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| Technischer Hinweis | 05653402.1644        |
| Bezeichnung:        | CAN-FEHLER-LISTE C81 |
| Motortyp.:          | 3/4H50N-TICD         |

|          |    |            |
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| Erstellt | WG | 12.05.2023 |
| Geprüft  | MO | 12.05.2023 |

Änderungsstand:

| Änd.-Nr. | Datum      | Name | Änderung |
|----------|------------|------|----------|
| 02       | 12.05.2023 | CR   | H.23/043 |

| SPN | FMI | Component                 | FaultCheckName       | FaultCheckDescription                                                                                                                                                                                               |
|-----|-----|---------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 27  | 17  | EGR Valve                 | DFC_EGRVlvDrftClsd   |                                                                                                                                                                                                                     |
| 29  | 2   | APP Synchronisation Error | DFC_SyncRmtAPP       | In case of dual analog accelerator pedal, it is the plausibility check between RmtAPP1 and RmtAPP2 and in case of potentiometer switch accelerator pedal, it is the plausibility check between APP1 and idle switch |
| 29  | 3   | APP Poti 2                | DFC_SRCHighAPP2      | Signal Range Check High for APP2                                                                                                                                                                                    |
| 29  | 4   | APP Poti 2                | DFC_SRCLowAPP2       | Signal Range Check Low for APP2                                                                                                                                                                                     |
| 51  | 0   | Throttle Valve            | DFC_ThrVlvDrftClsd   |                                                                                                                                                                                                                     |
| 51  | 1   | Throttle Valve            | DFC_ThrVlvPhysSRCMin |                                                                                                                                                                                                                     |
| 51  | 12  | Throttle Valve            | DFC_ThrVlvGovDvtCld  |                                                                                                                                                                                                                     |
| 51  | 13  | Throttle Valve            | DFC_ThrVlvJamVlvClsd |                                                                                                                                                                                                                     |
| 51  | 6   | Throttle Valve            | DFC_ThrVlvCurrLim    |                                                                                                                                                                                                                     |
| 70  | 2   | Hand Brake Switch         | DFC_HndBrkAliveChk   | Alive Detection for HndBrk_stDebVal                                                                                                                                                                                 |
| 84  | 0   | Vehicle Speed Sensor      | DFC_VehVMax          | Maximum threshold error for vehicle speed                                                                                                                                                                           |
| 84  | 13  | Vehicle Speed Sensor      | DFC_VehVPlaus        | Plausibility defect for vehicle speed                                                                                                                                                                               |
| 84  | 3   | Vehicle Speed Sensor      | DFC_VehVSRCHi        | signal level low error for vehicle speed signal over Tachometer or hardware sensor                                                                                                                                  |
| 84  | 4   |                           | DFC_VehVSRCLo        | signal level low error for vehicle speed signal over Tachometer or hardware sensor                                                                                                                                  |
| 84  | 5   |                           | DFC_VehVNplMon       | NPL error for vehicle speed signal over Tachometer or hardware sensor                                                                                                                                               |

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| 91  | 11 | APP Synchronsition Error | DFC_SyncAPP           | In case of dual analog accelerator pedal, it is the plausibility check between APP1 and APP2 and in case of potentiometer switch accelerator pedal, it is the plausibility check between APP1 and idle switch |
| 91  | 2  | APP Synchronsition Error | DFC_SyncAPPDbIPotLIS  | In case of Double Poti LIS acceleration pedal there are 2 analog accelerator pedal potentiometers and a low idle switch. It is the plausibility check between APP1 , APP2 and idle switch.                    |
| 91  | 3  | APP Poti 1               | DFC_SRCHighAPP1       | Signal Range Check High for APP1                                                                                                                                                                              |
| 91  | 4  | APP Poti 1               | DFC_SRCLowAPP1        | Signal Range Check Low for APP1                                                                                                                                                                               |
| 94  | 10 | Fuel Low Pressure System | DFC_FuelPDynTstMin    | Minimum fuel pressure error in dynamic plausibility test                                                                                                                                                      |
| 94  | 13 | Fuel Low Pressure System | DFC_FuelPLoP          | Low fuel pressure error monitoring                                                                                                                                                                            |
| 94  | 19 | Fuel Low Pressure System | DFC_FuelPSig          | DFC for CAN message                                                                                                                                                                                           |
| 94  | 9  | Fuel Low Pressure System | DFC_FuelPDynTstMax    | Maximum fuel pressure error in dynamic plausibility test                                                                                                                                                      |
| 95  | 3  | Fuel Low Pressure Sensor | DFC_FuelPSRCMax       | SRC High for Environment Pressure                                                                                                                                                                             |
| 95  | 4  | Fuel Low Pressure Sensor | DFC_FuelPSRCMin       | SRC low for Environment Pressure                                                                                                                                                                              |
| 96  | 1  | Fuel System              | DFC_FISysTnkLo        | fuel tank below critical level or danger of an air contaminated hydraulic system                                                                                                                              |
| 96  | 2  | Fuel Level Plausibility  | DFC_FILvISnsrPlausErr | Fuel Level Sensor Plausibility Error                                                                                                                                                                          |
| 97  | 15 | Water in Fuel            | DFC_FIFWLvIWtHi       | Water in fuel detected                                                                                                                                                                                        |
| 97  | 17 | Fuel Level               | DFC_NpIFIFWLvI        | Fuel Level unplausible                                                                                                                                                                                        |
| 97  | 31 | Water in Fuel            | DFC_FISys_WtDet       | Error in water in Fuel Detection switch                                                                                                                                                                       |
| 98  | 0  | Oil Level                | DFC_OiLvIPhysRngHi    | Plausibility Check                                                                                                                                                                                            |
| 98  | 1  | Oil Level                | DFC_OiLvIPhysRngLo    | Plausibility Check                                                                                                                                                                                            |
| 98  | 2  | Oil Level                | DFC_OiLvINpl          | Plausibility Check                                                                                                                                                                                            |
| 98  | 3  | Oil Level                | DFC_OiLvIMax          | Duty cycle greater than maximum                                                                                                                                                                               |
| 98  | 4  | Oil Level                | DFC_OiLvIMin          | Duty cycle lesser than minimum                                                                                                                                                                                |
| 100 | 31 | Oil Pressure             | DFC_OilPMin           | Defect fault check for minimum oil pressure from digital sensor                                                                                                                                               |

|     |    |                                           |                       |                                                                                     |
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| 100 | 0  | Oil Pressure                              | DFC_OilPSwmpPhysRngHi | Maximum oil pressure error in plausibility check                                    |
| 100 | 1  | Oil Pressure                              | DFC_OilPSwmpPhysRngLo | Minimum oil pressure error in plausibility check                                    |
| 100 | 19 | Oil Pressure Sensor                       | DFC_OilPSwmpSig       | Signal error on CAN for oil pressure sensor                                         |
| 100 | 2  | Oil Pressure                              | DFC_OilPNpl           | Defect fault check for plausibility test in case of digital sensor                  |
| 100 | 3  | Oil Pressure Sensor                       | DFC_OilPSwmpSRCMax    | SRC high for oil pressure sensor                                                    |
| 100 | 4  | Oil Pressure Sensor                       | DFC_OilPSwmpSRCMin    | SRC low for Oil pressure sensor                                                     |
| 102 | 0  | Intake Manifold Pressure                  | DFC_PIntkVUsPhysRngHi | Physical Range Check high for air pressure at the upstream of intake valve sensor   |
| 102 | 1  | Intake Manifold Pressure                  | DFC_PIntkVUsPhysRngLo | Physical Range Check low for air pressure at the upstream of intake valve sensor    |
| 102 | 16 | Intake Manifold Pressure                  | DFC_PIntkVUsPlsHi     | Plausibility Check for air pressure at the upstream of intake valve sensor          |
| 102 | 18 | Intake Manifold Pressure                  | DFC_PIntkVUsPlsLo     | Plausibility Check for air pressure at the upstream of intake valve sensor          |
| 102 | 3  | Intake Manifold Pressure Sensor           | DFC_PIntkVUsSRCMax    | Diagnostic fault check for SRC high in air pressure upstream of intake valve sensor |
| 102 | 4  | Intake Manifold Pressure Sensor           | DFC_PIntkVUsSRCMin    | Diagnostic fault check for SRC low in air pressure upstream of intake valve sensor  |
| 103 | 0  | Turbo Charger Actuator                    | DFC_TrbChOvrSpd       | Turbocharger over speed monitoring                                                  |
| 105 | 0  | Intercooler Downstream Temperature        | DFC_TCACDsPhysRngHi   | Physical Range Check high for Charged Air cooler downstream temperature             |
| 105 | 1  | Intercooler Downstream Temperature        | DFC_TCACDsPhysRngLo   | Physical Range Check low for Charged Air cooler downstream temperature              |
| 105 | 2  | PFM                                       | DFC_TCACDsSENTSnsrInt | sensor internal diagnosis for Charged Air cooler downstream temperature, SENT       |
| 105 | 3  | Intercooler Downstream Temperature Sensor | DFC_TCACDsSRCMax      | SRC High for Charge air cooler downstream Temperature                               |
| 105 | 4  | Intercooler Downstream Temperature Sensor | DFC_TCACDsSRCMin      | SRC low for Charge air cooler downstream Temperature                                |

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| 105 | 9  | PFM                                     | DFC_TCACDsSENTSnsrInit | initialization error for SENT transmission for Charged Air cooler down stream temperature |
| 107 | 0  | Air Filter Downstream Pressure          | DFC_PAirFltDsPhysRngHi | Physical Range high error for Inlet air pressure (P1) sensor                              |
| 107 | 1  | Air Filter Downstream Pressure          | DFC_PAirFltDsPhysRngLo | Physical Range low error for Inlet air pressure (P1) sensor                               |
| 107 | 14 | Air Filter                              | DFC_AirFltClogDet      | Error path for Clog Detection in Air filter                                               |
| 107 | 2  | Air Filter Downstream Pressure          | DFC_PAirFltDsNpl       | Signal non-plausible for AirFltDs pressure sensor                                         |
| 107 | 3  | Air Filter Differential Pressure Sensor | DFC_PAirFltDSRCMax     | SRC High for Controller Mode Switch                                                       |
| 107 | 4  | Air Filter Differential Pressure Sensor | DFC_PAirFltDSRCMin     | SRC low for Controller Mode Switch                                                        |
| 107 | 5  | Air Filter Downstream Pressure Sensor   | DFC_PAirFltDsSRCMax    | SRC high for AirFltDs pressure sensor                                                     |
| 107 | 6  | Air Filter Downstream Pressure Sensor   | DFC_PAirFltDsSRCMin    | SRC low for AirFltDs pressure sensor                                                      |
| 107 | 9  | Air Filter Differential Pressure        | DFC_PAirFltDSysReac    | Air Filter differential pressure check for warning condition                              |
| 108 | 0  | Ambient Pressure                        | DFC_PEnvRngChkMax      | Ambient air pressure sensor range check max-error                                         |
| 108 | 1  | Ambient Pressure                        | DFC_PEnvRngChkMin      | Ambient air pressure sensor range check min-error                                         |
| 108 | 2  | Ambient Pressure Sensor                 | DFC_PEnvSnsrPlaus      | Ambient air pressure sensor sensor error by component self diagnosis                      |
| 108 | 3  | Ambient Pressure Sensor                 | DFC_PEnvSigRngMax      | fault check max signal range violated for ambient air pressure sensor                     |
| 108 | 4  | Ambient Pressure Sensor                 | DFC_PEnvSigRngMin      | fault check min signal range violated for ambient air pressure sensor                     |
| 110 | 0  | Coolant Temperature                     | DFC_CEngDsTPhysRngHi   | Physical Range Check high for CEngDsT                                                     |
| 110 | 1  | Coolant Temperature                     | DFC_CEngDsTPhysRngLo   | Physical Range Check low for CEngDsT                                                      |
| 110 | 16 | Coolant Temperature                     | DFC_CEngDsTNplHigh     | Engine coolant temperature too high plausibility error                                    |
| 110 | 17 | Coolant Temperature                     | DFC_CEngDsTAbsTst      | defect fault check for Absolute plausibility test                                         |
| 110 | 18 | Coolant Temperature                     | DFC_CEngDsTDynTst      | defect fault check for dynamic plausibility test                                          |
| 110 | 3  | Coolant Temperature Sensor              | DFC_CEngDsTSRCMax      | SRC High for Engine coolant temperature(down stream)                                      |
| 110 | 4  | Coolant Temperature Sensor              | DFC_CEngDsTSRCMin      | SRC low for Engine coolant temperature(down stream)                                       |
| 111 | 17 | Coolant Level                           | DFC_CIntLvRngFltDetn   | Range Fault Detection                                                                     |

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| 111 | 18 | Coolant Level              | DFC_CIntLvIFltDetn    | Fault Detection For The Digital Input                                                            |
| 111 | 3  | Coolant Level Sensor       | DFC_SRCHighCIntLv     | Fault Detection For Signal range check high                                                      |
| 111 | 4  | Coolant Level Sensor       | DFC_SRCLowCIntLv      | Fault Detection For Signal range check low                                                       |
| 132 | 0  | PFM                        | DFC_AfsPDifRngErrHiB1 | Error path of the upper out-of-range diagnosis of the PFM differential pressure sensor in bank 1 |
| 132 | 1  | PFM                        | DFC_AfsPDifRngErrLoB1 | Error path of the lower out-of-range diagnosis of the PFM differential pressure sensor in bank 1 |
| 132 | 13 | PFM                        | DFC_AfsPDifOffsErrB1  | Error path of the offset diagnosis of the PFM differential pressure sensor in bank 1             |
| 132 | 2  | PFM                        | DFC_AfsPDifSnsrErrB1  | Error path to indicate internal errors of the PFM differential pressure sensor in bank 1         |
| 132 | 20 | PFM                        | DFC_AfsPPhyRngHiB1    | Error path of the upper physical range diagnosis of the PFM air mass flow signal in bank 1       |
| 132 | 21 | PFM                        | DFC_AfsPPhyRngLoB1    | Error path of the lower physical range diagnosis of the PFM air mass flow signal in bank 1       |
| 157 | 0  | High Pressure System       | DFC_RailPOfsTstMax    | rail pressure raw value is above maximum offset                                                  |
| 157 | 1  | High Pressure System       | DFC_RailPOfsTstMin    | rail pressure raw value is below minimum offset                                                  |
| 157 | 16 | High Pressure System       | DFC_RailPGradMon      | Rail pressure raw value is intermittent                                                          |
| 157 | 18 | Injection System           | DFC_InjUnStrtPres     | check for rail pressure build up during start                                                    |
| 157 | 3  | Rail Pressure Sensor       | DFC_RailPSRCMax       | Sensor voltage above upper limit                                                                 |
| 157 | 4  | Rail Pressure Sensor       | DFC_RailPSRCMin       | Sensor voltage below lower limit                                                                 |
| 167 | 7  | Alternator Monitoring      | DFC_AltIOMonPlaus     | Plausibility check for input signal for monitoring the alternator                                |
| 168 | 3  | Battery/Electric Supply    | DFC_BattUSRCMax       | Diagnostic Fault Check for Signal Range Max Check of Battery Voltage                             |
| 168 | 4  | Battery/Electric Supply    | DFC_BattUSRCMin       | Diagnostic Fault Check for Signal Range Min Check of Battery Voltage                             |
| 171 | 3  | Ambient Temperature Sensor | DFC_EnvTSRCMax        | max-error of ambient air temperature sensor                                                      |

