWH plug-in connection of the external sensor and measure the resistance value, diagram and table of values see page 13, – if temperature sensor is ok, re-connect the GYRD / BNWH plug-in connection. ▪ Disconnect connector XS12/XB12 at the heater and measure the resistance value in connector housing XB12 between PIN 6 and PIN 12. If an interruption occurs, the ohmic value is $> 7175 \Omega$ / $> 3 \text{ k}\Omega$. ▪ If resistance value is ok \rightarrow replace control box.
P000131 (061) P000132	External air inlet temperature sensor (LEF2) – Short circuit – Short circuit to battery (+)	<ul style="list-style-type: none"> ▪ Test external air inlet sensor ▪ Disconnect the GYRD / BNWH plug-in connection of the external temperature sensor and measure the resistance value, diagram and table of values see page 13, – if ok, re-connect the GYRD / BNWH plug-in connection. ▪ Disconnect connector XS12/XB12 at the heater and measure the resistance value in connector housing XB12 between PIN 6 and PIN 12. In case of short circuit, the ohmic value is $< 486 \Omega$ / $< 800 \Omega$. ▪ If the error P000131 (061) continues to be displayed \rightarrow replace control box.
P000143 (006)	Air pressure sensor – Implausible signal	<ul style="list-style-type: none"> ▪ Delete error and try again. ▪ If error occurs again, replace control box.
P000200 (048) P000201 (047)	Metering pump – Interruption – Short circuit	<ul style="list-style-type: none"> ▪ Check metering pump lead harness for continuity, short circuit and damage. – Lead harness ok \rightarrow renew the metering pump.
P000202 (049)	Metering pump – Short circuit to battery (+) or transistor error	<ul style="list-style-type: none"> ▪ Check cables for continuity, short circuit and damage. – Unplug the connector at the metering pump. ▪ Display Fault code P000200 (048) metering pump defective \rightarrow replace metering pump.
P000210 (020) P000211 (021) P000212 (022)	Glow plug – Interruption – Short circuit – Short circuit to battery (+) or transistor error <div style="border: 1px solid black; padding: 5px;"> <p>⚠ Caution! Damage to unit in case of overvoltage Voltage $> 9.5 \text{ V}$ irreparably damages the glow plug. \rightarrow Test function with max. 9.5 V.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>i Note Note the short-circuit withstand capability of the power pack.</p> </div>	<ul style="list-style-type: none"> ▪ Check glow plug. – Check cables for continuity, short circuit and damage. – Unplug connector -XB4, unclip cable WH (chamber 3) and cable WH (chamber 4). – Apply $9.5 \text{ V} \pm 0.1 \text{ V}$ voltage to the glow plug and after 25 sec measure the current intensity. – Measured value 9.5 A ($+1/-1.5$) the glow plug is ok – In case of deviating values \rightarrow replace glow plug.
P000213 (019)	Glow plug – Ignition energy too low	Glow plug energy input is too low. <ul style="list-style-type: none"> ▪ Check cables for continuity, short circuit and damage. ▪ Test glow plug, see Fault code P000210 (020) to Fault code P000212 (022).

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P000220 (031) P000221 (032)	Electric motor <ul style="list-style-type: none"> – Interruption – Short circuit 	<ul style="list-style-type: none"> ▪ Measure fan speed with EasyScan diagnostic tool, see EasyScan operating instructions.
P000223 (033)	Burner motor <ul style="list-style-type: none"> – Blocking 	Impeller blocked (frozen, soiled, sluggish, ...). <ul style="list-style-type: none"> ▪ Remove blockage. <ul style="list-style-type: none"> – Check electric motor for smooth and easy running by turning the impeller manually. <p>i Note! In the case of the Airtronic D4L 24V, during running heating mode and simultaneous motor start and undervoltage of the vehicle battery, in exceptional cases, error message P000223 (033) can occur, although no valid faults exist.</p> <ul style="list-style-type: none"> ▪ Delete faults using EasyScan and acknowledge in the control unit on occurrence. Further display Fault code P000300 (074) <ul style="list-style-type: none"> ▪ Renew fan, see Chapter 5.4.10, p. 28.
