



Elektrobit

EB tresos[®] AutoCore Generic 8 J1939

Stack documentation

product release 8.8.7



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1. Overview of EB tresos AutoCore Generic 8 J1939 Stack documentation

Welcome to the EB tresos AutoCore Generic 8 J1939 Stack (ACG8 J1939 Stack) product documentation.

This document provides:

- ▶ [Chapter 2, “Supported features”](#): list of features supported by the ACG8 J1939 Stack
- ▶ [Chapter 3, “ACG8 J1939 Stack release notes”](#): release notes for the ACG8 J1939 Stack modules
- ▶ [Chapter 4, “ACG8 J1939 Stack user guide”](#): background information and instructions
- ▶ [Chapter 5, “ACG8 J1939 Stack module references”](#): information about configuration parameters and the application programming interface

2. Supported features

2.1. Overview

This chapter provides an overview of the products of ACG8 J1939 Stack and the features that are currently supported.

[Section 2.2.1, “Supported J1939Dcm features”](#) contains an overview of J1939Dcm features.

[Section 2.2.2, “Supported J1939Nm features”](#) contains an overview of J1939Nm features.

[Section 2.2.3, “Supported J1939Rm features”](#) contains an overview of J1939Rm features.

[Section 2.2.4, “Supported J1939Tp features”](#) contains an overview of J1939Tp features.

2.2. Feature details

2.2.1. Supported J1939Dcm features

The J1939Dcm supports the following features:

- Support of the following diagnostic messages (DMx):

Name	Description
DM1	Broadcasts periodically and on change the active DTCs and the summarized lamp status of the ECU
DM2	Reports previously active DTCs
DM3	Clears previously active DTCs
DM4	Reports the stored freeze frame
DM5	Reports the diagnostic readiness
DM6	Reports OBD-relevant pending DTCs
DM11	Clears all applicable diagnostic data pertaining to active DTCs
DM12	Reports OBD-relevant active DTCs
DM13	Stops and starts broadcast of messages

Name	Description
DM19	Reports the Calibration Verification Number
DM23	Reports OBD-relevant previously-active DTCs
DM28	Reports OBD-relevant permanent DTCs
DM29	Reports the count of DTCs in each category

- ▶ **J1939DTC value conversion method:** Based on the SPN conversion method bit value, the DTC bits are arranged. The default SPN conversion method bit is set to 0, so that DTC bits are arranged as per version 4.

2.2.2. Supported J1939Nm features

The J1939Nm supports the following features:

- ▶ **Notification of an address loss:** J1939Nm triggers the transmission of a CannotClaimAddress parameter group (PG) when a NodeChannel loses its address.
- ▶ **Handling of AddressClaimed:** J1939Nm supports the transmission, reception, and request for Address-Claimed.

2.2.3. Supported J1939Rm features

The J1939Rm supports the following features:

- ▶ **Acknowledgement support:** J1939Rm supports acknowledgement indications and acknowledgement transmission.
- ▶ **Request support:** J1939Rm supports request indications and request transmission.
- ▶ **Timeout:** J1939Rm supports request timeout supervision.

2.2.4. Supported J1939Tp features

The J1939Tp supports the following features:

- ▶ Broadcast Announce Message (BAM) for broadcast transmission
- ▶ Connection Mode Data Transfer (CMDT) for point-to-point transmission
- ▶ Direct parameter group (PG)
- ▶ PDU2 format for single frame transmission on Can bus according to SAE_J1939-21 standard
- ▶ Rx and Tx cancellation support

- ▶ Retry support
- ▶ Concurrent connections
- ▶ Handling of unexpected N-PDU arrivals
- ▶ Broadcast Announce Message (BAM) for broadcast transmission on CanFD bus according to SAE_J1939-22 standard
- ▶ Connection Mode Data Transfer (CMDT) for point-to-point transmission on CanFD bus according to SAE_J1939-22 standard
- ▶ Concurrent session handling according to SAE_J1939-22 standard
- ▶ Contained parameter group number transmission (C-PGN) to the IpduM via the PduR via the PduR_J1939TpTransmit() API
- ▶ PDU1 and PDU3 formats for single frame reception on CanFD bus according to SAE_J1939-22 standard
- ▶ Assurance data transmission and reception according to SAE_J1939-22 standard

3. ACG8 J1939 Stack release notes

3.1. Overview

This chapter provides the ACG8 J1939 Stack product specific release notes. General release notes that are applicable to all products are provided in the EB tresos AutoCore Generic documentation. Refer to the general release notes in addition to the product release notes documented here.

3.2. Scope of the release

3.2.1. Configuration tool

Your release of EB tresos AutoCore is compatible with the release of the EB tresos Studio configuration tool:

- ▶ EB tresos Studio: 29.2.0 b220916-0321

3.2.2. AUTOSAR modules

The following table lists the AUTOSAR modules that are part of this ACG8 J1939 Stack release.

Module name	AUTOSAR version and revision	SWS version and revision	Module version	Supplier
J1939Dcm	4.2.2 []	4.2.2 [0]	1.1.7	Elektrobit Automotive GmbH
J1939Nm	R19-11 []	20.11.0 [0]	1.1.7	Elektrobit Automotive GmbH
J1939Rm	4.1.3 []	4.1.3 [0]	1.1.9	Elektrobit Automotive GmbH
J1939Tp	R19-11 []	20.11.0 [0000]	1.2.4	Elektrobit Automotive GmbH

Table 3.1. Hardware-Independent Modules specified by the AUTOSAR standard

3.2.3. EB (Elektrobit) modules

The following table lists all modules which are part of this release but are not specified by the AUTOSAR standard. These modules include tooling developed by EB or they may hold files shared by all other modules.

Module name	Module version	Supplier
No EB modules available		

Table 3.2. Modules not specified by the AUTOSAR standard

3.2.4. MCAL modules and EB tresos AutoCore OS

For information about MCAL modules and OS, refer to the respective documentation, which is available as PDF at `$TRESOS_BASE/doc/3.0_EB_tresos_AutoCore_OS` and `$TRESOS_BASE/doc/5.0_MCAL_modules`¹. It is also available in the online help in EB tresos Studio. Browse to the folders `EB tresos AutoCore OS` and `MCAL modules`.

3.3. Module release notes

3.3.1. J1939Dcm module release notes

- ▶ AUTOSAR R4.2 Rev 2
- ▶ AUTOSAR SWS document version: 4.2.2
- ▶ Module version: 1.1.7.B567464
- ▶ Supplier: Elektrobit Automotive GmbH

3.3.1.1. Change log

This chapter lists the changes between different versions.

Module version 1.1.7

2022-10-26

- ▶ Internal module improvement. This module version update does not affect module functionality.

¹`$TRESOS_BASE` is the location at which you installed EB tresos Studio.

Module version 1.1.6

2022-07-04

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.5

2022-02-18

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.4

2021-12-15

- ▶ ASCJ1939DCM-309 Fixed known issue: Wrong handling of pending response from DEM in DM04/DM25.

Module version 1.1.3

2021-10-08

- ▶ Update validation and the generator to support Multi-PG feature.

Module version 1.1.2

2021-06-25

- ▶ Internal module improvement. No affect to module functionality.

Module version 1.1.1

2021-03-05

- ▶ Timeout monitor need to be available for IF transmission connection.
- ▶ J1939DTC value conversion method.
- ▶ Diagnostic message-13 (DM13) support in J1939Dcm.
- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ Internal module improvement. Duplicate version history entry removed.No affect to module functionality.

Module version 1.1.0

2020-10-23

- ▶ RFM module development release.



Module version 1.0.4

2020-09-20

Module version 1.0.3

2020-06-19

- ▶ ASCJ1939DCM-218 Fixed known issue: Compilation Error caused by multiple Inclusion of Rte_Module file.
- ▶ ASCJ1939DCM-225 Fixed known issue: J1939Dcm doesn't work for fixed sized DMs.
- ▶ ASCJ1939DCM-222 Fixed known issue: J1939Dcm sends incorrect acknowledge for broadcast address
- ▶ ASCJ1939DCM-219 Fixed known issue: J1939Dcm calls J1939Rm_SendAck() with a wrong parameter
- ▶ ASCJ1939DCM-220 Fixed known issue: J1939Dcm_CopyTxData() fails to transmit the correct TxPduId of a DM message.

Module version 1.0.2

2020-02-21

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.1

2020-01-31

Module version 1.0.0

2019-12-19

Module version 0.0.1

2019-07-12

- ▶ ASCJ1939DCM-174 Fixed known issue: The pdu referred in PduRDestPduRef is expected to be linked to Npdu(i.e J1939TpTxDtNPduRef) and not Nsdu(i.e J1939TpTxNSduRef).
- ▶ ASCJ1939DCM-178 Fixed known issue: Missing the handling of setting the configuration parameter J1939DcmDiscardDM to false in the J1939Dcm generator

3.3.1.2. New features

- ▶ No new features have been added since the last release

3.3.1.3. Elektrobit-specific enhancements

This chapter lists the enhancements provided by the module.

- ▶ No enhancements have been added to the J1939Dcm module

3.3.1.4. Deviations

This chapter lists the deviations of the module from the AUTOSAR standard.

- ▶ DM31 is not supported yet

Description:

The J1939DCM doesn't provide a support for DM31 diagnostic message .

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00080 , J1939Dcm.ASR42.SWS_J1939Dcm_00081 ,J1939Dcm.-ASR42.SWS_J1939Dcm_00120 ,J1939Dcm.ASR42.SWS_J1939Dcm_00121

- ▶ DM24 is not supported yet

Description:

The J1939DCM doesn't provide a support for DM24 diagnostic message .

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00094 , J1939Dcm.ASR42.SWS_J1939Dcm_00095 ,J1939Dcm.-ASR42.SWS_J1939Dcm_00096 ,J1939Dcm.ASR42.SWS_J1939Dcm_00118,ECUC_J1939Dcm_00047

- ▶ DM35 is not supported yet

Description:

The J1939DCM doesn't provide a support for DM35 diagnostic message .

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00082 , J1939Dcm.ASR42.SWS_J1939Dcm_00083 ,J1939Dcm.-ASR42.SWS_J1939Dcm_00084

- ▶ Reception is not required

Description:

The J1939Dcm implements only J1939Dcm_RxIndication API to handle DM13 functionalities, rest of the reception APIs are not implemented in J1939Dcm Module.

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00140 ,J1939Dcm.ASR42.SWS_J1939Dcm_00141,J1939Dcm.-
ASR42.SWS_J1939Dcm_00142,J1939Dcm.ASR42.SWS_J1939Dcm_00152 ,J1939Dcm.ASR42.-
SWS_J1939Dcm_00153,J1939Dcm.ASR42.SWS_J1939Dcm_00154,J1939Dcm.ASR42.SWS_-
J1939Dcm_00155,J1939Dcm.ASR42.SWS_J1939Dcm_00156

- ▶ The parameter "broadcast" not exist

Description:

The J1939Rm implements J1939Rm_SendAck according to Autosar 4.1.3, which doesn't have "broadcast" parameter

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00167

- ▶ J1939Dcm_DemTriggerOnDTCSStatus reset DM01 periodic transmission

Description:

When DEM calls J1939Dcm_DemTriggerOnDTCSStatus, It reset DM01 periodic transmission

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00032.DemTriggerOnDTCS.Transmit

- ▶ No DMx messages and J1939RmUserPGN validation

Description:

J1939DCM doesn't validate that The configured DMx messages match the J1939RmUserPGN configured for J1939RmUserTypeJ1939RM_USER_J1939DCM in J1939Rm.

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00091

- ▶ No initialization failure or Null Pointer arguments check

Description:

J1939DCM doesn't check for function call with Null pointer or failure during initialization.

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00090.FailedInit

- ▶ PduR_J1939DcmTransmit not used during transmission

Description:

J1939DCM uses PduR_J1939DcmIfTransmit and PduR_J1939DcmTpTransmit for transmission via CanIf and J1939Tp respectively instead of using PduR_J1939DcmTransmit

Requirements:

J1939Dcm.ASR42.SWS_J1939Dcm_00016.Transmit, J1939Dcm.ASR42.SWS_J1939Dcm_00022.-DM25.Transmit, J1939Dcm.ASR42.SWS_J1939Dcm_00022.DM04.Transmit, J1939Dcm.ASR42.SWS_J1939Dcm_00062.Transmit, J1939Dcm.ASR42.SWS_J1939Dcm_00071.Transmit, J1939Dcm.ASR42.-SWS_J1939Dcm_00065.Transmit, J1939Dcm.ASR42.SWS_J1939Dcm_00043.Transmit, J1939Dcm.-ASR42.SWS_J1939Dcm_00029.Transmit

3.3.1.5. Limitations

This chapter lists the limitations of the module. Refer to the module references chapter *Integration notes*, subsection *Integration requirements* for requirements on integrating this module.

The J1939Dcm module has following limitations:

- ▶ J1939Dcm does not provide support for DM31, DM24 and DM35 diagnostic messages.
- ▶ J1939Dcm_GetVersionInfo API is not implemented.
- ▶ J1939Dcm does not validate the configured DMx messages match the J1939RmUserPGN configured for J1939RmUserTypeJ1939RM_USER_J1939DCM in J1939Rm.
- ▶ J1939Dcm does not check for function call with Null pointer or failure during initialization.
- ▶ J1939Dcm does not support cancellation of an ongoing transmission of an I-PDU in a lower layer communication interface or transport protocol module.
- ▶ J1939Dcm current implementation doesn't limit the number of sent DTC via DM01 to 20 DTC.
- ▶ J1939Dcm implements only J1939Dcm_RxIndication API to handle DM13 functionalities, rest of the reception APIs are not implemented in J1939Dcm Module.
- ▶ J1939Dcm module allows the application software to control the transmission of broadcast message using a function J1939Dcm_Broadcast_Transmission_Mode for DM13 support.
- ▶ J1939Dcm current implementation allows the all broadcast response message when DMx request is received.
- ▶ J1939Dcm module stops the DM1 periodic broadcast messages upon reception of a call-out function J1939Dcm_Broadcast_Transmission_Mode with mode set to False from the Application.

3.3.1.6. Open-source software

J1939Dcm does not use open-source software.

3.3.2. J1939Nm module release notes

- ▶ AUTOSAR R4.5 Rev 0
- ▶ AUTOSAR SWS document version: 20.11.0
- ▶ Module version: 1.1.7.B567464
- ▶ Supplier: Elektrobit Automotive GmbH

3.3.2.1. Change log

This chapter lists the changes between different versions.

Module version 1.1.7

2022-10-26

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.6

2022-07-04

- ▶ ASCJ1939NM-157 Fixed known issue: AUTOSAR versions of J1939Nm and Dem do not match
- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.5

2022-02-18

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.4

2021-12-28

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.3

2021-10-08

- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ Rebase to ASR20-11. This module version update does not affect module functionality.

Module version 1.1.2

2021-06-25

- ▶ Removed NM_STATE_OFFLINE in J1939Nm.
- ▶ J1939NmChannelUsesAddressArbitration is handled in J1939Nm_RxIndication Api
- ▶ Removed Out-of-bounds channel config access in J1939Nm_MainFunction()

Module version 1.1.1

2021-03-05

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.0

2020-10-23

- ▶ RFM module development release.

