

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
ABS Wabco D	40B01	Wheel sensor left front fault.	air gap too large, sensor output voltage too low but just exceeds trigger level	1	01	air gap		ABS: wheel disabled ASR: disabled
ABS Wabco D			such proportion of tyre diameter/ pole wheel teeth number that wheel speed difference within front axle > 10 % or difference within wheels of different axles > 19 % . Pneus or number of polewheel teeth are different. Check wheel circumference and number of polewheel	2	02	incorrect tyre or pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit to ground is detected.	4	04	Short to Ground		ABS: wheel disabled ASR: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Cyclic drop out detected at speed higher than 10 km/h. Several wheel revolution necessary.	7	07	incorrect pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			16 sec. slip duration detected.	8	08	slip		ABS: wheel disabled ASR: disabled
ABS Wabco D			Wire IG or IGM of another sensor is detected.	9	09	wires mismatched		ABS: wheel disabled ASR: disabled
ABS Wabco D			Temporarily loss of wheel speed signal. Air gap too large, sensor voltage exceeds trigger level at too late.	10	0A	speed drop-out		ABS: wheel disabled ASR: disabled
ABS Wabco D			Brake squeezes or chatters.	11	0B	abnormal speed (chatter)not stored		ABS: partial disabled ASR: disabled with standard parameter set not as fault interpreted FMI 11 not stored
ABS Wabco D			Not plausible sensor frequency measured	12	0C	frequency too high		ABS: wheel disabled ASR: disabled
ABS Wabco D	40B02	Wheel sensor right front fault	air gap too large, sensor output voltage too low but just exceeds trigger level	1	01	air gap		ABS: wheel disabled ASR: disabled
ABS Wabco D			such proportion of tyre diameter/ pole wheel teeth number that wheel speed difference within front axle > 10 % or difference within wheels of different axles > 19 % . Pneus or number of polewheel teeth are different. Check wheel circumference and number of polewheel	2	02	incorrect tyre or pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit to ground is detected.	4	04	Short to Ground		ABS: wheel disabled ASR: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Cyclic drop out detected at speed higher than 10 km/h. Several wheel revolution necessary.	7	07	incorrect pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			16 sec. slip duration detected.	8	08	slip		ABS: wheel disabled ASR: disabled
ABS Wabco D			Wire IG or IGM of another sensor is detected.	9	09	wires mismatched		ABS: wheel disabled ASR: disabled
ABS Wabco D			Temporarily loss of wheel speed signal. Air gap too large, sensor voltage exceeds trigger level at too late.	10	0A	speed drop-out		ABS: wheel disabled ASR: disabled
ABS Wabco D			Brake squeezes or chatters.	11	0B	abnormal speed (chatter)not stored		ABS: partial disabled ASR: disabled with standard parameter set not as fault interpreted FMI 11 not stored
ABS Wabco D			Not plausible sensor frequency measured	12	0C	frequency too high		ABS: wheel disabled ASR: disabled
ABS Wabco D	40B03	Wheel sensor left rear fault	air gap too large, sensor output voltage too low but just exceeds trigger level	1	01	air gap		ABS: wheel disabled ASR: disabled
ABS Wabco D			such proportion of tyre diameter/ pole wheel teeth number that wheel speed difference within front axle > 10 % or difference within wheels of different axles > 19 % . Pneus or number of polewheel teeth are different. Check wheel circumference and number of polewheel	2	02	incorrect tyre or pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit to ground is detected.	4	04	Short to Ground		ABS: wheel disabled ASR: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Cyclic drop out detected at speed higher than 10 km/h. Several wheel revolution necessary.	7	07	incorrect pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			16 sec. slip duration detected.	8	08	slip		ABS: wheel disabled ASR: disabled
ABS Wabco D			Wire IG or IGM of another sensor is detected.	9	09	wires mismatched		ABS: wheel disabled ASR: disabled
ABS Wabco D			Temporarily loss of wheel speed signal. Air gap too large, sensor voltage exceeds trigger level at too late.	10	0A	speed drop-out		ABS: wheel disabled ASR: disabled
ABS Wabco D			Brake squeezes or chatters.	11	0B	abnormal speed (chatter)not stored		ABS: wheel disabled ASR: disabled
ABS Wabco D			Not plausible sensor frequency measured	12	0C	frequency too high		ABS: wheel disabled ASR: disabled
ABS Wabco D	40B04	Wheel sensor right rear fault	air gap too large, sensor output voltage too low but just exceeds trigger level	1	01	air gap		ABS: wheel disabled ASR: disabled
ABS Wabco D			such proportion of tyre diameter/ pole wheel teeth number that wheel speed difference within front axle > 10 % or difference within wheels of different axles > 19 % . Pneus or number of polewheel teeth are different. Check wheel circumference and number of polewheel	2	02	incorrect tyre or pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit to ground is detected.	4	04	Short to Ground		ABS: wheel disabled ASR: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short circuit		ABS: wheel disabled ASR: disabled
ABS Wabco D			Cyclic drop out detected at speed higher than 10 km/h. Several wheel revolution necessary.	7	07	incorrect pole wheel		ABS: wheel disabled ASR: disabled
ABS Wabco D			16 sec. slip duration detected.	8	08	slip		ABS: wheel disabled ASR: disabled
ABS Wabco D			Wire IG or IGM of another sensor is detected.	9	09	wires mismatched		ABS: wheel disabled ASR: disabled
ABS Wabco D			Temporarily loss of wheel speed signal. Air gap too large, sensor voltage exceeds trigger level at too late.	10	0A	speed drop-out		ABS: wheel disabled ASR: disabled
ABS Wabco D			Brake squeezes or chatters.	11	0B	abnormal speed (chatter)not stored		ABS: wheel disabled ASR: disabled
ABS Wabco D			Not plausible sensor frequency measured	12	0C	frequency too high		ABS: wheel disabled ASR: disabled
ABS Wabco D	40B07	Modulator left front failure	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short to Ground		ABS: wheel disabled
ABS Wabco D	40B08	Modulator right front failure	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short to Ground		ABS: wheel disabled
ABS Wabco D	40B09	Modulator left rear failure	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled ASR: Diff brake disabled SMR: disabled EBL: wheel disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short to Ground		ABS: wheel disabled ASR: Diff brake disabled SMR: disabled EBL: wheel disabled
ABS Wabco D	40B0A	Modulator right rear failure	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		ABS: wheel disabled ASR: Diff brake disabled SMR: disabled EBL: wheel disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short to Ground		ABS: wheel disabled ASR: Diff brake disabled SMR: disabled EBL: wheel disabled
ABS Wabco D	40B0D	DBR, Retarder	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Short to Battery		DBR control disabled
ABS Wabco D			Open circuit is detected	5	05	open circuit		DBR control disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short to Ground		DBR control disabled
ABS Wabco D	40B0E	ABS error	Short circuit to ground is detected.	4	04	Voltage, low voltage/open circuit		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D			Open circuit is detected	5	05	WL-Ground		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D			Cyclic drop out detected at speed higher than 10 km/h. Several wheel revolution necessary.	7	07	Valve Relay		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D	40B0F	ABS error	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Voltage, low voltage/open circuit		Di&aux output disabled ASR: Diff brake disabled

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ABS Wabco D			Short circuit to ground is detected.	4	04	Voltage, low voltage/open circuit		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D			Open circuit is detected	5	05	WL-Ground		Diff&aux output disabled ASR: Diff brake disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Short to Ground		
ABS Wabco D			Cyclic drop out detected at speed higher than 10 km/h. Several wheel revolution necessary.	7	07	Valve Relay		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D	40B10	ABS error	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Voltage, low voltage/open circuit		EBL: starts depending from deceleration
ABS Wabco D			Open circuit is detected	5	05	Brake input open or shorted to ground		EBL: starts depending from deceleration
ABS Wabco D	40B12	ABS error	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Diff. Brake Valve, shorted to UBATT		ASR: Diff brake disabled
ABS Wabco D			Open circuit is detected	5	05	Diff. Brake Valve, open circuit		ASR: Diff brake disabled
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Diff. Brake Valve, shorted to ground		ASR: Diff brake disabled
ABS Wabco D	40B13	ABS error	DC voltage detected. Short circuit or impedance to battery voltage.	3	03	Trailer Brake Valve, shorted to UBATT		
ABS Wabco D			Open circuit is detected	5	05	Trailer Brake Valve, open circuit		
ABS Wabco D			Short circuit between sensorwires IG/IGM is detected	6	06	Trailer Brake Valve, shorted to ground		
ABS Wabco D	40B16	ABS error		8	08			
ABS Wabco D	40B17	ABS error	Open circuit is detected	5	05	Warning Light		WL if grounded. Off if burned out
ABS Wabco D	40BE7	ABS error.SAEJ1939	Unplausibility between received vehicle speed and ABS vehicle speed.	2	02	SAE J1939 VSC1 speed bad plausibility		Supveision normally not activated
ABS Wabco D			SAE J1939 communication impossible. SAE J1939 high open or short circuit to plus or ground or sae J1939 low or low/high are misured	5	05	SAE J1939 open or short circuit		ASR: disabled SMR: disabled SAE J1939 switched to inactive because communication is disturbed.
ABS Wabco D			SAE J1939 communication impossible. SAE J1939 high open or short circuit to plus or ground or sae J1939 low or low/high are misured	6	06	SAE J1939 no access		ASR: disabled SMR: disabled ABS ECU tries to restart com. Within 10s it is not possible. SAE J1939 remains inactive. FMI 5 might be additionally stored.
ABS Wabco D			Driveline integrated retarder sends message incorrectly. Timeout supervision detects faults if activated.	7	07	SAE J1939 ERC_DR time-out		Driveline retarder may cause instability.
ABS Wabco D			Engine integrated retarder sends message incorrectly. Timeout supervision detects faults if activated. Standard is no timeout supervision.	8	08	SAE J1939 ERC_ER (_EXR) time-out		Engine retarder may cause instability.
ABS Wabco D			Gearbox sends message incorrectly. Timeout supervision detects faults if activated. Standard is no timeout supervision.	9	09	SAE J1939 ETC time-out		Dragtorque control influenced.
ABS Wabco D			Engine control sends torque message incorrectly. Timeout supervision detects fault.	9	09	SAE J1939 EEC1 time-out		Dragtorque control influenced.
ABS Wabco D			Exaust integrated retarder sends message incorrectly. Timeout supervision detects faults if activated. Standard is no timeout supervision.	10	0A	SAE J 1939 ERC_EXR time-out		Exhaust retarder may cause instability.
ABS Wabco D			Internal fault	12	0C	SAE J1939, internal error		ABS: disabled ASR: disabled SMR: disabled EBL: disabled
ABS Wabco D	40BFB	ABS error. Overvoltage	Supply voltage too high for more than 5s	3	03	Overvoltage		All valve disabled. No ABS, SMR, Diff Brake, EBL
ABS Wabco D	40BFD	ABS error	Wheel parameters are out of tolerance. No ABS, ASR, EBL, SM	2	02	EEPROM, Wheel Parameter incorrect		Wrong parameter
ABS Wabco D			Checksum of parameter or analog adjustment is wrong.	12	0C	EEPROM checksum		No ABS, SMR, Diff Brake, EBL. No blink code.
ABS Wabco D	40BFE	ABS error	No modulators connected.	5	05	Electronic w/o loads		Normal for EOL testing of single cabin. Fault not memorized. No ABS, SMR, ASR, EBL.
ABS Wabco D			One axle was much faster than other.	8	08	excessive slip/dynotester		On rolling roads responce dynotester slip supervision time can be exceeded when fault detection is not disabled by diagnostic tools or blinkcode (3s).
ABS Wabco D			Control via modulator was too long. After a delay time function is normal.	9	09	Modulator valve activation time		75% Of 5min modulator was activated. No ASR during fault activeness.
ABS Wabco D			Internal error	12	0C	Multiple possibilities	Yellow	No ABS, SMR, Diff Brake, EBL. No blink code.
BC IBC2	22101	EEPROM checksum error		12	0C			
BC IBC2	22102	ECU Overheating	The junction Temperature of the output drivers is greater than max. junction temperature(150°C).	12	0C			
BC IBC2	22103	Supply Line 1	The acquired voltage is below or above the thresholds.The error shall be debounced.	00 01 03 04	00 01 03 04	32V<V<36V 8V<V<18V V>36V V<8V		
BC IBC2	22104	Supply Line 2	The acquired voltage is below or above the thresholds.The error shall be debounced.	00 01 03 04	00 01 03 04	32V<V<36V 8V<V<18V V>36V V<8V		
BC IBC2	22105	Supply Line 3	The acquired voltage is below or above the thresholds.The error shall be debounced.	00 01 03 04	00 01 03 04	32V<V<36V 8V<V<18V V>36V V<8V		
BC IBC2	22106	Supply Line 4	The acquired voltage is below or above the thresholds.The error shall be debounced.	00 01 03 04	00 01 03 04	32V<V<36V 8V<V<18V V>36V V<8V		
BC IBC2	22107	Supply Line 5	The acquired voltage is below or above the thresholds.The error shall be debounced.	00 01 03 04	00 01 03 04	32V<V<36V 8V<V<18V V>36V V<8V		
BC IBC2	22108	Turn Lights Right	The acquired load current is below the threshold (at least a load on three is a open circuit)	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22109	Turn Lights Trailer Right	On/Off diagnostic.The test is performed only when the driver is Off.The error is detected only when at open circuit.	5	05			
BC IBC2	2210A	Turn Lights Right or Turn Lights Trailer Right	Driver Short Circuit to ground or Overload or Overheating protection.The test is performed only when the driver is On.	6	06			
BC IBC2	2210B	Turn Lights Left	The acquired load current is below the threshold (at least a load on three is a open circuit)	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	2210C	Turn Lights Trailer Left	On/Off diagnostic.The test is performed only when the driver is Off.The error is detected only when at open circuit.	5	05			
BC IBC2	2210D	Turn Lights Left or Turn Lights Trailer Left	Driver Short Circuit to ground or Overload or Overheating protection.The test is performed only when the driver is On.	6	06			
BC IBC2	2210E	Parking Left & Marker Right Front Lights	The acquired load current is below the threshold (at least a load on two is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	2210F	Parking Rear Right Lights	The acquired load current is below the threshold (at least a load on two is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22110	License Plate Lights	The acquired load current is below the threshold (at least a load on two is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22111	Parking Left & Marker Right Front Lights OR Parking Rear Right Lights OR License Plate Lights OR Trailer Lights	Driver Short Circuit to ground or Overload or Overheating protection.The test is performed only when the driver is On.	6	06			
BC IBC2	22112	Parking Right & Marker Left Front Lights	The acquired load current is below the threshold (at least a load on two is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22113	Parking Rear Left Lights	The acquired load current is below the threshold (at least a load on two is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22114	Marker Rear Lights	The acquired load current is below the threshold (at least a load on two is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22115	Parking Right & Marker Left Front Lights OR Parking Rear Left Lights OR Marker Rear Lights OR Parking & Marker Trailer & Side Marker Left Lights	Driver Short Circuit to ground or Overload or Overheating protection.The test is performed only when the driver is On.	6	06			
BC IBC2	22116	Rear Fog Left & Right Lights	The acquired load current is below the threshold (at least a load on two is a open circuit)	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22117	Rear Fog Left&Right Lights OR Rear Fog Trailer Left&Right Lights	Driver Short Circuit to ground or Overload or Overheating protection.The test is performed only when the driver is On.	6	06			
BC IBC2	22118	Stop Light Left	The acquired load current is below the threshold (the only load is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	22119	Stop Light Right	The acquired load current is below the threshold (the only load is a open circuit).	5	05	I< I _s (I _s follows the I to V linear characteristic of the lamps)		
BC IBC2	2211A	Stop Light Left or Stop Light Right or Stop Trailer Left&Right Lights	Driver Short Circuit to ground or Overload or Overheating protection.The test is performed only when the driver is On.	6	06			
BC IBC2	2211B	Turn Lights Switches	Turn Left and Turn Right Switchesare both activated.The Turn Left Lights Status and Turn Right Lights Status CAN parameters are ON but the Emergency Lights Status CAN parameter is OFF.	2	02			
BC IBC2	2211C	Windshield Wiper	Windshield Wiper switches activated at the same time or every faulty on Windshield Wiper (fuse on supply line 6 faulty, engine blocked or short circuited, engine interrupted, cam always to ground, cam always open)	2	02			
BC IBC2	2211D	Engine Brake Preselection Mode Switches	Engine Brake Mode Accelerator Idle and Engine Brake Mode Brake Pedal Switches are both activated.	2	02			
BC IBC2	2211E	Diff.Rear.Transv.Lock Rockwell Switches	Diff.Rear Transv.Lock Rock.Switch2(Rear axle 1) andDiff.Rear Transv.Lock Rock.Switch1(Rear axle 1) are both activated.	2	02			
BC IBC2	2211F	Brake Front Air Pressure Sensor	The acquired voltage is below or above the thresholds(see Figure 8). The error is detected only if there are no errors on the supply voltage of the sensor (Vc). (Vout/Vc)=0.08+0.04*(Bar+1) Vout ->output voltage of the sensor; Vc -> supply voltage of the sensor: Bar -> relative to atmospheric pressure	00 01 03 04	00 01 03 04	0.6V<(Vout/Vc)<1V 0.14V<(Vout/Vc)< 0.38V Vout/Vc>1V Vout/Vc<0.14V		
BC IBC2	22120	Brake Rear Air Pressure Sensor	The acquired voltage is below or above the thresholds(see Figure 8). The error is detected only if there are no errors on the supply voltage of the sensor (Vc). (Vout/Vc)=0.08+0.04*(Bar+1) Vout ->output voltage of the sensor; Vc -> supply voltage of the sensor: Bar -> relative to atmospheric pressure	00 01 03 04	00 01 03 04	0.6V<(Vout/Vc)<1V 0.14V<(Vout/Vc)< 0.38V Vout/Vc>1V Vout/Vc<0.14V		

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BC IBC2	2212B	Brake Air Pressure Sensor Supply (Vc)	The acquired supply voltage is below or above the thresholds.	00 01 03 04	00 01 03 04	6V<V<8V 2V<V<4V V>8V V<2V		
BC IBC2	2212C	Vehicle data bus CAN	No CAN messages on Vehicle data bus or Bus-Off detection.The error can be read on CAN only if the CAN bus resets	2	02			
BC IBC2	2212D	ECU not programmed		31	1F			
BC IBC2	22130	Engine Starter		03 04	03 04	Voltage Above Normal, Or Shorted To High Source Voltage Below Normal, Or Shorted To Low Source		
BC IBC2	22131	Cabin Side White Lights (only if on pin E03)		03 04	03 04	Voltage Above Normal, Or Shorted To High Source Voltage Below Normal, Or Shorted To Low Source		
BC IBC3	22100	ECU not programmed		31	1F		Yellow	
BC IBC3	22101	EEPROM checksum error		12	0C		Yellow	
BC IBC3	22102	ECU Overheating	The PCB ECU Temperature of the output drivers is greater than max. allowed temperature (100°C).	13	0D		Yellow	