P000260 P000261 P000262	Universal output <ul style="list-style-type: none"> – Interruption – Short circuit – Short circuit to battery (+) or transistor error 	Test universal output. <ul style="list-style-type: none"> ▪ Test WHRD conductor for continuity, short circuit and damage. ▪ If cable ok → replace control box.
P000300 (074)	Overheating detection Metering pump hardware or cutout circuit defective	<ul style="list-style-type: none"> ▪ Test air outlet sensor. <ul style="list-style-type: none"> – Check cables for continuity, short circuit and damage. – Unplug connector XB4, measure resistance between cable RD (chamber 9) and cable RD (chamber 10). <ul style="list-style-type: none"> – Measured values see page 27, in case of deviating values → renew lead harness of heater. ▪ Further display Fault code P000300 (074) → replace lead harness of the heater. ▪ Unlock control box, see Chapter 4.3, p. 13.
P000301 (090) P000302 (090)	Watchdog reset Too many watchdog resets	<ul style="list-style-type: none"> ▪ Delete errors, the heater remains ready for operation. ▪ Replace control box, see Chapter 5.4.2, p. 23
P000303 (099)	Operating lockout: Too frequent output stage errors	<ul style="list-style-type: none"> ▪ Replace control box, see Chapter 5.4.2, p. 23
P000304 (091)	Too many resets (loose contact)	<ul style="list-style-type: none"> ▪ Replace control box, see Chapter 5.4.2, p. 23
P000305 (095)	Control box not calibrated	<ul style="list-style-type: none"> ▪ Replace control box, see Chapter 5.4.2, p. 23
P000306 (098)	Second cutout circuit is defective	<ul style="list-style-type: none"> ▪ Replace control box, see Chapter 5.4.2, p. 23
P000307 (081)	CAN communication error in control unit	
P00030A	CAN communication error	Delete error. Heater remains ready for operation.

Fault code	Error description	Cause
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P000310 (010) P000311 (010)	Control box cutout due to overvoltage Heater cutout due to overvoltage  Note! Heater is not functioning.	Overvoltage applied at the control box without interruption for at least 20 seconds. <ul style="list-style-type: none"> ▪ Unplug connector -XB1 at the heater. ▪ Start the vehicle engine. ▪ Measure voltage between cable RD (chamber 1) and cable BN (chamber 2). <ul style="list-style-type: none"> – Airtronic 12 volt – voltage > 16 V → check generator controller – Airtronic 24 volt – voltage > 32 V → check generator controller – Check the battery.
P000312 (011) P000313 (011)	Control box cutout due to undervoltage Heater cutout due to undervoltage  Note! Heater is not functioning.	Undervoltage applied at the control box without interruption for at least 20 seconds. <ul style="list-style-type: none"> ▪ Unplug connector -XB1 at the heater. ▪ Start the vehicle engine. ▪ Measure voltage between cable RD (chamber 1) and cable BN (chamber 2). <ul style="list-style-type: none"> – Airtronic 12 volt – voltage < 10 V → check generator controller – Airtronic 24 volt – voltage < 21 V → check generator controller – Check the fuses, the supply cables, the ground connections and the positive terminal post at the battery for voltage drop (corrosion).
P000330 (092)	ROM error	<ul style="list-style-type: none"> ▪ Replace control box, see Chapter 5.4.2, p. 23
P000331 (093)	RAM error	<ul style="list-style-type: none"> ▪ Replace control box, see Chapter 5.4.2, p. 23
P000332 (094)	NVMEM error (EEPROM, DataFlash)	<ul style="list-style-type: none"> ▪ Replace control box, see Chapter 5.4.2, p. 23
P000342	Invalid configuration	Check ADR coding.
P000394	ADR button – Short circuit	<ul style="list-style-type: none"> ▪ Test ADR button. – Check the cables at GYRD / BNWH for continuity, short-circuit and damage. – If cables ok → replace control box.
P000440 (083)	Timeout, communication with control unit	<ul style="list-style-type: none"> ▪ Delete errors and disconnect heater from the power supply. ▪ If error occurs again → replace control unit.