Module version 1.0.4

2020-06-19

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.2

2020-02-21

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.1

2020-01-31

Module version 1.0.0

2019-12-19

- ▶ Prototype version

Module version 0.0.1

2019-07-12

- ▶ ASCJ1939NM-62 Fixed known issue: wrong case in function name J1939Nm_PassiveStartUp.
- ▶ Initial version

3.3.2.2. New features

- ▶ No new features have been added since the last release

3.3.2.3. Elektrobit-specific enhancements

This chapter lists the enhancements provided by the module.

- ▶ No enhancements have been added to the J1939Nm module

3.3.2.4. Deviations

This chapter lists the deviations of the module from the AUTOSAR standard.

- ▶ Only post-build configuration is supported

Description:

The J1939Nm module only supports configuration variant VARIANT-PRE-COMPILE. VARIANT-POST-BUILD and VARIANT-LINK-TIME are not supported.

Requirements:

SWS_J1939Nm_00042

- ▶ J1939Nm_ConfigType is not used

Description:

The current implementation of the J1939Nm module does not support post build initialization.

Requirements:

SWS_J1939Nm_00030

- ▶ Bus off is not random

Description:

The current implementation of the bus off recovery and transmission of a CannotClaimAddress PG is not totally random.

Requirements:

SWS_J1939Nm_00068

- ▶ J1939NM_E_INIT_FAILED is not supported

Description:

The current implementation doesn't support J1939NM_E_INIT_FAILED development error value.

Requirements:

SWS_J1939Nm_00024

- ▶ variable PduInfoPtr in J1939Nm_RxIndication

Description:

The current implementation of J1939Nm_RxIndication does not deal with PduInfoPtr as a const, to be compatible with CanIf.

Requirements:

SWS_J1939Nm_00036

- ▶ J1939NmGatewaySupport is not supported

Description:

The current implementation doesn't support J1939NmGatewaySupport and J1939NmExternalNode configuration.

Requirements:

SWS_J1939Nm_00071

- ▶ Dem reporting API doesn't match between J1939Nm and DEM modules

Description:

The using of the API `Dem_SetEventStatus()` casues mismatching between J1939Nm and DEM modules. The `Dem_ReportErrorStatus()` is used instead of `Dem_SetEventStatus()`.

Requirements:

SWS_J1939Nm_00040.3

3.3.2.5. Limitations

This chapter lists the limitations of the module. Refer to the module references chapter *Integration notes*, subsection *Integration requirements* for requirements on integrating this module.

- ▶ Limitation on the changing of the address

Description:

The J1939 Network Management module does not support changing of the address, neither after an AddressClaimed PG, nor after address loss. It also does not support for Name Management.

- ▶ Limitation on J1939NmBusOffDelayTickPeriod

Description:

The J1939 Network Management limits the maximum range of J1939NmBusOffDelayTickPeriod to 65.535.

- ▶ Limitation on J1939Nm_RequestIndication

Description:

The J1939 Network Management doesn't support the extended identifier(extIdInfo) parameter in API J1939Nm_RequestIndication.

3.3.2.6. Open-source software

J1939Nm does not use open-source software.

3.3.3. J1939Rm module release notes

- ▶ AUTOSAR R4.1 Rev 3
- ▶ AUTOSAR SWS document version: 4.1.3
- ▶ Module version: 1.1.9.B567464
- ▶ Supplier: Elektrobit Automotive GmbH

3.3.3.1. Change log

This chapter lists the changes between different versions.

Module version 1.1.8

2022-10-26

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.7

2022-07-04

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.6

2022-02-18

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.5

2021-12-28

- ▶ Update the module to support Multi-PG feature.

Module version 1.1.4

2021-10-08

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.3

2021-06-25

- ▶ ASCJ1939RM-176 Fixed Out of bound access on Tx Acknowledgment and Request queue.
- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.2

2021-03-05

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.1.1

2021-02-12

- ▶ ASCJ1939RM-161 Fixed known issue: Multiple definition for J1939Rm_AckCode causes a compilation error.

Module version 1.1.0

2020-10-23

- ▶ RFM module development release.

Module version 1.0.4

2020-06-19

- ▶ ASCJ1939RM-72 Fixed known issue: wrong handling for the requestedPgn.
- ▶ preparation for RFD. This module version update does not affect module functionality.
- ▶ preparation for RFD. This module version update does not affect module functionality.
- ▶ This module version update does not affect module functionality.

Module version 1.0.2

2020-02-21

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.1

2020-01-31

Module version 1.0.0

2019-12-19

- ▶ Prototype version

Module version 0.0.1

2019-07-12

- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ ASCJ1939RM-91 Fixed known issue: missing elements in J1939Rm_Channel_Const_Struct in case Ack-Rx and RqstTx are not configured.

- ▶ ASCJ1939RM-81 Fixed known issue: not existing function PduR_J1939RmCopyTxData is called.
- ▶ ASCJ1939RM-80 Fixed known issue: Declaration of J1939Rm_PduRTpCopyRxData is missing.
- ▶ ASCJ1939RM-79 Fixed known issue: Using PduR_J1939RmTransmit for IF and TP is not allowed.
- ▶ Initial version

3.3.3.2. New features

- ▶ No new features have been added since the last release

3.3.3.3. Elektrobit-specific enhancements

This chapter lists the enhancements provided by the module.

- ▶ No enhancements have been added to the J1939Rm module

3.3.3.4. Deviations

This chapter lists the deviations of the module from the AUTOSAR standard.

- ▶ PduR_J1939RmTpTransmit

Description:

PduR_J1939RmTpTransmit is used instead of PduR_J1939RmTransmit in case of forwarding the PG to be transmitted via J1939Tp.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00006.PduR_J1939RmTransmit.Tp_Path

- ▶ ECU_Address

Description:

The current implementation of J1939Rm deals with J1939RmNodeId as the address of the ECU.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00026

- ▶ Only pre-compile configuration is supported

Description:

The J1939Rm module only supports configuration variant VARIANT-PRE-COMPILE. VARIANT-POST-BUILD and VARIANT-LINK-TIME are not supported.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00046

- ▶ pointer parameter is not checked

Description:

the current implementation of J1939Rm doesn't check pointer parameter of J1939Rm_ComRxIpduCallout.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00034

- ▶ RequiredPort are implemented according to AUTOSAR 4.2

Description:

the current implementation of J1939Rm for RequiredPort is implemented according to AUTOSAR 4.2.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00102

- ▶ J1939RmUserType header files

Description:

the current implementation of J1939Rm only includes "J1939RmUserCddName".h.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00113

- ▶ J1939Rm_ConfigType

Description:

Only VARIANT-PRE-COMPILE is supported, so J1939Rm_ConfigType is used as a dummy structure.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00036

- ▶ J1939Rm_RxIndication availability

Description:

According to the current implementation of J1939Rm, J1939Rm_RxIndication is always available.

Requirements:

J1939Rm.ASR413.SWS_J1939Rm_00080

- ▶ J1939RmUserCddRef

Description:

due to the EB limitation, ECUC-MODULE-CONFIGURATION-VALUES couldn't be referenced. a new configuration parameter was added to contain the cdd name.

Requirements:

J1939Rm.ASR413.ECUC_J1939Rm_00042

- ▶ J1939RmLowerComIPdu

Description:

J1939RmLowerComIPdu contains the configuration of the I-PDU that is sent from J1939Rm to IF modules (CanIf or IpduM), or Tp module (J1939Tp).

Requirements:

J1939Rm.ASR413.ECUC_J1939Rm_00034

3.3.3.5. Limitations

This chapter lists the limitations of the module. Refer to the module references chapter *Integration notes*, subsection *Integration requirements* for requirements on integrating this module.

- ▶ For this module no limitations are known.

3.3.3.6. Open-source software

J1939Rm does not use open-source software.

3.3.4. J1939Tp module release notes

- ▶ AUTOSAR R4.5 Rev 0
- ▶ AUTOSAR SWS document version: 20.11.0
- ▶ Module version: 1.2.4.B567464

- ▶ Supplier: Elektrobit Automotive GmbH

3.3.4.1. Change log

This chapter lists the changes between different versions.

Module version 1.2.4

2022-10-26

- ▶ ASCJ1939TP-311 Fixed known issue: "J1939Tp_TxConfirmation" redeclared with a different type in source code.
- ▶ ASCJ1939TP-302 Fixed known issue: Transmission time-out leads to Tx channel getting stuck

Module version 1.2.3

2022-07-04

- ▶ Provide J1939 Improvements according to SAE-J1939 Specs
- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.2.2

2022-04-11

- ▶ Support for assurance data reception for BAM and CMDT transfer on CanFD bus according to SAE-J1939-22.
- ▶ ASCJ1939TP-297 Fixed known issue: TX Confirmation mismatch between J1939Tp and PduR/IpduM

Module version 1.2.1

2022-02-18

- ▶ Support for assurance data transmission for BAM and CMDT transfer on CanFD bus according to SAE-J1939-22.
- ▶ ASCJ1939TP-271 Fixed known issue: No length check against received CANFD Tx control messages.
- ▶ ASCJ1939TP-274 Fixed known issue: Using of J1939TpTxDtNPdu instead of J1939TpTxCmNPdu for sending EOMS.
- ▶ ASCJ1939TP-275 Fixed known issue: Problem in receiving message with a total message size greater than 15300.

- ▶ ASCJ1939TP-288 Fixed known issue: Data corruption in the last packet due to the transmission of wrong bytes.
- ▶ ASCJ1939TP-264 Fixed known issue: Receiving a multi-frame PDU via CMDT fails.

Module version 1.2.0

2021-12-28

- ▶ Initial support for CanFD bus operations. BAM, CMDT and direct frames transfer according to SAE-J1939-22.

Module version 1.1.3

2021-10-08

- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ Rebase to ASR20-11. This module version update does not affect module functionality

Module version 1.1.2

2021-06-25

- ▶ ASCJ1939TP-243 Fixed the Data packets dropping issue of CMDT and BAM reception.

Module version 1.1.1

2021-03-05

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.7

2021-02-12

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.6

2021-01-22

- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.5

2020-10-23

Module version 1.0.4

2020-06-19

- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ Internal module improvement. This module version update does not affect module functionality.

Module version 1.0.2

2020-02-21

- ▶ Internal module improvement. This module version update does not affect module functionality.
- ▶ ASCJ1939TP-168 Fixed known issue: Wrong generation of TxChannels when no J1939TpRxFcNPdu is configured.

Module version 1.0.1

2020-01-31

Module version 1.0.0

2019-12-19

Module version 0.0.1

2019-07-12

- ▶ Initial version

3.3.4.2. New features

- ▶ No new features have been added since the last release

3.3.4.3. Elektrobit-specific enhancements

This chapter lists the enhancements provided by the module.

- ▶ No enhancements have been added to the J1939Tp module

3.3.4.4. Deviations

This chapter lists the deviations of the module from the AUTOSAR standard.

- ▶ the transport protocol variant ,SA and DA shall be configured

Description:

The J1939TP assumes that the transport protocol variant (BAM/CMDT), SA and DA are configured .

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00039.NOConfigSaDa

- ▶ No J1939Tp_ConfigType Usage

Description:

J1939Tp uses different type name called J1939Tp_GeneralConfigType that contains configuration data

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00175

- ▶ J1939TpMaxPacketsPerBlock is Not Optional

Description:

J1939Tp Assume that J1939TpTxMaxPacketsPerBlock and J1939TpRxPacketsPerBlock shall be configured .

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00208,J1939Tp.ASR42.SWS_J1939Tp_00211

- ▶ Metadata is not appended after the payload data

Description:

J1939Tp doesn't append metadata to payload data, it uses EcuC_SetMetaData and EcuC_GetMetaData APIs to transfer metadata between layers.

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00157.RxIndication,J1939Tp.ASR42.SWS_J1939Tp_00045.Metadata

- ▶ post-build configuration is not supported

Description:

J1939Tp doesn't provide a support for post-build configuration.

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00187

- ▶ No error event reporting on exceptions

Description:

On errors and exceptions, the J1939Tp module doesn't report the error event and it raises development error (DET) .

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00071

- ▶ PGN is not contained in Direct NPDU metadata

Description:

J1939Tp doesn't contain the related PGN in the Direct NPDU metadata if MetaDataLength is 4 , it leave third byte in metadata as don't care .

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00198.NPDU.Direct

- ▶ PduInfoPtr pointer to variable in J1939Tp_RxIndication

Description:

For compatibility with CanIf, J1939Tp_RxIndication's PduInfoPtr argument changed to be a pointer to variable instead of being a pointer to constant.

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00108

- ▶ Buffer size is not checked

Description:

Message is not aborted when the buffer is smaller than the total data length of the N-SDU.

Requirements:

J1939Tp.ASR42.SWS_J1939Tp_00040.StartOfReception.BAM

3.3.4.5. Limitations

This chapter lists the limitations of the module. Refer to the module references chapter *Integration notes*, subsection *Integration requirements* for requirements on integrating this module.

The J1939Tp module has following limitations:

- ▶ J1939Tp module does not support bi-directional CMDT channels and shared Pdu.
- ▶ J1939Tp doesn't provide a support for post-build configuration.
- ▶ J1939Tp assumes that the transport protocol variant (BAM/CMDT), SA and DA are configured.
- ▶ J1939Tp_CancelTransmit and J1939Tp_CancelReceive APIs are available regardless of J1939TpCancellationSupport is enabled or not.
- ▶ J1939Tp doesn't verify that "total number of packets" in the received TP.CM/RTS frame match the "total message size".
- ▶ J1939Tp limits the maximum range of J1939TpMainFunctionPeriod to 65.535".

3.3.4.6. Open-source software

J1939Tp does not use open-source software.

4. ACG8 J1939 Stack user guide

4.1. Overview

This user guide describes the concepts and the configuration of the modules:

- ▶ J1939 Diagnostics Communication Manager (J1939Dcm)
- ▶ J1939 Network Manager (J1939Nm)
- ▶ J1939 Request Manager (J1939Rm)
- ▶ J1939 Transport Protocol (J1939Tp)

This user guide is intended for readers who have good knowledge of AUTOSAR and about the purpose of the EB tresos AutoCore Generic 8 J1939 Stack modules.

4.2. Background information

This chapter describes the basic concepts of the EB tresos AutoCore Generic 8 J1939 Stack.

Additional background information is available in the module-specific user guides:

- ▶ [Section 4.3, “J1939Dcm module user guide”](#) for the J1939Dcm module
- ▶ [Section 4.4, “J1939Nm module user guide”](#) for the J1939Nm module
- ▶ [Section 4.5, “J1939Rm module user guide”](#) for the J1939Rm module
- ▶ [Section 4.6, “J1939Tp module user guide”](#) for the J1939Tp module

4.3. J1939Dcm module user guide

4.3.1. Overview

This chapter provides you with J1939Dcm-specific information:

- ▶ [Section 4.3.2, “Background information”](#) explains the concepts of the J1939Dcm module.
- ▶ [Section 4.3.3, “Configuring the J1939Dcm module”](#) provides instructions on how to configure the J1939Dcm module.

4.3.2. Background information

J1939Dcm is a part of a diagnostic protocol that is used for communication with the vehicle during vehicle repair and also during vehicle operation. It is used to report immediate diagnostic information into the vehicle, like periodically broadcasting active DTCs to the instrument cluster and so communicating to the driver the status of the vehicle by turning on/off different status lamps.

