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			Date 2016-12-21	Modification Count

Network Requirement Specification

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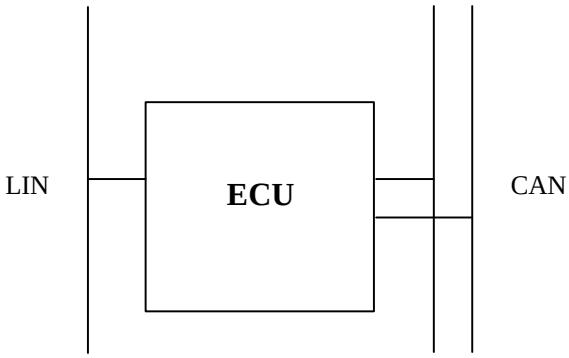

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VOLCANO SIGNAL SPECIFICATION INSTRUMENTS

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Approved by		

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1 CHANGE INFORMATION

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EP2-V02	07/05/2016	NCF: 10320953/02 A /Tx: ClstrDspdASpdLmtrWrnng ClstrDspdBrkSysWrnng ClstrDspdTyrePrsSts IPCEcoDrvngSwA D /Tx: ECOSwA C /Tx: ClstrDspdScurtKeyBatLowWrnng to ClstrDspdScurtKeyBatLW A /Rx: AmbtLghtLvl BCMNoSmtKeyInVehRmndr DipdBeamLghtOn EcoDrvngAIO EcoDrvngDspStsGearSIS EcoDrvngDspStsRcmndFG EmgcCallFlrSts LghtSwPosSts PDCOverVolFlt_L PDCUnderVolFlt_L SpdAstSysStsECM SpdAstSysTrgtSpd D /Rx: LanggSetngAdj LanggSetngAdjReqA
Revision	Date	
EP2-V02	20/05/2016	D: ClstrDspdEleclBrkDstrbutnWrnng ClstrDspdTPMSF SIADatePriy C: ClstrDspdOilPrsLowWrnng to ClstrDspdOilPrsLowW ClstrDspdMalfIndrLghtWrnng to ClstrDspdMalfIndrLghtW
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EP-V07	21/12/2016	A /Tx: CCSwStsDisDecSwA CCSwStsDistIncSwA ClstrDistUnt ClstrFuelCsumpUnt ClstrTemUnt ClstrTyrePressureUnt LanggSetng A /Rx: AutoHoldMsg AutoHoldSysSts BatAgngSta BatSOC BatVol BCMGearShftParkNtrlESR BCMNoSmtKeyPressBrkTRR BCMNoSmtKeyPressClToRR BCMPressBrkRmndr BCMPressClRmndr BCMPutSmtKeyToBkupPosR BCMRunCrkF BCMShftParkRmndr BCMSSBFltSts BCMSyncSmtKeyRmndr BCMTakeSmtKeyOutOfSR DayTimeRunningLghtF DrvrPWLInitnRmndr DrvrWndOpenRmndr ECMClsDoorToAutoStR ECMFasnSbltToAutoStR ECMPressClBrkRmndr ECMShftNtrlToAutoStR EPBSysAudWrnngReq EPBSysDspMsgReq EPBSysStsIndReq EPBSysWrnngIndReq FICMDistUnitAdjtReqA FICMFuelCsumpUntAdj FICMFuelCsumpUntAdjARA FICMOverSpdFnCrntSts FICMOvrSpdThrshldAdj FICMOvrSpdThrshldAdjtRA FICMTemUntAdj FICMTemUntAdjtReqA

			FICMTyrePressureUntAdjtReqA FICMVehMntnceSts FLTireTem FLTireTemV FRTireTem FRTireTemV FrtSideLghtF HDCSysSts LBrkLghtF LDipdBeamLghtF LDircnIndLghtF MusSrcMd NavDircn NavDist NavDistUnit PEPSAntFlt RBrkLghtF RDipdBeamLghtF RDircnIndLghtF RdoFrqcVal RevsLghtF RLTireTem RLTireTemV RrFogLghtF RrSideLghtF RRTireTem RRTireTemV ShifterLckRlseBrkReqA SrfInitnRmndr SrfOpenRmndr SSBEnOffRmndr TPMSAutoLoctnCm

2 REFERRED DOCUMENTS

References are made to the following documents:

[1] SMTC 2 800 002 CAN Node Design Requirements

[2] SMTC 2 800 003 LIN Node Design Requirements

[3] “Volcano Concept Overview, V5-gen-006 rev C

[4] “Volcano 5 signal timing model, V5-cfg-003 rev 03

3 GENERAL

3.1 Document description

This document (Network Requirement Specification, doc type: NRS) is the specification for an ECU with an implementation of VOLCANO. It is automatically generated from the Volcano Network Architect (VNA).NRS is the update version of SWRS(Software Requirement Specification),and covers all content of SWRS. In addition, the information of hardware interface is added to NRS.

The document is a complementary document to the specification for the ECU, i.e. it is valid for a specific ECU software version and refers to a specific issue of the *fixed* file (.FIX). This document is valid as long as new configurations only affect the *networks* (.NET) file. A new document will be issued if the signalling (a new issue of the fixed file) or the CAN hardware requirements are changed in some way for the ECU.

The signal definitions in this document (Signal specification) shall be regarded as the valid definition, if the information in the NRS specification and the Signals Database are contradictory.

4 Configuration files

If any of the parameters in the FIX or NET file is incorrectly specified, new configuration files (FIX and/or NET) must be issued from VNA. It is the responsibility of the supplier to inform the system integrator if any parameter is incorrect, and that the configuration files are not edited.

4.1 NET file

Each NET file has an issue number. Changes of functional requirements or fault corrections in the VNA may cause a new issue of the networks file. The networks file issue number will then be increased.
File name convention: The filename "NMC1_PP_SMU-V1.0.NET" consists of the following parts:

- "NMC1": The project in SAIC, e.g. AP11 or ZP11.
- "PP": The build stage of the vehicle in SAIC, e.g. EP1 or EP2 or OTS or PP.
- "SMU": The ECU name in SAIC, e.g. EMS or TCU or others.
- "V1.0": Issue number of the file.
- "NET": Networks file

4.2 FIX file

Each FIX file has an issue number. If the changes cause the FIX file to be changed, the FIX file issue number will be increased and a new issue of this document will be released.

File name convention: The filename "NMC1_PP_SMU-V1.0.FIX" consists of the following parts:

- "NMC1": The project in SAIC, e.g. AP11 or ZP11.

- "PP": The build stage of the vehicle in SAIC, e.g. EP1 or EP2 or OTS or PP.
- "SMU": The ECU name in SAIC, e.g. EMS or TCU or others.
- "V1.0": Issue number of the file.
- "FIX": Fixed file.

5 Communication concept

5.1 VOLCANO

The signalling in the vehicle is based on the use of VOLCANO, see referred document [2]. Signal types, frame types and other notions refer to the nomenclature used in the VOLCANO specification.

5.2 The Volcano Network Architect

The content of the Volcano Network Architect signals database is a result of the design process at the car manufacturer. Signal definitions are agreed between the owner of the electrical function and the designers of the source ECU and user ECUs. The definition is documented in the VNA signals database. The signals generated or used by the ECU are listed in paragraph “Signal definitions” below.

In the VNA signals database, the timing requirements on each signal are stored. This is necessary to be able to produce a frame configuration, using the “Frame compiler” tool. If there is more than one user function of a signal, there might be individual requirements on the generation, propagation time and reception of a signal.

5.3 Specification of timing requirements

A function has a requirement on the end-to-end propagation time for a signal, called Total latency. The maximum allowed Total latency is called the Max_age.

The input to the frame compiler is the Max_age requirement together with Publish and Subscribe latencies.

Below is a description of the different notations (referred document [3]).- "003": Issue number of the file.

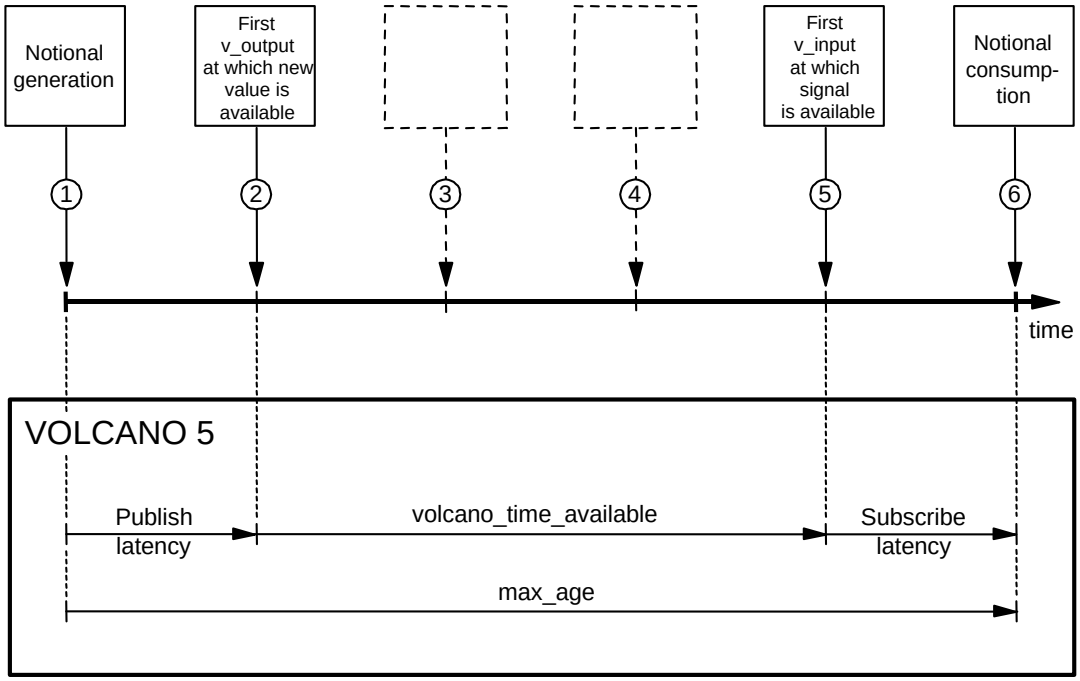

Figure 1: The Volcano 5 signal timing model

1 Notional generation is associated to an event that causes a signal value update. The signal value cycle can be initiated periodically, for example by an application program timeout. It can also be triggered by an external event, for example when a switch is pressed.

2 The earliest possible time point when the frame containing the updated signal can be queued for transmission by the v_output() call.

5 The occurrence of a v_input() call that makes the signal available to the application.

6 Notional consumption denotes the actual usage of the signal (output), for example a function task is activated, for example electrical output to a step motor. The signal can also be republished to another ECU.

Volcano 5 Latencies and Intervals

The **max_age** (functional deadline) is the end-to-end time period that is acceptable, that is, the overall timing requirement on the function. It is important not to specify shorter time periods than necessary as it can have a serious impact on the bus load.

The **publish latency** is the time from notional generation to the first v_output() call that makes the signal available for the transmit frame that contains the signal. Normally this time includes the volcano processing period (in this case this is the maximum time from the v_write... call to the v_output() call). The publish latency can be smaller than the volcano processing period if the v_write... call is synchronized with the v_output() call.

The **volcano_time_available** is the max_age - publish latency - subscribe latency and is derived directly from the end-to-end requirement. It must, of course, include all delays due to any gateway nodes.

The **subscribe latency** is a user-defined value that depends on the properties of the subscribing application.

Write_interval (Published signal). Write interval has different meaning depending on the signal generation and information type. If the signal is Sporadic or State change, then the *minimum* write interval must be specified. From this information, the maximum frame period is extracted if the signal is Sporadic and is mapped to a Sporadic frame. For signals of type State change this information is used to ensure that the signal will never be overwritten on the publisher or subscriber side before the application reads it.

If the signal is Periodic and State, the *maximum* write interval can be specified (optional). It can be used by a tool in combination with an update bit, to check that the application program is always updating that signal within the given interval.

Max_interval (Subscribed signal). The maximum read interval is used only if the signal is State change to ensure that the signal will never be overwritten on the publisher or subscriber side before the application reads it.

6 INTERFACE REQUIREMENTS

6.1 Hardware interface

6.2 Overview of signals

Transmitted Signals	Subscriber Nodes
AirbagWrnngIndF	Sensing_Diagnostic_Module
ASSInhBtnA	Engine_Control_Module
AvgFuelCsump	Front_Infotainment_Control_Modul, Telematics_BOX
AvgFuelCsumpV	Front_Infotainment_Control_Modul, Telematics_BOX
CalendarDay	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
CalendarMonth	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
CalendarYear	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
CCSwStsAlvRC	Engine_Control_Module
CCSwStsCanclSwA	Engine_Control_Module
CCSwStsDisDecSwA	Engine_Control_Module
CCSwStsDistIncSwA	Engine_Control_Module
CCSwStsOnSwA	Engine_Control_Module, Sensing_Diagnostic_Module
CCSwStsPV	Engine_Control_Module
CCSwStsRsmSwA	Engine_Control_Module
CCSwStsSetSwA	Engine_Control_Module
CCSwStsSpdDecSwA	Engine_Control_Module
CCSwStsSpdIncSwA	Engine_Control_Module
CCSwStsSwDataIntgty	Engine_Control_Module
ChmCmdSndCndcPrd	Front_Infotainment_Control_Modul
ChmCmdSndDutyCyc	Front_Infotainment_Control_Modul
ChmCmdSndLoctnFL	Front_Infotainment_Control_Modul
ChmCmdSndLoctnFR	Front_Infotainment_Control_Modul
ChmCmdSndLoctnRL	Front_Infotainment_Control_Modul
ChmCmdSndLoctnRR	Front_Infotainment_Control_Modul
ChmCmdSndTone	Front_Infotainment_Control_Modul
Clstr10KmTick	Body_Controller
ClstrDistUnt	Front_Infotainment_Control_Modul
ClstrDspdABSWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdAirbagWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdAltrWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdASpdLmtrWrnng	Front_Infotainment_Control_Modul

ClstrDspdBrkSysWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdCCWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdClntTemWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdEnDrvByWireW	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdEPSWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdFLTirePrs	Telematics_BOX
ClstrDspdFLTireSts	Telematics_BOX
ClstrDspdFRTirePrs	Telematics_BOX
ClstrDspdFRTireSts	Telematics_BOX
ClstrDspdFuelLvlSgmt	Telematics_BOX
ClstrDspdFuelSnsrWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdFuelSts	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdInfoMsk	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdInvdKeyWrnng	Telematics_BOX
ClstrDspdMalfIndrLghtW	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdOilPrsLowW	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdPDCWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdRLTirePrs	Telematics_BOX
ClstrDspdRLTireSts	Telematics_BOX
ClstrDspdRRTirePrs	Telematics_BOX
ClstrDspdRRTireSts	Telematics_BOX
ClstrDspdSASUncalWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdSASWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdSCSWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdScurtKeyBatLW	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdSpStWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdTCSWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdTrWrnng	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdTyrePrsSts	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrDspdVehSpd	Front_Infotainment_Control_Modul, Telematics_BOX
ClstrFuelCsumpUnt	Front_Infotainment_Control_Modul
ClstrTemUnt	Front_Infotainment_Control_Modul
ClstrTyrePressureUnt	Front_Infotainment_Control_Modul
DiagnosticRespIPK	Diagnostics
DspMeasSys	Engine_Control_Module, Front_Infotainment_Control_Modul
DTCInfomationIPK	Telematics_BOX
FLObsRng	Front_Infotainment_Control_Modul
FRObsRng	Front_Infotainment_Control_Modul
FrtMidLObsRng	Front_Infotainment_Control_Modul
FrtMidRObsRng	Front_Infotainment_Control_Modul
FrtObsDist	Front_Infotainment_Control_Modul
FuelLvlPcnt	Engine_Control_Module, Front_Infotainment_Control_Modul, Telematics_BOX
FuelLvlPcntV	Engine_Control_Module, Front_Infotainment_Control_Modul, Telematics_BOX
FuelTotCapct	Engine_Control_Module, Front_Infotainment_Control_Modul, Telematics_BOX
HourOfDay	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
IPCAccryA	Body_Controller
IPCEcoDrvngSwA	Engine_Control_Module

IPCRunCrkA	Body_Controller
IPCRunCrkF	Body_Controller
IPCSSBA	Body_Controller
IPCSSBAV	Body_Controller
IPCSSBFltSts	Body_Controller
keep_network_IPK	Body_Controller
LanggSetng	Front_Infotainment_Control_Modul
LowAcurcVehSpdAvg	Park_Distance_Control
MinuteOfHour	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
MstrSysPwrMd	Park_Distance_Control
OdoPriy	Body_Controller, Telematics_BOX
PDCCofignSts	Front_Infotainment_Control_Modul
PDCSysSts	Front_Infotainment_Control_Modul
PfTrTapUpDwnEnbSwSta	Transmission_Control_Module
PfTrTapUpDwnSecySwSta	Transmission_Control_Module
PfTrTapUpDwnSwSta	Transmission_Control_Module
PfTrTapUpDwnSwStsAlvRC	Transmission_Control_Module
RLObsRng	Front_Infotainment_Control_Modul
RmnDrvngDist	Front_Infotainment_Control_Modul, Telematics_BOX
RrMidLObsRng	Front_Infotainment_Control_Modul
RrMidRObsRng	Front_Infotainment_Control_Modul
RrObsDist	Front_Infotainment_Control_Modul
RRObsRng	Front_Infotainment_Control_Modul
SecsOfMinute	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
SIAOdoPriy	Body_Controller
sm_network_mode_h1	Air_Condition, Elec_Steering_Column_Lock, Front_Infotainment_Control_Modul, TPMS
sm_signal_config_id_h1	Air_Condition, Elec_Steering_Column_Lock, Front_Infotainment_Control_Modul, TPMS
StabCtrlDsblSwA	Stability_Control_System
SysBPM	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
SysBPMEnbd	Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission_Control_Module
TimeDspFmt	Electronic_Park_Brake, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module
TrPfShftPtrnSw1A	Transmission_Control_Module
TrPfShftPtrnSw4A	Transmission_Control_Module
TrPfShftPtrnSwAlvRC	Transmission_Control_Module

TrShftLvrPosV_I5	Park_Distance_Control
TrShftLvrPos_I5	Park_Distance_Control
VINClstr	Body_Controller
wake_network_IPK	Body_Controller

Received Signals	**Publisher Node**
ABSIO	Stability_Control_System
AirbagSysFltIndCmd	Sensing_Diagnostic_Module
AmbtLghtLvl	Body_Controller
ASSInhBtnLampOn	Engine_Control_Module
ASSInhIO	Engine_Control_Module
ASSStsLampOn	Engine_Control_Module
ASSWrnngLampOn	Engine_Control_Module
AutoHoldMsg	Stability_Control_System
AutoHoldSysSts	Stability_Control_System
BatAgngSta	Body_Controller
BatSOC	Body_Controller
BatVol	Body_Controller
BCMEmgcSp	Body_Controller
BCMGearShftParkNtrlESR	Body_Controller
BCMNoSmtKeyInVehRmndr	Body_Controller
BCMNoSmtKeyPressBrkTRR	Body_Controller
BCMNoSmtKeyPressClToRR	Body_Controller
BCMPressBrkRmndr	Body_Controller
BCMPressClRmndr	Body_Controller
BCMPutSmtKeyToBkupPosR	Body_Controller
BCMPwrMdHwdSta	Body_Controller
BCMPwrMdHwdStaV	Body_Controller
BCMRunCrkF	Body_Controller
BCMShftParkRmndr	Body_Controller
BCMSSBA	Body_Controller
BCMSSBAV	Body_Controller
BCMSSBFltSts	Body_Controller
BCMSyncSmtKeyRmndr	Body_Controller
BCMTakeSmtKeyOutOfSR	Body_Controller
BntOpenSts	Body_Controller
BrkFludLvlLow	Stability_Control_System
BrkFludLvlLowV	Stability_Control_System
BrkSysRedBrkTlltReq	Stability_Control_System
CalendarAdjReqA	Front_Infotainment_Control_Modul
CalendarDayAdj	Front_Infotainment_Control_Modul
CalendarMonthAdj	Front_Infotainment_Control_Modul
CalendarYearAdj	Front_Infotainment_Control_Modul
CCA	Engine_Control_Module
CCEnbd	Engine_Control_Module
CCFltPrst	Engine_Control_Module
ChmA	Front_Infotainment_Control_Modul
CrusAndSpdLmtrDrvrSS	Engine_Control_Module
DayTimeRunningLghtF	Body_Controller
DiagnosticFuncAddrReq	Diagnostics
DiagnosticReqIPK	Diagnostics

DipdBeamLghtOn	Body_Controller
DistRCAvgDrvn	Stability_Control_System
DistRCAvgDrvnV	Stability_Control_System
DrvrDoorOpenSts	Body_Controller
DrvrPWLInitnRmndr	Body_Controller
DrvrShftCtrlTrgtGear	Engine_Control_Module
DrvrWndOpenRmndr	Body_Controller
ECMClsDoorToAutoStR	Engine_Control_Module
ECMFasnSbltToAutoStR	Engine_Control_Module
ECMPressClBrkRmndr	Engine_Control_Module
ECMShftNtrlToAutoStR	Engine_Control_Module
EcoDrvngAIO	Engine_Control_Module
EcoDrvngDspStsGearSIS	Engine_Control_Module
EcoDrvngDspStsRcmndFG	Engine_Control_Module
ECODrvngSpdRutA	Engine_Control_Module
EmgcCallFlrSts	Telematics_BOX
En12VoltStrMotCmddOn	Engine_Control_Module
EnASSSta	Engine_Control_Module
EnClntTem	Engine_Control_Module
EnClntTemV	Engine_Control_Module
EnEmsnRltdMalfA	Engine_Control_Module
EnEmsnRltdMalfIndReq	Engine_Control_Module
EnNonEmsnRltdMalfA	Engine_Control_Module
EnOilPrsLowIO	Engine_Control_Module
EnRunA	Engine_Control_Module
EnSpd	Engine_Control_Module
EnSpdSts	Engine_Control_Module
EPBSysAudWrnngReq	Electronic_Park_Brake
EPBSysDspMsgReq	Electronic_Park_Brake
EPBSysStsIndReq	Electronic_Park_Brake
EPBSysWrnngIndReq	Electronic_Park_Brake
EPSFlrSts	Electric_Power_Steering
ESCLFlrIndCmd	Elec_Steering_Column_Lock
FasnDrvrSbltIndCmd	Sensing_Diagnostic_Module
FasnFrtPsngSbltIndCmd	Sensing_Diagnostic_Module
FasnSbltAudRmndr	Sensing_Diagnostic_Module
FICMDistUnitAdjtReqA	Front_Infotainment_Control_Modul
FICMFuelCsumpUntAdj	Front_Infotainment_Control_Modul
FICMFuelCsumpUntAdjARA	Front_Infotainment_Control_Modul
FICMOverSpdFnCrntSts	Front_Infotainment_Control_Modul
FICMOvrSpdThrshldAdj	Front_Infotainment_Control_Modul
FICMOvrSpdThrshldAdjtRA	Front_Infotainment_Control_Modul
FICMTemUntAdj	Front_Infotainment_Control_Modul
FICMTemUntAdjtReqA	Front_Infotainment_Control_Modul
FICMTyrePressureUntAdjtReqA	Front_Infotainment_Control_Modul
FICMVehMntnceSts	Front_Infotainment_Control_Modul
FLTirePrs	TPMS
FLTirePrsV	TPMS
FLTireSts	TPMS
FLTireTem	TPMS
FLTireTemV	TPMS

FrtFogLghtOn	Body_Controller
FRTirePrs	TPMS
FRTirePrsV	TPMS
FRTireSts	TPMS
FRTireTem	TPMS
FRTireTemV	TPMS
FrtPsngDoorOpenSts	Body_Controller
FrtSideLghtF	Body_Controller
FuelCsump	Engine_Control_Module
GenrSta	Body_Controller
HDCSysSts	Stability_Control_System
HourOfDayAdj	Front_Infotainment_Control_Modul
keep_network_AC	Air_Condition
keep_network_ESCL	Elec_Steering_Column_Lock
keep_network_FICM	Front_Infotainment_Control_Modul
keep_network_TPMS	TPMS
LBrkLghtF	Body_Controller
LDipdBeamLghtF	Body_Controller
LDircnIndLghtF	Body_Controller
LDircnIO	Body_Controller
LdspcOpenSts	Body_Controller
LghtSwPosSts	Body_Controller
MainBeamLghtOn	Body_Controller
MinuteOfHourAdj	Front_Infotainment_Control_Modul
MusSrcMd	Front_Infotainment_Control_Modul
NavDircn	Front_Infotainment_Control_Modul
NavDist	Front_Infotainment_Control_Modul
NavDistUnit	Front_Infotainment_Control_Modul
network_mode	Body_Controller
OdoSecy	Body_Controller
PDCCofignSts_L	Park_Distance_Control
PDCOverVolFlt_L	Park_Distance_Control
PDCRespEr_L	Park_Distance_Control
PDCRLSnsrFlt_L	Park_Distance_Control
PDCRrMidLSnsrFlt_L	Park_Distance_Control
PDCRrMidRSnsrFlt_L	Park_Distance_Control
PDCRRSnsrFlt_L	Park_Distance_Control
PDCSysSts_L	Park_Distance_Control
PDCUnderVolFlt_L	Park_Distance_Control
PEPSAntFlt	Body_Controller
PwrMdMstrAccryA	Body_Controller
PwrMdMstrAccryWkupA	Body_Controller
PwrMdMstrIgnA	Body_Controller
PwrMdMstrRunCrkA	Body_Controller
RBrkLghtF	Body_Controller
RDipdBeamLghtF	Body_Controller
RDircnIndLghtF	Body_Controller
RDircnIO	Body_Controller
RdoFrqcVal	Front_Infotainment_Control_Modul
RevsLghtF	Body_Controller
RLObsRng_L	Park_Distance_Control

RLTirePrs	TPMS
RLTirePrsV	TPMS
RLTireSts	TPMS
RLTireTem	TPMS
RLTireTemV	TPMS
RrFogLghtF	Body_Controller
RrFogLghtOn	Body_Controller
RrMidLObsRng_L	Park_Distance_Control
RrMidRObsRng_L	Park_Distance_Control
RrObsDist_L	Park_Distance_Control
RRObsRng_L	Park_Distance_Control
RrPDCAudWrnng_L	Park_Distance_Control
RrSideLghtF	Body_Controller
RRTirePrs	TPMS
RRTirePrsV	TPMS
RRTireSts	TPMS
RRTireTem	TPMS
RRTireTemV	TPMS
ScurtAlrmSts	Body_Controller
ScurtKeyBatLow	Body_Controller
ScurtKeyInvd	Body_Controller
SecsOfMinuteAdj	Front_Infotainment_Control_Modul
ShifterLckRlseBrkReqA	Body_Controller
SIAOdoSecy	Body_Controller
signal_config_id	Body_Controller
SpdAstSysStsECM	Engine_Control_Module
SpdAstSysTrgtSpd	Engine_Control_Module
SrfInitnRmndr	Body_Controller
SrfOpenRmndr	Body_Controller
SSBEnOffRmndr	Body_Controller
StrgWhlAngSnsrCalSts	Electric_Power_Steering
StrgWhlAngSnsrFlt	Electric_Power_Steering
SysOpnlMd	Body_Controller
SysPwrMd	Body_Controller
SysPwrMdV	Body_Controller
SysVol	Body_Controller
SysVolMd	Body_Controller
SysVolMdV	Body_Controller
SysVolV	Body_Controller
TakeKeyOutRmndr	Body_Controller
TCSOpngMd	Stability_Control_System
TCSOpngSts	Stability_Control_System
TimeAdjReqA	Front_Infotainment_Control_Modul
TimeDspFmtAdj	Front_Infotainment_Control_Modul
TPMSAutoLoctnCm	TPMS
TPMSF	TPMS
TPMSIdficnLrnCm	TPMS
TPMSTirePrsLowIO	TPMS
TPMSWntrMdA	TPMS
TrNonEmsnRltdMalfA	Transmission_Control_Module
TrShftLvrPos	Engine_Control_Module

TrShftLvrPosV	Engine_Control_Module
TrShftPtrnASts	Engine_Control_Module
TrTapUpTapDwnMdSts	Engine_Control_Module
VehLckngSta	Body_Controller
VehLdShedLvl	Body_Controller
VehOdo	Body_Controller
VehOdoV	Body_Controller
VehSideLghtSts	Body_Controller
VehSpdAvgDrvn	Stability_Control_System
VehSpdAvgDrvnV	Stability_Control_System
VINBCM	Body_Controller
VSEMd	Stability_Control_System
VSESts	Stability_Control_System
wake_network_AC	Air_Condition
wake_network_ESCL	Elec_Steering_Column_Lock
wake_network_FICM	Front_Infotainment_Control_Modul
wake_network_TPMS	TPMS
WhlGndVelLDrvn	Stability_Control_System
WhlGndVelLDrvnV	Stability_Control_System
WhlGndVelLNonDrvn	Stability_Control_System
WhlGndVelLNonDrvnV	Stability_Control_System
WhlGndVelRDrvn	Stability_Control_System
WhlGndVelRDrvnV	Stability_Control_System
WhlGndVelRNonDrvn	Stability_Control_System
WhlGndVelRNonDrvnV	Stability_Control_System

Constant Signals

busoff_decrement_time
busoff_max
busoff_time
busoff_wait_time
communication_timeout_time_slave
fixed_frame_normal_period
fixed_frame_startup_period
keep_network_timeout_time_slave
keep_net_alive_time_master
local_signal_config_id
m
master_timeout_time_sec_master
monitoring_timeout_time_master
n
NCFRefNoIPK
remoteframe_timeout_time
short_time_recovery_num
startup_time_sec_master

stay_in_busoff
stay_in_expulsion
wait_for_network_sleep_time_master
wait_for_network_sleep_time_slave
wakeup_network_signal_time_slave
wakeup_network_time_slave
wakeup_pending_time_master
wakeup_pending_time_sec_master
wakeup_pending_time_slave
wake_network_signal_time_slave

6.3 ECU information

In this paragraph the properties of the ECU are listed. The ECU information is used in the Volcano configuration process.

