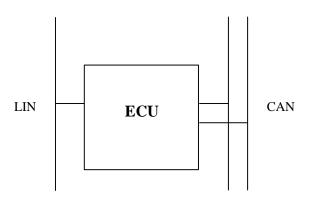


Change Description	A = Added D = Deleted C = Changed/Correct	Document Release S	Document Release Status				
		Date	Modification Count				
		2017-07-10					

Network Requirement Specification

SAIC Motor Network Requirement Specification Instruments ZS12 P V10



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Liu Ya/ee	
Chen Cang/ee	

Document Title

VOLCANO SIGNAL SPECIFICATION INSTRUMENTS

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1 CHANGE INFORMATION

Revision	Date	Description A=Added C=Changed/Corrected D=Deleted
EP2-V02	07/05/2016	NCF: 10320953/02
		A /Tx:
		ClstrDspdASpdLmtrWrnng
		ClstrDspdBrkSysWrnng
		ClstrDspdTyrePrsSts
		IPCEcoDrvngSwA
		9
		D/Tx:
		ECOSwA
		C/Tx:
		ClstrDspdScurtKeyBatLowWrnng to ClstrDspdScurtKeyBatLW
		A /Rx:
		AmbtLghtLvl
		BCMNoSmtKeyInVehRmndr
		DipdBeamLghtOn EcoDrvngAIO
		EcoDivingAlO EcoDrvngDspStsGearSIS
		EcoDrvngDspStsGearStS EcoDrvngDspStsRcmndFG
		EmgcCallFIrSts
		LghtSwPosSts
		PDCOverVolFlt_L
		PDCUnderVolFlt_L
		SpdAstSysStsECM
		SpdAstSysTrgtSpd
		D /Rx:
		LanggSetngAdj
		LanggSetngAdjReqA
Revision EP2-V02	Date 20/05/2016	D:
L1 2-V02	20/03/2010	ClstrDspdEleclBrkDstrbutnWrnng
		ClstrDspdTPMSF
		SIADatePriy
		C:
		ClstrDspdOilPrsLowWrnng to ClstrDspdOilPrsLowW
	_	ClstrDspdMalfIndrLghtWrnng to ClstrDspdMalfIndrLghtW
Revision EP-V07	Date 21/12/2016	Description A=Added C=Changed/Corrected D=Deleted NCF:1041384002
		Document Title

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A /Tx: CCSwStsDisDecSwA CCSwStsDistIncSwA ClstrDistUnt ClstrFuelCsumpUnt ClstrTemUnt ClstrTyrePressureUnt LanggSetng A /Rx: AutoHoldMsg AutoHoldSysSts BatAgngSta **BatSOC** BatVol **BCMGearShftParkNtrlESR** BCMNoSmtKeyPressBrkTRRBCMNoSmtKeyPressCIToRR BCMPressBrkRmndr BCMPressCIRmndr **BCMPutSmtKeyToBkupPosR BCMRunCrkF** BCMShftParkRmndr **BCMSSBFItSts** BCMSyncSmtKeyRmndr BCMTakeSmtKeyOutOfSR DayTimeRunningLghtF DrvrPWLInitnRmndr DrvrWndOpenRmndr **ECMCIsDoorToAutoStR ECMFasnSbltToAutoStR** ECMPressClBrkRmndr **ECMShftNtrlToAutoStR** EPBSysAudWrnngReq EPBSysDspMsgReq **EPBSysStsIndReq EPBSysWrnngIndReq** FICMDistUnitAdjtReqA FICMFuelCsumpUntAdj FICMFuelCsumpUntAdjARA FICMOverSpdFnCrntSts FICMOvrSpdThrshldAdj FICMOvrSpdThrshldAdjtRA FICMTemUntAdj FICMTemUntAdjtReqA FICMTyre Pressure Unt Adjt Req AVOLCANO SIGNAL SPECIFICATION

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		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
		11 WOAdtoLocation
Revision	Date	Description A=Added C=Changed/Corrected D=Deleted
PPV-P07	24/12/2016	A /Rx:
		FICMDistUntAdj
		FICMTyrePressureUntAdj
Revision	Date	Description A=Added C=Changed/Corrected D=Deleted
ZS12_PPV- V08	26/03/2017	NCF:1041384008 NCFRefNOIPK: 0x34 0x01 0x06 0x10 0x31 0x22 0x58 0x08
V00		A /Tx:
		ClstrDspdEleccParkngBW
		ClstrDspdHDCWrnng
		Cloub Spain is Strining
		A /Rx:
		EnGPFLampOnSts
		FasnSecRowLSbltIndCmd
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		FasnSecRowMidSbltIndC
		FasnSecRowRSbltIndCmd
		RRDoorOpenSts
Revision	Date	Description A=Added C=Changed/Corrected D=Deleted
P-V10	24/06/2017	NCF:1041384010
		NCFRefNoIPK: 0x34 0x01 0x06 0x10 0x31 0x22 0x58 0x10
		A /Tx:
		ClstrDspdAutoholdWrnng
		ClstrDspdBatRplmntRqdW
		ClstrDspdClSwWrnng
		ClstrDspdDayTimeRLW
		ClstrDspdIgnRelayWrnng
		ClstrDspdLBrkLghtWrnng
		ClstrDspdLDipdBeamLW
		ClstrDspdLDircnIndLW
		ClstrDspdLSideLghtW
		ClstrDspdRrFogLghtW
		ClstrDspdRSideLghtW
		ClstrDspdSpStBtnWrnng
		ClstrOverSpdFnHstrSts
		ClstrOvrSpdThrshld
		SIADatePriy
		A /Rx:
		LanggSetngAdj
		LanggSetngAdjReqA
	24/06/2017	C /Rx:
		MusSrcMd

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

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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.

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- "SMU": The ECU name in SAIC, e.g. EMS or TC	U or others.			
- "V1.0": Issue number of the file.				
- "FIX": Fixed file.				
	L B			
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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.

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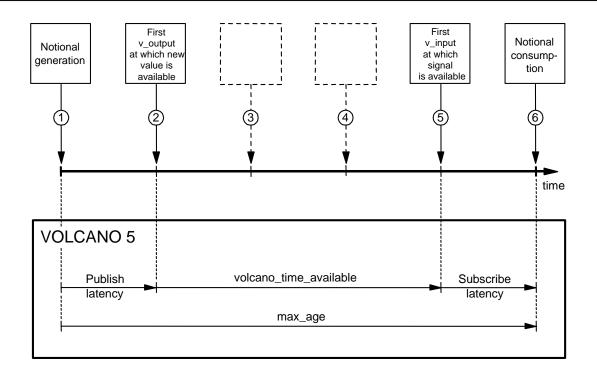


Figure 1: The Volcano 5 signal timing model

- 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

'4)

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.

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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

Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake,

Elec_Steering_Column_Lock, Engine_Control_Module,

CalendarDay Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module,

Stability_Control_System, Telematics_BOX, TPMS,

Transmission_Control_Module

Air Condition, Body Controller, Electric Power Steering, Electronic Park Brake,

Elec Steering Column Lock, Engine Control Module,

CalendarMonth Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module,

Stability_Control_System, Telematics_BOX, TPMS,

Transmission Control Module

Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake,

Elec_Steering_Column_Lock, Engine_Control_Module,

CalendarYear 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
ChmCmdSndLoctnRL 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 Front_Infotainment_Control_Modul, Telematics_BOX

ClstrDspdASpdLmtrWrnng Front_Infotainment_Control_Modul ClstrDspdAutoholdWrnng Front_Infotainment_Control_Modul

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ClstrDspdBatRplmntRqdW Front_Infotainment_Control_Modul ClstrDspdBrkSysWrnng Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdCCWrnng Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdCIntTemWrnng Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdClSwWrnng Front Infotainment Control Modul ClstrDspdDayTimeRLW Front_Infotainment_Control_Modul ClstrDspdEleccParkngBW Front_Infotainment_Control_Modul, Tester ClstrDspdEnDrvByWireW Front Infotainment Control Modul, Telematics BOX Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdEPSWrnng ClstrDspdFLTirePrs Telematics BOX Telematics BOX ClstrDspdFLTireSts Telematics_BOX ClstrDspdFRTirePrs ClstrDspdFRTireSts Telematics_BOX ClstrDspdFuelLvlSgmt Telematics_BOX ClstrDspdFuelSnsrWrnng Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdFuelSts Front Infotainment Control Modul, Telematics BOX Front_Infotainment_Control_Modul, Tester ClstrDspdHDCWrnng ClstrDspdIgnRelayWrnng Front_Infotainment_Control_Modul ClstrDspdInfoMsk Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdInvdKeyWrnng Telematics BOX ClstrDspdLBrkLghtWrnng Front_Infotainment_Control_Modul ClstrDspdLDipdBeamLW Front_Infotainment_Control_Modul ClstrDspdLDircnIndLW Front_Infotainment_Control_Modul ClstrDspdLSideLghtW Front_Infotainment_Control_Modul Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdMalfIndrLghtW ClstrDspdOilPrsLowW Engine_Control_Module, Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdPDCWrnng Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdPEWrnng Front_Infotainment_Control_Modul ClstrDspdRBrkLghtWrnng Front_Infotainment_Control_Modul ClstrDspdRDipdBeamLW Front_Infotainment_Control_Modul ClstrDspdRDircnIndLW Front_Infotainment_Control_Modul ClstrDspdRevsLampWrnng Front Infotainment Control Modul ClstrDspdRLTirePrs Telematics_BOX ClstrDspdRLTireSts Telematics_BOX ClstrDspdRrFogLghtW Front_Infotainment_Control_Modul ClstrDspdRRTirePrs Telematics_BOX ClstrDspdRRTireSts Telematics BOX ClstrDspdRSideLghtW Front Infotainment Control Modul ClstrDspdSASUncalWrnng Front_Infotainment_Control_Modul, Telematics_BOX Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdSASWrnng ClstrDspdSCSWrnng Front_Infotainment_Control_Modul, Telematics_BOX Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdScurtKeyBatLW ClstrDspdSpStBtnWrnng Front_Infotainment_Control_Modul Front_Infotainment_Control_Modul, Telematics_BOX ClstrDspdSpStWrnng 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 ClstrOverSpdFnHstrSts Front_Infotainment_Control_Modul ClstrOvrSpdThrshld Front_Infotainment_Control_Modul **VOLCANO SIGNAL SPECIFICATION** INSTRUMENTS Document Type NETWORK REQUIREMENT SPECIFICATION Document No Issue Index Volume No Page No

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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 Front Infotainment Control Modul **FrtObsDist** Engine Control Module, Front Infotainment Control Modul, Telematics BOX FuelLvlPcnt **FuelLvIPcntV** Engine_Control_Module, Front_Infotainment_Control_Modul, Telematics_BOX FuelTotCapct Engine_Control_Module, Front_Infotainment_Control_Modul, Telematics_BOX Air_Condition, Body_Controller, Electric_Power_Steering, Electronic_Park_Brake, Elec_Steering_Column_Lock, Engine_Control_Module, Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, HourOfDay 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 Air Condition, Body Controller, Electric Power Steering, Electronic Park Brake, Elec Steering Column Lock, Engine Control Module, Front Infotainment Control Modul, Sensing Diagnostic Module, MinuteOfHour Stability Control System, Telematics BOX, TPMS, Transmission_Control_Module MstrSysPwrMd Park_Distance_Control OdoPriy Body_Controller, Telematics_BOX **PDCCofignSts** Front_Infotainment_Control_Modul **PDCSvsSts** Front Infotainment Control Modul PfTrTapUpDwnEnbSwSta Transmission Control Module PfTrTapUpDwnSecySwSta Transmission Control Module Transmission Control Module PfTrTapUpDwnSwSta PfTrTapUpDwnSwStsAlvRC Transmission_Control_Module RLObsRng Front Infotainment Control Modul Front Infotainment Control Modul, Telematics BOX RmnDrvngDist RrMidLObsRng Front_Infotainment_Control_Modul RrMidRObsRng Front Infotainment Control Modul **RrObsDist** Front_Infotainment_Control_Modul Front Infotainment Control Modul RRObsRng Air Condition, Body Controller, Electric Power Steering, Electronic Park Brake, Elec Steering Column Lock, Engine Control Module, SecsOfMinute Front Infotainment Control Modul, Sensing Diagnostic Module, Stability_Control_System, Telematics_BOX, TPMS, Transmission Control Module Body Controller SIADatePriy

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SIAOdoPriy Body_Controller

Air Condition, Elec Steering Column Lock, Front Infotainment Control Modul, sm_network_mode_h1

Air_Condition, Elec_Steering_Column_Lock, Front_Infotainment_Control_Modul, sm signal config id h1

TPMS

StabCtrlDsblSwA Stability Control System

Air Condition, Body Controller, Electric Power Steering, Electronic Park Brake,

Elec Steering Column Lock, Engine Control Module,

Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module, SysBPM

Stability_Control_System, Telematics_BOX, TPMS,

Transmission_Control_Module

Air Condition, Body Controller, Electric Power Steering, Electronic Park Brake,

Elec_Steering_Column_Lock, Engine_Control_Module,

SysBPMEnbd Front_Infotainment_Control_Modul, Sensing_Diagnostic_Module,

Stability_Control_System, Telematics_BOX, TPMS,

Transmission_Control_Module

Electronic Park Brake. Engine Control Module. TimeDspFmt

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 VINCIstr **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 Engine_Control_Module **ASSInhIO** ASSStsLampOn Engine Control Module ASSWrnngLampOn Engine Control Module AutoHoldMsg Stability_Control_System Stability_Control_System AutoHoldSysSts

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 **BCMPressCIRmndr Body Controller** BCMPutSmtKeyToBkupPosR Body_Controller **BCMPwrMdHwdSta Body Controller BCMPwrMdHwdStaV Body Controller** Body_Controller **BCMRunCrkF BCMShftParkRmndr** Body_Controller **BCMSSBA** Body_Controller

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BCMSSBAV
BCMSSBFItSts
BCMSyncSmtKeyRmndr
BCMTakeSmtKeyOutOfSR
BntOpenSts
BrkFludLvlLow
Body_Controller
Body_Controller
Body_Controller
Body_Controller
Body_Controller

BrkFludLvlLowStability_Control_SystemBrkFludLvlLowVStability_Control_SystemBrkSysRedBrkTlltReqStability_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

ECMCIsDoorToAutoStR 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

EmgcCallFIrSts Telematics_BOX

En12VoltStrMotCmddOn Engine Control Module **EnASSSta** Engine Control Module EnCIntTem Engine_Control_Module **EnCIntTemV** Engine Control Module Engine_Control_Module EnEmsnRltdMalfA EnEmsnRltdMalfIndReg Engine_Control_Module **EnGPFLampOnSts** 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

Document Title

Electronic_Park_Brake

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 EPBSysWrnngIndReq Electronic_Park_Brake **EPSFIrSts** Electric Power Steering **ESCLFIrIndCmd** Elec_Steering_Column_Lock FasnDrvrSbltIndCmd Sensing_Diagnostic_Module FasnFrtPsngSbltIndCmd Sensing Diagnostic Module FasnSbltAudRmndr Sensing_Diagnostic_Module FasnSecRowLSbltIndCmd Sensing_Diagnostic_Module FasnSecRowMidSbltIndC Sensing Diagnostic Module Sensing_Diagnostic_Module FasnSecRowRSbltIndCmd FICMDistUnitAditRegA Front Infotainment Control Modul Front Infotainment Control Modul FICMDistUntAdj FICMFuelCsumpUntAdj Front_Infotainment_Control_Modul FICMFuelCsumpUntAdjARA Front Infotainment Control Modul FICMOverSpdFnCrntSts Front_Infotainment_Control_Modul FICMOvrSpdThrshldAdi Front Infotainment Control Modul FICMOvrSpdThrshldAdjtRA Front Infotainment Control Modul FICMTemUntAdj Front Infotainment Control Modul FICMTemUntAdjtReqA Front_Infotainment_Control_Modul FICMTyrePressureUntAdj Front_Infotainment_Control_Modul FICMTyrePressureUntAdjtRegA Front Infotainment Control Modul **FICMVehMntnceSts** Front_Infotainment_Control_Modul **FLTirePrs TPMS FLTirePrsV TPMS**

FLTireSts TPMS FLTireTem TPMS FLTireTemV TPMS

FrtFogLahtOn **Body Controller**

FRTirePrs TPMS TPMS FRTirePrsV TPMS FRTireSts FRTireTem TPMS FRTireTemV **TPMS**

FrtPsngDoorOpenSts Body_Controller FrtSideLghtF Body_Controller

FuelCsump Engine Control Module

GenrSta **Body Controller**

Stability Control System **HDCSysSts**

HourOfDayAdj Front Infotainment Control Modul

keep_network_AC Air_Condition

keep network ESCL Elec_Steering_Column_Lock Front_Infotainment_Control_Modul keep_network_FICM

keep_network_TPMS **TPMS**

LanggSetngAdj Front Infotainment Control Modul LanggSetngAdjReqA Front_Infotainment_Control_Modul

LBrkLghtF Body_Controller LDipdBeamLghtF **Body Controller** LDircnIndLghtF **Body Controller LDircnIO Body Controller** LdspcOpenSts **Body Controller** LghtSwPosSts Body_Controller MainBeamLghtOn Body_Controller

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Document No Issue Index Volume No Page No P_V10 17 (174) MinuteOfHourAdj Front_Infotainment_Control_Modul MusSrcMd Front_Infotainment_Control_Modul Front_Infotainment_Control_Modul NavDircn **NavDist** Front_Infotainment_Control_Modul NavDistUnit Front Infotainment Control Modul network mode Body_Controller Body_Controller OdoSecy 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 PDCSvsSts L Park_Distance_Control PDCUnderVolFlt L Park Distance Control **PEPSAntFlt** Body_Controller PwrMdMstrAccryA Body_Controller PwrMdMstrAccryWkupA Body_Controller PwrMdMstrlgnA Body Controller PwrMdMstrRunCrkA Body_Controller RBrkLghtF Body_Controller RDipdBeamLghtF Body_Controller RDircnIndLghtF Body_Controller **RDircnIO** Body_Controller Front Infotainment Control Modul RdoFrqcVal **Body Controller** RevsLghtF Park_Distance_Control RLObsRng_L **TPMS RLTirePrs TPMS RLTirePrsV RLTireSts TPMS** RLTireTem **TPMS RLTireTemV TPMS** RRDoorOpenSts Body_Controller RrFogLghtF **Body Controller** Body_Controller RrFogLghtOn 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** Body_Controller ScurtAlrmSts ScurtKeyBatLow **Body Controller** ScurtKeyInvd Body_Controller SecsOfMinuteAdj Front_Infotainment_Control_Modul Document Title

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ShifterLckRlseBrkReqA Body_Controller SIAOdoSecy Body_Controller Body_Controller signal_config_id 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 Body_Controller TakeKeyOutRmndr **TCSOpngMd** Stability_Control_System **TCSOpngSts** Stability Control System TimeAdiRegA Front Infotainment Control Modul Front_Infotainment_Control_Modul TimeDspFmtAdj **TPMSAutoLoctnCm TPMS TPMSF TPMS TPMS TPMSIdficnLrnCm TPMSTirePrsLowIO TPMS TPMSWntrMdA TPMS** TrNonEmsnRltdMalfA Transmission_Control_Module Engine Control Module TrShftLvrPos TrShftLvrPosV Engine_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 TPMS TPMS

WhlGndVelLDrvn Stability_Control_System WhlGndVelLDrvnV Stability_Control_System WhlGndVelLNonDrvn Stability_Control_System WhlGndVelLNonDrvnV Stability_Control_System WhlGndVelRDrvn Stability_Control_System

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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

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

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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 ${\tt SignalConfigSectorAddr.}$

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]).

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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

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

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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_CtrI

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: xxxxxxxxxx

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

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(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:

'<u>State info'</u>: 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.

<u>'State change info'</u>: 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.

<u>'Diagnostic Info'</u>: 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 '<u>sporadic'</u> 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 '<u>constant</u> 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:

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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 = $(a^*E^*E + b^*E + c) / (a^*E^*E + e^*E + f)$, 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.

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7.2 Transmitted signals

Interface: IPK_CAN_HS

	AirbagWrnngIndF								
Size [bits] Type Boolean State		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false			
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]				
	FM_Norma	I_HS 30.0	00	0.000					
Description:	Description: Airbag Warning Indication Failed send out the status of Airbag warning lamp								
Encoding	Name:	Во	oleanCoding						
type:	Size:	1 b	it						
	Description: boolean value								
Values: Type Value Scale Offset Interpretati						Interpretation			
		Log	gical Value	0			FALSE		
		Lo	gical Value	1			TRUE		

	ASSInhBtnA										
Size [bits]	Ize [bits]Type BooleanInfo Type StateGeneration Type Periodic				p Name N/A	Update Bit No	Initial Value false				
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]						
	FM_Norma	I_HS 30.0	000	0.000							
Description:	Auto Stop S	Start Inhibit E	Button Active								
Encoding	Name: Bo Size: 1 b		oleanCoding								
type:			oit								
	Description	: boo	olean value								
	Values:	Ty	ре	Value	Scale	Offset	Interpretation				
		Log	gical Value	0			FALSE				
		Log	gical Value	1			TRUE				

	AvgFuelCsump										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	1	p Name N/A	Update Bit No	Initial Value				
Timings:	imings: Interface Mode Pub. Latency [ms] Write Interval [ms]										
	FM_Normal_HS										
Description:	Average Fu	iel Consump	otion								
Encoding	Name:	AvgFuelC	SumpET								
type:	Size:	8 bits									
	Values:	Type		Value	Scale	Offset	Interpretation				
		Physical F	Range	0 - 255	0.1	0	L/100 km				

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	AvgFuelCsumpV										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0				
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]						
	FM_Norma	I_HS 30.0	000	0.000							
Description:	Average Fu	iel Consum	ption Validity								
Encoding	Name:	Va	lidityCoding								
type:	Size:	1 k	oit								
	Description	: Va	lidity Encode Typ	е							
	Values:	Ту	pe	Value	Scale	Offset	Interpretation				
		Lo	gical Value	0			Valid				
		Lo	gical Value	1			Invalid				

	CalendarDay										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Update Bit No	Initial Value				
Timings:	Interface N FM_Norma		. Latency [ms]	Write Ir 0.000	nterval [ms]						
Description	: current day	info.									
Encoding type:	Name: Size: Values:	Calendar 5 bits Type Physical F	•	Value 0 - 31	Scale	Offset 0	Interpretation				

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CalendarMonth										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name		Update Bit No	Initial Value 0			
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [m	s]				
Description:	current mor	nth info.								
Encoding type:	Name: Size:	4 bits	MonthET							
	Values:	Type		Value	Scale	Offs		terpretation		
		Logical V) 1				nknown		
		Logical V		1 2				nuary ebruary		
		Logical V Logical V		<u>2</u> 3				arch		
		Logical V		4			Ap			
		Logical V		5			Ma			
		Logical V		5 6				ine		
		Logical V		7			Ju			
		Logical V		3				ıgust		
		Logical V		9				eptember		
		Logical V		10				ctober		
		Logical V		11			No	ovember		
		Logical V		12			De	ecember		
		Logical V	alue	13			Re	eserved		
		Logical V	alue ·	14			Re	eserved		
		Logical V	alue	15			Re	eserved		

	CalendarYear										
Size [bits] Type Unsigned State Stat											
Timings:	Interface N FM_Norma		. Latency [ms]	Write In	terval [ms]						
Description:	_										
Encoding type:	Name: Size: Values:	Calendar' 8 bits Type Physical F		Value 0 - 255	Scale	Offset 2000	Interpretation				

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	CCSwStsAlvRC										
Size [bits]	Type Unsigned	Info Type State	u p Name N/A	Update Bit No	Initial Value						
Timings:	Interface M	lode Pub	. Latency [ms]	Write In	terval [ms]						
	FM_Norma	I_HS 30.0	000	0.000							
Description:	Cruise Con	trol Switch S	Status Alive Rollir	ng Count							
Encoding	Name:	EequalN	_2ET								
type:	Size:	2 bits									
	Values: Type Value Scale Offset Interpretation										
		Physical I	Range	0 - 3	1	0					

CCSwStsCanclSwA										
Size [bits] Type Boolean State										
Timings: Interface Mode Pub. Latency [ms] Write Interval [ms] FM_Normal_HS 30.000 0.000										
Cruise Con	trol Switch S	Status : Cancel S	witch Act	tive						
Name: Size:	CCSwSts 1 bit	sCancISwAET								
Values:	U	alue 0		Scale	Offset	Fals	_			
	Boolean Interface N FM_Norma Cruise Con Name: Size:	Boolean State Interface Mode Pub FM_Normal_HS 30.0 Cruise Control Switch S Name: CCSwSts Size: 1 bit Values: Type Logical V	Type Boolean State State Generation Type Periodic Interface Mode Pub. Latency [ms] FM_Normal_HS 30.000 Cruise Control Switch Status : Cancel State CCSwStsCanclSwAET Size: 1 bit Values: Type	Type Boolean State State Generation Type Periodic Growth FM_Normal_HS 30.000 0.000 Cruise Control Switch Status : Cancel Switch Act Name: CCSwStsCanclSwAET Size: 1 bit Values: Type Value Logical Value 0	Type Boolean State State Generation Type Periodic N/A Interface Mode Pub. Latency [ms] Write Interval [ms] Myles State	Type Boolean Info Type State State Periodic Group Name N/A Bit No Interface Mode Pub. Latency [ms] Write Interval [ms] FM_Normal_HS 30.000 0.000 Cruise Control Switch Status : Cancel Switch Active Name: CCSwStsCanclSwAET Size: 1 bit Values: Type Value Scale Offset Logical Value 0	Type Boolean Info Type State Periodic Provide N/A Update Bit No Interface Mode Pub. Latency [ms] Write Interval [ms] FM_Normal_HS 30.000 0.000 Cruise Control Switch Status : Cancel Switch Active Name: CCSwStsCanclSwAET Size: 1 bit Values: Type Value Scale Offset Interval Value Value O False			