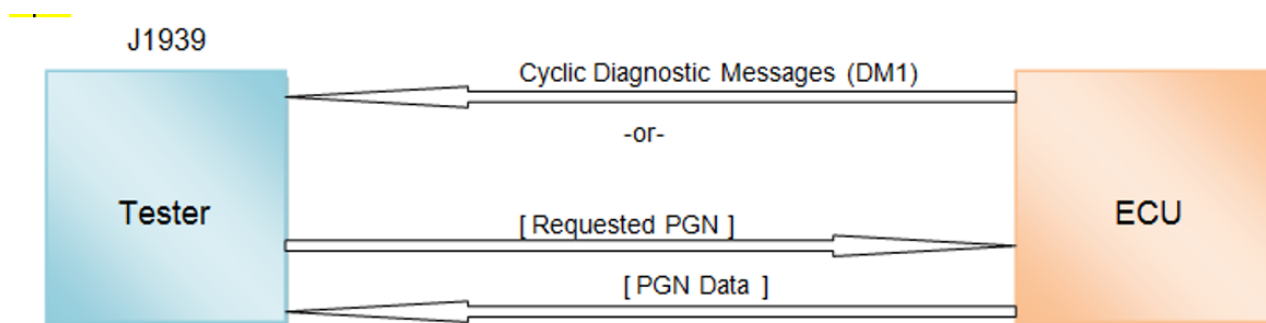


Figure 4.1. The J1939Dcm protocol

4.3.2.1. Supported diagnostic messages

The [J1939DcmDmxSupport](#) configuration parameter is used to identify the actual DMx (Diagnostic Message 0-57). The following table lists the supported DMx with the corresponding description.

Name	Description
J1939DCM_DM01_SUPPORT	Active Diagnostic Trouble Codes
J1939DCM_DM02_SUPPORT	Previously Active Diagnostic Trouble Codes
J1939DCM_DM03_SUPPORT	Diagnostic Data Clear/Reset for Previously Active DTCs
J1939DCM_DM04_SUPPORT	Freeze Frame Parameters
J1939DCM_DM05_SUPPORT	Diagnostic Readiness 1
J1939DCM_DM06_SUPPORT	Emission Related Pending DTCs
J1939DCM_DM07_SUPPORT	Command Non-continuously Monitored Test
J1939DCM_DM08_SUPPORT	Test Results for Non-continuously Monitored Systems
J1939DCM_DM09_SUPPORT	Oxygen Sensor Test Results
J1939DCM_DM10_SUPPORT	Non-continuously Monitored System Test Identifiers Support
J1939DCM_DM11_SUPPORT	Diagnostic Data Clear/Reset for Active DTCs
J1939DCM_DM12_SUPPORT	Emissions Related Active DTCs
J1939DCM_DM13_SUPPORT	Stop Start Broadcast
J1939DCM_DM14_SUPPORT	Memory Access Request

Name	Description
J1939DCM_DM15_SUPPORT	Memory Access Response
J1939DCM_DM16_SUPPORT	Binary Data Transfer
J1939DCM_DM17_SUPPORT	Boot Load Data
J1939DCM_DM18_SUPPORT	Data Security
J1939DCM_DM19_SUPPORT	Calibration Information
J1939DCM_DM22_SUPPORT	Individual Clear/Reset of Active and Previously Active DTC
J1939DCM_DM23_SUPPORT	Emission Related Previously Active DTCs
J1939DCM_DM24_SUPPORT	SPN Support
J1939DCM_DM25_SUPPORT	Expanded Freeze Frame
J1939DCM_DM27_SUPPORT	All Pending DTCs
J1939DCM_DM28_SUPPORT	Permanent DTCs
J1939DCM_DM29_SUPPORT	Regulated DTC Counts
J1939DCM_DM30_SUPPORT	Scaled Test Results
J1939DCM_DM31_SUPPORT	DTC to Lamp Association
J1939DCM_DM32_SUPPORT	Regulated Exhaust Emission Level Exceedance
J1939DCM_DM33_SUPPORT	Emission Increasing Auxiliary Emission Control Device Active Time
J1939DCM_DM34_SUPPORT	NTE Status
J1939DCM_DM35_SUPPORT	Immediate Fault Status
J1939DCM_DM36_SUPPORT	Harmonized Roadworthiness - Vehicle (HRVV)
J1939DCM_DM37_SUPPORT	Harmonized Roadworthiness - System (HRWS)
J1939DCM_DM38_SUPPORT	Harmonized Global Regulation Description (HGRD)
J1939DCM_DM39_SUPPORT	Harmonized Cumulative Continuous Malfunction Indicator - System (HCMI)
J1939DCM_DM40_SUPPORT	Harmonized B1 Failure Counts (HB1C)
J1939DCM_DM41_SUPPORT	DTCs - A, Pending
J1939DCM_DM42_SUPPORT	DTCs - A, Confirmed and Active
J1939DCM_DM43_SUPPORT	DTCs - A, Previously Active
J1939DCM_DM44_SUPPORT	DTCs - B1, Pending
J1939DCM_DM45_SUPPORT	DTCs - B1, Confirmed and Active
J1939DCM_DM46_SUPPORT	DTCs - B1, Previously Active
J1939DCM_DM47_SUPPORT	DTCs - B2, Pending
J1939DCM_DM48_SUPPORT	DTCs - B2, Confirmed and Active

Name	Description
J1939DCM_DM49_SUPPORT	DTCs - B2, Previously Active
J1939DCM_DM50_SUPPORT	DTCs - C, Pending
J1939DCM_DM51_SUPPORT	DTCs - C, Confirmed and Active
J1939DCM_DM52_SUPPORT	DTCs - C, Previously Active
J1939DCM_DM53_SUPPORT	Active Service Only DTCs
J1939DCM_DM54_SUPPORT	Previously Active Service Only DTCs
J1939DCM_DM55_SUPPORT	Clear All Service Only DTCs
J1939DCM_DM56_SUPPORT	Engine Emissions Certification Information
J1939DCM_DM57_SUPPORT	OBD Information

4.3.3. Configuring the J1939Dcm module

This chapter provides you with information on how to configure specific components of the `J1939Dcm` module. Depending on the status of your project, you may not need to configure all components that are described in this chapter.

To understand how to configure the `J1939Dcm` module, you must be familiar with the basic concepts of the `J1939Dcm`. For detailed information on the `J1939Dcm` concepts, see [Section 4.3.2, “Background information”](#).

4.3.3.1. Configuring general J1939Dcm settings



Configuring J1939DcmGeneral

Step 1

In the `J1939Dcm` editor, go to the **J1939DcmGeneral** tab.

Step 2

Configure the `J1939DcmCommonBufferSize` in [J1939DcmCommonBufferSize](#), e.g.

`J1939DcmCommonBufferSize: 255`.

`J1939DcmCommonBufferSize` defines the size of the common buffer. `J1939DcmCommonBufferSize` should be as large as the longest command or response message.

Step 3

Configure the `J1939DcmMainFunctionPeriod` in [J1939DcmMainFunctionPeriod](#), e.g.

`J1939DcmMainFunctionPeriod: 0.2`.

`J1939DcmMainFunctionPeriod` defines the execution cycle of the `J1939Dcm_MainFunction()` in seconds.

Step 4

Configure the `J1939DcmMaxDTCsPerMainFunction` in [J1939DcmMaxDTCsPerMainFunction](#), e.g. `J1939DcmMaxDTCsPerMainFunction: 5`.

`J1939DcmMaxDTCsPerMainFunction` defines the maximum threshold of DTCs filtered in a single Main-Function cycle.

4.3.3.2. Configuring a J1939Dcm node



Configuring J1939DcmNode

Step 1

In the `J1939Dcm` editor, go to the **J1939DcmConfigSet** tab. In **J1939DcmNode**, add a new node, e.g. `J1939DcmNode_0`.

Step 2

Configure the `J1939DcmNmNodeRef` in [J1939DcmNmNodeRef](#), e.g. `J1939DcmNmNodeRef: J1939NmNode_0`.

`J1939DcmNmNodeRef` contains the reference to the corresponding `J1939Nm` node.

Step 3

Configure the `J1939DcmNodeRmUserRef` in [J1939DcmNodeRmUserRef](#), e.g. `J1939DcmNodeRmUserRef: J1939RmUser_0`.

`J1939DcmNodeRmUserRef` contains the reference to the `J1939RmUser` used by `J1939Dcm`.

4.3.3.3. Configuring the J1939Dcm diagnostic message support and Tx PDUs

The following applies:

- ▶ `J1939DcmTxPdu` should be configured for the IF path via `CanIf` for DM05, DM21, DM24, and DM29.
- ▶ For DM03 and DM11, there is no `J1939DcmTxPdu`.
- ▶ The remaining DMs should be configured to the TP path via `J1939Tp`.



Configuring J1939DcmDiagnosticMessageSupport and J1939DcmTxPdu

Step 1

In the `J1939Dcm` editor, go to the **J1939DcmConfigSet** tab. In **J1939DcmNode**, add a new node, e.g. `J1939DcmNode_0`.

Step 2

Go to **J1939DcmDiagnosticMessageSupportConfigure** and add new DM messages that need to be supported for the particular node, e.g. `J1939DcmDiagnosticMessageSupport_DM05`.

Step 3

When you add a new DM message, configure the `J1939DcmDmxSupport` in [J1939DcmDmxSupport](#), e.g. `J1939DcmDmxSupport: J1939DCM_DM05_SUPPORT`.

For an overview of the supported DMx, see [Section 4.3.2.1, “Supported diagnostic messages”](#).

Step 4

Configure the `J1939DcmTxPdu` in [J1939DcmTxPdu](#), e.g. `J1939DcmTxPdu: J1939DcmTxPdu1`.

`J1939DcmTxPdu` defines a configuration for the J1939Dcm Tx PDU.

Step 5

Once you added the `J1939DcmTxPdu`, configure the `J1939DcmTxPduId` in [J1939DcmTxPduId](#), e.g. `J1939DcmTxPduId: 0`.

`J1939DcmTxPduId` defines the I-PDU identifier used to identify the Tx message. The J1939Dcm Tx PDU IDs have to be zero-based and consecutive.

Step 6

Configure the `J1939DcmTxPduRef` in [J1939DcmTxPduRef](#), e.g. `J1939DcmTxPduRef: Pdu_TxDM6_-J1939Dcm_CanIf`.

`J1939DcmTxPduRef` references the external Tx I-PDU definition in the `EcuC` module.

Dependency on parameters:

- ▶ A valid reference to `EcuC` PDU parameters must be provided.
- ▶ A unique `EcuC` PDU must be provided as reference for each `J1939DcmTxPdu`.
- ▶ It is not allowed to configure bidirectional J1939Dcm PDUs, i.e. the same PDU cannot be given as reference for both `J1939DcmTxPdu` and `J1939DcmRxPdu`.

4.4. J1939Nm module user guide

4.4.1. Overview

This chapter provides you with J1939Nm-specific information:

- ▶ [Section 4.4.2, “Background information”](#) explains the concepts of the J1939Nm module.
- ▶ [Section 4.4.3, “Configuring the J1939Nm module”](#) provides instructions on how to configure the J1939Nm module.

4.4.2. Background information

In contrast to the current AUTOSAR network management, the task of J1939Nm is not to handle sleep and wake-up of ECUs, but to assign a unique address to each ECU.

This is achieved by sending the AddressClaimed (ACL, 0x0EE00) parameter group at start-up, which announces the desired address. If another ECU claims the same address, and has higher priority, the ECU has to go silent after sending the CannotClaimAddress parameter group (ACL with null address as source address), or try to use another address. The ACL must also be sent upon request.

4.4.3. Configuring the J1939Nm module

This chapter provides you with information on how to configure specific components of the J1939Nm module. Depending on the status of your project, you may not need to configure all components that are described in this chapter.

To understand how to configure the J1939Nm module, you must be familiar with the basic concepts of the J1939Nm. For detailed information on the J1939Nm concepts, see [Section 4.4.2, “Background information”](#).

4.4.3.1. Configuring the J1939Nm general settings



Configuring J1939NmGeneral

Step 1

In the J1939Nm editor, go to the **J1939NmGeneral** tab.

Step 2

Configure the `J1939NmBusOffDelayTickPeriod` in [J1939NmBusOffDelayTickPeriod](#), e.g.
`J1939NmBusOffDelayTickPeriod: 0.02`.

`J1939NmBusOffDelayTickPeriod` defines the duration of ticks that are used to time BusOff delays after conflicting address claims. This parameter must be synchronized with the main function period of the CAN State Manager.

Range: 0.001 .. 0.255

Step 3

Configure the `J1939NmMainFunctionPeriod` in [J1939NmMainFunctionPeriod](#), e.g.
`J1939NmMainFunctionPeriod: 0.01`.

`J1939NmMainFunctionPeriod` defines the call cycle in seconds of `J1939Nm_MainFunction()`.

Range: 0.001 .. 0.255

Step 4

Configure the `J1939NmTxConfirmationTimeout` in [J1939NmTxConfirmationTimeout](#), e.g.
`J1939NmTxConfirmationTimeout: 1.5`.

`J1939NmTxConfirmationTimeout` defines the time in seconds to wait for a confirmation after transmission of a message. The behavior when the time elapses depends on the transmitted message.

Range: 0.001 .. 65535

4.4.3.2. Configuring a J1939Nm node



Configuring J1939NmNode

Step 1

In the `J1939Nm` editor, go to the **J1939NmConfigSet** tab. In **J1939NmNode**, add a new node, e.g.
`J1939NmNode_0`.

Step 2

Configure the `J1939NmNodeId` in [J1939NmNodeId](#), e.g. `J1939NmNodeId: 0`.

`J1939NmNodeId` defines the node ID for the corresponding `J1939Nm` node.

Step 3

Configure the `J1939NmNodeNameECUInstance` in [J1939NmNodeNameECUInstance](#), e.g.
`J1939NmNodeNameECUInstance: 0`.

`J1939NmNodeNameECUInstance` defines the ECU instance for the corresponding `J1939Nm` node.

Step 4

Configure the J1939NmNodeNameFunction in [J1939NmNodeNameFunction](#), e.g.

J1939NmNodeNameFunction: 0.

J1939NmNodeNameFunction defines the name for the corresponding J1939Nm node.

Step 5

Configure the J1939NmNodeNameFunctionInstance in [J1939NmNodeNameFunctionInstance](#), e.g.

J1939NmNodeNameFunctionInstance: 0.

J1939NmNodeNameFunctionInstance defines the function instance of the corresponding J1939Nm node.

Step 6

Configure the J1939NmNodeNameIdentityNumber in [J1939NmNodeNameIdentityNumber](#), e.g.

J1939NmNodeNameIdentityNumber: 0.

J1939NmNodeNameIdentityNumber defines the node name identity number for the corresponding J1939Nm node.

Step 7

Configure the J1939NmNodeNameIndustryGroup in [J1939NmNodeNameIndustryGroup](#), e.g.

J1939NmNodeNameIndustryGroup: 0.

J1939NmNodeNameIndustryGroup defines the node name industry group for the corresponding J1939Nm node.

Step 8

Configure the J1939NmNodeNameManufacturerCode in [J1939NmNodeNameManufacturerCode](#), e.g.