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| 171 | 4  | Ambient Temperature Sensor           | DFC_EnvTSRCMin        | min-error of ambient air temperature sensor                                     |
| 172 | 2  | Air Temperature Sensor               | DFC_TAFSVDPlaus       | Diagnostic fault check for air temperature sensor                               |
| 172 | 3  | Air Temperature Sensor               | DFC_TAFSSRCMax        | SRC high for air temperature sensor                                             |
| 172 | 4  | Air Temperature Sensor               | DFC_TAFSSRCMin        | SRC low for air temperature sensor                                              |
| 172 | 8  | Air Temperature                      | DFC_TAFSPerHi         | SRC high for period duration of air temperature sensor                          |
| 172 | 9  | Air Temperature                      | DFC_TAFSPerLo         | SRC low for period duration of air temperature sensor                           |
| 174 | 0  | Fuel Low Pressure Temperature        | DFC_FuelTPhysRngHi    | Physical Range Check high for fuel temperature                                  |
| 174 | 1  | Fuel Low Pressure Temperature        | DFC_FuelTPhysRngLo    | Physical Range Check low for fuel temperature                                   |
| 174 | 11 | Fuel Low Pressure Temperature Sensor | DFC_FuelTVDPPlaus     | DFC for fuel temperature plausibility check function                            |
| 174 | 3  | Fuel Low Pressure Temperature Sensor | DFC_FuelTSRCMax       | SRC high for fuel temperature sensor                                            |
| 174 | 4  | Fuel Low Pressure Temperature Sensor | DFC_FuelTSRCMin       | SRC low for fuel temperature sensor                                             |
| 175 | 0  | Oil Temperature                      | DFC_OilTPhysRngHi     | Physical Range Check high for Oil Temperature                                   |
| 175 | 1  | Oil Temperature                      | DFC_OilTPhysRngLo     | Physical Range Check low for Oil Temperature                                    |
| 175 | 13 | Oil Temperature                      | DFC_OilTNplHigh       | Oil temperature too high plausibility error                                     |
| 175 | 2  | Oil Temperature                      | DFC_OilTNpl           | Plausibility check for Oil Temperature                                          |
| 175 | 3  | Oil Temperature Sensor               | DFC_OilTSRCMax        | SRC High for Oil Temperature                                                    |
| 175 | 4  | Oil Temperature Sensor               | DFC_OilTSRCMin        | SRC low for Oil Temperature                                                     |
| 190 | 12 | Camshaft Speed Sensor                | DFC_EpmCaSI1NoSig     | DFC for camshaft signal diagnose - no signal                                    |
| 190 | 18 | Crankshaft Speed Sensor              | DFC_EpmCrSNoSig       | DFC for crankshaft signal diagnose - no signal                                  |
| 190 | 2  | Camshaft Speed Sensor                | DFC_EpmCaSI1OfsErr    | DFC for camshaft offset angle exceeded                                          |
| 190 | 8  | Camshaft Speed Sensor                | DFC_EpmCaSI1ErrSig    | DFC for camshaft signal diagnose - disturbed signal                             |
| 190 | 9  | Crankshaft Speed Sensor              | DFC_EpmCrSErrSig      | DFC for crankshaft signal diagnose - disturbed signal                           |
| 430 | 12 | Starter Relay                        | DFC_StrtrOvrHeatProtn | Indicates if starter is overheated                                              |
| 430 | 3  | Starter Relay                        | DFC_StrtCoilHSSCB     | Short circuit to battery error at High side of coil in Inhibit starter strategy |
| 511 | 0  | Throttle Valve                       | DFC_ThrVlvDrftOpn     |                                                                                 |
| 511 | 12 | Throttle Valve                       | DFC_ThrVlvGovDvtMax   |                                                                                 |
| 511 | 13 | Throttle Valve                       | DFC_ThrVlvJamVlvOpn   |                                                                                 |
| 511 | 14 | Throttle Valve                       | DFC_ThrVlvTmpErr      |                                                                                 |
| 511 | 3  | Throttle Valve                       | DFC_ThrVlvSRCMax      |                                                                                 |
| 511 | 4  | Throttle Valve                       | DFC_ThrVlvSRCMin      |                                                                                 |

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| 511 | 7  | Throttle Valve         | DFC_ThrVlvSprgBrk       |                                                                                   |
| 512 | 12 | Throttle Valve         | DFC_ThrVlvGovDvtMin     |                                                                                   |
| 515 | 0  | Throttle Valve         | DFC_ThrVlvPhysSRCMax    |                                                                                   |
| 520 | 2  | CAN                    | DFC_ComTSC1TRDLC        | DFC for DLC Error of CAN-Receive-Frame TSC1TR                                     |
| 520 | 9  | CAN                    | DFC_ComTSC1TRTO         | Timeout Error of CAN-Receive-Frame TSC1TR                                         |
| 527 | 11 | Cruise Control         | DFC_CrCUIModeNpl        | Fault path which indicates the invalid combination of cruise control keys pressed |
| 597 | 2  | Brake System           | DFC_BrkNpl              | Plausibility check for Brake                                                      |
| 597 | 7  | Brake System           | DFC_BrkNplSngSwt        | Plausibility check for Brake                                                      |
| 598 | 19 | Clutch                 | DFC_ClthSig             | Sig Error for Clutch                                                              |
| 598 | 2  | Clutch                 | DFC_ClthNpl             | Plausibility check for Clutch                                                     |
| 604 | 0  | Gear Neutral Switch    | DFC_GbxNPlausHi         | Plausibility check for Gbx SCB                                                    |
| 604 | 1  | Gear Neutral Switch    | DFC_GbxNPlausLo         | Plausibility check for Gbx SCG                                                    |
| 604 | 12 | CAN                    | DFC_ComETC5DLC          | DLC Error of CAN-Receive-Frame ETC5                                               |
| 604 | 2  | Gear Neutral Switch    | DFC_GbxAliveChk         | Alive Detection for Gbx_stNPos                                                    |
| 604 | 2  | Gear Neutral Switch    | DFC_GbxNPosSig          | Check for error for CAN input                                                     |
| 604 | 9  | CAN                    | DFC_ComETC5TO           | Timeout Error of CAN-Receive-Frame ETC5                                           |
| 623 | 12 | Stop Lamp              | DFC_StopLmpOvrTemp      | No load error                                                                     |
| 623 | 3  | Stop Lamp              | DFC_StopLmpSCB          | Short circuit to battery error                                                    |
| 623 | 4  | Stop Lamp              | DFC_StopLmpSCG          | Short circuit to ground error                                                     |
| 623 | 5  | Stop Lamp              | DFC_StopLmpOL           | No load error                                                                     |
| 633 | 0  | Pressure Control Valve | DFC_PCVAdaptCrvMax      | lerning valu too high                                                             |
| 633 | 1  | Pressure Control Valve | DFC_PCVAdaptCrvMin      | lerning value too low                                                             |
| 633 | 16 | Pressure Control Valve | DFC_PCVfacAdaptMax      | lerning factor too high                                                           |
| 633 | 18 | Pressure Control Valve | DFC_PCVfacAdaptMin      | lerning factor too low                                                            |
| 633 | 7  | Pressure Control Valve | DFC_PCVNoStrt           | number of startup attempts exceeded the limit                                     |
| 639 | 14 | CAN                    | DFC_BusDiagBusOffNodeA  | BusOff error CAN A                                                                |
| 641 | 12 | Turbo Charger Actuator | DFC_TrbChHBrgOvrTemp    |                                                                                   |
| 641 | 14 | Turbo Charger Actuator | DFC_TrbChHBrgShCirOvrLd |                                                                                   |
| 641 | 4  | Turbo Charger Actuator | DFC_TrbChHBrgUndrVltg   |                                                                                   |
| 641 | 5  | Turbo Charger Actuator | DFC_TrbChHBrgOpnLd      |                                                                                   |
| 641 | 6  | Turbo Charger Actuator | DFC_TrbChHBrgOvrCurr    |                                                                                   |
| 641 | 8  | Turbo Charger Actuator | DFC_TrbChCurrLim        |                                                                                   |
| 651 | 13 | Injection System       | DFC_IVAdjDialVAdj_0     | check of missing injector adjustment value programming                            |
| 651 | 14 | Injection System       | DFC_IVActrVCC_0         | measured injection closing time exceeds a limit                                   |
| 651 | 3  | Injection System       | DFC_InjVlv_DI_ScCyl_0   | Short circuit of the power stage low-side (cylinder error)                        |

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| 651 | 4  | Injection System | DFC_InjVlv_DI_ScHsLs_0 | Short circuit between high-side and low-side of the power stage (high-side non plausible error) |
| 651 | 5  | Injection System | DFC_InjVlv_DI_NoLd_0   | Open load on the power stage                                                                    |
| 652 | 13 | Injection System | DFC_IVAdjDialVAdj_3    | check of missing injector adjustment value programming                                          |
| 652 | 14 | Injection System | DFC_IVActrVCC_3        | measured injection closing time exceeds a limit                                                 |
| 652 | 3  | Injection System | DFC_InjVlv_DI_ScCyl_3  | Short circuit of the power stage low-side (cylinder error)                                      |
| 652 | 4  | Injection System | DFC_InjVlv_DI_ScHsLs_3 | Short circuit between high-side and low-side of the power stage (high-side non plausible error) |
| 652 | 5  | Injection System | DFC_InjVlv_DI_NoLd_3   | Open load on the power stage                                                                    |
| 653 | 13 | Injection System | DFC_IVAdjDialVAdj_1    | check of missing injector adjustment value programming                                          |
| 653 | 14 | Injection System | DFC_IVActrVCC_1        | measured injection closing time exceeds a limit                                                 |
| 653 | 3  | Injection System | DFC_InjVlv_DI_ScCyl_1  | Short circuit of the power stage low-side (cylinder error)                                      |
| 653 | 4  | Injection System | DFC_InjVlv_DI_ScHsLs_1 | Short circuit between high-side and low-side of the power stage (high-side non plausible error) |
| 653 | 5  | Injection System | DFC_InjVlv_DI_NoLd_1   | Open load on the power stage                                                                    |
| 654 | 13 | Injection System | DFC_IVAdjDialVAdj_2    | check of missing injector adjustment value programming                                          |
| 654 | 14 | Injection System | DFC_IVActrVCC_2        | measured injection closing time exceeds a limit                                                 |
| 654 | 3  | Injection System | DFC_InjVlv_DI_ScCyl_2  | Short circuit of the power stage low-side (cylinder error)                                      |
| 654 | 4  | Injection System | DFC_InjVlv_DI_ScHsLs_2 | Short circuit between high-side and low-side of the power stage (high-side non plausible error) |
| 654 | 5  | Injection System | DFC_InjVlv_DI_NoLd_2   | Open load on the power stage                                                                    |
| 675 | 12 | Glow Lamp        | DFC_GlwLmpOvrTemp      | Over temperature error                                                                          |
| 675 | 3  | Glow Lamp        | DFC_GlwLmpSCB          | Short circuit to battery error                                                                  |
| 675 | 4  | Glow Lamp        | DFC_GlwLmpSCG          | Short circuit to ground error                                                                   |
| 675 | 5  | Glow Lamp        | DFC_GlwLmpOL           | No load error                                                                                   |

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|-----|----|-------------------|-----------------------|------------------------------------------------------------------------------------------------------------------|
| 676 | 11 | Glow Plugs        | DFC_GlwPlgDiagErr     | DFC for faulty diagnostic data transmission or protocol error                                                    |
| 676 | 12 | Glow Plug Relay   | DFC_GlwPlgLVSOvrTemp  | Over temperature error on ECU powerstage for Glow plug Low Voltage System                                        |
| 676 | 13 | Glow Plugs        | DFC_GlwPlgSVSFail     | DFC for SVS GCU faulty diagnostic glow plug or relay error                                                       |
| 676 | 2  | Glow Plugs        | DFC_GlwPlgDiff        | DFC for coding error when different coding words were received in a coding cycle                                 |
| 676 | 21 | Glow Plugs        | DFC_GlwPlg2of3        | DFC for coding error when selected coding is not working                                                         |
| 676 | 3  | Glow Plug Relay   | DFC_GlwPlgLVSSCB      | Short circuit to battery error for Low Voltage System                                                            |
| 676 | 4  | Glow Plug Relay   | DFC_GlwPlgLVSSCG      | Short circuit to ground error for Low Voltage System                                                             |
| 676 | 5  | Glow Plug Relay   | DFC_GlwPlgLV SOL      | No load error for Low Voltage System                                                                             |
| 676 | 9  | Glow Plugs        | DFC_GlwPlgSVSStkRly   | DFC for SVS GCU faulty diagnostic sticking relay error                                                           |
| 677 | 0  | Starter Relay     | DFC_StrtDummy         | only a dummy - do not use!                                                                                       |
| 677 | 10 | Terminal 50       | DFC_T50Err            | Defective T50 switch                                                                                             |
| 677 | 12 | Starter Relay     | DFC_StrtLSOvrTemp     | Over temperature error for Starter low side                                                                      |
| 677 | 3  | Starter Relay     | DFC_StrtLSSCB         | Short circuit to battery error for Starter low side                                                              |
| 677 | 4  | Starter Relay     | DFC_StrtLSSCG         | Short circuit to ground error for Starter low side                                                               |
| 677 | 5  | Starter Relay     | DFC_StrtOL            | No load error for Starter                                                                                        |
| 702 | 12 | Air Filter Lamp   | DFC_AirFiltLmpOvrTemp | Over temperature error                                                                                           |
| 702 | 3  | Air Filter Lamp   | DFC_AirFiltLmpSCB     | Short circuit to battery error                                                                                   |
| 702 | 4  | Air Filter Lamp   | DFC_AirFiltLmpSCG     | Short circuit to ground error                                                                                    |
| 702 | 5  | Air Filter Lamp   | DFC_AirFiltLmpOL      | No load error                                                                                                    |
| 705 | 12 | Oil Pressure Lamp | DFC_OilPLmpOvrTemp    | defect fault check for over temperature error                                                                    |
| 705 | 3  | Oil Pressure Lamp | DFC_OilPLmpSCB        | defect fault check for short circuit to battery error                                                            |
| 705 | 4  | Oil Pressure Lamp | DFC_OilPLmpSCG        | defect fault check for short circuit to ground error                                                             |
| 705 | 5  | Oil Pressure Lamp | DFC_OilPLmpOL         | defect fault check for open load error                                                                           |
| 729 | 12 | Intake Air Heater | DFC_IAirHtOvrTemp     | DFC for over temperature on power stage for intake air heaters                                                   |
| 729 | 2  | Intake Air Heater | DFC_IAirHtSenRErr1    | DFC for short circuit to ground, Over Current, Over Temperature in the Intake Air Heater feedback diagnosis line |

