

Table 1: Error overview

ID	Error code (dec)	Error code (hex)	SPN (dec)	SPN (hex)	FMI	Blink code	Description	Self-curing ¹
AirFltSysReac	11	0B	107	0000006B	1, 11	1-3-6	Air filter: pressure loss above target range with system reaction	yes
APP1	12	0C	91	0000005B	2, 3, 4, 11	2-2-6	Accelerator pedal: cable break or short circuit, implausible compared to signal of idle sensor	no
APPPwm	14	0E	91	0000005B	2, 8	2-2-2	PWM accelerator pedal: bad signal (range or frequency), cable break or short circuit	yes
APPPwmPer	15	0F	91	0000005B	8, 11	2-2-2	PWM accelerator pedal: bad pulse-width repetition rate	yes
APSCD	16	10	108	0000006C	2, 3, 4, 11	2-9-2	ECU internal error: ambient pressure sensor defective	yes
ArHt1	17	11	729	000002D9	3, 4, 5, 11	2-6-3	Air heater relay: cable break or short circuit	yes
ArHt2	18	12	730	000002DA	3, 4, 5, 11	2-6-3	Air heater magnetic valve: cable break or short circuit	yes
ArHtCD_NoLd	19	13	676	000002A4	4, 11	2-6-3	Air heater relay: cable break or wrong connection	no
ArHtCD_RlyErr	20	14	676	000002A4	2, 5, 11	2-6-3	Air heater relay: inoperable during shut-off	no
BattCD	22	16	168	000000A8	0, 1, 11	3-1-8	Battery input (voltage 0-5V): outside target range	yes
BattCDSysReac	23	17	168	000000A8	2, 11	3-1-8	Battery voltage: above target range with system reaction	yes
BIPCyl1	24	18	3561	00000DE9	2	5-3-1	Begin of injection period in cylinder 1: outside target range or missing	yes
BIPCyl2	25	19	3562	00000DEA	2	5-3-2	Begin of injection period in cylinder 2: outside target range or missing	yes
BIPCyl3	26	1A	3563	00000DEB	2	5-3-3	Begin of injection period in cylinder 3: outside target range or missing	yes
BIPCyl4	27	1B	3564	00000DEC	2	5-3-4	Begin of injection period in cylinder 4: outside target range or missing	yes
BIPCyl5	28	1C	3565	00000DED	2	5-3-5	Begin of injection period in cylinder 5: outside target range or missing	yes
BIPCyl6	29	1D	3566	00000DEE	2	5-3-6	Begin of injection period in cylinder 6: outside target range or missing	yes
BIPCyl7	30	1E	3567	00000DEF	2	5-3-7	Begin of injection period in cylinder 7: outside target range or missing	yes
BIPCyl8	31	1F	3568	00000DF0	2	5-3-8	Begin of injection period in cylinder 8: outside target range or missing	yes
BPSCD	32	20	102	00000066	2, 3, 4	2-2-3	Charge air pressure sensor: cable break or short circuit	yes
BPSCDSysReac	33	21	102	00000066	2, 11	2-2-3	Charge air pressure: outside target range	yes
CLSCDSysReac	37	25	111	0000006F	1, 11	2-3-5	Coolant level: outside target range	no
CmbChbMisfire1	38	26	1323	0000052B	11, 12	2-4-1	Misfire detected in cylinder 1	no
CmbChbMisfire2	39	27	1324	0000052C	11, 12	2-4-1	Misfire detected in cylinder 2	no
CmbChbMisfire3	40	28	1325	0000052D	11, 12	2-4-1	Misfire detected in cylinder 3	no
CmbChbMisfire4	41	29	1326	0000052E	11, 12	2-4-1	Misfire detected in cylinder 4	no