BC IBC3	22103	ECU Secondary Microprocessor Faulty	The secondary microprocessor that executes the limp-home function is faulty	14	0E		Yellow	
BC IBC3	2210B	Vehicle Data Bus CAN	No CAN messages on Vehicle data bus or Bus-Off detection. The error can be read on VDB CAN only if the VDB CAN bus resets	2	02		Red	
BC IBC3	2210C	Body Control Bus CAN	No CAN messages on Body control bus or Bus-Off detection. The error can be read on BCB CAN also if the BCB CAN bus is not reset	2	02		Red	
BC IBC3	231FF	Body Control Bus - ECU#1 CAN	No CAN messages from ECU#1 - Bed Module	2	02		Yellow	
BC IBC3	2ECFF	Body Control Bus - ECU#2 CAN	No CAN messages from ECU#2 - Driver Door Module	2	02		Yellow	
BC IBC3	2EDFF	Body Control Bus - ECU#3 CAN	No CAN messages from ECU#3 - Co-Driver Door Module	2	02		Yellow	
BC IBC3	245FF	Body Control Bus - ECU#4 CAN	No CAN messages from ECU#4 - Additional Heater Air	2	02		Yellow	
BC IBC3	244FF	Body Control Bus - ECU#5 CAN	No CAN messages from ECU#5 - Additional Heater Water	2	02		Yellow	
BC IBC3	2E9FF	Body Control Bus - ECU#6 CAN	No CAN messages from ECU#6 - Mirror Controller	2	02		Yellow	
BC IBC3	26DFF	Body Control Bus - ECU#7 CAN	No CAN messages from ECU#7 - MET	2	02		Red	
BC IBC3	219FF	Body Control Bus - ECU#8 CAN	No CAN messages from ECU#8 - Climate Control	2	02		Yellow	
BC IBC3	22120	Fuel Level Interface	Fuel Level interface failure detected. The input voltage is evaluated for in-range checking:	00 01	00 01	00:Delta voltage below normal 01:Delta voltage above normal	Yellow	
BC IBC3	22121	Engine Oil Level Interface	Oil Level interface failure detected. The voltage difference between the first and the second acquisition are evaluated for in-range checking:	00 01 0F 10 12 13 14	00 01 15 10 12 13 14	00:Delta voltage below normal 01:Delta voltage above normal 0F:Time/Date from TCO not available 10:Engine Starter Mode or Engine Speed from EDC not available 12:Date could not be stored in EEPROM 13:Time could not be stored in EEPROM 14:Oil Level could not be stored in EEPROM	Yellow	
BC IBC3	22122	Ambient Air Temperature Interface	Ambient Air Temperature interface failure detected. The input voltage is evaluated for in-range checking:	03 04	03 04	03:Voltage above normal (s.c. to battery or open circuit) 04:Voltage below normal (s.c. to ground)	Yellow	
BC IBC3	22130	Windshield Wiper Switches	Windshield Wiper switches activated at the same time or every faulty on Windshield Wiper (engine blocked or short circuited, engine interrupted, cam always to ground, cam always open)	2	02		Yellow	
BC IBC3	22131	Diff.Lock.State. Rear Axle1(Rockwell) Switches	Diff.Lock.State. Rear Axle1-In1 and Diff. Lock State Rear Axle1-In2, are both activated	2	02		Yellow	
BC IBC3	22140	Service Brake Air Pressure Circuit#2 sensor (Front)	Service Brake Air Pressure Circuit#2 interface failure detected.	03 04	03 04	03:Voltage above normal (s.c. to battery or open circuit) 04:Voltage below normal (s.c. to ground)	Yellow	
BC IBC3	22141	Service Brake Air Pressure Circuit#1 sensor (Rear)	Service Brake Air Pressure Circuit#1 interface failure detected.	03 05	03 05	4:Voltage above normal (s.c. to battery or open circuit) 04:Voltage below normal (s.c. to ground)	Yellow	
BC IBC3	22142	Service Brake Air Pressure Circuit#2 sensor (Front)	The pressure charging is evaluated for in-range checking	00 01	00 01	00:Delta voltage below normal 01:Delta voltage above normal	Red	
BC IBC3	22143	Service Brake Air Pressure Circuit#1 sensor (Rear)	The pressure charging is evaluated for in-range checking	00 01	00 01	00:Delta voltage below normal 01:Delta voltage above normal	Red	
BC IBC3	22144	Service Brake Air Pressure Sensor Supply Voltage (Vs)	Service Brake Air Pressure Sensor Supply Voltage failure detected. The error is detected only when the maximum supply voltage is between 18V and 32V and Ignition Key 15 is On.	00 01 03 04	00 01 03 04	00: 6V<V<8V 01: 2V<V<4V 03: V>8V 04: V<2V	Yellow	
BC IBC3	22145	Brake Air Dryer	Pressure plausability:	01 00 02	01 00 02	01:The pressure is not increasing while charge mode 00:The pressure is not decreasing while rigeneration mode 02:Duty error (air loss because the S2 valve is locked)	Yellow	
BC IBC3	22150	Dashboard Backlight & Headbeam Washer Supply & Body Builders Parking Lights	On/Off Diagnostic:	6	06	06:Short circuit to ground or Overload or Overheating protection.	Yellow	
BC IBC3	22161	Marker Front Left & Right Lights	Analog Diagnostic: The acquired load current is below the threshold (at least a load on two is a open circuit). The error is detected only when the relative supply voltage is between 18V and 32V. The Marker Front Left & Right Lights fault shall be recognized, stored and reported on DM1 message with a maximum delay of 10sec.	5	05	05: I < IS	Yellow	
BC IBC3	22166	Additional Lights or Additional Air Heater Disable	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	22163	Step Lights	Analog Diagnostic: The acquired load current is below the threshold (at least a load on two is a open circuit). The error is detected only when the relative supply voltage is between 18V and 32V. The Step Lights fault shall be recognized, stored and reported on DM1 message with a maximum delay of 10sec.	5	05	05: I < IS	Yellow	
BC IBC3	22164	Cabin Side Lights	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	22165	Cabin Ceiling Lights	Analog Diagnostic: The acquired load current is below the threshold (at least a load on two is a open circuit). The error is detected only when the relative supply voltage is between 18V and 32V. The Cabin Ceiling Lights fault shall be recognized, stored and reported on DM1 message with a maximum delay of 10sec.	5	05	05: I < IS	Yellow	
BC IBC3	22180	30A	On/Off Diagnostic:	4	04	Voltage below normal	Yellow	
BC IBC3	22181	30B	On/Off Diagnostic:	4	04	Voltage below normal	Yellow	
BC IBC3	22182	30C	On/Off Diagnostic:	4	04	Voltage below normal	Yellow	
BC IBC3	22183	30D	On/Off Diagnostic:	4	04	Voltage below normal	Yellow	
BC IBC3	22184	30E	On/Off Diagnostic:	4	04	Voltage below normal	Yellow	
BC IBC3	22190	+Batt. TCO & +Batt. Spare1	On/Off Diagnostic:	5	05	Fuse interrupted	Yellow	
BC IBC3	22191	30A Cluster	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22192	30D Body Builders	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22193	30E ECAS	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22194	30C VCM	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22195	30E Cigarette Lighter & 30E Diagnostic Connector	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22196	30C ABS	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22197	30C ABS Trailer	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22198	30B Engine Crank	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	22199	30D Acoustic Horn	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	2219A	30E Voltage Adapter & 30E Bed Lights	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	2219B	30B Mirror Heating	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A0	15 Mirror Controller & 15 Heated Dryer	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A1	15 Alternator	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A2	15 TCO & 15 Cluster & 15 MET & 15 UDS	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A3	15 VCM & 15 ECM	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A4	15 ECAS & 15 ABS	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A5	15 Cabin Tilted & 15 Brake Switch & 15 Headbeam Pot.Supply	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A6	15/1A Reverse Gear Lights & 15/1A Headbeam Adjustment supply & 15/1A NOX sensor supply	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A7	15/1A Cabin Heater & 15/1A Conditioner	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A8	15/1B Body Builders	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221A9	15/1B Electric Windows	The internal fuse to ECU can be accidentally interrupted On/Off Diagnostic: fuse interrupted	5	05	Fuse interrupted	Yellow	
BC IBC3	221B0	Power Steering Circuit #1 or #2 Pressure Low	Sensor plausibility: - While Engine Speed=0 (and valid) at least one of two pressure switches is in Normal state (open) (pressure above threshold) The ECU waits PSC_TEST_T1 (after Engine Speed =0 or at Ignition Key 15) before to start the diagnostics	2	02	Flow meter plausibility	Yellow	
BC IBC3	221B2	Steering Flow Meter	Flow meter plausibility: - When Vehicle Speed < PSC_VEH_SPEED_MIN the flow is in Normal state (open)	2	02	Flow meter plausibility	Yellow	
BC IBC3	221C0	Windshield Washer & Headbeam Washer	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	221C1	TGC ON	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	221C2	TGC OFF	On/Off Diagnostic:	3	03	03:Short circuit to battery	Yellow	
BC IBC3	221C3	Body Builder Reverse Gear	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
BC IBC3	221C4	Vehicle Running	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	221C5	Engine Running	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	221C6	Roof Hatch opening	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	221C7	Roof Hatch closing	On/Off Diagnostic:	03 07	03 07	4:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC IBC3	221C8	Headlights Washer	On/Off Diagnostic:	03 08	03 08	5:Short circuit to battery 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D01	EEPROM checksum error		12	0C		Yellow	
BC MET	26D02	ECU Overheating	The PCB ECU Temperature of the output drivers is greater than max. allowed temperature (100°C).	12	0C		Yellow	
BC MET	26D03	ECU Secondary Microprocessor Faulty	The secondary microprocessor that executes the limp-home function is faulty	12	0C		Yellow	
BC MET	26D0C	Body Control bus CAN	No CAN messages on Body Control bus or Bus-Off detection. The error can be read on BCB CAN only if the BCB CAN bus resets	2	02		Red	
BC MET	26D20	Fuel Level sensor	Fuel Level interface failure detected. The input voltage is evaluated for Phisically possible range:	03 04	03 04	03:Voltage above normal (s.c. to battery) 04:Voltage below normal (s.c. to ground). Only when the current is sensed on the Low Side	Yellow	
BC MET	26D21	Engine Oil Level Sensor	Oil level interface failure detected. The input voltage is evaluated for Phisically possible range:	03 04	03 04	03:Voltage above normal (s.c. to battery) 04:Voltage below normal (s.c. to ground)	Yellow	
BC MET	26D51	Parking Left & Right Front Lights & Parking Rear Left Lights & Marker Rear Left & Right Lights & Trailer Parking Lights Left	Analog Diagnostic: The error is detected only when the relative supply voltage is between 18V and 32V.	6	06	06:short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D52	Parking Left & Right Front Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D53	Parking Rear Left Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D54	Parking Rear Right Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D55	Parking Rear Right Lights & Plate Left & Right Lights & Trailer Parking Lights Right	Analog Diagnostic: The error is detected only when the relative supply voltage is between 18V and 32V.	6	06	06:short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D56	Rear Fog Left & Right Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D57	Rear Fog Left & Right Lights & Trailer Rear Fog Left & Right Lights	Analog Diagnostic: The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	06:short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D58	Stop Light Left	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D59	Stop Light Right	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D5A	Stop Light Left & Stop Light Right & Trailer Stop Left & Right Lights	Analog Diagnostic: The error is detected only when the relative supply voltage is between 18V and 32V.	6	06	06:short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D5B	Front Fog Left & Right Lights	On/Off Diagnostic: The error is detected only when the relative supply voltage is between 18V and 32V.	6	06	06:short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D5C	Low Beam Light Left	On/Off Diagnostic:	05 06	05 06	05:Open load 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D5D	Low Beam Light Right	On/Off Diagnostic:	05 06	05 06	05:Open load 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D5E	High Beam Light Left	On/Off Diagnostic:	05 06	05 06	05:Open load 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D5F	High Beam Light Right	On/Off Diagnostic:	05 06	05 06	05:Open load 06:Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D60	Plate Left & Right Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D62	Marker Rear Left & Right Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D68	Turn Right Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D69	Trailer Turn Lights Right	On/Off Diagnostic: The error is detected only when all the lamps are open circuit and the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D6A	Turn & Trailer Turn Right Lights	On/Off Diagnostic: The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	06: Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D6B	Turn Left Lights	Analog Diagnostic: The acquired load current is below the threshold. The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	05: I < IS	Yellow	
BC MET	26D6C	Trailer Turn Lights Left	On/Off Diagnostic: The error is detected only when all the lamps are open circuit and the relative supply voltage is between 18V and 32V.	5	05	5: I< IS Is =40mA	Yellow	
BC MET	26D6D	Turn & Trailer Turn Left Lights	On/Off Diagnostic: The error is detected only when the relative supply voltage is between 18V and 32V.	6	06	06: Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26D6E	Trailer Stop Left & Right Lights	Analog Diagnostic: The acquired load current is below the threshold (see Figura 2). The error is detected only when the relative supply voltage is between 18V and 32V.	5	05	5: I< IS Is =40mA	Yellow	
BC MET	26DA1	Ignition Key 15 Body Builder &Trailer	On/Off Diagnostic:	5	05	06: Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26DC0	A-A8+P-A1 output	On/Off Diagnostic:	5	05	06: Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26DC1	A-B1 output	On/Off Diagnostic:	5	05	06: Short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26DC3	Headbeam Adjustment	On/Off Diagnostic:	03 06	03 06	03:Short circuit to battery 06:Short circuit to ground (with Hheadbeam Adjustment Position > 4%)	Yellow	
BC MET	26DC5	A-C1 output	On/Off Diagnostic:	5	05	06:short circuit to ground or Overload or Overheating protection	Yellow	
BC MET	26DC8	C-A1 output	On/Off Diagnostic:	05 06 03	05 06 03	05: Open load 06: Short circuit to ground or Overload or Overheating protection 03: Short circuit to battery	Yellow	
BC MET	26DC9	C-A2 output	On/Off Diagnostic:	05 06 03	05 06 03	05: Open load 06: Short circuit to ground or Overload or Overheating protection 03: Short circuit to battery	Yellow	
BC MET	26DCA	C-A3 output	On/Off Diagnostic:	05 06 03	05 06 03	05: Open load 06: Short circuit to ground or Overload or Overheating protection 03: Short circuit to battery	Yellow	
BC MET	26DCD	C-A4 output	On/Off Diagnostic:	05 06 03	05 06 03	05: Open load 06: Short circuit to ground or Overload or Overheating protection 03: Short circuit to battery	Yellow	
BC MET	26DCE	C-A5 output	On/Off Diagnostic:	05 06 03	05 06 03	05: Open load 06: Short circuit to ground or Overload or Overheating protection 03: Short circuit to battery	Yellow	
CLC	41905	Solar Sensor		04 05	04 05	04: Short circuit to ground 05: Open load or short crcuit to battery	Yellow	
CLC	41906	Indoor temperature sensor		04 05	04 05	04: Short circuit to ground 05: Open load or short crcuit to battery	Yellow	
CLC	41907	Evaporator temperature sensor		04 05	04 05	04: Short circuit to ground 05: Open load or short crcuit to battery	Yellow	
CLC	41908	Heater exchanger temperature sensor		04 05	04 05	04: Short circuit to ground 05: Open load or short crcuit to battery	Yellow	
CLC	41901	Feedback signal floor flap		04 05	04 05	04: Short circuit to ground 05: Open load or short crcuit to battery	Yellow	
CLC	41902	Feedback signal defrost flap		04 05	04 05	04: Short circuit to ground 05: Open load or short crcuit to battery	Yellow	
CLC	41903	Feedback signal bilevel flap		04 05	04 05	04: Short circuit to ground 05: Open load or short crcuit to battery	Yellow	
CLC	41904	Feedback signal recirculation flap		04 05	04 05	04: Short circuit to ground 05: Open load or short circuit to battery	Yellow	
CLC	41914	Sensor fan diagnosis		07	07	Faulty feedback from fan motor	Yellow	
CLC	4190E	Heating valve		04 03 07	04 03 07	04: Short crcuit to ground 03: Short circuit to battery 07: Flap is not moving	Yellow	
CLC	41910	Floor flap motor		04 03 07	04 03 07	04: Short crcuit to ground 03: Short circuit to battery 07: Flap is not moving	Yellow	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
CLC	41911	Defrost flap motor		04 03 07	04 03 07	04: Short cricuit to ground 03: Short circuit to battery 07: Flap is not moving	Yellow	
CLC	41912	Bilevel flap motor		04 03 07	04 03 07	04: Short cricuit to ground 03: Short circuit to battery 07: Flap is not moving	Yellow	
CLC	41913	Recirculation flap motor		04 03 07	04 03 07	04: Short cricuit to ground 03: Short circuit to battery 07: Flap is not moving	Yellow	
CLC	4190D	Compressor clutch relais		04	04	Short cricuit to ground	Yellow	
CLC	4190F	Sensor fan		04	04	Short cricuit to ground	Yellow	
CLC	41915	Blower control voltage		04 03 07	04 03 07	04: Short cricuit to ground 03: Short circuit to battery	Yellow	
CLC	41916	BCB data link		25	19	Bus Rx access error	Yellow	
CLC	41917	BCB data link		02	02	Bus Tx access error	Yellow	
DR ZF EST42	41001	Short-circuit to ground on "accumulator charge valve" output (AD1)	Shorted to low source	5	05			
DR ZF EST42	41002	Short-circuit to positive on "accumulator charge valve" output (AD1)	Shorted to high source	6	06			
DR ZF EST42	41003	Interrupt on "accumulator charge valve" output (AD1)	Disconnection	10	0A			
DR ZF EST42	41007	Short-circuit to ground on "Intarder pilot lamp" output (AD2) – only without MUX	Shorted to low source	5	05			
DR ZF EST42	41008	Short-circuit to positive on "Intarder pilot lamp" output (AD2) – only without MUX	Shorted to high source	6	06			
DR ZF EST42	41009	Interrupt on "Intarder pilot lamp" output (AD2) – only without MUX	Disconnection	10	0A			
DR ZF EST42	41016	Short-circuit to ground on "braking level selector supply" output– only without MUX	Shorted to low source	5	05			
DR ZF EST42	41017	Short-circuit to positive on "braking level selector supply" output– only without MUX	Shorted to high source	6	06			
DR ZF EST42	41019	Short-circuit to ground on "proportional valve" output (AIP)	Shorted to low source	5	05			
DR ZF EST42	4101A	Short-circuit to positive on "proportional valve" output (AIP)	Shorted to high source	6	06			
DR ZF EST42	4101B	Interrupt on "proportional valve" output (AIP)	Disconnection	10	0A			
DR ZF EST42	4101C	Resistance error on "proportional valve" output (AIP)	Device error	9	09			
DR ZF EST42	4101D	Short-circuit to ground on "proportional valve ground feedback" output (ADM1)	Shorted to low source	5	05			
DR ZF EST42	4101E	Short-circuit to positive on "proportional valve ground feedback" output (ADM1)	Shorted to high source	6	06			
DR ZF EST42	41022	Speed sensor failure on output shaft (interruption)	No signal	4	04			
DR ZF EST42	41025	Temperature sensor interrupt	Disconnection	10	0A			
DR ZF EST42	41026	Temperature sensor short-circuit	General short	7	07			