If any of the parameters below is incorrectly specified, new configuration files (FIX and/or NET) must be issued from the system integrator. It is the responsibility of the supplier to inform the system integrator if any parameter is incorrect, and that the configuration files are not edited.

The jitter parameters below shall be seen as requirements (the specified jitter must not be exceeded).

6.3.1 Field explanations

Diagnostic Address:	The diagnostic address used to address an ECU in a diagnostic request (if applicable)
Compiler:	This compiler information is the same as specified in the fixed file.
Volcano Processing Period (ms):	The period of volcano_input, volcano_output and volcano_gateway. All outgoing frames must be specified with a period equal to a multiple of Volcano Processing Period. For incoming frames, the Volcano Processing Period is the maximum rate at which incoming data is made available to the application. In the timing analysis, the Volcano Processing Period is a part of the Volcano latency (in worst case, an updated signal arrives at the CAN-controller directly after a volcano_input.
Input Jitter (ms):	The maximum difference between the earliest and the latest time to complete a Volcano input call, counting from the time Volcano output is scheduled (according to Volcano processing period), see Volcano, referred document [2].
Output Jitter (ms):	The maximum difference between the earliest and the latest time to complete a Volcano output call, counting from the time Volcano input is scheduled (according to Volcano processing period), see Volcano, referred document [2]. **Note:** In the frame configuration, the jitter is a crucial parameter. If the real jitter is greater than the value specified here, the timing analysis (the fulfilment of deadlines and the guaranteed processing of incoming frames) will be not valid.
Configuration File Sector Address:	The start address of the sector in which the configuration file is stored. The sector address is a constant defined in the configuration file and can be accessed by the application (D2) by reading the signal `SignalConfigSectorAddr`.
Volcano NVRAM Start Address:	See Volcano (referred document [2]).
Volcano NVRAM End Address:	See Volcano (referred document [2]).
Volcano RAM start address:	See Volcano (referred document [2]).
Volcano RAM End Address:	See Volcano (referred document [2]).
Physical NVRAM Base:	See Volcano (referred document [2]).

6.3.2 ECU specification

Node Name:	**Instruments**
Diagnostic Address [hex]:	**00**
Compiler:	**GHS RH850**
Volcano Processing Period:	**5.000**
Input Jitter [ms]:	**0.500**
Output Jitter [ms]:	**0.500**
RAM Start [hex]:	**FEBC7000**
RAM End [hex]:	**FEBC83FF**
NVRAM Start [hex]:	**10000**
NVRAM End [hex]:	**17FFF**
Physical NVRAM Base [hex]:	**0**
Signal Config Sector [hex]:	**0**

6.4 Interface information

In this paragraph the properties of the interface(s) to the ECU are listed. The interface information is used in the Volcano configuration process. If any of the parameters below is incorrectly specified, new configuration files (FIX and/or NET) must be issued from the system integrator, see ECU Information above.

6.4.1 Field explanations

Network Type:	ECAN or LIN.	
Network Speed:	Bitrate, in kbit/s.	
Number of priority bits:	See Volcano (referred document [2]). ECAN: 9 bits, Vlite: 4 bits.	
Number of filter bits:	See Volcano (referred document [2]). ECAN: 20 bits, Vlite: 0 bits.	
Controller:	See Volcano (referred document [2]).	
Clock Frequency:	Frequency used in CAN module, in MHz. See Volcano (referred document [2]).	
Input Budgets:	See Volcano (referred document [2]).	
	Polled Frames Received:	Zero if receive by interrupt is used.
	Interrupt frames received:	Zero if receive by polling is used.
Output Budgets:	See Volcano (referred document [2]).	
	Slot Frames Transmitted:	Zero if transmit by interrupt is used.
	Interrupt Frames Transmitted:	Zero if transmit by slot is used.
Filter Mask:	See Volcano (referred document [2]).	
Response Error Signal:	Response Error Signal on LIN 2 Slave Interfaces	
Init NAD:	Initial NAD on LIN 2 Slave Interfaces	
Supplier Id	Supplier ID on LIN 2 Slave Interfaces	
Function Id	Function ID on LIN 2 Slave Interfaces	
Variant Id	Variant ID on LIN 2 Slave Interfaces	
P2min:	P2 min on LIN 2 Slave Interfaces in ms	

STmin:	ST min on LIN 2 Slave Interfaces in ms
FNOS Attributes	FNOS Attributes

6.4.2 Interface specification

Name:	**IPK_CAN_HS**	
Network Name:	HSCAN	
Network Type:	CAN 11	
Local Modes:	FM_Normal_HS, FM_Quiet_HS, FM_Silent_HS	
Controllers:	**Name**	**IPK_CAN_HS_Ctrl**
	Device Driver ID	RSCAN
	Input Clock [kHz]	8000.000
	Controller Base Address [hex]	FFD00000
	Total Number of Slots:	112
	Max. Slot Frames Received:	96
	Max. Slot Frames Transmitted:	16
	Max. Interrupt Frames Received:	255
	Max. Interrupt Frames Transmitted:	255
	Input Budget:	0
	Output Budget:	0
	Interest Masks:	xxxxxxxxxxx

Name:	**IPK_LIN3**	
Network Name:	IPC_LIN3	
Network Type:	LIN Master	
Local Modes:	FM_Diagnostics_L3, FM_Normal_L3	
Controllers:	**Name**	**IPK_LIN3_Ctrl**
	Device Driver ID	RLIN3
	Input Clock [kHz]	8000.000
	Controller Base Address [hex]	FFCE0000

7 Signal definitions

7.1 General

In this paragraph the definitions of transmitted and received signals are listed. The signal specifications are the result of a design process at the car manufacturer, automatically generated (exported) from the VNA tool. The definition in the signals database is always the valid definition.

Publisher ECU: The ECU from which the signal originates.

Description: A short explanation of the meaning and purpose of the signal.

General Remarks: An optional short remark. “-” if no remark is made.

Revision: A short remark informing about changes in the signal since last release of the Signal database. “-” if no changes are made.

Group: If a group name is specified the signal is a member of that group. All signals in one group must be updated “atomically”, i.e. no Volcano Output call must be made in between (requirement on the software in source ECU). All signals in one group must be placed in the same frame (requirement on systems integration).

Update Bit: ‘Yes’ if signal has an associated update bit, otherwise ‘No’. In a group, only one signal (normally) has an update bit.

Signal Type: The signal can be either ‘Boolean, Unsigned’ or ‘Bytes‘. See referred document [2].

Information Type:

‘State info’: The signal carries the complete information about the state in the source ECU. A slow read process in the receiving node causing an updated value to be missed will not cause malfunction, only a delay; the application will always get the state of the source application from the signal value.

‘State change info’: The signal carries one part of the information about the state in the source ECU, the other part is depending on the previous states. A state_change_info signal must be read by the receiving application every single time the generating application has updated the signal, otherwise the information will be lost and cause function failure.

‘Diagnostic Info’: The signal carries message information according to “Diagnostic Communication on CAN” (if applicable).

‘Global Parameters’: The signal carries message information according to “Global Parameters” (if applicable).

Size: The signal size in bits or bytes (if ‘bytes’).

Range: The signal use this value range (for the engineer value, E), i.e. min. and max. value, e.g. 20..140 kmph. “-” if not applicable.

Unit: This is the engineering unit (if applicable). “-” if not applicable.

Resolution: The value of the least significant bit, LSB (if applicable). “-” if not applicable.

Generation type:

A ‘sporadic’ signal is a value updated sporadically to VOLCANO, i.e. due to an occurrence of an event or state change, e.g. button pressed or key inserted. A sporadic signal must not be updated more often than the *minimum update interval*. se below.

A ‘periodic’ signal is updated periodically to VOLCANO, e.g. a speed or temperature value regularly refreshed by periodical polling of a sensor. A periodic signal must always be updated according to the specified update period, see below. The receiving applications have requirements on the maximum update period.

A ‘constant signal is accessed from Volcano in the same way as an ordinary Volcano signal. The value of the signal is stated in the Networks file, in the mappings section. A constant signal is not transmitted on the bus and is always “read only”.

Accuracy: The specified accuracy, or rather inaccuracy, of a given signal value. “-” if not applicable.

Coding:

This field applies to both encoded signals (“Coding”) and value signals (“Formula”). The coding of the signals is described in a formal manner, to be able to auto-generate signal description files according to the ASAP2 standard. The coding field shall be interpreted as explained below. Both “//” and “/* */” are used for comments, to explain the formal description in the Coding field.

“#Coding” means that the signal shall be interpreted with a *verbal table*. Each verbal table has an number of value pairs,
e.g. “0x01 = Lamp on”. “#Coding” is equivalent to “TAB_VERB” in the ASAP2 standard.

“#Formula” means that the signal shall be interpreted as a *rational function*, N = A * E + B, where N is the numerical value (hex) and E is the engineering value (physical). Each rational function has 6 coefficients, *a*, *b*, *c*, *d*, *e* and *f*: where
N = (*a**E*E + *b**E + *c*) / (*d**E*E + *e**E + *f*), e.g. 0 2 10 0 0 1. “#Formula” is equivalent to “RAT_FUNC” in the ASAP2 standard.

“#Unformatted” means that the syntax is not according to ASAP standard, and therefore in the current database this signal will be omitted when generating A2L files. The coding is written in plain text.

“#Null” means that the signal has no coding. This is the case for zero-size signals.

Note: If a signal consists of “sub-signals” (e.g. bit-coded signals) the “#Coding” or “#Formula” is followed by the size, bit offset and signal suffix. For example, “#Coding:1,0:0” means that the sub-signal is a *verbal table* (see above), the size is 1 bit, the bit offset is 0 (LSB) and the suffix is “_0”. The suffix is used for the interpretation of signals in ASAP2 files.

7.2 Transmitted signals

Interface: IPK_CAN_HS

AirbagWrnngIndF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Airbag Warning Indication Failed
send out the status of Airbag warning lamp

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

ASSInhBtnA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Auto Stop Start Disable Switch Pressed Active
0x0 = Switch released
0x1 = Switch pressed

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

AvgFuelCsump						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Average Fuel Consumption

Encoding type:

Name: **AvgFuelCsumpET**
Size: 8 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 255	0.1	0	L/100 km

AvgFuelCsumpV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Average Fuel Consumption Validity

Encoding type:

Name: **ValidityCoding**
Size: 1 bit
Description: Validity Encode Type

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Valid
	Logical Value	1			Invalid

CalendarDay						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
5	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: current day info.

Encoding type:

Name: **CalendarDayET**
Size: 5 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 31	1	0	

CalendarMonth						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: current month info.

Encoding type:

Name: **CalendarMonthET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Unknown
Logical Value	1			January
Logical Value	2			February
Logical Value	3			March
Logical Value	4			April
Logical Value	5			May
Logical Value	6			June
Logical Value	7			July
Logical Value	8			August
Logical Value	9			September
Logical Value	10			October
Logical Value	11			November
Logical Value	12			December
Logical Value	13			Reserved
Logical Value	14			Reserved
Logical Value	15			Reserved

CalendarYear						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: current year info

Encoding type:

Name: **CalendarYearET**

Size: 8 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 255	1	2000	

CCSwStsAlvRC						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status Alive Rolling Count

Encoding type:

Name: **EequalN_2ET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 3	1	0	

CCSwStsCanclSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status : Cancel Switch Active

Encoding type:

Name: **CCSwStsCanclSwAET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	1			True
	Logical Value	0			False

CCSwStsDisDecSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status Distance Decrease Switch Active

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

CCSwStsDistIncSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status Distance Increase Switch Active

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

CCSwStsOnSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status : On Switch Active

Encoding type:

Name: **CCSwStsOnSwAET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	1			True
Logical Value	0			False

CCSwStsPV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status Protection Value

Encoding type:

Name: **CCSwStsPVET**
Size: 8 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 255	1	0	

CCSwStsRsmSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status : Resume Switch Active

Encoding type:

Name: **CCSwStsRsmSwAET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	1			True
Logical Value	0			False

CCSwStsSetSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status : Set Switch Active

Encoding type:

Name: **CCSwStsSetSwAET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	1			True
Logical Value	0			False

CCSwStsSpdDecSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status : Speed Decrease Switch Active

Encoding type:

Name: **CCSwStsSpdDecSwAET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	1			True
Logical Value	0			False

CCSwStsSpdIncSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status : Speed Increase Switch Active

Encoding type:

Name: **CCSwStsSpdIncSwAET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	1			True
Logical Value	0			False

CCSwStsSwDataIntgty						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cruise Control Switch Status : Switch Data Integrity

Encoding type:

Name: **CCSwStsSwDataIntgtyET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Data Valid
Logical Value	1			Data Invalid
Logical Value	2			Failure Detected
Logical Value	3			Illegal Range

ChmCmdSndCndcPrd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: Sound Characteristics
Chime Command Sound Cadence Period

Encoding type:

Name: **ChmCmdSndCndcPrd**

Size: 8 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 255	10	0	

ChmCmdSndDutyCyc						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: Sound Characteristics
Chime Command Sound Duty Cycle

Encoding type:

Name: **ChmCmdSndDutyCyc**
Size: 8 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 255	0.392157	0	

ChmCmdSndLoctnFL						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: sound location
Chime Command Sound Location Front Left

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

ChmCmdSndLoctnFR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: sound location
Chime Command Sound Location Front Right

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

ChmCmdSndLoctnRL						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: sound location
Chime Command Sound Location Rear Left

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

ChmCmdSndLoctnRR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: sound location
Chime Command Sound Location Rear Right

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

ChmCmdSndTone						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: Sound Characteristics
Chime Command Sound Tone

Encoding type: Name: **ChmCmdSndToneET**
Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Clack
Logical Value	1			Click
Logical Value	2			Beep (750 Hz)
Logical Value	3			Beep (2000 Hz)
Logical Value	4			Gong (750 Hz)
Logical Value	5			Gong (2000 Hz)
Logical Value	6			Reserved
Logical Value	7			Reserved
Logical Value	8			Reserved
Logical Value	9			Reserved
Logical Value	10			Reserved
Logical Value	11			Reserved
Logical Value	12			Reserved
Logical Value	13			Reserved
Logical Value	14			Reserved
Logical Value	15			Reserved

Clstr10KmTick						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster 10 Kilometer Tick
when IPK'VIN code does match with other module, IPK will send '1' status out.