	CCSwStsDisDecSwA										
Size [bits]	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_Norma	I_HS 30.0	000	0.000							
Description:	Cruise Con	trol Switch	Status Distance D	ecrease S	witch Active	Э					
Encoding	Size: 1 b		ooleanCoding								
type:			oit								
			olean value								
	Values:	Ту	pe ·	Value	Scale	Offset	Interpretation				
		Lo	gical Value	0			FALSE				
		Lo	gical Value	1			TRUE				

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			CCSwS	StsDistIncS	wA		
Size [bits]	Type Boolean	Info Typ State	e Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings:	Interface N	lode P	ub. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	I_HS 30	0.000	0.000			
Description:	Cruise Con	trol Switch	Status Distance I	ncrease Sw	itch Active		
Encoding	Name:	E	BooleanCoding				
type:	Size:	1	bit				
	Description	ı: k	oolean value				
	Values:	٦	уре	Value	Scale	Offset	Interpretation
		L	ogical Value	0			FALSE
		L	.ogical Value	1			TRUE

			CCSv	vStsOnS	SwA				
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Upda Bit No	t	Initial Value false	
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [ms	s]			
FM_Normal_HS 30.000 0.000									
Description:	Cruise Con	trol Switch S	Status : On Switc	h Active					
Encoding	Name:	CCSwSts	sOnSwAET						
type:	Size:	1 bit							
	Values:	Type	V	/alue	Scale	Offset	Inte	erpretation	
		Logical V	alue 0)			Fals	se	
		Logical V	alue 1				Tru	e	

			CC	SwStsPV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	1	u p Name N/A	Update Bit No	Initial Value
Timings:	Interface N FM_Norma	lode Pub I_HS 30.0	. Latency [ms]	Write In 0.000	terval [ms]		
Description:	Cruise Con	trol Switch S	Status Protection	Value			
Encoding type:	Name: Size: Values:	CCSwSts 8 bits Type		Value	Scale	Offset	Interpretation
		Physical F	Range	0 - 255	1	0	

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			CCSw	StsRsm	nSwA			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gr	oup Name N/A	Upo B N		Initial Value false
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	ns]		
	FM_Norma	I_HS 30.0	000	0.000				
Description:	Cruise Con	trol Switch S	Status : Resume	Switch /	Active			
Encoding	Name:	CCSwSt	sRsmSwAET					
type:	Size:	1 bit						
	Values:	Type	V	/alue	Scale	Offset	Inte	rpretation
		Logical V	alue 0)			Fals	se
		Logical V	alue 1				True	Э

			CCSv	vStsSet	SwA			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gr	oup Name N/A		Update Bit No	Initial Value false
Timings:	Interface N FM_Norma	lode Pub I_HS 30.0	. Latency [ms]	Write 0.000	Interval [m	s]		
Description:	Cruise Con	trol Switch S	Status : Set Switch	h Active)			
Encoding type:	Name: Size:	CCSwSts 1 bit	SetSwAET					
	Values:	Type	V	'alue	Scale	Offs	et In	terpretation
		Logical V)			Fa	alse
		Logical V	alue 1				Tı	ue

			CCSwS	tsSpdDecSwA		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A	e Update Bit No	Initial Value false
Timings:	Interface N	lode Pub	. Latency [ms]	Write Interval [r	ns]	
	FM_Norma	I_HS 30.0	00	0.000		
Description:	Cruise Con	trol Switch S	Status : Speed De	ecrease Switch Ac	ctive	
Encoding	Name:	CCSwSts	sSpdDecSwAET	-		
type:	Size:	1 bit				
	Values:	Type	V	alue Scale	Offset	Interpretation
		Logical V	alue 0			False
		Logical V	alue 1		•	True

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			CCSwS	tsSpdIn	cSwA			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Upda Bit No		Initial Value false
Timings:	Interface N	/lode Pub	. Latency [ms]	Write I	nterval [ms	3]		
	FM_Norma	I_HS 30.0	000	0.000				
Description:	Cruise Con	trol Switch	Status : Speed In	crease S	witch Active)		
Encoding	Name:	CCSwSt	sSpdIncSwAET					
type:	Size:	1 bit						
	Values:	Type	V	'alue	Scale	Offset	Inter	pretation
		Logical \	/alue 0				False	е
		Logical \	/alue 1				True	

			CCSwSt	sSwDa	ataIntgty			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval	[ms]		
	FM_Norma	I_HS 30.0	00	0.000)			
Description:	Cruise Con	trol Switch S	Status Switch Dat	a Inte	grity			
Encoding	Name:	CCSwSts	SwDataIntgtyE	Γ				
type:	Size:	2 bits						
	Values:	Type	Va	lue	Scale	Offse	t Interp	oretation
		Logical Va	alue 0				Data	Valid
		Logical Va	alue 1				Data	Invalid
		Logical Va	alue 2				Failur	e Detected
		Logical Va	alue 3				Illega	l Range

			ChmCm	dSndCnd	cPrd				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value		
Timings:	Interface N	lode Pub	. Latency [ms]	Write Int	erval [ms]				
	FM_Normal_HS 5.000 0.000								
Description:	1		d Cadence Perio	od					
Encoding	Name:	ChmCmd	SndCndcPrd						
type:	Size:	8 bits							
	Values:	Type		Value	Scale	Offset	Interpretation		
		Physical F	Range	0 - 255	10	0			

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			ChmCm	dSndDut	tyCyc		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface N FM_Norma	l_HS 5.00	. Latency [ms]	Write In 0.000	nterval [ms]		
Description:	1		nd Duty Cycle				
Encoding type:	Name: Size: Values:	8 bits Type Physical R			Scale 0.392157	Offset 0	Interpretation

	ChmCmdSndLoctnFL										
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false				
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]						
	FM_Normal_HS 5.000 0.000										
Description:	1		d Location Front	Left							
Encoding type:	Name: Size:	1 b	oleanCoding it								
	Description: boo		olean value								
	Values:	Ту	pe	Value	Scale	Offset	Interpretation				
		Log	gical Value	0			FALSE				
		Log	gical Value	1			TRUE				

			ChmCm	dSndLoctn	FR				
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group N	Name /A	Update Bit No	Initial Value false		
Timings:	s: 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: Size: Description	1 b	oleanCoding it olean value						
	Values:	•	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE		

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			ChmCm	dSndLoctn	RL					
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group N		Update Bit No	Initial Value false			
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inter	rval [ms]					
FM_Normal_HS 5.000 0.000										
Description:	Description: sound location									
	Chime Con	nmand Sour	nd Location Rear	Left						
Encoding	Name:	Во	oleanCoding							
type:	Size:	1 b	oit							
	Description: boo		boolean value							
	Values:	Ту	pe	Value	Scale	Offset	Interpretation			
		Log	gical Value	0			FALSE			
		Lo	gical Value	1			TRUE			

	ChmCmdSndLoctnRR									
Size [bits]	Boolean State Periodic			p Name N/A	Update Bit No	Initial Value false				
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]					
	FM_Normal_HS 5.000 0.000									
Description:	sound locat	ion								
-	Chime Con	nmand Soun	d Location Rear	Right						
Encoding	Name:	Во	oleanCoding							
type:	Size:	1 b	it							
	Description	: boo	olean value							
	Values:	Ty	ре	Value	Scale	Offset	Interpretation			
		Log	gical Value	0			FALSE			
		Log	gical Value	1			TRUE			

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			ChmC	mdSr	ndTone			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface N FM_Norma		. Latency [ms]	Writ 0.00	t e Interval 10	[ms]		
Description:		aracteristics nmand Sour	d Tone					
Encoding	Name:	ChmCmc	ISndToneET					
type:	Size:	4 bits						
	Values:	Type	V	alue	Scale	Offs	et Inter	rpretation
		Logical V	alue 0				Clac	k
		Logical V	alue 1				Click	(
		Logical V	alue 2				Beep	o (750 Hz)
		Logical V	alue 3				Beep	o (2000 Hz)
		Logical V	alue 4				Gon	g (750 Hz)
		Logical V	alue 5				Gon	g (2000 Hz)
		Logical V	alue 6				Rese	erved
		Logical V	alue 7				Rese	erved
		Logical V	alue 8				Rese	erved
		Logical V	alue 9				Rese	erved
		Logical V	alue 10)			Rese	erved
		Logical V	alue 1	1			Rese	erved
		Logical V	alue 12	2			Rese	erved
		Logical V	alue 13	3			Rese	erved
		Logical V	alue 14	4			Rese	erved
		Logical V	alue 1	5			Rese	erved

	Clstr10KmTick									
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false			
Timings:	FM_Normal_HS 30.000 0.000									
Description:	Description: Cluster 10 Kilometer Tick when IPK'VIN code does match with other module, IPK will send '1' status out.									
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value							
	Values:	Ty Log	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

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			Cls	trDistU	nt			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	Upo B N	it	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [n	ns]		
Description:	Cluster Dis	tance Units						
Encoding type:	Name: Size: Values:	ClstrDist 1 bit Type Logical V Logical V	V alue 0	/alue	Scale	Offset	Inte km mile	rpretation

			ClstrDs	pdABS	Wrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name Bit				Initial Value 0
Timings:	Interface N	Mode Pub	. Latency [ms]	Write 0.000	Interval [m	ıs]		
Description:			ock Brake Syster					
Encoding	Name:	WarnET						
type:	Size:	1 bit						
	Values:	Type	\	/alue	Scale	Offset	Int	erpretation
		Logical V	alue C)			No	Warning
		Logical V	alue 1				Wa	arning

	ClstrDspdAirbagWrnng										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Name I/A	Update Bit No	Initial Value 0				
Timings:	imings: Interface Mode Pub. Latency [ms] Write Interval [ms] FM_Normal_HS 30.000 0.000										
Description:	_			0.000							
Encoding type:	Name: Size:	WarnET 1 bit									
	Values:	Type Logical V Logical V	alue 0		cale Of	No	terpretation Warning arning				

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			ClstrD	spdAltr\	Wrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gi	roup Name N/A	Upo B N		Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	ns]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Alter	nator Warning					
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type Logical V Logical V	alue C	/alue) I	Scale	Offset	No۱	rpretation Warning rning

			ClstrDspd	ASpdL	mtrWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	-	odate Bit No	Initial Value 0
Timings:	Interface N FM_Norma	Mode Pub	. Latency [ms]	Write 0.000	Interval [m	s]		
Description:	Cluster Dis	played Activ	e Speed Limiter	Warnin	g			
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	\	/alue	Scale	Offset	Inte	erpretation
		Logical V	alue C)			No	Warning
		Logical V	alue 1				Wa	rning

			ClstrDspd	lAutoho	ldWrnng		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [ms]		
	FM_Norma	I_HS 30.0	00	0.000			
Description:	Cluster Disp	played Autol	hold Warning				
Encoding	Name:	warningl	ΕΤ				
type:	Size:	1 bit					
	Values:	Type	V	/alue	Scale (Offset I	nterpretation
		Logical V	alue 0)		1	No Warning
		Logical V	alue 1			1	Varning

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			ClstrDspd	BatRplm	ntRqdW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Upd B N	it	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [m	ıs]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Batte	ry Replacement	Require	d Warning			
Encoding type:	Name: Size:	warningl 1 bit	ĒΤ					
	Values:	Type Logical V Logical V	alue 0	/alue	Scale	Offset		r pretation Varning ning

			ClstrDsp	dBrkSy	/sWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upd B N	it	Initial Value 0
Timings:	Interface N FM_Norma	lode Pub I_HS 30.0	. Latency [ms]	Write 0.000	Interval [m	ıs]		
Description:	Cluster Dis	olayed Brak	e System Warnir	ng				
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	V	/alue	Scale	Offset	Inte	rpretation
		Logical V	alue 0)			No V	Warning
		Logical V	alue 1				War	ning

			ClstrDs	spdCCWrnng		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Nar N/A	ne Updat Bit No	Initial Value
Timings:	Interface N	lode Pub	. Latency [ms]	Write Interval	[ms]	
	FM_Norma	I_HS 30.0	00	0.000		
Description:	Cluster Disp	played Cruis	se Control Warnir	ng		
Encoding	Name:	WarnET				
type:	Size:	1 bit				
	Values:	Type	V	alue Scale	Offset	Interpretation
		Logical V	alue 0			No Warning
		Logical V	alue 1			Warning

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			ClstrDspc	CIntTen	nWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Upd Bi	it	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [m	ıs]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Cool	ant Temperature	Warning				
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type Logical V Logical V	alue 0	alue	Scale	Offset	No۱	r pretation Warning ning

			ClstrDs	pdCISv	/Wrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upd Bi	t	Initial Value 0
Timings:	Interface N FM_Norma	l_HS 30.0	. Latency [ms]	Write 0.000	Interval [m	ns]		
Description:	Cluster Dis	played Clutc	h Switch Warnin	ng				
Encoding type:	Name: Size:	warningl 1 bit	ĒΤ					
	Values:	Type	V	/alue	Scale	Offset	Inte	rpretation
		Logical V	alue 0)			No V	Varning
		Logical V	alue 1				Warı	ning

			ClstrDsp	dDayTimeRLW		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value
Timings:	Interface N	lode Pub	. Latency [ms]	Write Interval [n	ns]	
	FM_Norma	I_HS 30.0	00	0.000		
Description:	Cluster Disp	played Day	Time Running La	mp Warning		
Encoding	Name:	warningl	ΕΤ			
type:	Size:	1 bit				
	Values:	Type	V	alue Scale	Offset	Interpretation
		Logical V	alue 0			No Warning
		Logical V	alue 1			Warning

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			ClstrDspd	EleccPa	arkngBW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	Upda Bit No	te	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [ms]			
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Elect	ronic Parking Bra	ake War	ning			
Encoding	Name:	warningl	ΕΤ					
type:	Size:	1 bit						
	Values:	Type	V	/alue	Scale	Offset	Inter	pretation
		Logical V	alue 0)			No V	Varning
		Logical V	alue 1				Warr	ning

			ClstrDspc	dEnDrv	ByWireW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	• •	odate Bit No	Initial Value 0
Timings:	Interface N	Mode Pub	. Latency [ms]	Write 0.000	Interval [n	าร]		
Description:			ne Drive By Wire	Warnir	ng			
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	V	/alue	Scale	Offset	Inte	erpretation
		Logical V	alue 0)			No	Warning
		Logical V	alue 1				Wa	rning

			ClstrDs	pdEPSWrnng						
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0			
Timings:	Interface N	Mode Pub	. Latency [ms]	Write Interva	ıl [ms]					
	FM_Normal_HS 30.000 0.000									
Description:	Cluster Dis	played Elect	ric Power Steerir	ng Warning						
Encoding	Name:	ClstrDsp	dEPSWrnngET							
type:	Size:	2 bits								
	Values:	Type	Val	ue Scale	Offset	Interpr	etation			
		Logical Va	alue 0			No Wa	rning			
		Logical Va	alue 1			Genera	al Warning			
		Logical Va	alue 2			Serious	s Warning			
		Logical Va	alue 3			Reserv	red .			

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	ClstrDspdFLTirePrs										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	e Initial Value				
Timings:	nings: Interface Mode Pub. Latency [ms] Write Interval [ms] FM_Normal_HS 30.000 0.000										
Description:	Cluster Dis	played Fron	t Left Tire Pressu	ıre							
Encoding type:	Name: Size: Values:	7 bits Type	dFLTirePrsET	Value	Scale	Offset	Interpretation				
		Physical F	Range	0 - 127	4	0	kPa				

			ClstrDs	spdFLT	ireSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upd B N	it	Initial Value 0
Timings:	Interface N FM_Norma	lode Pub I_HS 30.0	. Latency [ms]	Write 0.000	Interval [m	ns]		
Description:	Cluster Disp	played Front	Left Tire Status					
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	-	/alue	Scale	Offset		erpretation
		Logical V Logical V						Warning rning

	ClstrDspdFRTirePrs										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	I	up Name N/A	Update Bit No	Initial Value 0				
Timings:											
	FM_Normal_HS										
Description:	Cluster Disp	played Fron	t Right Tire Press	sure							
Encoding	Name:	ClstrDsp	dFLTirePrsET								
type:	Size:	7 bits									
	Values:	Type		Value	Scale	Offset	Interpretation				
		Physical F	Range	0 - 127	4	0	kPa				

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	ClstrDspdFRTireSts										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Upd Bi	t	Initial Value 0			
Timings:	Interface M	lode Pub	. Latency [ms]	Write I	nterval [ms	s]					
	FM_Norma	I_HS 30.0	00	0.000							
Description:	Cluster Disp	played Fron	t Right Tire Statu	s							
Encoding	Name:	WarnET									
type:	Size:	1 bit									
	Values:	Type	V	alue	Scale	Offset	Inte	erpretation			
		Logical V	alue 0				No	Warning			
		Logical V	alue 1				Wa	rning			

			ClstrDsp	dFuelLvlSgm	t		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface N FM_Norma		Latency [ms]	Write Interva	al [ms]		
Description:	Cluster Disp	olayed Fuel	Level Segment				
Encoding type:	Name: Size:	ClstrDspc 4 bits	IFuelLvlSgmtET				
	Values:	Type Logical Va	lue 1 lue 2 lue 3 lue 4 lue 5 lue 6 lue 7	e Scale	Offset	1st Segr	ment Flash ment On

	ClstrDspdFuelSnsrWrnng										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gre	oup Name N/A	Upda Bi No	t	Initial Value 0			
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [ms]					
FM_Normal_HS 30.000 0.000											
Description:	Cluster Dis	played Fuel	Sensor Warning								
Encoding	Name:	WarnET									
type:	Size:	1 bit									
	Values:	Type	V	alue	Scale	Offset	Inte	erpretation			
		Logical V	alue 0				No	Warning			
		Logical V	alue 1				Wa	rning			

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	ClstrDspdFuelSts										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value 0			
Timings:	Interface N	lode Pub	. Latency [ms]	Wı	rite Interv	al [ms]					
	FM_Normal_HS 30.000 0.000										
Description:	Cluster Dis	played Fuel	Status								
Encoding	Name:	ClstrDspc	FuelStsET								
type:	Size:	2 bits									
	Values:	Type	Val	ue	Scale	Offset	Interpre	tation			
		Logical Va	ilue 0				Fuel Sta	tus OK			
		Logical Va	ilue 1				Fuel Sta	tus Low			
		Logical Va	ılue 2				Fuel Sta	tus Critical			
		Logical Va	lue 3				Reserve	d			

	ClstrDspdHDCWrnng										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group 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:	Cluster Disp	played Hill D	escent Control V	Varning							
Encoding type:	Name: Size:	warningl 1 bit									
	Values:	Type Logical V Logical V	alue 0	alue Sca	le Off	No	t erpretation D Warning arning				

			ClstrDspc	llgnRela	yWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Upda Bir No	t	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write I 0.000	nterval [ms	s]		
Description:								
Encoding type:	Name: Size: Values:	warningl 1 bit Type Logical V	V alue 0	'alue	Scale	Offset		erpretation Warning
		Logical V	alue 1				Wa	rning

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			ClstrE	SpdInfoMsk			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N N/A	ame	Update Bit No	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write Interval 0.000	al [ms]		
Description:	Cluster Dis	played Infor	mation Mask				
Encoding type:	Name: Size: Values:	ClstrDsp 1 bit Type Logical Va Logical Va	alue 0	lue Scale	Offset	-	etation Use Data ata

			ClstrDsp	dlnvdK	eyWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upd Bi	t	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [m	ns]		
Description:	Cluster Disp	olayed Inval	id Key Warning					
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	_	/alue	Scale	Offset		erpretation
		Logical V Logical V						Warning rning

	ClstrDspdLBrkLghtWrnng										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value					
Timings:	Interface N		. Latency [ms]	Write Interval [n	ns]						
	FM_Normal_HS 30.000 0.000										
Description:	Cluster Disp	played Left I	Brake Light Warn	ing							
Encoding	Name:	warningl	ET								
type:	Size:	1 bit									
	Values:	Type	V	alue Scale	Offset	Interpretation					
		Logical V	alue 0			No Warning					
		Logical V	alue 1			Warning					

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			ClstrDspo	dLDipdE	BeamLW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	· E	date Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	าร]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Left I	Dipped Beam Lig	ht Warn	ing			
Encoding type:	Name: Size:	warningl 1 bit	ET					
	Values:	Type Logical V Logical V	alue 0	alue	Scale	Offset	No۱	rpretation Warning ming

			ClstrDsp	dLDirc	nIndLW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	` E	date Bit No	Initial Value 0
Timings:	Interface N FM_Norma	lode Pub I_HS 30.0	. Latency [ms]	Write 0.000	Interval [m	ns]		
Description:	Cluster Dis	olayed Left [Direction Indicati	on Light	Warning			
Encoding type:	Name: Size:	warningl 1 bit	ĒΤ					
	Values:	Type	_	'alue	Scale	Offset		erpretation
		Logical V)				Warning
		Logical V	alue 1				Wa	rning

			ClstrDsp	dLSide	LghtW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	•	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	าร]		
	FM_Norma	I_HS 30.0	000	0.000				
Description:	Cluster Disp	played Left S	Side Light Warnir	ng				
Encoding	Name:	warningl	ET					
type:	Size:	1 bit						
	Values:	Type	V	alue	Scale	Off	set In	terpretation
		Logical V	alue 0				No	o Warning
		Logical V	alue 1				W	arning arning

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			ClstrDspo	dMalfInd	lrLghtW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	Upo B N	it	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [m	s]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Malfu	unction Indicator	Light Wa	arning			
Encoding	Name:	WarnET						
type:	Size:	1 bit						
	Values:	Type	V	/alue	Scale	Offset	Inte	erpretation
		Logical V	alue 0)			No	Warning
		Logical V	alue 1				Wa	rning

			ClstrDs	pdOilPr	sLowW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	, (Jpdate Bit No	Initial Value 0
Timings:	Interface N FM_Norma	Mode Pub	. Latency [ms]	Write 0.000	Interval [m	ns]		
Description:	Cluster Dis	played Oil P	ressure Low Wa	rning				
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	V	/alue	Scale	Offset	t Int	terpretation
		Logical V	alue 0)			No	o Warning
		Logical V	alue 1				W	arning

	ClstrDspdPDCWrnng										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Update Bit No	Initial Value 0				
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [ms]						
FM_Normal_HS 30.000 0.000											
Description:	Cluster Disp	olayed Park	Distance Contro	l Warnin	g						
Encoding	Name:	WarnET									
type:	Size:	1 bit									
	Values:	Type	V	alue	Scale O	ffset Ir	nterpretation				
		Logical V	alue 0			N	lo Warning				
		Logical V	alue 1			V	Varning				

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	ClstrDspdPEWrnng										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	•	Update Bit No	Initial Value 0			
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [m	s]					
Encoding type:	Name: Size: Values:	warningl 1 bit Type Logical V	\	/alue	Scale	Off		t erpretation Warning			
		Logical V	alue 1				W	arning			

			ClstrDspo	RBrkL	ghtWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Update Bit No	Initial Value 0
Timings:	Interface N FM_Norma		Latency [ms]	Write 0.000	Interval [m	s]		
Encoding type:	Name: Size: Values:	warningl 1 bit Type Logical V Logical V	\ alue 0	/alue	Scale	Offse	No	e rpretation Warning arning

			ClstrDspc	IRDipdE	BeamLW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	•	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	าร]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:								
Encoding	Name:	warningl	ĒΤ					
type:	Size:	1 bit						
	Values:	Type	V	alue	Scale	Offs	set l	nterpretation
		Logical V	alue 0				N	lo Warning
		Logical V	alue 1				V	Varning

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			ClstrDs	pdRDir	cnIndLW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	•	Update Bit No	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms] 00	Write 0.000	Interval [m	s]		
Encoding type:	Name: Size:	warningl 1 bit				0.0		
	Values:	Type Logical V Logical V	alue 0	/alue)	Scale	Ott	No	erpretation Warning arning

			ClstrDspc	IRevsL a	ampWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	•	Update Bit No	Initial Value 0
Timings:	Interface N		Latency [ms]	Write	Interval [m	s]		
	FM_Norma	I_HS 30.0	00	0.000				
Encoding	Name:	warning	ΞT					
type:	Size:	1 bit						
	Values:	Type	,	/alue	Scale	Off	set In	terpretation
		Logical V	alue ()			N	o Warning
		Logical V	alue ´	l			W	arning/

			ClstrDs	spdRLTire	Prs		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Grou	u p Name N/A	Update Bit No	Initial Value
Timings:	Interface N	lode Pub	. Latency [ms]	Write In	terval [ms]		
	FM_Norma	I_HS 30.0	00	0.000			
Description:	Cluster Disp	olayed Rear	Left Tire Pressu	re			
Encoding	Name:	ClstrDsp	dFLTirePrsET				
type:	Size:	7 bits					
	Values:	Type		Value	Scale	Offset	Interpretation
		Physical F	Range	0 - 127	4	0	kPa

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			ClstrDs	spdRLT	ireSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gı	roup Name N/A	• '	odate Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	าร]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Rear	Left Tire Status					
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type Logical V Logical V	alue 0	/alue	Scale	Offset	No \	r pretation Warning rning

			ClstrDsp	odRrFo	gLghtW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gı	roup Name N/A	9	Update Bit No	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [n	ns]		
Description:								
Encoding type:	Name: Size:	warningl 1 bit	ET					
	Values:	Type	V	/alue	Scale	Offs	et In	terpretation
		Logical V	alue 0)			No	o Warning
		Logical V	alue 1				W	arning arning