DR ZF EST42	41027	Below minimum threshold of readback current on "proportional valve" output	Below min. threshold	2	02			
DR ZF EST42	41028	Above maximum threshold of readback current on "proportional valve" output	Above max. threshold	1	01			
DR ZF EST42	41029	Vehicle circuit interruption (terminal 30)	Disconnection	10	0A			
DR ZF EST42	4102A	Vehicle circuit overvoltage (terminal 15)	Above max. threshold	1	01			
DR ZF EST42	4102B	Vehicle circuit undervoltage (terminal 15)	Below min. threshold	2	02			
DR ZF EST42	4102C	"Braking level selector" error (without MUX)Braking level from BC_DR CAN message not correct (with MUX)	Not plausible	3	03			
DR ZF EST42	4102D	End-of-line parameter not valid	No fault symptom	0	00			
DR ZF EST42	4102E	"Operating hours counter" loss	No fault symptom	0	00			
DR ZF EST42	4102F	"Error memory" loss	No fault symptom	0	00			
DR ZF EST42	41031	CAN-message EEC2 failure (SAE J1939)	No signal	4	04			
DR ZF EST42	41033	System error of ECU	No fault symptom	0	00			
DR ZF EST42	41034	CAN-message TSC1 failure (SAE J1939)	No signal	4	04			
DR ZF EST42	41035	CAN transmit error	No fault symptom	0	00			
DR ZF EST42	41036	CAN-BusOff	Device error	9	09			
DR ZF EST42	41038	CAN-AcknowledgeError	No fault symptom	0	00			
DR ZF EST42	41039	CAN-message EEC1 failure (SAE J1939)	No signal	4	04			
DR ZF EST42	4103E	CAN-message CCVS failure (SAE J1939)	No signal	4	04			
DR ZF EST42	4103F	CAN-message ERC1_ER failure (SAE J1939)	No signal	4	04			
DR ZF EST42	41040	CAN-message ETC1 failure (SAE J1939)	No signal	4	04			
DR ZF EST42	41042	CAN-message ETP failure (SAE J1939)	No signal	4	04			
DR ZF EST42	41051	CAN-message BC_DR timeout	No signal	4	04			
EDC7C1	20001	Acceleration Pedal		00 01 02 03 04 12 31	00 01 02 03 04 0C 1F	Above Normal Below Normal Not Plausible SRC_HIGH / SRC_UMAX SRC_LOW / SRC_UMIN NO_SIGNAL / SRC_UOPEN All other faults (if any)		
EDC7C1	20002	Acceleration Pedal						
EDC7C1	20003	Selftest Shutoff Path (Start Up)						
EDC7C1	20004	Ambient Air Pressure Sensor						
EDC7C1	20005	not used						
EDC7C1	20006	Battery Voltage						
EDC7C1	20007	Boost Air Pressure						
EDC7C1	20008	Boost Air Temperature Sensor						
EDC7C1	20009	Boost Pressure Regulation						
EDC7C1	2000A	Booster Voltage						
EDC7C1	2000B	Booster Voltage C2						
EDC7C1	2000C	Truck Security System						
EDC7C1	2000D	Turbo Speed						
EDC7C1	2000E	Vehicle Speed						
EDC7C1	2000F	Clutch Switch						
EDC7C1	20010	Coolant Temperature Sensor						
EDC7C1	20011	Cruise Control						
EDC7C1	20012	Engine Brake Preselection						
EDC7C1	20013	Engine Overspeed						
EDC7C1	20014	Engine Speed Sensor						
EDC7C1	20015	Engine Speed Sensor (Camshaft)						
EDC7C1	20016	Engine Speed Sensor (Crankshaft)						
EDC7C1	20017	Fuel Limiting – VGT Overspeed						
EDC7C1	20018	Fuel Pressure Monitoring CP3						
EDC7C1	20019	Fuel Pressure Sensor						
EDC7C1	2001A	Fuel Temperature Sensor						
EDC7C1	2001B	Grid Heater						
EDC7C1	2001C	Main Relay						
EDC7C1	2001D	Monitoring of Pressure Relief Valve						
EDC7C1	2001E	Multiple State Switch						
EDC7C1	2001F	Oil Pressure Sensor						
EDC7C1	20020	Oil Temperature Sensor						
EDC7C1	20021	Power Supply						
EDC7C1	20022	VGT underboost detection						
EDC7C1	20023	Selftest Shutoff Path (After Run)						
EDC7C1	20024	Service Brake Switch						
EDC7C1	20025	CAN_A						
EDC7C1	20026	CAN_B						
EDC7C1	20027	BC2EDC1 msg Timeout						
EDC7C1	20028	BC2EDC2 msg Timeout						
EDC7C1	20029	CCVSV msg Timeout						
EDC7C1	2002A	EBC1 msg Timeout						
EDC7C1	2002B	ETC1 msg Timeout						
EDC7C1	2002C	PTO msg Timeout						
EDC7C1	2002D	TCO1 msg Timeout						
EDC7C1	2002E	AE msg Timeout						
EDC7C1	2002F	DE msg Timeout						
EDC7C1	20030	PE msg Timeout						
EDC7C1	20031	TE msg Timeout						
EDC7C1	20032	VE msg Timeout						
EDC7C1	20033	AR msg Timeout						
EDC7C1	20034	DR msg Timeout						
EDC7C1	20035	TR msg Timeout						
EDC7C1	20036	VR msg Timeout						
EDC7C1	20037	VM2EDC2 msg Timeout						
EDC7C1	20038	WSI msg Timeout						
EDC7C1	20039	Fan speed						
EDC7C1	2003A	Cylinder Balancing Cylinder 1						
EDC7C1	2003B	Cylinder Balancing Cylinder 2						
EDC7C1	2003C	Cylinder Balancing Cylinder 3						
EDC7C1	2003D	Cylinder Balancing Cylinder 4						
EDC7C1	2003E	Cylinder Balancing Cylinder 5						
EDC7C1	2003F	Cylinder Balancing Cylinder 6						
EDC7C1	20040	Highside Powerstage 1						
EDC7C1	20041	Highside Powerstage 2						
EDC7C1	20042	Highside Powerstage 3						
EDC7C1	20043	Highside Powerstage 4						
EDC7C1	20044	Highside Powerstage 5						
EDC7C1	20045	Highside Powerstage 6						
EDC7C1	20046	Highside Powerstage 7						
EDC7C1	20047	Highside Powerstage 8						
EDC7C1	20048	Highside Powerstage 9						
EDC7C1	20049	Highside Powerstage 10						
EDC7C1	2004A	CC Highside Powerstage 1						
EDC7C1	2004B	CC Highside Powerstage 2						
EDC7C1	2004C	CC Highside Powerstage 3						
EDC7C1	2004D	Lowside Powerstage 1						
EDC7C1	2004E	Lowside Powerstage 2						
EDC7C1	2004F	Lowside Powerstage 3						
EDC7C1	20050	Lowside Powerstage 4						
EDC7C1	20051	Lowside Powerstage 5						

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
EDC7C1	20052	Lowside Powerstage 6						
EDC7C1	20053	Small Signal Powerstage 1						
EDC7C1	20054	Small Signal Powerstage 2						
EDC7C1	20055	Small Signal Powerstage 3						
EDC7C1	20056	Small Signal Powerstage 4						
EDC7C1	20057	Solenoid Powerstage 1						
EDC7C1	20058	Solenoid Powerstage 2						
EDC7C1	20059	Solenoid Powerstage 3						
EDC7C1	2005A	Solenoid Powerstage 4						
EDC7C1	2005B	Solenoid Powerstage 5						
EDC7C1	2005C	Solenoid Powerstage 6						
EDC7UC31	10011	Vehicle Speed failure	VSSCD1	02 03 04 12	02 03 04 0C	Signal not valid Value above Limit Distance factor not learned Signal not plausible	Yellow	
EDC7UC31	10012	Accelerator Pedal 1 failure	APP1	03 04 12	03 04 0C	Signal too high Signal too low Signal not plausible to the reference signal	Yellow	
EDC7UC31	10014	Multiple State Switch failure	MSSCD	03 04 12	03 04 0C	Short to Battery Short to Ground Signal not plausible	Yellow	
EDC7UC31	10016	Main Clutch Signal failure	ConvCD	02 12	02 0C	Info: Clutch signal failure via CAN Signal not plausible		
EDC7UC31	10017	Brake Signal failure	BrkCD	02 12	02 0C	Signal failure Signal not plausible	Yellow	
EDC7UC31	10019	Terminal 15 failure	T15CD	2	02	No Signal		
EDC7UC31	1001F	SCR Temperatures plausibility	SCRCatPlauslv	02 03 04 12	02 03 04 0C	02: Ambient Temperature of Humidity Sensor or both Catalyst Temperatures not plausible 03: Temperature after Catalyst not plausible 04: Temperature before Catalyst not plausible 0C: Temperature Deviation between up- and downstream Catalyst Temperature too high during Operation	MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	10025	Main Relay 2 failure (Grid Heater 1, Fan 1, VGT, Lambda Heater, EGR Bypass Valve, EGR Actuator, Blow By Valve)	MRlyCD	03 04	03 04	Short to Battery Short to Ground		
EDC7UC31	10026	Battery Voltage failure	BattCD	03 04	03 04	Signal too high Signal too low	Yellow	
EDC7UC31	10027	Engine Brake decompression Valve failure	CRERCD	02 03 04	02 03 04	Open Load Short to Battery Short to Ground	Red	Long Term Failure Lamp status = Yellow on E5, Red ob EE E3
EDC7UC31	10028	Main Relay 1 (Engine Brake Decompression Valve) Short to Battery	MnRly1_SCB	3	03	Short to Battery	Yellow	Long Term Failure
EDC7UC31	10029	Main Relay 3 failure (A/C Compressor, Fuel Filter Heater, Intercooler Bypass Valve, Additive Valve, Grid Heater 2, Fan 2, OBD/Cold Start/ Adjustable Speed Limiter Lamp)	MRlyCDMnRly3	03 04	03 04	Short to Battery Short to Ground		
EDC7UC31	1002B	Air Heater 1 Power Stage failure	ArHt1	02 03 04	02 03 04	Open Load Short to Battery Short to Ground	Yellow	
EDC7UC31	1002E	Air Heater always on	AirHtStickOnlv	3	03	Multi Signal failure	Yellow	
EDC7UC31	10031	Coolant Temperature Sensor failure	CTSCD	02 03 04 12	02 03 04 0C	CAN Signal failure Signal too high Signal too low Signal not plausible to Oil Temperature	Yellow	
EDC7UC31	10032	Coolant Temperature Dynamic failure	Clg_DynTst	12	0C	Minimum Temperature Rise not reached		
EDC7UC31	10033	Boost Air Temperature Sensor failure	IATSCD	02 03 04	02 03 04	CAN Signal failure Signal too high Signal too low		Long Term Failure
EDC7UC31	10034	Boost Pressure Sensor failure	BPSCD	02 03 04 12	02 03 04 0C	CAN Signal failure Signal too high Signal too low Signal not plausible	Yellow	Power Reduction (Technical) Long Term Failure
EDC7UC31	10035	Fuel Temperature Sensor failure	FTSCD	03 04	03 04	Signal too high Signal too low	Yellow	Long Term Failure
EDC7UC31	10038	Oil Pressure Sensor failure	OPSCD	02 03 04 12	02 03 04 0C	Hardware failure Signal too high Signal too low Value too high	Yellow	
EDC7UC31	1003A	Oil Temperature Sensor failure	OTSCD	02 03 04 12	02 03 04 0C	CAN Signal failure Signal too high Signal too low Signal not plausible with Coolant Temperature	Yellow	
EDC7UC31	1003C	Ambient Air Temperature Sensor failure (of Humidity Sensor)	EATSCD	02 03 04	02 03 04	CAN Signal failure Signal too high Signal too low		Long Term Failure
EDC7UC31	10041	Crankshaft Speed Signal failure	EngMCrS1	02 04	02 04	No Signal Signal wrong	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	10042	Engine runs with Camshaft Speed only	EngMBackUp	3	03	Backup Mode	Yellow	Power Reduction (Technical)
EDC7UC31	10043	Camshaft Speed Signal failure	EngMCaS1	02 04	02 04	No Signal Signal wrong	Yellow	Power Reduction (Technical)
EDC7UC31	10044	Offset between Camshaft and Crankshaft	EngMOfsCaScrS	3	03	Offset between Signals	Yellow + MIL	Long Term Failure
EDC7UC31	10045	Fan Actuator 1 failure	FanCD	02 03 04 12	02 03 04 0C	Open Load Short to Battery Short to Ground Temperature too high	Yellow	
EDC7UC31	10046	Fan Actuator 2 Power Stage failure	FanCD2	02 03 04	02 03 04	Open Load Short to Battery Short to Ground	Yellow	
EDC7UC31	1004D	Info: Engine Overspeed Protection	EngPrtOvrSpd	3	03	Engine Overspeed		
EDC7UC31	1004F	Info: OBD Performance Limiter Intervention by Legislation	CoVehPrflmAct	3	03	Performance Limitation active	Yellow	
EDC7UC31	10051	Cylinder 1 BIP search failure	BIPCyl1	3	03	Too many unsuccessful searches	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	10052	Cylinder 2 BIP search failure	BIPCyl2	3	03	Too many unsuccessful searches	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	10053	Cylinder 3 BIP search failure	BIPCyl3	3	03	Too many unsuccessful searches	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	10054	Cylinder 4 BIP search failure	BIPCyl4	3	03	Too many unsuccessful searches	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	10055	Cylinder 5 BIP search failure	BIPCyl5	3	03	Too many unsuccessful searches	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	10056	Cylinder 6 BIP search failure	BIPCyl6	3	03	Too many unsuccessful searches	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	1005F	Info: Long Term Fuel system Failure	OBDFGCtct1	3	03	Long Term Fault present	MIL	Long Term Failure (not deletable until after 400 days)
EDC7UC31	10061	Injector Cylinder 1 failure	InjVlvCyl1A	02 03 04 12	02 03 04 0C	Short High Side to Ground Short Low Side to Battery Depending on Application Not classifiable failure	Yellow + MIL	Long Term Failure
EDC7UC31	10062	Injector Cylinder 2 failure	InjVlvCyl2A	02 03 04 12	02 03 04 0C	Short High Side to Ground Short Low Side to Battery Depending on Application Not classifiable failure	Yellow + MIL	Long Term Failure
EDC7UC31	10063	Injector Cylinder 3 failure	InjVlvCyl3A	02 03 04 12	02 03 04 0C	Short High Side to Ground Short Low Side to Battery Depending on Application Not classifiable failure	Yellow + MIL	Long Term Failure
EDC7UC31	10064	Injector Cylinder 4 failure	InjVlvCyl4A	02 03 04 12	02 03 04 0C	Short High Side to Ground Short Low Side to Battery Depending on Application Not classifiable failure	Yellow + MIL	Long Term Failure
EDC7UC31	10065	Injector Cylinder 5 failure	InjVlvCyl5A	02 03 04 12	02 03 04 0C	Short High Side to Ground Short Low Side to Battery Depending on Application Not classifiable failure	Yellow + MIL	Long Term Failure
EDC7UC31	10066	Injector Cylinder 6 failure	InjVlvCyl6A	02 03 04 12	02 03 04 0C	Short High Side to Ground Short Low Side to Battery Depending on Application Not classifiable failure	Yellow + MIL	Long Term Failure
EDC7UC31	10067	Injector Cylinder 1 warning	InjVlvCyl1B	02 03 04 12	02 03 04 0C	Open Load Fast Decay Error Depending on Application Current Level Error	Yellow + MIL	Long Term Failure
EDC7UC31	10068	Injector Cylinder 2 warning	InjVlvCyl2B	02 03 04 12	02 03 04 0C	Open Load Fast Decay Error Depending on Application Current Level Error	Yellow + MIL	Long Term Failure
EDC7UC31	10069	Injector Cylinder 3 warning	InjVlvCyl3B	02 03 04 12	02 03 04 0C	Open Load Fast Decay Error Depending on Application Current Level Error	Yellow + MIL	Long Term Failure
EDC7UC31	1006A	Injector Cylinder 4 warning	InjVlvCyl4B	02 03 04 12	02 03 04 0C	Open Load Fast Decay Error Depending on Application Current Level Error	Yellow + MIL	Long Term Failure
EDC7UC31	1006B	Injector Cylinder 5 warning	InjVlvCyl5B	02 03 04 12	02 03 04 0C	Open Load Fast Decay Error Depending on Application Current Level Error	Yellow + MIL	Long Term Failure
EDC7UC31	1006C	Injector Cylinder 6 warning	InjVlvCyl6B	02 03 04 12	02 03 04 0C	Open Load Fast Decay Error Depending on Application Current Level Error	Yellow + MIL	Long Term Failure
EDC7UC31	1006E	Minimum Injections Number not reached	InjVlvNumMinInj	3	03	Number of Injections not reached	Red	
EDC7UC31	10071	Injector Bank 1 failure	InjVlvBnk1A	02 03 04 12	02 03 04 0C	Depending on Application Short circuit Short Low Side to Ground Not classifiable failure	Yellow + MIL	Long Term Failure

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
EDC7UC31	10073	Injector Bank 2 failure	InjVlvBnk2A	02 03 04 12	02 03 03 0C	Depending on Application Short circuit Short Low Side to Ground Not classifiable failure	Yellow + MIL	Long Term Failure
EDC7UC31	1007C	ECU Hardware for Injection: CY33X Chip specific failure (1)	InjVlvChipA	02 03 04 12	02 03 03 0C	Test Mode Internal reset - Clock Loss - Voltage too low Unlocked - Init fail SPI Communication failure	Yellow	
EDC7UC31	1007F	Failure in Injection Quantity Adjustment (NIMA Programming)	InjVlvQntAdj	02 12	02 0C	EEPROM Adjustment Value not readable Invalid EEPROM Adjustment Value Checksum	Yellow	
EDC7UC31	10081	Differential Pressure Sensor Failure between Exhaust and Intake (EGR Valve)	IEDPCDPDif	03 04	03 04	Signal too high Signal too low	Yellow + MIL	
EDC7UC31	10091	Boost Pressure Actuator Current failure	BPACD_ADC	02 03 04	02 03 04	Signal not plausible Signal too high Signal too low	Yellow	
EDC7UC31	10092	Boost Pressure Actuator Short to Battery	BPACD_Max	3	03	Short to Battery	Yellow	Long Term Failure
EDC7UC31	10093	Turbine Speed Sensor failure	TSSCD	02 03 04 12	02 03 03 0C	Signal not valid Signal too high Signal too low Signal not plausible	Yellow	
EDC7UC31	10098	Turbocharger Control failure	PCRMuSigDfctlv	3	03	Multi Signal failure	Yellow	
EDC7UC31	10099	Turbocharger Control Overboost Pressure failure	PCRP2lv	02 03	02 03	Pressure deviation too high Pressure too high	Yellow	Power Reduction (Technical) Long Term Failure
EDC7UC31	1009A	Turbocharger Control Turbo Speed failure	PCRTrblv	02 03	02 03	Irreversible Overspeed Reversible Overspeed	Yellow	Power Reduction (Technical)
EDC7UC31	1009B	Turbine Overspeed at Normal Atmospheric Pressure	TrbChlv	3	03	Irreversible turbine overspeed	Yellow	
EDC7UC31	1009E	Torque Reduction due to Smoke Limitation	SmkTrqLim	4	04	Torque Limitation		
EDC7UC31	1009F	NOx Estimation failure	NOxEstlv	3	03	Estimated Nox signal not reliable		
EDC7UC31	100A2	NOx Sensor Plausibility failure	FrmMngNOxSensNOxlv	12	0C	Signal not plausible	MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	100A3	NOx Sensor Failure	FrmMngNOxSenslv	03 04 12	03 04 0C	Open Load Short Circuit Sensor not ready in time	MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	100A4	CAN Message timeout Nox (from Nox Sensor)	FrmMngTONOxSenslv	02 04	02 04	No Signal Signal wrong	MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	100A5	CAN Message timeout DM1DCU (from DCU)	FrmMngTODM1DCUlv	02 04	02 04	No Signal Signal wrong	Yellow + MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	100A6	CAN Message timeout SCR1 (from DCU)	FrmMngTOSCR1lv	02 04	02 04	No Signal Signal wrong	Yellow + MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	100A8	Info: SCR Dosing Valve Overheat Protection	FrmMngSCR1Protlv	03 04	03 04	Torque Limitation Level2 for SCR Protection active Torque Limitation Level1 for SCR Protection active	Yellow	
EDC7UC31	100AE	Humidity Sensor Signal Ratio failure	IAHSCDStrtDly	03 04	03 04	Signal Ratio above Limit Signal Ratio below Limit		Long Term Failure
EDC7UC31	100AF	Info: DCU Error1 via CAN message DM1DCU	FrmMngDM1SPN1lv	3	03	Error in DCU active		Power Reduction (OBD)
EDC7UC31	100B1	CAN A Bus off	NetMngCANAOff	3	03	CAN Bus off		
EDC7UC31	100B2	CAN B Bus off	NetMngCANBOff	3	03	CAN Bus off		
EDC7UC31	100B3	CAN C Bus off	NetMngCANCOff	3	03	CAN Bus off		
EDC7UC31	100B4	CAN Message timeout BC2EDC1 (from Body Computer)	FrmMngTOBC2EDC1lv	02 04	02 04	No Signal Signal wrong	Yellow	
EDC7UC31	100B5	CAN Message timeout VM2EDC (from VCM)	FrmMngTOVM2EDCiv	02 04	02 04	No Signal Signal wrong	Yellow	
EDC7UC31	100B7	CAN Transmit Message timeout	FrmMngTxTO	2	02	CAN timeout	Yellow	Power Reduction (OBD)
EDC7UC31	100B9	Info: MIL visualization not available	FrmMngBC1MILlv	3	03	MIL visualization not available	Yellow + MIL	
EDC7UC31	100BA	CAN Message timeout Dash Display (from VCM)	FrmMngTODashDspllv	02 04	02 04	No Signal Signal wrong		
EDC7UC31	100BC	CAN Message timeout AMCON (from VCM)	FrmMngTORxAMCONlv	02 04	02 04	No Signal Signal wrong		
EDC7UC31	100BD	CAN Message timeout CCVS (from Body Computer or VCM)	FrmMngTORxCCVS	2	02	CAN timeout		
EDC7UC31	100C2	CAN Message timeout ETC1 (from Electronic Transmission Controller)	FrmMngTOETC1	2	02	CAN timeout	Yellow	
EDC7UC31	100C3	CAN Message timeout TCO1 (from Tachograph Output)	FrmMngTOTCO1	2	02	CAN timeout		
EDC7UC31	100C6	CAN Message timeout active TSC1-PE (Torque/Speed Control Request from PTO to Engine)	FrmMngTOTSC1PEActiv	3	03	CAN timeout	Yellow	
EDC7UC31	100C8	CAN Message timeout active TSC1-VE (Torque/Speed Control Request from VCM/BC to Engine)	FrmMngTOTSC1VEActiv	3	03	CAN timeout	Yellow	
EDC7UC31	100D1	ECU Hardware: SPI Communication failure	HWEMonCom	3	03	CJ940 Communication failure	Red	
EDC7UC31	100D2	ECU Hardware: EEPROM failure	HWEMonEEPROM	02 04 12	02 04 0C	Write failure Read failure Default Value used		
EDC7UC31	100D3	ECU recovery - locked	HWEMonRcyLocked	12	0C	Recovery occurred	Red	
EDC7UC31	100D4	ECU Hardware: Microcontroller Watchdog failure	Montr	12	0C	Watchdog and Controller not plausible	Yellow	
EDC7UC31	100D5	ECU Hardware: Shut off during Initialization	SOPTst	02 04 12	02 04 0C	Supply Voltage too high Watchdog Supply Voltage too low	Yellow	Power Reduction (Technical)
EDC7UC31	100D6	ECU Hardware: TPU Monitoring	TPUMon	12	0C	Time deviation between System and TPU	Yellow	
EDC7UC31	100D7	ECU Software: Variant Dataset failure	VarMngCodDs	02 12	02 0C	Variant Dataset not valid Variant could not be set	Red	
EDC7UC31	100D8	ECU Hardware: Controller Watchdog failure	WdCom	12	0C	SPI Communication failure	Yellow	
EDC7UC31	100D9	ADC Monitoring failure	ADCMon	02 03 04 12	02 03 03 0C	Test Impulse Error Reference Voltage too high Reference Voltage too low Queue Error	Yellow	
EDC7UC31	100E2	Immobilizer failure (no fuel release)	ImmCtl	4	04	Injection disabled	Red	
EDC7UC31	100E3	Overrun Monitoring failure	OvRMon	3	03	Injection Time too long	Red	