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| 729  | 3  | Intake Air Heater        | DFC_IAirHtSCB       | DFC for short circuit to battery on power stage for intake air heaters |
| 729  | 4  | Intake Air Heater        | DFC_IAirHtSCG       | DFC for short circuit to ground on power stage for intake air heaters  |
| 729  | 5  | Intake Air Heater        | DFC_IAirHtOL        | DFC for open load on power stage for intake air heaters                |
| 729  | 9  | Intake Air Heater        | DFC_AirHtStickOn    | DFC to indicate to an always switched ON Grid Heater                   |
| 730  | 2  | Intake Air Heater        | DFC_IAirHtSenRErr2  | DFC for Open load in the Intake Air Heater feedback diagnosis line     |
| 876  | 12 | Air Condition Compressor | DFC_AirCCmprOvrTemp | Over temperature error on powerstage for the compressor                |
| 876  | 3  | Air Condition Compressor | DFC_AirCCmprSCB     | Short circuit to battery error on power stage for the compressor       |
| 876  | 4  | Air Condition Compressor | DFC_AirCCmprSCG     | Short circuit to ground error on power stage for the compressor        |
| 876  | 5  | Air Condition Compressor | DFC_AirCCmprOL      | No load error on power stage for the compressor                        |
| 898  | 2  | CAN                      | DFC_ComTSC1TEDLC    | DFC for DLC Error of CAN-Receive-Frame TSC1TE                          |
| 975  | 12 | Fan                      | DFC_FanDIOOvrTemp_0 | Over temperature error                                                 |
| 975  | 14 | Fan                      | DFC_FanPWMOvrTemp   | Over temperature error                                                 |
| 975  | 3  | Fan                      | DFC_FanDIOSCB_0     | Short circuit to battery error                                         |
| 975  | 4  | Fan                      | DFC_FanDIOSCG_0     | Short circuit to ground error                                          |
| 975  | 5  | Fan                      | DFC_FanDIOOL_0      | No load error                                                          |
| 975  | 8  | Fan                      | DFC_FanPWMOL        | No load error                                                          |
| 976  | 3  | PTO                      | DFC_MaxPTOSwt       | Diagnostic fault check for max error of COM message                    |
| 976  | 4  | PTO                      | DFC_MinPTOSwt       | Diagnostic fault check for min error of COM message                    |
| 976  | 5  | Fan                      | DFC_FanDIOOL_1      | No load error                                                          |
| 977  | 3  | Fan                      | DFC_FanDIOSCB_1     | Short circuit to battery error                                         |
| 977  | 4  | Fan                      | DFC_FanDIOSCG_1     | Short circuit to ground error                                          |
| 977  | 5  | Fan                      | DFC_FanPWMSCB       | Short circuit to battery error                                         |
| 977  | 6  | Fan                      | DFC_FanPWMSCG       | Short circuit to ground error                                          |
| 986  | 12 | CAN                      | DFC_ComCM1DLC       | DFC for DLC Error of CAN-Receive-Frame Cab Message 1                   |
| 986  | 9  | CAN                      | DFC_ComCM1TO        | Timeout Error of CAN-Receive-Frame Cab Message 1                       |
| 987  | 12 | SVS                      | DFC_SVSOvrTemp      | No load error                                                          |
| 987  | 3  | SVS                      | DFC_SVSSCB          | Short circuit to battery error                                         |
| 987  | 4  | SVS                      | DFC_SVSSCG          | Short circuit to ground error                                          |
| 987  | 5  | SVS                      | DFC_SVSOL           | No load error                                                          |
| 1045 | 0  | Brake System             | DFC_BrkSigMn        | Sig Error for Main Brake                                               |

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| 1046 | 2  | Brake System                              | DFC_BrkSigRdnt       | Sig Error for Redundant Brake                                     |
| 1076 | 12 | Metering Unit                             | DFC_MeUnOT           | over teperature of device driver of metering unit                 |
| 1076 | 16 | Metering Unit                             | DFC_MeUnShCirLSBatt  | short circuit to battery of metering unit output                  |
| 1076 | 18 | Metering Unit                             | DFC_MeUnShCirLSGnd   | short circuit to ground of metering unit output                   |
| 1076 | 5  | Metering Unit                             | DFC_MeUnOL           | open load of metering unit output                                 |
| 1079 | 14 | Sensor Supply Monitoring 1                | DFC_SSpMon1UV        | Undervoltage at Sensor supply 1                                   |
| 1079 | 3  | Sensor Supply Monitoring 1                | DFC_SSpMon1OV        | Overvoltage at Sensor supply 1                                    |
| 1079 | 4  | Sensor Supply Monitoring 1                | DFC_SSpMon1SCG       | Short to GND at Sensor supply 1                                   |
| 1080 | 14 | Sensor Supply Monitoring 2                | DFC_SSpMon2UV        | Undervoltage at Sensor supply 2                                   |
| 1080 | 3  | Sensor Supply Monitoring 2                | DFC_SSpMon2OV        | Overvoltage at Sensor supply 2                                    |
| 1080 | 4  | Sensor Supply Monitoring 2                | DFC_SSpMon2SCG       | Short to GND at Sensor supply 2                                   |
| 1109 | 11 | Injection Cut Off                         | DFC_EngICO           | Injection cut off demand (ICO) for shut off coordinator           |
| 1127 | 13 | Boost Pressure Governor                   | DFC_PCRTiToCtl       | Time to reactivate PCR control monitoring                         |
| 1127 | 31 | Boost Pressure Governor                   | DFC_PCRTiToStrtCtl   | Time to first activation of PCR control monitoring                |
| 1136 | 0  | ECU Temperature Sensor                    | DFC_TECUSigRngMax    |                                                                   |
| 1136 | 1  | ECU Temperature Sensor                    | DFC_TECUSigRngMin    |                                                                   |
| 1136 | 13 | ECU Temperature Sensor                    | DFC_TECUSnsrPlaus    | Diagnostic Fault Check for SMP480 ECU Temperature Plausibility    |
| 1136 | 16 | ECU Temperature                           | DFC_TECUPhysRngHi    | Diagnostic Fault Check for Physical Signal above maximum limit    |
| 1136 | 18 | ECU Temperature                           | DFC_TECUPhysRngLo    | Diagnostic Fault Check for Physical Signal below minimum limit    |
| 1176 | 3  | Turbo Charger Upstream Pressure Sensor    | DFC_PTrbnUsSRCMax    | SRC High for TrbnUs Pressure sensor                               |
| 1176 | 4  | Turbo Charger Upstream Pressure Sensor    | DFC_PTrbnUsSRCMin    | SRC low for TrbnUs Pressure sensor                                |
| 1180 | 0  | Turbo Charger Upstream Temperature        | DFC_TTrbnUsPhysRngHi | Physical Range Check high for turbine upstream temperature sensor |
| 1180 | 1  | Turbo Charger Upstream Temperature        | DFC_TTrbnUsPhysRngLo | Physical Range Check low for turbine upstream temperature sensor  |
| 1180 | 13 | Turbo Charger Upstream Temperature        | DFC_TTrbnUsNpl       | Non Plausibility error for TTrbnUs                                |
| 1180 | 3  | Turbo Charger Upstream Temperature Sensor | DFC_TTrbnUsSRCMax    | SRC High for TrbnUs Temperature                                   |

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| 1180 | 4  | Turbo Charger Upstream Temperature Sensor | DFC_TTrbnUsSRCMin             | SRC low for TrbnUs Temperature sensor                              |
| 1213 | 12 | MIL                                       | DFC_MILOvrTemp                | No load error                                                      |
| 1213 | 3  | MIL                                       | DFC_MILSCB                    | Short circuit to battery error                                     |
| 1213 | 4  | MIL                                       | DFC_MILSCG                    | Short circuit to ground error                                      |
| 1213 | 5  | MIL                                       | DFC_MILOL                     | No load error                                                      |
| 1231 | 14 | CAN                                       | DFC_BusDiagBusOffNodeB        | BusOff error CAN B                                                 |
| 1235 | 14 | CAN                                       | DFC_BusDiagBusOffErrPasNo deC | error passive CAN C                                                |
| 1235 | 9  | CAN                                       | DFC_BusDiagBusOffNodeC        | BusOff error CAN C                                                 |
| 1244 | 12 | Pressure Control Valve                    | DFC_PCVOT                     | over teperature of device driver of pressure control valve         |
| 1244 | 16 | Pressure Control Valve                    | DFC_PCVShCirLSBatt            | short circuit to battery of pressure control valve output          |
| 1244 | 18 | Pressure Control Valve                    | DFC_PCVShCirLSGnd             | short circuit to ground of the pressure control valve output       |
| 1244 | 3  | Pressure Control Valve                    | DFC_PCVSRCMin                 | signal range check low error of pressure control valve AD-channel  |
| 1244 | 4  | Pressure Control Valve                    | DFC_PCVSRCMax                 | signal range check high error of pressure control valve AD-channel |
| 1244 | 5  | Pressure Control Valve                    | DFC_PCVOL                     | open load of pressure control valve output                         |
| 1382 | 0  | Fuel Filter                               | DFC_FISysClgDet               | Signal error for fuel filter Clg detection                         |
| 1382 | 13 | Fuel Filter                               | DFC_FISysClgDetPlaus          | Plausibility error for fuel filter Clg detection                   |
| 1550 | 12 | Fan                                       | DFC_FanDIOOvrTemp_1           | Over temperature error                                             |
| 1639 | 0  | Fan                                       | DFC_FanSpdSRCHigh             | Fan speed above maximum threshold                                  |
| 1639 | 1  | Fan                                       | DFC_FanSpdSRCLow              | Fan speed below minimum threshold                                  |
| 1639 | 8  | Fan                                       | DFC_FanSpdLonPer              | DFC for reporting DCM timer overflow error                         |
| 1656 | 12 | Engine Compartment Button                 | DFC_ECBtnStopSig              | fault path for signal check                                        |
| 1656 | 14 | Engine Compartment Button                 | DFC_ECBtnStrtSig              | fault path for signal check                                        |
| 1668 | 14 | CAN                                       | DFC_BusDiagBusOffErrPasNo deD | error passive CAN D                                                |
| 1668 | 9  | CAN                                       | DFC_BusDiagBusOffNodeD        | BusOff error CAN D                                                 |
| 1769 | 11 | Engine Protection                         | DFC_EngPrtOvrSpd              | Overspeed detection in component engine protection                 |
| 2541 | 9  | CAN                                       | DFC_ComACKTO                  | Timeout Error of CAN-send-Frame ACK                                |
| 2633 | 0  | Turbo Charger Actuator                    | DFC_TrbChGovDvtMax            |                                                                    |
| 2633 | 1  | Turbo Charger Actuator                    | DFC_TrbChGovDvtMin            |                                                                    |
| 2633 | 7  | Turbo Charger Actuator                    | DFC_TrbChGovDvtCld            |                                                                    |
| 2634 | 11 | Main Relay                                | DFC_MRlyErlyOpng              | Early opening defect of main relay                                 |

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| 2634 | 12 | Main Relay                              | DFC_MRlyStk               | DFC for stuck main relay error                                                         |
| 2659 | 1  | EGR Monitoring                          | DFC_ChrCtlFlowMon2        | High flow error 2 in EGR system                                                        |
| 2659 | 18 | EGR Monitoring                          | DFC_ChrCtlFlowMon1        | High flow error 1 in EGR system                                                        |
| 2659 | 7  | EGR Monitoring                          | DFC_AirMonEGRRed          | Sooting in EGR Line                                                                    |
| 2791 | 0  | EGR Valve                               | DFC_EGRVlvJamVlvOpn       |                                                                                        |
| 2791 | 1  | EGR Valve                               | DFC_EGRVlvJamVlvClsd      |                                                                                        |
| 2791 | 11 | EGR Valve                               | DFC_EGRVlvTmpErr          |                                                                                        |
| 2791 | 12 | EGR Valve                               | DFC_EGRVlvGovDvtCld       |                                                                                        |
| 2791 | 13 | EGR Valve                               | DFC_EGRVlvSRCMax          |                                                                                        |
| 2791 | 14 | EGR Valve                               | DFC_EGRVlvSRCMin          |                                                                                        |
| 2791 | 15 | EGR Valve                               | DFC_EGRVlvDrftOpn         |                                                                                        |
| 2791 | 16 | EGR Valve                               | DFC_EGRVlvGovDvtMin       |                                                                                        |
| 2791 | 18 | EGR Valve                               | DFC_EGRVlvGovDvtMax       |                                                                                        |
| 2791 | 20 | EGR Valve                               | DFC_EGRVlvPhysSRCMax      |                                                                                        |
| 2791 | 21 | EGR Valve                               | DFC_EGRVlvPhysSRCMin      |                                                                                        |
| 2791 | 6  | EGR Monitoring                          | DFC_EGRVlvCurrLim         |                                                                                        |
| 2791 | 7  | EGR Valve                               | DFC_EGRVlvSprgBrk         |                                                                                        |
| 2791 | 9  | CAN                                     | DFC_ComEEC5TO             | Timeout Error of CAN-Transmit-Frame EEC5                                               |
| 2795 | 20 | Turbo Charger Actuator                  | DFC_TrbChDrftOpn          |                                                                                        |
| 2795 | 21 | Turbo Charger Actuator                  | DFC_TrbChDrftClsd         |                                                                                        |
| 2802 | 12 | ECU Internal                            | DFC_EEPWrErr              | EEP Write Error based on the error in storing the blocks in memory media               |
| 2802 | 14 | ECU Internal                            | DFC_EEPRdErr              | EEP Read Error based on the error in reading blocks from memory media                  |
| 3062 | 12 | Air Condition Compressor                | DFC_AirCCmprRedTrqOvrTemp | Over temperature error on powerstage for the reduce torque instruction                 |
| 3062 | 3  | Air Condition Compressor                | DFC_AirCCmprRedTrqSCB     | Short circuit to battery error on power stage for the reduce torque instruction        |
| 3062 | 4  | Air Condition Compressor                | DFC_AirCCmprRedTrqSCG     | Short circuit to ground error on power stage for the reduce torque instruction         |
| 3062 | 5  | Air Condition Compressor                | DFC_AirCCmprRedTrqOL      | No load error on power stage for the reduce torque instruction                         |
| 3242 | 0  | Particulate Filter Upstream Temperature | DFC_TPFItUsPhysRngHi      | Physical Range Check high for particulate filter upstream temperature sensor           |
| 3242 | 1  | Particulate Filter Upstream Temperature | DFC_TPFItUsPhysRngLo      | Physical Range Check low for particulate filter upstream temperature sensor            |
| 3244 | 2  | Particulate Filter Upstream Temperature | DFC_TPFItUsNpl            | Diagnostic fault check for Plausibility errors in Particle filter upstream temperature |