			ClstrDs	spdRRTire	ePrs		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	Initial Value
Timings:	Interface N FM_Norma	l_HS 30.0	. Latency [ms] 00	Write In 0.000	terval [ms]		
Description:	Cluster Dis	played Rear	Right Tire Press	sure			
Encoding type:	Name: Size: Values:	7 bits Type	dFLTirePrsET	Value	Scale	Offset	Interpretation
		Physical F	Range	0 - 127	4	0	kPa

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			ClstrDs	spdRRT	ireSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	E	date Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	ns]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Rear	Right Tire Statu	s				
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type Logical V Logical V	alue 0	/alue	Scale	Offset	No \	rpretation Warning ming

			ClstrDs	odRSide	ELghtW			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gı	oup Name N/A	; (Jpdate Bit No	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [n	ns]		
Description:								
Encoding type:	Name: Size:	warningl 1 bit	ĒΤ					
	Values:	Type	V	/alue	Scale	Offse	t Int	terpretation
		Logical V	alue 0)			No	o Warning
		Logical V	alue 1				W	arning

	ClstrDspdSASUncalWrnng									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Nam N/A	e Upda Bit No	Initial Value				
Timings:										
	FM_Normal_HS 30.000 0.000									
Description:	Cluster Disp	played Stee	ring Angle Senso	r Uncalibartion W	arning					
Encoding	Name:	WarnET								
type:	Size:	1 bit								
	Values:	Type	V	alue Scale	Offset	Interpretation				
		Logical V	alue 0			No Warning				
		Logical V	alue 1			Warning				

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			ClstrDs	pdSAS	Wrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gı	roup Name N/A	` <u>'</u> B	date it	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	ns]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Dis	played Stee	ring Angle Senso	or Warni	ng			
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type Logical V Logical V	alue 0	/alue	Scale	Offset	No \	rpretation Warning rning

			ClstrDs	pdSCS	Wrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Ul	odate Bit No	Initial Value 0
Timings:	Interface N FM_Norma	flode Pub ILHS 30.0	. Latency [ms]	Write 0.000	Interval [m	ıs]		
Description:	Cluster Dis	played Stabi	ility Control Syste	em War	ning			
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	V	/alue	Scale	Offset	Inte	erpretation
		Logical V	alue 0)			No	Warning
		Logical V	alue 1				Wa	arning

	ClstrDspdScurtKeyBatLW									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0				
Timings:	mings: Interface Mode Pub. Latency [ms] Write Interval [ms]									
FM_Normal_HS 30.000 0.000										
Description:	Cluster Disp	olayed Secu	rity Key Battery I	Low Warning						
Encoding	Name:	WarnET								
type:	Size:	1 bit								
	Values:	Type	V	alue Scale	Offset I	nterpretation				
		Logical V	alue 0		1	No Warning				
		Logical V	alue 1		\	Varning				

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			ClstrDsp	dSpStBt	nWrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	Upo B N	it	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [m	ns]		
Description:								
Encoding type:	Name: Size: Values:	warningl 1 bit Type Logical V Logical V	V alue 0	/alue	Scale	Offset	No \	rpretation Warning rning

			ClstrDs	spdSpS	Wrnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	E	date Bit No	Initial Value 0
Timings:	Interface N FM_Norma	flode Pub ILHS 30.0	. Latency [ms]	Write 0.000	Interval [m	s]		
Description:	Cluster Dis	played Stop	Start Warning					
Encoding type:	Name: Size:	WarnET 1 bit						
	Values:	Type	'	√alue	Scale	Offset	Inte	erpretation
		Logical V	alue ()			No	Warning
		Logical V	alue 1	1			Wa	rning

	ClstrDspdTCSWrnng										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	e Update Bit No	Initial Value					
Timings:	ings: Interface Mode Pub. Latency [ms] Write Interval [ms]										
FM_Normal_HS 30.000 0.000											
Description:	Cluster Disp	played Tract	ion Control Syste	em Warning							
Encoding	Name:	WarnET									
type:	Size:	1 bit									
	Values:	Type	V	alue Scale	Offset	Interpretation					
		Logical V	alue 0			No Warning					
		Logical V	alue 1			Warning					

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			ClstrD	spdTrW	rnng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Upda Bit No		Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write I	nterval [ms]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Cluster Disp	played Trans	smission Warning	g				
Encoding	Name:	WarnET						
type:	Size:	1 bit						
	Values:	Type	V	alue	Scale	Offset	Inter	pretation
		Logical V	alue 0				No W	/arning
		Logical V	alue 1				Warn	ing

			ClstrDs	pdTyre	PrsSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Nam N/A	е	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [r	ns]		
	FM_Norma	I_HS 30.0	000	0.000				
Description:	Cluster Dis	played Tyre	Pressure Status					
Encoding	Name:	ClstrDsp	odTyrePrsStsET					
type:	Size:	2 bits						
	Values:	Type	V	alue	Scale	Offs	set Inte	erpretation
		Logical V	alue 0				No	Warning
		Logical V	alue 1				Lov	v Tyre
		Logical V	alue 2				Sys	tem Failure

	ClstrDspdVehSpd									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name Bit Initial Value						
Timings:	imings: Interface Mode Pub. Latency [ms] Write Interval [ms] FM_Normal_HS 5.000 0.000									
Description:	Cluster Dis	played Vehic	cle Speed							
Encoding type:	Encoding Name: ClstrDspdVehSpdET									
	F	Physical Ran ogical Value	ge 0 - 254		0	km/h		g Error of SCS		

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			ClstrFu	ıelCsuı	mpUnt					
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	•	Update Bit No	Initial Value 0		
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [n	าร]				
	FM_Normal_HS 30.000 0.000									
Description:	Description: Cluster Fuel Consumption Units									
Encoding	Name:	ClstrFue	ICsumpUntET							
type:	Size:	2 bits								
	Values:	Type	V	alue	Scale	Off	set Int	erpretation		
		Logical V	alue 0				L/1	I00km		
		Logical V	alue 1				mp	og(UK)		
		Logical V	alue 2				mp	og(US)		
		Logical V	alue 3				km	n/L		

			ClstrOve	rSpdFnHstr	Sts		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N/		Update Bit No	Initial Value 0
Timings:	Interface N		. Latency [ms]	Write Inter	val [ms]		
	FM_Norma	I_HS 30.0	00	0.000			
Description:	Cluster Ove	er Speed Fu	nction History St	atus			
Encoding	Name:	OffOnCo	ding				
type:	Size:	1 bit					
	Values:	Type	V	alue So	ale Of	fset Int	erpretation
		Logical V	alue 0			Off	f
		Logical V	alue 1			On	1

			ClstrO	vrSpdThr	shld		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Updat Bit No	e Initial Value 24
Timings:	Interface N FM_Norma	l_HS 30.0	Latency [ms]	Write In 0.000	nterval [ms]		
Description:	Cluster Ove	er Speed Th	reshold				
Encoding type:	Name: Size: Values:	ClstrOvrs 6 bits Type Physical F	SpdThrshldET Range	Value 0 - 63	Scale 5	Offset 0	Interpretation

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			Cls	trTemUnt			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	I_HS 30.0	00	0.000			
Description:	Cluster Ter	nperature U	nits				
Encoding	Name:	ClstrTemU	IntET				
type:	Size:	2 bits					
	Values:	Type	Value	Scale	Offset	Interpretation	on
		Logical Val	ue 0			Celsius Deg	ree(¡æ)
		Logical Val	ue 1			Fahrenheit D	Degree("H)
		Logical Val	ue 2			Not Available	е
		Logical Val	ue 3			Reserved	

			ClstrTyr	ePressure	Unt		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	I_HS 30.0	00	0.000			
Description:	Cluster Tyre	e Pressure l	Jnits				
Encoding	Name:	ClstrTyre	ePressureUntET	•			
type:	Size:	2 bits					
	Values:	Type	V	alue S	Scale Of	fset Int	erpretation
		Logical V	alue 0			ba	r
		Logical V	alue 1			kpa	a
		Logical V	alue 2			Ps	i

			Diagno	sticRespIPK		
Size [bits]	Type Bytes	Info Type State	Generation Type Sporadic	Group Name DIAG_PhysResp_IPK	Update Bit No	Initial Value 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x0
Timings:	Interface N	lode Pul	o. Latency [ms]	Write Interval [ms]		
	FM_Norma	I_HS 5.00	00	10.000		
	FM_Quiet_	HS 5.00	00	10.000		
	FM_Silent_	HS 5.00	00	10.000		
Description:	Diagnostic	response fr	om IPK			

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			Dsp	MeasS	ys			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	oup Name N/A	l	J pdate Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [ms	s]		
	FM_Norma	I_HS 30.0	00	0.000				
Description:	Display Me	asurement S	System					
Encoding type:	Name: Size: Values:	DspMeas 1 bit Type		'alue	Scale	Offse	t Int	erpretation
		Logical V Logical V			2 2 3 3 4		kp MF	h

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				DTCIn	fomationIPK		
Size [bits] 56	Type Bytes	Info T		Generation Type Sporadic	Group Name N/A	Update Bit No	Initial Value 0x00 0x00 0x00 0x00 0x00 0x00 0x00
Timings:	Interface N FM_Norma		Pub 100.	. Latency [ms] 000	Write Interval [ms] 1000.000		
Description:	FM_Normal DTC Infomic The length Byte 0 is M For each by Byte 0: Bit (7-4): Di Bit (3-0): Ri Byte 1: Bit (7-0): Ri Byte 2: Bit (7-0): Di Byte 3: Bit (7-0): Di Byte 4: Bit (7-0): Di Byte 5: Bit 7: warni Bit 6: testN Bit 5: testFa	ation o of DTC SB (mi yte, Bit TC Ser eserve TCHigh TCLow TCFail IngIndia otCom ailedSi	100. f IPK C inforost significations I d d hByte ureTy catorF pletec nceLa	mation signal is gnificant byte), are nsb (most significant byte). Level PeeByte Requested dThisOperationCytestClear	1000.000 7 bytes. and Byte 6 is LSB (least seant bit), and Bit 0 is Isb		
	Bit 3: confir Bit 2: pendi	medD ⁻ ingDT0 ailedTh	ŤC C	dSinceLastClear erationCycle			
	Byte 6: Bit (7-0): D		е				
	For more d	etail, p	lease	refer to SMTC 2	800 004.		

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				FLObsRr	ng			
Size [bits]	Type Unsigned	Info Type State	Generatio Type Periodic	n G	roup Name N/A	B	date it	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [m 00	s] Write 0.000	Interval [m	ns]		
Description:	Front Left C	Obstacle Rar	nge					
Encoding type:	Name: Size:	ObsRngl 4 bits	ΞT					
	Values:	Type		Value	Scale	Offset	Inte	erpretation
		Logical V	alue	0			No	Obstacle
		Logical V		1				nge 1
		Logical V		2				nge 2
		Logical V		3				nge 3
		Logical V		4				nge 4
		Logical V		5				nge 5
		Logical V		6				nge 6
		Logical V		7				nge 7
		Logical V		8				nge 8
		Logical V		9				nge 9
		Logical V		10				nge 10
		Logical V		11				nge 11
		Logical V		12				nge 12
		Logical V		13				nge 13
		Logical V		14				nge 14
		Logical V	alue	15			Ra	nge 15

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				FRObsRr	ng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	n G	roup Name N/A	В	late it	Initial Value 0
Timings:	Interface N FM_Norma		Latency [m	s] Write 0.000	Interval [m	s]		
Description:	Front Right	Obstacle Ra	ange					
Encoding type:	Name: Size:	ObsRngl 4 bits	ĒΤ					
	Values:	Type		Value	Scale	Offset	Inte	erpretation
		Logical V	alue	0			No	Obstacle
		Logical V		1				nge 1
		Logical V		2				nge 2
		Logical V		3				nge 3
		Logical V		4				nge 4
		Logical V		5				nge 5
		Logical V		6				nge 6
		Logical V		7				nge 7
		Logical V		8				nge 8
		Logical V		9				nge 9
		Logical V		10				nge 10
		Logical V		11				nge 11
		Logical V		12				nge 12
		Logical V		13				nge 13
		Logical V		14				nge 14
		Logical V	alue	15			Ra	nge 15

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	FrtMidLObsRng									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Group Name N/A		Update Bit No	Initial Value 0		
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [m	s]				
Description:	Front Middl	e Left Obsta	cle Range							
Encoding type:	Name: Size:	ObsRng 4 bits								
	Values:	Type		Value	Scale	Off		nterpretation		
		Logical V		0				o Obstacle		
		Logical V		1				ange 1		
		Logical V		2				ange 2		
		Logical V		3				ange 3		
		Logical V		4				ange 4		
		Logical V		5				ange 5		
		Logical V		6				ange 6		
		Logical V		7				ange 7		
		Logical V		8				ange 8		
		Logical V		9				ange 9		
		Logical V		10				ange 10		
		Logical V		11				ange 11		
		Logical V		12				ange 12		
		Logical V		13				ange 13		
		Logical V		14				ange 14		
		Logical V	alue	15			R	ange 15		

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FrtMidRObsRng									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface N FM_Norma		. Latency [ms] 00	Write 0.000	Interval [m	s]			
Description:	Front Middl	e Right Obs	tacle Range						
Encoding type:	Name: Size:	ObsRngl 4 bits							
	Values:	Type		Value	Scale	Off		terpretation	
		Logical V)				o Obstacle	
		Logical V		1				ange 1	
		Logical V		2				ange 2	
		Logical V		3				ange 3	
		Logical V		4				ange 4	
		Logical V		5				ange 5	
		Logical V		6				ange 6	
		Logical V		7				ange 7	
		Logical V	alue 8	3			Ra	ange 8	
		Logical V	alue 9	9			Ra	ange 9	
		Logical V	alue ´	10			Ra	ange 10	
		Logical V		11				ange 11	
		Logical V	alue ´	12			Ra	ange 12	
		Logical V	alue ´	13				ange 13	
		Logical V	alue ´	14			Ra	ange 14	
		Logical V	alue ´	15			Ra	ange 15	

	FrtObsDist								
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0		
Timings:	Interface N FM_Norma		. Latency [ms]	Write Int	erval [ms]				
Description:	Front Obsta	acle Distance	Э						
Encoding type:	Name: Size: Values:	FrtObsDis 8 bits Type Physical F		Value 0 - 255	Scale 1	Offset 0	Interpretation cm		

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	FuelLvIPcnt									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0			
Timings:	Interface N FM_Norma		. Latency [ms]	Write In	terval [ms]					
Description:			level divide 'Fuel	Total Cap	pacity'.					
Encoding type:	Name: Size: Values:	FuelLvIPc 8 bits Type Physical R	Va		Scale 0.392156	Offset 0	Interpretation %			

			Fue	ILvIPcntV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]		
FM_Normal_HS 30.000 0.000							
Description:			dity ance is out of rar	nge, the sig	nal value i	s set to 1 oth	erwise set to 0.
Encoding	Name:	Va	lidityCoding				
type:	Size:	1 b	it				
	Description: Va		Validity Encode Type				
	Values:	Ty	ре	Value	Scale	Offset	Interpretation
		Log	gical Value	0			Valid
		Log	gical Value	1			Invalid

	FuelTotCapct									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0			
Timings:	Interface N FM_Norma	71								
Description:			which can be de	tected by fue	el sensor.					
Encoding type:	Name: Size: Values:	FuelTotCa 12 bits Type Physical R		/alue) - 4095	Scale 0.125	Offset 0	Interpretation			

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			Ho	urOfDay			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value
Timings:	Interface N FM_Norma		. Latency [ms]	Write In 0.000	nterval [ms]		
Description:	Hour Of Da	•					
Encoding type:	Name: Size: Values:	HourOfDa 5 bits Type Physical F		Value 0 - 23	Scale	Offset 0	Interpretation

	IPCAccryA							
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false	
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]			
	FM_Norma	I_HS 30.0	000	0.000				
Description:	Instrument	Panel Clust	er Start Accessor	y Active				
Encoding type:	Name: Size: Description	1 b	oleanCoding oit olean value					
	Values:	Ty Log	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE	

			IPCEc	oDrvngSw	Α		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings:	ngs: Interface Mode Pub. Latency [ms] Write Interval [ms]						
	FM_Norma	I_HS 30.0	000	0.000			
Description:	Instrument	Cluster Eco	nomy Driving Sw	itch Active			
Encoding	Name:	Во	oleanCoding				
type:	Size:	1 b	oit				
	Description: boo		olean value				
	Values:	Ту	ре	Value	Scale	Offset	Interpretation
		Log	gical Value	0			FALSE
		Log	gical Value	1			TRUE

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			IPC	RunCrkA				
Size [bits]	ize [bits] Type Boolean State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value false		
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]			
	FM_Norma	I_HS 30.0	000	0.000				
Description:	Description: Instrument Panel Cluster Run Crank Active							
Encoding	Name:	Во	oleanCoding					
type:	Size:	1 b	oit					
	Description	i: bo	olean value					
	Values:	Ту	pe	Value	Scale	Offset	Interpretation	
		Lo	gical Value	0			FALSE	
		Lo	gical Value	1			TRUE	

	IPCRunCrkF								
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false		
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]				
	FM_Normal_HS 30.000								
Description:	Instrument	Panel Clust	er Run Crank Fai	led					
Encoding	Name:	Во	oleanCoding						
type:	Size:	1 b	oit						
	Description	: bo	olean value						
	Values:	Ту	pe	Value	Scale	Offset	Interpretation		
		Lo	gical Value	0			FALSE		
		Lo	gical Value	1			TRUE		

	IPCSSBA								
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false		
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]				
	FM_Norma	I_HS 30.0	000	0.000					
Description:	Instrument	Panel Clust	er Start Stop Butt	on Active					
Encoding	Name: Bo		oleanCoding						
type:	Size:	1 b	oit						
	Description: bo		olean value						
	Values:	Ту	pe	Value	Scale	Offset	Interpretation		
		Lo	gical Value	0			FALSE		
		Lo	gical Value	1			TRUE		

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			IP	CSSBAV			
		Info Type State	Generation Type Periodic	ype Group Name		Update Bit No	Initial Value false
Timings:	Interface N	Node Put	b. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	al_HS 30.0	J00	0.000			
Description: Instrument Panel Cluster Start Stop Button Active Validity							
Encoding	Name:	Va	alid4Coding				
type:	Size:	1 b	oit				
	Description	ı: va	alid info 4				
	Values: Ty		/pe	Value	Scale	Offset	Interpretation
		Lo	gical Value	0			Valid
		Lo	gical Value	1			Invalid

		IPC	SSBFIt	Sts			
Type Unsigned	Info Type State	Generation Type Periodic	N/A		Update Bit No	Initial Value 0	
				-	ns]		
Instrument	Panel Clust	er Start Stop But	on Fau	ılt Status			
Name: Size:	IPCSSBF 3 bits	FItStsET					
Values:	Logical V Logical V Logical V Logical V Logical V Logical V	alue 0 alue 1 alue 2 alue 3 alue 4 alue 5 alue 6	alue	Scale	Offse	No I show show Stude Ope swit Res	en Circuit ch failed erved
	Interface N FM_Norma Instrument Name: Size:	Interface Mode Pub FM_Normal_HS 30.0 Instrument Panel Cluste Name: IPCSSBF Size: 3 bits Values: Type Logical V	Type Unsigned State Stat	Type Unsigned State Stat	Type Unsigned State State Type Periodic N/A Interface Mode Pub. Latency [ms] Write Interval [ms]	Type Unsigned Info Type State Pub. Latency [ms] Write Interval [ms] 0.000 Interface Mode Pub. Latency [ms] Write Interval [ms] 0.000 Instrument Panel Cluster Start Stop Button Fault Status Name: IPCSSBFItStsET Size: 3 bits Values: Type Value Scale Offset Logical Value 1 Logical Value 2 Logical Value 3 Logical Value 3 Logical Value 4 Logical Value 5 Logical Value 5 Logical Value 5 Logical Value 5 Logical Value 6	Type Unsigned State State Generation Type Periodic Write Interval [ms] Interface Mode Pub. Latency [ms] Write Interval [ms] FM_Normal_HS 30.000 0.000 Instrument Panel Cluster Start Stop Button Fault Status Name: IPCSSBFItStsET Size: 3 bits Values: Type Value Scale Offset Interval Logical Value 1 show Logical Value 2 show Logical Value 3 Logical Value 3 Logical Value 4 Cope Logical Value 5 swit Logical Value 5 swit Logical Value 6 Res

			keep_ı	network_	IPK		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit Yes	Initial Value false
Timings:	Interface N	lode Pub	. Latency [ms]	Write In	terval [ms]	
	FM_Norma	I_HS 20.0	00	0.000			
Description:	NM signal:	the IPK use	s this signal wher	n it wants	to keep the	e network awake	Э.
Encoding	Name:	keep_netw	ork_coding				
type:	Size:	1 bit					
	Values:	Type	Value	Scale	Offset	Interpretation	l
		Logical Val	ue 0			no keep netwo	ork request
		Logical Val	ue 1			keep network	request

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				La	nggSet	ng			
Size [bits]	Type Unsigned	Info Ty State		Generation Type Periodic	G	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface Mode Pub. Latency FM_Normal_HS 30.000			Write 0.000	Interval [ms]			
Description:	Language S	Setting							
Encoding type:	Name: Size: Description:		7 bits	gSetngET 37F=Reserved					
	Values:		Logic Logic Logic Logic Logic Logic Logic Logic Logic Logic Logic Logic Logic Logic Logic Logic	cal Value	Value 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	Scale	Offset	Simpli UK En NA En Swedi: French Spanis Dutch Portug Norwe Finnis Danish Greek Japan Arabic Germa Polish Turkis Koreal	glish sh n sh guese gian n n ese an h n onal Chinese

	MinuteOfHour								
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Updat Bit No	e Initial Value		
Timings:	Interface N FM_Norma		. Latency [ms] 00	Write Ir 0.000	iterval [ms	5]			
Description:	Minute Of F current Min								
Encoding type:	Name: Size: Values:	MinuteOf 6 bits Type Physical F		Value 0 - 59	Scale	Offset 0	Interpretation		

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	OdoPriy									
Size [bits]	Type Bytes	Info Type State	Generation Type Periodic	ype Group Name		Initial Value 0x00 0x00 0x00				
Timings:	Interface N FM_Norma		. Latency [ms]	Write Interval [ms] 0.000						
Description:	Odometer I	•								
Encoding type:	Name: Size: Values:	ODO_codi 24 bits Type Physical Ra	Val	ue Scale 16777215 1	Offset 0	Interpretation km				

			PDC	CofignSt	S					
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	Initial Value 0			
Timings:	Interface I FM_Norma		. Latency [ms] 00	Write Interval [ms] 0.000						
Description:	Park Dista	nce Control C	Configuration Sta	tus						
Encoding type:		PDCCofignSt bits	tsET							
	L L L L	Jype Logical Value	0 1 2 3 4 5	e Offset	Interpretatio 3 rear sensor 4 rear sensor 4 rear sensor 4 rear sensor 2 rear sensor Reserved Reserved Reserved	rs rs rs and 2 front rs and 4 front	t side sensors t sensors			

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			P	DCSys:	Sts				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	e Interval	[ms]			
Description:	Park Distar	nce Control S	System Status						
Encoding type:	Size: Values:	PDCSysSts 4 bits Type Logical Valu	Value 10 0 10 10 10 10 10 10 10 10 10 10 10 10 10 1	Scale	Offset Interpretation System OK System initialization successful System Failed System Disabled Front PDC Disabled Front PDC Failed Rear PDC Failed				

			PfTrTapUp	DwnEnbSwSta		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write Interval [ms]		
	FM_Norma	I_HS 30.0	00	0.000		
Description:	Platform Tra	ansmission [*]	Tap Up/Down En	able Switch State		
Encoding	Name:	PfTrTapU	pDwnEnbSwSta	1		
type:	Size:	2 bits				
	Description	: Platform T	ransmission Tap	Up/Down Enable Swite	ch State	
	Values:	Type	Value Scale	e Offset Interpretation	1	
		Logical Va	alue 0	No Activation		
		Logical Va	alue 1	Driver Shift Co	ontrol Enable	Switch Active
		Logical Va	alue 2	Electronic Rar	nge Select Er	nable Switch Active
		Logical Va	alue 3	Illegal Enable	Switch State	Active

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Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gre	oup Nai N/A	me Update Bit No	Initial Value 0
Timings:	Interface N FM_Norma		Latency [ms]	Write I 0.000	nterval	[ms]	
Description:	Platform Tra	ansmission T	ap Up/Down S	econdary	Switch	State	
Encoding	Name:	PfTrTap	UpDwnSecySw	/Sta			
type:	Size:	2 bits					
	Description	: Platform	Transmission T	ap Up/Do	own Sed	condary Switch Sta	te
	Values:	Type	Value	Scale C	Offset I	nterpretation	
		Logical V	alue 0		1	No Activation	
		Logical V	alue 1		I	ncrement Switch A	ctive
		Logical V	alue 2		I	Decrement Switch	Active
		Logical V	alue 3		I	llegal Up/Down Sw	vitch State Active

			PfTrTap	oUpDwnSwSta	l	
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N N/A	ame Update Bit No	Initial Value 0
Timings:	Interface M	lode Pub	. Latency [ms]	Write Interva	al [ms]	
	FM_Norma	I_HS 30.0	00	0.000		
Description:	Platform Tra	ansmission -	Tap Up/Down S	witch State		
Encoding	Name:	PfTrTap	UpDwnSwSta			
type:	Size:	2 bits				
	Description	: Platform	Transmission T	ap Up/Down S	witch State	
	Values:	Type	Value	Scale Offset	Interpretation	
		Logical \	/alue 0		No Activation	
		Logical \	/alue 1		Increment Switch Ad	ctive
		Logical \	/alue 2		Decrement Switch A	Active
		Logical \	/alue 3		Illegal Up/Down Sw	itch State Active