EDC7UC31	100E4	Redundant Engine Speed in Overrun Monitoring	OvRMonSigA	3	03	Speed Signal not plausible	Red	
EDC7UC31	100E5	ECU Hardware: Sensor 12V Supply Voltage failure	SSpMon12V	03 04	03 04	Signal too high Signal too low	Yellow	
EDC7UC31	100E6	ECU Hardware: Sensor Supply Voltage 1 failure	SSpMon1	03 04	03 04	Signal too high Signal too low	Yellow + MIL	Power Reduction (Technical) Long Term Failure
EDC7UC31	100E7	ECU Hardware: Sensor Supply Voltage 2 failure	SSpMon2	03 04	03 04	Signal too high Signal too low	Yellow	
EDC7UC31	100E8	ECU Hardware: Sensor Supply Voltage 3 failure	SSpMon3	03 04	03 04	Signal too high Signal too low	Yellow	Power Reduction (Technical)
EDC7UC31	100E9	ECU internal Supply Voltage too high	HWEMonUMaxSupply	3	03	Supply Voltage CJ940 above Limit	Red	
EDC7UC31	100EA	ECU internal Supply Voltage too low	HWEMonUMinSupply	4	04	Supply Voltage CJ940 below Limit	Red	
EDC7UC31	100EB	Atmospheric Pressure Sensor failure	APSCD	02 03 04 12	02 03 04 0C	CAN Signal failure Signal too high Signal too low Signal not plausible to Reference Pressure (Boost or Exhaust)		
EDC7UC31	20011	Vehicle Speed Sensor failure	VSSCD2	02 03 04 12	02 03 03 0C	CAN Signal failure Voltage too high Voltage too low Voltage not plausible		
EDC7UC31	20015	Cruise Control Buttons irreversible failure	MFLv_Irvrs	12	0C	Invalid Signal Combination		
EDC7UC31	2001D	SCR Catalyst Thermal Ageing Limit exceeded	SCRCatAgeinglv	3	03	Too High Catalyst Temperature for excessive		Long Term Failure
EDC7UC31	2001E	SCR Catalyst Efficiency below first threshold	SCRCatNOxLv1lv	3	03	Nox above first OBD threshold (MIL On)	MIL	Long Term Failure
EDC7UC31	2001F	Current of Boost Pressure Actuator out of Range	BPACOCurrOutRnglv	3	03	Ratio of desired and measured BPA current out of range		
EDC7UC31	20025	Main Relay failure (Interrupted Afterrun)	MRlyCDAftRun	3	03	Relay opened too early (Afterrun not completed)	MIL	
EDC7UC31	20028	Main Relay 1 (Engine Brake Decompression Valve) Short to Ground	MnRly1_SCG	4	04	Short to Ground	Yellow	Long Term Failure
EDC7UC31	20032	Coolant Temperature Test failure	ClgAbsTst	12	0C	Minimum Temperature not reached in time	Yellow	
EDC7UC31	20038	Oil Pressure too low	OPSCD1	12	0C	Value too low	Yellow	
EDC7UC31	2003A	Oil Temperature too high	OTSCD1	12	0C	Temperature too high	Yellow	
EDC7UC31	2004A	Engine Compartment Stop Button stuck	ECBiCDStop	2	2	Button stuck		
EDC7UC31	2005F	Info: Long Term Injection timing Failure	OBDFGfClct2	3	03	Long Term Fault present	MIL	Long Term Failure ((not deletable until after 400 days)
EDC7UC31	2007C	ECU Hardware for Injection: CY33X Chip specific failure (2)	InjVlvChipB	02 03 04 12	02 03 03 0C	Test Mode Internal reset - Clock loss - Voltage too low Unlocked - Init fail SPI Communication failure	Yellow	
EDC7UC31	20092	Boost Pressure Actuator Short to Ground	BPACD_Min	4	04	Short to Ground	Yellow	Power Reduction (Technical) Long Term Failure
EDC7UC31	20099	Turbocharger Control Underboost Pressure failure	PCRUndBstlv	3	03	Pressure too low	Yellow + MIL	
EDC7UC31	2009D	Info: Torque Limitation due to Negative Torque Coordinator	NTCTrqLim	4	04	Torque Limitation		
EDC7UC31	200A2	NOx Sensor Drift failure	SCRCatNOxDrlv	3	03	Zero Drift detected	MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	200A6	CAN Message timeout SCR2 (from DCU)	FrmMngTOSCR2lv	02 04	02 04	No Signal Signal wrong	Yellow + MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	200AE	Info: Humidity Sensor possibly saturated with water droplets	IAHSCD	03 04	03 04	Signal Ratio above Limit Signal Ratio below Limit		
EDC7UC31	200AF	Info: DCU Error2 via CAN message DM1DCU	FrmMngDM1SPN2lv	3	03	Error in DCU active	MIL	Power Reduction (OBD)
EDC7UC31	200B4	CAN Message timeout BC2EDC2 (from Body Computer)	FrmMngTOBC2EDC2lv	02 04	02 04	No Signal Signal wrong	Yellow	
EDC7UC31	200C2	CAN Message timeout ETC2 (from Electronic Transmission Controller)	FrmMngTOETC2	2	02	CAN timeout		
EDC7UC31	200C6	CAN Message timeout inactive TSC1-PE (Torque/Speed Control Request from PTO to Engine)	FrmMngTOTSC1PEPaslv	02 04	02 04	No Signal Signal wrong	Yellow	
EDC7UC31	200C8	CAN Message timeout active TSC1-Vr (Torque/Speed Control Request from VCM/BC to Retarder)	FrmMngTOTSC1VRActlv	3	03	CAN timeout	Yellow	
EDC7UC31	200C9	Time/Date CAN timeout (from Tachograph or VCM)	FrmMngTOTimeDatelv	02 04	02 04	No Signal Signal wrong		
EDC7UC31	200D3	ECU recovery - suppressed	HWEMonRcySuppressed	12	0C	Recovery occurred	Red	
EDC7UC31	30015	Cruise Control Buttons reversible failure	MFLv_Rvrs	12	0C	Invalid Signal Combination		
EDC7UC31	3001D	DCU State Monitoring	SCRCatDCUStatelv	3	03	DCU not ready in time	MIL	Power Reduction (OBD) Long Term Failure

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
EDC7UC31	3001E	SCR Catalyst Efficiency below second threshold	SCRCatNOxLvl2lv	3	03	Nox above second OBD threshold (Performance limitation)	MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	3001F	SCR Catalyst System Efficiency too high	SCRCatHiEfflv	3	03	Efficiency too high	Yellow	Long Term Failure
EDC7UC31	3005F	Info: Long Term air system failure	OBDFGFCt3	3	03	Long Term Fault present	MIL	Long Term Failure (not deletable until after 400 days)
EDC7UC31	30092	Boost Pressure Power Stage open load or high Temperature	BPACD_SigNpl	02 12	02 0C	Open Load Temperature too high	Yellow	Long Term Failure
EDC7UC31	3009E	Info: Torque Limitation due to Turbo Charger Protection	BstPrtTrqLim	4	04	Torque Limitation		
EDC7UC31	300A2	NOx Sensor Plausibility failure	SCRCatNOxPllv	3	03	Difference between measured and simulated Value not plausible	MIL	Power Reduction (OBD) Long Term Failure
EDC7UC31	300C8	CAN Message timeout inactive TSC1-VE (Torque/Speed Control Request from VCM/BC to Engine)	FrmMngTOTSC1VEPaslv	02 04	02 04	No Signal Signal wrong	Yellow	
EDC7UC31	300C9	CAN Message timeout HRVD (from Tachograph - High Resolution Vehicle Distance)	FrmMngTOHRVDlv	02 04	02 04	No Signal Signal wrong		
EDC7UC31	300D3	ECU recovery - visible	HWEMonRcyVisible	12	0C	Recovery occurred	Red	
EDC7UC31	4005F	Info: Long Term NOx Sensor Failure	OBDFGFCt4	3	03	Long Term Fault present	MIL	Long Term Failure (not deletable until after 400 days)
EDC7UC31	4009E	Info: Torque Limitation due to Engine Protection (against Excessive Torque, Engine Overspeed and Overheat)	EngPrtTrqLim	4	04	Torque Limitation		
EDC7UC31	400AF	Info: DCU Error4 via CAN message DM1DCU	FrmMngDM1SPN4lv	3	03	Error in DCU active	MIL	Power Reduction (OBD)
EDC7UC31	400C8	CAN Message timeout inactive TSC1-VR (Torque/Speed Control Request from VCM/BC to Retarder)	FrmMngTOTSC1VRPaslv	02 04	02 04	No Signal Signal wrong	Yellow	
EDC7UC31	5005F	Info: Long Term SCR System Failure	OBDFGFCt5	3	03	Long Term Fault present	MIL	Long Term Failure (not deletable until after 400 days)
EDC7UC31	5009D	Info: Torque Limitation due to SCR Catalyst Overheat Protection	SCRPrtrqLim	4	04	Torque Limitation		
EDC7UC31	500AF	Info: DCU Error5 via CAN message DM1DCU	FrmMngDM1SPN5lv	3	03	Error in DCU active	MIL	Power Reduction (OBD)
EDC7UC31	6009E	Info: Torque Limitation due to Fuel Quantity Limitation because of Injection System Errors	QLimTrqLim	4	04	Torque Limitation		
ETC ZF ET2	40302	Short circuit to ground at output stage to Y2 (Valve Splitter; DD: high, OD: low)		5	05	Shorted to low source	Red	
ETC ZF ET2	40303	Short circuit to ground at output stage to Y3 (Valve Splitter; DD: low, OD: high)		5	05	Shorted to low source	Red	
ETC ZF ET2	40304	Short circuit to ground at output stage to Y4 (Valve Select)		5	05	Shorted to low source	Red	
ETC ZF ET2	40305	Short circuit to ground at output stage to Y5 (Valve Select)		5	05	Shorted to low source	Red	
ETC ZF ET2	40306	Short circuit to ground at output stage to Y6 (Valve Shift)		5	05	Shorted to low source	Red	
ETC ZF ET2	40307	Short circuit to ground at output stage to Y7 (Valve Shift)		5	05	Shorted to low source	Red	
ETC ZF ET2	40308	Short circuit to ground at output stage to Y8 (Valve Range)		5	05	Shorted to low source	Red	
ETC ZF ET2	40309	Short circuit to ground at output stage to Y9 (Valve Range)		5	05	Shorted to low source	Red	
ETC ZF ET2	4030A	Short circuit to ground at output stage to Y10 (Main valve)		5	05	Shorted to low source	Red	
ETC ZF ET2	4030B	Short circuit to positive at output stage to warning buzzer (shift lever)		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4030C	Short circuit to ground at output stage to reverse light relay (shift lever)		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4030D	Short circuit to ground at output stage to PTO 1		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	4030E	Short circuit to ground at output stage to PTO 2		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40311	Short circuit to ground at output stage to Y1 (inertia brake valve)		5	05	Shorted to low source	Yellow	
ETC ZF ET2	40312	Short circuit to ground at output stage to small diseng. clutch valve		5	05	Shorted to low source	Yellow	
ETC ZF ET2	40313	Short circuit to ground at output stage to small eng. clutch valve		5	05	Shorted to low source	Yellow	
ETC ZF ET2	40314	Short circuit to ground at output stage to large diseng. clutch valve		5	05	Shorted to low source	Yellow	
ETC ZF ET2	40315	Short circuit to ground at output stage to large eng. clutch valve		5	05	Shorted to low source	Yellow	
ETC ZF ET2	40316	Short circuit to ground at output ADVP (wakeup control signal for shift lever, voltage supply to display, warning buzzer, output speed sensor 1)		5	05	Shorted to low source	Red	
ETC ZF ET2	40319	Short circuit to ground at output SD to display		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4031A	CAN engine configuration timeout		4	04	No signal	Yellow	
ETC ZF ET2	4031B	Error on "engine configuration message" (engine configuration)		8	08	Invalid signal	Yellow	
ETC ZF ET2	4031C	Error on "Actual driveline retarder - percent torque" signal (ERC1_DR)		8	08	Invalid signal	Yellow	
ETC ZF ET2	4031D	Error on "Engine coolant load increase" signal (ERC1_DR)		8	08	Invalid signal	Yellow	
ETC ZF ET2	4031E	Error on "Driveline retarder configuration message" (Driveline retarder configuration)		8	08	Invalid signal	Yellow	
ETC ZF ET2	4031F	Error on "Actual engine retarder - percent torque" signal (ERC1_ER)		8	08	Invalid signal	Yellow	
ETC ZF ET2	40320	Error on "Engine retarder configuration message" (Engine retarder configuration)		8	08	Invalid signal	Yellow	
ETC ZF ET2	40321	CAN "Engine retarder configuration" timeout		4	04	No signal	Yellow	
ETC ZF ET2	40322	Interruption at output stage to Y2 (Valve Splitter)		10	0A	Disconnection	Red	
ETC ZF ET2	40323	Interruption at output stage to Y3 (Valve Splitter)		10	0A	Disconnection	Red	
ETC ZF ET2	40324	Interruption at output stage to Y4 (Valve Select)		10	0A	Disconnection	Red	
ETC ZF ET2	40325	Interruption at output stage to Y5 (Valve Select)		10	0A	Disconnection	Red	
ETC ZF ET2	40326	Interruption at output stage to Y6 (Valve Shift)		10	0A	Disconnection	Red	
ETC ZF ET2	403 27	Interruption at output stage to Y7 (Valve Shift)		10	0A	Disconnection	Red	
ETC ZF ET2	40328	Interruption at output stage to Y8(Valve Range)		10	0A	Disconnection	Red	
ETC ZF ET2	40329	Interruption at output stage to Y9 (Valve Range)		10	0A	Disconnection	Red	
ETC ZF ET2	4032A	Interruption at output stage to Y10 (Main valve)		10	0A	Disconnection	Red	
ETC ZF ET2	4032B	Interruption at output to warning buzzer		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4032C	Interruption at output stage to reverse light relay		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4032D	Interruption at output stage to PTO 1		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4032E	Interruption at output stage to PTO 2		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40331	Interruption at output stage to Y1 (inertia brake valve)		10	0A	Disconnection	Yellow	
ETC ZF ET2	40332	Interruption at output stage to small disengagement clutch valve		10	0A	Disconnection	Yellow	
ETC ZF ET2	40333	Interruption at output stage to small engagement clutch valve		10	0A	Disconnection	Yellow	
ETC ZF ET2	40334	Interruption at output stage to large disengagement clutch valve		10	0A	Disconnection	Yellow	
ETC ZF ET2	40335	Interruption at output stage to large engagement clutch valve		10	0A	Disconnection	Yellow	
ETC ZF ET2	40336	Interruption at output ADVP		10	0A	Disconnection	Red	
ETC ZF ET2	4033B	Acknowledge fault of PTO 1		8	08	Invalid signal	Yellow	
ETC ZF ET2	4033C	Acknowledge fault of PTO 2		8	08	Invalid signal	Yellow	
ETC ZF ET2	4033D	Disengagement fault of PTO 1		8	08	Invalid signal	Red	
ETC ZF ET2	4033E	Disengagement fault of PTO 2		8	08	Invalid signal	Red	
ETC ZF ET2	4033F	Engagement fault of PTO1		8	08	Invalid signal	Yellow	
ETC ZF ET2	40340	Engagement fault of PTO2		8	08	Invalid signal	Yellow	
ETC ZF ET2	40342	Short circuit to positive at output stage to Y2 (Valve Splitter)		6	06	Shorted to high source	Red	
ETC ZF ET2	40343	Short circuit to positive at output stage to Y3 (Valve Splitter)		6	06	Shorted to high source	Red	
ETC ZF ET2	40344	Short circuit to positive at output stage to Y4 (Valve Select)		6	06	Shorted to high source	Red	
ETC ZF ET2	40345	Short circuit to positive at output stage to Y5 (Valve Select)		6	06	Shorted to high source	Red	
ETC ZF ET2	40346	Short circuit to positive at output stage to Y6 (Valve Shift)		6	06	Shorted to high source	Red	
ETC ZF ET2	40347	Short circuit to positive at output stage to Y7 (Valve Shift)		6	06	Shorted to high source	Red	
ETC ZF ET2	40348	Short circuit to positive at output stage to Y8 (Valve range low)		6	06	Shorted to high source	Red	
ETC ZF ET2	40349	Short circuit to positive at output stage to Y9 (Valve range high)		6	06	Shorted to high source	Red	
ETC ZF ET2	4034A	Short circuit to positive at output stage to Y10 (Main valve)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	4034B	Short circuit to ground at output stage to warning buzzer (shift-lever)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	4034C	Short circuit to positive at output stage to reverse light relay		6	06	Shorted to high source	Yellow	
ETC ZF ET2	4034D	Short circuit to positive at output stage to PTO 1		6	06	Shorted to high source	Yellow	
ETC ZF ET2	4034E	Short circuit to positive at output stage to PTO 2		6	06	Shorted to high source	Yellow	
ETC ZF ET2	40351	Short circuit to positive at output stage to Y1 (inertia brake valve)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	40352	Short circuit to positive at output stage to small diseng. clutch valve		6	06	Shorted to high source	Red	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
ETC ZF ET2	40353	Short circuit to positive at output stage to small eng. clutch valve		6	06	Shorted to high source	Red	
ETC ZF ET2	40354	Short circuit to positive at output stage to large diseng. clutch valve		6	06	Shorted to high source	Red	
ETC ZF ET2	40355	Short circuit to positive at output stage to large eng. clutch valve		6	06	Shorted to high source	Red	
ETC ZF ET2	40356	Short circuit to positive at output ADVP (wakeup control signal for shift-lever, voltage supply to display, warning buzzer, output speed sensor 1)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	40359	Short circuit to positive at output SD to display		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4035A	Communication error between controller 1 and controller 2 (ECU failure)		9	09	Device error	Red	
ETC ZF ET2	4035B	CAN EBC1 timeout		4	04	No signal	Yellow	
ETC ZF ET2	4035C	Error on "ABS active" signal (EBC1)		8	08	Invalid signal	Yellow	
ETC ZF ET2	4035D	Error on "ASR engine control active" signal (EBC1)		8	08	Invalid signal	Yellow	
ETC ZF ET2	4035E	Error on "ASR brake control active" signal (EBC1)		8	08	Invalid signal	Yellow	
ETC ZF ET2	4035F	Error on "Cruise control active" signal (CCVS)		8	08	Invalid signal	Yellow	
ETC ZF ET2	40360	Error on "Cruise control set speed" (CCVS)		8	08	Invalid signal	Yellow	
ETC ZF ET2	40361	Error on "Engine speed" signal (EEC1)		8	08	Invalid signal	Yellow	
ETC ZF ET2	40362	Error on transmission input speed signal		8	08	Invalid signal	Yellow	
ETC ZF ET2	40363	Error on output speed signal 1		8	08	Invalid signal	Yellow	
ETC ZF ET2	40364	Error on output speed signal 2		8	08	Invalid signal	Yellow	
ETC ZF ET2	40365	Error on both output speed signals		8	08	Invalid signal	Red	
ETC ZF ET2	40366	Plausibility error between transmission input		3	03	Not plausible	Yellow	
ETC ZF ET2	40367	CAN CCVS error on wheel based vehicle		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40368	High voltage (Vehicle electrical system voltage too high)		1	01	Above maximum range	Yellow	
ETC ZF ET2	40369	Low voltage (Vehicle electrical system voltage too low)		2	02	Below maximum threshold	Red	
ETC ZF ET2	4036B	Stabilised voltage supply at output AU (clutch sensor supply) out of valid range		2	02	Below maximum threshold	Yellow	
ETC ZF ET2	4036C	Error in selector lever or tip lever		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4036E	Lever CAN timeout		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40371	Error on "Driveline retarder configuration timeout"		4	04	No signal	Yellow	
ETC ZF ET2	40372	Clutch engaged unintentionally in standstill, gear engaged		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40375	Error in clutch self-adjustment process		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40376	Clutch does not disengage		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40377	Clutch does not engage / does not transmit engine torque		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40378	Mechanical failure of small disengagement clutch valve		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40379	Mechanical failure of large disengagement clutch valve		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4037A	Mechanical failure of small engagement clutch valve		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4037B	Mechanical failure of large engagement clutch valve		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4037C	Error on clutch travel signal		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4037E	Error on pressure sensor signal		3	03	Not plausible	Yellow	
ETC ZF ET2	4037F	Error on ECU temperature sensor signal		3	03	Not plausible	Yellow	
ETC ZF ET2	40380	Error on oil temperature sensor signal		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40381	No shift sensor signal (Short circuit to positive)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	40382	No shift sensor signal (Short circuit to ground)		5	05	Shorted to low source	Yellow	
ETC ZF ET2	40383	No shift sensor signal (Interruption)		10	0A	Disconnection	Yellow	
ETC ZF ET2	40384	Self adjustment error of shift sensor		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40385	No gate select sensor signal (Short circuit to positive)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	40386	No gate select sensor signal (Short circuit to ground)		5	05	Shorted to low source	Yellow	
ETC ZF ET2	40387	No gate select sensor signal (Interruption)		10	0A	Disconnection	Yellow	
ETC ZF ET2	40388	Gate select sensor self adjustment error		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40389	No range change group (GP) sensor signal (Short circuit to positive)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	4038A	No range change group (GP) sensor signal (Short circuit to ground)		5	05	Shorted to low source	Yellow	
ETC ZF ET2	4038B	No range change group (GP) sensor signal (Interruption)		10	0A	Disconnection	Yellow	
ETC ZF ET2	4038C	Self adjustment error of range change group sensor in position fast		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	4038D	No splitter group (GV) sensor signal (Short circuit to positive)		6	06	Shorted to high source	Yellow	
