

Fail safe specifications (summary)

code (rep.)	fail	mode	run or condition	engine can start	check engine alarm	note	action
P2617	speed sensor (crank)	no connection / short circuit	no	no	alarm		check crankshaft speed sensor (4) according to description, if sensor is not okay replace it
P0344		difference from speed sensor (cam)	no	no	alarm		check crankshaft speed sensor (4) according to description, if sensor is not okay replace it
P2614	speed sensor (cam)	no connection / short circuit	reduce	yes	alarm	torque limitation	check camshaft speed sensor (3) according to description, if sensor is not okay replace it
-	coolant temp	under 0 °C	1000rpm	yes	no		
-		over 108 °C	reduce	yes	alarm	overheat protection	determine the cause of over temperature
P0118		no connection / short circuit to G	reduce	yes	alarm	run as T=110 C, use torque limitation	check coolant temperature sensor (10) according to description, if sensor is not okay replace it
P0117		short circuit to B	reduce	yes	alarm	run as T=110 C, use torque limitation	check coolant temperature sensor (10) according to description, if sensor is not okay replace it
-	charge air temp	over 110 C	reduce	yes	no	smoke limitation	
P0112		over 125 C	reduce	yes	alarm	smoke limitation	check charge air temperature sensor (2) according to description, if sensor is not okay replace it
P0113		under -20 C	reduce	yes	alarm	smoke limitation	check charge air temperature sensor (2) according to description, if sensor is not okay replace it
P0113		no connection / short circuit to G	reduce	yes	alarm	run as T=-30 C, smoke limitation	check charge air temperature sensor (2) according to description, if sensor is not okay replace it
P0112		short circuit to B	reduce	yes	alarm	run as T=130 C, smoke limitation	check charge air temperature sensor (2) according to description, if sensor is not okay replace it
P0238	boost pressure	4 bar (abs)	reduce	yes	alarm	torque limitation, like short circuit to B	check boost pressure sensor (1) according to description, if sensor is not okay replace it
-		4BY - over 1.9 ba r(rel), 2.9 bar (abs) 6BY - over 2.3 bar (rel), 3.3 bar (abs)	reduce	yes	alarm		determine the cause of over boost
P0237		under the 0.5 bar (abs)	reduce	yes	alarm	torque limitation, like short circuit to G	check boost pressure sensor (1) according to description, if sensor is not okay replace it
P0236		plausibility check with APS (ambient air pressure sensor) fail	reduce	yes	alarm	torque limitation	check plausibility with APS, if APS signal is implausible replace DDE-ECU, if BPS signal is implausible replace BPS sensor (1)
P0237		no connection / short circuit to G	reduce	yes	alarm	torque limitation	check boost pressure sensor (1) according to description, if sensor is not okay replace it
P0238	short circuit to B	reduce	yes	alarm	torque limitation	check boost pressure sensor (1) according to description, if sensor is not okay replace it	
-	fuel temperature	over 90 C	reduce	yes	no	overheat protection	determine the cause of over temperature
P0183		no connection / short circuit to G	reduce	yes	alarm	run as T=90C, overheat protection	check fuel temperature sensor (8) according to description, if sensor is not okay replace it
P0182		short circuit to B	reduce	yes	alarm	run as T=90C, overheat protection	check fuel temperature sensor (8) according to description, if sensor is not okay replace it
P0192	rail pressure	short circuit to G	reduce	yes	alarm	use torque limitation	check rail pressure sensor (5) according to description, if sensor is not okay replace it
P0193		no connection / short circuit to B	reduce	yes	alarm	use torque limitation	check rail pressure sensor (5) according to description, if sensor is not okay replace it
P0090	rail pressure control valve	not connected	no	no	alarm		check rail pressure control valve (6) according to description, if actuator is not okay replace it
P0092		short circuit to B	no	no	alarm		check rail pressure control valve (6) according to description, if actuator is not okay replace it
P0091		short circuit to G	reduce	yes	alarm	use torque limitation	check rail pressure control valve (6) according to description, if actuator is not okay replace it
P0001	metering unit	not connected	reduce	yes	alarm	use torque limitation	check metering unit (7) according to description, if actuator is not okay replace it
P0004		short circuit to B	reduce	yes	alarm	use torque limitation	check metering unit (7) according to description, if actuator is not okay replace it
P0003	short circuit to G	no	no	alarm		check metering unit (7) according to description, if actuator is not okay replace it	
P0230	fuel feed pump	not connected	no	no	alarm		check circuit of the fuel feed pump, if circuit is okay replace relay
P0232		short circuit to B	no	no	alarm		check circuit of the fuel feed pump, if circuit is okay replace relay
P0231		short circuit to G	reduce	yes	alarm		check circuit of the fuel feed pump, if circuit is okay replace relay
U0001	CAN throttle signal	no signal	idle	yes	alarm	run engine by sub throttle	check CAN circuit, if circuit is okay replace throttle
P0122/P0222	throttle signal	Both throttle signal are missing / short circuit to G	1600	yes	alarm	engine speed is fixed	check modul (14) according to description, if sensor is not okay replace it
P0123/P0223		Both throttle signal are short circuit to B	1600	yes	alarm	engine speed is fixed	check modul (14) according to description, if sensor is not okay replace it
P0122		throttle signal 1 is missing / short circuit to G	reduce	yes	alarm	use torque limitation	check modul (14) according to description, if sensor is not okay replace it
P0123		throttle signal 1 short circuit to B	reduce	yes	alarm	use torque limitation	check modul (14) according to description, if sensor is not okay replace it
P0222		throttle signal 2 is missing / short circuit to G	reduce	yes	alarm	use torque limitation	check modul (14) according to description, if sensor is not okay replace it
P0223		throttle signal 2 short circuit to B	reduce	yes	alarm	use torque limitation	check modul (14) according to description, if sensor is not okay replace it
P0201	injector no.1	open circuit / short circuit to G	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0261		short circuit to B	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0202	injector no.2	open circuit / short circuit to G	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0264		short circuit to B	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0203	injector no.3	open circuit / short circuit to G	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0267		short circuit to B	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0204	injector no.4	open circuit / short circuit to G	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0270		short circuit to B	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0205	injector no.5	open circuit / short circuit to G	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0273		short circuit to B	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0206	injector no.6	open circuit / short circuit to G	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0276		short circuit to B	reduce	yes	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P2049	4BY - injector bank 1 6BY - injector bank 1	short circuit on High Side to G / B short circuit on High Side to G / B	no reduce	no no	alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it