Encoding type: Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

ClstrDistUnt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Distance Units

Encoding type:

Name: **ClstrDistUntET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			km
Logical Value	1			miles

ClstrDspdABSWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Antilock Brake System Warning

Encoding type:

Name: **WarnET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdAirbagWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Airbag Warning

Encoding type:

Name: **WarnET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdAltrWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Cluster Displayed Alternator Warning

Encoding type:	Name:	**WarnET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No Warning
		Logical Value	1			Warning

ClstrDspdASpdLmtrWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Cluster Displayed Active Speed Limiter Warning

Encoding type:	Name:	**WarnET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No Warning
		Logical Value	1			Warning

ClstrDspdBrkSysWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Cluster Displayed Brake System Warning

Encoding type:	Name:	**WarnET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No Warning
		Logical Value	1			Warning

ClstrDspdCCWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Cruise Control Warning

Encoding type:

Name: **WarnET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdClntTemWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Coolant Temperature Warning

Encoding type:

Name: **WarnET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdEnDrvByWireW						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Engine Drive By Wire Warning

Encoding type:

Name: **WarnET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdEPSWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Electric Power Steering Warning

Encoding type: Name: **ClstrDspdEPSWrnngET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			General Warning
Logical Value	2			Serious Warning
Logical Value	3			Reserved

ClstrDspdFLTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Front Left Tire Pressure

Encoding type: Name: **ClstrDspdFLTirePrsET**

Size: 7 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 127	4	0	kPa

ClstrDspdFLTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Front Left Tire Status

Encoding type: Name: **WarnET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdFRTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Front Right Tire Pressure

Encoding type:

Name: **ClstrDspdFLTirePrsET**

Size: 7 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 127	4	0	kPa

ClstrDspdFRTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Front Right Tire Status

Encoding type:

Name: **WarnET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdFuelLvlSgmt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Fuel Level Segment

Encoding type:

Name: **ClstrDspdFuelLvlSgmtET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			1st Segment Flash
Logical Value	1			1st Segment On
Logical Value	2			2nd Segment On
Logical Value	3			3th Segment On
Logical Value	4			4th Segment On
Logical Value	5			5th Segment On
Logical Value	6			6th Segment On
Logical Value	7			7th Segment On
Logical Value	8			8th Segment On

ClstrDspdFuelSnsrWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Fuel Sensor Warning

Encoding type:

Name: **WarnET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdFuelSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Fuel Status

Encoding type:

Name: **ClstrDspdFuelStsET**
Size: 2 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Fuel Status OK
Logical Value	1			Fuel Status Low
Logical Value	2			Fuel Status Critical
Logical Value	3			Reserved

ClstrDspdInfoMsk						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Information Mask

Encoding type:

Name: **ClstrDspdInfoMskET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Don¡®t Use Data
Logical Value	1			Use Data

ClstrDspdInvdKeyWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Invalid Key Warning

Encoding type:

Name: **WarnET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdMalfIndrLghtW						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Malfunction Indicator Light Warning

Encoding type:

Name: **WarnET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdOilPrsLowW						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Oil Pressure Low Warning

Encoding type:

Name: **WarnET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Warning
Logical Value	1			Warning

ClstrDspdPDCWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Park Distance Control Warning

Encoding type:

Name: **WarnET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Warning

ClstrDspdRLTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Rear Left Tire Pressure

Encoding type:

Name: **ClstrDspdFLTirePrsET**
Size: 7 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 127	4	0	kPa

ClstrDspdRLTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Rear Left Tire Status

Encoding type:

Name: **WarnET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Warning

ClstrDspdRRTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Rear Right Tire Pressure

Encoding type:

Name: **ClstrDspdFLTirePrsET**
Size: 7 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 127	4	0	kPa

ClstrDspdRRTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Rear Right Tire Status

Encoding type:

Name: **WarnET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Warning

ClstrDspdSASUncalWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Steering Angle Sensor Uncalibartion Warning

Encoding type:

Name: **WarnET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Warning

ClstrDspdSASWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Cluster Displayed Steering Angle Sensor Warning

Encoding type:	Name:	**WarnET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No Warning
		Logical Value	1			Warning

ClstrDspdSCSWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Cluster Displayed Stability Control System Warning

Encoding type:	Name:	**WarnET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No Warning
		Logical Value	1			Warning

ClstrDspdScurtKeyBatLW						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Cluster Displayed Security Key Battery Low Warning

Encoding type:	Name:	**WarnET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No Warning
		Logical Value	1			Warning

ClstrDspdSpStWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Stop Start Warning

Encoding type:

Name: **WarnET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Warning

ClstrDspdTCSWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Traction Control System Warning

Encoding type:

Name: **WarnET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Warning

ClstrDspdTrWrnng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Transmission Warning

Encoding type:

Name: **WarnET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Warning

ClstrDspdTyrePrsSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Displayed Tyre Pressure Status

Encoding type: Name: **ClstrDspdTyrePrsStsET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Warning
	Logical Value	1			Low Tyre
	Logical Value	2			System Failure

ClstrDspdVehSpd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: Cluster Displayed Vehicle Speed

Encoding type: Name: **ClstrDspdVehSpdET**
Size: 8 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 254	1	0	km/h
	Logical Value	255			Speed Signal Missing Error of SCS

ClstrFuelCsumpUnt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Fuel Consumption Units

Encoding type: Name: **ClstrFuelCsumpUntET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			L/100km
	Logical Value	1			mpg(UK)
	Logical Value	2			mpg(US)
	Logical Value	3			km/L

ClstrTemUnt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Temperature Units

Encoding type: Name: **ClstrTemUntET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Celsius Degree(¡æ)
	Logical Value	1			Fahrenheit Degree(¨H)
	Logical Value	2			Not Available
	Logical Value	3			Reserved

ClstrTyrePressureUnt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Cluster Tyre Pressure Units

Encoding type: Name: **ClstrTyrePressureUntET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			bar
	Logical Value	1			kpa
	Logical Value	2			Psi

DiagnosticRespIPK						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
64	Bytes	State	Sporadic	DIAG_PhysResp_IPK	No	0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	10.000
	FM_Quiet_HS	5.000	10.000
	FM_Silent_HS	5.000	10.000

Description: Diagnostic response from IPK

DspMeasSys						
Size [bits] 1	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000
Description:	Display Measurement System		

Encoding type:

Name: **DspMeasSysET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			kph
Logical Value	1			MPH

DTCInfomationIPK						
Size [bits] 56	**Type** Bytes	**Info Type** State	**Generation Type** Sporadic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0x00 0x00 0x00 0x00 0x00 0x00 0x00

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	100.000	1000.000

Description:

DTC Infomation of IPK

The length of DTC information signal is 7 bytes.
Byte 0 is MSB (most significant byte), and Byte 6 is LSB (least significant byte).
For each byte, Bit 7 is msb (most significant bit), and Bit 0 is lsb (least significant bit).

Byte 0:
Bit (7-4): DTC Serious Level
Bit (3-0): Reserved

Byte 1:
Bit (7-0): Reserved

Byte 2:
Bit (7-0): DTCHighByte

Byte 3:
Bit (7-0): DTCLowByte

Byte 4:
Bit (7-0): DTCFailureTypeByte

Byte 5:
Bit 7: warningIndicatorRequested
Bit 6: testNotCompletedThisOperationCycle
Bit 5: testFailedSinceLastClear
Bit 4: testNotCompletedSinceLastClear
Bit 3: confirmedDTC
Bit 2: pendingDTC
Bit 1: testFailedThisOperationCycle
Bit 0: testFailed

Byte 6:
Bit (7-0): DTC Type

For more detail, please refer to SMTC 2 800 004.

FLObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Front Left Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

FRObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Front Right Obstacle Range

Encoding type: Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

FrtMidLObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Front Middle Left Obstacle Range

Encoding type: Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

FrtMidRObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Front Middle Right Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

FrtObsDist						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Front Obstacle Distance

Encoding type:

Name: **FrtObsDistET**

Size: 8 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 255	1	0	cm

FuelLvlPcnt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Fuel Level Percent

Encoding type:

Name: **FuelLvlPcntET**

Size: 8 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 255	0.390625	0	E=N*100/255

FuelLvlPcntV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Fuel Level Percent Validity

Encoding type:

Name: **FuelLvlPcntVET**

Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

FuelTotCapct						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
12	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Fuel Total Capacity

Encoding type:

Name: **FuelTotCapctET**

Size: 12 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 4095	0.125	0	

HourOfDay						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
5	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Hour Of Day. current Hour info.

Encoding type:	Name:	**HourOfDayET**				
	Size:	5 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 23	1	0	

IPCAccryA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Instrument Panel Cluster Start Accessory Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

IPCEcoDrvngSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Economic Switch Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

IPCRunCrkA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Instrument Panel Cluster Run Crank Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

IPCRunCrkF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Instrument Panel Cluster Run Crank Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

IPCSSBA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description:	Instrument Panel Cluster Start Stop Button Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

IPCSSBAV						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Instrument Panel Cluster Start Stop Button Active Validity

Encoding type:

Name: **Valid4Coding**
Size: 1 bit
Description: valid info 4

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

IPCSSBFltSts						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Instrument Panel Cluster Start Stop Button Fault Status

Encoding type:

Name: **IPCSSBFltStsET**
Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Fault
Logical Value	1			short to GND
Logical Value	2			short to Battery
Logical Value	3			Stuck
Logical Value	4			Open Circuit
Logical Value	5			switch failed
Logical Value	6			Reserved
Logical Value	7			Reserved

keep_network_IPK						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	20.000	0.000

Description: NM signal: the IPK uses this signal when it wants to keep the network awake.

Encoding type:

Name: **keep_network_coding**
Size: 1 bit

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			no keep network request
Logical Value	1			keep network request

LanggSetng						
Size [bits] 7	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Language Setting

Encoding type:

Name: **LanggSetngET**
Size: 7 bits
Description: $19-$7F=Reserved

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Simplified Chinese
Logical Value	1			UK English
Logical Value	2			NA English
Logical Value	3			Swedish
Logical Value	4			French
Logical Value	5			Spanish
Logical Value	6			Dutch
Logical Value	7			Portuguese
Logical Value	8			Norwegian
Logical Value	9			Finnish
Logical Value	10			Danish
Logical Value	11			Greek
Logical Value	12			Japanese
Logical Value	13			Arabic
Logical Value	14			German
Logical Value	15			Polish
Logical Value	16			Turkish
Logical Value	17			Korean
Logical Value	18			Traditional Chinese
Logical Value	19			Italian
Logical Value	20			Hungarian
Logical Value	21			Czech
Logical Value	22			Slovak
Logical Value	23			Russian
Logical Value	24			Thai

MinuteOfHour						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
6	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Minute Of Hour.
current Minute info.

Encoding type:

Name: **MinuteOfHourET**
Size: 6 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 59	1	0	

OdoPriy						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
24	Bytes	State	Periodic	N/A	No	0x00 0x00 0x00

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Odometer Primary
Odometer value

Encoding type:

Name: **ODO_coding**
Size: 24 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 16777215	1	0	km

PDCCofignSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Park Distance Control Configuration Status

Encoding type:

Name: **PDCCofignStsET**
Size: 3 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			3 rear sensors
	Logical Value	1			4 rear sensors
	Logical Value	2			4 rear sensors and 2 front side sensors
	Logical Value	3			4 rear sensors and 4 front sensors
	Logical Value	4			2 rear sensors
	Logical Value	5			Reserved
	Logical Value	6			Reserved
	Logical Value	7			Reserved

PDCSysSts						
Size [bits] 4	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Park Distance Control System Status

Encoding type:

Name: **PDCSysStsET**
Size: 4 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			System OK
Logical Value	1			System initialization sucessful
Logical Value	2			System Failed
Logical Value	3			System Disabled
Logical Value	4			Front PDC Disabled
Logical Value	5			Front PDC Failed
Logical Value	6			Rear PDC Failed
Logical Value	7			Rear PDC Disabled

PfTrTapUpDwnEnbSwSta						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Platform Transmission Tap Up/Down Enable Switch State

Encoding type:

Name: **PfTrTapUpDwnEnbSwSta**
Size: 2 bits
Description: Platform Transmission Tap Up/Down Enable Switch State
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Activation
Logical Value	1			Driver Shift Control Enable Switch Active
Logical Value	2			Electronic Range Select Enable Switch Active
Logical Value	3			Illegal Enable Switch State Active

PfTrTapUpDwnSecySwSta						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Platform Transmission Tap Up/Down Secondary Switch State

Encoding type:

Name: **PfTrTapUpDwnSecySwSta**
Size: 2 bits
Description: Platform Transmission Tap Up/Down Secondary Switch State
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Activation
Logical Value	1			Increment Switch Active
Logical Value	2			Decrement Switch Active
Logical Value	3			Illegal Up/Down Switch State Active

PfTrTapUpDwnSwSta						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Platform Transmission Tap Up/Down Switch State

Encoding type:

Name: **PfTrTapUpDwnSwSta**
Size: 2 bits
Description: Platform Transmission Tap Up/Down Switch State
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Activation
Logical Value	1			Increment Switch Active
Logical Value	2			Decrement Switch Active
Logical Value	3			Illegal Up/Down Switch State Active

PfTrTapUpDwnSwStsAlvRC						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Platform Transmission Tap Up/Down Switch Status Alive Rolling Count

Encoding type:

Name: **EequalN_2ET**
Size: 2 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 3	1	0	

RLObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Rear Left Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

RmnDrvngDist						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
12	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	50.000	0.000

Description: Remain Driving Distance

Encoding type:

Name: **RmnDrvngDistET**

Size: 12 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 4095	1	0	km

RrMidLObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Rear Middle Left Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

RrMidRObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Rear Middle Right Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

RrObsDist						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Rear Obstacle Distance

Encoding type:

Name: **FrtObsDistET**

Size: 8 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 255	1	0	cm

RRObsRng						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	5.000	0.000

Description: Rear Right Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

SecsOfMinute						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
6	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Seconds Of Minute
current Second info.