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CmbChbMisfire5	42	2A	1327	0000052F	11, 12	2-4-1	Misfire detected in cylinder 5	no
CmbChbMisfire6	43	2B	1328	00000530	11, 12	2-4-1	Misfire detected in cylinder 6	no
CmbChbMisfire7	44	2C	1450	000005AA	11, 12	2-4-1	Misfire detected in cylinder 7	no
CmbChbMisfire8	45	2D	1451	000005AB	11, 12	2-4-1	Misfire detected in cylinder 8	no
CmbChbMisfireMul	46	2E	1322	0000052A	11, 12	2-4-1	Misfire detected in multiple cylinders	no
CmbChbSysReac	47	2F	1346	00000542	0, 11	2-4-1	Misfire detected with system reaction	no
CoEngShOffDemlgr	48	30	1109	00000455	2, 11	3-4-1	Shut-off request ignored	no
CRERCD	52	34	1072	00000430	3, 4, 5, 11	5-2-8	Internal engine brake: cable break or short circuit	no
CSLpCD	53	35	1081	00000439	2, 3, 4, 5	3-2-8	Preheating signal lamp: cable break or short circuit	no
CTLpCD	54	36	704	000002C0	11	1-2-3	Coolant temp. warning lamp: cable break or short circuit	no
CTSCD	55	37	110	0000006E	2, 3, 4	2-2-5	Coolant temp. sensor: cable break or short circuit	yes
CTSCDSysReac	56	38	110	0000006E	0, 11	2-3-2	Coolant temp.: outside target range with system reaction	yes
Dummy1CD_Max	57	39	701	000002BD	11	-	Reserve output 1: short circuit to Ubatt	no
Dummy1CD_Min	58	3A	701	000002BD	11	-	Reserve output 1: short circuit to ground	no
Dummy1CD_SigNpl	59	3B	701	000002BD	11	-	Reserve output 1: cable break or ECU internal error	no
Dummy2CD_Max	60	3C	702	000002BE	11	-	Reserve output 2: short circuit to Ubatt	no
Dummy2CD_Min	61	3D	702	000002BE	11	-	Reserve output 2: short circuit to ground	no
Dummy2CD_SigNpl	62	3E	702	000002BE	11	-	Reserve output 2: cable break or ECU internal error	no
EGRCD_Max	69	45	2791	00000AE7	3, 11	4-1-4	EGR actuator (external): short circuit to Ubatt	no
EGRCD_Min	70	46	2791	00000AE7	4, 11	4-1-4	EGR actuator (external): short circuit to ground	no
EGRCD_SigNpl	71	47	2791	00000AE7	2, 5, 11	4-1-5	EGR actuator (external): cable break or ECU internal error	no
EGRCDIntEGR	72	48	2791	00000AE7	2, 3, 4, 5	4-1-6	EGR actuator (internal): cable break or short circuit	no
EngCDTrqCalcOut	74	4A	923	0000039B	2, 3, 4, 5	5-5-5	"Engine Power" output: cable break or short circuit	no
EngMBackUp	75	4B	190	000000BE	11, 12	2-1-2	Running with cam-shaft speed signal only	yes
EngMCaS1	76	4C	190	000000BE	8, 11, 12	2-1-2	Speed signal from cam-shaft: bad or missing	yes
EngMCrS1	77	4D	190	000000BE	8, 11, 12	2-1-2	Speed signal from crank-shaft: bad or missing	yes
EngMOfsCaSCrS	78	4E	190	000000BE	2, 11	2-1-3	Speed signals of crank-shaft and cam-shaft: phase-shifted	no
EngPrtSysReacFOC	79	4F	190	000000BE	0, 11	2-1-4	Engine overspeed with system reaction	no
EngPrtSysReacORC	80	50	190	000000BE	11, 14	2-1-4	Overrun conditions with system reaction	yes