J1939NmNodeNameManufacturerCode: 0.

J1939NmNodeNameManufacturerCode defines the node name manufacturing code for the corresponding J1939Nm node.

Step 9

Configure the J1939NmNodeNameVehicleSystem in [J1939NmNodeNameVehicleSystem](#), e.g.

J1939NmNodeNameVehicleSystem: 0.

J1939NmNodeNameVehicleSystem defines the vehicle system name for the corresponding J1939Nm node.

Step 10

Configure the J1939NmNodeNameVehicleSystemInstance in

[J1939NmNodeNameVehicleSystemInstance](#), e.g. J1939NmNodeNameVehicleSystemInstance: 0.

J1939NmNodeNameVehicleSystemInstance defines the vehicle system instance for the corresponding J1939Nm node.

Step 11

Configure the J1939NmNodePreferredAddress in [J1939NmNodePreferredAddress](#), e.g.

J1939NmNodePreferredAddress: 0.

`J1939NmNodePreferredAddress` defines the node preferred address for the corresponding `J1939Nm` node.

Step 12

Configure the `J1939NmNodeChannelRef` in [J1939NmNodeChannelRef](#), e.g. `J1939NmNodeChannelRef: J1939NmChannel_0`.

`J1939NmNodeChannelRef` is the reference to the `J1939Nm` channel used by the `J1939Nm` node.

4.4.3.3. Configuring a J1939Nm channel, Rx PDU and Tx PDU



Configuring J1939NmChannel, J1939NmRxPdu, and J1939NmTxPdu

Step 1

In the `J1939Nm` editor, go to the **J1939NmConfigSet** tab. In **J1939NmChannel**, add a new channel, e.g. `J1939NmChannel_0`.

Step 2

Go to **General** and configure the `J1939NmComMNetworkHandleRef` in [J1939NmComMNetworkHandleRef](#), e.g. `J1939NmComMNetworkHandleRef: ComMChannel_0`.

Step 3

Go to **J1939NmRxPdu** and configure the `J1939NmRxPduId` in [J1939NmRxPduId](#), e.g. `J1939NmRxPduId: 0`.

Step 4

Configure the `J1939NmRxPduRef` in [J1939NmRxPduRef](#), e.g. `J1939NmRxPduRef: Pdu_RxRequestPGN`.

Step 5

Go to **J1939NmTxPdu** and configure the `Pdu_RxRequestPGN` in [J1939NmTxPduId](#), e.g. `J1939NmTxPduId: 0`.

Step 6

Configure the `J1939NmTxPduRef` in [J1939NmTxPduRef](#), e.g. `J1939NmTxPduRef: Pdu_TxNetworkManagement`.

4.5. J1939Rm module user guide

4.5.1. Overview

This chapter provides you with `J1939Rm`-specific information:

- ▶ [Section 4.5.2, “Background information”](#) explains the concepts of the J1939Rm module.
- ▶ [Section 4.5.3, “Configuring the J1939Rm module”](#) provides instructions on how to configure the J1939Rm module.

4.5.2. Background information

J1939 defines a special parameter group called Request (0x0EA00), which may be used to request the transmission of any other parameter group. The Request parameter group just contains the parameter group number (PGN) of the requested parameter group.

Depending on the destination address used when requesting another parameter group, the response must be sent directly to the requesting ECU or to all ECUs. For short parameter groups, the destination address is set accordingly, for large parameter groups the suitable transport protocol mode is used.

Depending on the requested parameter group and the requests destination address, the ECUs answer either with the requested parameter group, with the special acknowledgement parameter group (0x0EE00), or not at all.

4.5.3. Configuring the J1939Rm module

This chapter provides you with information on how to configure specific components of the J1939Rm module. Depending on the status of your project, you may not need to configure all components that are described in this chapter.

To understand how to configure the J1939Rm module, you must be familiar with the basic concepts of the J1939Rm. For detailed information on the J1939Rm concepts, see [Section 4.5.2, “Background information”](#).

4.5.3.1. Configuring J1939Rm general settings



Configuring J1939RmGeneral

Step 1

In the J1939Rm editor, go to the **J1939RmGeneral** tab.

Step 2

Configure the J1939RmMainFunctionPeriod in [J1939RmMainFunctionPeriod](#), e.g.

J1939RmMainFunctionPeriod: 0.005.

J1939RmMainFunctionPeriod defines the execution cycle of J1939RmMainFunctionPeriod in seconds.

Step 3

Configure the `J1939RmTxConfirmationTimeout` in [J1939RmTxConfirmationTimeout](#), e.g. `J1939RmTxConfirmationTimeout: 0.005`.

4.5.3.2. Configuring a J1939Rm node



Configuring J1939RmNode

Step 1

In the `J1939Rm` editor, go to the **J1939RmConfigSet** tab. In **J1939RmNode**, add a new node, e.g. `J1939RmNode_0`.

Step 2

Go to **General** and configure the `J1939RmNmNodeRef` in [J1939RmNmNodeRef](#), e.g. `J1939RmNmNodeRef: J1939NmNode_0`.

`J1939RmNmNodeRef` is the reference to the corresponding `J1939Nm` node.

Step 3

Go to **J1939RmNodeChannelRef** and configure the `J1939RmNodeChannelRef` in [J1939RmNodeChannelRef](#), e.g. `J1939RmNodeChannelRef: J1939RmChannel_0`.

`J1939RmNodeChannelRef` is the reference to the `J1939Rm` channel.

Step 4

Go to **J1939RmUser** and add a new `RmUser`, e.g. `J1939RmUser_0`.

Step 5

Get into **J1939RmUser** and go to **General**. Configure the `J1939RmUserId` in [J1939RmUserId](#), e.g. `J1939RmUserId: 4`.

Step 6

Configure the `J1939RmUserType` in [J1939RmUserType](#), e.g. `J1939RmUserType: J1939RM_USER_-J1939DCM`.

4.5.3.3. Configuring a J1939Rm channel



Configuring J1939RmChannel

Step 1

In the `J1939Rm` editor, go to the **J1939RmConfigSet** tab. In **J1939RmNode**, add a new channel, e.g. `J1939RmChannel_0`.

Step 2

Go to **General** and configure the J1939RmAckQueueSize in [J1939RmAckQueueSize](#), e.g.
J1939RmAckQueueSize: 1.

Step 3

Configure the J1939RmRequestQueueSize in [J1939RmRequestQueueSize](#), e.g.
J1939RmRequestQueueSize: 1.

Step 4

Configure the J1939RmRequestTimeoutMonitors in [J1939RmRequestTimeoutMonitors](#), e.g.
J1939RmRequestTimeoutMonitors: 0.

Step 5

Configure the J1939RmComMNetworkHandleRef in [J1939RmComMNetworkHandleRef](#), e.g.
J1939RmComMNetworkHandleRef: ComMChannel_0.

Step 6

Go to **J1939RmRqstRxPdu** and configure the J1939RmRqstRxPduId in [J1939RmRqstRxPduId](#), e.g.
J1939RmRqstRxPduId: 0.

Step 7

Configure the J1939RmRqstRxPduRef in [J1939RmRqstRxPduRef](#), e.g. J1939RmRqstRxPduRef: Pdu_-RxRequestPGN.

Step 8

Go to **J1939RmRqstTxPdu** and configure the J1939RmRqstTxPduId in [J1939RmRqstTxPduId](#), e.g.
J1939RmRqstTxPduId: 0.

Step 9

Configure the J1939RmRqstTxPduRef in [J1939RmRqstTxPduRef](#), e.g. J1939RmRqstTxPduRef: Pdu_-TxRequestPGN.

4.6. J1939Tp module user guide

4.6.1. Overview

This chapter provides you with J1939Tp-specific information:

- ▶ [Section 4.6.2, “Background information”](#) explains the concepts of the J1939Tp module.
- ▶ [Section 4.6.3, “Configuring the J1939Tp module”](#) provides instructions on how to configure the J1939Tp module.

4.6.2. Background information

J1939 uses two dedicated parameter groups to transfer all parameter groups with more than 8 bytes. These are called TP.CM (0x0EC00) and TP.DT (0x0EB00). TP.CM is used for flow control and transfers the PGN and length of the transported parameter group, while TP.DT transfers the actual parameter group data.

The J1939 transport protocol has two modes or variants, one with flow control and one without flow control. The mode with flow control is called RTS/CTS or CMDT and is used to send large parameter groups to a dedicated ECU. The mode without flow control is called BAM and is used to broadcast large parameter groups.

4.6.3. Configuring the J1939Tp module

This chapter provides you with information on how to configure specific components of the J1939Tp module. Depending on the status of your project, you may not need to configure all components that are described in this chapter.

To understand how to configure the J1939Tp module, you must be familiar with the basic concepts of the J1939Tp. For detailed information on the J1939Tp concepts, see [Section 4.6.2, “Background information”](#).

4.6.3.1. Configuring J1939Tp general settings



Configuring J1939TpGeneral

Step 1

In the J1939Tp editor, go to the **J1939TpGeneral** tab.

Step 2

Configure the J1939TpMainFunctionPeriod in [J1939TpMainFunctionPeriod](#), e.g.

J1939TpMainFunctionPeriod: 0.02.

J1939TpMainFunctionPeriod defines the call cycle in seconds of J1939Tp_MainFunction().

Range: 0.0 .. 65.535

Step 3

Configure the J1939TpReliableTxConfirmation in [J1939TpReliableTxConfirmation](#), e.g.

J1939TpReliableTxConfirmation: true.

J1939TpReliableTxConfirmation Enable Switches the reliable TxConfirmation ON.

Step 4

Configure the J1939TpTxConfirmationTimeout in [J1939TpTxConfirmationTimeout](#), e.g.

J1939TpTxConfirmationTimeout: 0.01.

J1939TpTxConfirmationTimeOut Defines the time for the J1939TpTxConfirmationTimeOut (in seconds).

Range: 0.0 .. 65.535

4.6.3.2. Configuring a J1939Tp Rx channel



Configuring J1939TpRxChannel

Step 1

In the J1939Tp editor, go to the **J1939TpConfiguration** tab. In **J1939TpRxChannel**, add a new channel, e.g. J1939TpRxChannel_0.

Step 2

Go to **General** and configure the J1939TpRxDa in [J1939TpRxDa](#), e.g. J1939TpRxDa: 0.

Step 3

Configure the J1939TpRxPacketsPerBlock in [J1939TpRxPacketsPerBlock](#), e.g. J1939TpRxPacketsPerBlock: 8.

Step 4

Configure the J1939TpRxCanFDSupport in [J1939TpRxCanFDSupport](#), e.g. J1939TpRxCanFDSupport: true.

Step 5

Configure the J1939TpRxProtocolType in [J1939TpRxProtocolType](#), e.g. J1939TpRxProtocolType: J1939TP_PROTOCOL_BAM.

Step 6

Configure the J1939TpRxSa in [J1939TpRxSa](#), e.g. J1939TpRxSa: 1.

Step 7

Go to **J1939TpRxCmNPdu** and configure the J1939TpRxCmNPduId in [J1939TpRxCmNPduId](#), e.g. J1939TpRxCmNPduId: 0.

Step 8

Configure the J1939TpRxCmNPduRef in [J1939TpRxCmNPduRef](#), e.g. J1939TpRxCmNPduRef: Pdu_RxTP_CM.

Step 9

Go to **J1939TpRxDtNPdu** and configure the J1939TpRxDtNPduId in [J1939TpRxDtNPduId](#), e.g. J1939TpRxDtNPduId: 1.

Step 10

Configure the J1939TpRxDtNPduRef in [J1939TpRxDtNPduRef](#), e.g. J1939TpRxDtNPduRef: Pdu_RxTP_DT.

Step 11

Go to **J1939TpRxPg** and add a new TpRxPgn, e.g. J1939TpRxPg: J1939TpRxPg_0.

Step 12

Go to **General** and configure the J1939TpRxPgPGN in [J1939TpRxPgPGN](#), e.g. J1939TpRxPgPGN: 65528.

Step 13

Go to **J1939TpRxNSdu** and add new TpRxNSdu, e.g. J1939TpRxNSdu: J1939TpRxNSdu_0.

Step 14

Configure the J1939TpRxNSduId in [J1939TpRxNSduId](#), e.g. J1939TpRxNSduId: 0.

Step 15

Configure the J1939TpRxNSduRef in [J1939TpRxNSduRef](#), e.g. J1939TpRxNSduRef: Pdu_TxDM13.

Step 16

Configure the J1939TpRxAssuranceDataType in [J1939TpRxAssuranceDataType](#), e.g.
J1939TpRxAssuranceDataType: J1939TP_CYBERSECURITY_ASSURANCE_DATA.

Step 17

Configure the J1939TpRxAssuranceDataLength in [J1939TpRxAssuranceDataLength](#), e.g.
J1939TpRxAssuranceDataLength: 8.

4.6.3.3. Configuring a J1939Tp Tx channel



Configuring J1939TpTxChannel

Step 1

In the J1939Tp editor, go to the **J1939TpConfiguration** tab. In **J1939TpTxChannel**, add a new channel, e.g. J1939TpTxChannel_0.

Step 2

Go to **General** and configure the J1939TpTxMaxPacketsPerBlock in [J1939TpTxMaxPacketsPerBlock](#), e.g. J1939TpTxMaxPacketsPerBlock: 8.

Step 3

Configure the J1939TpTxCanFDSupport in [J1939TpTxCanFDSupport](#), e.g. J1939TpTxCanFDSupport: true.

Step 4

Configure the J1939TpTxProtocolType in [J1939TpTxProtocolType](#), e.g. J1939TpTxProtocolType: J1939TP_PROTOCOL_BAM.

Step 5

Configure the J1939TpTxSa in [J1939TpTxSa](#), e.g. J1939TpTxSa: 0.

Step 6

Go to **J1939TpTxCmNPdu** and configure the J1939TpTxCmNPduTxConfId in [J1939TpTxCmNPduTxConfId](#), e.g. J1939TpTxCmNPduTxConfId: 0.

Step 7

Configure the J1939TpTxCmNPduRef in [J1939TpTxCmNPduRef](#), e.g. J1939TpTxCmNPduRef: Pdu_TxTP_CM.

Step 8

Go to **J1939TpTxDtNPdu** and configure the J1939TpTxDtNPduTxConfId in [J1939TpTxDtNPduTxConfId](#), e.g. J1939TpTxDtNPduTxConfId: 1.

Step 9

Configure the J1939TpTxDtNPduRef in [J1939TpTxDtNPduRef](#), e.g. J1939TpTxDtNPduRef: Pdu_TxTP_DT.

Step 10

Go to **J1939TpTxPg** and add a new J1939TpTxPgn, e.g. J1939TpTxPg: J1939TpTxPg_0.

Step 11

Go to **General** and configure the J1939TpTxPgPGN in [J1939TpTxPgPGN](#), e.g. J1939TpTxPgPGN: 57088.

Step 12

Go to **J1939TpTxNSdu** and add new TpTxNSdu, e.g. J1939TpTxNSdu: J1939TpTxNSdu_0.

Step 13

Configure the J1939TpTxNSduId in [J1939TpTxNSduId](#), e.g. J1939TpTxNSduId: 0.

Step 14

Configure the J1939TpTxNSduRef in [J1939TpTxNSduRef](#), e.g. J1939TpTxNSduRef: Pdu_TxDM1.