Encoding type:

Name: **SecsOfMinuteET**

Size: 6 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 59	1	0	

SIAOdoPriy						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
24	Bytes	State	Periodic	N/A	No	0x00 0x00 0x00

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000
Description:	Service Interval Announcement Odometer Primary the odometer value of last do SIA operation.		

Encoding type:	Name:	**ODO_coding**			
	Size:	24 bits			
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 16777215	1	0	km

sm_network_mode_h1						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Sporadic	IPK_HSC1_SecNWM	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	10.000	50.000
	FM_Silent_HS	10.000	50.000
Description:	NM signal published by Second Master node: this signal contains the intended mode of the network. This signal controls the frame mode used by the slave nodes.		

Encoding type:	Name:	**network_mode_coding**				
	Size:	8 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			start-up
		Logical Value	1			shutdown
		Logical Value	2			normal

sm_signal_config_id_h1						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
16	Unsigned	State	Sporadic	IPK_HSC1_SecNWM	No	28673

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	10.000	50.000
	FM_Silent_HS	10.000	50.000
Description:	NM signal published by second master node: this is the identification number of the signal configuration used. Read by the slave nodes to determine if they have the correct configuration or not		

StabCtrlDsblSwA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Stability Control Disable Switch Active

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

SysBPM						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: System Backup Power Mode

Encoding type:

Name: **SysPwrMd**
Size: 2 bits
Description: System Power Mode
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Off
Logical Value	1			ACC
Logical Value	2			Run
Logical Value	3			Crank

SysBPMEnbd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: System Backup Power Mode Enabled

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

TimeDspFmt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Time Display Format
current Time format.

Encoding type:

Name: **TimeDspFmtET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			12 hour mode
Logical Value	1			24 hour mode

TrPfShftPtrnSw1A						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Transmission Platform Shift Pattern Switch 1 Active

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

TrPfShftPtrnSw4A						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000

Description: Transmission Platform Shift Pattern Switch 4 Active

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

TrPfShftPtrnSwAlvRC						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**			
	FM_Normal_HS	30.000	0.000			
Description:	Transmission Platform Shift Pattern Switch Alive Rolling Count					
Encoding type:	Name:	**EequalN_2ET**				
	Size:	2 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 3	1	0	

VINClstr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
64	Bytes	State	Periodic	N/A	No	0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_HS	30.000	0.000
Description:	Vehicle Identifier Number Cluster the last 8 btyes' of VIN.		

wake_network_IPK						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Sporadic	N/A	Yes	false

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**			
	FM_Normal_HS	20.000	20.000			
	FM_Silent_HS	20.000	20.000			
Description:	NM signal: the IPK uses this signal when it wants to wake-up the network					
Encoding type:	Name:	**wake_network_coding**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			no wake-up network request
		Logical Value	1			wake-up network request

Interface: IPK_LIN3

LowAcurcVehSpdAvg						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_L3	50.000	0.000

Description: Low Accuracy Vehicle Speed Average

Encoding type:

Name: **LowAcurcVehSpdAvgET**
Size: 8 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 255	2	0	km/h/bit

MstrSysPwrMd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_L3	50.000	0.000

Description: Master System Power Mode

Encoding type:

Name: **SysPwrMd**
Size: 2 bits
Description: System Power Mode

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Off
	Logical Value	1			ACC
	Logical Value	2			Run
	Logical Value	3			Crank

TrShftLvrPosV_I5						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_L3	50.000	0.000

Description: Transmission Shift Lever Position Validity

Encoding type:

Name: **ValidityCoding**
Size: 1 bit
Description: Validity Encode Type

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Valid
	Logical Value	1			Invalid

TrShftLvrPos_I5						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode**	**Pub. Latency [ms]**	**Write Interval [ms]**
	FM_Normal_L3	50.000	0.000

Description:

Transmission Shift Lever Position

For DCT/AT transmission :
$0=Between Ranges
$1=Park Range
$2=Reverse Range
$3=Neutral Range
$4=Forward Range A
$5=Forward Range B
$6=Forward Range C
$7=Forward Range D
$8=Forward Range E
$9=Forward Range F
$A=Forward Range G
$B=Forward Range H
$F=Lever Position Unknown

For Manual Transmission: only below status are used
$2=Reverse Range
$3=Neutral Range (Validity on MT vehicles is only protected for Neutral range)
$F=Lever Position Unknown

Encoding type:

Name: **TrShftLvrPosCoding**
Size: 4 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Between Ranges
Logical Value	1			Park Range
Logical Value	2			Reverse Range
Logical Value	3			Neutral Range
Logical Value	4			Forward Range A
Logical Value	5			Forward Range B
Logical Value	6			Forward Range C
Logical Value	7			Forward Range D
Logical Value	8			Forward Range E
Logical Value	9			Forward Range F
Logical Value	15			Lever Position Unknown
Logical Value	10			Forward Range G
Logical Value	11			Forward Range H

7.3 Received signals

Interface: IPK_CAN_HS

ABSIO						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Encoding type:

Name: **ABSIOET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			false
Logical Value	1			true

AirbagSysFltIndCmd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Airbag System Fault Indication Command

Encoding type:

Name: **AirbagSysFltIndCmdET**
Size: 2 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			drive lamp OFF
Logical Value	1			drive lamp ON
Logical Value	2			drive lamp Flashing
Logical Value	3			reserved

AmbtLghtLvl						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Ambient Light Level
Indicate the Request from Auto Light Sensor

Encoding type:

Name: **AmbtLghtLvlET**
Size: 2 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Level 0 (Day: position lamp and dipped beam off)
Logical Value	1			Level 1 (Reserved for position lamp On Request)
Logical Value	2			Level 2 (Dipped Beam On) Request
Logical Value	3			Level 3 (Reserved)

ASSInhBtnLampOn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	300.000	

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

ASSInhIO						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	300.000	

Description: Auto Stop Start Inhibit Indication On

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

ASSStsLampOn						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	300.000	

Description:	Auto Stop Start Status Lamp On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

ASSWrnngLampOn						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	300.000	

Description:	Auto Stop Start Warning Lamp On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

AutoHoldMsg						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Autohold Message

Encoding type: Name: **AutoholdMsg2ET**

Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			reserved
Logical Value	1			Seat belt not fastend
Logical Value	2			Press brake pedal
Logical Value	3			Autohold standby
Logical Value	4			Autohold off
Logical Value	5			Autohold release
Logical Value	6			reserved
Logical Value	7			reserved

AutoHoldSysSts						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Auto Hold System Status

Encoding type: Name: **AutoHoldSysStsET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Off
Logical Value	1			intervention
Logical Value	2			standby
Logical Value	3			error

BatAgngSta						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: battery damage level

Encoding type: Name: **BatAgngStaET**; Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Good
Logical Value	1			Little Aging
Logical Value	2			Middle Aging
Logical Value	3			Replace reminding
Logical Value	4			reserved
Logical Value	5			reserved
Logical Value	6			reserved
Logical Value	7			reserved

BatSOC						
Size [bits] 8	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 187

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Encoding type: Name: **BatSOCET**; Size: 8 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 250	0.4	0	%
Logical Value	254			reserved
Logical Value	253			reserved
Logical Value	252			reserved
Logical Value	251			reserved

BatVol						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
14	Unsigned	State	Periodic	N/A	No	16383

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Battery voltage sampled by PMDC

Encoding type:

Name: **BatVolET**
Size: 14 bits
Description: E=N/1024 + 3

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 15360	0.00097656	3	V
Physical Range	15361 - 16382	1	0	reserved

BCMEmgcSp						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description: Body Control Module Emergency Stop

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

BCMGearShftParkNtrlESR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Body Control Module Gear Shift Park Neutral Engine Starting Reminder

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

BCMNoSmtKeyInVehRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Body Control Module No Smart Key In Vehicle Reminder

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

BCMNoSmtKeyPressBrkTRR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Body Control Module No Smart Key Press Brake To Restart Reminder

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

BCMNoSmtKeyPressClToRR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Body Control Module No Smart Key Press Clutch To Restart Reminder

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

BCMPressBrkRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Body Control Module Press Brake Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

BCMPressClRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Body Control Module Press Clutch Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

BCMPutSmtKeyToBkupPosR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Body Control Module Put Smart Key Into Backup Position Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

BCMPwrMdHwdSta						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description: Body Control Module Power Mode Hardwired State

Encoding type:

Name: **BackupPwrMd**
Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			OFF
Logical Value	1			ACC
Logical Value	2			RUN
Logical Value	3			CRANK

BCMPwrMdHwdStaV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description: Body Control Module Power Mode Hardwired State Validity

Encoding type:

Name: **ValidityCoding**
Size: 1 bit
Description: Validity Encode Type

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

BCMRunCrkF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Body Control Module Run Crank Failed

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

BCMShftParkRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Body Control Module Shift Park Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

BCMSSBA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description:	Body Control Module Start Stop Button Active

Encoding type:	Name:	**BCMSSBAET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Inactive
		Logical Value	1			Active

BCMSSBAV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description:	Body Control Module Start Stop Button Active Validity

Encoding type:	Name:	**ValidityCoding**				
	Size:	1 bit				
	Description:	Validity Encode Type				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

BCMSSBFltSts						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Body Control Module Start Stop Button Fault Status

Encoding type: Name: **BCMSSBFltStsET**

Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Fault
Logical Value	1			short to GND
Logical Value	2			short to Battery
Logical Value	3			Stuck
Logical Value	4			Open Circuit
Logical Value	5			switch failed
Logical Value	6			Reserved
Logical Value	7			Reserved

BCMSyncSmtKeyRmndr						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Body Control Module Synchronize Smart Key Reminder

Encoding type: Name: **BooleanCoding**

Size: 1 bit

Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

BCMTakeSmtKeyOutOfSR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Body Control Module Take Smart Key Out Of Slot Reminder

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

BntOpenSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Bonnet Open Status

Encoding type:

Name: **BntOpenStsET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Bonnet Closed
	Logical Value	1			Bonnet Open
	Logical Value	2			Bonnet Switch Disconnect
	Logical Value	3			Reserved

BrkFludLvlLow						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Brake Fluid Level Low

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

BrkFludLvlLowV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Brake Fluid Level Low Validity

Encoding type:	Name:	**ValidityCoding**			
	Size:	1 bit			
	Description:	Validity Encode Type			
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

BrkSysRedBrkTlltReq						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Brake System Red Brake Telltale Request

Encoding type:	Name:	**BooleanCoding**			
	Size:	1 bit			
	Description:	boolean value			
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

CalendarAdjReqA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description:	Calendar Adjustment Request Active Calendar Adjustment Request from infotainment

Encoding type:	Name:	**BooleanCoding**			
	Size:	1 bit			
	Description:	boolean value			
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

CalendarDayAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
5	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Calendar Day Adjustment
Calendar Day Adjustment information from infotainment

Encoding type:

Name: **CalendarDayET**
Size: 5 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 31	1	0	

CalendarMonthAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Calendar Month Adjustment
Calendar Month Adjustment information from infotainment

Encoding type:

Name: **CalendarMonthET**
Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Unknown
Logical Value	1			January
Logical Value	2			February
Logical Value	3			March
Logical Value	4			April
Logical Value	5			May
Logical Value	6			June
Logical Value	7			July
Logical Value	8			August
Logical Value	9			September
Logical Value	10			October
Logical Value	11			November
Logical Value	12			December
Logical Value	13			Reserved
Logical Value	14			Reserved
Logical Value	15			Reserved

CalendarYearAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Calendar Year Adjustment
Calendar Year Adjustment information from infotainment

Encoding type:

Name: **CalendarYearET**
Size: 8 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 255	1	2000	

CCA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Cruise Control Active

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

CCEnbd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Cruise Control Enabled

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

CCFltPrst						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Cruise Control Fault Present

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

ChmA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Chime Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

CrusAndSpdLmtrDrvrSS						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
12	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	400.000	

Description:	Cruise and Speed Limiter Driver Selected Speed

Encoding type:	Name:	**CrusAndSpdLmtrDrvrSS**				
	Size:	12 bits				
	Description:	Cruise and Speed Limiter Driver Selected Speed				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 4095	0.0625	0	

DayTimeRunningLghtF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Day Time Running Light Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

DiagnosticFuncAddrReq						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
64	Bytes	State	Sporadic	DIAG_FuncReq_HSC1	No	0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	5.000	50.000	10.000
	FM_Quiet_HS	5.000	50.000	10.000
	FM_Silent_HS	5.000	50.000	10.000

Description:	Diagnostic functional address request

DiagnosticReqIPK						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
64	Bytes	State	Sporadic	DIAG_PhysReq_IPK	No	0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	5.000	50.000	10.000
	FM_Quiet_HS	5.000	50.000	10.000
	FM_Silent_HS	5.000	50.000	10.000

Description:	Diagnostic request to IPK

DipdBeamLghtOn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Dipped Beam Light On
Indicate Dipped Beam Light was On for AFS

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

DistRCAvgDrvn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
13	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Distance Rolling Count Average Driven

Encoding type:

Name: **DistRCAvgET**
Size: 13 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 8191	0.125	0	m

DistRCAvgDrvnV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Distance Rolling Count Average Driven Validity

Encoding type:

Name: **ValidityCoding**
Size: 1 bit
Description: Validity Encode Type

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Valid
	Logical Value	1			Invalid

DrvrDoorOpenSts						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Driver Door Open Status

Encoding type: Name: **DrvrDoorOpenStsET**
Size: 2 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Driver Door Closed
Logical Value	1			Driver Door Open(For latch switch can't detect door ajar status)
Logical Value	2			Driver Door Ajar
Logical Value	3			Driver Door Full Open