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ESLpCD	81	51	703	000002BF	2, 3, 4, 5	1-4-2	Engine operating signal lamp: cable break or ECU internal error	no
ExFICD	82	52	1074	00000432	3, 4, 5, 11	2-1-9	Engine brake flap actuator: cable break or short circuit	no
FanCD	83	53	975	000003CF	2, 3, 4, 5	2-3-8	Fan actuator: cable break or short circuit	no
FanCDSysReac	86	56	523602	0007FD52	2, 11	2-3-8	Fan speed: above target range with system reaction	yes
FIFCD	87	57	97	00000061	3, 4, 11	2-2-8	Fuel filter / water separator sensor: cable break or short circuit	yes
FIFCD_WtLvl	89	59	97	00000061	11, 12	2-2-8	Water level in fuel filter: above target range	no
FIPSCD	90	5A	94	0000005E	3, 4, 11	2-1-6	Fuel low pressure sensor: cable break or short circuit	yes
FIPSCDSysReac	91	5B	94	0000005E	2, 11	2-1-6	Fuel low pressure: below target range with system reaction	yes
FrmMngDecV1	94	5E	523239	0007FBE7	2, 12	5-2-6	CAN message "DecV1" (pseudo pedal): missing or above target range.	yes
FrmMngFunModCtl	95	5F	523240	0007FBE8	11, 12	5-2-7	CAN message "FunModCtl" (function mode control): missing	yes
FrmMngTOEngPrt	106	6A	523212	0007FBCC	11, 12	3-3-3	CAN message "EngPrt" (engine protection): missing	yes
FrmMngTOPrHtEnCmd	110	6E	523216	0007FBD0	11, 12	3-3-7	CAN message "PrHtEnCmd" (preheat and engine command): missing	yes
FrmMngTORxCCVS	112	70	523218	0007FBD2	11, 12	1-1-1	CAN message "RxCCVS" (cruise control): missing	yes
FrmMngTORxEngTemp	113	71	523604	0007FD54	11, 12	1-1-2	CAN message "RxEngTemp" (engine temperature): missing	yes
FrmMngTOSwtOut	117	75	523238	0007FBE6	11, 12	1-1-5	CAN message "SwtOut" (switch outputs): missing	yes
FrmMngTOTCO1	118	76	523222	0007FBD6	11, 12	1-1-6	CAN message "TCO1" (speedo signal): missing	yes
FrmMngTOTSC1AE	120	78	523605	0007FD55	11, 12	1-1-8	CAN message "TSC1-AE": missing	no
FrmMngTOTSC1AR	121	79	523606	0007FD56	11, 12	1-1-9	CAN message "TSC1-AR": missing	no
FrmMngTOTSC1DE	122	7A	523607	0007FD57	11, 12	1-1-8	CAN message "TSC1-DE": missing	no
FrmMngTOTSC1DR	123	7B	523608	0007FD58	11, 12	1-1-9	CAN message "TSC1-DR": missing	no
FrmMngTOTSC1PE	124	7C	523609	0007FD59	11, 12	1-1-8	CAN message "TSC1-PE": missing	no
FrmMngTOTSC1TE	125	7D	898	00000382	11, 12	1-1-8	CAN message "TSC1-TE": missing	no
FrmMngTOTSC1TR	126	7E	520	00000208	11, 12	1-1-9	CAN message "TSC1-TR": missing	no
FrmMngTOTSC1VE	127	7F	523610	0007FD5A	11, 12	1-1-8	CAN message "TSC1-VE": missing	no
FrmMngTOTSC1VR	128	80	523611	0007FD5B	11, 12	1-1-9	CAN message "TSC1-VR": missing	no
FrmMngTxTO	131	83	523500	0007FCEC	11, 12	2-7-1	CAN bus: time out of at least one send message	yes
FTSCD	133	85	174	000000AE	3, 4, 11	2-2-7	Fuel temp. sensor: cable break or short circuit	yes
FTSCDSysReac	134	86	174	000000AE	0, 11	2-3-7	Fuel temp.: above target range with system reaction	yes