ETC ZF ET2	4038E	No splitter group (GV) sensor signal (Short circuit to ground)		5	05	Shorted to low source	Yellow	
ETC ZF ET2	4038F	No splitter group (GV) sensor signal (Interruption)		10	0A	Disconnection	Yellow	
ETC ZF ET2	40390	Splitter group (GV) sensor self adjustment error		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40391	Range change group (GP) disengagement error		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40392	Changeover error during range change group (GP) shifting		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40393	Range change group (GP) does not engage		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40394	Splitter (GV) does not disengage		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40395	Change over error during splitter shifting		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40396	Splitter (GV) does not engage		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	40397	Selector cylinder does not disengage		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40398	Change over error during gate selection procedure		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	40399	Selector cylinder does not engage		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	4039A	Main transmission gear does not disengage		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	4039B	Main transmission gear does not engage		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	4039C	Wrong gear shifting		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	4039E	Shift sensor signal leaves engaged position during driving		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	4039F	Range-change group sensor signal leaves engaged position during driving		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	403A0	Splitter sensor signal leaves engaged position during driving		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	403A3	Engine does not react on torque intervention		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	403A4	Error on "Drivers demand engine percent torque" (EEC1)		8	08	Invalid signal	Yellow	
ETC ZF ET2	403A5	Error on "Accelerator pedal position" (EEC2)		8	08	Invalid signal	Yellow	
ETC ZF ET2	403A6	Permanent idle signal		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	403A8	No idle signal or error on "idle signal switch" signal (EEC2) or never active "idle signal"		8	08	Invalid signal	Yellow	
ETC ZF ET2	403A9	Cut-off relay in ECU does not switch off		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403AA	No voltage supply at pin 30 or cut-off relay in ECU does not switch on		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403AB	Error on "Actual engine percent torque" signal (EEC1)		8	08	Invalid signal	Yellow	
ETC ZF ET2	403AE	Error on "Kickdown switch" signal (EEC2)		8	08	Invalid signal	Yellow	
ETC ZF ET2	403AF	Error on "Ignition lock" signal (terminal 15)		4	04	No signal	Yellow	
ETC ZF ET2	403B1	System-CAN Busoff error		4	04	No signal	Red	
ETC ZF ET2	403B2	CAN Errorwarning		4	04	No signal	Red	
ETC ZF ET2	403B3	CAN queue overrun		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403B4	CAN EEC1 timeout		4	04	No signal	Red	
ETC ZF ET2	403B5	CAN EEC2 timeout		4	04	No signal	Red	
ETC ZF ET2	403B6	CAN CCVS timeout		4	04	No signal	Yellow	
ETC ZF ET2	403B7	CAN ERC1_ER timeout		4	04	No signal	Yellow	
ETC ZF ET2	403B8	CAN ERC1_DR timeout		4	04	No signal	Yellow	
ETC ZF ET2	403BC	ECU fault - wrong interrupt		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403BD	ECU fault - stack watch		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403BE	EOL EEPROM parameter out of valid range		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403BF	EOL EEPROM parameter checksum error		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403C0	ECU fault - EEPROM access failure		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	403C1	ECU temperature too high		1	01	Above maximum range	Red	
ETC ZF ET2	403C2	Both sources for front axle speed not available		0	00	No fault sympton available for this DTC	Yellow	
ETC ZF ET2	403C5	Error on "Front axle speed" (WSI)		8	08	Invalid signal	Yellow	
ETC ZF ET2	403C7	CAN WSI timeout		4	04	No signal	Yellow	
ETC ZF ET2	403E2	IVECO:CAN message BC_TC timeout		0	00	No fault sympton available for this DTC	Red	
ETC ZF ET2	403E3	Application-Error database for CAN-communication		0	00	No fault sympton available for this DTC	Red	
IC M06	41701	EEPROM checksum	Physical memory fault.Checksum failure is detected	12	0C		Yellow	
IC M06	41702	Ignition Key (15) fault	Signal not plausible with Ignition Key (15) over CAN	11	0B		Yellow	
IC M06	41703	Ignition Key (15) over CAN fault	Signal not plausible with Ignition Key (15)	12	0C		Yellow	
IC M06	41704	Stepper Motor	Defect, access not possible.Stepper motor failure is present.	12	0C		Yellow	
IC M06	41705	Fuel Level Sensor	Fuel Level interface failure detected. Debounce time (for fault active andinactive conditions) is 4s. The input voltage is evaluated for in-range checking:	3	03	Voltage above normal (s.c. to battery or open circuit)	Yellow	
IC M06	41706	Reserved for: Oil Level Sensor					Yellow	
IC M06	41707	Ambient Temperature Sensor	Ambient Temperature interface failure detected.Debounce time (for fault active and inactive conditions) is 4s.The input voltage is evaluated for in-range checking:	03 04	03 04	Voltage above normal (s.c. to battery or open circuit) Voltage below normal (s.c. to ground)	Yellow	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
IC M06	41708	Reserved for: OBD II Indicator Lamp (IL25)	A fault of the Indicator Lamp or on its driving circuitry is detected...				Yellow	
IC M06	41709			12	0C		Yellow	
IC M06	4170A			12	0C		Yellow	
IC M06	4170B	Reserved for: CAN 2 Bus	No CAN messages on CAN 2 or bus-off detection	2	02		Red	
IC M06	4170C	Vehicle Data Bus CAN	No CAN messages on Vehicle Data Bus or bus-off detection	2	02		Red	
IC M06	4170D	Vehicle Data Bus - ECU#1 CAN	No CAN messages from ECU#1 - IBC	2	02		Red	
IC M06	4170E	Vehicle Data Bus - ECU#2 CAN	No CAN messages from ECU#2 - EDC or VCM	2	02		Red	
IC M06	4170F	Vehicle Data Bus - ECU#3 CAN	No CAN messages from ECU#3 - TCO	2	02		Red	
IC M06	41710	Vehicle Data Bus - ECU#4 CAN	No CAN messages from ECU#4 - ETC	2	02		Red	
IC M06	41711	Vehicle Data Bus - ECU#5 CAN	No CAN messages from ECU#5 - EBC	2	02		ABS Yellow tell tale	
IC M06	41712	Vehicle Data Bus - ECU#6 CAN	No CAN messages from ECU#6 - ECAS	2	02		Yellow	
IC M06	41713	Vehicle Data Bus - ECU#7 CAN	No CAN messages from ECU#7 - Driveline Retarder	2	02		Yellow	
IC M06	41714	Vehicle Data Bus - ECU#8 CAN	No CAN messages from ECU#8 - Mirror Controller	2	02		Yellow	
IC M06	41715	Vehicle Data Bus - ECU#9 CAN	No CAN messages from ECU#9 - Expansion Module	2	02		Yellow	
IC M06	41716	Vehicle Data Bus - ECU#10 CAN	No CAN messages from ECU#10 - Steering Wheel Interface	2	02		Yellow	
IC M06	41717	Vehicle Data Bus - ECU#11 CAN	No CAN messages from ECU#11 - IVTM	2	02		Yellow	
IC M06	41718	Vehicle Data Bus - ECU#12 CAN	No CAN messages from ECU#12 - ADM	2	02		Yellow	
IC M06	41719	Vehicle Data Bus - ECU#13 CAN	No CAN messages from ECU#13 - SCR	2	02		Yellow	
IC M06	4171A	Vehicle Data Bus - ECU#14 CAN	No CAN messages from ECU#14 - LDWS	2	02		Yellow	
IC SPR1 E4	21701	EEPROM checksum	Physical memory fault.Checksum failure is detected	12	0C			
IC SPR1 E4	21704	Stepper Motor	Defect, access not possible.Stepper motor failure is present.	12	0C			
IC SPR1 E4	21705	Fuel Level Sensor	Fuel Level interface failure detected. Debounce time (for fault active andinactive conditions) is 4s. The input voltage is evaluated for in-range checking:	3	03	Voltage above normal (s.c. to battery or open circuit)		
IC SPR1 E4	21706	Oil Level Sensor	Oil level interface failure detected. The input voltage and the voltage difference between the first and the second acquisition are evaluated for in-range checking	00 01 03 04 15 16 17 18 19 20	00 01 03 04 0F 10 11 12 13 14	Delta voltage below normal Delta voltage above normal Voltage above normal (s.c. to battery or open circuit) Voltage below normal (s.c. to ground) Time/Date from TCO not available Engine Starter Mode from EDC not available Engine Oil Temperature from EDC not available Date could not be stored in EEPROM Time could not be stored in EEPROM Oil Level could not be stored in EEPROM		
IC SPR1 E4	21707	Ambient Temperature Sensor	Ambient Temperature interface failure detected.Debounce time (for fault active and inactive conditions) is 4s.The input voltage is evaluated for in-range checking:	03 04	03 04	Voltage above normal (s.c. to battery or open circuit) Voltage below normal (s.c. to ground)		
IC SPR1 E4	2170C	Vehicle Data Bus CAN	No CAN messages on Vehicle Data Bus or bus-off detection	2	02			
IC SPR1 E4	2170D	Vehicle Data Bus - ECU#1 CAN	No CAN messages from ECU#1 - IBC	2	02			
IC SPR1 E4	2170E	Vehicle Data Bus - ECU#2 CAN	No CAN messages from ECU#2 - EDC	2	02			
IC SPR1 E4	2170F	Vehicle Data Bus - ECU#3 CAN	No CAN messages from ECU#3 - TCO	2	02			
IC SPR1 E4	21710	Vehicle Data Bus - ECU#4 CAN	No CAN messages from ECU#4 - ETC	2	02			
IC SPR1 E4	21711	Vehicle Data Bus - ECU#5 CAN	No CAN messages from ECU#5 - EBC	2	02			
IC SPR1 E4	21712	Vehicle Data Bus - ECU#6 CAN	No CAN messages from ECU#6 - ECAS	2	02			
IC SPR1 E4	21713	Vehicle Data Bus - ECU#7 CAN	No CAN messages from ECU#7 - Driveline Retarder	2	02			
IC SPR1 E4	21714	Vehicle Data Bus - ECU#8 CAN	No CAN messages from ECU#8 - Mirror Controller	2	02			
IC SPR1 E4	21715	Vehicle Data Bus - ECU#9 CAN	No CAN messages from ECU#8 - Expansion Module	2	02			
EEC CRF MF3	40018	Sensore temperatura olio /pressione olio	Segnale di temperatura	01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Yellow	
EEC CRF MF3	40021	Sensore temperatura olio /pressione olio	Segnale Pressione	01 02 08	01 02 08	C.a. o c.c. a Vbatt C.c. a Gnd Avaria alimentazione sensore	Yellow	
EEC CRF MF3	40017	Sensore temperatura/pressione gas rail valle riduttore (bassa pressione)	Segnale di temperatura	01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Yellow	
EEC CRF MF3	40025	Sensore temperatura/pressione gas rail valle riduttore (bassa pressione)	Segnale Pressione	01 02 08	01 02 08	C.a. o c.c. a Vbatt C.c. a Gnd Avaria alimentazione sensore	Yellow	
EEC CRF MF3	40011	Sensore temperatura/pressione aria collettore	Segnale di temperatura	01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Yellow	
EEC CRF MF3	40026	Sensore temperatura/pressione gas rail	Pressione troppo bassa	2	02	Segnale sotto soglia min.	Red	
EEC CRF MF3	40024	Sensore temperatura/pressione aria collettore	Segnale di pressione	01 02 08	01 02 08	C.a. o c.c. a Vbatt C.c. a Gnd Avaria alimentazione sensore	Yellow	
EEC CRF MF3	40016	Sensore temperatura acqua		01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Yellow	
EEC CRF MF3	40027	Sensore pressione GAS bombola monte riduttore (alta pressione)		01 02 08	01 02 08	C.a. o c.c. a Vbatt C.c. a Gnd Avaria alimentazione sensore	Yellow	
EEC CRF MF3	40012	Sensore temperatura scarico (post-catalizzatore)		01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Yellow	
EEC CRF MF3	40083	Sensore Lambda pre-catalizzatore		02 04 08	02 04 08	Sband. Magro Sband. Ricco Errore generico (5)	Yellow	
EEC CRF MF3	40013	Temperatura catalizzatore (preallarme)		3	03	Temperatura oltre soglia di preallarme	Yellow	
EEC CRF MF3	40014	Temperatura catalizzatore (allarme)		3	03	Temperatura oltre soglia di allarme	Red	
EEC CRF MF3	40015	Temperatura catalizzatore (allarme memorizzato)		8	08	Temperatura oltre soglia di allarme (1)	Yellow	
EEC CRF MF3	40022	Sensore pressione valle compressore (sovralimentazione)		01 02 08	01 02 08	C.a. o c.c. a Vbatt C.c. a Gnd Avaria alimentazione sensore	Yellow	
EEC CRF MF3	40046	Tensione di batteria		01 02	01 02	Segnale sopra soglia massima Segnale sotto soglia massima	Yellow	
EEC CRF MF3	40055	Sensore di camma		01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Yellow	
EEC CRF MF3	40056	Sensore di giri motore		01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Red	
EEC CRF MF3	40023	Pressione atmosferica (interno alla ECU)		01 02	01 02	C.a. o c.c. a Vbatt C.c. a Gnd	Yellow	
EEC CRF MF3	40044	Relè carichi (comando in c.c. a Vbatt)		1	01	Comando c.c. a Vbatt	Red	
EEC CRF MF3	40043	Relè carichi (comando in c.a.)		4	04	Comando in c.a.	Red	
EEC CRF MF3	40045	Relè carichi (contatto incollato aperto oppure comando in c.a.)		8	08	Relè incollato aperto oppure comando in c.a.	Red	
EEC CRF MF3	40041	Relè carichi (contatto incollato chiuso)		1	01	Relè incollato chiuso	Yellow	
EEC CRF MF3	40042	Relè carichi (comando in c.c. a Gnd)		2	02	Comando c.c. a Gnd	Yellow	
EEC CRF MF3	40071	Inietttore 1		01 02 03 04 05 06	01 02 03 04 05 06	C.c. lato caldo a Vbatt C.c lato caldo a Gnd C.c tra lato caldo e lato freddo Circuito aperto C.c lato freddo a Vbatt C.c lato freddo a Gnd	Yellow	
EEC CRF MF3	40072	Inietttore 2		01 02 03 04 05 06	01 02 03 04 05 06	C.c. lato caldo a Vbatt C.c lato caldo a Gnd C.c tra lato caldo e lato freddo Circuito aperto C.c lato freddo a Vbatt C.c lato freddo a Gnd	Yellow	
EEC CRF MF3	40073	Inietttore 3		01 02 03 04 05 06	01 02 03 04 05 06	C.c. lato caldo a Vbatt C.c lato caldo a Gnd C.c tra lato caldo e lato freddo Circuito aperto C.c lato freddo a Vbatt C.c lato freddo a Gnd	Yellow	
EEC CRF MF3	40074	Inietttore 4		01 02 03 04 05 06	01 02 03 04 05 06	C.c. lato caldo a Vbatt C.c lato caldo a Gnd C.c tra lato caldo e lato freddo Circuito aperto C.c lato freddo a Vbatt C.c lato freddo a Gnd	Yellow	
EEC CRF MF3	40075	Inietttore 5		1	01	C.c. lato caldo a Vbatt	Yellow	
EEC CRF MF3				01 02 03 04 05 06	01 02 03 04 05 06	C.c. lato caldo a Vbatt C.c lato caldo a Gnd C.c tra lato caldo e lato freddo Circuito aperto C.c lato freddo a Vbatt C.c lato freddo a Gnd	Yellow	
EEC CRF MF3	40076	Inietttore 6		01 02 03 04 05 06	01 02 03 04 05 06	C.c. lato caldo a Vbatt C.c lato caldo a Gnd C.c tra lato caldo e lato freddo Circuito aperto C.c lato freddo a Vbatt C.c lato freddo a Gnd	Yellow	
EEC CRF MF3	40032	Elettrovalvola CNG su riduttore pressione (comando in c.c. a Vbatt o comando in c.a.)		01 04	01 04	C.a. o c.c. a Vbatt Circuito aperto	Red	
EEC CRF MF3	40031	Elettrovalvola CNG su riduttore pressione (comando in c.c. a Gnd)		2	02	C.c. a Gnd	Yellow	
EEC CRF MF3	40036	Elettrovalvola CNG su bombole (comando in c.c. a Vbatt o comando in c.a.)		01 04	01 04	C.a. o c.c. a Vbatt Circuito aperto	Red	
EEC CRF MF3	40034	Elettrovalvola CNG su bombole (comando in c.c. Gnd)		2	02	C.c. a Gnd	Yellow	
EEC CRF MF3	40082	Riscaldatore sonda Lambda		01 02 04	01 02 04	C.c. a Vbatt C.c. a Gnd Circ.aperto	Yellow	
EEC CRF MF3	40061	Bobina di accensione 1		01 02 03 08	01 02 03 08	C.c. a Vbatt Circ.aperto oppure C.c. a Gnd Surriscaldamento Errore Generico	Yellow	
EEC CRF MF3	40062	Bobina di accensione 2		01 02 03 08	01 02 03 08	C.c. a Vbatt Circ.aperto oppure C.c. a Gnd Surriscaldamento Errore Generico	Yellow	
EEC CRF MF3	40063	Bobina di accensione 3		01 02 03 08	01 02 03 08	C.c. a Vbatt Circ.aperto oppure C.c. a Gnd Surriscaldamento Errore Generico	Yellow	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
EEC CRF MF3	40064	Bobina di accensione 4		01 02 03 08	01 02 03 08	C.c. a Vbatt Circ.aperto oppure C.c. a Gnd Surriscaldamento Errore Generico	Yellow	
EEC CRF MF3	40065	Bobina di accensione 5		8	08	Errore Generico	Yellow	
EEC CRF MF3	40066	Bobina di accensione 6		8	08	Errore Generico	Yellow	
EEC CRF MF3	40088	Attuatore WASTEGATE		01 02 04	01 02 04	C.c. a Vbatt C.c. a Gnd Circ. aperto	Yellow	
EEC CRF MF3	40099	Linea CAN		04 08	04 08	Segnale assente Bus Off	Yellow	
EEC CRF MF3	40037	Potenzimetro 1 Posizione Farfalla Motorizzata		01 02 08	01 02 08	C.c. a Vbatt C.a. o c.c. a Gnd Avaria alimentazione sensore	Yellow	
EEC CRF MF3	40038	Potenzimetro 2 Posizione Farfalla Motorizzata		01 02 08	01 02 08	C.c. a Vbatt C.a. o c.c. a Gnd Avaria alimentazione sensore	Yellow	
EEC CRF MF3	40039	Coerenza Potenzimetri Posizione Farfalla Motorizzata		8	08	Errore Generico	Yellow	
EEC CRF MF3	40085	Fault Contemporaneo Potenzimetri Farfalla Motorizzata		8	08	Errore Generico	Red	
EEC CRF MF3	40028	Driver Farfalla Motorizzata		01 02 03 04 05 06 08	01 02 03 04 05 06 08	C.c. a Vbatt C.c. a Gnd Surriscaldamento Circ. aperto Surriscaldamento (prewarning) Tensione Alimentazione Insufficiente Surriscaldamento (warning)	Red	
EEC CRF MF3	40067	Farfalla Motorizzata - Allarme		8	08	Farfalla bloccata	Red	
EEC CRF MF3	40068	Farfalla Motorizzata - Warning		1	01	Mancato ritorno in Limp Home	Yellow	
EEC CRF MF3				8	08	Errore apprendimento minimo	Yellow	
EEC CRF MF3	40069	Farfalla Motorizzata - PreWarning		1	01	Mancato ritorno in Limp Home	Yellow	
EEC CRF MF3				8	08	Errore apprendimento minimo	Yellow	
EEC CRF MF3	40078	Condotto Aspirazione Aria		01 02	01 02	Aria superiore alla stima Aria inferiore alla stima	Yellow	
EEC CRF MF3	40079	Funzionalità ECU		01 02 04 08	01 02 04 08	Errore di tipo M Errore di tipo C Errore di tipo S Errore generico	Red	
EEC CRF MF3	40053	Riconoscimento Saturazione Autoadattatività		01 02	01 02	Saturazione verso l'alto Saturazione verso il basso	Yellow	
EEC CRF MF3	40049	Saturazione Persistente Autoadattatività		8	08	Errore Generico	Yellow	
EEC CRF MF3	40081	Riscaldatore sonda Lambda Postcatalizzatore		01 02 04	01 02 04	C.c. a Vbatt C.c. a Gnd Circ. aperto	Yellow	
EEC CRF MF3	40095	Catalizzatore		8	08	Errore Generico	Yellow	
EEC CRF MF3	40093	Sonda Lambda monte catalizzatore		8	08	Errore Generico	Yellow	
EEC CRF MF3	40094	Congruenza Lambda montevalle		8	08	Errore Generico	Yellow	
EEC CRF MF3	40096	Ripartizione Fuel System		8	08	Errore ripartizione	Yellow	
EEC CRF MF3	40097	Fuel System magro		01 02 04	01 02 04	Guadagno iniett. Offset iniett. Saturazione	Yellow	
EEC CRF MF3	40098	Fuel System ricco		01 02 04	01 02 04	Guadagno iniett. Offset iniett. Saturazione	Yellow	
EEC CRF MF3	40077	Comando Relè Elettroventola		01 04	01 04	C.c. a Vbatt Circ. aperto	Yellow	
EEC CRF MF3	40077	Comando Relè Elettroventola		2	02	C.c. a Gnd	Yellow	
VCM	42701	CC set plus (Digital Input 5)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42702	CC set minus (Digital Input 6)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42703	CC resume (Digital Input 7)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42704	CC off (Digital Input 8)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42705	CC internal / external (Digital Input 11)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42706	ACC enable (Digital Input 25)			03 04	03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow	
VCM	42707	economy mode (Digital Input 13)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42710	PTO2 (Digital Input 22)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42711	PTO3 (Digital Input 23)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42714	primary brake (Digital Input 1)		02 04	02 04	02: data erratic, intermittend or incorrect (application Eltrac) 04: voltage below or normal or shorted low (device driver)	Yellow	
VCM	42715	secondary brake (Digital Input 2)		02 04	02 04	02: data erratic, intermittend or incorrect (application (Eltrac) 04: voltage below or normal or shorted low (device driver)	Yellow	
VCM	42716	engine brake request (Digital Input 13)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42717	engine brake mode 1 (Digital Input 14)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42718	engine brake mode 2 (Digital Input 15)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42719	parking brake (Digital Input 18)			02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42720	Fan control pressure switch 18 bar (Digital Input 27)			03 04	03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow	