DrvrPWLInitnRmndr						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Driver Power Window Lifter Initialization Reminder,Remind the Driver to Initialize Driver Power Window Lifter

Encoding type: Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

DrvrShftCtrlTrgtGear						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Driver Shift Control Target Gear

Encoding type: Name: **DrvrShftCtrlTrgtGearET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Not Supported
Logical Value	1			First Gear
Logical Value	2			Second Gear
Logical Value	3			Third Gear
Logical Value	4			Fourth Gear
Logical Value	5			Fifth Gear
Logical Value	6			Sixth Gear
Logical Value	7			Seventh Gear
Logical Value	8			Eighth Gear

DrvrWndOpenRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Driver Window Open Reminder

Encoding type: Name: **BooleanCoding**

Size: 1 bit

Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

ECMClsDoorToAutoStR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Engine Control Module Close Door To Auto Start Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

ECMFasnSbltToAutoStR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Engine Control Module Fasten Seatbelt To Auto Start Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

ECMPressClBrkRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Engine Control Module Press Clutch Brake Reminder

Encoding type:	Name:	**ECMPressClBrkRmndrET**				
	Size:	2 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No message
		Logical Value	1			Press the clutch
		Logical Value	2			Press the brake
		Logical Value	3			Reserved

ECMShftNtrlToAutoStR						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Engine Control Module Shift Neutral To Auto Start Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

EcoDrvngAIO						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description:	Economy Driving Active Indication On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

EcoDrvngDspStsGearSIS						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description:	Economy Driving Display Status Gear Shift Indication Status

Encoding type:	Name:	**EcoDrvngDspStsGearSISET**				
	Size:	2 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			No Shift
		Logical Value	1			Gear Shift Up
		Logical Value	2			Gear Shift Down
		Logical Value	3			Reserved

EcoDrvngDspStsRcmndFG						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: Economy Driving Display Status Recommended Forward Gear

Encoding type:

Name: **EcoDrvngDspStsRcmndFGET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			None
Logical Value	1			First Gear
Logical Value	2			Second Gear
Logical Value	3			Third Gear
Logical Value	4			Fouth Gear
Logical Value	5			Fifth Gear
Logical Value	6			Sixth Gear
Logical Value	7			Seventh Gear
Logical Value	8			Eighth Gear
Logical Value	9			Unused and Reserved 1
Logical Value	10			Unused and Reserved 2
Logical Value	11			Unused and Reserved 3
Logical Value	12			Unused and Reserved 4
Logical Value	13			Unused and Reserved 5
Logical Value	14			Unused and Reserved 6
Logical Value	15			Unused and Reserved 7

ECODrvngSpdRutA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description: Economic Driving Speed Route Active

Encoding type:

Name: **BooleanCoding**

Size: 1 bit

Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

EmgcCallFlrSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: Emergency Call Failure Status

Encoding type:

Name: **EmgcCallFlrStsET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			ECall Function No failure(Indication off)
	Logical Value	1			ECall Function Light Level failure indication(Orange)
	Logical Value	2			ECall Function Heavy Level failure indication(Red)
	Logical Value	3			Invalid

En12VoltStrMotCmddOn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	

Description: Engine 12 Volt Starter Motor Commanded On

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

EnASSSta						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	1

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	

Description: Engine Auto Stop Start State

Encoding type:

Name: **EnASSStaET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Engine Off
	Logical Value	1			Engine Running
	Logical Value	2			Engine Starting
	Logical Value	3			Engine Stopping

EnClntTem						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	1100.000	

Description:	Engine Coolant Temperature

Encoding type:	Name:	**EnClntTem**				
	Size:	8 bits				
	Description:	Engine Coolant Temperature				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 255	1	-40	deg C

EnClntTemV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	1100.000	

Description:	Engine Coolant Temperature Validity

Encoding type:	Name:	**ValidityCoding**				
	Size:	1 bit				
	Description:	Validity Encode Type				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

EnEmsnRltdMalfA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	400.000	

Description:	Engine Emissions Related Malfunction Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

EnEmsnRltdMalfIndReq						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	400.000	

Description: Engine Emissions Related Malfunction Indication Request

Encoding type:

Name: **EnEmsnRltdMalfIndReq**

Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Continuous Indication
Logical Value	1			No Indication
Logical Value	2			Flashing 1 Hertz Indication
Logical Value	3			Flashing 2 Hertz Indication
Logical Value	4			Flashing 1/2 Hertz Indication
Logical Value	5			Reserved
Logical Value	6			Reserved
Logical Value	7			Reserved

EnNonEmsnRltdMalfA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	400.000	

Description: Engine Non Emissions Related Malfunction Active

Encoding type:

Name: **BooleanCoding**

Size: 1 bit

Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

EnOilPrsLowIO						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	1100.000	

Description:	Engine Oil Pressure Low Indication On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

EnRunA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Engine Run Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

EnSpd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
16	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Engine Speed

Encoding type:	Name:	**EnSpdCoding**				
	Size:	16 bits				
	Description:	Engine Speed				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 65535	0.25	0	rpm

EnSpdSts						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Engine Speed Status

Encoding type:

Name: **EnSpdStsCoding**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Normal Operation
Logical Value	1			Degraded Operation
Logical Value	3			Invalid
Logical Value	2			Reserved

EPBSysAudWrnngReq						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Electric Park Brake System Audible Warning Request

Encoding type:

Name: **EPBSysAudWrnngReqET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Off
Logical Value	1			Warning #1
Logical Value	2			Warning #2

EPBSysDspMsgReq						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Encoding type:

Name: **EPBSysDspMsgReqET**

Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Off
Logical Value	1			Message #1
Logical Value	2			Message #2
Logical Value	3			Message #3
Logical Value	4			Message #4
Logical Value	5			Message #5
Logical Value	6			Message #6
Logical Value	7			Message #7

EPBSysStsIndReq						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Electric Park Brake System Status Indication Request

Encoding type:

Name: **EPBSysWrnngIndReqET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Indication
Logical Value	1			Continuous Indication
Logical Value	2			Flash Rate #1 Indication
Logical Value	3			Flash Rate #2 Indication

EPBSysWrnngIndReq						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Electric Park Brake System Warning Indication Request

Encoding type:

Name: **EPBSysWrnngIndReqET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No Indication
	Logical Value	1			Continuous Indication
	Logical Value	2			Flash Rate #1 Indication
	Logical Value	3			Flash Rate #2 Indication

EPSFlrSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Electric Power Steering Failure Status And Fault Level Status

Encoding type:

Name: **EPSFlrStsET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			EPS No failure(Indication off)
	Logical Value	1			EPS Light Level failure indication£¨Orange£©
	Logical Value	2			EPS Heavy Level failure indication£¨Red£©
	Logical Value	3			Invalid

ESCLFlrIndCmd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description: Electronic Steering Column Lock Failure Indication Command

Encoding type:

Name: **ESCLFlrIndCmdET**
Size: 2 bits
Description: Electronic Steering Column Lock Failure Indication Command ET

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No defect failure detected
	Logical Value	1			Defect failure detected
	Logical Value	2			Steering wheel is blocked
	Logical Value	3			Functional limitation failure detected

FasnDrvrSbltIndCmd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Fasten Driver Seatbelt Indication Command

Encoding type:

Name: **SbltIndCmdET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			drive lamp OFF
	Logical Value	1			drive lamp ON
	Logical Value	2			drive lamp Flashing
	Logical Value	3			Signal not available

FasnFrtPsngSbltIndCmd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Fasten Front Passenger Seatbelt Indication Command

Encoding type:

Name: **SbltIndCmdET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			drive lamp OFF
	Logical Value	1			drive lamp ON
	Logical Value	2			drive lamp Flashing
	Logical Value	3			Signal not available

FasnSbltAudRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description: Fasten Seatbelt Audible Reminder

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

FICMDistUnitAdjtReqA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Front Infotainment Control Module Distance Unit Adjust Request Active

Encoding type: Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

FICMFuelCsumpUntAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Front Infotainment Control Module Fuel Consumption Units Adjust

Encoding type: Name: **FICMFuelCsumpUntAdjET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			L/100km
	Logical Value	1			mpg(UK)
	Logical Value	2			mpg(US)

FICMFuelCsumpUntAdjARA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Ficm Fuel Consumption Units Adjust Request

Encoding type: Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

FICMOverSpdFnCrntSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Ficm Over Speed Function Current Status

Encoding type:	Name:	**FICMOverSpdFnCrntStsET**			
	Size:	1 bit			
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			OFF
		Logical Value	1			ON

FICMOvrSpdThrshldAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
6	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Front Infotainment Control Module Over Speed Threshold Adjust

Encoding type:	Name:	**FICMOvrSpdThrshldAdjET**				
	Size:	6 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 63	5	0	

FICMOvrSpdThrshldAdjtRA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Ficm Over Speed Threshold Adjust Request

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

FICMTemUntAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Front Infotainment Control Module Temperature Units Adjust

Encoding type: Name: **FICMTemUntAdjET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Celsius Degree(¡æ)
	Logical Value	1			Fahrenheit Degree(¨H)
	Logical Value	2			Not Available

FICMTemUntAdjtReqA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Ficm Temperature Units Adjust Request

Encoding type: Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

FICMTyrePressureUntAdjtReqA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Ficm Tyre Pressure Units Adjust Request

Encoding type: Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

FICMVehMntnceSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Ficm Vehicle Maintenance Status

Encoding type: Name: **FICMVehMntnceStsET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Status OK
Logical Value	1			Suggest to Maintain
Logical Value	2			Maintain immediately
Logical Value	3			Reserved

FLTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	55

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description: Front Left Tire Pressure

Encoding type: Name: **FLTirePrsET**

Size: 7 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 127	4	0	Kpa

FLTirePrsV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description: Front Left Tire Pressure Validity

Encoding type: Name: **Valid4Coding**

Size: 1 bit

Description: valid info 4

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

FLTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description: Front Left Tire Status

Encoding type:

Name: **FLTireStsET**
Size: 3 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Normal
	Logical Value	1			Unkown
	Logical Value	2			Pressure Low
	Logical Value	3			Quick leak
	Logical Value	4			Pressure High
	Logical Value	5			Temperature High
	Logical Value	6			Axle Pressure imbalance
	Logical Value	7			Battery Low

FLTireTem						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	45

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Front Left Tire Temperature

Encoding type:

Name: **FLTireTemET**
Size: 7 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 127	2	-60	

FLTireTemV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Front Left Tire Temperature Validity

Encoding type:

Name: **Valid4Coding**
Size: 1 bit
Description: valid info 4

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Valid
	Logical Value	1			Invalid

FrtFogLghtOn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description:	Front Fog Light On

Encoding type:						
	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

FRTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	55

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description:	Front Right Tire Pressure

Encoding type:						
	Name:	**FLTirePrsET**				
	Size:	7 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 127	4	0	Kpa

FRTirePrsV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description:	Front Right Tire Pressure Validity

Encoding type:						
	Name:	**Valid4Coding**				
	Size:	1 bit				
	Description:	valid info 4				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

FRTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description: Front Right Tire Status

Encoding type:

Name: **FLTireStsET**
Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Normal
Logical Value	1			Unkown
Logical Value	2			Pressure Low
Logical Value	3			Quick leak
Logical Value	4			Pressure High
Logical Value	5			Temperature High
Logical Value	6			Axle Pressure imbalance
Logical Value	7			Battery Low

FRTireTem						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	45

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Front Right Tire Temperature

Encoding type:

Name: **FLTireTemET**
Size: 7 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 127	2	-60	

FRTireTemV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Front Right Tire Temperature Validity

Encoding type:

Name: **Valid4Coding**
Size: 1 bit
Description: valid info 4

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

FrtPsngDoorOpenSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	100.000	

Description: Front Passenger Door Open Status

Encoding type: Name: **FrtPsngDoorOpenStsET**
Size: 2 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Front Passenger Door Closed
Logical Value	1			Front Passenger Open(latch switch cann¡®t detect door ajar statu
Logical Value	2			Front Passenger Door Ajar
Logical Value	3			Front Passenger Door Full Open

FrtSideLghtF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Front Side Light Failed

Encoding type: Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

FuelCsump						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
12	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Fuel Consumption

Encoding type: Name: **FuelCsumpET**
Size: 12 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 4095	16	0	microlitre

GenrSta						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	400.000	

Description: state of generator

Encoding type: Name: **GenrStaET**
Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			generator is ok
Logical Value	1			generator lost communication
Logical Value	2			generator failed
Logical Value	3			generator running in default state
Logical Value	4			Reserved
Logical Value	5			Reserved
Logical Value	6			Reserved
Logical Value	7			Reserved

HDCSysSts						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Hill Descent Control System Status

Encoding type: Name: **HillDscntCtrlSysStsET**
Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Normal
Logical Value	1			Enabled
Logical Value	2			Active
Logical Value	3			Failed
Logical Value	4			Temporarily Inhibited

HourOfDayAdj						
Size [bits] 5	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Hour Of Day Adjustment
Hour of Day Adjustment from infotainment

Encoding type:

Name: **HourOfDayET**
Size: 5 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 23	1	0	

keep_network_AC						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	

Description: NM signal: the ATC/AC/ETC uses this signal when it wants to keep the network awake.

Encoding type:

Name: **keep_network_coding**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			no keep network request
	Logical Value	1			keep network request

keep_network_ESCL						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	

Description: NM signal: the ESCL uses this signal when it wants to keep the network awake.

Encoding type:

Name: **keep_network_coding**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			no keep network request
	Logical Value	1			keep network request

keep_network_FICM						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	

Description: NM signal: the FICM/ICE uses this signal when it wants to keep the network awake.

Encoding type:

Name: **keep_network_coding**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			no keep network request
	Logical Value	1			keep network request

keep_network_TPMS						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	

Description: NM signal: the TPMS uses this signal when it wants to keep the network awake.