			PfTrTapUp	DwnSwS	tsAlvRC		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Update Bit No	e Initial Value 0
Timings:	Interface N FM_Norma	lode Pub I_HS 30.0	Latency [ms]	Write In 0.000	nterval [ms]	
Description:	Platform Tr	ansmission	Tap Up/Down Sv	vitch Stat	us Alive Ro	Iling Count	
Encoding type:	Name: Size: Values:	EequalN_2 bits Type Physical F		Value 0 - 3	Scale	Offset 0	Interpretation

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			R	LObsRr	ng				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Upda Bit No		Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms] 00	Write 0.000	Interval [m	s]			
Description:	Rear Left O	bstacle Rar	ige						
Encoding type:	Name: Size:	ObsRngl 4 bits			_				
	Values:	Туре		Value	Scale	Off	set		erpretation
		Logical V)				_	Obstacle
		Logical V		1					inge 1
		Logical V		2					inge 2
		Logical V		3					nge 3
		Logical V		4 -					nge 4
		Logical V		5					nge 5
		Logical V		5					nge 6
		Logical V		7					nge 7
		Logical V		3					nge 8
		Logical V		9					inge 9
		Logical V		10					nge 10
		Logical V		11					nge 11
		Logical V		12					nge 12
		Logical V		13					inge 13
		Logical V		14					inge 14
		Logical V	alue ´	15				Ra	nge 15

			Rmn	DrvngDist			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N/		Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inter	val [ms]		
	FM_Norma	I_HS 50.0	00	0.000			
Description:	Remain Dri	ving Distanc	e				
Encoding	Name:	RmnDrvn	gDistET				
type:	Size:	12 bits					
	Values:	Type	'	Value	Scale	Offset	Interpretation
		Physical R	Range (0 - 4095	1	0	km

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			Rı	rMidLObs	Rng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	¹ G	roup Name N/A	, B	date Bit Io	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [m:	s] Write 0.000	Interval [m	ns]		
Description:	Rear Middle	e Left Obsta	cle Range					
Encoding type:	Name: Size:	ObsRngl 4 bits	ET					
	Values:	Type		Value	Scale	Offset		erpretation
		Logical V		0				Obstacle
		Logical V		1				nge 1
		Logical V		2				nge 2
		Logical V		3				nge 3
		Logical V		4				nge 4
		Logical V		5				nge 5
		Logical V		6				nge 6
		Logical V		7				nge 7
		Logical V	alue	8			Ra	nge 8
		Logical V		9				nge 9
		Logical V		10				nge 10
		Logical V	alue	11			Ra	nge 11
		Logical V	alue	12			Ra	nge 12
		Logical V	alue	13				nge 13
		Logical V	alue	14			Ra	nge 14
		Logical Value					Ra	nge 15

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RrMidRObsRng								
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Update Bit No	Initial Value
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [m	s]		
Description: Rear Middle Right Obstacle Range								
Encoding type:	Name: Size:	ObsRngl 4 bits						
	Values:	Type		Value	Scale	Off		terpretation
	Logical Value Logical Value			0				o Obstacle
				1 Range 1			•	
	Logical Value			2 Range 2			-	
	Logical Value Logical Value Logical Value Logical Value			9			_	
			4			Range 4		
								ange 5
				6				ange 6
		Logical V		7				ange 7
		Logical V		8				ange 8
		Logical V		9				ange 9
		Logical V		10				ange 10
		Logical V		11				ange 11
		Logical V		12				ange 12
		Logical V		13				ange 13
		Logical V		14				ange 14
		Logical V	alue	15			Ra	ange 15

RrObsDist								
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface N FM_Norma		. Latency [ms]	Write Int	erval [ms]			
Description: Rear Obstacle Distance								
Encoding type:	Name: Size: Values:	FrtObsDis 8 bits Type Physical F		Value 0 - 255	Scale	Offset 0	Interpretation cm	

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			RI	RObsRr	ng			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Update Bit No	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write 0.000	Interval [m	s]		
Description:	Rear Right	Obstacle Ra	ange					
Encoding type:	Name: Size:	ObsRngl 4 bits			_		_	_
	Values:	Type		Value	Scale	Offs		terpretation
		Logical V)				Obstacle
		Logical V		l 3				ange 1
		Logical V Logical V		2 3				ange 2 ange 3
		Logical V		5 4				ange 4
		Logical V		5				ange 5
		Logical V		5				ange 6
		Logical V		7				ange 7
		Logical V		3				ange 8
		Logical V		9				ange 9
		Logical V		10				ange 10
		Logical V		11				ange 11
		Logical V	alue 1	12			Ra	ange 12
		Logical V	alue 1	13			Ra	ange 13
		Logical V		14				ange 14
		Logical V	alue	15			Ra	ange 15

			Sec	sOfMinut	:e		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Updat Bit No	Initial Value
Timings:	Interface N	lode Pub	. Latency [ms]	Write Ir	terval [ms	s]	
	FM_Norma	_Normal_HS					
Description:	Seconds Ocurrent Sec						
Encoding	Name:	SecsOfM	inuteET				
type:	Size:	6 bits					
	Values:	Type		Value	Scale	Offset	Interpretation
		Physical F	Range	0 - 59	1	0	

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	SIADatePriy									
Size [bits]	Type Bytes	Info T	• •	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0x00 0x00 0x00			
Timings:	Interface N	/lode	Pub	. Latency [ms]	Write Interval [ms]					
FM_Normal_HS 30.000 0.000										
Description: Service Interval Announcement Date Primary the date of last do SIA operation.										
0x xx xx xx=(Year, Month, Date).										
MSB:year,										
	LSB:day									

	SIAOdoPriy									
Size [bits]	Type Bytes	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 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										
Encoding type:	Name: Size: Values:	ODO_codi 24 bits Type Physical Ra	Vali		Scale 1	Offset 0	Interpretation km			

			sm_netv	vork_m	ode_h1			
Size [bits]	Type Unsigned	Info Type State	Generation Type Sporadic	I .	roup Name SC1_SecN	•	Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write	Interval [m	าธ]		
	FM_Norma	I_HS 10.0	00	50.000)			
	FM_Silent_HS 10.000 50.000							
Description:			Second Master ntrols the frame r		•			led mode of the
Encoding	Name:	network	_mode_coding					
type:	Size:	8 bits	_					
	Values:	Type	V	alue	Scale	Offse	et Int	terpretation
		Logical V	alue 0				sta	art-up
		Logical V	alue 1				sh	utdown
		Logical V	alue 2				no	rmal

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	sm_signal_config_id_h1								
Size [bits]	Type Unsigned	Info Type State Generation Type Sporadic		Group Name IPK_HSC1_SecNWM	Update Bit No	Initial Value 28673			
Timings:	Interface N	lode Pu	b. Latency [ms]	Write Interval [ms]					
	FM_Norma	I_HS 10	000	50.000					
	FM_Silent_	lent_HS 10.000		50.000					
Description:	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								

			StabC	trlDsblSw	A		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface N	lode Pub	o. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	I_HS 30.0	000	0.000			
Description:	Stability Co	ntrol Disabl	e Switch Active				
Encoding	Name:	Вс	ooleanCoding				
type:	Size:	1 !	oit				
	Description	: bo	olean value				
	Values:	Ту	rpe	Value	Scale	Offset	Interpretation
		Lo	gical Value	0			FALSE
		Lo	gical Value	1			TRUE

			S	ysBPM			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	I_HS 30.0	00	0.000			
Description:	System Bad	ckup Power	Mode				
Encoding	Name:	Sy	sPwrMd				
type:	Size:	2 b	its				
	Description	: Sys	stem Power Mod	е			
	Values:	Ty	ре	Value	Scale	Offset	Interpretation
		Log	gical Value	0			Off
		Log	gical Value	1			ACC
		Log	gical Value	2			Run
		Log	gical Value	3			Crank

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			Sys	BPMEnbd			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	1	p Name N/A	Update Bit No	Initial Value false
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	I_HS 30.0	000	0.000			
Description:	System Ba	ckup Power	Mode Enabled				
Encoding	Name:	Вс	oleanCoding				
type:	Size:	1 b	oit				
	Description	: bo	olean value				
	Values:	Ту	pe	Value	Scale	Offset	Interpretation
		Lo	gical Value	0			FALSE
		Lo	gical Value	1			TRUE

			Tim	eDspFn	nt			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A			ate t	Initial Value 0
Timings:	Interface N FM_Norma		. Latency [ms]	Write I 0.000	nterval [m	s]		
Description:	Time Displa							
Encoding type:	Name: Size:	TimeDsp 1 bit	FmtET					
	Values:	Type Logical V Logical V	alue 0	alue	Scale	Offset	12 h	pretation our mode our mode

			TrPfSl	nftPtrnSw1	Α		
Size [bits]	S] Type Boolean State Generation Type Periodic				o Name I/A	Update Bit No	Initial Value false
Timings:	Interface N	lode Pub	. Latency [ms]	Write Inte	erval [ms]		
	FM_Norma	I_HS 30.0	000	0.000			
Description:	Transmission	on Platform	Shift Pattern Swi	tch 1 Active)		
Encoding	Name: Bo		oleanCoding				
type:	Size: 1 b		oit				
	Description	: boo	olean value				
	Values: Ty		ре	Value	Scale	Offset	Interpretation
		Log	gical Value	0			FALSE
		Lo	gical Value	1			TRUE

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			TrPfS	hftPtrnSw4A			
Size [bits]	te [bits] Type Info Ty 1 Boolean State		e Generation Type Periodic	Group I		Update Bit No	Initial Value false
Timings:	Interface N	/lode Pu	ub. Latency [ms]	Write Interv	val [ms]		
	FM_Norma	I_HS 30	0.000				
Description:	Transmissi	on Platforr	n Shift Pattern Swi	tch 4 Active			
Encoding	Size: 1 b		BooleanCoding				
type:			bit				
			oolean value				
	Values: T		уре	Value	Scale	Offset	Interpretation
		L	ogical Value	0			FALSE
		L	.ogical Value	1			TRUE

			TrPfShf	tPtrnSw <i>A</i>	NvRC		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Updat Bit No	e Initial Value
Timings:	Interface N FM_Norma	l_HS 30.0	. Latency [ms]	Write Ir 0.000	nterval [ms	s]	
Description:	Transmission	on Platform	Shift Pattern Swi	tch Alive	Rolling Co	unt	
Encoding type:	Name: Size:	EequalN_ 2 bits	_2ET	Value	Scale	Offset	Interpretation
	Values:	Type Physical F	Range	0 - 3	1	0	Interpretation

	VINCIstr										
Size [bits]	Type Bytes	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x0					
Timings:	Interface M	lode Pul	o. Latency [ms]	Write Interval [ms]							
	FM_Normal_HS 30.000			0.000							
	Description: Vehicle Identifier Number Cluster the last 8 btyes' of VIN.										

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			wake_	network	_IPK			
Size [bits]	Type Boolean	Info Type State	Generation Type Sporadic	Group Name N/A			Update Bit Yes	Initial Value false
Timings:	Interface N	lode Pub	o. Latency [ms]	Write I	nterval [[ms]		
	FM_Norma	I_HS 20.0	000	20.000				
	FM_Silent_	HS 20.0	000	20.000				
Description:	NM signal:	the IPK use	s this signal whe	n it want	s to wake	e-up the	e network	
Encoding	Name:	wake_netw	ork_coding					
type:	Size:	1 bit						
	Values:	Туре	Value	Scale	Offset	Inter	pretation	
		Logical Val	ue 0			no wa	ake-up netwo	rk request
		Logical Val	ue 1			wake	-up network r	request

Interface: IPK_LIN3

			LowAcu	ırcVehSpo	dAvg			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value	
Timings:	FM_Normal_L3 50.000 Write Interval [ms] Interface Mode							
Description:	Low Accura	cy Vehicle S	Speed Average					
Encoding type:	Name: Size:	LowAcure 8 bits	cVehSpdAvgET					
	Values:	Type Physical F		Value 0 - 255	Scale 2	Offset 0	Interpretation km/h/bit	

			Mstr	SysPwrMd			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface N		. Latency [ms]	Write Inte	erval [ms]		
Description:	Master Sys	tem Power I	Mode				
Encoding	Name:	Sy	sPwrMd				
type:	Size:	2 b	its				
	Description	: Sys	stem Power Mode	е			
	Values:	Ty	ре	Value	Scale	Offset	Interpretation
		Log	gical Value	0			Off
		Log	gical Value	1			ACC
		Log	gical Value	2			Run
		Lo	gical Value	3			Crank

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				TrShftl	_vrPosV_	15		
Size [bits]	Type Unsigned	Info T Stat		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface M	lode	Pub	. Latency [ms]	Write Inte	erval [ms]		
FM_Normal_L3 50.000 0.000								
Description: Transmission Shift Lever Position Validity								
Encoding	Name:		Val	lidityCoding				
type:	Size:		1 b	it				
	Description	:	Val	lidity Encode Type	9			
	Values:		Туј	ре	Value	Scale	Offset	Interpretation
			Log	gical Value	0			Valid
			Log	gical Value	1			Invalid

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			irəni	tLvrPos_	i J		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	l .	u p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface I	/lode Pub	. Latency [ms]	Write Int	terval [ms]	
	FM_Norma	al_L3 50.0	00	0.000			
Description:		on Shift Leve T transmissi					
	\$0=Betwee \$1=Park R	ange					
	\$2=Revers \$3=Neutral						
	\$4=Forwar						
	\$5=Forwar	d Range B					
	\$6=Forwar						
	\$7=Forwar \$8=Forwar						
	\$9=Forwar						
	\$A=Forwar						
	1.						
	For Manua \$2=Revers	Position Unk I Transmissi e Range	on: only below st				
Encoding	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F	Position Unk I Transmissi e Range Range (Val Position Unk	on: only below st idity on MT vehic nown			for Neutral ranç	ge)
Encoding type:	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name:	Position Unk I Transmissice Range I Range (Val Position Unk TrShftLvrF	on: only below st idity on MT vehic nown			for Neutral rang	ge)
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F	Position Unk I Transmissi e Range I Range (Val Position Unk TrShftLvrF 4 bits	on: only below st idity on MT vehic nown				
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range I Range (Val Position Unk TrShftLvrF	on: only below standing on MT vehiconown PosCoding Value	les is only	protected	for Neutral rang Interpretation Between Rang	1
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range I Range (Val Position Unk TrShftLvrF 4 bits Type	on: only below standing on MT vehice nown PosCoding Value ue 0	les is only	protected	Interpretation	1
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val	on: only below straight on MT vehice nown PosCoding Value ue 0 ue 1	les is only	protected	Interpretation Between Ran	n ges
Encoding type:	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val Logical Val	on: only below straight on MT vehice nown PosCoding Value ue 0 ue 1 ue 2	les is only	protected	Interpretation Between Range	1 ges ge
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range (Val Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val Logical Val Logical Val	on: only below straight on MT vehice nown PosCoding Value ue 0 ue 1 ue 2 ue 3	les is only	protected	Interpretation Between Range Park Range Reverse Range	n ges ge
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val Logical Val Logical Val Logical Val	on: only below standard on the control on the contr	les is only	protected	Interpretation Between Range Park Range Reverse Range Neutral Range Forward Range	n ges ge ge A ge B
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val	on: only below straight on MT vehice nown PosCoding Value ue 0 ue 1 ue 2 ue 2 ue 3 ue 4 ue 5 ue 6	les is only	protected	Interpretation Between Range Park Range Reverse Range Neutral Range Forward Range Forward Range	n ges ge ge A ge B ge C
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range (Valenge) Range (Valenge) TrShftLvrF 4 bits Type Logical Valengical Valengic	on: only below straight on MT vehice nown PosCoding Value ue 0 ue 1 ue 2 ue 3 ue 3 ue 4 ue 5 ue 6 ue 7	les is only	protected	Interpretation Between Range Park Range Reverse Range Neutral Range Forward Range Forward Range Forward Range	n ges ge ge A ge B ge C ge D
_	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range (Valenge) Range (Valenge) Range (Valenge) Range (Valenge) A bits Type Logical Valengical Valengica	on: only below standard on the control on the contr	les is only	protected	Interpretation Between Range Park Range Reverse Range Neutral Range Forward Range Forward Range Forward Range Forward Range Forward Range	n ges ge ge A ge B ge C ge D
_	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val	on: only below straight on MT vehice nown PosCoding Value ue 0 ue 1 ue 2 ue 3 ue 4 ue 5 ue 6 ue 7 ue 8 ue 9	les is only	protected	Interpretation Between Range Park Range Reverse Range Neutral Range Forward Range	n ges ge ge A ge B ge C ge D ge E
-	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range (Val Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val	on: only below straight on MT vehice nown PosCoding Value ue 0 ue 1 ue 2 ue 3 ue 4 ue 5 ue 6 ue 6 ue 7 ue 8 ue 9 ue 10	les is only	protected	Interpretation Between Range Park Range Reverse Range Neutral Range Forward Range	nges ge ge A ge B ge C ge D ge E ge F
_	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unk I Transmissice Range Range (Val Position Unk TrShftLvrF 4 bits Type Logical Val	on: only below standard on the control on the contr	les is only	protected	Interpretation Between Range Park Range Reverse Range Neutral Range Forward Range	n ges ge ge A ge B ge C ge D ge E ge F ge G

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7.3 Received signals

Interface: IPK_CAN_HS

			,	ABSIO			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Antilock Br	ake System	Indication On				
Encoding type:	Name: Size: Descriptior	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			AirbagS	ysFltIndCm	d		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings:		erface de/FuncVerFolder/Function _Normal_HS			ency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Airbag Syst	em Fault Ind	dication Comman	d			
Encoding type:	Name: Size:	AirbagSys 2 bits	sFltIndCmdET				
	Values:	Type Logical Va Logical Va Logical Va Logical Va	lue 1 lue 2	e Scale	Offset	drive lam drive lam	p OFF

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	AmbtLghtLvI								
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0			
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/ al_HS	Function	Sub. Latency [ms] 30.000	Max. Age [ms] 200.000	Read Interval [ms]			
Description:	Description: Ambient Light Level Indicate the Request from Auto Light Sensor								
Encoding type:	Size: 2 l	nbtLghtLvII							
	Values: Ty	•		set Interpretation					
	Lo	gical Value	0	Level 0 (Day: po	sition lamp and	d dipped beam off)			
	Lo	gical Value	1	Level 1 (Reserved for position lamp On Request)					
	Lo	gical Value	2	Level 2 (Dipped	Beam On) Red	quest			
	Logical Value 3 Level 3 (Reserved)								

			ASSInf	BtnLamp	On		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	mings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]	
			10.000		300.000		
Description:	Auto Stop S	Start Inhibit E	Button Lamp On				
Encoding	Name:	Во	oleanCoding				
type:	Size:	1 b	it				
	Description: boolean valu		olean value				
	Values:	Tyl	ре	Value	Scale	Offset	Interpretation
		Log	gical Value	0			FALSE
		Log	gical Value	1			TRUE

			AS	SSInhIO			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	uncVerFolder/Function		Sub. La [ms] 10.000	atency	Max. Age [ms] 300.000	Read Interval [ms]
Description:	Auto Stop S	Start Inhibit I	ndication On				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			ASSS	StsLampOr	า		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 10.000	atency	Max. Age [ms] 300.000	Read Interval [ms]
Description:	Auto Stop S	Start Status I	_amp On				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	ASSWrnngLampOn							
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 10.000	atency	Max. Age [ms] 300.000	Read Interval [ms]	
Description:	Auto Stop S	Start Warnin	g Lamp On					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value					
	Values:	•	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE	

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	AutoHoldMsg										
Size [bits]	Type Unsigned	Info Type State	Generati Type Periodi		Group Name N/A		Update Bit No	Initial Value 0			
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/Function			Sub. Late [ms] 30.000	ency	Max. Age [ms] 100.000	Read Interval [ms]			
Description:	Autohold M	essage									
Encoding type:	Name: Size: Values:	Autohold N 3 bits Type Logical Val	lue lue lue lue lue lue	Value 0 1 2 3 4 5 6	Scale	Offset	Interpreta reserved Seat belt Press bra Autohold Autohold reserved reserved	not fastend ke pedal standby off			

			Auto	HoldSy	sSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	E	date Bit lo	Initial Value 0
Timings:	gs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			[ms] [n		Max. [ms]	Ū	Read Interval [ms]
Description:	Auto Hold S	System Statu	IS					
Encoding type:	Name: Size:	AutoHolo 2 bits	lSysStsET					
	Values:	Type Logical V Logical V Logical V Logical V	alue 0 alue 1 alue 2		Scale	Offset	Off inte	erpretation ervention ndby or

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				BatA	gngSta			
Size [bits]	Type Unsigned	Info Type State	Generat Type Period	Group Name		Update Bit No	Initial Value 0	
Timings:	Interface Mode/Fund FM_Norma	/FuncVerFolder/Function			Sub. Later [ms] 30.000	ncy	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Battery Agii	ng State						
Encoding type:	Name: Size: Values:	BatAgng\$ 3 bits Type Logical Va		Value 0	Scale	Offset	Interpre	etation
		Logical Va Logical Va Logical Va Logical Va	ilue ilue ilue	1 2 3 4 5			reserve	Aging e reminding d
		Logical Va Logical Va Logical Va	llue	6 7			reserve reserve	d

			I	BatSOC			
Size [bits] 8	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value
Timings:		nterface lode/FuncVerFolder/Function M_Normal_HS			Sub. Latency [ms] 30.000		e Read Interval [ms]
Description:	Battery Sta	te Of Charge	9				
Encoding type:	Name: Size:	BatSOCE 8 bits	Т				
	Values:	Type Physical R	•	Value 0 - 250	Scale 0.4	Offset 0	Interpretation %
		Logical Va	ılue	251 252			reserved reserved
		Logical Va Logical Va		253 254			reserved reserved

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				BatVol			
Size [bits]	Type Unsigned State Generation Type State Periodic		Group Name N/A		Update Bit No	Initial Value 16383 Read Interval [ms]	
Timings:	Interface Mode/FuncVerFolder/Function FM Normal HS			Sub. La [ms] 30.000			
Description:		age sample	d by PMDC			100.000	
Encoding type:	Name: Size: Description	BatVo 14 bits 1: E=N/1					
	Values:	Type Physic	al Range	Value 0 - 15360	Scale 0.0009765	Offset 66 3	Interpretation ∨

			BC	/IEmgcSp				
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 20.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Body Contr	ol Module E	mergency Stop					
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value							
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE	

			BCMGears	ShftParkNt	rIESR		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module G	ear Shift Park Ne	eutral Engin	ne Starting	Reminder	
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Typ Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			BCMNoSm ²	tKeylnVeh	Rmndr		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	Function	Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]	
Description:	Body Contr	ol Module N	o Smart Key In V	ehicle Ren	ninder		
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value						
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			BCMNoSmt	KeyPressB	rkTRR		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	tency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module N	o Smart Key Pre	ss Brake To	Restart F	Reminder	
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Typ Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			BCMNoSmt	KeyPress(CIToRR		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module N	o Smart Key Pre	ss Clutch T	o Restart	Reminder	
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	_	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			BCMPre	essBrkRm	ndr		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. La [ms] 30.000	-	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module P	ress Brake Remi	nder			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			BCMPr	essCIRmn	dr		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Mode/FuncVerFolder/Function [Sub. La [ms] 30.000			Read Interval [ms]	
Description:	Body Conti	rol Module P	ress Clutch Rem	inder			
Encoding type:	Name: Size: Descriptior	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			BCMPutSmt	KeyToBkı	upPosR		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	•	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module P	ut Smart Key Into	Backup P	osition Re	minder	
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	_	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			BCMP	wrMdH	wdSta			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Update Bit No	Initial Value 0
Timings:		rface le/FuncVerFolder/Function Normal_HS		[ms	o. Latency 6] 000	Max. Age [ms] 100.000		Read Interval [ms]
Description:	Body Contr	ol Module P	ower Mode Hard	lwired S	state			
Encoding type:	Name: Size:	BackupP 2 bits	wrMd					
	Values:	Туре	V	'alue	Scale	Offs	set In	terpretation
		Logical V	alue 0				Ol	FF
		Logical V	alue 1				AC	CC
		Logical V	alue 2				Rl	JN
		Logical V	alue 3				CF	RANK

			BCMPw	rMdHwdS	taV		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM Normal HS			Sub. La [ms] 20.000	atency	Max. Age [ms]	Read Interval [ms]
Description:	_		ower Mode Hard		Validity	100.000	
Encoding type:	Name: Size: Description	1 b	idityCoding it idity Encode Typ	e			
	Values:	Typ Log		Value 0 1	Scale	Offset	Interpretation Valid Invalid

			BCM	// IRunCrkF			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma		Folder/Function		atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module R	un Crank Failed				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			BCMSh	ftParkRmr	ndr		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. La [ms] 30.000	•	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module S	hift Park Remind	er			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			В	CMSSBA			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Upda Bit No	initial value
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. [ms] 20.00	L atency	Max. Aç [ms] 100.000	[ms]
Description:	Body Contr	ol Module S	tart Stop Button	Active			
Encoding type:	Name: Size:	BCMSSB 1 bit	AET				
	Values:	Type Logical Value	alue	Value 0 1	Scale	Offset	Interpretation Inactive Active