VCM	42721	Fan control pressure switch 22 bar (Digital Input 28)			03 04	03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow	
VCM	42722	BB Neutral (High Side Output 1)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	42723	Output Single H Gear 1 / ACC Lamp (High Side Output 2)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	42726	BB Parking Brake (High Side Output 3)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	42727	Output Single H Gear 2 / ACC Buzzer (High Side Output 4)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	42728	BB Service Brake (High Side Output 5)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	42729	BB Programmable Threshold Speed (High Side Output 6)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	42731	Gear high / low request (Digital Input 12)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42732	clutch switch (Digital Input 9)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42733	neutral switch (Digital Input 16)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42734	D - automatic / manual (Digital Input 29)			02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42735	R - reverse (Digital Input 30)			02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42736	N - neutral shifting (Digital Input 31)			02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42737	gear up shift request (Digital Input 32)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42738	gear down shift request (Digital Input 33)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42739	Dm special manoeuvring (Digital Input 34)		02 03	02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42741	Frequency Input			03 04 0A	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 0A: abnormal rate of change	Yellow	
VCM	42746	cabin tilted (Digital Input 17)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	42747	engine remote start (Digital Input 19)			02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42748	engine remote stop (Digital Input 20)			02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	42749	crank request (Digital Input 4)		02 04	02 04	02: data erratic, intermittend or incorrect (application (Eltrac) 04: voltage below or normal or shorted low (device driver)	Yellow	
VCM	42750	Immobilizer LED (Low Side Output 3)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	42759	EP1 (development)			01 02 03 04 05	01: data valid but below normal operation range 02: data erratic, intermittent or incorrect 03: voltage below normal or shorted high 04: voltage below normal or shorted low 05: voltage below normal or open circuit	Yellow	
VCM	42760	Accelerator pedal correlation	Pedal correlation first threshold Pedal correlation second threshold		0D 0E	0D: out of calibration 0E: special instruction	Yellow	
VCM	42764	TSC1 Handling	Most severe level: positive engine brake torque control Most severe level: negative torque control detection Speed request over plausible windows Incoherent requests of fuelling and negative torque Moderately severe level: negative torque limit request		00 01 0B 0C 12	00: data valid but above normal operation range 01: data valid but below normal operation range 0B: Root cause not known 0C: bad intelligent device or component 12: Data valid but below normal operational range	Yellow	
VCM	42765	Powertrain and Brake request Evaluation	Active at least one error relative to TSC1_TE (44 ; 50 ; 38 ; 32 ; 20 ; 26 ; 14 ; 8 ; 2)		0B	0B: Root cause not known	Yellow	
VCM	42766	Powertrain and Brake request Evaluation	Active at least one error relative to TSC1_AE (43 ; 49 ; 37 ; 31 ; 19 ; 25 ; 13 ; 7 ; 1)		0B	0B: Root cause not known	Yellow	
VCM	42767	Powertrain and Brake request Evaluation	Active at least one error relative to TSC1_DE (45 ; 51 ; 39 ; 33 ; 21 ; 27 ; 15 ; 9 ; 3)		0B	0B: Root cause not known	Yellow	
VCM	42768	Powertrain and Brake request Evaluation	Active at least one error relative to TSC1_PE (ICB) (47 ; 53 ; 41 ; 35 ; 23 ; 29 ; 17 ; 11 ; 5)		0B	0B: Root cause not known	Yellow	
VCM	42769	Powertrain and Brake request Evaluation	Active at least one error relative to TSC1_PE (VDB) (48 ; 54 ; 42 ; 36 ; 24 ; 30 ; 18 ; 12 ; 6)		0B	0B: Root cause not known	Yellow	
VCM	42770	NORD Error	wrong ratio between Vehicle speed and output shaft speed or bad EOL parameter		0D	0D: out of calibration	Yellow	
VCM	42771	NORD Error	bad value inside the limitation MAPS or interpolation error		12	12: Data valid but below normal operational range	Yellow	
VCM	42772	NORD Error	wrong EOL parameters division by zero due to vehicle speed equal to 0Km/h	2	02	02: data erratic, intermittend or incorrect	Yellow	
VCM	42773	NORD Error	Software initializing a bad value on output.		0B	0B: Root cause not known	Yellow	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
VCM	42774	VIM - Vehicle information module	- filtered MTCO vehicle speed greater than Brake speed of a certain EOL km/h threshold - filtered MTCO vehicle speed lower than Brake speed of a certain EOL km/h threshold - Totally missing vehicle speed - Missing TCO1 official information, but a recovery speed is available - MTCO vehicle speed greater than EOL thr Km/h		00 01 02 0B 12	00: data valid but above normal operation range 01: data valid but below normal operation range 02: data erratic, intermittend or incorrect 0B: Root cause not known 12: Data valid but below normal operational range	Yellow	
VCM	42775	VIM - Vehicle information module	- Engine speed totally missing - Engine speed missing but replaced - Engine speed over range		02 0B 13	02: data erratic, intermittend or incorrect 0B: Root cause not known 13: received network data in error	Yellow	
VCM	42776	VIM - Vehicle information module	- Engine temperature totally missing - Engine temperature missing but replaced - Engine temperature over range		02 0B 13	02: data erratic, intermittend or incorrect 0B: Root cause not known 13: received network data in error	Yellow	
VCM	42777	(A)CC Output interface			00 01 11	00: data valid but above normal operation range 01: data valid but below normal operation range - most severe level 11: Data valid but below normal operating range - least severe level	Yellow	
VCM	42778	EM interface			01 02 0C 10 11	01: data valid but below normal operation range - most severe level 02: data erratic, intermittend or incorrect 0C: Bad intelligent device or component 10: Data valid but above normal operational range 11: Data valid but below normal operating range - least severe level	Yellow	
VCM	42779	Low Idle Control Module	Low idle speed setpoint is not within a valid range		0B	0B: failure mode not identifiable	Yellow	
VCM	42780	Cruise Control Buttons Interface Module			0B	0B: failure mode not identifiable	Yellow	
VCM	42781	Cruise Control Buttons Interface Module			0B 0C	0B: Root cause not known 0C: Bad intelligent device or component	Yellow	
VCM	42782	Power Take Off Module			0B	0B: failure mode not identifiable		
VCM	42783	Cruise Control Vehicle Speede Module			0B	0B: failure mode not identifiable		
VCM	42784	Gear Ratio calculation	ncoherent value of the ratio of engine speed and tachograph output shaft speed		0C	0C: bad intelligent device or component	Yellow	
VCM	42785	Torque limit		2	02	02: data erratic, intermittend or incorrect		
VCM	42788	Driveability	Incoherent value of accelerator pedal and engine speed for MIN-MAX Incoherent value of engine speed for ALL SPEED		02 0E	02: data erratic, intermittend or incorrect 0E: special instructions	Yellow	
VCM	42789	Engine Brake Management	TSC1_TER detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	42790	Intarder Brake Management	TSC1_ADR detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	42791	Intarder Brake Management	TSC1_CCDR detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	42792	Powertrain and Brake request Evaluation	One or more of internal error relative to TSC1_EME are active.	11	0B	0B: failure mode not identifiable		
VCM	42793	VIM - Vehicle information module	Brake light activation error.	2	02	02: data erratic, intermittent, or incorrect	Yellow	
VCM	42794	Engine Brake Management	TSC1_TXR detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	42795	Engine Brake Management	TSC1_AXR	2	02	02: data erratic, intermittent, or incorrect		
VCM	42796	Engine Brake Management	TSC1_EMER detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	42797	EU2LeverInterface	Gear up request stucked Gear up request timeout		02 09	02: data erratic, intermittent, or incorrect 09: abnormal update rate	-- Yellow	
VCM	42798	EU2LeverInterface	Gear down request stucked Gear down request timeout		02 09	02: data erratic, intermittent, or incorrect 09: abnormal update rate	-- Yellow	
VCM	42799	EU2LeverInterface	Neutral request stucked	2	02	02: data erratic, intermittent, or incorrect	Yellow	
VCM	4270A	adjustable speed limiter (Digital Input 10)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	4270B	secondary speed limiter (Digital Input 3)		02 04	02 04	02: data erratic, intermittend or incorrect (application (Eltrac) 04: voltage below or normal or shorted low (device driver)	Yellow	
VCM	4270F	PTO1 (Digital Input 21)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	4271A	engine brake mode (Digital Input 14)		3	03	03: voltage above normal or shorted high	Yellow	
VCM	4272A	BB Clutch Pedal (Low Side Output 2)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	4273A	Rm special manoeuvring (Digital Input 35)			02 03	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high	Yellow	
VCM	4273B	Clutch switch 2 (Digital Input 26)			02 03 04	02: data erratic, intermittend or incorrect (application (Eltrac) 03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow	
VCM	4273C	Low Idle (Digital Input 24)	Short 5V Short 24V Short low Switch does not switches Switching point outside specification Switching point valid but slight outside specification		02 03 04 05 08 0D	02: data erratic, intermittend or incorrect 03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit 08: abnormal frequency, pulse width or period 0D: out of calibration	Yellow Yellow Yellow Yellow Yellow --	
VCM	4273D	accelerator pedal (Analog Input 1)	Analog value valid but slight too high Analog value valid but slight too low Analog value too high Short 24V Short low Short 5V Analog value too low		00 01 02 03 04 0D 0E	00: data valid but above normal operation range 01: data valid but below normal operation range 02: data erratic, intermittend or incorrect 03: voltage above normal or shorted high 04: voltage below or normal or shorted low 0D: out of calibration 0E: special instructions	-- -- Yellow Yellow Yellow Yellow Yellow	
VCM	4273E	Acc. Pedal Power Supply (5 V supply)			02 04	02: data erratic, intermittend or incorrect 04: voltage below or normal or shorted low	Yellow	
VCM	4274A	crank relay (High Side Output 7)			03 04 05	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit	Yellow	
VCM	4274B	crank relay (Low Side Output 1)	External crank relay activation		03 04 05 06	03: voltage above normal or shorted high 04: voltage below or normal or shorted low 05: current below normal or open circuit 06: current above normal or grounded circuit	Yellow Yellow Yellow Red	
VCM	4275A	ACC Sensor 1	Sensor comunication error Sensor continuously not available Sensor temperature not available		0B 0C 0D	0B: failure mode not identifiable 0C: bad intelligent device or component 0D: out of calibration	Yellow	
VCM	4275B	ACC distance selector input (Analog Input 2)			03 04	03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow	
VCM	4275C	ACC dist. Sel. / Pedal sensor 2 supply (5 V supply)	Supply out of range Supply short high Supply short low		02 03 04	02: data erratic, intermittend or incorrect 03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow	
VCM	4275D	ACC Parameter	Flash parameter not correct		0D	0D: out of calibration	Yellow	
VCM	4275E	ACC Sensor 2	Sensor dirty		0E	0E: special instructions	Yellow	
VCM	4275F	Accelerator pedal sensor 2 (Analog Input 3)	Analog value valid but slight too high Analog value valid but slight too low Analog value too high Short 24V Short low Short 5V Analog value too low		00 01 02 03 04 0D 0E	00: analog value valid but slight too high 01: analog value valid but slight too low 02: analog value too high 03: short 24V 04: short low 0D: short 5V 0E: analog value too low	-- -- Yellow Yellow Yellow Yellow Yellow	
VCM	4276A	Powertrain and Brake request Evaluation	Active at least one error relative to TSC1__CCE (46 ; 52 ; 40 ; 34 ; 22 ; 28 ; 16 ; 10 ; 4)		0B	0B: Root cause not known	Yellow	
VCM	4276F	NORD Error	wrong link between Current gear and gear number rangex (x=1..5)		13	13: received network data in error	Yellow	
VCM	4277A	High Idle Control Module	High idle speed setpoint is not within a valid range		0B	0B: failure mode not identifiable	Yellow	
VCM	4277B	Intermediate Speed Control Module	Intermediate speed control setpoint/limit is not within a valid range		0B	0B: failure mode not identifiable	Yellow	
VCM	4277C	Cruise Control Buttons Interface Module		2	02	02: data erratic, intermittend or incorrect		
VCM	4277D	Cruise Control Buttons Interface Module			02 0B 0C	02: data erratic, intermittend or incorrect 0B: Root cause not known 0C: Bad intelligent device or component	Yellow Yellow --	
VCM	4277E	Cruise Control Buttons Interface Module		2	02	02: data erratic, intermittend or incorrect		
VCM	4277F	Cruise Control Buttons Interface Module		2	02	02: data erratic, intermittend or incorrect	Yellow	
VCM	4278A	Engine Brake Management	TSC1_AER detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	4278B	Engine Brake Management	TSC1_DER detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	4278C	Engine Brake Management	TSC1_PER on VDB detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	4278D	Engine Brake Management	TSC1_PER on ICB detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	4278E	Engine Brake Management	TSC1_CCER detection	2	02	02: data erratic, intermittent, or incorrect		
VCM	4278F	Engine Brake Management	When VCM receives TSC1_PER both on ICB and VDB	2	02	02: data erratic, intermittent, or incorrect		
VCM	4279A	EU2LeverInterface	Drive Forward / Drive Forward manoeuvring: Button stucked Button not plausible		02 0C	02: data erratic, intermittent, or incorrect 0C: bad intelligent device or component	Yellow	
VCM	4279B	EU2LeverInterface	Drive Reverse / Drive Reverse manoeuvring: Button stucked Button not plausible		02 0C	02: data erratic, intermittent, or incorrect 0C: bad intelligent device or component	Yellow	
VCM	4279C	Service Brake Eval	Primary brake sw/secondary brake sw not plausible		0C	0C: bad intelligent device or component	Red	
VCM	4279D	Driver Intarder Brake	Intarder brake lever not plausible		0C	0C: bad intelligent device or component	Yellow	
VCM	4279E	Engine Fan	switch 18 and 22 not plausible		0C	0C: bad intelligent device or component	Yellow	
VCM	4279F	Driver Engine Brake	Plausibility check on the Engine brake lever		0C	0C: bad intelligent device or component	Yellow	
VCM	427B4	Immobilizer1	Transponder programming not possible Transponder programming not possible Different pin source within keyset IDE has been read twice or is equal 0 Max number of keys exceeded		02 0B 0C 0D 0E	02: data erratic, intermittend or incorrect 0B: failure mode not identifiable 0C: bad intelligent device or component 0D: out of calibration 0E: special instructions	Yellow	
VCM	427B5	Immobilizer2	Ignition not switched off in time Unknown IDE		02 0B	02: data erratic, intermittend or incorrect 0B: failure mode not identifiable	Yellow	
VCM	427B6	Immobilizer3	No communication to ECM Unknown ECM No immobilizer function in ECM		0C 0D 0E	0C: bad intelligent device or component 0D: out of calibration 0E: special instructions	Yellow	
VCM	427B7	Immobilizer4	VCM in plant mode ECM in plant mode and learning already completed		02 0B	02: data erratic, intermittend or incorrect 0B: failure mode not identifiable	Yellow	
VCM	427B8	Immobilizer in plant mode	VCM in plant mode and key learning active	2	02	02: data erratic, intermittend or incorrect	Yellow	
VCM	427B9	Immobilizer5	Bit error in transponder response Antenna hardware error Internal operation error No transponder response		02 07 0B 0C	02: data erratic, intermittend or incorrect 07: mechanical system not responding properly 0B: failure mode not identifiable 0C: bad intelligent device or component	Yellow	
VCM	427BA	auxiliary use 1		2	02	02: data erratic, intermittend or incorrect	Yellow	
VCM	427BB	auxiliary use 2		2	02	02: data erratic, intermittend or incorrect	Yellow	
VCM	427BC	auxiliary use 3		2	02	02: data erratic, intermittend or incorrect	Yellow	
VCM	427BD	auxiliary use 4		2	02	02: data erratic, intermittend or incorrect	Red	
VCM	427BE	auxiliary use 5		2	02	02: data erratic, intermittend or incorrect	Red	
VCM	427C0	Vehicle Data Bus (instrument cluster)	not supported: ServelInfo Timeout (VDB) ACC2 timeout (VDB) DM1_IC timeout (VDB) IC2BC timeout (VDB)		01 02 03 04	01: data valid but below normal operation range 02: data erratic, intermittend or incorrect 03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow -- --	
VCM	427C8	Vehicle Data Bus	VDB limitation VDB bus off		0B 13	0B: abnormal rate of change 13: received network data in error	-- Yellow	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
VCM	427C9	Vehicle Data Bus (brake controller)	EBC1 timeout EBC2 timeout TSC1_AE timeout TSC1_AER timeout TSC1_ADR timeout EBC5 timeout VDC1 timeout VDC2 timeout CVW timeout HRW timeout TC1_EBS timeout TSC1_AXR timeout		01 02 03 04 05 06 07 08 09 0A 0B 0C	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate 09: Abnormal update rate 0A: Abnormal update rate 0B: Abnormal update rate 0C: Abnormal update rate	Yellow Yellow Yellow Yellow -- -- -- -- -- -- -- -- Yellow	
VCM	427CA	Vehicle Data Bus (transmission controller)	ETC1 timeout (VDB) ETC2 timeout (VDB) TSC1_TE timeout (VDB) TSC1_TER timeout (VDB) ETC8 timeout (VDB) TSC1_TXR timeout (VDB) ETC7 timeout (VDB) not supported: ETC5 timeout (VDB) TC_BC timeout (VDB) CVW_GB timeout (VDB)		01 02 03 04 05 06 07 08 09 0A	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate 09: Abnormal update rate 0A: Abnormal update rate	Yellow Yellow Yellow Yellow -- Yellow -- -- -- --	
VCM	427CB	Vehicle Data Bus (body controller)	not supported: AIR1 timeout (VDB) TSC1_PEV timeout (VDB) TSC1_PERV timeout (VDB) TSC1_EME timeout (VDB) TSC1_EMER timeout (VDB) BC2EDC timeout (VDB) AMB_COND_IBC timeout (VDB) BCAO1 timeout (VDB) BCAO2 timeout (VDB) BCAO3 timeout (VDB) DASH_DISPLAY timeout (VDB) not supported: Other Body controller timeout (VDB)		01 02 03 04 05 06 07 08 09 0B 0A 13	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate 09: Abnormal update rate 0B: abnormal update rate 0A: abnormal update rate 13: abnormal update rate	-- -- -- -- -- Yellow -- Yellow -- -- -- --	
VCM	427CC	Vehicle Data Bus (driveline retarder)	ERC1_DR timeout (VDB) TSC1_DE timeout (VDB) TSC1_DER timeout (VDB) BAM_DR / MPM_DR timeout (VDB)		01 02 03 04	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate	Yellow -- -- --	
VCM	427CD	Vehicle Data Bus (tachograph)	TCO1 timeout (VDB) VHDR timeout (VDB) Time Date timeout (VDB)		01 02 03	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate	Yellow -- --	
VCM	427CE	Vehicle Data Bus (ACC sensor)	ACC_SI timeout (VDB) DM1_ACCSens timeout (VDB)		01 02	01: Abnormal update rate 02: Abnormal update rate	Yellow	