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| 3244 | 3  | Particulate Filter Upstream Temperature Sensor           | DFC_TPFIUsSRMax           | Diagnostic fault check for Signal Range Check max error for the temperature sensor installed at the upstream of particulate filter. |
| 3244 | 4  | Particulate Filter Upstream Temperature Sensor           | DFC_TPFIUsSRMin           | Diagnostic fault check for Signal Range Check min error for the temperature sensor installed at the upstream of particulate filter. |
| 3244 | 9  | CAN                                                      | DFC_ComAT1IG2TO           | Timeout error of aftertreatment 1 Diesel Particulate Filter Intake Gas Temperature                                                  |
| 3248 | 2  | Particulate Filter Downstream Temperature                | DFC_TPFItdsNpl            | Diagnostic fault check for plausibility of particle filter downstream temperature                                                   |
| 3248 | 3  | Particulate Filter Downstream Temperature Sensor         | DFC_TPFItdsSRMax          | DFC for Max-error of Signal-Range-Check                                                                                             |
| 3248 | 4  | Particulate Filter Downstream Temperature Sensor         | DFC_TPFItdsSRMin          | DFC for Min-error of Signal-Range-Check                                                                                             |
| 3251 | 13 | Particulate Filter Differential Pressure Sensor Hoseline | DFC_NplHsChngPPFItdiff    | Fault check for Hoseline connection                                                                                                 |
| 3251 | 2  | Particulate Filter Differential Pressure Sensor          | DFC_NplPresSensPPFItdiff  | Fault check for the pressure sensor plausibility                                                                                    |
| 3252 | 9  | CAN                                                      | DFC_ComAT1IMGTO           | Timeout Error of CAN-Transmit-Frame AT1IMG                                                                                          |
| 3253 | 0  | Particulate Filter Monitoring                            | DFC_PFItdCharPDiffMax     | Diagnostic fault check for maximum pressure differential characteristics                                                            |
| 3253 | 1  | Particulate Filter Monitoring                            | DFC_PFItdCharPDiffMin     | Diagnostic fault check for minimum pressure differential characteristics                                                            |
| 3253 | 12 | Particulate Filter Monitoring                            | DFC_PFItdStrMin           | Diagnostic fault check for min deviation measure from simulated and measured particulate mass                                       |
| 3253 | 2  | Particulate Filter Monitoring                            | DFC_PFItdCharPDiffMinHiLd | Check for minimum exhaust gas differential pressure for high load                                                                   |
| 3353 | 9  | CAN                                                      | DFC_ComASTO               | Timeout Error of CAN-Transmit-Frame AS                                                                                              |
| 3361 | 10 | CAN                                                      | DFC_ComDM1DCUPCK2PCKTO    | Time out Packet to packet                                                                                                           |
| 3361 | 9  | CAN                                                      | DFC_ComDM1DCUBAM2PCKTO    | Time out BAM to packet                                                                                                              |
| 3470 | 12 | Turbo Charger Actuator                                   | DFC_TrbChSprgBrk          |                                                                                                                                     |
| 3470 | 14 | Turbo Charger Actuator                                   | DFC_TrbChTmpErr           |                                                                                                                                     |
| 3470 | 20 | Turbo Charger Actuator                                   | DFC_TrbChJamVlvOpn        |                                                                                                                                     |
| 3470 | 21 | Turbo Charger Actuator                                   | DFC_TrbChJamVlvClsd       |                                                                                                                                     |

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| 3509 | 2  | Sensor Supply Monitoring 1                      | DFC_SSpMon1              | Voltage fault at Sensor supply 1                                                           |
| 3510 | 2  | Sensor Supply Monitoring 2                      | DFC_SSpMon2              | Voltage fault at Sensor supply 2                                                           |
| 3511 | 2  | Sensor Supply Monitoring 3                      | DFC_SSpMon3              | Voltage fault at Sensor supply 3                                                           |
| 3609 | 12 | Particulate Filter Differential Pressure        | DFC_PPFItdiffNplHsLn     | DFC to check for hose line error                                                           |
| 3609 | 16 | Particulate Filter Differential Pressure        | DFC_PPFItdiffEnhSRCMax   | Enhanced SRC high for PFItd differential pressure sensor                                   |
| 3609 | 18 | Particulate Filter Differential Pressure        | DFC_PPFItdiffEnhSRCMin   | Enhanced SRC low for PFItd differential pressure sensor                                    |
| 3609 | 3  | Particulate Filter Differential Pressure Sensor | DFC_PPFItdiffSRCMax      | SRC High for PFItd differential pressure sensor                                            |
| 3609 | 31 | Particulate Filter Differential Pressure        | DFC_PPFItdiffSot         | Diagnostic Fault Check for Soot on hose line monitoring                                    |
| 3609 | 4  | Particulate Filter Differential Pressure Sensor | DFC_PPFItdiffSRCMin      | SRC low for PFItd differential pressure sensor                                             |
| 3609 | 9  | Particulate Filter Differential Pressure        | DFC_PPFItdiffNplDyn      | DFC for dynamic plausibility check for differential pressure across the Particulate filter |
| 3675 | 0  | Turbo Charger Actuator                          | DFC_TrbChPhysSRCMax      |                                                                                            |
| 3675 | 1  | Turbo Charger Actuator                          | DFC_TrbChPhysSRCMin      |                                                                                            |
| 3675 | 14 | Turbo Charger Actuator                          | DFC_TrbChHBrgShCirGnd1   |                                                                                            |
| 3675 | 3  | Turbo Charger Actuator                          | DFC_TrbChSRCMax          |                                                                                            |
| 3675 | 4  | Turbo Charger Actuator                          | DFC_TrbChSRCMin          |                                                                                            |
| 3675 | 8  | Turbo Charger Actuator                          | DFC_TrbChHBrgShCirBatt1  |                                                                                            |
| 4009 | 12 | Fuel Filter Heater                              | DFC_FIFItHtOvrTemp       | Over Temperature error in powerstage of fuel filter heating                                |
| 4009 | 3  | Fuel Filter Heater                              | DFC_FIFItHtSCB           | Short circuit to battery error in powerstage of fuel filter heating                        |
| 4009 | 4  | Fuel Filter Heater                              | DFC_FIFItHtSCG           | Short circuit to ground error in powerstage of fuel filter heating                         |
| 4009 | 5  | Fuel Filter Heater                              | DFC_FIFItHtOL            | No load error in powerstage of fuel filter heating                                         |
| 4228 | 0  | Turbo Charger Actuator                          | DFC_TrbChHBrgTempOvrCurr |                                                                                            |
| 4752 | 1  | EGR Monitoring                                  | DFC_EGRCIgMonEta         | DFC for monitoring EGR cooler efficiency                                                   |
| 4770 | 9  | CAN                                             | DFC_ComA1DOC_TO          | Timeout Error of CAN-Transmit-Frame A1DOC                                                  |
| 4781 | 0  | Particulate Filter Monitoring                   | DFC_PFItdAshLdMax        | To check if volume of Ash load has exceeded the limit                                      |
| 4781 | 1  | Particulate Filter Monitoring                   | DFC_PFItdEff             | Diagnostic fault check for particulate filter efficiency                                   |
| 4781 | 13 | Particulate Filter Monitoring                   | DFC_PFItdSotMsMax        | Diagnostic fault check for Maximum soot mass                                               |

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| 4781 | 16 | Particulate Filter Monitoring   | DFC_PFIItSotMsDvtMax     | Diagnostic fault check for pressure differential charecterstics                            |
| 4781 | 18 | Particulate Filter Monitoring   | DFC_PFIItSotMsDvtMin     | Diagnostic fault check for pressure differential charecterstics                            |
| 4781 | 31 | Particulate Filter Monitoring   | DFC_PFIItRgnNoCompl      | Diagnostic fault check for incomplete regeneration of particulate filter                   |
| 4781 | 7  | Particulate Filter Monitoring   | DFC_PFIItSotMsTrqLim     | torque soot mass limit dfc                                                                 |
| 4781 | 8  | Particulate Filter Monitoring   | DFC_PFIItFreq            | Diagnostic fault check for too frequent regeneration of the particulate filter             |
| 4785 | 9  | CAN                             | DFC_ComDPF1STxTO         | Timeout Error of CAN-Transmit-Frame DPF1S                                                  |
| 4791 | 3  | Oxidation Catalyst Heater Plugs | DFC_OxiCatHeatrDiag02OI  | DFC for open circuit to ground, K59 line for the DOC Heater feedback relay diagnosis line  |
| 4791 | 4  | Oxidation Catalyst Heater Plugs | DFC_OxiCatHeatrDiag02Sc  | DFC for short circuit to ground, K59 line for the DOC Heater feedback relay diagnosis line |
| 4791 | 5  | Oxidation Catalyst Heater Plugs | DFC_OxiCatHeatrDiag01OI  | DFC for open circuit to ground, K20 line for the DOC Heater feedback relay diagnosis line  |
| 4791 | 6  | Oxidation Catalyst Heater Plugs | DFC_OxiCatHeatrDiag01Sc  | DFC for short circuit to ground, K20 line for the DOC Heater feedback relay diagnosis line |
| 4793 | 12 | Oxidation Catalyst Heater Relay | DFC_OxiCatHeatrPsOvrTemp | Over temperature error                                                                     |
| 4793 | 3  | Oxidation Catalyst Heater Relay | DFC_OxiCatHeatrPsSCB     | Short circuit to battery error                                                             |
| 4793 | 4  | Oxidation Catalyst Heater Relay | DFC_OxiCatHeatrPsSCG     | Short circuit to ground error                                                              |
| 4793 | 5  | Oxidation Catalyst Heater Relay | DFC_OxiCatHeatrPsOL      | No load error                                                                              |
| 5077 | 12 | Warning Lamp                    | DFC_WrnLmpOvrTemp        | Over Temperature error                                                                     |
| 5077 | 3  | Warning Lamp                    | DFC_WrnLmpSCB            | Short circuit to battery error                                                             |
| 5077 | 4  | Warning Lamp                    | DFC_WrnLmpSCG            | Short circuit to ground error                                                              |
| 5077 | 5  | Warning Lamp                    | DFC_WrnLmpOL             | No load error                                                                              |
| 5100 | 12 | Coolant Temperature Display     | DFC_TCIntDsplOvrTemp     | Over temperature error on ECU powerstage coolant temperature PWM output                    |
| 5100 | 3  | Coolant Temperature Display     | DFC_TCIntDsplSCB         | Short circuit to battery error                                                             |
| 5100 | 4  | Coolant Temperature Display     | DFC_TCIntDsplSCG         | Short circuit to ground error                                                              |
| 5100 | 5  | Coolant Temperature Display     | DFC_TCIntDsplOL          | No load error                                                                              |

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| 5317 | 0  | Oxidation Catalyst Monitoring | DFC_OxiCatLv12rLdMon   | DFC for soot load monitoring in first threshold                    |
| 5317 | 16 | Oxidation Catalyst Monitoring | DFC_OxiCatLv11rLdMon   | DFC for soot load monitoring in first threshold                    |
| 5319 | 0  | Particulate Filter Monitoring | DFC_PFItrRgnPerm       | Diagnostic fault check for a locked regeneration                   |
| 5319 | 2  | Particulate Filter Monitoring | DFC_PFItrRgnDmdDrvrErr | Diagnostic fault check for driver demand regeneration button stuck |
| 5324 | 0  | Glow Plugs                    | DFC_GlwPlgRiErr_0      | Array of DFCs for resistance out of range of i+1th Glow Plug       |
| 5324 | 11 | Glow Plugs                    | DFC_GlwPlgPLUGErr_0    | Array of DFCs for failure in i+1th Glow Plug                       |
| 5324 | 14 | Glow Plugs                    | DFC_GlwPlgWrngTyp_0    | Array of DFCs for wrong type of i+1th Glow Plug                    |
| 5324 | 4  | Glow Plugs                    | DFC_GlwPlgPLUGSC_0     | Array of DFCs for short circuit in i+1th Glow Plug                 |
| 5325 | 0  | Glow Plugs                    | DFC_GlwPlgRiErr_1      | Array of DFCs for resistance out of range of i+1th Glow Plug       |
| 5325 | 11 | Glow Plugs                    | DFC_GlwPlgPLUGErr_1    | Array of DFCs for failure in i+1th Glow Plug                       |
| 5325 | 14 | Glow Plugs                    | DFC_GlwPlgWrngTyp_1    | Array of DFCs for wrong type of i+1th Glow Plug                    |
| 5325 | 4  | Glow Plugs                    | DFC_GlwPlgPLUGSC_1     | Array of DFCs for short circuit in i+1th Glow Plug                 |
| 5326 | 0  | Glow Plugs                    | DFC_GlwPlgRiErr_2      | Array of DFCs for resistance out of range of i+1th Glow Plug       |
| 5326 | 11 | Glow Plugs                    | DFC_GlwPlgPLUGErr_2    | Array of DFCs for failure in i+1th Glow Plug                       |
| 5326 | 14 | Glow Plugs                    | DFC_GlwPlgWrngTyp_2    | Array of DFCs for wrong type of i+1th Glow Plug                    |
| 5326 | 4  | Glow Plugs                    | DFC_GlwPlgPLUGSC_2     | Array of DFCs for short circuit in i+1th Glow Plug                 |
| 5327 | 0  | Glow Plugs                    | DFC_GlwPlgRiErr_3      | Array of DFCs for resistance out of range of i+1th Glow Plug       |
| 5327 | 11 | Glow Plugs                    | DFC_GlwPlgPLUGErr_3    | Array of DFCs for failure in i+1th Glow Plug                       |
| 5327 | 14 | Glow Plugs                    | DFC_GlwPlgWrngTyp_3    | Array of DFCs for wrong type of i+1th Glow Plug                    |
| 5327 | 4  | Glow Plugs                    | DFC_GlwPlgPLUGSC_3     | Array of DFCs for short circuit in i+1th Glow Plug                 |
| 5328 | 0  | Glow Plugs                    | DFC_GlwPlgRiErr_4      | Array of DFCs for resistance out of range of i+1th Glow Plug       |
| 5328 | 11 | Glow Plugs                    | DFC_GlwPlgPLUGErr_4    | Array of DFCs for failure in i+1th Glow Plug                       |
| 5328 | 14 | Glow Plugs                    | DFC_GlwPlgWrngTyp_4    | Array of DFCs for wrong type of i+1th Glow Plug                    |
| 5328 | 4  | Glow Plugs                    | DFC_GlwPlgPLUGSC_4     | Array of DFCs for short circuit in i+1th Glow Plug                 |