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GOTSCD	136	88	-	-	2, 3, 4, 11	1-3-3	Customer-specific sensor 1: cable break or short circuit	yes
GOTSCDSysReac	137	89	-	-	2, 11	1-3-3	Customer-specific temp. 1: outside target range with system reaction	yes
HdThrt	138	8A	29	0000001D	2, 3, 4, 11	1-2-6	Hand throttle: cable break or short circuit, implausible compared to signal of idle sensor	no
HOTSCD	139	8B	1638	00000666	3, 4, 11, 12	3-1-4	Customer-specific sensor 2: cable break or short circuit	yes
HOTSCDSysReac	140	8C	1638	00000666	2, 11	3-1-4	Customer-specific temp. 2: outside target range with system reaction	yes
HWEMonCom	141	8D	523617	0007FD61	11, 12	5-5-5	ECU internal error: communication with chip CJ 940 disturbed	no
HWEMonEEPROM	142	8E	630	00000276	11, 12	2-8-1	ECU internal error: EEPROM memory access	no
HWEMonRcyLocked	143	8F	523612	0007FD5C	11, 14	5-5-5	ECU internal hardware monitoring: a recovery occurred which is stored as protected	no
HWEMonRcySuppressed	144	90	523612	0007FD5C	11, 14	5-5-5	ECU internal hardware monitoring: a recovery occurred which is not stored	no
HWEMonRcyVisible	145	91	523612	0007FD5C	11, 14	5-5-5	ECU internal hardware monitoring: a recovery occurred which is visible in the error memory	no
HWEMonUMaxSupply	146	92	523612	0007FD5C	3, 11	5-5-5	ECU internal hardware monitoring: overvoltage	no
HWEMonUMinSupply	147	93	523612	0007FD5C	4, 11	5-5-5	ECU internal hardware monitoring: undervoltage	no
IATSCD	149	95	105	00000069	2, 3, 4, 11	1-2-8	Charge air temp. sensor: cable break or short circuit	yes
IATSCDSysReac	150	96	105	00000069	0, 11	2-3-3	Charge air temp.: above target range with system reaction	yes
InjVlvBnk1A	153	99	523350	0007FC56	3, 4, 11, 13	1-5-1	Injectors of cylinder bank 1: short circuit	no
InjVlvBnk1B	154	9A	523351	0007FC57	5, 13	1-5-1	Injectors of cylinder bank 1: cable break	no
InjVlvBnk2A	155	9B	523352	0007FC58	3, 4, 11, 13	1-5-2	Injectors of cylinder bank 2: short circuit	no
InjVlvBnk2B	156	9C	523353	0007FC59	5, 13	1-5-2	Injectors of cylinder bank 2: cable break	no
InjVlvChipA	157	9D	523354	0007FC5A	2, 3, 12, 14	1-5-3	ECU internal error: injector power stage A	no
InjVlvChipB	158	9E	523355	0007FC5B	12	1-5-3	ECU internal error: injector power stage B	no
InjVlvCyl1A	159	9F	651	0000028B	3, 4, 11, 13	1-5-4	Injector 1: short circuit	no
InjVlvCyl1B	160	A0	651	0000028B	5, 13	1-5-4	Injector 1: cable break	yes
InjVlvCyl2A	161	A1	652	0000028C	3, 4, 11, 13	1-5-5	Injector 2: short circuit	no
InjVlvCyl2B	162	A2	652	0000028C	5, 13	1-5-5	Injector 2: cable break	yes
InjVlvCyl3A	163	A3	653	0000028D	3, 4, 11, 13	1-5-6	Injector 3: short circuit	no
InjVlvCyl3B	164	A4	653	0000028D	5, 13	1-5-6	Injector 3: cable break	yes

