

# Error codes for ECU C2

## Series 2000 / 4000

### all Applications

M ⇒ Marine  
 R ⇒ Railway  
 G ⇒ Genset

Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	Application
					M R G
L1 T-FUEL	3	Fuel Temperature to high	Alarm	Engine Documentation	X X X
L2 T-FUEL	4	no Limit Monitoring			
L1 T-CHARGE AIR	5	Charge Air Temp. to high	Alarm	Engine Documentation	
L2 T-CHARGE AIR	6	no Limit Monitoring			
L1 T-CHARGE AIR B	7	not used			
L2 T-CHARGE AIR B	8	not used			
L1 T-INTERCOOLER	9	Coolant Temp. Intercooler	Alarm	Engine Documentation	X
L2 T-INTERCOOLER	10	no Limit Monitoring			
L1 P-CHARGE AIR	11	no Limit Monitoring			
L2 P-CHARGE AIR	12	no Limit Monitoring			
L1 P-CHARGE AIR B	13	not used			
L2 P-CHARGE AIR B	14	not used			
L1 P-LUBE OIL	15	Luboil Pressure to low	Alarm	Engine Documentation	X X X
L2 P-LUBE OIL	16	Luboil Pressure to low	Engine-Stop	Engine Documentation	X X X
L1 P-RAIL FUEL	17	no Limit Monitoring			
L2 P-RAIL FUEL	18	no Limit Monitoring			
L1 T-EXHAUST A	19	Exhaust Temperature A-Bank to high	Alarm	reduce Power	X X X
L2 T-EXHAUST A	20	no Limit Monitoring			
L1 T-EXHAUST B	21	Exhaust Temperature B-Bank to high	Alarm	reduce Power	X X X
L2 T-EXHAUST B	22	no Limit Monitoring			
L1 COOLANT LEVEL	23	Coolant Limit to low	Alarm	check Coolant Level in Expansion Tank	X X X
L2 COOLANT LEVEL	24	Coolant Limit to low	Engine-Stop (progr.)	check Coolant Level in Expansion Tank	X X X
L1 P-OILFILTER DIFF	25	Diff. Pressure to hi	Alarm	check Filter	X X X
L2 P-OILFILTER DIFF	26	no Limit Monitoring			
L1 LEVEL LEAKAGEFUEL	27	Fuel Leakage Limit to high	Alarm	Open Fuel Leakage Tank, Engine Documentation	X
L1 LEVEL LEAK_FUEL A	27	Fuel Leakage Limit A to high	Alarm	Open Fuel Leakage Tank, Engine Documentation	Mega
L1 LEVEL LEAK_FUEL B	28	Fuel Leakage Limit B to high	Alarm	Open Fuel Leakage Tank, Engine Documentation	Mega
L1 P-FUEL DIFF	29	Fuel Diff. Pressure to hi		check Filter	2000
ENGINE OVERSPEED	30	Engine Overspeed	Engine-Stop	Start again	X X X

Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	M	R	G
CHARGER1 OVERSPEED 1	31	Charger Overspeed Limit 1	P1-Fuel Quantity Limitation	check if the airfilter is clogged	4000	4000	4000
CHARGER1 OVERSPEED 2	32	Charger Overspeed Limit 2	Fuelrack Limitation on fixed value	check function of the Charger-Flaps	4000	4000	4000
L1 P-FUELFILTER DIFF	33	Diff. Pressure to hi	Alarm	check Filter			2000
L1 IUE2	34	not used					
QUICK FLAPS CLOSED	35	Engine Overspeed	Engine-Stop	Open Air Flaps			2000
L1 SPEED DEMAND AN.	36	not used					
L2 SPEED DEMAND AN.	37	not used					
L1 P-OIL B. FILTER	38	Oil-Pressure before Filter to high	Alarm		Mega		
L2 P-OIL B. FILTER	39	Oil-Pressure before Filter to high	Alarm		Mega		
L1 P-OIL L. BEARING	40	Oil-Pressure last Lager to low	Alarm		Mega		
L2 P-OIL L. BEARING	41	Oil-Pressure last Lager to low	Alarm		Mega		
L1 ANALOG LOAD PULSE	42	not used					
L2 ANALOG LOAD PULSE	43	not used					
L1 LEVEL INTERCOOLER	44	Limit to low	Alarm	check Cooling water level			X
L2 LEVEL INTERCOOLER	45	Limit to low	Engine-Stop	check Cooling water level			X
LEVEL LUB OIL LOW	46	Oil Level to low	Alarm	check Oil System, Refill Pump		2000	
LEVEL LUB OIL HIGH	47	Oil Level to high	Alarm	check Oil System,		2000	
L1 P-LUB Oil REFILP	48	Luboil. REFIL Pressure to low	Alarm	Engine Documentation		2000	
L2 P-LUB Oil REFILP	49	Luboil REFIL Pressure to low	Engine-Stop	Engine Documentation		2000	
L1 COOLANT LEVEL EXT	50						
L1 T-LUBE OIL	51	Oil Temperature to high	Alarm	reduce Power	X	X	X
L2 T-LUBE OIL	52	no Limit Monitoring					
L1 T-INTAKE AIR	53						
L2 T-INTAKE AIR	54						
L1 T-TE10	55	Free Channel					
L2 T-TE10	56	Free Channel					
L1 P-COOLANT	57	Coolant Pressure to low	Alarm	check Coolant System	X	X	X
L2 P-COOLANT	58	Coolant Pressure to low	Engine-Stop (progr.)	check Coolant System	X	X	X
L1 P-INTERCOOLER	59						
L2 P-INTERCOOLER	60						
L1 P-FUEL B. FILTER	61	Fuel pressure before Filter to high			Mega		
L2 P-FUEL B. FILTER	62	Fuel pressure before Filter to high			Mega		
L1 P-CRANKCASE	63	Crankcase pressure to high	Alarm	Service	4000	4000	4000
L2 P-CRANKCASE	64	Crankcase pressure to high	Engine-Stop	Service			

Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	Application M R G
L1 P-FUEL	65	Fuel Input pressure to low	Alarm	Fuel low pressure part	X X X
L2 P-FUEL	66	no Limit Monitoring			
L1 T-COOLANT	67	Coolant Temperature to high	Alarm	reduce Power	X X X
L2 T-COOLANT	68	Coolant Temperature to high	reduce of Speed Demand	reduce Power	X X X
L1 T-EXTERN 1	69	Limit 1 , out of range	Alarm	Depending on the project datas	X X X
L2 T-EXTERN 1	70	Limit 2 , out of range	Alarm, Engine-Stop	Depending on the project datas	X X X
L1 T-EXTERN 2	71	Limit 1 , out of range	Alarm	Depending on the project datas	X X X
L2 T-EXTERN 2	72	Limit 2 , out of range	Alarm, Engine-Stop	Depending on the project datas	X X X
L1 P-EXTERN 1	73	Limit 1 , out of range	Alarm	Depending on the project datas	X X X
L2 P-EXTERN 1	74	Limit 2 , out of range	Alarm, Engine-Stop	Depending on the project datas	X X X
L1 P-EXTERN 2	75	Limit 1 , out of range	Alarm	Depending on the project datas	X X X
L2 P-EXTERN 2	76	Limit 2 , out of range	Alarm, Engine-Stop	Depending on the project datas	X X X
L1N EXT. COOLANT LEV.	77	Binary Signal 1 Plant active	Alarm, Engine-Stop	Depending on the project datas	X X X
L1N INTERCOOLER LEV.	78	Binary Signal 2 Plant active	Alarm, Engine-Stop	Depending on the project datas	X X X
L Bin-EXTERN 3	79	Binary Signal 3 Plant active	Alarm, Engine-Stop	Depending on the project datas	X X X
L Bin-EXTERN 4	80	Binary Signal 4 Plant active	Alarm, Engine-Stop	Depending on the project datas	X X X
RAIL LEAKAGE	81	to low Pressure gradient at the Start or to high Pressure grad. on Stop		High pressure system leakage, Air in System	
RAIL PRESSURE HIGH	82	Railpressure > Demand	DBR-Reduction delay of Start Inject	Wiring of the Saugdrossel B48	
RAIL PRESSURE LOW	83	Railpressure < Demand	DBR-Reduction	Saugd. defect or Leakage in High pressure system	
L1 T-TE4	84	Free Channel			
L2 T-TE4	85	Free Channel			
L1 T-TE6	86	Free Channel			
L2 T-TE6	87	Free Channel			
Spare	88	not used			Mega
Spare	89	not used			Mega
IDLE SPEED LOW	90	Engine Speed 600 RPM not reached	Alarm, Start interrupt	check on additional messages	X X
RUN UP SPEED LOW	91	Engine Speed 300 RPM not reached	Alarm, Start interrupt	check on additional messages	X X
START SPEED LOW	92	Engine Speed 80 RPM not reached	Alarm, Start interrupt	Starter is not turning or to slow turning	X X
PREHEAT TEMP. LINIT2	93	Coolant Temperature to low	Alarm, Start interrupt	Preheating Temperature not reached Start interlock possible	X X
PREHEAT TEMP. LINIT1	94	Coolant Temperature to low	Alarm,	Preheating Temperature not reached	X X



Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	Application M R G
BANK1ECU DEFECT	142	internal ElectronicFault	Engine not startet	Electronic defect , Test only on stopped Engine	X X X
BANK2ECU DEFECT	144	internal ElectronicFault	Engine not startet	Electronic defect , Test only on stopped Engine	X X X
15V_GOOD1ECU DEFECT	145	internal ElectronicFault	Engine-Stop	Electronic defect	X X X
AD_TEST1ECU DEFECT	147	internal ElectronicFault	Engine-Stop	Electronic defect	X X X
AD_TEST2ECU DEFECT	149	internal ElectronicFault	Engine-Stop	Electronic defect	X X X
AD_TEST3ECU DEFECT	151	internal ElectronicFault	Engine-Stop	Electronic defect	X X X
MI MODULE FAIL	170	Modul in Maintenance indicator defect	Alarm	Switch ECU OFF / ON, if fault still valid --> Service--	X X X
MI NOT ACTIVE	171	MI not active anymore	Alarm	Switch ECU OFF / ON, if fault still valid --> Service--	X X X
TBO EXPIRED	172	TBO expired	Alarm	Engine Service	X X X
MODULE WRITE LIMIT	173	EEPROM write limit reached	Alarm	Electronic-Service	X X X
CAN1 NODE LOST	180	If at least one from the ECU monitored Alive PDU on CAN 1 is missed	No function of connected unit	Test of the CAN connected devices	X X X
CAN2 NODE LOST	181	If at least one from the ECU monitored Alive PDU on CAN 2 is missed	No function of the connected Unit	Test of the CAN connected devices	X X X
CAN NO PU-DATA	183	If a CAN Modul is selected, which need the initial values of the PU-data-modul and no valid PU-Data modul is found		Test of the CAN connected devices New download by BDM	X X X
CAN PU-DATA EE-FAIL	184	If you try to copy the received PU-Data modul into the two EEPROM-Moduls and in one ore both of the moduls occurred a copy fault		IDM defect, Electronic-Service	X X X
CAN LESS MAILBOXES	185			IDM defect, Electronic-Service	X X X
CAN1 BUS OFF	186	CAN-Controller 1 is in Bus-Off Tolevel.	Automatic switchover to CAN2	Caused by Short Circuit, serious BUS trouble or Baudrateb is not compatible	X X X
CAN1 ERROR PASSIVE	187	CAN-Controller 1		Ursachen sind z.B. fehlende tohörende Knoten, leichte Störungen or kurzzeitige Busüberlastung	X X X
CAN2 BUS OFF	188	CAN-Controller 2 isin Bus-Off Tolevel.	Automatisches Umschalten auf CAN1	Ursachen sind z. B. Short Circuit, massive Störungen or Baudraten-Inkompatibilität	X X X
CAN2 ERROR PASSIVE	189	CAN-Controller 2		Ursachen sind z.B. fehlende tohörende Knoten, leichte Störungen or kurzzeitige Busüberlastung	X X X

Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	Application		
					M	R	G
SD T-COOLANT	201	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B6 check	X	X	X
SD T-FUEL	202	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B33 check	X	X	X
SD T-CHARGE AIR	203	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B9 check	X	X	X
SD T-COOLANT INTERC.	205	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B26 check			X
SD T-EXHAUST A	206	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B4.21 check	X	X	
SD T-EXHAUST B	207	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B4.22 check	X	X	
SD P-CHARGE AIR	208	Sensor defect, Short Circuit or Cable breakage	Begrenzung inactive	Wiring und Sensor to B10 check	X	X	X
SD P-LUBE OIL	211	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B5 check	X	X	X
SD P-COOLANT	212	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B16 check	X		
SD P-CRANKCASE	214	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B50 check	4000	4000	4000
SD P-RAIL FUEL	215	Sensor defect, Short Circuit or Cable breakage	HD-Regler Notbetrieb	Wiring und Sensor to B48 check	4000	4000	4000
SD T-LUBE OIL	216	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B7 check	X	X	X
SD T-TE10	217	Free Channel					
SD POil last Bearing	218	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B5.3 check			
SD T-INTAKE AIR	219	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B3 check	X	X	
SD COOLANT LEVEL	220	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to F33 check	X	X	X
SD LEVEL LEAKAGEFUEL	222	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to F46 check	X		X
SD LEVEL INTERCOOLER	223	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B27 check			X
SD P-LUBOil REFILLP.	224	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to ... check		2000	

Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	Application M R G
SD LEVEL LUB OIL	225	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to ... check	2000
SD LEVEL LEAK FUEL B	226	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to F46.2 check	
SD P-OIL B. FILTER	227	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B5.1 check	
SD P-FUEL B. FILTER	228	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B34.2 check	
SD CRANKSHAFT SPEED	230	Sensor defect, Short Circuit or Cable breakage		Wiring und Sensor to B13 check	X X
SD CAMSHAFT SPEED	231	Sensor defect, Short Circuit or Cable breakage		Wiring und Sensor to B1 check	X X
SD CHARGER SPEED 1	232	Sensor defect, Short Circuit or Cable breakage	Charger wird toegeschaltet	Wiring und Sensor to B44 check Ablevel des Sensors check	X X
SD CHARGER SPEED 2	233	Free Channel			
SD CHARGER SPEED 3	234	Free Channel			
SD CHARGER SPEED 4	235	Free Channel			
SD T-TE4	236	Free Channel			
SD T-TE6	237	Free Channel			
SD P-FUEL FILTER DIFF	239				
SD P-FUEL	240	Sensor defect, Short Circuit or Cable breakage	Limit-Monitoring inactive	Wiring und Sensor to B34 check	X X
SD POWER SUPPLY	245	internal ECU Fault		Electronic defect	X X
SD T-ELECTRONIC	246	internal ECU Fault		Electronic defect	X X
SD CAN STOP	249	Missing Data CAN	kein Engine-Stop über CAN	Electronic-Service	X X X
SD CAN SPEED DEMAND	250	Missing Data CAN	Speed Demand not valid	Take the command to the RCS directly after power on, if fault still valid => Electronic-Service	X X X
SD CAN UP/DOWN	251	Missing Data CAN	No Änderung der Speed Demand	Electronic-Service	X X
SD CAN NOTCH POS.	252	Missing Data CAN	Step 0 in use	Electronic-Service	X
SD CAN OVERRIDE	253	Missing Data CAN	function not possible activate	Electronic-Service	X X
SD CAN TEST OVERSP	254	Missing Data CAN	function not possible to activate	Electronic-Service	X X

Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	Application M R G
SD CAN ENGAGE SIGNAL	255	Missing Data CAN	function not possible to activate	Electronic-Service	X X
SD CAN CYL. CUTOFF	256	Missing Data CAN	function not possible to activate	Electronic-Service	X X
SD CAN LOCAL	257	Missing Data CAN	function not possible to activate	Electronic-Service	X X
SD CAN RCS ENGAGE S.	258	Missing Data CAN	function not possible to activate	Electronic-Service	X
SD CAN RCS CYL.CUT.	259	Missing Data CAN	function not possible to activate	Electronic-Service	X
SD 15V POS SUPPLY	260	internal ECU Fault		Electronic defect	X X X
SD 15V NEG SUPPLY	261	internal ECU Fault		Electronic defect	X X X
SD 5V BUFFER TEST	262	internal ECU Fault		Electronic defect	X X X
SD TE BUFFER TEST	263	internal ECU Fault		Electronic defect	X X X
SD BANK 1 TEST	264	internal ECU Fault		Electronic defect	X X X
SD BANK 2 TEST	265	internal ECU Fault		Electronic defect	X X X
SD SPEED DEMAND AN.	266	Control Lever defect or Short Circuit, Cable breakage tom Control Lever	Speed Demand not valid	Control Lever / Wiring check Electronic-Service	X X X
SD SP.DEM.TEST BENCH	267	Short Circuit, Cable breakage	Speed Demand not valid	Sensor / Wiring check nur in Prüflevelsbetrieb	X X X
SD SPINOUT	268	Short Circuit, Cable breakage Schleuderschutzgerät defect	function not possible to activate	Sensor / Wiring check Electronic-Service	X
SD LOAD PULSE ANALOG	269	Short Circuit, Cable breakage Load-Pulse-Unit defect	function not possible to activate	Sensor / Wiring check Electronic-Service	X
SD SPEED DEMAND FI1	270	Short Circuit, Cable breakage, Sturdy Plant defect	Speed Demand not valid	Sensor / Wiring check Electronic-Service (DDC)	X
SD T-EXTERN 1	271	Missing Data CAN		Electronic-Service (external Unit defect)	X X
SD T-EXTERN 2	272	Missing Data CAN		Electronic-Service (external Unit defect)	X X
SD P-EXTERN 1	273	Missing Data CAN		Electronic-Service (external Unit defect)	X X
SD P-EXTERN 2	274	Missing Data CAN		Electronic-Service (external Unit defect)	X X
MD EXT.COOLANT LEVEL	275	Missing Data CAN		Electronic-Service (external Unit defect)	X X
MD INTERCOOLER LEVEL	276	Missing Data CAN		Electronic-Service (external Unit defect)	X X
MIS-DATA BIN-EXT. 3	277	Missing Data CAN		Electronic-Service (external Unit defect)	X X
MIS-DATA BIN-EXT. 4	278	Missing Data CAN		Electronic-Service (external Unit defect)	X X
SD CAN RES TRIP FUEL	279	Missing Data CAN		Electronic-Service	X X X
SD CAN ALARM RESET	280	Missing Data CAN		Electronic-Service	X X X