|      |    |                                        |                           |                                                                             |
|------|----|----------------------------------------|---------------------------|-----------------------------------------------------------------------------|
| 5329 | 0  | Glow Plugs                             | DFC_GlwPlgRiErr_5         | Array of DFCs for resistance out of range of i+1th Glow Plug                |
| 5329 | 11 | Glow Plugs                             | DFC_GlwPlgPLUGErr_5       | Array of DFCs for failure in i+1th Glow Plug                                |
| 5329 | 14 | Glow Plugs                             | DFC_GlwPlgWrngTyp_5       | Array of DFCs for wrong type of i+1th Glow Plug                             |
| 5329 | 4  | Glow Plugs                             | DFC_GlwPlgPLUGSC_5        | Array of DFCs for short circuit in i+1th Glow Plug                          |
| 5369 | 3  | Turbo Charger Actuator                 | DFC_TrbChHBrgShCirBatt2   |                                                                             |
| 5369 | 4  | Turbo Charger Actuator                 | DFC_TrbChHBrgShCirGnd2    |                                                                             |
| 5375 | 11 | Throttle Valve                         | DFC_ThrVlvHBrgTempOvrCurr |                                                                             |
| 5375 | 14 | Throttle Valve                         | DFC_ThrVlvHBrgUndrVltg    |                                                                             |
| 5375 | 3  | Throttle Valve                         | DFC_ThrVlvHBrgShCirBatt1  |                                                                             |
| 5375 | 4  | Throttle Valve                         | DFC_ThrVlvHBrgShCirGnd2   |                                                                             |
| 5375 | 5  | Throttle Valve                         | DFC_ThrVlvHBrgOpnLd       |                                                                             |
| 5375 | 6  | Throttle Valve                         | DFC_ThrVlvHBrgOvrCurr     |                                                                             |
| 5375 | 8  | Throttle Valve                         | DFC_ThrVlvHBrgShCirOvrLd  |                                                                             |
| 5377 | 3  | Throttle Valve                         | DFC_ThrVlvHBrgShCirBatt2  |                                                                             |
| 5377 | 4  | Throttle Valve                         | DFC_ThrVlvHBrgShCirGnd1   |                                                                             |
| 5386 | 12 | Turbo Charger Actuator                 | DFC_TrbChOvrTemp          |                                                                             |
| 5386 | 3  | Turbo Charger Actuator                 | DFC_TrbChSCB              |                                                                             |
| 5386 | 4  | Turbo Charger Actuator                 | DFC_TrbChSCG              |                                                                             |
| 5386 | 5  | Turbo Charger Actuator                 | DFC_TrbChOL               |                                                                             |
| 5579 | 3  | Fuel Filter Downstream Pressure Sensor | DFC_FIFItDsPSRCMax        | Short circuit to battery error on fuel filter clog detection sensor ecu pin |
| 5579 | 4  | Fuel Filter Downstream Pressure Sensor | DFC_FIFItDsPSRCMin        | Short circuit to ground error on fuel filter clog detection ECU pin         |
| 5609 | 14 | Brake System                           | DFC_BrkCrCtlRls           | Plausibility check for Brake                                                |
| 5609 | 31 | Brake System                           | DFC_BrkCrCtlLmp           | Plausibility check for Brake                                                |
| 5631 | 0  | PFM                                    | DFC_PThrVlvUsPrcHiB1      | Physical Range high fault boost pressure sensor bank1                       |
| 5631 | 1  | PFM                                    | DFC_PThrVlvUsPrcLoB1      | Physical Range low fault boost pressure sensor bank1                        |
| 5631 | 10 | PFM                                    | DFC_PThrVlvUsPlausLoB1    | Plausibility low fault boost pressure sensor bank1                          |
| 5631 | 12 | PFM                                    | DFC_PThrVlvUsSnsrErrB1    | Fault boost pressure sensor self diagnosis bank1                            |
| 5631 | 16 | PFM                                    | DFC_PThrVlvUsSigRngHiB1   | Fault boost pressure sensor range high bank1                                |
| 5631 | 18 | PFM                                    | DFC_PThrVlvUsSigRngLoB1   | Fault boost pressure sensor range low bank1                                 |
| 5631 | 3  | PFM                                    | DFC_PThrVlvUsLineHiB1     | DFC: SRC high in throttle valve upstream pressure sensor Bank1              |
| 5631 | 4  | PFM                                    | DFC_PThrVlvUsLineLoB1     | DFC: SRC low in throttle valve upstream pressure sensor Bank1               |
| 5631 | 9  | PFM                                    | DFC_PThrVlvUsPlausHiB1    | Plausibility high fault boost pressure sensor bank1                         |

|      |    |                                                      |                               |                                                                                                    |
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| 5763 | 11 | EGR Valve                                            | DFC_EGRVlvHBrgTempOvrCur<br>r |                                                                                                    |
| 5763 | 12 | EGR Valve                                            | DFC_EGRVlvHBrgOvrTemp         |                                                                                                    |
| 5763 | 3  | EGR Valve                                            | DFC_EGRVlvHBrgShCirBatt1      |                                                                                                    |
| 5763 | 4  | EGR Valve                                            | DFC_EGRVlvHBrgShCirGnd1       |                                                                                                    |
| 5763 | 5  | EGR Valve                                            | DFC_EGRVlvHBrgOpnLd           |                                                                                                    |
| 5763 | 6  | EGR Valve                                            | DFC_EGRVlvHBrgOvrCurr         |                                                                                                    |
| 5770 | 3  | EGR Valve                                            | DFC_EGRVlvHBrgShCirBatt2      |                                                                                                    |
| 5770 | 4  | EGR Valve                                            | DFC_EGRVlvHBrgShCirGnd2       |                                                                                                    |
| 5770 | 6  | EGR Valve                                            | DFC_EGRVlvHBrgShCirOvrLd      |                                                                                                    |
| 5771 | 4  | EGR Valve                                            | DFC_EGRVlvHBrgUndrVltg        |                                                                                                    |
| 5784 | 12 | Throttle Valve                                       | DFC_ThrVlvHBrgOvrTemp         |                                                                                                    |
| 5797 | 0  | Oxidation Catalyst<br>Upstream Temperature           | DFC_TOxiCatUsPhysRngHi        | Physical Range Check high<br>for temperature sensor<br>upstream oxidation catalyst                 |
| 5797 | 1  | Oxidation Catalyst<br>Upstream Temperature           | DFC_TOxiCatUsPhysRngLo        | Physical range check low for<br>temperature sensor upstream<br>oxidation catalyst                  |
| 5797 | 2  | Oxidation Catalyst<br>Upstream Temperature           | DFC_TOxiCatUsNpl              | Diagnostic fault check for<br>Plausibility errors in Oxidation<br>Catalyst upstream<br>temperature |
| 5797 | 3  | Oxidation Catalyst<br>Upstream Temperature<br>Sensor | DFC_TOxiCatUsSRCMax           | Diagnostic fault check for<br>SRC high in Oxidation<br>Catalyst upstream<br>temperature            |
| 5797 | 4  | Oxidation Catalyst<br>Upstream Temperature<br>Sensor | DFC_TOxiCatUsSRCMin           | Diagnostic fault check for<br>SRC low in Oxidation<br>Catalyst upstream<br>temperature             |
| 5826 | 0  | Cruise Control                                       | DFC_CrpModeActv               |                                                                                                    |
| 6385 | 12 | Starter Relay                                        | DFC_StrtHSOvrTemp             | Over temperature error for<br>Starter high side                                                    |
| 6385 | 3  | Starter Relay                                        | DFC_StrtHSSCB                 | Short circuit to battery error<br>for Starter high side                                            |
| 6385 | 4  | Starter Relay                                        | DFC_StrtHSSCG                 | Short circuit to ground error<br>for Starter high side                                             |
| 6719 | 12 | Pre Supply Pump                                      | DFC_PSPOvrTemp                | Over temperature error on<br>ECU powerstage for Pre<br>supply pump                                 |
| 6719 | 3  | Pre Supply Pump                                      | DFC_PSPSCB                    | short circuit to battery of pre-<br>supply pump output                                             |
| 6719 | 4  | Pre Supply Pump                                      | DFC_PSPSCG                    | short circuit to ground of pre-<br>supply pump output                                              |
| 6719 | 5  | Pre Supply Pump                                      | DFC_PSPOL                     | open load of pre-supply pump<br>output                                                             |
| 7332 | 10 | Energizing Time Control                              | DFC_ETCt!OutrLopRpT           | Error path for response time<br>of outer loop                                                      |
| 7332 | 15 | Energizing Time Control                              | DFC_ETCt!OutrLopCtVMax        | Error path for not reaching<br>the setpoint of the outer loop<br>with maximal control variable     |

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|-------|----|-------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7332  | 16 | Energizing Time Control | DFC_ETCtInrLopCtVMax          | Error path for not reaching the setpoint of the inner loop with maximal control variable                                                                                  |
| 7332  | 17 | Energizing Time Control | DFC_ETCtOutrLopCtVMin         | Error path for not reaching the setpoint of the outer loop with minimal control variable                                                                                  |
| 7332  | 18 | Energizing Time Control | DFC_ETCtInrLopCtVMin          | Error path for not reaching the setpoint of the inner loop with minimal control variable                                                                                  |
| 7332  | 9  | Energizing Time Control | DFC_ETCtInrLopRpT             | Error path for response time of inner loop                                                                                                                                |
| 7576  | 12 | Glow Control Unit       | DFC_GlwPlgGCU4PRFlgErr        | DFC for PRFlag =0 if GE_SET has been sent                                                                                                                                 |
| 7576  | 13 | Glow Control Unit       | DFC_GlwPlgGCUTyp              | DFC for wrong GCU type                                                                                                                                                    |
| 7576  | 14 | Glow Control Unit       | DFC_GlwPlgGCU4T30Miss         | DFC for T30 missing error                                                                                                                                                 |
| 7576  | 2  | Glow Control Unit       | DFC_GlwPlgGCU4ComErr          | DFC for error in reception                                                                                                                                                |
| 7576  | 3  | Glow Control Unit       | DFC_GlwPlgGCU4OvrVltg         | DFC for Over Voltage error                                                                                                                                                |
| 7576  | 31 | Glow Control Unit       | DFC_GlwPlgGCU4Var             | DFC for GCU4 variant error                                                                                                                                                |
| 7576  | 4  | Glow Control Unit       | DFC_GlwPlgGCU4CPUV            | DFC for chargepump under voltage                                                                                                                                          |
| 7577  | 12 | Glow Control Unit       | DFC_GlwPlgGCU4OT              | DFC for Over temperature error                                                                                                                                            |
| 7759  | 2  | CAN                     | DFC_ComEngStartStopNP         | Non Plausible check Error of CAN-Receive-Frame Cab Message 1                                                                                                              |
| 20277 | 3  | RmtAPP Poti 1           | DFC_SRCHighRmtAPP1            | Signal Range Check High for RmtAPP1                                                                                                                                       |
| 20277 | 4  | RmtAPP Poti 1           | DFC_SRCLowRmtAPP1             | Signal Range Check Low for RmtAPP1                                                                                                                                        |
| 20278 | 3  | RmtAPP Poti 2           | DFC_SRCHighRmtAPP2            | Signal Range Check High for RmtAPP2                                                                                                                                       |
| 20278 | 4  | RmtAPP Poti 2           | DFC_SRCLowRmtAPP2             | Signal Range Check Low for RmtAPP2                                                                                                                                        |
| 22000 | 14 | CAN                     | DFC_BusDiagBusOffErrPasNo deA | error passive CAN A                                                                                                                                                       |
| 22001 | 15 | CAN                     | DFC_BusDiagBusOffErrPasNo deB | error passive CAN B                                                                                                                                                       |
| 22040 | 19 | CAN                     | DFC_ComTSC1TETO               | Timeout Error of CAN-Receive-Frame TSC1TE                                                                                                                                 |
| 23618 | 3  | Battery/Electric Supply | DFC_DevLibBattUHi             | The DFC is set if the battery voltage exceed the higher calibrated limit longer than the debounce time. If the DFC is set, diagnoses of the power stages can be disabled. |

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| 23618  | 4  | Battery/Electric Supply  | DFC_DevLibBattULo     | The DFC is set if the battery voltage exceed the lower calibrated limit longer than the debounce time. If the DFC is set, diagnoses of the power stages can be disabled. |
| 516096 | 0  | PFM                      | DFC_AfsPErrPlausyMax  | DFC to indicate the occurrence of maximum plausibility error for PFM                                                                                                     |
| 516096 | 1  | PFM                      | DFC_AfsPErrPlausyMin  | DFC to indicate the occurrence of minimum plausibility error for PFM                                                                                                     |
| 516097 | 0  | PFM                      | DFC_AfsPSent2LineHiB1 | Error path of electrical line hi diagnosis of the 2nd SENT line of the PFM sensor in bank 1                                                                              |
| 516097 | 1  | PFM                      | DFC_AfsPSent2LineLoB1 | Error path of electrical line low diagnosis of the 2nd SENT line of the PFM sensor in bank 1                                                                             |
| 516097 | 8  | PFM                      | DFC_AfsPSent2ComB1    | Error path to display communication errors of the 2nd SENT line of the PFM sensor in bank 1                                                                              |
| 516098 | 0  | PFM                      | DFC_AfsPSentLineHiB1  | Error path of electrical line hi diagnosis of the SENT line of the PFM sensor in bank 1                                                                                  |
| 516098 | 1  | PFM                      | DFC_AfsPSentLineLoB1  | Error path of electrical line low diagnosis of the SENT line of the PFM sensor in bank 1                                                                                 |
| 516098 | 19 | PFM                      | DFC_AfsPSentComB1     | Error path to display communication errors of the SENT line of the PFM sensor in bank 1                                                                                  |
| 522001 | 14 | Air Condition Compressor | DFC_AirCSwtNpl        | Plausibility error for CAN input                                                                                                                                         |
| 522002 | 14 | Air Condition Compressor | DFC_AirCSwtSig        | Signal error for CAN input                                                                                                                                               |
| 522003 | 9  | CAN                      | DFC_ComEEC2TO         | Timeout Error of CAN-Transmit-Frame EEC@                                                                                                                                 |
| 522004 | 9  | CAN                      | DFC_ComEFL_P1TO       | Timeout Error of CAN-Transmit-Frame EFL_P1                                                                                                                               |
| 522005 | 12 | CAN                      | DFC_ComETC2DLC        | DFC for DLC Error of CAN-Receive-Frame ETC2                                                                                                                              |
| 522005 | 9  | CAN                      | DFC_ComETC2TO         | Timeout Error of CAN-Receive-Frame ETC2                                                                                                                                  |
| 522006 | 9  | CAN                      | DFC_ComLFCTO          | Timeout Error of CAN-Transmit-Frame FIC                                                                                                                                  |
| 522008 | 19 | CAN                      | DFC_ComRCBAMTO        | Timeout Error of Engine Retarder Configuration BAM message                                                                                                               |