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ID	Error code (dec)	Error code (hex)	SPN (dec)	SPN (hex)	FMI	Blink code	Description	Self-curing ¹
InjVlvCyl4A	165	A5	654	0000028E	3, 4, 11, 13	1-6-1	Injector 4: short circuit	no
InjVlvCyl4B	166	A6	654	0000028E	5, 13	1-6-1	Injector 4: cable break	yes
InjVlvCyl5A	167	A7	655	0000028F	3, 4, 11, 13	1-6-2	Injector 5: short circuit	no
InjVlvCyl5B	168	A8	655	0000028F	5, 13	1-6-2	Injector 5: cable break	yes
InjVlvCyl6A	169	A9	656	00000290	3, 4, 11, 13	1-6-3	Injector 6: short circuit	no
InjVlvCyl6B	170	AA	656	00000290	5, 13	1-6-3	Injector 6: cable break	yes
InjVlvCyl7A	171	AB	1419	0000058B	3, 4, 11, 13	1-6-4	Injector 7: short circuit	no
InjVlvCyl7B	172	AC	1419	0000058B	5, 13	1-6-4	Injector 7: cable break	yes
InjVlvCyl8A	173	AD	1420	0000058C	3, 4, 11, 13	1-6-5	Injector 8: short circuit	no
InjVlvCyl8B	174	AE	1420	0000058C	5, 13	1-6-5	Injector 8: cable break	yes
InjVlvErrDet	175	AF	523370	0007FC6A	11, 14	5-5-5	Compression test active: rail-pressure monitoring is going to be disabled	
MeUnCD_ADC	176	B0	523615	0007FD5F	3, 4, 11	1-3-5	Metering unit valve: flow rate outside target range	no
MeUnCDNoLoad	177	B1	523615	0007FD5F	5, 11, 12	1-3-5	Metering unit valve: not connected or output disabled	no
MeUnCDSCBat	178	B2	523615	0007FD5F	11, 12	1-3-5	Metering unit valve: short circuit to Ubatt	no
MeUnCDSCGnd	179	B3	523615	0007FD5F	11, 12	1-3-5	Metering unit valve: short circuit to ground	no
MnRly1_SCB	182	B6	2634	00000A4A	3, 11	1-3-7	Main relay 1: short circuit to Ubatt	no
MnRly1_SCG	183	B7	2634	00000A4A	4, 11	1-3-8	Main relay 1: short circuit to ground	no
Montr	184	B8	523420	0007FC9C	11, 14	1-3-9	ECU internal error: watchdog counter exceeds maximum	no
MRlyCD	186	BA	2634	00000A4A	7, 11, 12	2-6-1	Main relay 2: short circuit to ground or emergency shut-off	no
MRlyCDMnRly2	187	BB	563	00000233	7, 11, 12	2-6-1	Main relay 3: short circuit to ground or emergency shut-off (EDC16 only)	no
MRlyCDMnRly3	188	BC	2634	00000A4A	7, 11, 12	2-6-1	Main relay 3: short circuit to ground or emergency shut-off (EDC7 only)	no
MSSCD1	189	BD	523450	0007FCBA	2, 3, 4, 11	1-4-3	Multi state switch 1: cable break or short circuit, input voltage outside target range	yes
MSSCD2	190	BE	523451	0007FCBB	2, 3, 4, 11	1-4-3	Multi state switch 2: cable break or short circuit, input voltage outside target range	yes
MSSCD3	191	BF	523452	0007FCBC	2, 3, 4, 11	1-4-3	Multi state switch 3: cable break or short circuit, input voltage outside target range	yes
NetMngCANAOFF	192	C0	639	0000027F	11, 14	2-7-1	CAN bus A: cable break or short circuit, off-state	yes
NetMngCANBOFF	193	C1	1231	000004CF	11, 14	2-7-1	CAN bus B: cable break or short circuit, off-state	yes