VCM	427CF	Vehicle Data Bus (expansion module)	EM2VCM timeout (VDB) TC1_EM timeout (VDB) EM_CMD timeout (VDB) TSC1_PE timeout (VDB) TSC1_PER timeout (VDB) PTO_Status timeout (VDB) EM2BC timeout (VDB)		01 02 03 04 05 06 07	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate	Yellow -- -- -- -- Yellow --	
VCM	427D0	Vehicle Data Bus (steering wheel interface)	SWI2BC timeout (VDB)		09	09: Abnormal update rate	Yellow	
VCM	427D1	Vehicle Data Bus (suspension)	not supported: ASC1_A timeout (VDB) not supported: ASC3_A timeout (VDB) not supported: ASC4_A timeout (VDB) not supported: Vehicle_Weight timeout (VDB)		06 07 08 09	06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate 09: Abnormal update rate	-- -- -- --	
VCM	427D2	Engine Control Bus	ECB bus off ECB limitation		13 0A	13: received network data in error 0A: abnormal rate of change	Yellow	
VCM	427D3	Engine Control Bus (engine)	EEC1 timeout (ECB) EEC2 timeout (ECB) EEC3 timeout (ECB) ENG_TEMP timeout (ECB) AMB_COND_E timeout (ECB) INLET_COND timeout (ECB) EDC2BC timeout (ECB) Eng_Fld_Lev_Press timeout (ECB) ELT_POWER timeout (ECB) Shutdown timeout (ECB) Fuel_Economy timeout (ECB) Fuel_Cons timeout (ECB) not supported: Eng_Hours_Rev timeout (ECB) BAM_Eng_Conf / MPM_Eng_Conf timeout (ECB) FAN_Drive timeout (ECB)		01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate 09: Abnormal update rate 0A: abnormal update rate 0B: Abnormal update rate 0C: Abnormal update rate 0D: Abnormal update rate 0E: Abnormal update rate 0F: Abnormal update rate	Yellow Yellow -- Yellow -- Yellow Yellow -- Yellow -- -- -- -- -- Yellow	
VCM	427D4	Engine Control Bus (engine retarder)	BAM_ret_conf / MPM_ret_conf timeout (ECB) ERC1_ER timeout (ECB)		01 02	01: Abnormal update rate 02: Abnormal update rate	Yellow	
VCM	427D5	Engine Control Bus (exhaust emission controller - UDS)	SCR_status2 timeout (ECB)		09	09: Abnormal update rate	Yellow	
VCM	427DC	Instrument Cluster Bus	ICB bus off ICB limitation		13 0A	13: received network data in error 0A: abnormal rate of change	Yellow	
VCM	427DD	Instrument Cluster Bus (body computer)	BC_Status1 timeout (ICB) BC_Status2 timeout (ICB) BC_Status3 timeout (ICB) RF_Status1 timeout (ICB) BC2IC timeout (ICB) PTO_Status timeout (ICB) FF_Status1 timeout (ICB) Trip_Total_Fuel timeout (ICB) TCO1 timeout (ICB)		01 02 03 04 05 06 07 08 09	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate 09: Abnormal update rate	Yellow -- -- -- -- Yellow -- -- --	
VCM	427DE	Instrument Cluster Bus (steering wheel interface)	SWI2BC timeout (ICB) not supported: SWI2IC timeout (ICB)		01 02	01: Abnormal update rate 02: Abnormal update rate		
VCM	427DF	Instrument Cluster Bus (expansion module)	not supported: EM2VCM timeout (ICB) not supported: TC1_EM timeout (ICB) not supported: EM_CMD timeout (ICB) not supported: TSC1_PE timeout (ICB) not supported: TSC1_PER timeout (ICB) not supported: EM2BC timeout (ICB) not supported: CTL timeout (ICB) not supported: ASC2 timeout (ICB)		01 02 03 04 05 06 07 08	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate	Yellow -- -- -- -- -- -- --	
VCM	427E2	Instrument Cluster Bus (instrument cluster)	IC2BC timeout (ICB) ACC2 timeout (ICB)		01 02	01: Abnormal update rate 02: Abnormal update rate		
VCM	427E3	Instrument Cluster Bus (ACC sensor)	ACC_SI timeout (ICB) DM1_ACCSens timeout (ICB)		01 02	01: Abnormal update rate 02: Abnormal update rate	Yellow	
VCM	427E6	FMS Bus	FMS bus off FMS limitation		13 0A	13: received network data in error 0A: abnormal rate of change	Yellow	
VCM	427E7	FMS Bus (EP1)	FLEX0 time out (FMS) FLEX1 time out (FMS) FLEX2 time out (FMS) FLEX3 time out (FMS) FLEX4 time out (FMS) FLEX5 time out (FMS) FLEX6 time out (FMS) FLEX7 time out (FMS) XFLEX0 time out (FMS) XFLEX1 time out (FMS)		01 02 03 04 05 06 07 08 09 0A	01: Abnormal update rate 02: Abnormal update rate 03: Abnormal update rate 04: Abnormal update rate 05: Abnormal update rate 06: Abnormal update rate 07: Abnormal update rate 08: Abnormal update rate 09: Abnormal update rate 0A: Abnormal update rate	Yellow	
VCM	427F0	Power Supply Key 15	Key 15 transition resistance Key 15 active and CAN status inactive Key 15 inactive and CAN status active		02 03 04	02: data erratic, intermittend or incorrect 03: voltage above normal or shorted high 04: voltage below or normal or shorted low	Yellow	
VCM	427F1	Power Supply Key 30			00 01	00: data valid but above normal operation range 01: data valid but below normal operation range		
VCM	427F2	Internal Failure 1 (Runcontrol)	External rucontrol Internal rucontrol Watchdog timeout		0C 0D 0E	0C: bad intelligent device or component 0D: out of calibration 0E: special instructions	Red	
VCM	427F3	Internal Failure 6 (Rx Lockuptable)	CAN Lookuptable overflow		0D	0D: out of calibration	Red	
VCM	427F4	Internal Failure 7 (CPU overload)	CPU overload	2	02	02: data erratic, intermittend or incorrect	Yellow	
VCM	427FB	Internal Failure 3 (RAM / ROM)	RAM failure ROM failure		02 0D	02: data erratic, intermittend or incorrect 0D: out of calibration	Red	
VCM	427FD	Internal Failure 2 (EEPROM)	Checksum parameter range Checksum environment data Checksum engine values Checksum immobilizer range Checksum production data Checksum runtime counter		02 0B 0C 0D 0E 1F	02: data erratic, intermittend or incorrect 0B: failure mode not identifiable 0C: bad intelligent device or component 0D: out of calibration 0E: special instructions 1F: not available or condition exists	-- -- -- Yellow Yellow Yellow	
VCM	427FE	Internal Failure 4 (Controller)	Parameter version wrong Operating system failure Software trap Controller failure		0B 0C 0D 0E	0B: failure mode not identifiable 0C: bad intelligent device or component 0D: out of calibration 0E: special instructions	Red	
VCM	427FF	Internal Failure 5 (Bootloader)	Flash parameter failure Flash program failure		0C 0D	0C: bad intelligent device or component 0D: out of calibration	Red	
EM_SH	047225	Pin A07 - Singel-H Buzzer Output	High Side switch: - S.C. to Vbat detected in Off condition - S.C. to Gnd / Overload detected in On condition - Open Load detected in Off condition (fault active below 20uA±2mA) Open Circuit and Short to Battery flags set together by EM IL, FMI 5 used for both.	4 5	04 05	Voltage below normal, or shorted to low source Current below normal or open circuit (also in case of Voltage above normal, or shorted to high source)	Yellow	
EM_SH	047226	Pin D28 - Gate Interlock Solenoid valve	Low Side switch: - S.C. to Vbat / Overload detected in On condition - S.C. to Gnd detected in Off condition - Open Load detected in Off condition (fault active below 20uA±2mA) Open Circuit and Short to Ground flags set together by EM IL, FMI 5 used for both.	3 5	03 05	Voltage above normal, or shorted to high source Current below normal or open circuit (also in case of Voltage below normal, or shorted to low source)	Red	
EM_SH	047220	Pin D05 - Low Range Solenoid valve	Low Side switch: - S.C. to Vbat / Overload detected in On condition - S.C. to Gnd detected in Off condition - Open Load detected in Off condition (fault active below 20uA±2mA) Open Circuit and Short to Ground flags set together by EM IL, FMI 5 used for both.	3 5	03 05	Voltage above normal, or shorted to high source Current below normal or open circuit (also in case of Voltage below normal, or shorted to low source)	Red	

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
EM_SH	047221	Pin D04 - High Range Solenoid valve	Low Side switch: - S.C. to Vbat / Overload detected in On condition - S.C. to Gnd detected in Off condition - Open Load detected in Off condition (fault active below 20uA±2mA) Open Circuit and Short to Ground flags set together by EM IL, FMI 5 used for both.	3 5	03 05	Voltage above normal, or shorted to high source Current below normal or open circuit (also in case of Voltage below normal, or shorted to low source)	Red	
EM_SH	47222	Pin A01 - Safety	High Side switch: - S.C. to Vbat detected in Off condition - S.C. to Gnd / Overload detected in On condition - Open Load detected in Off condition (fault active below 20uA±2mA)	4 5	04 05	Voltage below normal, or shorted to low source Current below normal or open circuit (also in case of Voltage above normal, or shorted to high source)	Red	
EM_SH	47223	Pin A04 - Splitter H	High Side switch: - S.C. to Gnd / Overload detected in On condition	4	04	Voltage below normal, or shorted to low source	Red	
EM_SH	47224	Pin A06 - Splitter L	High Side switch: - S.C. to Gnd / Overload detected in On condition	4	04	Voltage below normal, or shorted to low source	Red	
EM_SH	0472E1	Range Preselection switches	Plausibility error: "Range Presel Low Sw" and "Range Presel High Sw" having the same value	2	02	Plausibility error	Red	
EM_SH	0472E2	Clutch sensors	Plausibility error: "Clutch Open Switch" (alias "2nd Clutch Switch") closed while "CCVS-Clutch Switch" open. Healed when "Clutch Open Switch" = open.	2	02	Plausibility error	Red	
UDS DCU15	003D13	Battery voltage sensing (electrical)	013_ABSI	3 4 0 1	03 04 00 01	signal high signal low signal above high error threshold signal below low error threshold		FnR_DNOx2_p910vC241
UDS DCU15	003D13	Battery voltage sensing (electrical)	013ABSI	3 4	03 04	signal high signal low	MIL	FnR_DNOx2_V74 Long Term failure
UDS DCU15	003D14	Temperature sensor after catalyst (electrical)	014_ACTD2	0 1	00 01	signal high signal low		
UDS DCU15	003D15	Temperature sensor after catalyst (electrical)	015_ACTD	3 4	03 04	signal high signal low	MIL	Power Reduction Long Term failure
UDS DCU15	003D16	Temperature sensor before catalyst (electrical)	016_ACTU	3 4 0 1	03 04 00 01	signal high signal low signal above high error threshold signal below low error threshold		FnR_DNOx2_p910vC241
UDS DCU15	003D16	Temperature sensor before catalyst (electrical)	016ACTU	3 4	03 04	signal high signal low	MIL	FnR_DNOx2_V74 Long Term failure
UDS DCU15	003D17	Sensor supply 1 (5V internal; for UREA level sensor)	017_DSS1	3 4	03 04	Supply Voltage too high Supply voltage too low		
UDS DCU15	003D18	Sensor supply 2 (5V internal; for UREA pressure sensors)	018_DSS2	3 4	03 04	Supply Voltage too high Supply voltage too low	MIL	
UDS DCU15	003D19	UREA pressure sensor in box (electrical)	019_AUPS	3 4 2	03 04 02	signal high signal low supply voltage error	MIL	Power Reduction Long Term failure
UDS DCU15	003D1A	UREA Temperature sensor in box (electrical)	01A_AUTB	3 4 0	03 04 00	signal high signal low signal above high error threshold		FnR_DNOx2_p910vC241
UDS DCU15	003D1A	UREA Temperature sensor in box (electrical)	01AAUTB	3 4	03 04	high signal signal low		FnR_DNOx2_V74
UDS DCU15	003D1B	UREA pressure evaluation(above and below limit)	01B_AUPS2	0 1	00 01	diagnostic value above high limit diagnostic value below low limit		
UDS DCU15	003D21	Voltage supply internal heaters 1 (UB1) electrical	021_ABV1	3 5	03 05	Short to bat at UB1 with Key 15 off Open circuit to UB1		FnR_DNOx2_p910vC241
UDS DCU15	003D21	Voltage supply internal heaters 1 (UB1) electrical	021ABV1	6 5	06 05	Short to bat at UB1 with Key 15 off Open circuit to UB1	MIL	FnR_DNOx2_V74 Long Term failure
UDS DCU15	003D22	Voltage supply 2 - tube heaters (UB2) electrical	022_ABV2	3 5 4	03 05 04	Short to bat at UB2 with Key 15 off Open circuit to UB2 Short circuit to Ground UB2		FnR_DNOx2_p910vC241
UDS DCU15	003D22	Voltage supply 2 - tube heaters (UB2) electrical	022ABV2	3 4 5	03 04 05	Short to bat at UB2 with Key 15 off Open circuit to UB2 Short circuit to Ground UB2		FnR_DNOx2_V74
UDS DCU15	003D23	Voltage supply 3 - Coolant control valve and reverting valve (UB3) electrical	023_ABV3	3 5 5	03 05 05	Short to bat at UB3 with Key 15 off Open circuit to UB3 Short circuit to Ground UB3		FnR_DNOx2_p910vC241
UDS DCU15	003D23	Voltage supply 3 - Coolant control valve and reverting valve (UB3) electrical	023ABV3	3 4 5	03 04 05	Short to bat at UB3 with Key 15 off Open circuit to UB3 Short circuit to Ground UB3		FnR_DNOx2_V74
UDS DCU15	003D24	Monitoring VDD11/VDD25 voltage - Dosing valve/Pump motor	024_AV11	3 4 0 0 1	03 04 00 00 01	supply voltage VD11 high supply voltage VD11 low supply voltage VD25 high supply voltage VD25 low		FnR_DNOx2_p910vC241
UDS DCU15	003D24	Monitoring VDD11 voltage - Dosing valve	024AV11	4 3	04 03	supply voltage high supply voltage low		FnR_DNOx2_V74
UDS DCU15	003D31	UREA level sensor (electrical)	031AULS	3 4 2	03 04 02	signal high signal low supply voltage error	MIL	FnR_DNOx2_V74
UDS DCU15	003D32	UREA Temperature sensor in Tank (electrical)	032AUTT	3 4	03 04	signal high signal low		FnR_DNOx2_V74
UDS DCU15	003D34	UREA Quality Sensor	034EUQS	5 6 7 2 0 1 12	05 06 07 02 00 01 0C	open wire short circuit not plausible temperature outside operation range concentration higher than specified value concentration is less than specified value empty or partially filled sensor		FnR_DNOx2_V74
UDS DCU15	003D35	NOx sensor (self monitoring of sensor / only CAN message)	035NOXS	4 3 2	04 03 02	Nox sensor Short circuit NOx Sensor Open circuit Other Nox sensor error		FnR_DNOx2_V74
UDS DCU15	003D41	Diagnostic lamp (electrical)	041_PDIA	6 3 5	06 03 05	short circuit to batt + open circuit or short to ground Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D41	Diagnostic lamp (electrical)	041PDIA	4 3 5	04 03 05	short circuit to batt + open circuit or short to ground Open load		FnR_DNOx2_V74
UDS DCU15	003D52	Dosing Valve (electrical)	052_PUDV	6 3 5	06 03 05	short circuite to ground short circuit to batt + open load Dosing valve permanent "ON" (detection via fast decay)		FnR_DNOx2_p910vC241
UDS DCU15	003D52	Dosing Valve (electrical)	052PUDV	4 3 5 7	04 03 05 07	short circuite to ground short circuit to batt + open load Dosing valve permanent "ON" (detection via fast decay)	MIL	FnR_DNOx2_V74 Long Term failure
UDS DCU15	003D53	UREA Pump speed	053_PUMP	7 8 2 12	07 08 02 0C	pump motor blocked pump overspeed pump motor unplugged Hall sensors defect	MIL	Power Reduction Long Term failure
UDS DCU15	003D55	Cooling control valve short circuit to UBat or open load	055_PCCV	3 5	03 05	short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D55	Cooling control valve short circuit to UBat or open load	055PCCV	6 5	06 05	short circuit to battery Open load		FnR_DNOx2_V74 Power Reduction
UDS DCU15	003D56	Cooling control valve short circuit to ground	056_PCCV2	6	06	short circuit to ground		Power Reduction
UDS DCU15	003D57	Reverting valve (4-2way valve?) electrically	057_PRVV	6 3 5	06 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D57	Reverting valve (4-2way valve?) electrically	057PRVV	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74
UDS DCU15	003D58	Valve Blocked Closed Test failed	058SUDV	12 6 5	0C 06 05	dosing valve blocked closed	MIL	FnR_DNOx2_V74 Power Reduction Long Term failure
UDS DCU15	003D59	UREA dosing valve blocked	059PUDB	6 5	06 05	UREA Dosing valve blocked open UREA Dosing Valve blocked closed	MIL	FnR_DNOx2_V74 Long Term failure
UDS DCU15	003D5A	Plausibility of UDV stuck	05A_PUQP	6 5	06 05	UREA Dosing Valve blocked closed UREA Dosing valve blocked open		
UDS DCU15	003D5B	UDV valve stuck position unknown error	05B_PUVP	7	07	Plausibility of UDV valve position unknown		
UDS DCU15	003D61	Line Heater back Flow tube	061_PBFH	6 5	06 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D61	Line Heater back Flow tube	061PBFH	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74
UDS DCU15	003D63	Line Heater Inlet tube	063_PILH	6 3 5	06 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D63	Line Heater Inlet tube	063PILH	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74
UDS DCU15	003D64	Filter outlet connector heater	064_POCH	6 3 5	06 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D64	Filter outlet connector heater	064POCH	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74
UDS DCU15	003D65	Line Heater Compensation tube	065_PPCH	6 3 5	06 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D65	Line Heater Compensation tube	065PPCH	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74
UDS DCU15	003D66	Heater of UREA Pump	066_PPHT	6 3 5	06 03 05	short circuit to ground (UB5) short circuit to bat (UB5) Open circuit / broken pump module heater PTC		FnR_DNOx2_p910vC241
UDS DCU15	003D66	Heater of UREA Pump	066PPHT	4 3 7	04 03 07	short circuit to ground (UB5) short circuit to bat (UB5) Open circuit / broken pump module heater PTC		FnR_DNOx2_V74
UDS DCU15	003D67	Line Heater pressure tube (Box-Dosing module)	067_PPLH	6 3 5	06 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D67	Line Heater pressure tube (Box-Dosing module)	067PPLH	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74 Long Term failure

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
UDS DCU15	003D68	Tank heating Valve	068_PUHT	6 3 5	06 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D68	Tank heating Valve	068PUHT	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74
UDS DCU15	003D69	Heater of cooling line	069_PCLH	6 3 5	06 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_p910vC241
UDS DCU15	003D69	Heater of cooling line	069PCLH	4 3 5	04 03 05	Short circuit to ground Short circuit to battery Open load		FnR_DNOx2_V74
UDS DCU15	003D6A	Heater of filterbox (UB5)	06A_PFHT	6 3 5	06 03 05	Short circuit to Ground short circuit to battery Open circuit		FnR_DNOx2_p910vC241
UDS DCU15	003D6A	Heater of filterbox (UB5)	06APFHT	4 3 7	04 03 07	Short circuit to Ground short circuit to battery Open circuit		FnR_DNOx2_V74
UDS DCU15	003D73	Temperature after catalyst too low	073_SCTD	7	07	Down stream catalyst temp - physical (Catalyst heating time failed)		FnR_DNOx2_p910vC241
UDS DCU15	003D73	Temperature after catalyst too low	073SCTD	7	07	Down stream catalyst temp - physical (Catalyst heating time failed)	MIL	FnR_DNOx2_V74 Long Term failure
UDS DCU15	003D74	UREA pressure too low at system start	074_SMOT	2	02	UREA pressure too low at system start	MIL	Power Reduction Long Term failure
UDS DCU15	003D75	UREA pressure too high	075_SUPR	2	02	Urea pressure not plausible (urea pressure too high)	MIL	Long Term failure
UDS DCU15	003D76	UREA Temperature in Pump Module out of range	076_SUTB	7	07	Urea temperature box - physical (Urea Box Temp NOT OK: outside range)	MIL	Long Term failure
UDS DCU15	003D77	UREA Temperature in Tank out of range	077_SUTT	7	07	Urea temperature tank - physical (Urea Tank Temp NOT OK: outside range)		
UDS DCU15	003D78	System frozen and not free in time	078_HHSM	7 8 9 10	07 08 09 0A	Defreezing Mode and Detection Errors (Inlet line defreezing failed) Defreezing Mode and Detection Errors (pressure line defreezing failed) Defreezing Mode and Detection Errors (pressure build-up in detection mode failed) Defreezing Mode and Detection Errors (Back-flow line defreezing failed)	MIL	Power Reduction Long Term failure
UDS DCU15	003D7A	Coolant control valve mechanically	07ACCVD	6 5	06 05	mechanical defective blocked closed mechanical defective blocked open		FnR_DNOx2_V74 Power Reduction
UDS DCU15	003D7B	Reverting valve (4-2way valve?) mechanically	07B_ERVV	7	07	valve does not open		
UDS DCU15	003D7C	Startup cycle counter for pressure drop during dosing	07C_SPCC	7	07	Start up cycle counter for pressure drops during dosing exceed maximum		Power Reduction
UDS DCU15	003D7E	Battery Voltage (actual value)	07E_BMON	4 3	04 03	Low battery voltage High battery voltage	MIL	Power Reduction (FnR_DNOx2_p910vC241) Long Term failure
UDS DCU15	003D82	UREA pressure too low (in "commissioning" status)	082_SMOTC	2	02	Pump motor error during commissioning (pump not delivering)		
UDS DCU15	003D83	UREA Temperature too low during commissioning	083_STMPC	2	02	Temperatures not plausible during commissioning.		