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| 522009 | 9 | CAN | DFC_ComRCPACTO      | Timeout Error of Engine Retarder Configuration packet frame |
| 522010 | 2 | CAN | DFC_ComTCO1DLC      | DFC for DLC Error of CAN-Receive-Frame TCO1                 |
| 522011 | 9 | CAN | DFC_ComTI1TO        | Timeout Error of CAN-Receive-Frame TI1                      |
| 522012 | 2 | CAN | DFC_ComTimeDateDLC  | DFC for DLC Error of CAN-Receive-Frame TimeDate             |
| 522012 | 9 | CAN | DFC_ComTimeDateTO   | Timeout Error of CAN-Receive-Frame TimeDate                 |
| 522013 | 9 | CAN | DFC_ComTOTSC1DRAct  | Passive DFC TimeOut of TSC1DR Message                       |
| 522014 | 9 | CAN | DFC_ComTOTSC1DRPas  | Passive DFC TimeOut of TSC1DR Message                       |
| 522015 | 9 | CAN | DFC_ComTOTSC1PEAct  | Active DFC TimeOut of TSC1PE Message                        |
| 522016 | 9 | CAN | DFC_ComTOTSC1PEPas  | Passive DFC TimeOut of TSC1PE Message                       |
| 522017 | 9 | CAN | DFC_ComTOTSC1VEAct  | Active Time out for TSC1VE                                  |
| 522018 | 9 | CAN | DFC_ComTOTSC1VEPas  | Passive Time out for TSC1VE                                 |
| 522019 | 9 | CAN | DFC_ComTOTSC1VRAct  | Active Time out for TSC1VR                                  |
| 522020 | 9 | CAN | DFC_ComTOTSC1VRPas  | Passive Time out for TSC1VR                                 |
| 522021 | 2 | CAN | DFC_ComTSC1DEDLC    | DFC for DLC Error of CAN-Receive-Frame TSC1DE               |
| 522021 | 9 | CAN | DFC_ComTSC1DETO     | Timeout Error of CAN-Receive-Frame TSC1DE                   |
| 522022 | 2 | CAN | DFC_ComTSC1DRDLC    | DFC for DLC Error of CAN-Receive-Frame TSC1DR               |
| 522022 | 9 | CAN | DFC_ComTSC1DRTO     | Timeout Error of CAN-Receive-Frame TSC1DR                   |
| 522023 | 2 | CAN | DFC_ComTSC1PEDLC    | DFC for DLC Error of CAN-Receive-Frame TSC1PE               |
| 522023 | 9 | CAN | DFC_ComTSC1PETO     | Timeout Error of CAN-Receive-Frame TSC1PE                   |
| 522024 | 2 | CAN | DFC_ComTSC1VEDLC    | DFC for DLC Error of CAN-Receive-Frame TSC1VE               |
| 522024 | 9 | CAN | DFC_ComTSC1VETO     | Timeout Error of CAN-Receive-Frame TSC1VE                   |
| 522025 | 2 | CAN | DFC_ComTSC1VRDLC    | DFC for DLC Error of CAN-Receive-Frame TSC1VR               |
| 522025 | 9 | CAN | DFC_ComTSC1VRTO     | Timeout Error of CAN-Receive-Frame TSC1VR                   |
| 522026 | 9 | CAN | DFC_ComTxPGNRQGlbTO | Timeout DFC for NOxSensGlbReqTx.                            |
| 522027 | 9 | CAN | DFC_ComTxPGNRQTO    | Timeout DFC for TxPGNRQ.                                    |
| 522028 | 9 | CAN | DFC_ComVDTO         | Timeout Error of CAN-Transmit-Frame VD                      |
| 522029 | 9 | CAN | DFC_ComVEP1TO       | Timeout Error of CAN-Transmit-Frame VEP1                    |
| 522030 | 9 | CAN | DFC_ComWFI          | Timeout Error of CAN-Transmit-Frame WFI                     |

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| 522041 | 0  | High Pressure System | DFC_RailDvtMaxCSERS          | DFC for monitoring the positive rail pressure deviation during CSERS and active RHU                    |
| 522041 | 1  | High Pressure System | DFC_RailDvtMinCSERS          | DFC for monitoring the negative rail pressure deviation during CSERS and active RHU                    |
| 522041 | 18 | High Pressure System | DFC_RailNegDvtCSERS          | Common DFC for monitoring the negative rail pressure deviation for CSERS during RHU (pressure to high) |
| 522042 | 0  | High Pressure System | DFC_RailMonTTC               | check for TTC rail pressure build up during start                                                      |
| 522042 | 1  | High Pressure System | DFC_RailMonInjRIs            | check of minimum rail pressure                                                                         |
| 522052 | 0  | Air Control Governor | DFC_AirCtlGovDvtEOMMax       | Positive governor deviation above limit for regeneration                                               |
| 522052 | 1  | Air Control Governor | DFC_AirCtlGovDvtEOMMin       | negative governor deviation below limit for regeneration                                               |
| 522053 | 0  | Air Control Governor | DFC_AirCtlGovDvtMax          | Status of diagnostic fault check for maximum airmass governor deviation                                |
| 522054 | 1  | Air Control Governor | DFC_AirCtlGovDvtMin          | Status of diagnostic fault check for minimum airmass governor deviation                                |
| 522055 | 9  | Air Control Governor | DFC_AirCtlRmpTOut            | Error path for too longtime spent in transtion mode Rgn to Nrm                                         |
| 522056 | 10 | Air Control Governor | DFC_AirCtlAirSlwRespPos      | Error case for SlowResponse of the air mass in case of a positive gradient of the air mass setpoint    |
| 522056 | 9  | Air Control Governor | DFC_AirCtlAirSlwRespNeg      | Error case for SlowResponse of the air mass in case of a negative gradient of the air mass setpoint    |
| 522057 | 0  | Air Control Governor | DFC_AirCtlGovrDeMilTqLimrMax | Status of diagnostic fault check for maximum airmass governor deviation                                |
| 522057 | 1  | Air Control Governor | DFC_AirCtlGovrDeMilTqLimrMin | Status of diagnostic fault check for minimum airmass governor deviation                                |
| 522058 | 10 | Air Control Governor | DFC_AirCtlTiToStrtCtl        | Status of diagnostic fault check to monitor time to start close loop control system for airmass        |
| 522058 | 9  | Air Control Governor | DFC_AirCtlTiToCtl            | Status of diagnostic fault check to monitor time to activate close loop control system for airmass     |

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|--------|----|---------------------------------|-------------------|------------------------------------------------------------------------------|
| 523010 | 2  | High Pressure System            | DFC_RailMeUn8     | setpoint of metering unit in idle mode not plausible                         |
| 523011 | 0  | CAN                             | DFC_ComDM1DCUSPN1 | Error path SPN1 matching of DM1DCU message                                   |
| 523012 | 0  | CAN                             | DFC_ComDM1DCUSPN2 | Error path SPN2 matching of DM1DCU message                                   |
| 523013 | 0  | CAN                             | DFC_ComDM1DCUSPN3 | Error path SPN3 matching of DM1DCU message                                   |
| 523014 | 0  | CAN                             | DFC_ComDM1DCUSPN4 | Error path SPN4 matching of DM1DCU message                                   |
| 523015 | 0  | CAN                             | DFC_ComDM1DCUSPN5 | Error path SPN5 matching of DM1DCU message                                   |
| 523016 | 9  | CAN                             | DFC_ComDM1DCUTO   | Time out for DM1DCU BAM or single message                                    |
| 523017 | 9  | CAN                             | DFC_ComPROSCR1TO  | Timeout Error of CAN-Transmit-Frame PROSCR1                                  |
| 523018 | 9  | CAN                             | DFC_ComPROSCR2TO  | Timeout Error of CAN-Transmit-Frame PROSCR2                                  |
| 523019 | 2  | CAN                             | DFC_ComRESET_NPL  | DFC for RESET Rx Frame Non Plausible error                                   |
| 523020 | 9  | CAN                             | DFC_ComStOutTO    | Timeout Error of CAN-Transmit-Frame StOut                                    |
| 523021 | 12 | Error Lamp                      | DFC_ERLampOvrTemp | Over temperature error                                                       |
| 523021 | 3  | Error Lamp                      | DFC_ERLampSCB     | Short circuit to battery error                                               |
| 523021 | 4  | Error Lamp                      | DFC_ERLampSCG     | Short circuit to ground error                                                |
| 523021 | 5  | Error Lamp                      | DFC_ERLampOL      | No load error                                                                |
| 523022 | 12 | Fuel Consumption Display        | DFC_FICDsplOT     | Over Temperature error for Fuel consumption display signal component         |
| 523022 | 3  | Fuel Consumption Display        | DFC_FICDsplSCB    | Short circuit to battery error for Fuel consumption display signal component |
| 523022 | 4  | Fuel Consumption Display        | DFC_FICDsplSCG    | Short circuit to ground error for Fuel consumption display signal component  |
| 523022 | 5  | Fuel Consumption Display        | DFC_FICDsplOL     | No load error for Fuel consumption display signal component                  |
| 523023 | 0  | Fuel Balance Control Monitoring | DFC_FBCMon_0      | FBC correction quantities at limitation                                      |
| 523024 | 0  | Fuel Balance Control Monitoring | DFC_FBCMon_1      | FBC correction quantities at limitation                                      |
| 523025 | 0  | Fuel Balance Control Monitoring | DFC_FBCMon_2      | FBC correction quantities at limitation                                      |
| 523026 | 0  | Fuel Balance Control Monitoring | DFC_FBCMon_3      | FBC correction quantities at limitation                                      |
| 523027 | 12 | Fuel Level Lamp                 | DFC_FuLvlLampOT   | Over temperature error on ECU powerstage for Fuel Level lamp                 |
| 523027 | 3  | Fuel Level Lamp                 | DFC_FuLvlLampSCB  | Short circuit to battery of Fuel Level lamp output                           |
| 523027 | 4  | Fuel Level Lamp                 | DFC_FuLvlLampSCG  | Short circuit to ground of Fuel Level lamp output                            |

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| 523027 | 5  | Fuel Level Lamp                         | DFC_FuLvlLampOL             | Open load of Fuel Level lamp output                                                                 |
| 523028 | 12 | Turbo Charger Upstream Temperature Lamp | DFC_TTLmpOvrTemp            | No load error                                                                                       |
| 523028 | 3  | Turbo Charger Upstream Temperature Lamp | DFC_TTLmpSCB                | Short circuit to battery error                                                                      |
| 523028 | 4  | Turbo Charger Upstream Temperature Lamp | DFC_TTLmpSCG                | Short circuit to ground error                                                                       |
| 523028 | 5  | Turbo Charger Upstream Temperature Lamp | DFC_TTLmpOL                 | No load error                                                                                       |
| 523029 | 0  | High Pressure System                    | DFC_RailCPC1                | set value of PCV not in plausibility range                                                          |
| 523030 | 0  | High Pressure System                    | DFC_RailCPC3                | minimum rail pressure exceeded                                                                      |
| 523031 | 0  | High Pressure System                    | DFC_RailCPC4                | maximum rail pressure exceeded                                                                      |
| 523032 | 0  | High Pressure System                    | DFC_RailMeUn13              | Rail pressure monitor for rail pressure deviation                                                   |
| 523033 | 0  | High Pressure System                    | DFC_RailOverPresAlrm        | Exceeding of max. rail pressure level, that is an alarm (Alrm) sign and might need action soon.     |
| 523034 | 0  | High Pressure System                    | DFC_RailOverPresImdt        | Exceeding of max. rail pressure level, that needs immediate (Imdt) action                           |
| 523035 | 0  | High Pressure System                    | DFC_RailOverPresReact       | Activating reactions for fighting the over pressure                                                 |
| 523036 | 0  | High Pressure System                    | DFC_RailOverPresReactMaxCnt | Maximum number of activations of the reaction that fights the over pressure exceeded                |
| 523037 | 0  | High Pressure System                    | DFC_RailPCV0                | maximum positive deviation of rail pressure exceeded                                                |
| 523038 | 0  | High Pressure System                    | DFC_RailPCV1                | maximum positive deviation of rail pressure exceeded concerning set value PCV                       |
| 523039 | 0  | High Pressure System                    | DFC_RailPCV22               | maximum negative rail pressure deviation with closed pressure control valve exceeded (second stage) |
| 523040 | 0  | High Pressure System                    | DFC_RailPCV2                | maximum negative rail pressure deviation with closed pressure control valve exceeded                |
| 523041 | 0  | High Pressure System                    | DFC_RailPCV3                | minimum rail pressure exceeded                                                                      |
| 523042 | 0  | High Pressure System                    | DFC_RailPCV42               | maximum rail pressure exceeded (second stage)                                                       |
| 523043 | 0  | High Pressure System                    | DFC_RailPCV4                | maximum rail pressure exceeded                                                                      |

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|--------|----|----------------------|---------------------------|--------------------------------------------------------------------------------------------------------|
| 523044 | 16 | High Pressure System | DFC_RailPosDvtCSERS       | Common DFC for monitoring the positive rail pressure deviation for CSERS during RHU (pressure to high) |
| 523211 | 12 | CAN                  | DFC_ComEBC1DLC            | DFC for DLC Error of CAN-Receive-Frame EBC1                                                            |
| 523211 | 9  | CAN                  | DFC_ComEBC1TO             | Timeout Error of CAN-Receive-Frame EBC1                                                                |
| 523213 | 9  | CAN                  | DFC_ComERC1TO             | Timeout Error of CAN-Transmit-Frame ERC1                                                               |
| 523214 | 12 | CAN                  | DFC_ComETC1DLC            | DFC for DLC Error of CAN-Receive-Frame ETC1                                                            |
| 523214 | 9  | CAN                  | DFC_ComETC1TO             | Timeout Error of CAN-Receive-Frame ETC1                                                                |
| 523218 | 2  | CAN                  | DFC_ComRxCCVSDLC          | DFC for DLC Error of CAN-Receive-Frame RxCCVS                                                          |
| 523218 | 9  | CAN                  | DFC_ComRxCCVSTO           | Timeout Error of CAN-Receive-Frame ETC1                                                                |
| 523222 | 9  | CAN                  | DFC_ComTCO1TO             | Timeout Error of CAN-Receive-Frame TCO1                                                                |
| 523324 | 3  | Glow Control Unit    | DFC_GlwPlgGCU4ShrtCir_0   | DFC for short circuit to ground error                                                                  |
| 523324 | 5  | Glow Control Unit    | DFC_GlwPlgGCU4OL_0        | DFC for open load error                                                                                |
| 523324 | 6  | Glow Control Unit    | DFC_GlwPlgGCU4OvrLd_0     | DFC for Over load error                                                                                |
| 523324 | 8  | Glow Control Unit    | DFC_GlwPlgGCU4MOSFETErr_0 | DFC for short circuit to battery error                                                                 |
| 523325 | 3  | Glow Control Unit    | DFC_GlwPlgGCU4ShrtCir_1   | DFC for short circuit to ground error                                                                  |
| 523325 | 5  | Glow Control Unit    | DFC_GlwPlgGCU4OL_1        | DFC for open load error                                                                                |
| 523325 | 6  | Glow Control Unit    | DFC_GlwPlgGCU4OvrLd_1     | DFC for Over load error                                                                                |
| 523325 | 8  | Glow Control Unit    | DFC_GlwPlgGCU4MOSFETErr_1 | DFC for short circuit to battery error                                                                 |
| 523326 | 3  | Glow Control Unit    | DFC_GlwPlgGCU4ShrtCir_2   | DFC for short circuit to ground error                                                                  |
| 523326 | 5  | Glow Control Unit    | DFC_GlwPlgGCU4OL_2        | DFC for open load error                                                                                |
| 523326 | 6  | Glow Control Unit    | DFC_GlwPlgGCU4OvrLd_2     | DFC for Over load error                                                                                |
| 523326 | 8  | Glow Control Unit    | DFC_GlwPlgGCU4MOSFETErr_2 | DFC for short circuit to battery error                                                                 |
| 523327 | 3  | Glow Control Unit    | DFC_GlwPlgGCU4ShrtCir_3   | DFC for short circuit to ground error                                                                  |
| 523327 | 5  | Glow Control Unit    | DFC_GlwPlgGCU4OL_3        | DFC for open load error                                                                                |
| 523327 | 6  | Glow Control Unit    | DFC_GlwPlgGCU4OvrLd_3     | DFC for Over load error                                                                                |
| 523327 | 8  | Glow Control Unit    | DFC_GlwPlgGCU4MOSFETErr_3 | DFC for short circuit to battery error                                                                 |
| 523350 | 4  | Injection System     | DFC_InjVlv_DI_ScBnk_0     | Short circuit of the power stage high-side (bank error)                                                |
| 523352 | 4  | Injection System     | DFC_InjVlv_DI_ScBnk_1     | Short circuit of the power stage high-side (bank error)                                                |
| 523450 | 19 | PTO                  | DFC_SigPTOSwt             | Diagnostic fault check for signal error of COM message                                                 |
| 523450 | 2  | PTO                  | DFC_NpIPTOSwt             | Diagnostic fault check non plausibility of COM message                                                 |