Encoding type:

Name: **keep_network_coding**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			no keep network request
	Logical Value	1			keep network request

LBrkLghtF						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Left Brake Light Failed

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

LDipdBeamLghtF						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Left Dipped Beam Light Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

LDircnIndLghtF						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Left Direction Indication Light Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

LDircnIO						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description:	Left Direction Indication On Remind the Driver that Left Hand Direction Indicate Light was On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

LdspcOpenSts						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Loadspace Open Status

Encoding type:

Name: **LdspcOpenStsET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Load Space Closed
Logical Value	1			Load Space Open
Logical Value	2			Reserved
Logical Value	3			Reserved

LghtSwPosSts						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Light Switch Position Status
Indicate the Posistion of MLS

Encoding type:

Name: **LghtSwPosStsET**

Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Switch is on "Off" position
Logical Value	1			Switch is on "Auto" position
Logical Value	2			Side Lamp
Logical Value	3			Dipped Beam
Logical Value	4			Unknow position
Logical Value	5			reserved
Logical Value	6			reserved
Logical Value	7			reserved

MainBeamLghtOn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Main Beam Light On

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

MinuteOfHourAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
6	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Minute Of Hour Adjustment
Minute of Hour Adjustment from infotainment

Encoding type:

Name: **MinuteOfHourET**
Size: 6 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 59	1	0	

MusSrcMd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	15

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Music Source Mode

Encoding type:

Name: **MusicSouceET**
Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			OFF
Logical Value	1			AM
Logical Value	2			FM
Logical Value	15			invalid

NavDircn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
6	Unsigned	State	Periodic	N/A	No	63

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Navigation Direction

Encoding type:

Name: **NaviDirectionET**

Size: 6 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			SelfCar Logo
Logical Value	1			turn Left
Logical Value	2			turn Right
Logical Value	3			Left Head
Logical Value	4			right Head
Logical Value	5			Left After
Logical Value	6			Right After
Logical Value	7			Back
Logical Value	8			Driver Straight
Logical Value	9			Arrive Middle Pointer
Logical Value	10			into Circle Zone
Logical Value	11			Out Cirle Zone
Logical Value	12			Arrive Srvice Zone
Logical Value	13			Arrive Toll Station
Logical Value	14			Arrive the Destination
Logical Value	15			into tube
Logical Value	63			invalid

NavDist						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
15	Unsigned	State	Periodic	N/A	No	32767

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Navigation Distance

Encoding type:

Name: **NavDistET**

Size: 15 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	32767			invalid

NavDistUnit						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Navigation Distance Unit

Encoding type: Name: **NavDistUnitET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			m
	Logical Value	1			0.1km

network_mode						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Sporadic	BCM_HSC1_Frl01	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	50.000	0.000
	FM_Silent_HS	10.000	50.000	0.000

Encoding type: Name: **network_modeET**
Size: 8 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			start-up
	Logical Value	1			shutdown
	Logical Value	2			normal

OdoSecy						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
24	Bytes	State	Periodic	N/A	No	0x00 0x00 0x00

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: Odometer Secondary
Odo Backup in BCM

Encoding type: Name: **OdoSecyET**
Size: 24 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 16777215	1	0	km

PEPSAntFlt						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description:	Passive Entry Passive Start Antenna Fault

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

PwrMdMstrAccryA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description:	Power Mode Master Accessory Terminal Status

Encoding type:	Name:	**Active1Coding**				
	Size:	1 bit				
	Description:	active info				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	1			Active
		Logical Value	0			Inactive

PwrMdMstrAccryWkupA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description:	Power Mode Master Accessory Wakeup Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

PwrMdMstrIgnA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description: Power Mode Master Ignition Active

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

PwrMdMstrRunCrkA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	20.000	100.000	

Description: Power Mode Master Run Crank Terminal Status

Encoding type:

Name:	**Active1Coding**				
Size:	1 bit				
Description:	active info				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	1			Active
	Logical Value	0			Inactive

RBrkLghtF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Right Brake Light Failed

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

RDipdBeamLghtF						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Right Dipped Beam Light Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

RDircnIndLghtF						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Right Direction Indication Light Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

RDircnIO						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description:	Right Direction Indication On Remind the Driver that Right Hand Direction Indicate Light was On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

RdoFrqcVal						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
16	Unsigned	State	Periodic	N/A	No	65535

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Radio Frequency Value

Encoding type:

Name: **RdoFrqcValET**
Size: 16 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 65534	0.1	0	
	Logical Value	65535			invalid

RevsLghtF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Reverse Light Failed

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

RLTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	55

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	500.000	

Description: Rear Left Tire Pressure

Encoding type:

Name: **FLTirePrsET**
Size: 7 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 127	4	0	Kpa

RLTirePrsV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	500.000	

Description:	Rear Left Tire Pressure Validity

Encoding type:	Name:	**Valid4Coding**				
	Size:	1 bit				
	Description:	valid info 4				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

RLTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	500.000	

Description:	Rear Left Tire Status

Encoding type:	Name:	**FLTireStsET**				
	Size:	3 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Normal
		Logical Value	1			Unkown
		Logical Value	2			Pressure Low
		Logical Value	3			Quick leak
		Logical Value	4			Pressure High
		Logical Value	5			Temperature High
		Logical Value	6			Axle Pressure imbalance
		Logical Value	7			Battery Low

RLTireTem						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	45

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description:	Rear Left Tire Temperature

Encoding type:	Name:	**FLTireTemET**				
	Size:	7 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 127	2	-60	

RLTireTemV						
Size [bits] 1	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description:	Rear Left Tire Temperature Validity

Encoding type:	Name:	**Valid4Coding**				
	Size:	1 bit				
	Description:	valid info 4				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

RrFogLghtF						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Rear Fog Light Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

RrFogLghtOn						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description:	Rear Fog Light On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

RrSideLghtF						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Rear Side Light Failed

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

RRTirePrs						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	55

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	500.000	

Description: Rear Right Tire Pressure

Encoding type:

Name: **FLTirePrsET**
Size: 7 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 127	4	0	Kpa

RRTirePrsV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	500.000	

Description: Rear Right Tire Pressure Validity

Encoding type:

Name: **Valid4Coding**
Size: 1 bit
Description: valid info 4

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

RRTireSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	500.000	

Description: Rear Right Tire Status

Encoding type:

Name: **FLTireStsET**
Size: 3 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Normal
	Logical Value	1			Unkown
	Logical Value	2			Pressure Low
	Logical Value	3			Quick leak
	Logical Value	4			Pressure High
	Logical Value	5			Temperature High
	Logical Value	6			Axle Pressure imbalance
	Logical Value	7			Battery Low

RRTireTem						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
7	Unsigned	State	Periodic	N/A	No	45

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Rear Right Tire Temperature

Encoding type:

Name: **FLTireTemET**
Size: 7 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 127	2	-60	

RRTireTemV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Rear Right Tire Temperature Validity

Encoding type:

Name: **Valid4Coding**
Size: 1 bit
Description: valid info 4

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Valid
	Logical Value	1			Invalid

ScurtAlrmSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: Security Alarm Status

Encoding type: Name: **ScurtAlrmStsET**

Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			off
Logical Value	1			part alarm without volumetrics
Logical Value	2			full alarm without volumetrics
Logical Value	3			not used
Logical Value	4			not used
Logical Value	5			part alarm with volumetrics
Logical Value	6			full alarm with volumetrics
Logical Value	7			not used

ScurtKeyBatLow						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Security Key Battery Low

Encoding type: Name: **BooleanCoding**

Size: 1 bit

Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

ScurtKeyInvd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Security Key Invalid

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

SecsOfMinuteAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
6	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Seconds Of Minute Adjustment
Seconds of Minute Adjustment from infotainment

Encoding type:

Name: **SecsOfMinuteET**
Size: 6 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 59	1	0	

ShifterLckRlseBrkReqA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Shifter Lock Release Brake Request Active

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

SIAOdoSecy						
Size [bits] 24	**Type** Bytes	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0x00 0x00 0x00

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: Service Interval Announcement Odometer Secondary

Encoding type: Name: **OdoSecyET**
Size: 24 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 16777215	1	0	km

signal_config_id						
Size [bits] 16	**Type** Unsigned	**Info Type** State	**Generation Type** Sporadic	**Group Name** BCM_HSC1_Frl01	**Update Bit** No	**Initial Value** 28673

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	50.000	0.000
	FM_Silent_HS	10.000	50.000	0.000

Encoding type: Name: **signal_config_idET**
Size: 16 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	8272			config: NMC/OTS2/base

SpdAstSysStsECM						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Speed Assist System Status Engine Control Module

Encoding type: Name: **SpdAstSysStsECMET**
Size: 3 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Off
	Logical Value	1			Active (Limiting)
	Logical Value	2			Standby
	Logical Value	3			Entry Conditions Incorrect
	Logical Value	4			Overspeed
	Logical Value	5			Fault
	Logical Value	6			Active (Passive)
	Logical Value	7			Reserved

SpdAstSysTrgtSpd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
15	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Speed Assist System Target Speed

Encoding type:	Name:	**SpdAstSysTrgtSpdET**				
	Size:	15 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 32767	0.015625	0	

SrfInitnRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Sunroof Initialization Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

SrfOpenRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Sunroof Open Reminder

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

SSBEnOffRmndr						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Start Stop Button Engine OFF Reminder

Encoding type: Name: **SSBEnOffRmndrET**
Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			no warning request
Logical Value	1			Press Button Again To Turn Engine Off Reminder
Logical Value	2			Long Press Button To Turn Engine Off Reminder
Logical Value	3			Double Press Button Again To Turn Engine Off Reminder

StrgWhlAngSnsrCalSts						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Steering Wheel Angle Sensor Calibration Status

Encoding type: Name: **StrgWhlAngSnsrCalStsET**
Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Unkonw
Logical Value	1			Estimated
Logical Value	2			Calibrated
Logical Value	3			Unkonw

StrgWhlAngSnsrFlt						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Steering Wheel Angle Sensor Fault

Encoding type:

Name:	**BooleanCoding**				
Size:	1 bit				
Description:	boolean value				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

SysOpnlMd						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description:	System Operational Mode

Encoding type:

Name:	**SysOpnlMdET**				
Size:	3 bits				
Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Normal Mode
	Logical Value	1			Manufacturing Mode
	Logical Value	2			Transit Mode
	Logical Value	3			Show Room
	Logical Value	4			Storage Mode
	Logical Value	5			Diagnosic or Reprogramming(Reserve)

SysPwrMd

Size [bits]	Type	Info Type	Generation Type	Group Name	Update Bit	Initial Value
2	Unsigned	State	Periodic	N/A	No	0

Timings:	Interface Mode/FuncVerFolder/Function	Sub. Latency [ms]	Max. Age [ms]	Read Interval [ms]
	FM_Normal_HS	20.000	100.000	

Description: System Power Mode

Encoding type:

Name: **SysPwrMd**
Size: 2 bits
Description: System Power Mode

Values:

Type	Value	Scale	Offset	Interpretation
Logical Value	0			Off
Logical Value	1			ACC
Logical Value	2			Run
Logical Value	3			Crank

SysPwrMdV

Size [bits]	Type	Info Type	Generation Type	Group Name	Update Bit	Initial Value
1	Unsigned	State	Periodic	N/A	No	1

Timings:	Interface Mode/FuncVerFolder/Function	Sub. Latency [ms]	Max. Age [ms]	Read Interval [ms]
	FM_Normal_HS	20.000	100.000	

Encoding type:

Name: **SysPwrMdVET**
Size: 1 bit

Values:

Type	Value	Scale	Offset	Interpretation
Logical Value	1			Invalid
Logical Value	0			Valid

SysVol

Size [bits]	Type	Info Type	Generation Type	Group Name	Update Bit	Initial Value
8	Unsigned	State	Periodic	N/A	No	0

Timings:	Interface Mode/FuncVerFolder/Function	Sub. Latency [ms]	Max. Age [ms]	Read Interval [ms]
	FM_Normal_HS	30.000	300.000	

Description: Battery Voltage

Encoding type:

Name: **SysVolET**
Size: 8 bits

Values:

Type	Value	Scale	Offset	Interpretation
Physical Range	0 - 255	0.1	3	V

SysVolMd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
2	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: System Voltage Mode

Encoding type:

Name: **SysVolMdET**
Size: 2 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Normal
Logical Value	1			Low System Voltage
Logical Value	2			High System Voltage
Logical Value	3			Illegal System Voltage

SysVolMdV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: System Voltage Mode Validity

Encoding type:

Name: **ValidityCoding**
Size: 1 bit
Description: Validity Encode Type
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

SysVolV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	300.000	

Description: Battery Voltage Validity

Encoding type:

Name: **InvalidET**
Size: 1 bit
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

TakeKeyOutRmndr						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Take Key Out Reminder

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

TCSOpngMd						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Traction Control System Operating Mode

Encoding type:

Name: **TCSOpngMdET**
Size: 3 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Off
	Logical Value	1			Normal
	Logical Value	2			Off Road

TCSOpngSts						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description: Traction Control System Operating Status

Encoding type:

Name: **TCSOpngStsET**
Size: 3 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Inactive
	Logical Value	1			Active
	Logical Value	2			Fault

TimeAdjReqA						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Time Adjustment Request Active
Time Adjustment Request from infotainment

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

TimeDspFmtAdj						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description: Time Display Format Adjustment
Time Display Format Adjustment from infotainment

Encoding type:

Name: **TimeDspFmtET**
Size: 1 bit

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			12 hour mode
	Logical Value	1			24 hour mode

TPMSAutoLoctnCm						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	true

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Tire Pressure Monitor System Auto Location Complete

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			FALSE
	Logical Value	1			TRUE

TPMSF						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description:	Tire Pressure Monitor System Failed

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

TPMSIdficnLrnCm						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** true

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description:	Tire Pressure Monitor System Identification Learn Complete

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

TPMSTirePrsLowIO						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description:	Tire Pressure Monitor System Tire Pressure Low Indication On

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

TPMSWntrMdA						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	50.000	500.000	

Description:	Tire Pressure Monitor System Winter Mode Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

TrNonEmsnRltdMalfA						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	2000.000	

Description:	Transmission Non Emissions Related Malfunction Active

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

TrShftLvrPos						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Transmission Shift Lever Position

Encoding type:

Name: **TrShftLvrPosCoding**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Between Ranges
Logical Value	1			Park Range
Logical Value	2			Reverse Range
Logical Value	3			Neutral Range
Logical Value	4			Forward Range A
Logical Value	5			Forward Range B
Logical Value	6			Forward Range C
Logical Value	7			Forward Range D
Logical Value	8			Forward Range E
Logical Value	9			Forward Range F
Logical Value	15			Lever Position Unknown
Logical Value	10			Forward Range G
Logical Value	11			Forward Range H

TrShftLvrPosV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Transmission Shift Lever Position Validity

Encoding type:

Name: **ValidityCoding**

Size: 1 bit

Description: Validity Encode Type

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Valid
Logical Value	1			Invalid

TrShftPtrnASts						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Transmission Shift Pattern Active Status