UDS DCU15	003D85	Coolant control valve mechanically (Commissioning)	085_SCCVC	2	02	Blocked closed		
UDS DCU15	003D93	Static Leakage Test failed	093_SLKS	7	07	static leakage detected (during system state 0)		
UDS DCU15	003D94	Catalyst efficiency too low (with NOx sensor)	094UCAT	12 7	0C 07	Catalyst efficiency too low		FnR_DNOx2_V74
UDS DCU15	003D95	Empty UREA Tank	095_ELMT	7	07	urea tank empty	MIL	Long Term failure
UDS DCU15	003D96	UREA Level Indication not plausible with UREA consumption	096_PULV	7	07	Urea Level Plausibility Error		Long Term failure
UDS DCU15	003D9A	Dynamic Leakage Test failed	09ASLKD	12	0C	dynamic leakage detected (during system state 1)	MIL	FnR_DNOx2_V74 Power Reduction Long Term failure
UDS DCU15	003D9C	Urea tank heater valve blocked open	09C_HUHT	7	07	Tank heater valve blocked open		
UDS DCU15	003D9C	Urea tank heater valve blocked open	09CHUHT	7	07	Tank heater valve blocked open		FnR_DNOx2_V74
UDS DCU15	003D9D	NOx sensor measures too high NOx	09DUPPM	12	0C	NOx ppm not plausible		FnR_DNOx2_V74
UDS DCU15	003DA1	CAN receive frame E2SCR (Dosing,Exh gas flow,Exh gas temp,Error Supression, Heater, Long Term failure)	0A1_CE2S	9 10 2 12 7 12 12 12	09 0A 02 0C 07 0C 0C 0C	09: timeout 0A: too many CAN messages 02: SAE J1939 Check for CAN receive signal : (UREA quantity not in range) 0C: SAE J1939 Check for CAN receive signal : (Heating status not in range) 07: SAE J1939 Check for CAN receive signal : (Dosing status not in range) 0C: SAE J1939 Check for CAN receive signal : (PTO status not in range) 0C: SAE J1939 Check for CAN receive signal : (Exhaust gas mass flow not in range) 0C: SAE J1939 Check for CAN receive signal : (Exhaust gas temperature not in range)	MIL	Long Term failure
UDS DCU15	003DA2	CAN receive frame E2SCR extended (Dosing,Exh gas flow,Exh gas temp,Error Supression, Heater, Long Term failure)	0A2_CE2S2	2 12	02 0C	SAE J1939 Check for CAN receive signal : (Long term error active signal not in Range) SAE J1939 Check for CAN receive signal : (Error suppression Signal not in range)	MIL	Long Term failure
UDS DCU15	003DA3	CAN receive frame EEC1 (Driver demand, eng speed, eng torque)	0A3_CEEC	9 10 12 2 2 7	09 0A 0C 02 02 07	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Torque driver demand not in range) SAE J1939 Check for CAN receive signal : (Engine torque not in range) SAE J1939 Check for CAN receive signal : (Engine speed not in range)		
UDS DCU15	003DA4	CAN receive frame ET1 (Oil and Water temp engine)	0A4_CET1	9 10 12 2	09 0A 0C 02	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Water temperature not in range) SAE J1939 Check for CAN receive signal : (Oil temperature not in range)		
UDS DCU15	003DA6	CAN receive frame IC1 (Boost press, Manifold Temp)	0A6_CIC1	9 10 12 2	09 0A 0C 02	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Boost pressure not in range) SAE J1939 Check for CAN receive signal : (Intake manifold 1 temperature not in range)		
UDS DCU15	003DA7	CAN receive frame LFE (Fuel Rrate)	0A7_CLFE	9 10 12	09 0A 0C	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Fuel rate not in range)		
UDS DCU15	003DA8	CAN receive frame NO1 (NOx concentration, NOx Sensor state)	0A8CNO1	9 10 12 2	09 0A 0C 02	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Nox concentration not in range) SAE J1939 Check for CAN receive signal : (Nox status not in range)		FnR_DNOx2_V74
UDS DCU15	003DA9	DCU or Heater switched "off" too long time via CAN	0A9_CTIM	9 10 12	09 0A 0C	Heater disabled by CAN request for a too long time Dosing disabled by CAN request for a too long time Error suppression via CAN request for a too long time		FnR_DNOx2_p910vC241
UDS DCU15	003DA9	DCU or Heater switched "off" too long time via CAN	0A9CTIM	9 10	09 0A	Heater disabled by CAN request for a too long time Dosing disabled by CAN request for a too long time		FnR_DNOx2_V74 Long Term failure
UDS DCU15	003DAA	UREA Tank level error (CAN message or electrical with real sensor)	0AA_EULS	9 10 2 3 4 11	09 0A 02 03 04 0B	09: timeout 0A: too many CAN messages 02: SAE J1939 range check: UREA tank level out of range 03: Level over CAN: SAE J1939 Signal Not in Range Level sensor connected directly: SRC high 04: Level over CAN: SAE J1939 Erraneous Signal Level sensor connected directly: SRC low 0B: Level over CAN: SAE J1939 no Signal available Level sensor connected directly: Sensor Supply error		FnR_DNOx2_p910vC241
UDS DCU15	003DAA	UREA Tank level error (CAN message or electrical with real sensor)	0AAEULS	3 4 2	03 04 02	03: Level over CAN: SAE J1939 Signal Not in Range Level sensor connected directly: SRC high 04: Level over CAN: SAE J1939 Erraneous Signal Level sensor connected directly: SRC low 02: Level over CAN: SAE J1939 no Signal available Level sensor connected directly: Sensor Supply error	MIL	FnR_DNOx2_V74
UDS DCU15	003DAC	UREA quality sensor re lated errors CAN	0ACCUQS	9 10 12	09 0A 0C	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (UREA quality signal not in range)		FnR_DNOx2_V74
UDS DCU15	003DAD	CAN receive frame Time/Date	0AD_CTDA	9 10 12 12 12 12 7 7	09 0A 0C 0C 0C 0C 07 07	timeout too many CAN messages SAE J1939 range check error of seconds SAE J1939 range check error of minutes SAE J1939 range check error of hours SAE J1939 range check error of months SAE J1939 range check error of days SAE J1939 range check error of years		
UDS DCU15	003DB1	Ambient Temperature: SAE J1939 Check for CAN receive signal : (Signal Range Check: Signal not in range / Erroneous Signal / Signal not available)	0B1_CAMB	9 10 12 2	09 0A 0C 02	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Barometric pressure not in range) SAE J1939 Check for CAN receive signal : (Ambient air temperature not in range)		
UDS DCU15	003DB8	CAN receive frame PROA (Fuel quantity)	0B8_CPRO	9 10 12 2 7	09 0A 0C 02 07	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (UREA tank level not in range) SAE J1939 Check for CAN receive signal : (UREA tank temperature not in range) SAE J1939 Check for CAN receive signal : (Fuel injection quantity not in range)		
UDS DCU15	003DBC	Detection of blocked filter	0BCDBFE	7	07	Error detection of blocked Filter		FnR_DNOx2_V74 Long Term failure
UDS DCU15	003DBD	Warning for detection of blocked filter	0BDBFW	7	07	Warning for detection of blocked Filter		FnR_DNOx2_V74

ECU Name	SPN [Hex]	Fault Component	Description	FMI [DEC]	FMI [HEX]	FMI Description	Lamp status	Comment
UDS DCU15	003DBE	CAN receive frame TC1	0BE_CTC1	9 10 12	09 0A 0C	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Vehicle speed not in range)		
UDS DCU15	003DC1	Too many Frozen Cycles of dosing module	0C1_EFCC	9 10	09 0A	additional frozen cycle counter (eepm_ct_frz2_uc) exceeded maximum frozen cycle counter (eepm_ct_frz_uc) exceeded maximum		
UDS DCU15	003DC2	Application error in MAP selection for UREA quantity calculation	0C2UDVC	13	0D	map selection error (11 map calculation)		FnR_DNOx2_V74
UDS DCU15	003DC3	CAN receive frame EEC3	0C3_CEC3	9 10 2 12 12 12	09 0A 02 0C 0C 0C	09: timeout 0A: too many CAN messages 02: SAE J1939 Check for CAN receive signal : (Exhaust Gas Mass Flow not in range) 0C: SAE J1939 Check for CAN receive signal : (Intake Dew Point not in range) 0C: SAE J1939 Check for CAN receive signal : (Exhaust Dew Point not in range)		
UDS DCU15	003DC4	CAN receive frame EGF1	0C4_CEGF	9 10 2	09 0A 02	09: Warning for detection of blocked Filter 0A: too many CAN messages 02: SAE J1939 Check for CAN receive signal : (Engine Inlet Air Mass Flow Rate not in range)		
UDS DCU15	003DC5	CAN receive frame EEC5	0C5_CEC5	9 10 2	09 0A 02	09: timeout 0A: too many CAN messages 02: SAE J1939 Check for CAN receive signal : (EGR Valve Control not in range)		
UDS DCU15	003DC6	CAN receive frame EC1BAM	0C6_CECB	9 2	09 02	Error detection of blocked Filter SAE J1939 Check for CAN receive signal : (Reference Engine torque not in range)		
UDS DCU15	003DC7	CAN receive frame PROB	0C7_CPRB	9 10	09 0A	timeout too many CAN messages		
UDS DCU15	003DC8	CAN receive frame ERC1	0C8_CERC	9 10 2	09 0A 02	timeout too many CAN messages SAE J1939 Check for CAN receive signal : (Retarder Percent Torque not in range)		
UDS DCU15	003DC9	CAN Bus OFF error	0C9_CBOF	9 10	09 0A	BUS OFF error CAN1 BUS OFF Error CAN2		
UDS DCU15	003DCA	Load point evaluation	0CA_AELP	3 4	03 04	signal high signal low		
UDS DCU15	003DCB	Load point evaluation (above and below limit)	0CB_AELP2	0 1	00 01	signal high signal low		
UDS DCU15	003DCC	Atmospheric pressure evaluation	0CC_EAPS	12	0C	SAE J1939 range check: barometric pressure out of range		
UDS DCU15	003DD1	EEPROM / Checksum failures	0D1_EEPM	12 13 8 2 7 12	0C 0D 08 02 07 0C	EEPROM Detection error Wrong EEPROM size EEPROM communication error EEPROM write error No corresponding variant number error Codierwort error	MIL	Long Term failure
UDS DCU15	003DD2	Ignition "on" signal K15	0D2_EK15	2	02	digital input ignition ON not sensed during initialisation		
UDS DCU15	003DD3	Main Relay opens too early / too late	0D3_EMRL	6 3 5 4	06 03 05 04	main relay shut off too early (before EEPROM update) main relay shut off too late main relay open circuit main relay short circuit	MIL	
UDS DCU15	003DD4	Too high UREA Temperature in Pump module (Emergency shut off)	0D4_EMRS	7	07	over temperature detection (urea temp. in pump module)		FnR_DNOx2_p910vC241 Power Reduction
UDS DCU15	003DD4	Too high UREA Temperature in Pump module or Leakage test failed (Emergency shut off)	0D4EMRS	7 12	07 0C	over temperature detection (urea temp. in pump module) urea leakage detection (static or dynamic)	MIL	FnR_DNOx2_V74 Power Reduction Long Term failure
UDS DCU15	003DE1	Plausibility of downstream catalyst temperature sensor (after SCR catalyst)	0E1_PCTD	13 12 7	0D 0C 07	dynamic plausibility test - lower threshold dynamic plausibility test - upper threshold static plausibility test		FnR_DNOx2_p910vC241
UDS DCU15	003DE1	Plausibility of downstream catalyst temperature sensor (after SCR catalyst)	0E1PCTD	12 7	0C 07	dynamic plausibility test - upper threshold static plausibility test	MIL	FnR_DNOx2_V74
UDS DCU15	003DE2	Plausibility of upstream catalyst temperature sensor (before SCR catalyst)	0E2_PCTU	13 12 7	0D 0C 07	dynamic plausibility test - lower threshold dynamic plausibility test - upper threshold static plausibility test		FnR_DNOx2_p910vC241
UDS DCU15	003DE2	Plausibility of upstream catalyst temperature sensor (before SCR catalyst)	0E2PCTU	12 7	0C 07	dynamic plausibility test - upper threshold static plausibility test	MIL	FnR_DNOx2_V74
UDS DCU15	003DE3	Urea pressure sensor plausibility error (checked during system startup)	0E3_PUPS	12	0C	Uplausibility UREA pressure sensor (dynamic)	MIL	Power Reduction Long Term failure
UDS DCU15	003DE4	Urea box temperature sensor plausibility error (dynamic / static)	0E4_PUTB	7	07	Plausibility of pump module temp. sensor (static)		FnR_DNOx2_p910vC241
UDS DCU15	003DE4	Urea box temperature sensor plausibility error (dynamic / static)	0E4PUTB	12 7	0C 07	Plausibility of pump module temp. sensor (dynamic) Plausibility of pump module temp. sensor (static)		FnR_DNOx2_V74
UDS DCU15	003DE5	Urea tank temperature sensor plausibility error (dynamic / static)	0E5_PUTT	7	07	Plausibility of urea tank temp. sensor (static)		FnR_DNOx2_p910vC241
UDS DCU15	003DE5	Urea tank temperature sensor plausibility error (dynamic / static)	0E5PUTT	12	0C	Plausibility of urea tank temp. sensor (dynamic) Plausibility of urea tank temp. sensor (static)		FnR_DNOx2_V74
UDS DCU15	003DE6	UREA Tank Temperature not plausible with Pump module temperature	0E6_EUTT	9 10 2 3 4 0 1	09 0A 02 03 04 00 01	09: Temp over CAN: SAE J1939 Timeout Temp sensor connected directly: SRC high 0A: Temp over CAN: SAE J1939 Too many messages Temp sensor connected directly: SRC low 02: Temp over CAN: SAE J1939 erroneous signal 03: SRC High: raw value UREA temperature too high 04: SRC Low: raw value UREA temperature too low 00: SRC High: diagnostic value UREA temperature too high 01: SRC Low: diagnostic value UREA temperature too low		FnR_DNOx2_p910vC241
UDS DCU15	003DE6	UREA Tank Temperature not plausible with Pump module temperature	0E6EUTT	3 4 2	03 04 02	03: Temp over CAN: SAE J1939 Timeout Temp sensor connected directly: SRC high 04: Temp over CAN: SAE J1939 Too many messages Temp sensor connected directly: SRC low 02: Temp over CAN: SAE J1939 erroneous signal		FnR_DNOx2_V74
UDS DCU15	003DE7	Back flow line blocked	0E7_SBFL	7	07	back flow line blocked		Power Reduction
UDS DCU15	003DE8	Urea pressure not reduced during start up	0E8_SCCV	2	02	Blocked closed	MIL	Long Term failure
UDS DCU15	003DEA	Pressure line blocked	0EA_SPRL	7	07	pressure line blocked	MIL	Power Reduction Long Term failure
UDS DCU15	003DEB	Low UREA level 1 (warning)	0EB_EUL1	1	01	UREA level below Limit 1		
UDS DCU15	003DEC	Low UREA level 2 (warning)	0EC_EUL2	1	01	UREA level below Limit 2		
UDS DCU15	003DF0	Group error path UREA injection control	0F0_LCNP	12	0C	Error belonging to group UREA Injection control	MIL	Long Term failure
UDS DCU15	003DF1	Group error path Air control	0F1_LDIN	12	0C	Error belonging to group air control	MIL	Long Term failure
UDS DCU15	003DF2	Group error path catalyst temperature	0F2_LIUQ	12	0C	Error belonging to group catalyst temperature out of range	MIL	Long Term failure
UDS DCU15	003DF3	Group error path NOx exceeded	0F3LNTE	12	0C	Error belonging to group NOx exceeded active	MIL	FnR_DNOx2_V74 Long Term failure
UDS DCU15	003DF4	Group error path UREA Tank empty	0F4_LTEM	12	0C	Error belonging to group UREA tank empty active	MIL	Long Term failure