			BC	MSSBAV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 20.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module S	tart Stop Button A	Active Valid	lity		
Encoding type:	Name: Size: Description	1 b	idityCoding it idity Encode Typ	e			
	Values:	Typ Log	, , ,	Value 0 1	Scale	Offset	Interpretation Valid Invalid

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			ВС	MSSBF	ItSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No		Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			[m	b. Latency s] .000	I	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module St	art Stop Buttor	n Fault S	Status			
Encoding type:	Name: Size:	BCMSSB 3 bits	FltStsET					
	Values:	Type Logical Va	alue alue alue alue alue alue alue	Value 0 1 2 3 4 5 6	Scale	Offs	No sho Stur Ope swit Res	erpretation Fault rt to GND rt to Battery ck en Circuit tch failed served

			BCMSynd	SmtKeyR	mndr		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Fimings: Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]	
FM_Normal_HS			30.000		100.000		
Description:	Body Contr	ol Module S	ynchronize Smar	t Key Rem	inder		
Encoding	Name:	Во	oleanCoding				
type:	Size: 1 bit						
	Description: bool		olean value				
	Values: Typ		oe	Value	Scale	Offset	Interpretation
		Log	jical Value	0			FALSE
		Log	jical Value	1			TRUE

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			BCMTake\$	SmtKeyOu	tOfSR		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Group Name N/A		Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	•	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Body Contr	ol Module Ta	ake Smart Key O	ut Of Slot I	Reminder		
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			Bn	tOpenSt	s		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	oup Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]
Description:	Bonnet Ope	en Status					
Encoding type:	Name: Size: Values:	BntOpenSt 2 bits Type	sET Value	Scale	Offset	Interpretation	
		Logical Valu		2.2		Bonnet Closed	
		Logical Valu				Bonnet Open	
		Logical Valu	ie 2			Bonnet Switch I	Disconnect
		Logical Valu	ie 3			Reserved	

			BrkF	ludLvlLow	1		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	•	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Brake Fluid	Level Low					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			BrkFlu	dLvILow\	V		
Size [bits]	Type Unsigned Info Type State Generation Type Periodic		[ms] [Update Bit No	Initial Value 0	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS				Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Brake Fluid	Level Low '	Validity				
Encoding type:	Name: Size: Description	1 b	lidityCoding it lidity Encode Type	ı			
	Values:	•	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

			BrkSysF	RedBrkTlltl	Req		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Brake Syst	em Red Bral	ke Telltale Reque	est			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			Calend	darAdjReq	Α		
Size [bits]	Boolean State Periodic				p Name N/A	Update Bit No	Initial Value false
Timings:	imings: Interface Mode/FuncVerFolder/Function				Sub. Latency [ms]		Read Interval [ms]
	FM_Normal_HS			30.000	30.000		
			equest Active equest from infot	ainment			
Encoding	Name:	Во	oleanCoding				
type:	Size:	1 b	it				
	Description	i: boo	olean value				
	Values:	Тур	oe	Value	Scale	Offset	Interpretation
		Log	jical Value	0			FALSE
		Log	jical Value	1			TRUE

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	CalendarDayAdj										
Size [bits]	Size [bits] Type Info Type Type 5 Linsigned State Type		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value				
Timings:	imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. Latency [ms] 30.000		Max. Age [ms] 2000.000	Read Interval					
Description:			ent ent information fro	om infotai	nment						
Encoding type:	Name: Size: Values:	Calendar 5 bits Type Physical F	•	Value 0 - 31	Scale	Offset 0	Interpretation				

	CalendarMonthAdj									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	iroup Name N/A	В	date Sit	Initial Value 0		
Timings:	Interface Mode/Fund FM_Norma		VerFolder/Function		Sub. Latency [ms] 30.000		Age 000	Read Interval [ms]		
Description:		lonth Adjusti Ionth Adjusti	ment ment informatio	n from ir	nfotainment					
Encoding type:	Name: Size:	Calendar 4 bits	MonthET							
	Values:	Type		Value	Scale	Offset	Inte	erpretation		
		Logical V		0			Unk	nown		
		Logical V		1				uary		
		Logical V		2			Feb	ruary		
		Logical V		3			Mar	ch		
		Logical V		4			Apri			
		Logical V		5			May			
		Logical V		6			Jun	•		
		Logical V		7			July			
		Logical V		8			Aug	•		
		Logical V		9				tember		
		Logical V		10				ober		
		Logical V		11				rember		
		Logical V		12				ember		
		Logical V		13				served		
		Logical V		14				served		
		Logical V	alue	15			Res	served		

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	CalendarYearAdj									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		u p Name N/A	Update Bit No	Initial Value			
Fimings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		[ms]	Sub. Latency [ms] 30.000		Read Interval [ms]					
Description:			ent ent information f	rom infota	inment					
Encoding type:	Name: Size: Values:	Calendar' 8 bits Type Physical R		Value 0 - 255	Scale	Offset 2000	Interpretation			

				CCA			
Size [bits]	ize [bits] Type 1 Info Type State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value false	
Timings:	Interface Mode/Fun	Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Read Interval [ms]
	FM_Normal_HS			30.000		100.000	
Description:	Cruise Con	trol Active					
Encoding	Name:	Во	oleanCoding				
type:	Size:	1 b	it				
	Description	n: boo	olean value				
	Values:	Туј	oe	Value	Scale	Offset	Interpretation
		Log	jical Value	0			FALSE
		Log	jical Value	1			TRUE

	CCEnbd									
Size [bits]	Type Boolean State Generation Type State Periodic		Group Name N/A		Update Bit No	Initial Value false				
Timings:	mings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]			
Description:	Cruise Con	trol Enabled								
Encoding type:	Name: Size: Description	Size: 1 bit								
	Values: Typ		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

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			C	CFItPrst			
Size [bits]	Type Boolean State Generation Type Periodic			p Name N/A	Update Bit No	Initial Value false	
Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Cruise Con	trol Fault Pre	esent				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

				ChmA			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name N/A	Update Bit No	Initial Value false
Timings:	ings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Chime Acti	ve					
Encoding type:	Name: Size: Descriptior	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe jical Value jical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	CrusAndSpdLmtrDrvrSS									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N/A		Update Bit No	Initial Value 0			
Timings: Interface Mode/FuncVerFolder/Function				Sub. Late [ms]		Max. Age [ms]	Read Interval [ms]			
Description:	FM_Norma	_	er Driver Selecte	30.000		400.000				
	İ	-								
Encoding	Name:		AndSpdLmtrDr	vrSS						
type:	Size:	12 bi	ts							
	Description	: Cruis	se and Speed Lin	niter Driver Se	elected Sp	eed				
	Values:	Туре)	Value	Scale	Offset	Interpretation			
		Phys	ical Range	0 - 4095	0.0625	0				

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			DayTime	RunningL	ghtF		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Day Time F	Running Ligh	t Failed				
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value		it				
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	DiagnosticFuncAddrReq								
Size [bits]	Type Bytes	Info Type State	Generation Type Sporadic	Group Name DIAG_FuncReq_HSC1	Update Bit No	Initial Value 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x0			
Timings:	imings: Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]	Max. Age [ms]	Read Interval [ms]			
	FM_Norma	ILHS		5.000	50.000	10.000			
	FM_Quiet_HS		M_Quiet_HS 5.000		50.000	10.000			
	FM_Silent_HS			5.000	50.000	10.000			
Description:	Diagnostic	functional ac	ldress request						

	DiagnosticReqIPK								
Size [bits]	Type Bytes State Generation Type State Sporadic		Туре	Group Name DIAG_PhysReq_IPK	Update Bit No	Initial Value 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x0			
Timings:	Interface Mode/Fund	cVerFolder/	Function	Sub. Latency [ms]	Max. Age [ms]	Read Interval [ms]			
	FM_Norma	I_HS		5.000	50.000	10.000			
	FM_Quiet_HS			M_Quiet_HS 5.000		10.000			
	FM_Silent_	HS		5.000	50.000	10.000			
Description:	Description: Diagnostic request to IPK								

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	DipdBeamLghtOn									
Size [bits] Type Boolean State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value false					
Timings:	mings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]			
Description:	Description: Dipped Beam Light On Indicate Dipped Beam Light was On for AFS									
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value							
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

			Dist	RCAvgDrv	'n		
Size [bits] 13	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Timings: Interface Mode/FuncVerFolder/Function		Sub. L [ms]	Sub. Latency [ms]		Read Interval [ms]		
	FM_Norma	I_HS		30.000	30.000		
Description:	Distance R	olling Count	Average Driven				
Encoding type:	Name: Size:	DistRCAv 13 bits	gET				
	Values:	Type Physical R		Value 0 - 8191	Scale 0.125	Offset 0	Interpretation m

			DistRO	CAvgDrvn	V		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Name I/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Distance Ro	olling Count	Average Driven \	/alidity			
Encoding type:	Name: Size: Description	1 b	idityCoding it idity Encode Type	Э			
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

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	DrvrDoorOpenSts									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0				
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000	Max. Age [ms] 200.000	Read Interval [ms]				
Description:	Description: Driver Door Open Status									
Encoding type:	Name: DrvrDoorOpenStsET Size: 2 bits Values: Type Value Scale Offset Interpretation									
		gical 0		Driver Door Closed						
Logical Driver Door Open(For latch switch can't determined by the status)					can't detect door ajar					
Logical 2 Driver Door Ajar										
	Logical 3 Driver Door Full Open									

			DrvrPW	/LInitnRmr	ndr		
Size [bits]	ize [bits] Type Boolean State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value false	
Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Driver Power Window Life		ifter Initialization	Reminder,	Remind th	e Driver to Ir	nitialize Driver Power
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value						
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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	DrvrShftCtrlTrgtGear									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Group Name N/A		Update Bit No	Initial Value 0		
Timings:	Interface Mode/Fund FM_Norma		rFolder/Function		b. Latency 6] 000	Max. Age [ms] 200.000		Read Interval [ms]		
Description:	Driver Shift	Control Tar	get Gear							
Encoding type:	Name: Size:	DrvrShfte 4 bits	CtrlTrgtGearET							
	Values:	Type Logical V	alue 0 alue 1 alue 2 alue 3 alue 4 alue 5 alue 5 alue 7		Scale	Offs	No Fir Se Th Fo Fiff Six Se	erpretation t Supported st Gear cond Gear ird Gear urth Gear th Gear th Gear venth Gear		

			DrvrWn	dOpenRm	ndr		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Driver Wind	dow Open R	eminder				
Encoding type:	Name: Size: Descriptior	1 b	oleanCoding it olean value				
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			ECMCIsD	oorToAut	oStR		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ al_HS	Function	Sub. La [ms] 30.000	•	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Engine Cor	ntrol Module	Close Door To A	uto Start R	eminder		
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			ECMFasn	SbltToAuto	StR		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group N/		Update Bit No	Initial Value false
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/ al_HS	Function	Sub. La ^r [ms] 30.000	tency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Engine Co	ntrol Module	Fasten Seatbelt	To Auto Sta	rt Remino	der	
Encoding type:	Name: Size: Descriptior	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe jical Value jical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			ECMPres	scib	rkRmndr				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	(Group Nan N/A	ne	'I	date Bit No	Initial Value 0
Timings:	Timings: Interface Mode/FuncVerFolder/Function				ub. Latenc ns]	y Max. Age [ms]			Read Interval [ms]
	FM_Norma	I_HS		30	0.000		100.0	000	
Description:	Engine Cor	ntrol Module	Press Clutch Bra	ke Re	eminder				
Encoding	Name:	ECMPres	sCIBrkRmndrE	Γ					
type:	Size:	2 bits							
	Values:	Type	Va	lue	Scale	Off	set	Inter	pretation
		Logical Va	alue 0					No m	nessage
		Logical Va	alue 1					Pres	s the clutch
		Logical Va	alue 2					Pres	s the brake
		Logical Va	alue 3					Rese	erved

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Size [bits]	Type Boolean	Info Type State	Generation Type		p Name	Update Bit	Initial Value false
Timings:	Interface Sub. Latency Mode/FuncVerFolder/Function [ms] FM_Normal_HS 30.000		Max. Age [ms]	Read Interval [ms]			
Description:	Engine Cor	ntrol Module	Shift Neutral To	Auto Start I	Reminder		
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	_	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	EcoDrvngAlO									
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name I/A	Update Bit No	Initial Value false			
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Latency [ms] 30.000		Max. Age [ms] 300.000	Read Interval [ms]			
Description:	Economy D	Priving Active	Indication On							
Encoding type:										
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

			EcoDrvng	DspS	tsGearSIS	3			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	(Group Name N/A		Update Bit No		Initial Value 0
Timings:	Interface Mode/Fund	cVerFolder/	Function		Sub. Latency Max. Age [ms]			Age	Read Interval [ms]
	FM_Norma	I_HS		30	0.000		300.0	000	
Description:	Economy D	riving Displa	ay Status Gear Sl	nift In	dication St	atus			
Encoding type:	Name: Size:	EcoDrvno 2 bits	gDspStsGearSIS	ET					
	Values:	Type	Val	ue	Scale	Offs	set	Interp	retation
		Logical Va	alue 0					No Sh	nift
		Logical Va	alue 1					Gear	Shift Up
		Logical Va	alue 2					Gear	Shift Down
		Logical Va	alue 3					Reser	rved

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			EcoDrvng	DspStsRc	mndFG		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. [ms] 30.00	Latency	Max. Age [ms] 300.000	Read Interval [ms]
Description:	Economy D	riving Displa	ay Status Recor	nmended F	orward Ge	ear	
Encoding	Name:	EcoDrvng[DspStsRcmndF	GET			
type:	Size:	4 bits	•				
	Values:	Type	Value	Scale	Offset	Interpretation	n
		Logical Val	ue 0			None	
		Logical Value	ue 1			First Gear	
		Logical Value	ue 2			Second Gear	
		Logical Value	ue 3			Third Gear	
		Logical Val	ue 4			Fouth Gear	
		Logical Val	ue 5			Fifth Gear	
		Logical Val	ue 6			Sixth Gear	
		Logical Val	ue 7			Seventh Gea	r
		Logical Val	ue 8			Eighth Gear	
		Logical Value	ue 9			Unused and F	Reserved 1
		Logical Val	ue 10			Unused and F	Reserved 2
		Logical Value	ue 11			Unused and F	Reserved 3
		Logical Val	ue 12			Unused and F	Reserved 4
		Logical Val	ue 13			Unused and F	Reserved 5
		Logical Val	ue 14			Unused and F	Reserved 6
		Logical Val	ue 15			Unused and F	Reserved 7

			ECODr	vngSpdRu	ıtA		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Economic [Driving Spee	ed Route Active				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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	EmgcCallFlrSts										
Size [bits]	Type Unsigne	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0					
Timings:	Interface Mode/Fu FM_Norn	ncVerFolder/	Function	Sub. Latency [ms] 30.000	Max. Age [ms] 300.000	Read Interval [ms]					
Description:	Emergen	cy Call Failure	Status								
Encoding type:		EmgcCallFlrS bits	tsET								
	Values: 1	ype	Value Scale Offs	set Interpretation							
	L	ogical Value	0	ECall Function No failure(Indication off)							
	L	ogical Value.	1	ECall Function Light Level failure indication(Orange)							
	L	ogical Value	2	ECall Function Heavy Level failure indication(Red)							
	L	ogical Value	3	Invalid							

			En12Volt	StrMotCmo	ddOn		
Size [bits]	[bits] Type Boolean State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value false	
Fimings: 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 N	Motor Commande	ed On			
Encoding	Name:	Во	oleanCoding				
type:	Size:	1 b	it				
	Description: boolean value						
	Values:	Ту	oe	Value	Scale	Offset	Interpretation
		Log	gical Value	0			FALSE
		Log	gical Value	1			TRUE

	EnASSSta										
Size [bits]	Type Unsigned	Info Type State	· IVNE		Group Name N/A		Update Bit No		Initial Value 1		
Timings:	nings: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latenc [ms] 10.000	s] [ms]			Read Interval [ms]		
Description:	Engine Aut	o Stop Start	State								
Encoding type:	Name: Size:	EnASSSt 2 bits	аЕТ								
	Values:	Type Logical Va Logical Va Logical Va Logical Va	alue 0 alue 1 alue 2	2	Scale	Offs	E E	ngine ngine ngine	retation off Running Starting Stopping		

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			En	CIntTem			
Size [bits] Type Unsigned State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value 0		
imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Late [ms] 30.000	ncy	Max. Age [ms] 1100.000	Read Interval [ms]
Description:	Engine Cod	olant Tempe	rature				
Encoding type:	Name: EnCIntTem Size: 8 bits						
	Description: Engine Coolant Temp			•			
	Values:	Typ Phy	e sical Range	Value 0 - 255	Scale 1	Offset -40	Interpretation deg C

			EnCl	ntTemV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	•	Name I/A	Update Bit No	Initial Value 0
imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. La [ms] 30.000	atency	Max. Age [ms] 1100.000	Read Interval [ms]
Description:	Engine Cod	lant Tempe	rature Validity				
Encoding type:	Name: Size: Description	1 b	lidityCoding it lidity Encode Type				
	Values:	•	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

			EnEms	snRltdMalf	fA		
Size [bits]	Size [bits] Type Boolean State Generatio Type State Periodic		• •	Group Name N/A		Update Bit No	Initial Value false
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/	Function	Sub. La [ms] 30.000	•	Max. Age [ms] 400.000	Read Interval [ms]
Description:	Engine Em	issions Rela	ted Malfunction A	ctive			
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value						
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			EnEmsr	nRltdMa	lfIndReq			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Group Name N/A		Update Bit No	Initial Value 0
Timings:		rface de/FuncVerFolder/Function _Normal_HS		[m:	Sub. Latency Max. Ag [ms] [ms] 30.000 400.000			Read Interval [ms]
Description:	Engine Em	issions Rela	ted Malfunction	Indication	on Reques	st		
Encoding type:	Name: EnEmsnRltdMalfIndReq Size: 3 bits							
		Type Logical Valu	te 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Scale	Offset	Conti No In Flash Flash	rved	Indication Indication

			EnGF	PFLamp	OnSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		me	Update Bit No	Initial Value 0
Timings:	ngs: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latency [ms] 30.000		Max. Age [ms] 1100.000	Read Interval [ms]
Description:	Engine GP	F Lamp On S	Status					
Encoding type:		EnGPFLam 2 bits	pOnStsET					
		Type Logical Valu Logical Valu Logical Valu Logical Valu	e 1 e 2	Scale	Offset	Interpretation off GPF Regeneration Reminder GPF Regeneration Active GPF Full Reminder		n Active

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Size [bits]	Туре	Info Type	Generation Type	Grou	o Name	Update Bit	Initial Value	
1	Boolean	State	State Periodic		N/A		false	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 400.000	Read Interval [ms]	
Description	Engine Nor	n Emissions	Related Malfunct	tion Active				
Encoding	Name:	Во	oleanCoding					
type:	Size: 1 bit		[
	Description	i: boo	olean value					
	1.7-1	Tyj	oe .	Value	Scale	Offset	Interpretation	
	Values:	ועי						
	values:		gical Value	0			FALSE	

			EnOi	IPrsLowIO			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	ngs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 1100.000	Read Interval [ms]
Description:	Engine Oil	Pressure Lo	w Indication On				
Encoding type:	Name: Size: Descriptior	1 b	oleanCoding it olean value				
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	EnRunA									
Size [bits]	ts] Type Boolean State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value false				
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]			
Description:	Engine Rur	n Active								
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value									
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

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				EnSpd			
Size [bits] 16	- I I I I I I I I I I I I I I I I I I I		Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Engine Spe	eed					
Encoding type:	Name: Size: Description	16 bi	odCoding ts ne Speed				
	Values:	Type Phys	e ical Range	Value 0 - 65535	Scale 0.25	Offset 0	Interpretation rpm

				EnS	pdSts				
Size [bits]	Type Unsigned	Info Type State	Generat Type Periodi		Group Name N/A		Update Bit No	Initial Value 0	
Timings:		erface de/FuncVerFolder/Function Normal HS				Sub. Latency [ms] 30,000		Read Interval [ms]	
Description:					30.000		100.000		
Encoding type:	Name: Size:	EnSpdSts 2 bits	Coding						
	Values:	Type		Value	Scale	Offset	Interpreta	ation	
		Logical Va	lue	0			Normal O	peration	
		Logical Va	lue	1			Degraded	Operation	
		Logical Va	lue	2			Reserved		
		Logical Va	lue	3			Invalid		

			EPBSys	AudWri	nngReq			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gı	roup Name N/A	l	Jpdate Bit No	Initial Value 0
Timings:	imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			[ms	Sub. Latency Max. Age [ms] [ms] 30.000 100.000		s]	Read Interval [ms]
Description:	Electric Par	k Brake Sys	tem Audible Wa	rning Re	equest			
Encoding type:	Name: Size:	EPBSys A	AudWrnngReqE	ĒΤ				
	Values:	Type Logical Value Logical Value Logical Value Logical Value Val	alue (l	Scale	Offse	Of W	terpretation f arning #1 arning #2

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			EPBS	ysDspM	sgReq			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Update Bit No	Initial Value
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/I	[ms	b. Latency [3] [000	[Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Electric Par	k Brake Sys	tem Display M	essage R	equest			
Encoding type:	Name: Size:	EPBSysI 3 bits	DspMsgReqE1	Г				
	Values:	Type Logical Value Value Logical Value	alue alue alue alue alue alue	Value 0 1 2 3 4 5 6 7	Scale	Off	O M M M M M	terpretation ff lessage #1 lessage #2 lessage #3 lessage #4 lessage #5 lessage #6 lessage #7

			EPBSy	sStsIndF	Req		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		u p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM Norma	Function	Sub. Latency [ms]		Max. Age [ms] 100.000	Read Interval [ms]	
Docarintian:			tem Status Indica		-	100.000	
•				allon ixeq	uesi		
Encoding	Name:	-	nngIndReqET				
type:	Size:	2 bits					
	Values:	Туре	Value	Scale	Offset	Interpretation	l
		Logical Valu	ue 0			No Indication	
		Logical Valu	ue 1			Continuous Inc	dication
		Logical Valu	ie 2			Flash Rate #1	Indication
		Logical Valu	ue 3			Flash Rate #2	Indication

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			EPBSys	Wrnnglnd	dReq		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		u p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM Norma	cVerFolder/	Sub. I [ms] 30.000	_atency	Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Electric Pa	rk Brake Sys	tem Warning Ind	ication Re	equest		
Encoding type:	Name: Size:	EPBSysWr 2 bits	nngIndReqET				
	Values:	Туре	Value	Scale	Offset	Interpretation	า
		Logical Valu	ue 0			No Indication	
		Logical Valu	ue 1			Continuous In	dication
		Logical Valu	ue 2			Flash Rate #1	Indication
		Logical Valu	ue 3			Flash Rate #2	! Indication

Туре		1			
Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0
		Function	Sub. Latency [ms] 30.000	Max. Age [ms] 100.000	Read Interval [ms]
" Electric Pov	ver Steering	Failure Status"			
Size: 2 k	oits				
Lo Lo Lo	gical Value gical Value gical Value	0 1 2	EPS No failure EPS Light Lev EPS Heavy Le	e(Indication off) el failure indica	· ·
	nterface Mode/Fund FM_Norma Electric Pov Name: EF Size: 2 t /alues: Ty Lo Lo	nterface Mode/FuncVerFolder/I FM_Normal_HS Electric Power Steering Name: EPSFIrStsET Size: 2 bits /alues: Type Logical Value Logical Value Logical Value	nterface Mode/FuncVerFolder/Function FM_Normal_HS Electric Power Steering Failure Status" Name: EPSFIrStsET Size: 2 bits	nterface Mode/FuncVerFolder/Function FM_Normal_HS Sub. Latency [ms] 30.000 Electric Power Steering Failure Status" Name: EPSFIrStsET Size: 2 bits /alues: Type Value Scale Offset Interpretation Logical Value 0 EPS No failure Logical Value 1 EPS Light Lev Logical Value 2 EPS Heavy Le	nterface Mode/FuncVerFolder/Function FM_Normal_HS Sub. Latency [ms] [ms] [ms] 30.000 100.000 Electric Power Steering Failure Status" Name: EPSFIrStsET Size: 2 bits /alues: Type Value Scale Offset Interpretation Logical Value 0 EPS No failure (Indication off) Logical Value 1 EPS Light Level failure indication off) Logical Value 2 EPS Heavy Level failure indication off)

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			ESCI	LFIrIndCmd		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N N/A	ame Update Bit No	Initial Value 0
Timings:		:VerFolder/l	Function	Sub. Later	[ms]	Read Interval [ms]
Dogarintian:	FM_Norma		ımp Look Foilur	10.000	100.000	
•	Electronic 3	steering Coit	ımn Lock Failure	e maication co	IIIIIaiiu	
Encoding	Name:	ESCLFI	IndCmdET			
type:	Size:	2 bits				
	Description	: Electroni	c Steering Colu	mn Lock Failur	e Indication Comma	and ET
	Values:	Type	Value	Scale Offset	Interpretation	
		Logical \	/alue 0		No defect failure d	etected
		Logical \	/alue 1		Defect failure dete	cted
		Logical \	/alue 2		Steering wheel is b	olocked
		Logical \	/alue 3		Functional limitation	n failure detected

			FasnDr	vrSbltIndCm	d		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group I		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Late [ms] 30.000	ency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Fasten Driv	er Seatbelt I	ndication Comm	and			
Encoding type:	Name: Size:	SbltIndCm 2 bits	ndET				
	Values:	Type	Valu	e Scale	Offset	t Interpret	ation
		Logical Va	lue 0			drive lam	p OFF
		Logical Va	lue 1			drive lam	p ON
		Logical Va	lue 2			drive lam	p Flashing
		Logical Va	lue 3			Signal no	ot available