Encoding type: Name: **TrShftPtrnAStsET**

Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Default Shift Pattern Active
Logical Value	1			Shift Pattern 1 Active
Logical Value	2			Shift Pattern 2 Active
Logical Value	3			Shift Pattern 3 Active
Logical Value	4			Shift Pattern 4 Active
Logical Value	5			PT Non-Protection Pattern Active
Logical Value	6			PT Protection Pattern Active

TrTapUpTapDwnMdSts						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Transmission Tap Up/Tap Down Mode Status

Encoding type: Name: **TrTapUpTapDwnMdStsET**

Size: 2 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	2			Electronic Range Select Active
Logical Value	1			Driver Shift Control Active
Logical Value	0			No Activation

VehLckngSta						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 7

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Vehicle Locking State

Encoding type: Name: **VehLckngStaET**
Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			Unlocked
Logical Value	1			Signal Position Entry Unlocked
Logical Value	2			Interior Locked
Logical Value	3			Exterior Locked
Logical Value	4			Super locked
Logical Value	5			Reserved
Logical Value	6			Reserved
Logical Value	7			Unknow

VehLdShedLvl						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	4000.000	

Description: Vehicle Load Shed Level

Encoding type: Name: **VehLdShedLvlET**
Size: 3 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Power Risk
Logical Value	1			Low Power Risk
Logical Value	2			Middle Power Risk
Logical Value	3			High Power Risk
Logical Value	4			Power management direct current converter(PMDC)-broken
Logical Value	5			reserved
Logical Value	6			reserved
Logical Value	7			reserved

VehOdo						
Size [bits] 24	**Type** Bytes	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0x00 0x00 0x00

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	500.000	10000.000	

Description: Vehicle Odometer

Encoding type: Name: **VehOdoET**
Size: 24 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Physical Range	0 - 16777215	1	0	

VehOdoV						
Size [bits] 1	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	500.000	10000.000	

Description: Vehicle Odometer Validity

Encoding type: Name: **ValidityCoding**
Size: 1 bit
Description: Validity Encode Type

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			Valid
	Logical Value	1			Invalid

VehSideLghtSts						
Size [bits] 2	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	200.000	

Description: Vehicle Side Light Status

Encoding type: Name: **VehSideLghtStsET**
Size: 2 bits

Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
	Logical Value	0			No side light on
	Logical Value	1			Left side light on only
	Logical Value	2			Right side light on only
	Logical Value	3			All side light and license plate light on

VehSpdAvgDrvn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
15	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Vehicle Speed Average Driven

Encoding type:	Name:	**VehSpdAvgET**				
	Size:	15 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 32767	0.015625	0	km/h

VehSpdAvgDrvnV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Vehicle Speed Average Driven Validity

Encoding type:	Name:	**ValidityCoding**				
	Size:	1 bit				
	Description:	Validity Encode Type				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

VINBCM						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
64	Bytes	State	Periodic	N/A	No	0xff 0x00 0x00 0x00 0x00 0x00 0x00 0x00

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	1000.000	

Description:	VIN Code Record in BCM

VSEMd						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Vehicle Stability Enhancement Mode

Encoding type:	Name:	**VSEMdET**				
	Size:	3 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Off
		Logical Value	1			Normal
		Logical Value	2			Competitive

VSESts						
Size [bits] 3	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	30.000	100.000	

Description:	Vehicle Stability Enhancement Status

Encoding type:	Name:	**VSEStsET**				
	Size:	3 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Inactive
		Logical Value	1			Active
		Logical Value	2			Fault
		Logical Value	3			Warming Up
		Logical Value	4			Not Ready

wake_network_AC						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Sporadic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	
	FM_Silent_HS	10.000	200.000	

Description:	NM signal: the ATC/AC/ETC uses this signal when it wants to wake-up the network

Encoding type:	Name:	**wake_network_coding**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			no wake-up network request
		Logical Value	1			wake-up network request

wake_network_ESCL						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Sporadic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	
	FM_Silent_HS	10.000	200.000	

Description:	NM signal: the ESCL uses this signal when it wants to wake-up the network

Encoding type:	Name:	**wake_network_coding**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			no wake-up network request
		Logical Value	1			wake-up network request

wake_network_FICM						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Sporadic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	
	FM_Silent_HS	10.000	200.000	

Description:	NM signal: the FICM/ICE uses this signal when it wants to wake-up the network

Encoding type:	Name:	**wake_network_coding**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			no wake-up network request
		Logical Value	1			wake-up network request

wake_network_TPMS						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Sporadic	**Group Name** N/A	**Update Bit** Yes	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	200.000	
	FM_Silent_HS	10.000	200.000	

Description:	NM signal: the TPMS uses this signal when it wants to wake-up the network

Encoding type:	Name:	**wake_network_coding**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			no wake-up network request
		Logical Value	1			wake-up network request

WhlGndVelLDrvn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
14	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Left Driven

Encoding type:	Name:	**WhlGndVelCoding**				
	Size:	14 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 16383	0.03125	0	km/h

WhlGndVelLDrvnV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	1

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Left Driven Validity

Encoding type:	Name:	**ValidityCoding**				
	Size:	1 bit				
	Description:	Validity Encode Type				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

WhlGndVelLNonDrvn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
14	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Left Non Driven

Encoding type:	Name:	**WhlGndVelCoding**				
	Size:	14 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 16383	0.03125	0	km/h

WhlGndVelLNonDrvnV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	1

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Left Non Driven Validity

Encoding type:	Name:	**ValidityCoding**				
	Size:	1 bit				
	Description:	Validity Encode Type				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

WhlGndVelRDrvn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
14	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Right Driven

Encoding type:	Name:	**WhlGndVelCoding**				
	Size:	14 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 16383	0.03125	0	km/h

WhlGndVelRDrvnV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	1

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Right Driven Validity

Encoding type:	Name:	**ValidityCoding**				
	Size:	1 bit				
	Description:	Validity Encode Type				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			Valid
		Logical Value	1			Invalid

WhlGndVelRNonDrvn						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
14	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Right Non Driven

Encoding type:	Name:	**WhlGndVelCoding**				
	Size:	14 bits				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Physical Range	0 - 16383	0.03125	0	km/h

WhlGndVelRNonDrvnV						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Unsigned	State	Periodic	N/A	No	1

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_HS	10.000	100.000	

Description:	Wheel Ground Velocity Right Non Driven Validity

Encoding type:	Name:	**WhlGndVelRNonDrvnVET**				
	Size:	1 bit				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	1			Invalid
		Logical Value	0			Valid

Interface: IPK_LIN3

PDCCofignSts_L						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
3	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Park Distance Control Configuration Status

Encoding type:

Name: **PDCCofignStsET**
Size: 3 bits
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			3 rear sensors
Logical Value	1			4 rear sensors
Logical Value	2			4 rear sensors and 2 front side sensors
Logical Value	3			4 rear sensors and 4 front sensors
Logical Value	4			2 rear sensors
Logical Value	5			Reserved
Logical Value	6			Reserved
Logical Value	7			Reserved

PDCOverVolFlt_L						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
1	Boolean	State	Periodic	N/A	No	false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Park Distance Control Over Voltage Fault

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value
Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

PDCRespEr_L						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description:	PDC Response Error Signal that sends to LIN master

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

PDCRLSnsrFlt_L						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description:	Park Distance Control Rear Left Sensor Fault

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

PDCRrMidLSnsrFlt_L						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description:	Park Distance Control Rear Middle Left Sensor Fault

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

PDCRrMidRSnsrFlt_L						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description:	Park Distance Control Rear Middle Right Sensor Fault

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

PDCRRSnsrFlt_L						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description:	Park Distance Control Rear Right Sensor Fault

Encoding type:	Name:	**BooleanCoding**				
	Size:	1 bit				
	Description:	boolean value				
	Values:	**Type**	**Value**	**Scale**	**Offset**	**Interpretation**
		Logical Value	0			FALSE
		Logical Value	1			TRUE

PDCSysSts_L						
Size [bits] 4	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Park Distance Control System Status

Encoding type:

Name: **PDCSysStsET**
Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			System OK
Logical Value	1			System initialization sucessful
Logical Value	2			System Failed
Logical Value	3			System Disabled
Logical Value	4			Front PDC Disabled
Logical Value	5			Front PDC Failed
Logical Value	6			Rear PDC Failed
Logical Value	7			Rear PDC Disabled

PDCUnderVolFlt_L						
Size [bits] 1	**Type** Boolean	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** false

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Park Distance Control Under Voltage Fault

Encoding type:

Name: **BooleanCoding**
Size: 1 bit
Description: boolean value

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			FALSE
Logical Value	1			TRUE

RLObsRng_L						
Size [bits] 4	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Rear Left Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

RrMidLObsRng_L						
Size [bits] 4	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Rear Middle Left Obstacle Range

Encoding type: Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

RrMidRObsRng_L						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
4	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Rear Middle Right Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

RrObsDist_L						
Size [bits]	**Type**	**Info Type**	**Generation Type**	**Group Name**	**Update Bit**	**Initial Value**
8	Unsigned	State	Periodic	N/A	No	0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Rear Obstacle Distance

Encoding type:

Name: **FrtObsDistET**

Size: 8 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Physical Range	0 - 255	1	0	cm

RRObsRng_L						
Size [bits] 4	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Rear Right Obstacle Range

Encoding type:

Name: **ObsRngET**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

RrPDCAudWrnng_L						
Size [bits] 4	**Type** Unsigned	**Info Type** State	**Generation Type** Periodic	**Group Name** N/A	**Update Bit** No	**Initial Value** 0

Timings:	**Interface Mode/FuncVerFolder/Function**	**Sub. Latency [ms]**	**Max. Age [ms]**	**Read Interval [ms]**
	FM_Normal_L3	50.000	400.000	

Description: Rear Park Distance Control Audible Warning

Encoding type:

Name: **PDCWrnng**

Size: 4 bits

Values:

Type	**Value**	**Scale**	**Offset**	**Interpretation**
Logical Value	0			No Obstacle
Logical Value	1			Range 1
Logical Value	2			Range 2
Logical Value	3			Range 3
Logical Value	4			Range 4
Logical Value	5			Range 5
Logical Value	6			Range 6
Logical Value	7			Range 7
Logical Value	8			Range 8
Logical Value	9			Range 9
Logical Value	10			Range 10
Logical Value	11			Range 11
Logical Value	12			Range 12
Logical Value	13			Range 13
Logical Value	14			Range 14
Logical Value	15			Range 15

7.4 Constant signals

busoff_decrement_time			
Size [bits]	**Type**	**Info Type**	**Initial Value**
16	Unsigned	State	200
Description:	The bus counter is decremented by one after this time if there is communication without any bus errors		

busoff_max			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	15
Description:	The number of bus-off errors that make the node silent during the time BUSOFF_WAIT_TIME		

busoff_time			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	50
Description:	The maximum time the node waits after a busoff before it goes to the network sleep state or the previuos active state		

busoff_wait_time			
Size [bits]	**Type**	**Info Type**	**Initial Value**
16	Unsigned	State	200
Description:	The time the node is silent after the BUSOFF_MAX busoff errors have occurred		

communication_timeout_time_slave			
Size [bits]	**Type**	**Info Type**	**Initial Value**
16	Unsigned	State	1500
Description:	A slave node should stop comminicating after this time if no NetworkMode signal received		

fixed_frame_normal_period			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	12
Description:	The master should transmit its fixed frame with this period when in normal mode		

fixed_frame_startup_period			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	1
Description:	The master should transmit its fixed frame with this period at start-up		

keep_network_timeout_time_slave			
Size [bits]	**Type**	**Info Type**	**Initial Value**
16	Unsigned	State	100
Description:	The signal KeepNetwork should be written by a slave each time the NWM layer is called during this time		

keep_net_alive_time_master			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	50
Description:	After a keepNetwork siganl is received, the master node must not shutdown the network within this time		

local_signal_config_id			
Size [bits]	**Type**	**Info Type**	**Initial Value**
16	Unsigned	State	28673
Description:	NM signal: this is the identification number of the signal configuration used.		

m			
Size [bits]	**Type**	**Info Type**	**Initial Value**
16	Unsigned	State	100
Description:	It's the time ECU wait for recover communication when Busoff counter is bigger than SHORT_TIME_RECOVERY_NUM		

master_timeout_time_sec_master			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	26

monitoring_timeout_time_master			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	20
Description:	If the signal KeepNetwork is not received from a slave node during this time the slave node is considered absent		

n			
Size [bits]	**Type**	**Info Type**	**Initial Value**
16	Unsigned	State	10
Description:	It's the time ECU wait for recover communication when Busoff counter is equal or smaller than SHORT_TIME_RECOVERY_NUM		

NCFRefNoIPK			
Size [bits]	**Type**	**Info Type**	**Initial Value**
64	Bytes	State	0x34 0x01 0x06 0x10 0x31 0x22 0x58 0x07
Description:	Network Reference Number for IPK		

remoteframe_timeout_time			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	100
Description:	When a slave node is waken up by remote frame on the network, it waits this time for remote frame.		

short_time_recovery_num			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	4
Description:	It's the number that the node recovers with short time recovery.		

startup_time_sec_master			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	10

stay_in_busoff			
Size [bits]	**Type**	**Info Type**	**Initial Value**
1	Boolean	State	false
Description:	set to false - the node will not stay in the state busoff		

stay_in_expulsion			
Size [bits]	**Type**	**Info Type**	**Initial Value**
1	Boolean	State	false
Description:	set to false - the signal configuration id check will continue even after it has been disapproved		

wait_for_network_sleep_time_master			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	24
Description:	The time between the fixed frame containing the signal NetworkMode set to Shutdown is transmitted to when the controller is set to sleep mode		

wait_for_network_sleep_time_slave			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	28
Description:	The time between the signal NetworkMode with the value Shutdown read and when the controller is set to sleep mode		

wakeup_network_signal_time_slave			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	14
Description:	The maximum allowed time to write the signal WakeNetwork for a slave node		

wakeup_network_time_slave			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	20
Description:	When a slave node is trying to wakeup the network, it waits this time for a wakeup acknowledge from the master node		

wakeup_pending_time_master			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	4
Description:	When the master node is woken, it waits this time for a wakeup request		

wakeup_pending_time_sec_master			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	10

wakeup_pending_time_slave			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	20
Description:	When a slave node is woken it waits this time for a wakeup request from the master node		

wake_network_signal_time_slave			
Size [bits]	**Type**	**Info Type**	**Initial Value**
8	Unsigned	State	14