Error Denomination	Error-Code	Error Cause	Reaction of the System	Tips for troubleshooting	Application		
					M	R	G
SD AD-TEST1 SUPPLY	281	internal ECU Fault		Electronic defect	X	X	X
SD AD-TEST2 SUPPLY	282	internal ECU Fault		Electronic defect	X	X	X
SD AD-TEST3 SUPPLY	283	internal ECU Fault		Electronic defect	X	X	X
SD CAN LAMP TEST	284	Missing Data CAN		Electronic-Service		X	X
SD CAN IDLE REQ SER	285	Missing Data CAN		Electronic-Service		X	
SD CAN IDLE REQ	286	Missing Data CAN		Electronic-Service		X	
SD TURBO SW LOCK SER	287	Missing Data CAN		Electronic-Service		X	
SD CAN TURBO SW LOCK	288	Missing Data CAN		Electronic-Service		X	

Magnetic Valve related FPGA-Faultmessages and ECU-Reactions  
(valid for FPGA MA 00-4 / ASIC MA 1004 / ECU-C2)

FPGA-Fault-No.	Denomination	Reason	Reaction of the ECU	ECU-Fault	ECU-Fault No.
0	no Fault	everything ok	Injection normal	-	-
1	PA-Circuit defect		use Default-IRT	POWER STAGE FAIL 1 POWER STAGE FAIL 2	361,362
2	no PA detected		use Default-IRT	TUNING BANK1 MVxx TUNING BANK2 MVxx	301...318
3	IRT-Signal not valid	MV ON → low	use last valid IRT	---	---
4	OC-Circuit defect		Bank Bank can not be used anymore*, ENGINE-STOP	STOP POWER STAGE 1 STOP POWER STAGE 2	363,364
5	Current controller defect	MV_ON → high	Bank Bank can not be used anymore*, ENGINE-STOP	STOP POWER STAGE 1 STOP POWER STAGE 2	363,364
6	+MV-Massenschluß	KS MV+ → Ground	MV defect	WIRING BANK1 MVxx WIRING BANK2 MVxx	321...338
7	MV-Short Circuit	KS MV+ → MV-	MV defect	WIRING BANK1 MVxx WIRING BANK2 MVxx	321...338
8	MV-Interrupt	OL MV+ → MV-	MV defect	OPEN_LOAD BANK1 MVx OPEN_LOAD BANK2 MVx	341...358
9	Selekt-Transistor Short Circuit		Bank Bank can not be used anymore*, ENGINE-STOP	STOP POWER STAGE 1 STOP POWER STAGE 2	363,364
10	-MV-short to ground	KS MV- → Ground	Bank Bank can not be used anymore*, ENGINE-STOP	STOP MV-WIRING	365, 321...338
11	Freilauf-Transistor Short Circuit	Voltage on MV < 8V	DBR-Wert x 0,7   (Istmenge > calculated amount)*	POWER STAGE FAIL 1 POWER STAGE FAIL 2	361,362
12	Power-Fail	15V-Supply < 11V	(Power Stage defect)*, ENGINE-STOP	STOP POWER STAGE 1 STOP POWER STAGE 2	363,364
13	-	-	-	-	-
14	-	-	-	-	-
15	RESET	RESET-Pin was low	FPGA initial*	-	-