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| 523460 | 0  | Boost Pressure Governor    | DFC_PCRGovDvtMax       | positive governor deviation above limit                             |
| 523460 | 13 | Boost Pressure Governor    | DFC_PCRGovDvtMaxPartLd | Error case for permanent control max deviation for partial load     |
| 523460 | 15 | Boost Pressure Governor    | DFC_PCRGovDvtMaxNoCtl  | Error case for boost pressure crossing max limit for open-loop mode |
| 523460 | 16 | Boost Pressure Governor    | DFC_PCRGovDvtMaxCol    | Error case for the collected max error status                       |
| 523461 | 1  | Boost Pressure Governor    | DFC_PCRGovDvtMin       | negative governor deviation below limit                             |
| 523461 | 13 | Boost Pressure Governor    | DFC_PCRGovDvtMinPartLd | Error case for permanent control min deviation for partial load     |
| 523461 | 17 | Boost Pressure Governor    | DFC_PCRGovDvtMinNoCtl  | Error case for boost pressure crossing min limit for open-loop mode |
| 523461 | 18 | Boost Pressure Governor    | DFC_PCRGovDvtMinCol    | Error case for the collected min error status                       |
| 523591 | 2  | Vehicle Speed Sensor       | DFC_VehVCANSig         | Signal error for vehicle speed over CAN                             |
| 523592 | 0  | Vehicle Speed Sensor       | DFC_VehVTachMax        | Max error for vehicle speed signal over Tachometer sensor           |
| 523592 | 1  | Vehicle Speed Sensor       | DFC_VehVTachMin        | Min error for vehicle speed signal over Tachometer sensor           |
| 523592 | 2  | Vehicle Speed Sensor       | DFC_VehVTachSig        | Signal error for vehicle speed over Tachometer                      |
| 523601 | 14 | Sensor Supply Monitoring 3 | DFC_SSpMon3UV          | Undervoltage at Sensor supply 3                                     |
| 523601 | 3  | Sensor Supply Monitoring 3 | DFC_SSpMon3OV          | Overvoltage at Sensor supply 3                                      |
| 523601 | 4  | Sensor Supply Monitoring 3 | DFC_SSpMon3SCG         | Short to GND at Sensor supply 3                                     |
| 523602 | 12 | Sensor Supply Monitoring   | DFC_SSpMonOT           | Sensor supply over temperature                                      |
| 523605 | 2  | CAN                        | DFC_ComTSC1AEDLC       | DFC for DLC Error of CAN-Receive-Frame TSC1AE                       |
| 523605 | 9  | CAN                        | DFC_ComTSC1AETO        | Timeout Error of CAN-Receive-Frame TSC1AE                           |
| 523606 | 2  | CAN                        | DFC_ComTSC1ARDLC       | DFC for DLC Error of CAN-Receive-Frame TSC1AR                       |
| 523606 | 9  | CAN                        | DFC_ComTSC1ARTO        | Timeout Error of CAN-Receive-Frame TSC1AR                           |
| 523613 | 0  | High Pressure System       | DFC_RailMeUn0          | maximum positive deviation of rail pressure exceeded                |
| 523613 | 1  | High Pressure System       | DFC_RailMeUn3          | minimum rail pressure exceeded                                      |
| 523613 | 16 | High Pressure System       | DFC_RailMeUn4          | maximum rail pressure exceeded                                      |
| 523613 | 2  | High Pressure System       | DFC_RailMeUn7          | setpoint of metering unit in overrun mode not plausible             |

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|--------|----|-------------------------|-------------------------|--------------------------------------------------------------------------------|
| 523615 | 2  | Metering Unit           | DFC_MeUnIntCtct         | Intermittent contact between ECU and MeUn                                      |
| 523615 | 5  | Metering Unit           | DFC_MeUnSRCMax          | signal range check high error of metering unit AD-channel                      |
| 523615 | 6  | Metering Unit           | DFC_MeUnSRCMin          | signal range check low error of metering unit AD-channel                       |
| 523616 | 14 | Injection System        | DFC_InjCrvInjLimChrgBal | Number of injections is limited by charge balance of booster capacity          |
| 523676 | 0  | Glow Plugs              | DFC_GlwPlgTypDiffGCU    | DFC for wrong glow plug type                                                   |
| 523676 | 12 | Glow Plugs              | DFC_GlwPlgUnErr         | DFC for glow module error in GCU-T                                             |
| 523676 | 14 | Glow Plugs              | DFC_GlwPlgT30Miss       | DFC for T30 missing error in GCU-T                                             |
| 523677 | 12 | Glow Plug Relay         | DFC_GlwPlgOvrTemp       | Over temperature error on ECU powerstage for Glow plug Standard Voltage System |
| 523677 | 3  | Glow Plugs              | DFC_GlwPlgSCB           | Short circuit to battery error for Standard Voltage System                     |
| 523677 | 4  | Glow Plugs              | DFC_GlwPlgSCG           | Short circuit to ground error for Standard Voltage System                      |
| 523677 | 5  | Glow Plug Relay         | DFC_GlwPlgOL            | No load error for Standard Voltage System                                      |
| 523703 | 9  | CAN                     | DFC_ComEEC1TO           | Timeout Error of CAN-Transmit-Frame EEC1                                       |
| 523704 | 9  | CAN                     | DFC_ComEEC3TO           | Timeout Error of CAN-Transmit-Frame EEC3                                       |
| 523705 | 9  | CAN                     | DFC_ComEngTempTO        | Timeout Error of CAN-Transmit-Frame EngTemp                                    |
| 523706 | 9  | CAN                     | DFC_ComFIEcoTO          | Timeout Error of CAN-Transmit-Frame FIEco                                      |
| 523714 | 9  | CAN                     | DFC_ComTxCCVSTO         | Timeout Error of CAN-TransmitFrame                                             |
| 523717 | 9  | CAN                     | DFC_ComAmbConTO         | Timeout Error of CAN-Transmit-Frame AmbCon                                     |
| 523741 | 14 | CAN                     | DFC_ComEngShOffEBC1     | Engine shut off request through CAN                                            |
| 523747 | 9  | CAN                     | DFC_ComIC1TO            | Timeout Error of CAN-Transmit-Frame INCON                                      |
| 523762 | 12 | Particulate Filter Lamp | DFC_PFIgLmpOvrTemp      | Over temperature error                                                         |
| 523762 | 3  | Particulate Filter Lamp | DFC_PFIgLmpSCB          | Short circuit to battery error                                                 |
| 523762 | 4  | Particulate Filter Lamp | DFC_PFIgLmpSCG          | Short circuit to ground error                                                  |
| 523762 | 5  | Particulate Filter Lamp | DFC_PFIgLmpOL           | No load error                                                                  |
| 523763 | 9  | CAN                     | DFC_ComShutDwnTO        | Timeout Error of CAN-Transmit-Frame ShutDwn                                    |
| 523766 | 9  | CAN                     | DFC_ComTOTSC1AEAct      | Active DFC TimeOut of TSC1AE Message                                           |
| 523767 | 9  | CAN                     | DFC_ComTOTSC1AEPas      | Passive DFC TimeOut of TSC1AE Message                                          |

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| 523768 | 9  | CAN                           | DFC_ComTOTSC1ARAct | Active DFC TimeOut of TSC1AR Message                                |
| 523769 | 9  | CAN                           | DFC_ComTOTSC1ARPas | Passive DFC TimeOut of TSC1AR Message                               |
| 523770 | 9  | CAN                           | DFC_ComTOTSC1DEPas | Passive DFC TimeOut of TSC1DE Message                               |
| 523771 | 9  | CAN                           | DFC_ComTOTSC1DEAct | Passive DFC TimeOut of TSC1DE Message                               |
| 523776 | 9  | CAN                           | DFC_ComTOTSC1TEAct | Active Time out for TSC1VE                                          |
| 523777 | 9  | CAN                           | DFC_ComTOTSC1TEPas | Passive Time out for TSC1TE                                         |
| 523778 | 9  | CAN                           | DFC_ComTOTSC1TRAct | Active Time out for TSC1TR                                          |
| 523779 | 9  | CAN                           | DFC_ComTOTSC1TRPas | Passive Time out for TSC1TR                                         |
| 523867 | 12 | CAN                           | DFC_ComUAA1TO      | Timeout Error of CAN-Transmit-Frame UAA1                            |
| 523878 | 12 | CAN                           | DFC_ComUAA2TO      | Timeout Error of CAN-Transmit-Frame UAA1                            |
| 523882 | 12 | CAN                           | DFC_ComUAA3TO      | Timeout Error of CAN-Transmit-Frame UAA3                            |
| 523883 | 12 | CAN                           | DFC_ComUAA4TO      | Timeout Error of CAN-Transmit-Frame UAA4                            |
| 523884 | 12 | CAN                           | DFC_ComUAA5TO      | Timeout Error of CAN-Transmit-Frame UAA5                            |
| 523885 | 12 | CAN                           | DFC_ComUAA6TO      | Timeout Error of CAN-Transmit-Frame UAA6                            |
| 523886 | 12 | CAN                           | DFC_ComUAA7TO      | Timeout Error of CAN-Transmit-Frame UAA7                            |
| 523887 | 12 | CAN                           | DFC_ComUAA8TO      | Timeout Error of CAN-Transmit-Frame UAA8                            |
| 523891 | 14 | Intake Air Heater             | DFC_AirHt_TstOffHi | DFC to SRC High error when heater is Off                            |
| 523901 | 11 | Injection System              | DFC_InjUnStrtTst   | Detection of Failed Engine Start                                    |
| 523946 | 0  | Zero Fuel Learning Monitoring | DFC_ZFLETMax_0     | DFC reporting error state on comparing energising time to Max value |
| 523946 | 1  | Zero Fuel Learning Monitoring | DFC_ZFLETMin_0     | DFC reporting error state on comparing energising time to Min value |
| 523947 | 0  | Zero Fuel Learning Monitoring | DFC_ZFLETMax_3     | DFC reporting error state on comparing energising time to Max value |
| 523947 | 1  | Zero Fuel Learning Monitoring | DFC_ZFLETMin_3     | DFC reporting error state on comparing energising time to Min value |
| 523948 | 0  | Zero Fuel Learning Monitoring | DFC_ZFLETMax_1     | DFC reporting error state on comparing energising time to Max value |
| 523948 | 1  | Zero Fuel Learning Monitoring | DFC_ZFLETMin_1     | DFC reporting error state on comparing energising time to Min value |

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| 523949 | 0  | Zero Fuel Learning Monitoring      | DFC_ZFLETMax_2         | DFC reporting error state on comparing energising time to Max value                           |
| 523949 | 1  | Zero Fuel Learning Monitoring      | DFC_ZFLETMin_2         | DFC reporting error state on comparing energising time to Min value                           |
| 523961 | 14 | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlausPos1   | Diagnostic Fault check for Model based plausibility check of exhaust-gas temperature sensor 1 |
| 523961 | 2  | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlaus_0     | Diagnostic Fault check array for cold start condition of exhaust-gas temperature              |
| 523961 | 3  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMaxT1ExhTMon | Diagnostic Fault Check for enhanced SRC-Max of First exhaust gas temperature                  |
| 523961 | 4  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMinT1ExhTMon | Diagnostic Fault Check for enhanced SRC-Min of First exhaust gas temperature                  |
| 523962 | 14 | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlausPos2   | Diagnostic Fault check for Model based plausibility check of exhaust-gas temperature sensor 2 |
| 523962 | 2  | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlaus_1     | Diagnostic Fault check array for cold start condition of exhaust-gas temperature              |
| 523962 | 3  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMaxT2ExhTMon | Diagnostic Fault Check for enhanced SRC-Max of Second exhaust gas temperature                 |
| 523962 | 4  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMinT2ExhTMon | Diagnostic Fault Check for enhanced SRC-Min of Second exhaust gas temperature                 |
| 523963 | 14 | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlausPos3   | Diagnostic Fault check for Model based plausibility check of exhaust-gas temperature sensor 3 |
| 523963 | 2  | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlaus_2     | Diagnostic Fault check array for cold start condition of exhaust-gas temperature              |
| 523963 | 3  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMaxT3ExhTMon | Diagnostic Fault Check for enhanced SRC-Max of third exhaust gas temperature                  |
| 523963 | 4  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMinT3ExhTMon | Diagnostic Fault Check for enhanced SRC-Min of third exhaust gas temperature                  |
| 523964 | 14 | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlausPos4   | Diagnostic Fault check for Model based plausibility check of exhaust-gas temperature sensor 4 |
| 523964 | 2  | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlaus_3     | Diagnostic Fault check array for cold start condition of exhaust-gas temperature              |