Step 15

Configure the J1939TpTxAssuranceDataType in [J1939TpTxAssuranceDataType](#), e.g. J1939TpTxAssuranceDataType: J1939TP_CYBERSECURITY_ASSURANCE_DATA.

Step 16

Configure the J1939TpTxAssuranceDataLength in [J1939TpTxAssuranceDataLength](#), e.g. J1939TpTxAssuranceDataLength: 8.

5. ACG8 J1939 Stack module references

5.1. Overview

This chapter provides module references for the ACG8 J1939 Stack product modules. These include a detailed description of all configuration parameters. Furthermore this chapter lists the application programming interface with all data types, constants and functions.

The content of the sections is sorted alphabetically according the EB tresos AutoCore Generic module names.

For further information on the functional behavior of these modules, refer to the chapter ACG8 J1939 Stack user's guide.

5.1.1. Notation in EB module references

EB notation may differ from the AUTOSAR standard notation in the software specification documents (SWS). This section describes the notation of *default value* and *range* fields in the EB module references.

5.1.1.1. Default value of configuration parameters

If there is no default value specified for a parameter, the default value field is omitted to prevent ambiguity with parameters that have -- as default values.

Example: The parameter `BswMCompuConstText` of the `BswM` module of EB tresos AutoCore Generic 8 Mode Management has no default value field, therefore it is omitted.

5.1.1.2. Range information of configuration parameters

The range of a configuration parameter contains an upper and a lower boundary. However, in special cases the range of allowed values can be computed by means of an XPath function that is evaluated at configuration time. An XPath function can either be a standard `xpath:<function>()` or a custom `cxpath:<function>()` function. The range of a configuration parameter may be computed based on other configuration parameters that are referenced from the XPath function. For more information on custom XPath functions, see section *Custom XPath Functions API* of the EB tresos Studio developer's guide.

Example: The parameter `BswMCompuConstText` of the `BswM` module of EB tresos AutoCore Generic 8 Mode Management has the custom XPath function `cxpath:getCompuMethodsVT()` in the range field which provides the allowed values.

5.2. J1939Dcm

5.2.1. Configuration parameters

Containers included		
Container name	Multiplicity	Description
CommonPublishedInformation	1..1	Label: Common Published Information Common container, aggregated by all modules. It contains published information about vendor and versions.
J1939DcmConfigSet	1..1	Defines this container contains the configuration parameters and sub containers of the AUTOSAR J1939Dcm module.
J1939DcmGeneral	1..1	Defines the the general configuration parameters of the J1939Dcm module.
PublishedInformation	1..1	Label: EB Published Information Additional published parameters not covered by Common-PublishedInformation container.

Parameters included	
Parameter name	Multiplicity
IMPLEMENTATION_CONFIG_VARIANT	1..1

Parameter Name	IMPLEMENTATION_CONFIG_VARIANT	
Label	Config Variant	
Multiplicity	1..1	
Type	ENUMERATION	
Default value	VariantPreCompile	
Range	VariantPreCompile	
Configuration class	VariantPreCompile:	VariantPreCompile

5.2.1.1. CommonPublishedInformation

Parameters included	
Parameter name	Multiplicity

Parameters included	
ArMajorVersion	1..1
ArMinorVersion	1..1
ArPatchVersion	1..1
SwMajorVersion	1..1
SwMinorVersion	1..1
SwPatchVersion	1..1
ModuleId	1..1
VendorId	1..1
Release	1..1

Parameter Name	ArMajorVersion	
Label	AUTOSAR Major Version	
Description	Major version number of AUTOSAR specification on which the appropriate implementation is based on.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	4	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	ArMinorVersion	
Label	AUTOSAR Minor Version	
Description	Minor version number of AUTOSAR specification on which the appropriate implementation is based on.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	2	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	ArPatchVersion	
Label	AUTOSAR Patch Version	
Description	Patch level version number of AUTOSAR specification on which the appropriate implementation is based on.	

Multiplicity	1..1
Type	INTEGER_LABEL
Default value	2
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	SwMajorVersion
Label	Software Major Version
Description	Major version number of the vendor specific implementation of the module.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	1
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	SwMinorVersion
Label	Software Minor Version
Description	Minor version number of the vendor specific implementation of the module. The numbering is vendor specific.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	1
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	SwPatchVersion
Label	Software Patch Version
Description	Patch level version number of the vendor specific implementation of the module. The numbering is vendor specific.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	7
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	ModuleId
Label	Numeric Module ID
Description	Module ID of this module from Module List
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	58
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	VendorId
Label	Vendor ID
Description	Vendor ID of the dedicated implementation of this module according to the AUTOSAR vendor list
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	1
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	Release
Label	Release Information
Multiplicity	1..1
Type	STRING_LABEL
Default value	
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

5.2.1.2. J1939DcmConfigSet

Containers included		
Container name	Multiplicity	Description
J1939DcmChannel	1..n	Defines the configuration of J1939Dcm channels. Optimization Effect:

Containers included		
		<ul style="list-style-type: none"> ▶ RAM reduction (config): Configuring less J1939Dcm channels reduces the RAM consumption of the module configuration. ▶ ROM reduction (config): Configuring less J1939Dcm channels reduces the ROM consumption of the module configuration. ▶ Execution time reduction (code): Configuring less J1939Dcm channels reduces the execution time of the module code.
J1939DcmNode	1..n	Defines logical node representing the parameters for the support of a logical J1939 node (identified by an ECU address).

5.2.1.3. J1939DcmChannel

Parameters included	
Parameter name	Multiplicity
J1939DcmBusType	1..1
J1939DcmComMChannelRef	1..1

Parameter Name	J1939DcmBusType
Description	<p>Defines the type of communication port.</p> <p>J1939DCM_ISO9141: Identifies the ISO 9141 communications port. J1939DCM_J1587: Identifies the J1587 communication port. J1939DCM_J1850: Identifies the J1850 communication port. J1939DCM_J1922: Identifies the J1922 communication port. J1939DCM_J1939_NETWORK_1: Identifies the J1939 Network #1, Primary Vehicle Network communication port. J1939DCM_J1939_NETWORK_2: Identifies the J1939 Network #2 communication port. J1939DCM_J1939_NETWORK_3: Identifies the J1939 Network #3 communication port. J1939DCM_J1939_NETWORK_4: Identifies the J1939 Network #4 communication port. J1939DCM_OTHER: Identifies the ?Other, Manufacture Specified Port? communication port. J1939DCM_PROPRIETARY_NETWORK_1: Identifies the Proprietary Network #1 communication port. J1939DCM_PROPRIETARY_NETWORK_2: Identifies the Proprietary Network #2 communication port.</p>
Multiplicity	1..1

Type	ENUMERATION	
Range	J1939DCM_ISO9141	
	J1939DCM_J1587	
	J1939DCM_J1850	
	J1939DCM_J1922	
	J1939DCM_J1939_NETWORK_1	
	J1939DCM_J1939_NETWORK_2	
	J1939DCM_J1939_NETWORK_3	
	J1939DCM_J1939_NETWORK_4	
	J1939DCM_OTHER	
	J1939DCM_PROPRIETARY_NETWORK_1	
	J1939DCM_PROPRIETARY_NETWORK_2	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmComMChannelRef	
Description	<p>Reference to the ComM channel.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to ComM has to be provided. ▶ It is not allowed to configured the same channel as reference for both <code>J1939DcmChannel</code>It is not allowed to configure the same ComM channel reference for more than one <code>J1939DcmChannel</code>. 	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.2.1.4. J1939DcmNode

Containers included		
Container name	Multiplicity	Description
J1939DcmDiagnosticMessageSupport	1	Defines a configuration of the diagnostic message support.

Parameters included	
Parameter name	Multiplicity
J1939DcmSPNsInDataStream	0..n
J1939DcmNmNodeRef	1..1
J1939DcmNodeRmUserRef	1..1

Parameter Name	J1939DcmSPNsInDataStream	
Description	Defines the SPNs available in data stream for use in DM24.	
Multiplicity	0..n	
Type	INTEGER	
Range	<div><=524287</div> <div>>=0</div>	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmNmNodeRef	
Description	Reference to the corresponding J1939Nm node.	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmNodeRmUserRef	
Description	Reference to the J1939RmUser used by J1939Dcm.	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.2.1.5. J1939DcmDiagnosticMessageSupport

Containers included		
Container name	Multiplicity	Description

Containers included		
J1939DcmRxPdu	0..1	Defines a configuration for the J1939DcmRxPdu.
J1939DcmTxPdu	0..1	Defines a configuration for the J1939DcmTxPdu.

Parameters included	
Parameter name	Multiplicity
J1939DcmDmxSupport	1..1
J1939DcmDiscardDM	0..1
J1939DcmUserFnc	0..1
J1939DcmDiagnosticMessageSupportChannelRef	1..1

Parameter Name	J1939DcmDmxSupport
Description	<p>Defines a parameter is used to identify the actual DMx((Diagnostic Message 0-57) message.</p> <ul style="list-style-type: none"> ▶ J1939DCM_DM01_SUPPORT: Active Diagnostic Trouble Codes. ▶ J1939DCM_DM02_SUPPORT: Previously Active Diagnostic Trouble Codes. ▶ J1939DCM_DM03_SUPPORT: Diagnostic Data Clear/Reset for Previously Active DTCs. ▶ J1939DCM_DM04_SUPPORT: Freeze Frame Parameters. ▶ J1939DCM_DM05_SUPPORT: Diagnostic Readiness 1. ▶ J1939DCM_DM06_SUPPORT: Emission Related Pending DTCs. ▶ J1939DCM_DM07_SUPPORT: Command Non-continuously Monitored Test. ▶ J1939DCM_DM08_SUPPORT: Test Results for Non-continuously Monitored Systems. ▶ J1939DCM_DM09_SUPPORT: Oxygen Sensor Test Results. ▶ J1939DCM_DM10_SUPPORT: Non-continuously Monitored System Test Identifiers Support. ▶ J1939DCM_DM11_SUPPORT: Diagnostic Data Clear/Reset for Active DTCs. ▶ J1939DCM_DM12_SUPPORT: Emissions Related Active DTCs. ▶ J1939DCM_DM13_SUPPORT: Stop Start Broadcast. ▶ J1939DCM_DM14_SUPPORT: Memory Access Request. ▶ J1939DCM_DM15_SUPPORT: Memory Access Response. ▶ J1939DCM_DM16_SUPPORT: Binary Data Transfer.

- ▶ J1939DCM_DM17_SUPPORT: Boot Load Data.
- ▶ J1939DCM_DM18_SUPPORT: Data Security.
- ▶ J1939DCM_DM19_SUPPORT: Calibration Information.
- ▶ J1939DCM_DM20_SUPPORT: Monitor Performance Ratio.
- ▶ J1939DCM_DM21_SUPPORT: Diagnostic Readiness 2.
- ▶ J1939DCM_DM22_SUPPORT: Individual Clear/Reset of Active and Previously Active DTC.
- ▶ J1939DCM_DM23_SUPPORT: Emission Related Previously Active DTCs.
- ▶ J1939DCM_DM24_SUPPORT: SPN Support.
- ▶ J1939DCM_DM25_SUPPORT: Expanded Freeze Frame.
- ▶ J1939DCM_DM26_SUPPORT: Diagnostic Readiness 3.
- ▶ J1939DCM_DM27_SUPPORT: All Pending DTCs.
- ▶ J1939DCM_DM28_SUPPORT: Permanent DTCs.
- ▶ J1939DCM_DM29_SUPPORT: Regulated DTC Counts.
- ▶ J1939DCM_DM30_SUPPORT: Scaled Test Results.
- ▶ J1939DCM_DM31_SUPPORT: DTC to Lamp Association.
- ▶ J1939DCM_DM32_SUPPORT: Regulated Exhaust Emission Level Exceedance.
- ▶ J1939DCM_DM33_SUPPORT: Emission Increasing Auxiliary Emission Control Device Active Time.
- ▶ J1939DCM_DM34_SUPPORT: NTE Status.
- ▶ J1939DCM_DM35_SUPPORT: Immediate Fault Status.
- ▶ J1939DCM_DM36_SUPPORT: Harmonized Roadworthiness - Vehicle(HRWV).
- ▶ J1939DCM_DM37_SUPPORT: Harmonized Roadworthiness ? System(HRWS).
- ▶ J1939DCM_DM38_SUPPORT: Harmonized Global Regulation Description(HGRD).
- ▶ J1939DCM_DM39_SUPPORT: Harmonized Cumulative Continuous Malfunction Indicator ? System (HCMI).
- ▶ J1939DCM_DM40_SUPPORT: Harmonized B1 Failure Counts (HB1C).
- ▶ J1939DCM_DM41_SUPPORT: DTCs - A, Pending.
- ▶ J1939DCM_DM42_SUPPORT: DTCs - A, Confirmed and Active.
- ▶ J1939DCM_DM43_SUPPORT: DTCs - A, Previously Active.

	<ul style="list-style-type: none"> ▶ J1939DCM_DM44_SUPPORT: DTCs - B1, Pending. ▶ J1939DCM_DM45_SUPPORT: DTCs - B1, Confirmed and Active. ▶ J1939DCM_DM46_SUPPORT: DTCs - B1, Previously Active. ▶ J1939DCM_DM47_SUPPORT: DTCs - B2, Pending. ▶ J1939DCM_DM48_SUPPORT: DTCs - B2, Confirmed and Active. ▶ J1939DCM_DM49_SUPPORT: DTCs - B2, Previously Active. ▶ J1939DCM_DM50_SUPPORT: DTCs - C, Pending. ▶ J1939DCM_DM51_SUPPORT: DTCs - C, Confirmed and Active. ▶ J1939DCM_DM52_SUPPORT: DTCs - C, Previously Active. ▶ J1939DCM_DM53_SUPPORT: Active Service Only DTCs. ▶ J1939DCM_DM54_SUPPORT: Previously Active Service Only DTCs. ▶ J1939DCM_DM55_SUPPORT: Clear All Service Only DTCs. ▶ J1939DCM_DM56_SUPPORT: Engine Emissions Certification Information. ▶ J1939DCM_DM57_SUPPORT: OBD Information.
Multiplicity	1..1
Type	ENUMERATION
Range	J1939DCM_DM01_SUPPORT J1939DCM_DM02_SUPPORT J1939DCM_DM03_SUPPORT J1939DCM_DM04_SUPPORT J1939DCM_DM05_SUPPORT J1939DCM_DM06_SUPPORT J1939DCM_DM07_SUPPORT J1939DCM_DM08_SUPPORT J1939DCM_DM09_SUPPORT J1939DCM_DM10_SUPPORT J1939DCM_DM11_SUPPORT J1939DCM_DM12_SUPPORT J1939DCM_DM13_SUPPORT J1939DCM_DM14_SUPPORT J1939DCM_DM15_SUPPORT J1939DCM_DM16_SUPPORT

	J1939DCM_DM17_SUPPORT
	J1939DCM_DM18_SUPPORT
	J1939DCM_DM19_SUPPORT
	J1939DCM_DM20_SUPPORT
	J1939DCM_DM21_SUPPORT
	J1939DCM_DM22_SUPPORT
	J1939DCM_DM23_SUPPORT
	J1939DCM_DM24_SUPPORT
	J1939DCM_DM25_SUPPORT
	J1939DCM_DM26_SUPPORT
	J1939DCM_DM27_SUPPORT
	J1939DCM_DM28_SUPPORT
	J1939DCM_DM29_SUPPORT
	J1939DCM_DM30_SUPPORT
	J1939DCM_DM31_SUPPORT
	J1939DCM_DM32_SUPPORT
	J1939DCM_DM33_SUPPORT
	J1939DCM_DM34_SUPPORT
	J1939DCM_DM35_SUPPORT
	J1939DCM_DM36_SUPPORT
	J1939DCM_DM37_SUPPORT
	J1939DCM_DM38_SUPPORT
	J1939DCM_DM39_SUPPORT
	J1939DCM_DM40_SUPPORT
	J1939DCM_DM41_SUPPORT
	J1939DCM_DM42_SUPPORT
	J1939DCM_DM43_SUPPORT
	J1939DCM_DM44_SUPPORT
	J1939DCM_DM45_SUPPORT
	J1939DCM_DM46_SUPPORT
	J1939DCM_DM47_SUPPORT
	J1939DCM_DM48_SUPPORT

	J1939DCM_DM49_SUPPORT
	J1939DCM_DM50_SUPPORT
	J1939DCM_DM51_SUPPORT
	J1939DCM_DM52_SUPPORT
	J1939DCM_DM53_SUPPORT
	J1939DCM_DM54_SUPPORT
	J1939DCM_DM55_SUPPORT
	J1939DCM_DM56_SUPPORT
	J1939DCM_DM57_SUPPORT
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939DcmDiscardDM	
Description	<ul style="list-style-type: none"> ▶ True - Enables customer specific implementation of a DM and disables generic processing of DM. ▶ False - Disables customer specific implementation of a DM and enables generic processing of DM. 	
Multiplicity	0..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	Elektrobit Automotive GmbH	

Parameter Name	J1939DcmUserFnc	
Description	Defines a function for customer specific implementation of DM.	
Multiplicity	0..1	
Type	FUNCTION-NAME	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	Elektrobit Automotive GmbH	

Parameter Name	J1939DcmDiagnosticMessageSupportChannelRef	
Description	Reference to J1939DcmChannel for which this diagnostic message is supported.	