			Fasn	FrtPsn	gSbltIndCı	nd		
Size [bits]	Type Unsigned Info Type State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value 0		
Timings:	Interface Mode/Fund	cVerFolder/	Function		Sub. Late [ms]	ency	Max. Age [ms]	Read Interval [ms]
	FM_Norma	I_HS			30.000		100.000	
Description:	Fasten Froi	nt Passenge	r Seatbelt Ir	ndicatio	n Comman	d		
Encoding	Name:	SbltIndCn	ndET					
type:	Size:	2 bits						
	Values:	Type		Value	Scale	Offset	Interpret	tation
		Logical Va	lue	0			drive lam	np OFF
		Logical Va	lue	1			drive lam	np ON
		Logical Va	lue	2			drive lam	np Flashing
		Logical Va	lue	3			Signal no	ot available

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			FasnSk	oltAudRmn	ndr		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ al_HS	Function	Sub . La [ms] 10.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Fasten Sea	tbelt Audible	Reminder				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			FasnSecRo	owLSbltIndC	md		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N N/A		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Late [ms] 30.000	ncy	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Fasten Sec	ond Row Le	ft Seatbelt Indica	tion Comman	d		
Encoding type:	Name: Size:	FasnSecR 2 bits	owSbltIndCmdI	T			
	Values:	Type	Valu	e Scale	Offse	et Interpre	tation
		Logical Va	lue 0			Off Indic	ation
		Logical Va	lue 1			On Indic	ation
		Logical Va	lue 2			Flashing	Indication
		Logical Va	lue 3			Reserve	d

			FasnSecR	owMidSbltIn	dC		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N /A		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Late [ms] 30.000	ncy	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Fasten Sec	ond Row Mi	ddle Seatbelt Ind	ication Comm	nand		
Encoding type:	Name: Size:	FasnSecR 2 bits	RowSbltIndCmdI	ĒΤ			
	Values:	Type Logical Va Logical Va Logical Va Logical Va	lue 1 lue 2	e Scale	Offse	Off Indic	ation ation Indication

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			FasnSecRo	owRSbltIndC	md		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N N/A		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/Function		Sub. Late [ms] 30.000	ncy	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Fasten Sec	ond Row Ri	ght Seatbelt Indic	ation Comma	ınd		
Encoding type:	Name: Size:	FasnSecF 2 bits	RowSbltIndCmdI	ĒΤ			
	Values:	Туре	Valu	e Scale	Offset		
Logical Value 0 Off Indication Logical Value 1 On Indication						cation	
		Logical Va Logical Va				Flashinç Reserve	g Indication ed

			FICMDis	tUnitAdjtR	eqA		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
imings: Interface Mode/FuncVerFolder/Function FM Normal HS		Function	Sub. Latency [ms] 30.000		Max. Age [ms]	Read Interval [ms]	
Description:			rol Module Dista		djust Requ	est Active	
Encoding type:	Name: BooleanCodir Size: 1 bit Description: boolean value		it				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			FICI	MDistUn	tAdj		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upda Bit No	Initial Value
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS		[ms	Sub. Latency [ms] 30.000		e Read Interval [ms]	
Description:	Front Infota	inment Cont	trol Module Dist	ance Un	its Adjust		
Encoding type:	Name: Size:	1 bit	tUntAdjET				
	Values:	Type Logical Value Logical Value	alue	Value 0 1	Scale	Offset	Interpretation km miles

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			FICMFue	ICsum	pUntAdj			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Update Bit No	Initial Value 0
Timings:					[ms]		lax. Age ns] 00.000	Read Interval [ms]
Description:	Front Infota	inment Cont	rol Module Fuel	Consur	nption Units	Adjus	st	
Encoding type:	Name: Size:	FICMFue 2 bits	lCsumpUntAdjI	ĒΤ				
	Values:	Type	V	alue	Scale	Offs	et Int	erpretation
		Logical V	alue 0				L/1	100km
		Logical V	alue 1				mp	og(UK)
		Logical V	alue 2				mp	og(US)

			FICMFuelC	sumpUntA	djARA		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:				Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	_		Units Adjust Re			1001000	
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			FICMOV	erSpdFr	nCrntSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upda Bit No	t Initial value	•
Timings:	Interface Mode/Fund FM Norma	cVerFolder/	Function	Sul [ms	•	Max. Aç [ms] 100.000	[ms]	I
Description:		_	trol Module Ove				-	
Encoding type:	Name: Size:	OffOnCo 1 bit	ding					
	Values:	Type	,	Value	Scale	Offset	Interpretation	
		Logical V	alue (0			Off	
		Logical V	alue	1			On	

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			FICMOvr	SpdThrs	hldAdj		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Update Bit No	Initial Value
Timings:	Interface Sub. Mode/FuncVerFolder/Function [ms] FM Normal HS 30.00		Latency Max. Ag [ms] 0 100.000		e Read Interval [ms]		
Description:	Front Infota	ainment Cont	trol Module Over	Speed T	hreshold Ad	djust	
Encoding type:	Name: Size:	FICMOvrs 6 bits	SpdThrshldAdjI	ΞT			
	Values:	Type Physical F	Range	Value 0 - 63	Scale 5	Offset 0	Interpretation

			FICMOvrSp	dThrshld.	AdjtRA		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Ficm Over	Speed Thres	shold Adjust Req	uest			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			FICM	TemUntAd	lj		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value 0
Timings:	ngs: Interface Sub. Later Mode/FuncVerFolder/Function [ms] FM_Normal_HS 30.000			atency	Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Front Infota	inment Cont	rol Module Temp	erature Ur	nits Adjust		
Encoding type:	Name: Size:	FICMTemU 2 bits	JntAdjET				
	Values:	Type Logical Val Logical Val Logical Val	ue 1	Scale	Offset	Interpretation Celsius Deg Fahrenheit I Not Available	ree(¡æ) Degree(¨H)

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			FICMTer	nUntAdjtR	eqA			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Group Name N/A		Initial Value false	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub . La [ms] 30.000			Read Interval [ms]	
Description:	Ficm Temp	erature Unit	s Adjust Request					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value					
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE	

			FICMTyre	Pressu	reUntAdj			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upd Bi	t	Initial Value 0
Timings:	ngs: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latency [ms] 30.000		.ge 0	Read Interval [ms]
Description:	Ficm Tyre I	Pressure Uni	ts Adjust					
Encoding type:	Name: Size:	FICMTyre 2 bits	ePressureUntA	djET				
	Values:	Type	'	/alue	Scale	Offset	Inte	erpretation
		Logical Va	alue ()			bar	
		Logical Va	alue <i>'</i>	1			kpa	
		Logical Va	alue 2	2			Psi	

			FICMTyrePre	ssureUntA	djtReqA		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Group Name N/A		Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Ficm Tyre F	Pressure Uni	its Adjust Reques	st			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	_	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			FICI	/IVeh	MntnceSt	s			
Size [bits]	Type Unsigned	Info Type State	Generatior Type Periodic	1	Group Name N/A		Update Bit No	Initial Value 0	
Timings:		nterface lode/FuncVerFolder/Function M_Normal_HS			Sub. Lat [ms] 30.000	ency	Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Description: Front Infotainment Control Module Vehicle Maintenance Status								
Encoding type:	Name: Size:	FICMVehN 2 bits	IntnceStsET						
	Values:	Туре	Va	lue	Scale	Offset	Interpreta	tion	
		Logical Val	ue 0				Status OK		
		Logical Val	ue 1				Suggest to	Maintain	
		Logical Val	ue 2				Maintain ir	nmediately	
		Logical Val	ue 3				Reserved		

			F	LTirePrs			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		ı p Name N/A	Update Bit No	Initial Value 55
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS		[ms]	Sub. Latency [ms] 50.000		Read Interval [ms]	
Description:	Front Left T	ire Pressure)				
Encoding type:	Name: Size:	FLTirePrs 7 bits	ET				
	Values:	Type Physical R	Range	Value 0 - 127	Scale 4	Offset 0	Interpretation Kpa

			FL	TirePrsV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 50.000		Max. Age [ms] 500.000	Read Interval [ms]
Description:	Front Left T	ire Pressure	Validity				
Encoding type:	Name: Size: Description	1 b	id4Coding it id info 4				
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

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			F	LTireSts				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	Group Name N/A		Jpdate Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ al_HS	Function	Sub. Latency [ms] 50.000		[ms	x. Age 5] .000	Read Interval [ms]
Description:	Front Left T	ire Status						
Encoding type:	Name: Size: Values:	FLTireStsE 3 bits Type Logical Valu	Value ue 0 ue 1 ue 2 ue 3 ue 4 ue 5	Scale	Offset	Norm Unko Press Quick Press Temp	wn sure Low cleak sure High perature I	
		Logical Valu					ry Low	impaiance

			F	LTireTem			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		u p Name N/A	Update Bit No	Initial Value 45
Timings:	Mode/FuncVerFolder/Function				Sub. Latency [ms]		Read Interval [ms]
	FM_Norma	ILHS		30.00	30.000		
Description:	Front Left T	ire Tempera	iture				
Encoding	Name:	FLTireTer	nET				
type: Size: 7 bits							
	Values:	Type		Value	Scale	Offset	Interpretation
		Physical R	Range	0 - 127	2	-60	

			FL1	TireTemV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Front Left T	ire Tempera	ture Validity				
Encoding type:	Name: Valid4Coding Size: 1 bit Description: valid info 4		it				
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

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			FrtF	ogLghtOn			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 50.000	atency	Max. Age [ms] 500.000	Read Interval [ms]
Description:	Front Fog L	ight On					
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value		it				
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			F	RTirePrs			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		u p Name N/A	Update Bit No	Initial Value 55
Timings:	Interface Mode/FuncVerFolder/Function			[ms]	Sub. Latency [ms]		Read Interval [ms]
	FM_Norma	ILHS		50.000	50.000		
Description:	Front Right	Tire Pressu	re				
Encoding type:	Name: Size:	FLTirePrs 7 bits	ET				
	Values:	Type Physical F	Range	Value 0 - 127	Scale 4	Offset 0	Interpretation Kpa

			FR'	TirePrsV			
Size [bits]	Type Unsigned State Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 50.000		Max. Age [ms] 500.000	Read Interval [ms]
Description:	Front Right	Tire Pressu	re Validity				
Encoding type:	Name: Size: Description	1 b	id4Coding it d info 4				
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

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	FRTireSts									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Upda Bit No	Initial value			
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. [ms] 50.00	Latency 0	Max. Aç [ms] 500.000	[ms]			
Description:	Front Right	Tire Status								
Encoding type:	Name: Size: Values:	FLTireStsE 3 bits Type Logical Valu	Value De 0 De 1 De 2 De 3 De 4 De 5 De 6	Scale	Offset	Interpreta Normal Unkown Pressure Quick leal Pressure Temperat Axle Pressure Battery Lo	Low < High ure High sure imbalance			

			FF	RTireTem			
Size [bits]	Type Unsigned			Gro	Group Name N/A		Initial Value 45
Timings:	ings: Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]
	FM_Norma	I_HS		30.000	30.000		
Description:	Front Right	Tire Tempe	rature				
Encoding type:	Name: Size:	FLTireTer 7 bits	nET				
	Values:	Type Physical F	Range	Value 0 - 127	Scale 2	Offset -60	Interpretation

			FR1	TireTemV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	•	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Front Right	Tire Tempe	rature Validity				
Encoding type:	Name: Valid4Co Size: 1 bit Description: valid info		•				
	Values:	-	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

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	FrtPsngDoorOpenSts									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0				
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ al_HS	Function	Sub. Latency [ms] 50.000	Max. Age [ms] 100.000	Read Interval [ms]				
Description: Front Passenger Door Open Status										
Encoding type:	Name: FrtPsngDoorOpenStsET Size: 2 bits Values: Type Value Scale Offset Interpretation									
		gical		Front Passenger Door	· Closed					
	Log Val	gical lue		Front Passenger Open(latch switch canni®t detect door ajar statu						
	Log Val	gical lue 2		Front Passenger Door Ajar						
	Loç Val	gical lue 3		Front Passenger Door	Full Open					

			FrtS	SideLghtF			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Front Side	Light Failed					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			Fu	ıelCsump			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		i p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Fuel Consu	ımption					
Encoding type:	Name: Size: Values:	FuelCsum 12 bits Type Physical R	•	Value 0 - 4095	Scale 16	Offset 0	Interpretation microlitre

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				Geni	·Sta					
Size [bits]	Type Unsigned	Info Type State	Generatio Type Periodic	n	Group I		Update Bit No	Initial Value 0		
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ al_HS	Function		Sub. Late [ms] 30.000	ency	Max. Age [ms] 400.000	Read Interval [ms]		
Description:	Description: state of generator									
Encoding type:	Size: 3 Values: 1	GenrStaET 3 bits Type Logical Value	e 1	Scale	Offset	•	or is ok or lost comm	unication		
		_ogical Value _ogical Value _ogical Value _ogical Value _ogical Value _ogical Value	3 e 4 e 5 e 6			generate generate Reserve Reserve Reserve	or running in ed ed ed	default state		

			HDC	SysSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group N/		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Lat [ms] 30.000	tency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Hill Descen	t Control Sys	stem Status				
Encoding type:	Name: Size:	3 bits	CtrlSysStsET				
	Values:	Type Logical Val Logical Val		Scale	Offset	Interpretat Normal Enabled	tion
		Logical Val	lue 2			Active Failed	
		Logical Val	lue 4			Temporaril	y Inhibited

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	HourOfDayAdj										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Update Bit No	Initial Value				
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 2000.000	Read Interval [ms]				
Description:		ıy Adjustmer y Adjustmen	nt t from infotainme	nt							
Encoding type:	Name: Size: Values:	HourOfDa 5 bits Type	•	Value	Scale	Offset	Interpretation				
		Physical F	Range	0 - 23	1	0					

			keep_	network_	AC		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit Yes	Initial Value false
Timings:	gs: Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]
	FM_Norma	al_HS		10.000		200.000	
Description:	NM signal:	the ATC/AC	ETC uses this s	ignal whe	n it wants t	to keep the netwo	ork awake.
Encoding	Name:	keep_netw	ork_coding				
type:	Size:	1 bit					
	Values: Type Value Scale Offset Interp				Interpretation		
		Logical Valu	ue 0			no keep netwo	rk request
		Logical Valu	ue 1			keep network r	equest

			keep_n	etwork_E	SCL		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit Yes	Initial Value false
Timings:	Interface Mode/Fund FM Norma	cVerFolder/	Function	[ms] [ms]		Max. Age [ms] 200.000	Read Interval [ms]
Description:			ses this signal wh	en it wan	ts to keep	the network awa	ake.
Encoding type:	Name: Size:	1 bit	ork_coding				
	Values:	Type Logical Valu Logical Valu		Scale	Offset	Interpretation no keep network keep network	ork request

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	keep_network_FICM										
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit Yes	Initial Value false				
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/ al_HS	Function	Sub. Latency Max. Age [ms] [ms] 10.000 200.000		Read Interval [ms]					
Description:	NM signal:	the FICM/IC	E uses this signa	al when it	wants to k	eep the network	awake.				
Encoding type:	Name: Size: Values:	keep_netw 1 bit Type	ork_coding Value	Scale	Offset	Interpretation					
	values.	Logical Value	ue 0	Julie	Onset	no keep netwo keep network r	rk request				

			keep_n	etwork_T	PMS		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit Yes	Initial Value false
Timings:	ngs: Interface Mode/FuncVerFolder/Function FM Normal HS			Sub. Latency [ms] 10.000		Max. Age [ms] 200.000	Read Interval [ms]
Description:		_	ses this signal wl				ike.
Encoding type:	Name: Size:	keep_netw 1 bit	ork_coding				
	Values:	Туре	Value	Scale	Offset	Interpretation	
		Logical Value				no keep netwo keep network r	•

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			Lan	ggSetng	J Adj					
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gı	r oup Nam N/A	е	Update Bit No	Initial Value 0		
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	[ms	[ms] [ms]		ax. Age ns] 00.000	Read Interval [ms]		
Description:		Setting Adjus	stment stment from info	tainment	t					
Encoding type:	Name: Size: Description	7 bits a: \$19-	\$7F=Reserved	Value	Coolo	055	le te une			
	Values:	Type Logic	e cal Value	Value 0	Scale	Offset	•	retation fied Chinese		
		Logi	cal Value cal Value	1 2			UK En NA En	glish		
		Logi	cal Value	3			Swedis	sh		
	Logical Value Logical Value			4			French			
				5			Spanis	sh		
		•	cal Value	6			Dutch			
		•	cal Value cal Value	7 8			Portug Norwe			
		•	cal Value	9			Finnish	•		
		_	cal Value	10			Danish	-		
		•	cal Value	11			Greek			
		_	cal Value	12			Japane	Japanese		
		Logi	cal Value	13			Arabic			
		Logi	cal Value	14			Germa	ın		
		_	cal Value	15			Polish			
		•	cal Value	16			Turkisl			
		•	cal Value	17			Korear			
		_	cal Value	18				onal Chinese		
		_	cal Value	19 20			Italian			
		Logical Value					Hunga			
		•	cal Value	21			Czech			
		_	cal Value cal Value	22 23			Slovak Russia			
		•	cai value cal Value	23 24			Thai	u i		
		Logi	cai vaiu c	4			IIIal			

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			LanggS	etngAdjRe	Ape		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS				atency	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Language	Setting Adjus	stment Request A	Active			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			LB	rkLghtF				
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Left Brake	Light Failed						
Encoding type:	Name: Size: Descriptior	1 b	oleanCoding it olean value					
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE	

			LDipd	BeamLght	F		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS				atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Left Dipped	Beam Light	Failed				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	-	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			LDire	nIndLghtF	•		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS				atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Left Direction	on Indication	Light Failed				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			L	DircnIO			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name I/A	Update Bit No	Initial Value false
Timings:	gs: Interface Mode/FuncVerFolder/Function FM_Normal_HS				atency	Max. Age [ms] 200.000	Read Interval [ms]
Description:	1		on Left Hand Directi	on Indicate	Light was	On	
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	•	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			Lds	рсОре	enSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	(Group N N/A		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	[m	ub. Late ns] 0.000	ency	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Loadspace	Open Status	3					
Encoding type:	Name: Size:	LdspcOpe 2 bits	enStsET					
	Values:	Type Logical Va Logical Va Logical Va Logical Va	lue 1 lue 2	ue :	Scale	Offset	•	ace Closed ace Open d

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			Lg	htSwPos	Sts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gr	Group Name N/A		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ ILHS	Function	Sub [ms 30.0	-	[Max. Age ms] 200.000	Read Interval [ms]
Description:		h Position St Posistion o						
Encoding	Name:	LghtSwPos	StsET					
type:	Size:	3 bits						
	Values:	Туре	Value	Scale	Offset	Inter	pretation	
		Logical Valu	ie 0			Switc	ch is on "Off	f" position
		Logical Valu	ie 1			Switc	ch is on "Au	to" position
		Logical Valu	ie 2			Side	Lamp	
		Logical Valu	ie 3			Dipp	ed Beam	
		Logical Valu	ie 4			Unkr	now position	1
		Logical Valu	ie 5			reser	rved	
		Logical Valu	ie 6			reser	rved	
		Logical Valu	ie 7			reser	rved	

			MainB	eamLghtC	n		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings: Interface Mode/FuncVerFolder/Function FM Normal HS				Sub. La [ms] 30.000	atency	Max. Age [ms] 200.000	Read Interval [ms]
Description:				00.000		200.000	
Encoding type:	Name: Size: Description	Bo 1 b	oleanCoding it blean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			Minut	eOfHour.	Adj		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Updat Bit No	e Initial Value
FM_Normal_HS				Sub. Latency [ms] 30.000		Max. Age [ms] 2000.000	[ms]
Description:		Hour Adjustm Iour Adjustm	nent ent from infotain	ment			
Encoding type:	Name: Size: Values:	MinuteOf 6 bits Type Physical F		Value 0 - 59	Scale	Offset 0	Interpretation

			M	usSrc	Md			
Size [bits]	Type Unsigned State Generation Type Periodic Group Name		•	Update Bit No	Initial Value 15			
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latency Max. Ag [ms] [ms] 30.000 100.000			Read Interval [ms]
Description:	Music Sour	ce Mode						
Encoding type:	Name: Size:	MusSrcM 4 bits	dET					
	Values:	Type Logical Va	alue 0 alue 1 alue 2 alue 3 alue 3 alue 5 alue 5 alue 7 alue 7 alue 8 alue 9		Scale	Offset	OFF Local Netw Audic BT A Onlin USB Cach	e Audio Audio e Audio oke n Audio

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				Na	vDircn				
Size [bits]	Type Unsigned	Info Type State	Genera Typ Perio	е		Name /A	Update Bit No	Initial Value 63	
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ al_HS	Function	ınction		Sub. Latency [ms] 30.000		Read Interval [ms]	
Description:	Navigation	Direction							
Encoding type:	Name: Size:	NaviDirect 6 bits	tionET						
	Values:	Type		Value	Scale	Offset	Interpretat		
	Logical Value						SelfCar Log	go	
		Logical Value 1 Logical Value 2					turn Right		
		o o					Left Head		
	Logical Value 3 Logical Value 4						right Head		
		Logical Val		5			Left After		
		Logical Val		6			Right After		
		Logical Val		7			Back		
		Logical Val		8			Driver Stra	iaht	
		Logical Val		9			Arrive Mido	•	
		Logical Val		10			into Circle	Zone	
		Logical Val	lue	11			Out Cirle Z	one	
		Logical Val	lue	12			Arrive Srvi	ce Zone	
		Logical Val	lue	13			Arrive Toll	Station	
		Logical Val	lue	14			Arrive the [Destination	
		Logical Val	lue	15			into tube		
		Logical Val	lue	63			invalid		

			1	NavDist			
Size [bits] Type Unsigned Unsigned State Generation Type Periodic		• •	Group Name N/A		Updat Bit No	e Initial Value 32767	
Timings:	Fimings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	e Read Interval [ms]
Description:	Navigation	Distance					
Encoding type:	Name: Size: Values:	NavDistE 15 bits Type Logical V	V	/alue 2767	Scale	Offset	Interpretation invalid

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			N	avDistU	nit			
Size [bits] 1 Type Unsigned Info Type State State Generation Type Periodic Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Туре	G	Group Name N/A		ate t	Initial Value	
		[ms	Sub. Latency [ms] 30.000		ge O	Read Interval [ms]		
Description:	Navigation	Distance Un	it					
Encoding type:	Name: Size: Values:	NavDistU		Value	Scale	Offset	Into	rpretation
	values.	Type Logical Va Logical Va	alue	0 1	Scale	Onset	m 0.1k	•

			netw	ork_m	ode			
Size [bits]	Type Unsigned	Info Type State	Generation Type Sporadic		oup Name _HSC1_Frl0	₁ E	date Bit lo	Initial Value 0
Timings:	Interface Mode/Fund	cVerFolder/	Function	Sub. Latency [ms] 10.000 10.000		Max. [ms]	Age	Read Interval [ms]
	FM_Norma FM_Silent_					50.00 50.00	-	0.000 0.000
Description:		this signal co		ded mo	de of the netv	work. Thi	s signa	Il controls the frame
Encoding type:	Name: Size:	network_ 8 bits	modeET					
	Values:	Type Logical Value Logical Value Logical Value	alue 0 alue 1		Scale	Offset	sta shu	erpretation rt-up utdown rmal

				OdoSecy			
Size [bits]	Type Bytes	Info Type State	Generation Type Periodic	Group	Name ⁄A	Update Bit No	Initial Value 0x00 0x00 0x00
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/ al_HS	Function	Sub. La [ms] 30.000			Read Interval [ms]
Description:	Odometer Odo Backu	,					
Encoding Name: OdoSecyET type: Size: 24 bits Values: Type Valu Physical Range 0 - 10				alue - 16777215	Scale	Offset	Interpretation km

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			PE	PSAntFlt			
		Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]
Description:	Passive En	try Passive S	Start Antenna Fa	ult			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			PwrMo	MstrAccry	/A		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		o Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 20.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Power Mod	e Master Ac	cessory Termina	l Status			
Encoding type:	Name: Size: Description	1 b	tive1Coding it ive info				
	Values:	Typ Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Inactive Active

			PwrMdMs	strAccryWl	кирА		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name I/A	Update Bit No	Initial Value false
Timings:	ngs: Interface Mode/FuncVerFolder/Function FM_Normal_HS				atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Power Mod	le Master Ac	cessory Wakeup	Active			
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value						
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			PwrN	ldMstrlgn <i>l</i>	4		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 20.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Power Mod	le Master Igr	nition Active				
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value		it				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			PwrMdl	MstrRunCr	kA		
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 20.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Power Mod	e Master Ru	ın Crank Termina	al Status			
Encoding type:	Name: Size: Description	1 b	tive1Coding it ive info				
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Inactive Active

			RE	rkLghtF			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Right Brake	Light Failed	k				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	-	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			RDipd	BeamLght	F		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			[ms] [ms		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Right Dippe	ed Beam Lig	ht Failed				
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value		it				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			RDire	nIndLghtF	-		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name I/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Right Direc	tion Indication	n Light Failed				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			R	DircnIO			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS						Max. Age [ms]	Read Interval [ms]
				30.000		200.000	
		tion Indication Driver that I	n On Right Hand Dired	ction Indicat	te Light wa	as On	
Encoding	Name:	Во	oleanCoding				
type:	Size:	1 b	it				
	Description	: boo	lean value				
	Values:	Тур	oe	Value	Scale	Offset	Interpretation
		Log	jical Value	0			FALSE
		Log	jical Value	1			TRUE