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| 523964 | 3  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMaxT4ExhTMon | Diagnostic Fault Check for enhanced SRC-Max of Fourth exhaust gas temperature                 |
| 523964 | 4  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMinT4ExhTMon | Diagnostic Fault Check for enhanced SRC-Min of Fourth exhaust gas temperature                 |
| 523965 | 14 | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlausPos5   | Diagnostic Fault check for Model based plausibility check of exhaust-gas temperature sensor 5 |
| 523965 | 2  | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlaus_4     | Diagnostic Fault check array for cold start condition of exhaust-gas temperature              |
| 523965 | 3  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMaxT5ExhTMon | Diagnostic Fault Check for enhanced SRC-Max of fifth exhaust gas temperature                  |
| 523965 | 4  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMinT5ExhTMon | Diagnostic Fault Check for enhanced SRC-Min of fifth exhaust gas temperature                  |
| 523966 | 14 | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlausPos6   | Diagnostic Fault check for Model based plausibility check of exhaust-gas temperature sensor 6 |
| 523966 | 2  | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlaus_5     | Diagnostic Fault check array for cold start condition of exhaust-gas temperature              |
| 523966 | 3  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMaxT6ExhTMon | Diagnostic Fault Check for enhanced SRC-Max of sixth exhaust gas temperature                  |
| 523966 | 4  | Exhaust Gas Temperature Monitoring | DFC_EnhSRCMinT6ExhTMon | Diagnostic Fault Check for enhanced SRC-Min of sixth exhaust gas temperature                  |
| 523967 | 2  | Exhaust Gas Temperature Monitoring | DFC_ExhTMonPlausGen    | Diagnostic Fault check during cold start condition of exhaust-gas temperatures                |
| 523970 | 11 | Performance Limiter                | DFC_CoVehPrfmLimAct    | performance limiter is active.                                                                |
| 523994 | 12 | Engine Speed Output                | DFC_EngSpdOvrTemp      | Over Temperature error on the engine speed output                                             |
| 523994 | 3  | Engine Speed Output                | DFC_EngSpdSCB          | Short circuit to battery error on the engine speed output                                     |
| 523994 | 4  | Engine Speed Output                | DFC_EngSpdSCG          | Short circuit to ground error on the engine speed output                                      |
| 523994 | 5  | Engine Speed Output                | DFC_EngSpdOL           | No load error on the engine speed output                                                      |
| 523995 | 0  | Performance Limiter                | DFC_CoVehPrfmLimEngBlk | Third level of performance limiter is active                                                  |
| 524054 | 3  | ECU Internal                       | DFC_HLSDem_MonOBDMMax  | Low-idle Speed above Limit                                                                    |
| 524054 | 4  | ECU Internal                       | DFC_HLSDem_MonOBDMMin  | Low-idle Speed below Limit                                                                    |

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| 524058 | 2  | ECU Internal                  | DFC_PhyModNonMonMapNpl  | Not plausible fault: PhyMod_trq2qBas_MAP contains non strictly monotonous q curves             |
| 524059 | 1  | Oxidation Catalyst Monitoring | DFC_OxiCatMonPasMin     | Diagnostic fault check for characteristic of OxiCat                                            |
| 524059 | 12 | ECU Internal                  | DFC_MoCADCTst           | Diagnostic fault check to report the ADC test error                                            |
| 524060 | 1  | Oxidation Catalyst Monitoring | DFC_OxiCatMonRHU        | DFC for passive monitoring of the oxidation catalyst during rapid heat up                      |
| 524060 | 12 | ECU Internal                  | DFC_MoCADCVltgRatio     | Diagnostic fault check to report the error in Voltage ratio in ADC monitoring                  |
| 524061 | 12 | ECU Internal                  | DFC_MoCComErrCnt        | Diagnostic fault check to report errors in query-/response-communication                       |
| 524062 | 12 | ECU Internal                  | DFC_MoCComSPI           | Diagnostic fault check to report errors in SPI-communication                                   |
| 524063 | 12 | ECU Internal                  | DFC_MoCROMErrXPg        | Diagnostic fault check to report multiple error while checking the complete ROM-memory         |
| 524064 | 12 | ECU Internal                  | DFC_MoCSOPerrMMRespByte | Loss of synchronization sending bytes to the MM from CPU.                                      |
| 524065 | 12 | ECU Internal                  | DFC_MoCSOPerrNoChk      | DFC to set a torque limitation once an error is detected before MoCSOP's error reaction is set |
| 524066 | 12 | ECU Internal                  | DFC_MoCSOPerrRespTime   | Wrong set response time                                                                        |
| 524067 | 12 | ECU Internal                  | DFC_MoCSOPerrSPI        | Too many SPI errors during MoCSOP execution.                                                   |
| 524068 | 12 | ECU Internal                  | DFC_MoCSOPLoLi          | Diagnostic fault check to report the error in undervoltage monitoring                          |
| 524069 | 12 | ECU Internal                  | DFC_MoCSOPMM            | Diagnostic fault check to report that WDA is not working correct                               |
| 524070 | 12 | ECU Internal                  | DFC_MoCSOPSTimeOut      | OS timeout in the shut off path test. Failure setting the alarm task period.                   |
| 524071 | 12 | ECU Internal                  | DFC_MoCSOPpsvTstErr     | Diagnostic fault check to report that the positive test failed                                 |
| 524072 | 12 | ECU Internal                  | DFC_MoCSOPTimeOut       | Diagnostic fault check to report the timeout in the shut off path test                         |
| 524073 | 12 | ECU Internal                  | DFC_MoCSOPUpLi          | Diagnostic fault check to report the error in overvoltage monitoring                           |

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| 524074 | 12 | ECU Internal | DFC_MoFAPP       | Diagnostic fault check to report the accelerator pedal position error                                              |
| 524075 | 12 | ECU Internal | DFC_MoFESpd      | Diagnostic fault check to report the engine speed error                                                            |
| 524076 | 12 | ECU Internal | DFC_MoFInjDatET  | Diagnostic fault check to report the plausibility error between<br>level 1 energizing time and level 2 information |
| 524077 | 12 | ECU Internal | DFC_MoFInjDatPhi | Diagnostic fault check to report the error due to plausibility between the injection begin v/s injection type      |
| 524078 | 12 | ECU Internal | DFC_MoFInjQnt    | Diagnostic fault check to report the error due to non plausibility in ZFC                                          |
| 524079 | 12 | ECU Internal | DFC_MoFMode1     | Diagnosis fault check to report the demand for normal mode due to an error in the Pol2 quantity                    |
| 524080 | 12 | ECU Internal | DFC_MoFMode2     | Diagnosis fault check to report the error to demand for an ICO due to an error in the Pol2 shut-off                |
| 524081 | 12 | ECU Internal | DFC_MoFMode3     | Diagnosis fault check to report the error to demand for an ICO due to an error in the Pol3 efficiency factor       |
| 524082 | 12 | ECU Internal | DFC_MoFOvR       | Diagnostic fault check to report the error due to Over Run                                                         |
| 524083 | 12 | ECU Internal | DFC_MoFOvRHtPrt  | Diagnostic fault check to report the error due to cooling injection in Over Run                                    |
| 524084 | 12 | ECU Internal | DFC_MoFQntCor    | Diagnostic fault check to report the error due to injection quantity correction                                    |
| 524085 | 12 | ECU Internal | DFC_MoFRailP     | Diagnostic fault check to report the plausibility error in rail pressure monitoring                                |
| 524086 | 12 | ECU Internal | DFC_MoFRmtAPP    | Diagnostic fault check to report the remote accelerator pedal position error                                       |
| 524087 | 12 | ECU Internal | DFC_MoFTrqCmp    | Diagnostic fault check to report the error due to torque comparison                                                |
| 524088 | 12 | ECU Internal | DFC_MonLimCurr   | Diagnosis of curr path limitation forced by ECU monitoring level 2                                                 |

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|--------|----|----------------------|------------------------|-------------------------------------------------------------------------------------------------------|
| 524089 | 12 | ECU Internal         | DFC_MonLimLead         | Diagnosis of lead path limitation forced by ECU monitoring level 2                                    |
| 524090 | 12 | ECU Internal         | DFC_MonLimSet          | Diagnosis of set path limitation forced by ECU monitoring level 2                                     |
| 524091 | 3  | ECU Internal         | DFC_MonUMaxSupply1     | Reported OverVoltage of VDD5                                                                          |
| 524092 | 4  | ECU Internal         | DFC_MonUMinSupply1     | Reported UnderVoltage of VDD5                                                                         |
| 524093 | 12 | ECU Internal         | DFC_MoFInjDatBlkShtET  | Diagnostic fault check to report the plausibility error for Blankshot injection                       |
| 524098 | 12 | ECU Internal         | DFC_OCWDACom           | Diagnostic fault check to report "WDA active" due to errors in query-/response communication          |
| 524099 | 12 | ECU Internal         | DFC_OCWDALowVltg       | Diagnostic fault check to report "ABE active" due to undervoltage detection                           |
| 524100 | 12 | ECU Internal         | DFC_OCWDAOvrVltg       | Diagnostic fault check to report "ABE active" due to overvoltage detection                            |
| 524101 | 12 | ECU Internal         | DFC_OCWDAREasUnkwn     | Diagnostic fault check to report "WDA/ABE active" due to unknown reason                               |
| 524103 | 0  | High Pressure System | DFC_RailMeUn1          | maximum positive deviation of rail pressure exceeded concerning set flow of fuel                      |
| 524104 | 0  | High Pressure System | DFC_RailMeUn10         | leakage is detected based on fuel quantity balance                                                    |
| 524105 | 0  | High Pressure System | DFC_RailMeUn2          | maximum negative rail pressure deviation with metering unit on lower limit is exceeded                |
| 524106 | 0  | High Pressure System | DFC_RailMeUn22         | maximum negative rail pressure deviation with metering unit on lower limit is exceeded (second stage) |
| 524107 | 0  | High Pressure System | DFC_RailMeUn42         | maximum rail pressure exceeded (second stage)                                                         |
| 524108 | 0  | High Pressure System | DFC_RailMeUn5          | positive deviation of rail pressure under fast condition exceeded                                     |
| 524109 | 0  | High Pressure System | DFC_RailMeUn9          | maximum rail pressure exceeded - overrun detection                                                    |
| 524110 | 14 | Injection System     | DFC_InjCrvInjLimQntBal | Number of injections is limited by quantity balance of high pressure pump                             |
| 524111 | 14 | Injection System     | DFC_InjCrvInjLimSys    | Number of injections is limited by system                                                             |
| 524112 | 14 | Injection System     | DFC_InjCrvNumInjRtmLim | Number of injections is limited by runtime                                                            |

|        |    |                               |                        |                                                                                                    |
|--------|----|-------------------------------|------------------------|----------------------------------------------------------------------------------------------------|
| 524113 | 14 | Intake Air Heater             | DFC_AirHt_TstOffLo     | DFC to SRC Low error when heater is Off                                                            |
| 524114 | 14 | Intake Air Heater             | DFC_AirHt_TstOnHi      | DFC to SRC High error when heater is On                                                            |
| 524115 | 14 | Intake Air Heater             | DFC_AirHt_TstOnLo      | DFC to SRC Low error when heater is On                                                             |
| 524120 | 14 | ECU Internal                  | DFC_SWReset_0          | Visibility of SoftwareResets in DSM                                                                |
| 524121 | 14 | ECU Internal                  | DFC_SWReset_1          | Visibility of SoftwareResets in DSM                                                                |
| 524122 | 14 | ECU Internal                  | DFC_SWReset_2          | Visibility of SoftwareResets in DSM                                                                |
| 524124 | 12 | ECU Internal                  | DFC_MoCADCNTp          | Diagnostic fault check to report the NTP error in ADC monitoring                                   |
| 524128 | 12 | ECU Internal                  | DFC_MoFStrt            | function monitoring: fault in the monitoring of the start control                                  |
| 524131 | 12 | ECU Internal                  | DFC_Cy327SpiCom        | CY327 SPI Communication Error                                                                      |
| 524131 | 31 | Creep Mode                    | DFC_EngReqCrpAftFlg    |                                                                                                    |
| 524132 | 31 | Creep Mode                    | DFC_EngReqCrpAftPrk    |                                                                                                    |
| 524133 | 31 | Creep Mode                    | DFC_EngReqCrpAftRstrt  |                                                                                                    |
| 524134 | 31 | Creep Mode                    | DFC_EngReqCrpAftTout   |                                                                                                    |
| 524135 | 31 | Creep Mode                    | DFC_EngReqCrpModeTout  |                                                                                                    |
| 524136 | 1  | Oxidation Catalyst Monitoring | DFC_OxiCatMonActvMin   | Diagnostic fault check for active oxidation catalyst monitoring                                    |
| 524137 | 0  | Particulate Filter Monitoring | DFC_PFItdrvrDmdRgnMax  | Diagnostic fault check for maximum number of regenerations of the particulate filter by the driver |
| 524138 | 0  | Particulate Filter Monitoring | DFC_PFItdEngPrt        | Diagnostic fault check for the engine protection                                                   |
| 524139 | 0  | Particulate Filter Monitoring | DFC_PFItdSRCMaxFlwRstn | Diagnostic fault check for SRC high in Flow Resistance                                             |
| 524140 | 0  | Particulate Filter Monitoring | DFC_PFItdSRCMinFlwRstn | Diagnostic fault check for SRC low in Flow Resistance                                              |
| 524141 | 1  | High Pressure System          | DFC_RailColl0Neg       | Common DFC for negative rail pressure (pressure to high)                                           |
| 524142 | 0  | High Pressure System          | DFC_RailColl0Pos       | Common DFC for positive rail pressure (pressure to low)                                            |
| 524143 | 1  | High Pressure System          | DFC_RailColl1Neg       | Common DFC for MeUn negative rail pressure (pressure to high)                                      |
| 524144 | 0  | High Pressure System          | DFC_RailColl1Pos       | Common DFC for MeUn positive rail pressure (pressure to high)                                      |
| 524145 | 1  | High Pressure System          | DFC_RailColl2Neg       | Common DFC for PCV negative rail pressure (pressure to high)                                       |

|        |   |                      |                      |                                                              |
|--------|---|----------------------|----------------------|--------------------------------------------------------------|
| 524146 | 0 | High Pressure System | DFC_RailColl2Pos     | Common DFC for PCV positive rail pressure (pressure to high) |
| 524148 | 0 | Error in Limiter     | DFC_TCDBstPrtTrqLim  | Error in boost protection limitation                         |
| 524149 | 0 | Error in Limiter     | DFC_TCDEngPrtTrqLim  | Error in engine protection limitation                        |
| 524150 | 0 | Error in Limiter     | DFC_TCDInjSysTrqLim  | Error in injection systems limitation                        |
| 524151 | 0 | Error in Limiter     | DFC_TCDLimInfo       | Error in limitation                                          |
| 524153 | 0 | Error in Limiter     | DFC_TCDPDiffTrqLim   | Error in differential protection                             |
| 524154 | 0 | Error in Limiter     | DFC_TCDPrfmLimTrqLim | Error in performance limitation                              |
| 524155 | 0 | Error in Limiter     | DFC_TCDSmkTrqLim     | Error in smoke limitation                                    |