Multiplicity	1..1
Type	REFERENCE
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

5.2.1.6. J1939DcmRxPdu

Parameters included	
Parameter name	Multiplicity
J1939DcmRxPduId	1..1
J1939DcmRxPduRef	1..1

Parameter Name	J1939DcmRxPduId
Description	<p>Defines the I-PDU identifier used for communication with PduR.</p> <p>A symbolic Name (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939DcmRxPdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939DcmRxPduRef
Description	<p>Reference to the external Rx I-PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's Pdu parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939DcmRxPdu. ▶ It is not allowed to configured bidirectional J1939Dcm PDUs(the same PDU cannot be given as reference for both J1939DcmRxPdu and J1939DcmTxPdu.
Multiplicity	1..1

Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.2.1.7. J1939DcmTxPdu

Parameters included	
Parameter name	Multiplicity
J1939DcmTxPduId	1..1
J1939DcmTxPduRef	1..1

Parameter Name	J1939DcmTxPduId
Description	<p>Defines the I-PDU identifier used to identify the Tx message.</p> <p>A symbolic Name (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Dcm Tx Pdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939DcmTxPduRef
Description	<p>Reference to the external Tx I-PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's Pdu parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939DcmTxPdu. ▶ It is not allowed to configured bidirectional J1939Dcm PDUs(the same PDU cannot be given as reference for both J1939DcmTxPdu and J1939DcmRxPdu.
Multiplicity	1..1
Type	REFERENCE

Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.2.1.8. J1939DcmGeneral

Parameters included	
Parameter name	Multiplicity
J1939DcmCommonBufferSize	1..1
J1939DcmDM01BufferSize	0..1
J1939DcmDM01Priority	0..1
J1939DcmDevErrorDetect	1..1
J1939DcmMainFunctionPeriod	1..1
J1939DcmMaxDTCsPerMainFunction	0..1
J1939DcmMaxFreezeFramesPerMainFunction	0..1
J1939DcmMaxRatiosPerMainFunction	0..1
J1939DcmVersionInfoApi	1..1
J1939DcmHeaderFiles	0..1
J1939DcmIfTxConfTimeout	1..1
J1939DcmSpnCmVersion	1..1
J1939DcmMaxNbOfDTCTriggeredByDEM	0..1

Parameter Name	J1939DcmCommonBufferSize	
Description	Defines the size of common buffer (in Bytes).	
	The buffer size should be as large as the longest command or response message.	
Multiplicity	1..1	
Type	INTEGER	
Range	<=65535	
	>=1	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmDM01BufferSize
----------------	------------------------

Description	<p>Defines the size of DM01 buffer (in Bytes).</p> <p>The buffer size should be as large as the longest DM01 response message.</p>	
Multiplicity	0..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmDM01Priority	
Description	<p>Defines the priority of DM01 message.</p> <p>This will be used to DM01 responses until an DM01 request is received.</p> <p>Default value will be 6.</p>	
Multiplicity	0..1	
Type	INTEGER	
Default value	6	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	Elektrobit Automotive GmbH	

Parameter Name	J1939DcmDevErrorDetect	
Description	<ul style="list-style-type: none"> ▶ True - Enables the detection of development errors during development. ▶ False - Disables the detection of development errors during development. <p>Optimization Effect:</p> <ul style="list-style-type: none"> ▶ ROM reduction (code): Disabling this parameter reduces the ROM consumption of the module code. ▶ Execution time reduction(code): Disabling this parameter reduces the execution time of the module code. 	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmMainFunctionPeriod	
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Description	Defines the execution cycle of J1939Dcm_MainFunction in seconds.	
Multiplicity	1..1	
Type	FLOAT	
Range	<=0.255	
	>=0.001	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmMaxDTCsPerMainFunction	
Description	Defines the maximum threshold of DTCs filtered in a single MainFunction cycle.	
Multiplicity	0..1	
Type	INTEGER	
Range	<=255	
	>=1	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmMaxFreezeFramesPerMainFunction	
Description	Defines the maximum threshold of FreezeFrames filtered in a single MainFunction cycle.	
Multiplicity	0..1	
Type	INTEGER	
Range	<=255	
	>=1	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmMaxRatiosPerMainFunction	
Description	Defines the maximum threshold of Ratios filtered in a single MainFunction cycle.	
Multiplicity	0..1	

Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmVersionInfoApi	
Description	<ul style="list-style-type: none"> ▶ True - Enables the version information API (<code>J1939Dcm_GetVersionInfo()</code>) ▶ False - Disables the version information API (<code>J1939Dcm_GetVersionInfo()</code>) <p>Optimization Effect:</p> <ul style="list-style-type: none"> ▶ ROM reduction (code): Disabling this parameter reduces the ROM consumption of the module code. 	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939DcmHeaderFiles	
Description	Defines the possibility to configure specific header files to be included in the generated files for customer specific DM implementations.	
Multiplicity	0..1	
Type	STRING	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	Elektrobit Automotive GmbH	

Parameter Name	J1939DcmIfTxConfTimeout	
Label	J1939DcmIfTxConfTimeout[Second]	
Description	<p>Transmission Timeout of IF Transmission.</p> <p>If there is no transmission confirmation by the PduR within this timeout, the J1939Dcm module shall give an error.</p> <p>Dependencies:</p>	

	<ul style="list-style-type: none"> ▶ If no Dmx that requires direct IF Transmission via PduR this parameter is ignored. ▶ Value must be a multiple of the Main Function Period. 	
Multiplicity	1..1	
Type	FLOAT	
Default value	0.2	
Configuration class	PreCompile:	VariantPreCompile
Origin	EB	

Parameter Name	J1939DcmSpnCmVersion	
Label	J1939DcmSpnCmVersion	
Description	<p>Defines the SPN conversion method.</p> <p>It affects folloing DM's:</p> <p>DTC status DMs (DM01, DM02, DM06, DM12, DM23, DM28, DM35)</p> <p>DM4 and DM25</p> <p>Default conversion method is selected to J1939DCM_DTC_CM_04.</p>	
Multiplicity	1..1	
Type	ENUMERATION	
Default value	J1939DCM_DTC_CM_04	
Range	J1939DCM_DTC_CM_01	
	J1939DCM_DTC_CM_02	
	J1939DCM_DTC_CM_03	
	J1939DCM_DTC_CM_04	
Configuration class	PreCompile:	VariantPreCompile
Origin	EB	

Parameter Name	J1939DcmMaxNbOfDTCTriggeredByDEM	
Description	Defines the maximum number of DTCs that can be triggered by DEM per one second.	
Multiplicity	0..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile

	VariantPreCompile:	VariantPreCompile
Origin	Elektrobit Automotive GmbH	

5.2.1.9. PublishedInformation

Parameters included	
Parameter name	Multiplicity
PbcfgMSupport	1..1

Parameter Name	PbcfgMSupport
Label	PbcfgM support
Description	Specifies whether or not the J1939Dcm can use the PbcfgM module for post-build support.
Multiplicity	1..1
Type	BOOLEAN
Default value	false
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

5.2.2. Application programming interface (API)

5.2.2.1. Type definitions

5.2.2.1.1. J1939Dcm_AckCodeType

Purpose		
Type	enum	
Constants	J1939DCM_ACK_POSITIVE	

	J1939DCM_ACK_NEGATIVE	
	J1939DCM_ACK_DEFAULT	

5.2.2.1.2. J1939Dcm_ConfigType

Purpose	
Type	uint8

5.2.2.1.3. J1939Dcm_DM13_StatusInfoType

Purpose		
Type	struct	
Members	uint16 J1939Dcm_HoldTimerTicks	
	uint8 J1939DcmTimerState	
	uint8 J1939DcmBroadcastMode	
	boolean J1939DcmBroadcastStatus	

5.2.2.1.4. J1939Dcm_DMFunctionPointerType

Purpose	
Type	J1939Dcm_DmResponseType (*) (J1939Dcm_OpStatusType OpStatus, J1939Dcm_MsgContextType *pMsgContext, uint8 NodeId)

5.2.2.1.5. J1939Dcm_DMMessageType

Purpose		
Type	struct	
Members	const J1939Dcm_DMFunctionPointerType DMFunctionPtr	
	const uint16 PGN	

	const uint8 TxInfo	
	const uint8 ComMChannelIdx	
	const uint8 SpecialInfo	

5.2.2.1.6. J1939Dcm_DmResponseType

Purpose	
Type	uint8

5.2.2.1.7. J1939Dcm_MetaDataInfoType

Purpose		
Type	struct	
Members	uint8 DMIdx	
	uint8 priority	
	uint8 receivedsourceAddress	
	uint8 NodePreferredAddress	
	uint8 destAddress	
	uint8 NodeId	
	uint8 J1939RmUserId	

5.2.2.1.8. J1939Dcm_MsgContextType

Purpose		
Type	struct	
Members	uint8 * resData	
	J1939Dcm_AckCodeType Acknowledge	
	J1939Dcm_MsgLenType resDataLen	
	J1939Dcm_MsgLenType resMaxDataLen	

	J1939Dcm_ResponseType Response	
	uint8 DMIdx	

5.2.2.1.9. J1939Dcm_NodesInfoType

Purpose		
Type	struct	
Members	const uint8 NodeSymbolicName	
	const uint8 J1939NmNodePreferredAddress	
	const uint8 J1939RmUserId	
	const uint8 DM1Idx	
	const uint8 FirstDMIdx	
	const uint8 LastDMIdx	
	const uint8 FirstComMChannelIdx	
	const uint8 LastComMChannelIdx	

5.2.2.1.10. J1939Dcm_OpStatusType

Purpose		
Type	uint8	

5.2.2.1.11. J1939Dcm_ResponseType

Purpose		
Type	uint8	

5.2.2.1.12. J1939Dcm_RxPduType

Purpose		
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Type	struct	
Members	const uint16 PduSymbolicName	
	const uint16 J1939DcmRxPduId	
	const uint16 ecuCPduId	
	const uint8 MetaDataLength	

5.2.2.1.13. J1939Dcm_Rx_DMMessageType

Purpose		
Type	struct	
Members	const uint16 PGN	
	const uint8 RxPduIdIdx	
	const uint8 ComMChannelIdx	

5.2.2.1.14. J1939Dcm_SetDTCFilterType

Purpose		
Type	struct	
Members	const uint8 u8DTCStatusFilter	
	const uint8 u8DTCKind	

5.2.2.1.15. J1939Dcm_StateType

Purpose		
Type	uint8	

5.2.2.1.16. J1939Dcm_TPTxInfoType

Purpose		
Type	struct	

Members	J1939Dcm_MsgLenType Sent_Bytes_Tx	
	J1939Dcm_MsgLenType Bytes_To_Send_Tx	

5.2.2.1.17. J1939Dcm_TxPduType

Purpose		
Type	struct	
Members	const uint16 PduSymbolicName	
	const uint16 J1939DcmTxPduId	
	const uint16 ecuCPduId	
	const uint8 MetaDataLength	

5.2.2.2. Macro constants

5.2.2.2.1. DBG_J1939DCM_BROADCAST_TRANSMISSION_MODE_ENTRY

Purpose	Entry point of function J1939Dcm_Broadcast_Transmission_Mode() .
Value	

5.2.2.2.2. DBG_J1939DCM_BROADCAST_TRANSMISSION_MODE_EXIT

Purpose	Exit point of function J1939Dcm_Broadcast_Transmission_Mode() .
Value	

5.2.2.2.3. DBG_J1939DCM_COPYRXDATA_ENTRY

Purpose	Entry point of function J1939Dcm_CopyRxData() .
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Value	
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5.2.2.2.4. DBG_J1939DCM_COPYRXDATA_EXIT

Purpose	Exit point of function J1939Dcm_CopyRxData() .
Value	

5.2.2.2.5. DBG_J1939DCM_COPYTXDATA_ENTRY

Purpose	Entry point of function J1939Dcm_CopyTxData() .
Value	

5.2.2.2.6. DBG_J1939DCM_COPYTXDATA_EXIT

Purpose	Exit point of function J1939Dcm_CopyTxData() .
Value	

5.2.2.2.7. DBG_J1939DCM_CURRENTDATALINKNETWORKMASK_UPDATE_ENTRY

Purpose	Entry point of function J1939Dcm_CurrentDataLinkNetworkMask_Update() .
Value	

5.2.2.2.8. DBG_J1939DCM_CURRENTDATALINKNETWORKMASK_UPDATE_EXIT

Purpose	Exit point of function J1939Dcm_CurrentDataLinkNetworkMask_Update() .
Value	

5.2.2.2.9. DBG_J1939DCM_DEINIT_ENTRY

Purpose	Entry point of function J1939Dcm_DeInit() .
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Value	
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5.2.2.2.10. DBG_J1939DCM_DEINIT_EXIT