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			R	doFrqcVal			
Size [bits] 16	Type Unsigned	Info Type State	Generation Type Periodic		Name /A	Update Bit No	Initial Value 65535
Timings:	s: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. La [ms] 30.000			Read Interval [ms]	
Description:	Radio Freq	 uency Value					
Encoding type:	Name: Size: Values:	RdoFrqcV 16 bits Type Physical R Logical Va	ange	Value 0 - 65534 65535	Scale 0.1	Offset 0	Interpretation invalid

			Re	vsLghtF				
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	· -	Name I/A	Update Bit No	Initial Value false	
Timings:	ings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Reverse Li	ght Failed						
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value					
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE	

			R	LTirePrs			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		ıp Name N/A	Update Bit No	Initial Value 55
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 500.000	Read Interval [ms]
Description:	Rear Left T	ire Pressure					
Encoding type:	Name: Size: Values:	FLTirePrs 7 bits Type Physical R		Value 0 - 127	Scale 4	Offset 0	Interpretation Kpa

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			RL	TirePrsV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value 0
Timings:	ngs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub . La [ms] 30.000	atency	Max. Age [ms] 500.000	Read Interval [ms]
Description:	Rear Left T	ire Pressure	Validity				
Encoding type:	Name: Size: Description	1 b	lid4Coding it id info 4				
	Values:	Ty _l Log		Value 0 1	Scale	Offset	Interpretation Valid Invalid

			RL	TireSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	up Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. [ms] 30.00	Latency Max. Age [ms] 0 500.000		Read Interval [ms]
Description:	Rear Left T	ire Status					
Encoding type:	Name: Size:	FLTireStsE 3 bits	Т				
	Values:	Type Logical Valu	1	Scale	Offset	Interpretation Normal Unkown Pressure Low Quick leak Pressure High Temperature H Axle Pressure Battery Low	łigh

			RI	_TireTem			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	Initial Value 45
Timings: Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]	
	FM_Norma	I_HS		30.00	30.000		
Description:	Rear Left T	ire Tempera	ture				
Encoding	Name:	FLTireTe	mET				
type:	Size:	7 bits					
	Values:	Type		Value	Scale	Offset	Interpretation
		Physical F	Range	0 - 127	2	-60	

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			RL1	TireTemV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value 0
Timings:	ngs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Rear Left T	ire Tempera	ture Validity				
Encoding type:	Name: Size: Description	Size: 1 bit					
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

			RRDo	orOpenSts					
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0			
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000	Max. Age [ms] 100.000	Read Interval [ms]			
Description:	Description: Rear Right Door Open Status								
Encoding type:	· · · ·								
	Log Val	gical 0 lue		Rear right Door Closed	d				
	Log Val	gical lue	Rear right Door Open(For latch switch cannot detect doorajar status)						
	Log Val	gical lue 2		Rear right Door Ajar					
	Log Val	gical 3 lue		Rear right Door Full op	pen				

			RrF	ogLghtF			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings:	s: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Rear Fog L	ight Failed					
Encoding type:	Name: Size: Description	1 b	olean value	Walaa	Casta	0#4	latanantation.
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			RrF	ogLghtOn			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	s: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub . La [ms] 30.000	-	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Rear Fog L	ight On					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			RrS	ideLghtF			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/ al_HS	Function	Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Rear Side	Light Failed					
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value						
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	RRTirePrs										
Size [bits]	[bits]Type UnsignedInfo Type StateGeneration Type Periodic				Group Name N/A		Initial Value 55				
Timings:	Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]				
	FM_Norma	I_HS		30.000		500.000					
Description:	Rear Right	Tire Pressur	е								
Encoding type:	Name: Size:	FLTirePrs 7 bits	ET								
	Values:	Type Physical F	Range	Value 0 - 127	Scale 4	Offset 0	Interpretation Kpa				

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			RR	TirePrsV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value 0
imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 500.000	Read Interval [ms]	
Description:	Rear Right	Tire Pressu	re Validity				
Encoding type:	Name: Valid4Co Size: 1 bit Description: valid info						
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

		RF	RTireSts			
Type Unsigned	TOPE I TOPE		•	Update Bit No	Initial Value 0	
gs: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. Latency [ms] 30.000		Max. Age [ms] 500.000	Read Interval [ms]	
Rear Right	Tire Status					
Name: Size:	FLTireStsE 3 bits	Т				
Values:	Logical Valu Logical Valu Logical Valu Logical Valu Logical Valu Logical Valu	1	Scale	Offset	•	•
	Interface Mode/Fund FM_Norma Rear Right Name: Size:	Interface Mode/FuncVerFolder/I FM_Normal_HS Rear Right Tire Status Name: FLTireStsE Size: 3 bits Values: Type Logical Values L	Type Unsigned Info Type State State Generation Type Periodic Interface Mode/FuncVerFolder/Function FM_Normal_HS Rear Right Tire Status Name: FLTireStsET Size: 3 bits Values: Type Value Logical Value 0 Logical Value 1 Logical Value 2 Logical Value 2 Logical Value 3 Logical Value 4 Logical Value 5 Logical Value 5 Logical Value 6	Interface Sub. Mode/FuncVerFolder/Function [ms] FM_Normal_HS 30.00 Rear Right Tire Status Name: FLTireStsET Size: 3 bits Values: Type Value Scale Logical Value 1 Logical Value 2 Logical Value 2 Logical Value 3 Logical Value 4 Logical Value 5 Logical Value 5 Logical Value 6	Type Unsigned Info Type State State Periodic Sub. Latency Periodic [ms] Interface Sub. Latency [ms] FM_Normal_HS 30.000 Rear Right Tire Status Name: FLTireStsET Size: 3 bits Values: Type Value Scale Offset Logical Value 1 Logical Value 2 Logical Value 3 Logical Value 3 Logical Value 4 Logical Value 5 Logical Value 5 Logical Value 5 Logical Value 6	Type Unsigned State State Generation Type Periodic Sub. Latency [ms] [ms] [ms] Sub. No Interface Mode/Func Ver Folder/Function FM_Normal_HS 30.000 500.000 Rear Right Tire Status Name: FLTireStsET Size: 3 bits Values: Type Value Scale Offset Interpretation Normal Unkown Logical Value 1 Unkown Pressure Low Quick leak Pressure High Logical Value 5 Temperature High Logical Value 5 Axle Pressure in

	RRTireTem											
Size [bits] Type Into Type 7			Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 45					
Timings:	imings: Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]					
	FM_Norma	I_HS		30.000		200.000						
Description:	Rear Right	Tire Tempe	rature									
Encoding	Name:	FLTireTe	mET									
type:	Size:	7 bits										
	Values:	Type		Value	Scale	Offset	Interpretation					
		Physical F	Range	0 - 127	2	-60						

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			RR ⁻	TireTemV			
Size [bits] Type Unsigned State Generation Type Periodic			Group Name N/A		Update Bit No	Initial Value 0	
Timings:	imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. La [ms] 30.000	atency	Max. Age [ms] 200.000	Read Interval [ms]	
Description:	Rear Right	Tire Temper	ature Validity				
Encoding type:	Name: Size: Description	1 b	id4Coding it id info 4				
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

	ScurtAlrmSts										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	C	Group Name N/A		Update Bit No	Initial Value 0			
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/I	Function	Sub. Latency [ms] 30.000		•	Max. Age [ms] 300.000	Read Interval [ms]			
Description:	Security Ala	arm Status									
Encoding type:	1.10.	ScurtAlrmS 3 bits	tsET								
		Type Logical Value	e 1 e 2 e 3 e 4 e 5 e 6	Scale	Offset	off part a full ala not us not us part a	eed larm with voluarm with volur	olumetrics Imetrics			

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			Scurt	KeyBatLo _\	N		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	ings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub . La [ms] 30.000	•	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Security Ke	ey Battery Lo	W				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	ScurtKeyInvd										
Size [bits]	Size [bits] Type Info Type Boolean State Generation Type Periodic			Group Name N/A		Update Bit No	Initial Value false				
Timings:	nings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]					
Description:	Security Ke	y Invalid									
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value								
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE				

	SecsOfMinuteAdj										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value				
Timings:	Interface Mode/FuncVerFolder/Function FM Normal HS				Sub. Latency [ms] 30.000		Read Interval [ms]				
Description:	Seconds O	f Minute Adju	ustment istment from info		<u>-</u>	2000.000					
Encoding type:	Name: Size: Values:	SecsOfMi 6 bits Type Physical F		Value 0 - 59	Scale 1	Offset 0	Interpretation				

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			ShifterLo	kRIseBrkF	ReqA		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	•	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Shifter Lock	k Release Br	ake Request Act	tive			
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value		it				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			SIA	OdoSecy			
Size [bits] 24	its] Type Info Type Type		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0x00 0x00 0x00
Timings:	Interface Mode/Fun	cVerFolder/	Function	Sub. Late [ms] 30,000	ency	Max. Age [ms] 300.000	Read Interval [ms]
Description:	_		ncement Odomet		/	300.000	
Encoding type:	Name: Size:	OdoSecyE	Т				
	Values:	Type Physical Ra	Val eange 0 - 1	u e 16777215	Scale 1	Offset 0	Interpretation km

	signal_config_id										
Size [bits]	Type Unsigned	Info Type State	Generation Type Sporadic	Group Na BCM_HSC1	l Bit	Initial Value 28673					
Timings:	Interface Mode/Fund FM Norma	cVerFolder/	Function	Sub. Laten [ms] 10.000	cy Max. Age [ms] 50.000	Read Interval [ms] 0.000					
	FM_Silent_	_		10.000	50.000	0.000					
			entification numb ey have the corre			d. Read by the slave					
Encoding type:	Name: Size: Values:	signal_con 16 bits Type Logical Valu	Value	Scale Off		t ion C/OTS2/base					

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SpdAstSysStsECM										
Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A			Update Bit No	Initial Value 0			
	de/FuncVerFolder/Function		[ms]	•	ms] Max. Age [ms] 100.000		Read Interval [ms]			
Description: Speed Assist System Status Engine Control Module										
Name: Size:		StsECMET								
Values:	Logical Valu Logical Valu Logical Valu Logical Valu Logical Valu Logical Valu Logical Valu	ue 0 ue 1 ue 2 ue 3 ue 4 ue 5 ue 6	Scale	Offset	Off Active Star Entr Ove Faul	ve (Limiting adby y Condition rspeed to (Passive	s Incorrect			
	Unsigned Interface Mode/Fund FM_Norma Speed Assi Name: Size:	Interface Mode/FuncVerFolder/ FM_Normal_HS Speed Assist System S Name: SpdAstSys Size: 3 bits Values: Type Logical Values Logical Values Logical Value Logic	Type Unsigned Info Type State State Generation Type Periodic Interface Mode/FuncVerFolder/Function FM_Normal_HS Speed Assist System Status Engine Corn Name: SpdAstSysStsECMET Size: 3 bits Values: Type Value Logical Value 0 Logical Value 1 Logical Value 2 Logical Value 2 Logical Value 3 Logical Value 4 Logical Value 5	Type Unsigned State State Sub. Interface Sub. FM_Normal_HS 30.00 Speed Assist System Status Engine Control Models Subsubset Status Engine Control Models Subsubset Subset Subsubset Subset Subsubset Subset Subsubset Subset Subsubset Subset Subsubset Subset Subsubset Subsubset Subsubset Subsubset Subsubset Subsubset Subset Subsubset Subsubset Subsubset Subset Subsubset Subsubset Subset Subsubset Subsubset Subset Subset Subset Subset Subset Subs	Type Unsigned Info Type State State Sub. Latency Periodic [ms] FM_Normal_HS 30.000 Speed Assist System Status Engine Control Module Name: SpdAstSysStsECMET Size: 3 bits Values: Type Value Scale Offset Logical Value 1 Logical Value 2 Logical Value 3 Logical Value 3 Logical Value 4 Logical Value 5 Logical Value 5 Logical Value 5 Logical Value 6	Type Unsigned Info Type State State Periodic Sub. Latency [ms] [r Mode/FuncVerFolder/Function FM_Normal_HS 30.000 10 Speed Assist System Status Engine Control Module Name: SpdAstSysStsECMET Size: 3 bits Values: Type Value Scale Offset Inte Logical Value 1 Activic Logical Value 2 Logical Value 3 Logical Value 4 Cove Logical Value 5 Faul Logical Value 5 Faul Logical Value 6 Activic Control Value 5 Faul Logical Value 6 Activic Control Value 6	Type Unsigned Info Type State State Sub. Latency [ms] [ms] [ms] [ms] [ms] [ms] [ms] [ms]			

			SpdA	stSysTrg	tSpd		
Size [bits] 15	Type Unsigned State Generation Type Periodic			Gro	oup Name N/A	Update Bit No	Initial Value 0
Timings:	Mode/FuncVerFolder/Function				. Latency	Max. Age [ms]	Read Interval [ms]
Description:	FM_Norma	_	arget Speed	30.0	00	100.000	
Encoding type:	Name: Size:		TrgtSpdET				
	Values:	Type Physical Ra		alue - 32767	Scale 0.015625	Offset 0	Interpretation

			Srflr	itnRmndr			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]
Description:	Sunroof Init	tialization Re	minder				
Encoding type:	Size: 1 bit		oleanCoding it olean value				
	Values:	_	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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	SrfOpenRmndr									
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false			
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 100.000	Read Interval [ms]			
Description:	Sunroof Op	en Reminde	r							
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value							
	Values:		oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

	SSBEnOffRmndr										
Size [bits]	bits] Type Unsigned Info Type State Generation Type Periodic		Group Name N/A	Update Bit No	Initial Value 0						
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Latency [ms] 30.000	Max. Age [ms] 100.000	Read Interval [ms]					
Description: Start Stop Button Engine OFF Reminder											
Encoding type:											
	Values: Ty	pe V	alue Scale Offse	t Interpretation							
	Log Val	gical lue 0		no warning request							
	Log Val	gical lue 1		Press Button Again T	o Turn Engine	e Off Reminder					
	Log Val	gical lue 2		Long Press Button To Turn Engine Off Reminder							
	Log Val	gical lue 3		Double Press Button Again To Turn Engine Off Reminder							

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	StrgWhlAngSnsrCalSts										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Type Group Name Bit		Bit	Initial Value 0				
Timings:	Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS		[ms] [Max. Age [ms] 100.000	Read Interval [ms]					
Description:	Steering W	heel Angle S	Sensor Calibratio	n Statu	S						
Encoding type:	Name: Size:	StrgWhl/ 2 bits	AngSnsrCalStsE	ĒΤ							
Values: Type Va				alue	Scale	Off	set In	terpretation			
Logical Value 0							Unkonw				
Logical Value 1 Estimate							stimated				
		Logical V	alue 2				Ca	alibrated			
		Logical V	alue 3				Ur	nkonw			

	StrgWhlAngSnsrFlt									
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false			
Timings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]				
Description:	Steering W	heel Angle S	Sensor Fault							
Encoding Name: BooleanCoding type: Size: 1 bit boolean value										
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

	SysOpnIMd									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	Initial Value 0			
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/F al_HS	Function	Sub. Latency [ms] 30.000		Max. Age [ms] 300.000	Read Interval [ms]			
Description:	Description: System Operational Mode									
Encoding type:		SysOpnIMdE bits	Т							
	L L L	ogical Value ogical Value ogical Value ogical Value ogical Value ogical Value	Value Scale 0 1 2 3 4 5	Offset	ming(Reserve)					

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SysPwrMd									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0		
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	/Function	Sub. Latency [ms] 20.000		Max. Age [ms] 100.000	Read Interval [ms]		
Description:	System Pov	wer Mode							
Encoding	Name:	Sy	sPwrMd						
type:	Size:	2 b	oits						
	Description	n: Sy	stem Power Mode)					
	Values: T		pe	Value	Scale	Offset	Interpretation		
		Lo	gical Value	0			Off		
		Lo	gical Value	1			ACC		
		Lo	gical Value	2			Run		
Logical Value 3							Crank		

			SysF	PwrMdV				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value 1	
Fimings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 20.000		Max. Age [ms] 100.000	Read Interval [ms]		
Description:	System Pov	wer Mode Va	alidity					
Encoding type:	Name: ValidityCoding Size: 1 bit Description: Validity Encode Type							
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid	

	SysVol										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	Initial Value 0				
Timings:	imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 300.000	Read Interval [ms]				
Description:	Battery Vol	tage									
Encoding type:	Name: Size: Values:	SysVolET 8 bits Type Physical R		Value 0 - 255	Scale 0.1	Offset 3	Interpretation V				

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	SysVolMd										
Size [bits] Type Unsigned State State Generation Type Periodic			Group Name N/A		Initial Value 0						
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Sub. Laten [ms] 30.000		atency	Max. Age [ms] 300.000	Read Interval [ms]				
Description:	System Vo	Itage Mode									
Encoding type:	Encoding Name: SysVolMdET Size: 2 bits		ET Value	Scale	Offset	Interpretati	ion				
	values.	Type Logical Val Logical Val Logical Val Logical Val	ue 0 ue 1 ue 2	Ocale	Onset	Normal Low System Voltage High System Voltage Illegal System Voltage					

			Sys	VolMdV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value
Timings: Interface Mode/FuncVerFolder/Function FM Normal HS			Sub. Latency [ms] 30.000		Max. Age [ms] 300.000	Read Interval [ms]	
Description:	System Vol	tage Mode \	/alidity				
Encoding type:	Name: ValidityCoding Size: 1 bit Description: Validity Encode Type						
	Values:	Ty _l Log	, ,,	Value 0 1	Scale	Offset	Interpretation Valid Invalid

				SysVolV	1			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upda Bit No		Initial Value 0
Fimings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Ag [ms] 300.000	,	Read Interval [ms]	
Description:	Battery Vol	tage Validity						
Encoding type:	Name: Size:	InvalidET 1 bit	Г			011		
	Values:	Type Logical Va Logical Va		Value 0 1	Scale	Offset	Interp Valid Invalid	retation

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			TakeK	eyOutRmn	dr			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false	
Timings:	gs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]	
Description:	Take Key C	Out Reminde	r					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value					
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE	

			TC	SOpngl	۷ld			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upd Bi	t	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	[ms	Sub. Latency Max. Ag [ms] [ms] 30.000 100.000			Read Interval [ms]
Description:	Traction Co	ontrol System	Operating Mo	de				
Encoding type:	Name: Size:	TCSOpno 3 bits	gMdET					
	Values:	Type		Value	Scale	Offset		erpretation
		Logical Va		0			Off	
		Logical Va	alue	1			Nor	mal
		Logical Va	alue :	2			Off	Road

			TCS	SOpng	Sts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/Function		Sub [ms	•	Max. Age [ms] 100.000		Read Interval [ms]
Description:	Traction Co	ontrol System	Operating State	us				
Encoding type:	Name: Size:	TCSOpno 3 bits	gStsET					
	Values:	Туре	-	'alue	Scale	Offse		terpretation
		Logical Va						active
		Logical Va						tive
		Logical Va	alue 2				Fa	ult

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	TimeAdjReqA										
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false				
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 2000.000	Read Interval [ms]				
Description: Time Adjustment Request Active Time Adjustment Request from infotainment											
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value								
	Values:	•	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE				

TimeDspFmtAdj										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	Upo B N	it	Initial Value 0		
Timings:	ngs: Interface Mode/FuncVerFolder/ FM_Normal_HS		Function	Sub. Latency [ms] 30.000		Max. Age [ms] 2000.000		Read Interval [ms]		
Description:		ay Format Aday Format Ad	djustment djustment from	infotainm	nent					
Encoding type:	Name: Size:	TimeDsp 1 bit								
	Values:	Type Logical Va Logical Va	alue	Value 0 1	Scale	Offset	12	erpretation hour mode hour mode		

	TPMSAutoLoctnCm									
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value true			
Timings:	gs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 200.000	Read Interval [ms]			
Description:	Tire Pressu	re Monitor S	System Auto Loca	ation Comp	lete					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value							
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

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			٦	TPMSF			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false
Timings:	imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub . La [ms] 50.000	atency	Max. Age [ms] 500.000	Read Interval [ms]
Description:	Tire Pressu	re Monitor S	System Failed				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	•	pe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			TPMSI	dficnLrnC	m		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value true
Timings:	gs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 50.000		Max. Age [ms] 500.000	Read Interval [ms]
Description:	Tire Pressu	re Monitor S	System Identificat	ion Learn C	Complete		
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Typ Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

	TPMSTirePrsLowIO										
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false				
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 50.000	•	Max. Age [ms] 500.000	Read Interval [ms]				
Description:	Tire Pressu	re Monitor S	System Tire Press	sure Low Ir	dication C)n					
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value								
	Values:	_	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE				

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	TPMSWntrMdA									
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false			
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 50.000	atency	Max. Age [ms] 500.000	Read Interval [ms]			
Description:	Tire Pressu	re Monitor S	System Winter Mo	ode Active						
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value									
	Values:	-	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

	TrNonEmsnRltdMalfA									
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		o Name I/A	Update Bit No	Initial Value false			
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. La [ms] 30.000	atency	Max. Age [ms] 2000.000	Read Interval [ms]			
Description:	Transmissi	on Non Emis	sions Related M	alfunction A	Active					
Encoding type:	ncoding Name: BooleanCoding									
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE			

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			ITSI	nftLvrPos			
Size [bits] 4	Type Unsigned	Info Type State	Generation Type Periodic	Group N /A		Update Bit No	Initial Value 0
Timings:	1	cVerFolder/	Function	Sub. Late [ms]	ency	Max. Age [ms]	Read Interval [ms]
	FM_Norma	ม_HS on Shift Leve		30.000		200.000	
	\$0=Betwee \$1=Park Ra \$2=Revers \$3=Neutral \$4=Forward \$5=Forward \$6=Forward \$7=Forward \$8=Forward \$4=Forward	ange e Range l Range A d Range B d Range C d Range C d Range E d Range E d Range F rd Range G	on :				
	For Manua \$2=Revers \$3=Neutral	Position Unkr I Transmission e Range I Range (Vali	on: only below sta			for Neutral ranç	ge)
	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F	Position Unkr I Transmission e Range I Range (Vali Position Unkr	on: only below standity on MT vehicl			for Neutral ranç	ge)
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name:	Position Unkr I Transmissic e Range I Range (Vali Position Unkr TrShftLvrP	on: only below standity on MT vehicl			for Neutral ranç	ge)
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkr I Transmisside Range I Range (Vali Position Unkr TrShftLvrP 4 bits	on: only below standing on MT vehicles	es is only pro	otected f		
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name:	Position Unkr I Transmission e Range I Range (Valit Position Unkr TrShftLvrP 4 bits Type	on: only below standing on MT vehicles on MT vehicl	es is only pro		Interpretation	1
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkr I Transmissic e Range I Range (Vali Position Unkr TrShftLvrP 4 bits Type Logical Valu	on: only below standity on MT vehicles oown oosCoding Value ue 0	es is only pro	otected f	Interpretation Between Ran	1
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkr I Transmisside Range I Range (Vali Position Unkr TrShftLvrP 4 bits Type Logical Valu	on: only below standing on MT vehicle own velocity on MT vehicle own value velocity of the vel	es is only pro	otected f	Interpretation Between Ran Park Range	n ges
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkr I Transmisside Range I Range (Vali Position Unkr TrShftLvrP 4 bits Type Logical Valu Logical Valu	on: only below standing on MT vehicle own CosCoding Value ue 0 ue 1 ue 2	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Range	1 ges ge
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkr I Transmission e Range (Valide Position Unkred) TrShftLvrP 4 bits Type Logical Valud Logical Valud L	on: only below standing on MT vehicle own PosCoding Value ue 0 ue 1 ue 2 ue 3	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Rang	n ges ge
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkr I Transmission e Range (Valide Position Unkrenter TrShftLvrP 4 bits Type Logical Valud Logical Valud	on: only below standing on MT vehicle own cosCoding Value ue 0 ue 1 ue 2 ue 3 ue 4	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Range Forward Rang	n ges ge e ge A
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkronistic Plansmission Enange (Valide Position Unkronistic Po	con: only below stated the control of the control o	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Range Forward Rang Forward Rang	n ges ge ge A ge B
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkronical Transmission Enange (Valiposition Unkronical Value) TrShftLvrP 4 bits Type Logical Value Logic	on: only below standing on MT vehicle own CosCoding Value ue 0 ue 1 ue 2 ue 3 ue 3 ue 4 ue 5 ue 6	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Rang Forward Rang Forward Rang	n ges ge ge A ge B ge C
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkronstronger Range (Valide Range (Valide Range) Range (Valide	on: only below standity on MT vehicle nown CosCoding Value ue 0 ue 1 ue 2 ue 3 ue 3 ue 4 ue 5 ue 6 ue 7	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Range Forward Rang Forward Rang Forward Rang Forward Rang	n ges ge ge A ge B ge C ge D
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkroll Transmission Range (Valide Range (Valide Range) Range (on: only below standity on MT vehicle nown vosCoding Value ue 0 ue 1 ue 2 ue 3 ue 4 ue 5 ue 6 ue 7 ue 8	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Range Forward Rang Forward Rang Forward Rang Forward Rang Forward Rang Forward Rang	n ges ge ge A ge B ge C ge D
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkrological Value Logical Value Lo	on: only below standing on MT vehicle own PosCoding Value ue 0 ue 1 ue 2 ue 3 ue 4 ue 5 ue 6 ue 7 ue 8 ue 9	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Rang Forward Rang	n ges ge ge A ge B ge C ge D ge E
Encoding type:	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkronical Transmission Enange (Valide Range (Valide Position Unkronical Valudogical Valudogi	on: only below standing on MT vehicle own PosCoding Value ue 0 ue 1 ue 2 ue 3 ue 4 ue 5 ue 6 ue 7 ue 8 ue 9 ue 10	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Rang Forward Rang	n ges ge ge A ge B ge C ge D ge E ge F
•	\$F=Lever F For Manua \$2=Revers \$3=Neutral \$F=Lever F Name: Size:	Position Unkrological Value Logical Value Lo	on: only below standity on MT vehicle nown rosCoding Value ue 0 ue 1 ue 2 ue 3 ue 4 ue 5 ue 6 ue 7 ue 8 ue 9 ue 10 ue 11	es is only pro	otected f	Interpretation Between Ran Park Range Reverse Rang Neutral Rang Forward Rang	n ges ge ge A ge B ge C ge D ge E ge F ge G