P2052	4BY - injector bank 2 6BY - injector bank 2	short circuit on High Side to G / B short circuit on High Side to G / B	reduce reduce	yes yes	alarm alarm	use torque limitation	check injector (13) according to description, if injector is not okay replace it
P0607	injector chip fault	injector control module performance	no	no	alarm		replace DDE-ECU
P0650	check engine lamp	not connected, short circuit	yes	yes	alarm		check circuit, if circuit is okay replace lamp
P0671	glow system - glow spark 1	not connected, short circuit	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if circuit is okay replace glow spark
P0672	glow system - glow spark 2	not connected, short circuit	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if circuit is okay replace glow spark
P0673	glow system - glow spark 3	not connected, short circuit	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if circuit is okay replace glow spark
P0674	glow system - glow spark 4	not connected, short circuit	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if circuit is okay replace glow spark
P0675	glow system - glow spark 5	not connected, short circuit	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if circuit is okay replace glow spark
P0676	glow system - glow spark 6	not connected, short circuit	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if circuit is okay replace glow spark
P0670	glow plug control module	failure, short circuit, over-current	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if plugs okay replace glow plug control module
P0380	glow control relay actuator	not connected, short circuit	yes	yes	alarm	appears only if glow system is used	check glow plugs (12) according to description, if plugs okay replace glow plug relay actuator
P0087	rail pressure governor deviation	rail pressure governor deviation exceeds / falls below a limit	reduce or shut off	depends on fault	alarm	torque limitation or shut-off	check possible failure-reason, system test of the rail pressure governor
P0088	rail pressure governor deviation	rail pressure governor deviation exceeds / falls below a limit	reduce or shut off	depends on fault	alarm	torque limitation or shut-off	check possible failure-reason, system test of the rail pressure governor
P0089	rail pressure governor deviation	rail pressure governor deviation exceeds / falls below a limit	yes	yes	alarm		check possible failure-reason, system test of the rail pressure governor
P0090	rail pressure governor deviation	rail pressure governor deviation exceeds / falls below a limit	reduce	yes	alarm	use torque limitation	check possible failure-reason, system test of the rail pressure governor
P0689 P0690	main relay	power relay sense short circuit low power relay sense short circuit high	no	no	alarm		replace DDE-main relay
P0602	Control Module Programming Error (HWEMon)	overvoltage / undervoltage	no	no	alarm		replace DDE-ECU
P0602	shut off path	control module programming error	no	no	alarm		replace DDE-ECU
P0642 P0643	sensor supply monitoring 1	short circuit	reduce	yes	alarm	use torque limitation	check circuit and parts on sensor supply voltage1, if no fault found in circuit replace DDE-ECU
P0652	sensor supply monitoring 2	short circuit	reduce	yes	alarm	use torque limitation	check circuit and parts on sensor supply voltage2, if no fault found in circuit replace DDE-ECU
P0653	sensor supply monitoring 3	short circuit	reduce	yes	alarm	use torque limitation	check circuit and parts on sensor supply voltage3, if no fault found in circuit replace DDE-ECU
P0562 P0563	system voltage low system voltage high		yes	no yes	alarm		check generator and powermanagement (KL30)
P2227	atmospheric pressure	plausibility check with BPS (boost pressure sensor) fail	yes	yes	alarm		check plausibility with APS, if APS signal is implausible replace DDE-ECU, if BPS signal is implausible replace BPS sensor (1)
P2228 P2229		short circuit low short circuit high	yes	yes	alarm		replace DDE-ECU
U0426	immobilizer	manipulation error	no	no	alarm		replace DDE-ECU
-	neutral switch	only in case of analog throttle or in case of CAN-fault (U0001), wrong configuration - neutral position	no	no	alarm	neutral protection alarm on display	check if gear is in neutral, check if switch has the right configuration - closed in neutral position