Purpose	Exit point of function J1939Dcm_DeInit() .
Value	

5.2.2.2.11. DBG_J1939DCM_DEMTRIGGERONDTCSSTATUS_ENTRY

Purpose	Entry point of function J1939Dcm_DemTriggerOnDTCStatus() .
Value	

5.2.2.2.12. DBG_J1939DCM_DEMTRIGGERONDTCSSTATUS_EXIT

Purpose	Exit point of function J1939Dcm_DemTriggerOnDTCStatus() .
Value	

5.2.2.2.13. DBG_J1939DCM_DM03_11_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM03_11_RequestProcessing() .
Value	

5.2.2.2.14. DBG_J1939DCM_DM03_11_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM03_11_RequestProcessing() .
Value	

5.2.2.2.15. DBG_J1939DCM_DM04_25_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM04_25_RequestProcessing() .
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Value	
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5.2.2.2.16. DBG_J1939DCM_DM04_25_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM04_25_RequestProcessing() .
Value	

5.2.2.2.17. DBG_J1939DCM_DM05_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM05_RequestProcessing() .
Value	

5.2.2.2.18. DBG_J1939DCM_DM05_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM05_RequestProcessing() .
Value	

5.2.2.2.19. DBG_J1939DCM_DM13TIMEOUTSUPERVISION_ENTRY

Purpose	Entry point of function J1939Dcm_DM13TimeoutSupervision() .
Value	

5.2.2.2.20. DBG_J1939DCM_DM13TIMEOUTSUPERVISION_EXIT

Purpose	Exit point of function J1939Dcm_DM13TimeoutSupervision() .
Value	

5.2.2.2.21. DBG_J1939DCM_DM13_PROCESSREQUEST_ENTRY

Purpose	Entry point of function J1939Dcm_DM13_ProcessRequest() .
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Value	
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5.2.2.2.22. DBG_J1939DCM_DM13_PROCESSREQUEST_EXIT

Purpose	Exit point of function J1939Dcm_DM13_ProcessRequest() .
Value	

5.2.2.2.23. DBG_J1939DCM_DM19_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM19_RequestProcessing() .
Value	

5.2.2.2.24. DBG_J1939DCM_DM19_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM19_RequestProcessing() .
Value	

5.2.2.2.25. DBG_J1939DCM_DM20_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM20_RequestProcessing() .
Value	

5.2.2.2.26. DBG_J1939DCM_DM20_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM20_RequestProcessing() .
Value	

5.2.2.2.27. DBG_J1939DCM_DM21_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM21_RequestProcessing() .
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Value	
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5.2.2.2.28. DBG_J1939DCM_DM21_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM21_RequestProcessing() .
Value	

5.2.2.2.29. DBG_J1939DCM_DM26_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM26_RequestProcessing() .
Value	

5.2.2.2.30. DBG_J1939DCM_DM26_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM26_RequestProcessing() .
Value	

5.2.2.2.31. DBG_J1939DCM_DM29_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_DM29_RequestProcessing() .
Value	

5.2.2.2.32. DBG_J1939DCM_DM29_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_DM29_RequestProcessing() .
Value	

5.2.2.2.33. DBG_J1939DCM_GETCHANNELSTATE_ENTRY

Purpose	Entry point of function J1939Dcm_GetChannelState() .
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Value	
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5.2.2.2.34. DBG_J1939DCM_GETCHANNELSTATE_EXIT

Purpose	Exit point of function J1939Dcm_GetChannelState() .
Value	

5.2.2.2.35. DBG_J1939DCM_GETVERSIONINFO_ENTRY

Purpose	Entry point of function J1939Dcm_GetVersionInfo() .
Value	

5.2.2.2.36. DBG_J1939DCM_GETVERSIONINFO_EXIT

Purpose	Exit point of function J1939Dcm_GetVersionInfo() .
Value	

5.2.2.2.37. DBG_J1939DCM_INIT_ENTRY

Purpose	Entry point of function J1939Dcm_Init() .
Value	

5.2.2.2.38. DBG_J1939DCM_INIT_EXIT

Purpose	Exit point of function J1939Dcm_Init() .
Value	

5.2.2.2.39. DBG_J1939DCM_INTERNALGETNUMBEROFFILTEREDDTC_ENTRY

Purpose	Entry point of function J1939Dcm_InternalGetNumberOfFilteredDTC() .
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Value	
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5.2.2.2.40. DBG_J1939DCM_INTERNALGETNUMBEROFFILTEREDDTC_EXIT

Purpose	Exit point of function J1939Dcm_InternalGetNumberOfFilteredDTC() .
Value	

5.2.2.2.41. DBG_J1939DCM_MAINFUNCTION_ENTRY

Purpose	Entry point of function J1939Dcm_MainFunction() .
Value	

5.2.2.2.42. DBG_J1939DCM_MAINFUNCTION_EXIT

Purpose	Exit point of function J1939Dcm_MainFunction() .
Value	

5.2.2.2.43. DBG_J1939DCM_MEMCPY_ENTRY

Purpose	Entry point of function J1939Dcm_Memcpy() .
Value	

5.2.2.2.44. DBG_J1939DCM_MEMCPY_EXIT

Purpose	Exit point of function J1939Dcm_Memcpy() .
Value	

5.2.2.2.45. DBG_J1939DCM_NETWORKMASK_UPDATE_ENTRY

Purpose	Entry point of function J1939Dcm_NetworkMask_Update() .
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Value	
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5.2.2.2.46. DBG_J1939DCM_NETWORKMASK_UPDATE_EXIT

Purpose	Exit point of function J1939Dcm_NetworkMask_Update() .
Value	

5.2.2.2.47. DBG_J1939DCM_REPORTDTC_REQUESTPROCESSING_ENTRY

Purpose	Entry point of function J1939Dcm_ReportDTC_RequestProcessing() .
Value	

5.2.2.2.48. DBG_J1939DCM_REPORTDTC_REQUESTPROCESSING_EXIT

Purpose	Exit point of function J1939Dcm_ReportDTC_RequestProcessing() .
Value	

5.2.2.2.49. DBG_J1939DCM_REQUESTINDICATION_ENTRY

Purpose	Entry point of function J1939Dcm_RequestIndication() .
Value	

5.2.2.2.50. DBG_J1939DCM_REQUESTINDICATION_EXIT

Purpose	Exit point of function J1939Dcm_RequestIndication() .
Value	

5.2.2.2.51. DBG_J1939DCM_RXINDICATION_ENTRY

Purpose	Entry point of function J1939Dcm_RxIndication() .
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Value	
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5.2.2.2.52. DBG_J1939DCM_RXINDICATION_EXIT

Purpose	Exit point of function J1939Dcm_RxIndication() .
Value	

5.2.2.2.53. DBG_J1939DCM_SETANDCHECKCHANNELSTATE_ENTRY

Purpose	Entry point of function J1939Dcm_SetAndCheckChannelState() .
Value	

5.2.2.2.54. DBG_J1939DCM_SETANDCHECKCHANNELSTATE_EXIT

Purpose	Exit point of function J1939Dcm_SetAndCheckChannelState() .
Value	

5.2.2.2.55. DBG_J1939DCM_SETSTATE_ENTRY

Purpose	Entry point of function J1939Dcm_SetState() .
Value	

5.2.2.2.56. DBG_J1939DCM_SETSTATE_EXIT

Purpose	Exit point of function J1939Dcm_SetState() .
Value	

5.2.2.2.57. DBG_J1939DCM_STARTOFRECEPTION_ENTRY

Purpose	Entry point of function J1939Dcm_StartOfReception() .
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Value	
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5.2.2.2.58. DBG_J1939DCM_STARTOFRECEPTION_EXIT

Purpose	Exit point of function J1939Dcm_StartOfReception() .
Value	

5.2.2.2.59. DBG_J1939DCM_TPRXINDICATION_ENTRY

Purpose	Entry point of function J1939Dcm_TpRxIndication() .
Value	

5.2.2.2.60. DBG_J1939DCM_TPRXINDICATION_EXIT

Purpose	Exit point of function J1939Dcm_TpRxIndication() .
Value	

5.2.2.2.61. DBG_J1939DCM_TPTXCONFIRMATION_ENTRY

Purpose	Entry point of function J1939Dcm_TpTxConfirmation() .
Value	

5.2.2.2.62. DBG_J1939DCM_TPTXCONFIRMATION_EXIT

Purpose	Exit point of function J1939Dcm_TpTxConfirmation() .
Value	

5.2.2.2.63. DBG_J1939DCM_TRANSMITINTERNAL_ENTRY

Purpose	Entry point of function TransmitInternal() .
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Value	
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5.2.2.2.64. DBG_J1939DCM_TRANSMITINTERNAL_EXIT

Purpose	Exit point of function TransmitInternal().
Value	

5.2.2.2.65. DBG_J1939DCM_TXCONFIRMATION_ENTRY

Purpose	Entry point of function J1939Dcm_TxConfirmation() .
Value	

5.2.2.2.66. DBG_J1939DCM_TXCONFIRMATION_EXIT

Purpose	Exit point of function J1939Dcm_TxConfirmation() .
Value	

5.2.2.2.67. DBG_J1939DCM_UPDATEBROADCASTSTATUS_ENTRY

Purpose	Entry point of function J1939Dcm_UpdateBroadcastStatus().
Value	

5.2.2.2.68. DBG_J1939DCM_UPDATEBROADCASTSTATUS_EXIT

Purpose	Exit point of function J1939Dcm_UpdateBroadcastStatus().
Value	

5.2.2.2.69. DBG_J1939DCM_UPDATE_NETWORKMASK_BYTE1_ENTRY

Purpose	Entry point of function J1939Dcm_Update_NetworkMask_Byte1().
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Value	
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5.2.2.2.70. DBG_J1939DCM_UPDATE_NETWORKMASK_BYTE1_EXIT

Purpose	Exit point of function J1939Dcm_Update_NetworkMask_Byte1().
Value	

5.2.2.2.71. DBG_J1939DCM_UPDATE_NETWORKMASK_BYTE2_ENTRY

Purpose	Entry point of function J1939Dcm_Update_NetworkMask_Byte2().
Value	

5.2.2.2.72. DBG_J1939DCM_UPDATE_NETWORKMASK_BYTE2_EXIT

Purpose	Exit point of function J1939Dcm_Update_NetworkMask_Byte2().
Value	

5.2.2.2.73. DBG_J1939DCM_UPDATE_NETWORKMASK_BYTE3_ENTRY

Purpose	Entry point of function J1939Dcm_Update_NetworkMask_Byte3().
Value	

5.2.2.2.74. DBG_J1939DCM_UPDATE_NETWORKMASK_BYTE3_EXIT

Purpose	Exit point of function J1939Dcm_Update_NetworkMask_Byte3().
Value	

5.2.2.2.75. DBG_J1939DCM_VALIDATEMETADATA_ENTRY

Purpose	Entry point of function J1939Dcm_ValidateMetadata().
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Value	
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5.2.2.2.76. DBG_J1939DCM_VALIDATEMETADATA_EXIT

Purpose	Exit point of function J1939Dcm_ValidateMetadata().
Value	

5.2.2.2.77. E_NEXT

Purpose	
Value	RTE_E_J1939Dcm_CalibrationInformation_E_NEXT

5.2.2.2.78. J1939DCM_ACK_RESPONSE

Purpose	
Value	((J1939Dcm_ResponseType)0x02)

5.2.2.2.79. J1939DCM_CHECKSTATE

Purpose	
Value	((J1939Dcm_StateType)0x02U)

5.2.2.2.80. J1939DCM_CHECK_COMMON_BUFFER_UNLOCKED

Purpose	
Value	((J1939Dcm_GeneralStatus & (uint8)0x01) == (uint8)0x00)

5.2.2.2.81. J1939DCM_CHECK_DM1_BUFFER_UNLOCKED

Purpose	
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Value	((J1939Dcm_GeneralStatus & (uint8)0x10) == (uint8)0x00)
--------------	--

5.2.2.2.82. J1939DCM_CHECK_DM1_REQUEST_PRESENT

Purpose	
Value	((J1939Dcm_GeneralStatus & (uint8)0x20) != (uint8)0x00)

5.2.2.2.83. J1939DCM_CHECK_DM1_REQUEST_PROCESSING_ACTIVE

Purpose	
Value	((J1939Dcm_GeneralStatus & (uint8)0x40) != (uint8)0x00)

5.2.2.2.84. J1939DCM_CHECK_DMX_REQUEST_PRESENT

Purpose	
Value	((J1939Dcm_GeneralStatus & (uint8)0x02) != (uint8)0x00)

5.2.2.2.85. J1939DCM_CHECK_DMX_REQUEST_PROCESSING_ACTIVE

Purpose	
Value	((J1939Dcm_GeneralStatus & (uint8)0x04) != (uint8)0x00)

5.2.2.2.86. J1939DCM_CHECK_DM_PROCESSING_DONE_TX_NEEDED

Purpose	
Value	((J1939Dcm_GeneralStatus & (uint8)0x80) != (uint8)0x00)

5.2.2.2.87. J1939DCM_CHECK_DM_REQUEST_PROCESSING_ACTIVE

Purpose	
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Value	((J1939Dcm_GeneralStatus & (uint8)0x44) != (uint8)0x00)
--------------	--

5.2.2.2.88. J1939DCM_CHECK_DM_TRANSMISSION_MODE_IS_TP

Purpose	
Value	((J1939Dcm_ConfiguredDMs[J1939Dcm_MsgContext.DMIdx].TxInfo & (uint8)0x80) != (uint8)0)

5.2.2.2.89. J1939DCM_CLEAR

Purpose	
Value	0x00u

5.2.2.2.90. J1939DCM_COMMCHANNEL_SYMBOLICNAME

Purpose	
Value	J1939Dcm_ComMChannels[J1939DCM_COMMCHANNEL_IDX()]

5.2.2.2.91. J1939DCM_COMMCHANNEL_IDX

Purpose	
Value	J1939Dcm_ConfiguredDMs[J1939Dcm_MsgContext.DMIdx].ComMChannelIdx

5.2.2.2.92. J1939DCM_COMMON_BUFFER_LOCKED

Purpose	
Value	((uint8)0x01)

5.2.2.2.93. J1939DCM_COPYRXDATA

Purpose	
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Value	0x05u
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5.2.2.2.94. J1939DCM_COPYTXDATA

Purpose	
Value	0x43u

5.2.2.2.95. J1939DCM_CYCLIC_BUFFER_LOCKED

Purpose	
Value	((uint8)0x10)

5.2.2.2.96. J1939DCM_DM13_DONT_CARE

Purpose	
Value	0x03u

5.2.2.2.97. J1939DCM_DM13_HOLD_MODE

Purpose	
Value	0x02u

5.2.2.2.98. J1939DCM_DM13_MAX_CHANNEL

Purpose	
Value	16u

5.2.2.2.99. J1939DCM_DM13_NORMAL_MODE

Purpose	
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Value	0x00u
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5.2.2.2.100. J1939DCM_DM13_RESERVED

Purpose	
Value	0x02u

5.2.2.2.101. J1939DCM_DM13_RESET_NORMAL_BROADCAST_MODE

Purpose	
Value	0xFFFFu

5.2.2.2.102. J1939DCM_DM13_SETUP_MODE

Purpose	
Value	0x01u

5.2.2.2.103. J1939DCM_DM13_START_BROADCAST

Purpose	
Value	0x01u

5.2.2.2.104. J1939DCM_DM13_STOP_BROADCAST

Purpose	
Value	0x00u

5.2.2.2.105. J1939DCM_DM13_TIMER_CLEAR

Purpose	
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Value	0x00u
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5.2.2.2.106. J1939DCM_DM13_TIMER_SET