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			TrShf	tLvrPosV	•			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value 0	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]	
Description:	Transmissi	on Shift Leve	er Position Validity	1				
Encoding type:	Name: Size: Description	1 b	lidityCoding it idity Encode Type	ı				
	Values:	Tyj Log	, ,,	Value 0 1	Scale	Offset	Interpretation Valid Invalid	

			Т	rShftP	trnASts			
Size [bits]	Type Unsigned	Info Type State	Generatio Type Periodic		Group I		Update Bit No	Initial Value 0
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/l al_HS	unction		Sub. Late [ms] 30.000	ency	Max. Age [ms] 200.000	Read Interval [ms]
Description:	Transmissi	on Shift Patte	ern Active St	atus				
Encoding type:		TrShftPtrnAS 3 bits	StsET					
		Type Logical Value Logical Value Logical Value Logical Value Logical Value Logical Value	1 2 2 3 4 4 5 5	Scale	Offset	Default Shift P Shift P Shift P Shift P PT Nor	retation t Shift Pattern A attern 1 Active attern 2 Active attern 3 Active attern 4 Active n-Protection Pa	attern Active
		Logical Value	e 6			PT Pro	tection Pattern	Active

	TrTapUpTapDwnMdSts									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Group Name N/A		Update Bit No	Initial Value 0		
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ al_HS	Function	Sub. Latency [ms] 30.000			Max. Age [ms] 200.000	Read Interval [ms]		
Description:	Transmissi	on Tap Up T	ap Down Mode	e Status						
Encoding type:	1	TrTapUpTa p 2 bits	oDwnMdSts							
	Values:	Туре	Value	Scale	Offset	Interp	retation			
		Logical Valu	e 0			No Ac	tivation			
		Logical Valu	e 1			Driver Shift Control Active				
		Logical Valu	e 2			Electro	onic Range S	elect Active		

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	VehLckngSta									
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	י ו	Group N a N/A	ame	Update Bit No	Initial Value 7		
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	[n	ub. Laten ns] 0.000	•	Max. Age [ms] 200.000	Read Interval [ms]		
Description:	Vehicle Loc	king State								
Encoding type:	Size:	VehLckngS 3 bits Type Logical Valu Logical Valu Logical Valu Logical Valu Logical Valu Logical Valu	Value e 0 e 1 e 2 e 3 e 4 e 5	Scale	Offset	Unlock Signal Interior Exterior Super Reserv	Position Ent Locked T Locked Iocked Jocked	ry Unlocked		
		Logical Valu Logical Valu				Reserv Unkno				

VehLdShedLvl										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0				
Timings:	Interface Mode/Fun FM_Norma	cVerFolder/ al_HS	Function	Sub. Latency [ms] 30.000	Max. Age [ms] 4000.000	Read Interval [ms]				
Description:	1	ad Shed Lev for load she								
Encoding type:	Size: 3 b	Name: VehLdShedLvIET								
	Values: Ty	ues: Type Value Scale Offset Interpretation								
		gical lue 0		No Power Risk						
		gical lue		Low Power Risk						
		gical lue 2		Middle Power Risk						
		gical lue		High Power Risk						
		gical lue 4		Power management direct current converter(PMDC)-broken						
		gical lue 5		reserved						
		gical lue 6		reserved						
		gical lue 7		reserved						

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VehOdo										
Size [bits]	IVDe			Group Name N/A		Initial Value 0x00 0x00 0x00				
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS				Sub. Latency [ms] 500.000		Read Interval [ms]			
Description:	Vehicle Oc	lometer								
Encoding type:	Name: Size: Values:	VehOdoET 24 bits Type Physical Ra		lue 16777215	Scale	e Offset	Interpretation			

	VehOdoV									
Size [bits]	ze [bits] Type Unsigned Info Type State Generation Type Periodic			Group Name N/A		Update Bit No	Initial Value 0			
Timings:	mings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 500.000		Max. Age [ms] 10000.000	Read Interval [ms]			
Description:	Vehicle Od	ometer Valid	lity							
Encoding type:	Name: Size: Description	1 b	idityCoding it idity Encode Type							
	Values:	Tyj Log		Value 0 1	Scale	Offset	Interpretation Valid Invalid			

	VehSideLghtSts										
Size [bits]	Type Unsigned	Info Type State	Generat Type Period		Group Name N/A		Update Bit No	Initial Value 0			
Timings:	imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 200.000	Read Interval [ms]				
Description:	Description: Vehicle Side Light Status										
Encoding type:		VehSideLght 2 bits	StsET								
		Type Logical Value Logical Value Logical Value Logical Value	0 1 2	Scale	Offset	No side light on Left side light on only Right side light on only All side light and license plate light on					

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	VehSpdAvgDrvn										
Size [bits] Type Info Type Type		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0					
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS				Latency	Max. Age [ms] 100.000	Read Interval [ms]				
Description:	Vehicle Spe	eed Average	Driven								
Encoding type:	Name: Size: Values:	VehSpdAv 15 bits Type Physical Ra	Va	alue - 32767	Scale 0.015625	Offset 0	Interpretation km/h				

			VehSpo	AvgDrvn	١V		
Size [bits]	ze [bits] Type Unsigned State Generation Type Periodic			Group Name N/A		Update Bit No	Initial Value 0
Timings:	mings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Vehicle Spe	eed Average	Driven Validity				
Encoding type:	Name: ValidityCoding Size: 1 bit Description: Validity Encode Type		,				
	Values:	Tyj Log		Value 0 1	Scale	Offset	Interpretation Valid Invalid

VINBCM										
Size [bits]	Type Bytes	Info Type State	Generation Type Periodic	Group Name N/A	Update Bit No	Initial Value 0xff 0x00 0x00 0x00 0x00 0x00 0x00 0x00				
3-	Interface Mode/Fun FM_Norma	cVerFolder/l al_HS	Function	Sub. Latency [ms] 30.000	Max. Age [ms] 1000.000	Read Interval [ms]				
Description:	Description: VIN Code Record in BCM									

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				VSEMd				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	roup Name N/A	. В	date Bit lo	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000		Read Interval [ms]
Description:	Vehicle Sta	bility Enhand	cement Mode					
Encoding type:	Name: Size:	VSEMdE 3 bits	Т					
	Values:	Type		Value	Scale	Offset	Int	erpretation
		Logical Va	alue	0			Off	f
		Logical Va	alue	1			No	rmal
		Logical Va	alue	2			Co	mpetitive

				VSESt	S			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	C	Broup Name N/A	Upd B N	it	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 30.000		Max. Age [ms] 100.000		Read Interval [ms]
Description:	Vehicle Sta	bility Enhand	cement Status					
Encoding type:	Name: Size:	VSEStsE 3 bits	Т					
	Values:	Type		Value	Scale	Offset	Inte	erpretation
		Logical Va	alue	0			Ina	ctive
		Logical Va	Logical Value Logical Value				Act	ive
		Logical Va					Fau	ult
		Logical Value		3			Wa	rming Up
		Logical Va	alue	4			Not	t Ready

	wake_network_AC										
Size [bits]	Type Boolean	Info Type State	Generation Type Sporadic	Group Name N/A		Update Bit Yes	Initial Value false				
Timings:	Interface Mode/Fund FM_Norma FM_Silent	_	Function	Sub. Latency [ms] 10.000 10.000			Max. Age [ms] 200.000 200.000	Read Interval [ms]			
Description:	NM signal:	the ATC/AC	/ETC uses this s	ignal wl	nen it wan	ts to v	vake-up the r	network			
Encoding type:	Size: Values:	wake_netwon to bit Type Logical Valu Logical Valu	Value e 0	Scale	Offset	no w	rpretation vake-up netwo e-up network				

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	wake_network_ESCL										
Size [bits]	Type Boolean	Info Type State	Generation Type Sporadic	Group Name N/A		Update Bit Yes	Initial Value false				
Timings:	Interface Mode/FuncVerFolder/Function FM Normal HS			[ms	Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]			
	FM_Norma FM_Silent_	_		_	000		200.000 200.000				
Description:	NM signal:	the ESCL us	ses this signal w	hen it w	ants to wa	ake-up	the network				
Encoding type:		wake_netwo	ork_coding								
		Type Logical Valu Logical Valu		Scale	Offset	no w	pretation ake-up netw e-up network	•			

			wake_	network	FICM			
Size [bits]	Type Boolean	Info Type State	Generation Type Sporadic	Group Name N/A		Update Bit Yes	Initial Value false	
Timings:	Interface Mode/Fun	Function	Sub. Latency [ms]		y Max. Age [ms]	Read Interval [ms]		
	FM_Norma	FM_Normal_HS		10.	000	200.000		
	FM_Silent_	_HS		10.000		200.000		
Description:	NM signal:	the FICM/IC	E uses this sigr	nal when	it wants to	o wake-up the netv	vork	
Encoding	Name:	wake_netwo	ork_coding					
type:	Size:	1 bit						
	Values:	Туре	Value	Scale	Offset	Interpretation		
		Logical Valu	gical Value 0			no wake-up network request		
		Logical Value 1				wake-up network request		

			wake_r	etwork	_TPMS			
Size [bits]	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 us	ses this signal w	hen it w	ants to wa	ake-up	the network	
Encoding		wake_netw	ork_coding					
type:		1 bit Type	Value	Scale	Offset	Inte	rpretation	
		Logical Valu	e 0			no w	/ake-up netwo	ork request
		Logical Valu	e 1			wak	e-up network	request

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	WhlGndVelLDrvn										
Size [bits]	IVDE		Group Name N/A		Update Bit No	Initial Value 0					
Timings:	gs: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]				
Description:	Wheel Gro	und Velocity	Left Driven								
Encoding type:	Name: Size: Values:	WhlGndVe 14 bits Type Physical Ra	Va	alue - 16383	Scale 0.03125	Offset 0	Interpretation km/h				

			WhlGn	dVelLDrvr	٦V		
Size [bits]	ize [bits] Type Info Type Type		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value
Timings:	S: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]
Description:	Wheel Grou	und Velocity	Left Driven Valid	ity			
Encoding type:	Name: ValidityCoding Size: 1 bit Description: Validity Encode Typ		е				
	Values:	Ty _l Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

	WhlGndVelLNonDrvn										
Size [bits]	Type Unsigned State Generation Type Periodic				Group Name N/A		Initial Value 0				
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]				
Description:	Wheel Gro	und Velocity	Left Non Driven								
Encoding type:	Name: Size: Values:	WhlGndVe 14 bits Type Physical Ra	Val	l ue 16383	Scale 0.03125	Offset 0	Interpretation km/h				

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Size [bits]	ze [bits] Type Info Type Type 1 Unsigned State Periodic		• •	Group Name N/A		Update Bit No	Initial Value 1
imings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Wheel Gro	und Velocity	Left Non Driven	Validity			
Encoding type:	Name: Size: Description	1 b	idityCoding it idity Encode Typ	e			
	Values:		oe jical Value jical Value	Value 0 1	Scale	Offset	Interpretation Valid Invalid

	WhlGndVelRDrvn										
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Group Name N/A		Initial Value 0				
Timings:	gs: Interface Mode/FuncVerFolder/Function FM Normal HS			Sub. L [ms] 10.000	• •		Read Interval [ms]				
Description:			Right Driven	10.000		100.000					
Encoding Name: WhlGndVelCoding type: Size: 14 bits											
	Values:	Type Physical Ra	-	/alue) - 16383	Scale 0.03125	Offset 0	Interpretation km/h				

			WhlGn	dVelRDrvr	ıV			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic		Group Name N/A		Initial Value 1	
Timings:	mings: Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Wheel Grou	und Velocity	Right Driven Val	idity				
Encoding type:	Name: Size: Description	1 b	idityCoding it idity Encode Typ	e				
	Values:	Tyj Log	, , ,	Value 0 1	Scale	Offset	Interpretation Valid Invalid	

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			WhlGnd	VelRNonD	rvn			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0	
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_HS			Sub. Latency [ms] 10.000		Max. Age [ms] 100.000	Read Interval [ms]	
Description:	Wheel Gro	und Velocity	Right Non Drive	n				
Encoding type:	Name: Size: Values:	WhlGndVe 14 bits Type	Val	lue	Scale	Offset	Interpretation	
		Physical Ra	ange 0 -	16383	0.03125	0	km/h	

			WhlGnd\	/eIRNonDr	·vnV		
Size [bits]	Dits] Type Unsigned Info Type State Generation Type Periodic Group Name N/A		Update Bit No	Initial Value 1			
Timings:	mings: Interface Mode/FuncVerFolder/Function			Sub. Latency [ms]		Max. Age [ms]	Read Interval [ms]
	FM_Normal_HS		10.000		100.000		
Description:	Wheel Grou	und Velocity	Right Non Drive	n Validity			
Encoding	Name:	Val	idityCoding				
type:	Size:	1 b	it				
	Description	ı: Val	idity Encode Typ	е			
	Values:	Тур	ре	Value	Scale	Offset	Interpretation
		Log	gical Value	0			Valid
		Log	gical Value	1			Invalid

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			PDC	CofignSts			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	Gro	u p Name N/A	Update Bit No	Initial Value 0
Timings:	Interface Mode/Fur FM_Norm	ncVerFolder/F al_L3	unction	Sub. Latency [ms] 50.000		Max. Age [ms] 400.000	Read Interval [ms]
Description:	Park Dista	nce Control C	onfiguration Sta	atus			
Encoding type:	Size:	PDCCofignSt 3 bits Type Logical Value		e Offset		ors ors ors and 2 fron ors and 4 fron	t side sensors t sensors
	1	Logical Value	7		Reserved		

			PDCO	verVolFlt_	L		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings:	Interface Mode/Fund FM_Norma	Sub. Latency [ms] 50.000		Max. Age [ms] 400.000	Read Interval [ms]		
Description:	Park Distar	nce Control C	Over Voltage Fau	lt			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	_	oe jical Value jical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			PDC	RespEr_L			
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Group Name N/A		Initial Value false
Timings:	S: Interface Mode/FuncVerFolder/Function FM_Normal_L3			Sub . La [ms] 50.000	•	Max. Age [ms] 400.000	Read Interval [ms]
Description:	PDC Respo	onse Error S	ignal that sends	to LIN mas	ter		
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			PDCR	LSnsrFlt_	L		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Timings:	Interface Mode/FuncVerFolder/Function FM_Normal_L3			Sub. La [ms] 50.000	atency	Max. Age [ms] 400.000	Read Interval [ms]
Description:	Park Distar	nce Control F	Rear Left Sensor	Fault			
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyj Log	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			PDCRrM	lidLSnsrFl	lt_L		
Size [bits]	Type Info Type State		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value false
Fimings: Interface Mode/FuncVerFolder/Function			Sub. La [ms]	atency	Max. Age [ms]	Read Interval [ms]	
	FM_Normal_L3					400.000	
Description:	Park Distar	nce Control F	Rear Middle Left	Sensor Fau	ılt		
Encoding type:	Name: Size:	Bo 1 b	oleanCoding it				
	Description	: boo	olean value				
	Values:	Тур	oe	Value	Scale	Offset	Interpretation
		Log	jical Value	0			FALSE
		Log	jical Value	1			TRUE

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			PDCRrM	lidRSnsrF	lt_L		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		p Name N/A	Update Bit No	Initial Value false
Timings:	ings: Interface Mode/FuncVerFolder/Function FM_Normal_L3			Sub. La [ms] 50.000	-	Max. Age [ms] 400.000	Read Interval [ms]
Description:	Park Distar	nce Control F	Rear Middle Righ	t Sensor Fa	ault		
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	-	oe gical Value gical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

			PDCR	RSnsrFlt_	L		
Size [bits]	its] Type Boolean State Generation Type Periodic Group Name N/A		Update Bit No	Initial Value false			
Timings:	Interface Mode/FuncVerFolder/Function FM Normal L3			Sub. La [ms] 50.000	atency	Max. Age [ms] 400.000	Read Interval [ms]
Description:			Rear Right Senso				
Encoding type:	Name: Size: Description	1 b	oleanCoding it olean value				
	Values:	Tyr Log		Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			PI	OCSysSi	ts_L			
Size [bits]	Size [bits] Type Info Type 4 Unsigned State		Generation Type Periodic	Type Group Name		me	Update Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/ Il_L3	Function	[m	b. Latend s] .000		Max. Age [ms] 400.000	Read Interval [ms]
Description:	Park Distar	nce Control S	System Status					
Encoding type:	Size:	PDCSysSts 4 bits						
		Type Logical Valu	e 1 e 2 e 3 e 4 e 5 e 6	Scale	Offset	Syster Syster Syster Syster Front Front		

			PDCUr	nderVolFlt	_L		
Size [bits]	Type Boolean	Info Type State	Generation Type Periodic		Name	Update Bit No	Initial Value false
Timings: Interface Mode/FuncVerFolder/Function FM_Normal_L3				Sub. Latency [ms] 50.000		Max. Age [ms] 400.000	Read Interval [ms]
Description:	Park Distar	nce Control U	Jnder Voltage Fa	ult			
Encoding type:	Name: BooleanCoding Size: 1 bit Description: boolean value						
	Values:	Tyr Log	oe jical Value jical Value	Value 0 1	Scale	Offset	Interpretation FALSE TRUE

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			R	LObsRn	g_L				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Group Name N/A		late it	Initial Value	
Timings:	1	Interface Mode/FuncVerFolder/Function FM Normal L3			b. Latency s] 000	Max. / [ms] 400.00	•	Read Interval [ms]	
Description:	Rear Left C	bstacle Ran	ge						
Encoding type:	Name: Size:	ObsRngl 4 bits	ĒΤ						
	Values:	Type		Value	Scale	Offset		rpretation	
		Logical V		0				Obstacle	
		Logical Value		1				ige 1	
		Logical Value		2				ige 2	
		Logical Value		3				ige 3	
		Logical V		4				ige 4	
		Logical V		5				ge 5	
		Logical V		6				ige 6	
		Logical V		7				ige 7	
		Logical V		8				ige 8	
		Logical V		9				ige 9	
		Logical V		10				ige 10	
		Logical V		11				ge 11	
		Logical V		12				ige 12	
		Logical V		13				ige 13	
		Logical V		14				ge 14	
		Logical V	alue	15			Ran	ge 15	

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			RrM	lidLObs	Rng_L			
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	iroup Name N/A	E	date Bit No	Initial Value 0
Timings:	Interface Mode/FuncVerFolder/Function FM Normal L3			[m	Sub. Latency [ms] 50.000		Age 00	Read Interval [ms]
Description:	Rear Middle	e Left Obsta	cle Range					
Encoding type:	Name: Size:	ObsRngl 4 bits	ΕT					
	Values:	Type	(-1 -	Value	Scale	Offset		erpretation
		Logical V		0			_	Obstacle
		•	Logical Value					nge 1
		-	Logical Value Logical Value					nge 2
		Logical V		3 4				nge 3 nge 4
		Logical V		5				ige 5
		Logical V		6				ige 6
		Logical V		7				ige 7
		Logical V		8				ige 8
		Logical V		9				ige 9
		Logical V		10				ige 10
		Logical V		11				ige 11
		Logical V		12				ige 12
		Logical V		13				ige 13
		Logical V	alue	14				ige 14
		Logical V		15				ige 15

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			RrM	lidRObsl	Rng_L				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Broup Name N/A		odate Bit No	Initial Value 0	
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	[m	b. Latency s] .000	Max. [ms] 400.0		Read Interval [ms]	
Description:	Rear Middle	e Right Obst	acle Range						
Encoding	Name:	ObsRngl	ET						
type:	Size: Values:	4 bits Type		Value	Scale	Offset	lnte	erpretation	
	values.	Logical V	aluo	0	Scale	Onset		Obstacle	
		0		1			_	nge 1	
		Logical Value Logical Value		2			Range 2		
	Logical Value Logical Value Logical Value			3				nge 3	
				4				nge 4	
		Logical V		5				nge 5	
		Logical V		6				nge 6	
		Logical V		7				nge 7	
		Logical V		8				nge 8	
		Logical V		9				nge 9	
		Logical V		10				nge 10	
		Logical V		11				nge 11	
		Logical V	alue	12				nge 12	
		Logical V	alue	13			Rai	nge 13	
		Logical V	alue	14			Rai	nge 14	
		Logical V	alue	15			Rai	nge 15	

			Rro	ObsDist_L			
Size [bits]	Size [bits] Type Info Type Ty		Generation Type Periodic	Group Name N/A		Update Bit No	Initial Value 0
Fimings: Interface Mode/FuncVerFolder/Function FM_Normal_L3		Sub. Latency [ms] 50.000		Max. Age [ms] 400.000	Read Interval [ms]		
Description:	Rear Obsta	cle Distance)				
Encoding type:	Name: Size:	FrtObsDis	stET	Malaa	Caala	0#	lata-matatian
	Values:	Type Physical F	Range	Value 0 - 255	Scale 1	Offset 0	Interpretation cm

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			R	RObsRn	g_L				
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	Group Name N/A		late it	Initial Value	
Timings:	Interface Mode/FuncVerFolder/Function FM Normal L3			Sub. Latency [ms] 50.000		Max. / [ms] 400.00	•	Read Interval [ms]	
Description:	Rear Right	Obstacle Ra	inge						
Encoding type:	Name: Size:	ObsRngB 4 bits	ET						
	Values:	Type		Value	Scale	Offset		rpretation	
		Logical Va		0			_	Obstacle	
		Logical Value		1				ige 1	
		Logical Value		2				ige 2	
		Logical Value		3				ige 3	
		Logical Va		4				ige 4	
		Logical Va		5				ige 5	
		Logical Va		6				ige 6	
		Logical Va		7				ige 7	
		Logical Va		8				ige 8	
		Logical Va		9				ige 9	
		Logical Va		10				ige 10	
		Logical Va		11				ige 11	
		Logical Va		12				ige 12	
		Logical Va		13				ige 13	
		Logical Va		14				ige 14	
		Logical Va	alue	15			Ran	ige 15	

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	RrPDCAudWrnng_L							
Size [bits]	Type Unsigned	Info Type State	Generation Type Periodic	G	iroup Name N/A		date Bit No	Initial Value 0
Timings:	Interface Mode/Fund FM_Norma	cVerFolder/	Function	[m:	b. Latency s] 000	Max. [ms] 400.0		Read Interval [ms]
Description:	Rear Park I	Distance Co	ntrol Audible W	/arning				
Encoding type:	Name: Size:	PDCWrn 4 bits	ng					
	Values:	Type		Value	Scale	Offset	Inte	erpretation
		Logical V	alue	0			No	Obstacle
		Logical V	alue	1			Rar	nge 1
		Logical V	alue	2			Rar	nge 2
		Logical V	alue	3			Rar	nge 3
		Logical V	alue	4			Rar	nge 4
		Logical V	alue	5			Rar	nge 5
		Logical V	alue	6			Rar	nge 6
		Logical V		7				nge 7
		Logical V		8				nge 8
		Logical V		9				nge 9
		Logical V		10				nge 10
		Logical V		11				nge 11
		Logical V		12				nge 12
		Logical V		13				nge 13
		Logical V		14				nge 14
		Logical V	alue	15			Rar	nge 15

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7.4 Constant signals

busoff_decrement_time					
Size [bits] 16	Type Unsigned	Info Type State	Initial Value 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 Unsigned	Info Type State	Initial Value 15		
Description: The number of bus-off errors that make the node silent during the time BUSOFF_WAIT_TIME					

busoff_time					
Size [bits]	Type Unsigned	Info Type State	Initial Value 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 Unsigned	Info Type State	Initial Value 200		
Description: The time the node is silent after the BUSOFF_MAX busoff errors have occurred					

communication_timeout_time_slave					
Size [bits] 16	Type Unsigned	Info Type State	Initial Value 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	8			
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						

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	keep_network_timeout_time_slave						
Size [bits] 16	Type Unsigned	Info Type State	Initial Value 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 Unsigned	Info Type State	Initial Value 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]TypeInfo TypeInitial Value16UnsignedState28673				
Description: NM signal: this is the identification number of the signal configuration used.				

m			
Size [bits]	Type Unsigned	Info Type State	Initial Value 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]	Size [bits] Type Info Type Initial Value				
8	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 Unsigned	Info Type State	Initial Value		
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] 64	Type Bytes	Info Type State	Initial Value 0x34 0x01 0x06 0x10 0x31 0x22 0x58 0x10	
Description:	Description: Network Reference Number for IPK			

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short_time_recovery_num				
Size [bits]TypeInfo TypeInitial Value8UnsignedState4				
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:	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]TypeInfo TypeInitial Value8UnsignedState28				
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]	Туре	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 Unsigned	Info Type State	Initial Value 20
Description:	When a slave node is trying to wakeup the network, it waits this time for a wakeup acknowledge from the master node		

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wakeup_pending_time_master			
Size [bits]	Туре	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]	Туре	Info Type	Initial Value
8	Unsigned	State	10

wakeup_pending_time_slave			
Size [bits]	Туре	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]	Туре	Info Type	Initial Value
8	Unsigned	State	14

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