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NetMngCANCOff	194	C2	1235	000004D3	11, 14	2-7-1	CAN bus C: cable break or short circuit, off-state	yes
OPLpCD	195	C3	705	000002C1	2, 3, 4, 5	1-3-5	Oil pressure warning lamp: cable break or short circuit	no
OPSCD	196	C4	100	00000064	0, 2, 3, 4	2-2-4	Charge air pressure sensor: cable break or short circuit	yes
OPSCD1	197	C5	100	00000064	1, 11	2-3-1	Oil pressure: value implausible low	yes
OPSCDSysReacHi	198	C6	100	00000064	0, 11	2-3-1	Oil pressure: above target range	yes
OPSCDSysReacLo	199	C7	100	00000064	1, 11	2-3-1	Oil pressure: below target range	yes
OSwCD	200	C8	1237	000004D5	2, 11	1-4-5	Override switch hangs	yes
OTSCD	201	C9	175	000000AF	2, 3, 4	1-4-4	Oil temperature sensor: cable break or short circuit	yes
OTSCDSysReac	203	CB	175	000000AF	0, 11	1-4-4	Oil temperature: below target range with system reaction	yes
PRVMon	208	D0	523470	0007FCCE	2, 11, 12, 14	1-4-6	Rail pressure limiting valve: opening failure	no
RailCD	209	D1	157	0000009D	3, 4, 11	1-4-7	Rail pressure sensor: cable break or short circuit	no
RailCDOfsTst	210	D2	157	0000009D	0, 1, 11	1-4-7	Rail pressure sensor: low quality signal (deviation of signal during start or after-run above target range)	yes
RailMeUn0	211	D3	523613	0007FD5D	0, 11	1-3-4	Rail pressure: positive deviation (speed dependent) outside target range	yes
RailMeUn1	212	D4	523613	0007FD5D	0, 11	1-3-4	Rail pressure: positive deviation (flow dependent) outside target range	yes
RailMeUn2	213	D5	523613	0007FD5D	0, 11	1-3-4	Rail pressure: negative deviation (flow dependent) outside target range	yes
RailMeUn3	214	D6	523613	0007FD5D	1, 11	1-3-4	Rail pressure: negative deviation (speed dependent) outside target range	yes
RailMeUn4	215	D7	523613	0007FD5D	0, 11	1-3-4	Rail pressure: above target range	yes
RailMeUn7	216	D8	523613	0007FD5D	2, 11	1-3-4	Rail pressure: implausible (leakage, injector needle blocked in open position, wastage of injectors or high pressure pumps, high pressure pumps defective)	no
SOPTst	218	DA	523490	0007FCE2	3, 4, 11, 12	1-4-9	ECU internal error: redundant shut-off conditions detected	no
SSpMon1	219	DB	1079	00000437	3, 4, 11	2-8-2	ECU internal error: wrong voltage of internal 5V reference source 1	yes
SSpMon2	221	DD	1080	00000438	3, 4, 11	2-8-2	ECU internal error: wrong voltage of internal 5V reference source 2	yes
SSpMon3	222	DE	523601	0007FD51	3, 4, 11	2-8-2	ECU internal error: wrong voltage of internal 5V reference source 3	yes
StrtCDHS	223	DF	677	000002A5	3, 4, 11	5-1-2	Start relay (high side): short circuit	no
StrtCDLS	224	E0	677	000002A5	3, 4, 5, 11	5-1-2	Start relay (low side): cable break or short circuit, disabled by ECU	no

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SysLamp	225	E1	624	00000270	2, 3, 4, 5	5-1-3	Diagnostic lamp: cable break or short circuit, disabled by ECU	no
T15CD	226	E2	158	0000009E	11, 12	5-1-4	Terminal 15: ignition ON not detected	no
T50CD	227	E3	523550	0007FD1E	11, 12	5-1-5	Terminal 50: engine start switch hangs	no
TPUMon	228	E4	523550	0007FD1E	2, 11	5-5-5	ECU internal error: time processing unit (TPU) defective	no
VSSCD1	232	E8	84	00000054	0, 8, 12, 14	5-2-1	Vehicle speed: above target range, signal missing or implausible	yes
WdCom	235	EB	523600	0007FD50	11, 12	5-5-5	ECU internal error: serial communication interface defective	no

¹ Non-self-curing errors remain active up to the next ECU reset.

Table 2: FMI codes

FMI	Description
0	Data valid but above normal operational range
1	Data valid but below normal operational range
2	Data erratic, intermittent, or incorrect
3	Voltage above normal or shorted high
4	Voltage below normal or shorted low
5	Current below normal or open circuit
6	Current above normal or grounded circuit
7	Mechanical system not responding properly

FMI	Description
8	Abnormal frequency, pulse width, or period
9	Abnormal update rate
10	Abnormal rate of change
11	Failure mode not identifiable
12	Bad intelligent device or component
13	Out of Calibration
14	Special Instructions
15	Reserved