Purpose	
Value	0x01u

5.2.2.2.107. J1939DCM_DM_FUNCTION

Purpose	
Value	J1939Dcm_ConfiguredDMs[J1939Dcm_MsgContext.DMIdx].DMFunctionPtr

5.2.2.2.108. J1939DCM_DM_FUNCTION_NOT_OK

Purpose	
Value	((J1939Dcm_DmResponseType)0x01)

5.2.2.2.109. J1939DCM_DM_FUNCTION_NOT_READY

Purpose	
Value	((J1939Dcm_DmResponseType)0x03)

5.2.2.2.110. J1939DCM_DM_FUNCTION_OK

Purpose	
Value	((J1939Dcm_DmResponseType)0x00)

5.2.2.2.111. J1939DCM_DM_FUNCTION_PENDING

Purpose	
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Value	((J1939Dcm_DmResponseType)0x02)
--------------	---

5.2.2.2.112. J1939DCM_DM_PGN

Purpose	
Value	J1939Dcm_ConfiguredDMs[J1939Dcm_MsgContext.DMIdx].PGN

5.2.2.2.113. J1939DCM_DTC_CM_01

Purpose	
Value	(0x01)

5.2.2.2.114. J1939DCM_DTC_CM_02

Purpose	
Value	(0x02)

5.2.2.2.115. J1939DCM_DTC_CM_03

Purpose	
Value	(0x03)

5.2.2.2.116. J1939DCM_DTC_CM_04

Purpose	
Value	(0x04)

5.2.2.2.117. J1939DCM_E_BUFFER_TOO_SMALL

Purpose	
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Value	0x0Eu
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5.2.2.2.118. J1939DCM_E_IF_TX_CONFIRMATION_TIMEOUT

Purpose	
Value	0x30u

5.2.2.2.119. J1939DCM_E_INVALID_SDU_LENGTH

Purpose	
Value	0x31u

5.2.2.2.120. J1939DCM_E_INVALID_CHANNEL

Purpose	
Value	0x0Bu

5.2.2.2.121. J1939DCM_E_INVALID_NODE

Purpose	
Value	0x08u

5.2.2.2.122. J1939DCM_E_INVALID_PDU_SDU_ID

Purpose	
Value	0x01u

5.2.2.2.123. J1939DCM_E_INVALID_PGN

Purpose	
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Value	0x0Du
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5.2.2.2.124. J1939DCM_E_INVALID_STATE

Purpose	
Value	0x06u

5.2.2.2.125. J1939DCM_E_PARAM_POINTER

Purpose	
Value	0x11u

5.2.2.2.126. J1939DCM_E_REINIT

Purpose	
Value	0x21u

5.2.2.2.127. J1939DCM_E_UNINIT

Purpose	
Value	0x20u

5.2.2.2.128. J1939DCM_GETVERSIONINFO

Purpose	
Value	0x03u

5.2.2.2.129. J1939DCM_INIT

Purpose	
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Value	0x01u
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5.2.2.2.130. J1939DCM_INITIAL

Purpose	
Value	((J1939Dcm_OpStatusType)0x00)

5.2.2.2.131. J1939DCM_INIT_NOK

Purpose	
Value	((uint8)0)

5.2.2.2.132. J1939DCM_INIT_OK

Purpose	
Value	((uint8)1)

5.2.2.2.133. J1939DCM_INSTANCE_ID

Purpose	
Value	(uint8)0x00u
Description	The Instance ID for the J1939DCM used for det error reporting

5.2.2.2.134. J1939DCM_ISO9141

Purpose	
Value	((uint8)0x00)

5.2.2.2.135. J1939DCM_J1587

Purpose	
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Value	((uint8)0x01)
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5.2.2.2.136. J1939DCM_J1850

Purpose	
Value	((uint8)0x02)

5.2.2.2.137. J1939DCM_J1922

Purpose	
Value	((uint8)0x03)

5.2.2.2.138. J1939DCM_J1939_NETWORK_1

Purpose	
Value	((uint8)0x04)

5.2.2.2.139. J1939DCM_J1939_NETWORK_2

Purpose	
Value	((uint8)0x05)

5.2.2.2.140. J1939DCM_J1939_NETWORK_3

Purpose	
Value	((uint8)0x06)

5.2.2.2.141. J1939DCM_J1939_NETWORK_4

Purpose	
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Value	((uint8)0x07)
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5.2.2.2.142. J1939DCM_MAINFUNCTION

Purpose	
Value	0x04u

5.2.2.2.143. J1939DCM_NORMAL_RESPONSE

Purpose	
Value	((J1939Dcm_ResponseType)0x01)

5.2.2.2.144. J1939DCM_NO_RESPONSE

Purpose	
Value	((J1939Dcm_ResponseType)0x00)

5.2.2.2.145. J1939DCM_OTHER

Purpose	
Value	((uint8)0x08)

5.2.2.2.146. J1939DCM_PDU_DATA_SIZE

Purpose	
Value	8u

5.2.2.2.147. J1939DCM_PENDING

Purpose	
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Value	((J1939Dcm_OpStatusType)0x78)
--------------	---

5.2.2.2.148. J1939DCM_PROPRIETARY_NETWORK_1

Purpose	
Value	((uint8)0x09)

5.2.2.2.149. J1939DCM_PROPRIETARY_NETWORK_2

Purpose	
Value	((uint8)0x0A)

5.2.2.2.150. J1939DCM_REQUESTINDICATION

Purpose	
Value	0x43u

5.2.2.2.151. J1939DCM_RESET_COMMON_BUFFER_LOCKED

Purpose	
Value	(J1939Dcm_GeneralStatus &= (uint8)0xFE)

5.2.2.2.152. J1939DCM_RESET_COMMON_REQUEST_INFO

Purpose	
Value	((uint8)0x78)

5.2.2.2.153. J1939DCM_RESET_DM1_BUFFER_LOCKED

Purpose	
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Value	(J1939Dcm_GeneralStatus &= (uint8)0xEF)
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5.2.2.2.154. J1939DCM_RESET_DM1_REQUEST_INFO

Purpose	
Value	((uint8)0x2F)

5.2.2.2.155. J1939DCM_RESET_DM1_REQUEST_PRESENT

Purpose	
Value	(J1939Dcm_GeneralStatus &= (uint8)0xDF)

5.2.2.2.156. J1939DCM_RESET_DMX_REQUEST_PRESENT

Purpose	
Value	(J1939Dcm_GeneralStatus &= (uint8)0xFD)

5.2.2.2.157. J1939DCM_RESET_DM_INFO

Purpose	
Value	(J1939Dcm_GeneralStatus &= (uint8)a)

5.2.2.2.158. J1939DCM_RESET_DM_PROCESSING_DONE_TX_NEEDED

Purpose	
Value	(J1939Dcm_GeneralStatus &= (uint8)0x7F)

5.2.2.2.159. J1939DCM_RXINDICATION

Purpose	
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Value	0x42u
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5.2.2.2.160. J1939DCM_RX_PDU_ID_BLOCKED_COMMON

Purpose	
Value	((uint8)2)

5.2.2.2.161. J1939DCM_RX_PDU_ID_IDLE

Purpose	
Value	((uint8)0)

5.2.2.2.162. J1939DCM_SET

Purpose	
Value	0x01u

5.2.2.2.163. J1939DCM_SETSTATE

Purpose	
Value	0x0Bu

5.2.2.2.164. J1939DCM_SET_COMMON_BUFFER_LOCKED

Purpose	
Value	(J1939Dcm_GeneralStatus = (uint8)0x01)

5.2.2.2.165. J1939DCM_SET_DM1_BUFFER_LOCKED

Purpose	
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Value	(J1939Dcm_GeneralStatus = (uint8)0x10)
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5.2.2.2.166. J1939DCM_SET_DM1_REQUEST_PRESENT

Purpose	
Value	(J1939Dcm_GeneralStatus = (uint8)0x20)

5.2.2.2.167. J1939DCM_SET_DM1_REQUEST_PROCESSING_ACTIVE

Purpose	
Value	(J1939Dcm_GeneralStatus = (uint8)0x40)

5.2.2.2.168. J1939DCM_SET_DMX_REQUEST_PRESENT

Purpose	
Value	(J1939Dcm_GeneralStatus = (uint8)0x02)

5.2.2.2.169. J1939DCM_SET_DMX_REQUEST_PROCESSING_ACTIVE

Purpose	
Value	(J1939Dcm_GeneralStatus = (uint8)0x04)

5.2.2.2.170. J1939DCM_SET_DM_PROCESSING_DONE_TX_NEEDED

Purpose	
Value	(J1939Dcm_GeneralStatus = (uint8)0x80)

5.2.2.2.171. J1939DCM_SET_REQUEST_PRESENT

Purpose	
----------------	--

Value	(J1939Dcm_GeneralStatus = (uint8)a)
--------------	--

5.2.2.2.172. J1939DCM_SPECIAL_INFO

Purpose	
Value	J1939Dcm_ConfiguredDMs[J1939Dcm_MsgContext.DMIdx].SpecialInfo

5.2.2.2.173. J1939DCM_STARTOFRECEPTION

Purpose	
Value	0x07u

5.2.2.2.174. J1939DCM_STATE_OFFLINE

Purpose	
Value	((J1939Dcm_StateType)0x01U)

5.2.2.2.175. J1939DCM_STATE_ONLINE

Purpose	
Value	((J1939Dcm_StateType)0x00U)

5.2.2.2.176. J1939DCM_TPRXINDICATION

Purpose	
Value	0x08u

5.2.2.2.177. J1939DCM_TPTXCONFIRMATION

Purpose	
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Value	0x09u
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5.2.2.2.178. J1939DCM_TRIGGER_ON_DTCSTATUS

Purpose	
Value	0x0Au

5.2.2.2.179. J1939DCM_TXCONFIRMATION

Purpose	
Value	0x40u

5.2.2.2.180. J1939DCM_TXPDUID_IDX

Purpose	
Value	(J1939Dcm_ConfiguredDMs[J1939Dcm_MsgContext.DMIdx].TxInfo & (uint8)0x7F)

5.2.2.2.181. J1939DCM_TX_DM1

Purpose	
Value	((uint8)0x08)

5.2.2.2.182. J1939DCM_TX_DMX

Purpose	
Value	((uint8)0x04)

5.2.2.2.183. J1939DCM_TX_IF

Purpose	
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Value	((uint8)0x01)
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5.2.2.2.184. J1939DCM_TX_IF_DM1_ACTIVE

Purpose	
Value	((uint8)0x09)

5.2.2.2.185. J1939DCM_TX_IF_DMX

Purpose	
Value	(((uint8)J1939DCM_TX_IF) ((uint8)J1939DCM_TX_DMX))

5.2.2.2.186. J1939DCM_TX_IF_DMX_ACTIVE

Purpose	
Value	((uint8)0x05)

5.2.2.2.187. J1939DCM_TX_PDU_ID_IDLE

Purpose	
Value	((uint8)0x00)

5.2.2.2.188. J1939DCM_TX_PDU_ID_IF_TRANSMIT

Purpose	
Value	((uint8)0x00)

5.2.2.2.189. J1939DCM_TX_PDU_ID_TP_TRANSMIT

Purpose	
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Value	((uint8)0x80)
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5.2.2.2.190. J1939DCM_TX_TP

Purpose	
Value	((uint8)0x02)

5.2.2.2.191. J1939DCM_TX_TP_DM1_ACTIVE

Purpose	
Value	((uint8)0x0A)

5.2.2.2.192. J1939DCM_TX_TP_DM1_ACTIVE

Purpose	
Value	((uint8)0x06)

5.2.2.2.193. J1939Dcm_get_uint8_from_uint32

Purpose	
Value	(uint8)((uint32)0x000000FF & (uint32) ((uint32)(a) >> (uint8)(b)))

5.2.2.2.194. J1939_DM13_HOLD SIGNAL_ALL_DEVICE

Purpose	
Value	0x00u

5.2.2.2.195. J1939_DM13_HOLD SIGNAL_MODIFIED_DEVICES

Purpose	
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Value	0x10u
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5.2.2.2.196. J1939_DM13_HOLD SIGNAL_NOT_AVAILABLE

Purpose	
Value	0xF0u

5.2.2.3. Objects

5.2.2.3.1. J1939Dcm_ChannelsState

Purpose	
Type	uint8

5.2.2.3.2. J1939Dcm_CommonBuffer

Purpose	
Type	uint8

5.2.2.3.3. J1939Dcm_CurPosInTxBuff

Purpose	
Type	J1939Dcm_MsgLenType

5.2.2.3.4. J1939Dcm_CyclesTillNextDM1Transmit

Purpose	
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Type	uint16
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5.2.2.3.5. J1939Dcm_DM13_BroadcastStatusMask

Purpose	
Type	uint16

5.2.2.3.6. J1939Dcm_DM13_StatusInfo

Purpose	
Type	J1939Dcm_DM13_StatusInfoType

5.2.2.3.7. J1939Dcm_DM1Buffer

Purpose	
Type	uint8

5.2.2.3.8. J1939Dcm_GeneralStatus

Purpose	
Type	uint8

5.2.2.3.9. J1939Dcm_MsgContext

Purpose	
Type	J1939Dcm_MsgContextType

5.2.2.3.10. J1939Dcm_NbOfDTCTriggeredByDEM

Purpose	
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Type	uint8
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5.2.2.3.11. J1939Dcm_NbOfProcessedFFPerRequest

Purpose	
Type	uint16

5.2.2.3.12. J1939Dcm_NumberOfFilteredItems

Purpose	
Type	uint16

5.2.2.3.13. J1939Dcm_TimeoutCycles

Purpose	
Type	uint16

5.2.2.3.14. J1939Dcm_TimeoutMonitorFlag

Purpose	
Type	uint8

5.2.2.4. Functions

5.2.2.4.1. J1939Dcm_Broadcast_Transmission_Mode

Purpose	
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Synopsis	Std_ReturnType J1939Dcm_Broadcast_Transmission_Mode (boolean tTransmissionMode);	
Return Value		

5.2.2.4.2. J1939Dcm_CopyRxData

Purpose		
Synopsis	BufReq_ReturnType J1939Dcm_CopyRxData (PduIdType id , const PduInfoType * info , PduLengthType * bufferSizePtr);	
Return Value		

5.2.2.4.3. J1939Dcm_CopyTxData

Purpose		
Synopsis	BufReq_ReturnType J1939Dcm_CopyTxData (PduIdType id , const PduInfoType * info , RetryInfoType * retry , PduLengthType * availableDataPtr);	
Return Value		

5.2.2.4.4. J1939Dcm_DM03_11_RequestProcessing

Purpose		
Synopsis	J1939Dcm_DmResponseType J1939Dcm_DM03_11_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);	
Return Value		

5.2.2.4.5. J1939Dcm_DM04_25_RequestProcessing

Purpose		
Synopsis	J1939Dcm_DmResponseType J1939Dcm_DM04_25_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);	

Return Value		
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5.2.2.4.6. J1939Dcm_DM05_RequestProcessing

Purpose		
Synopsis	<code>J1939Dcm_DmResponseType J1939Dcm_DM05_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);</code>	
Return Value		

5.2.2.4.7. J1939Dcm_DM19_RequestProcessing

Purpose		
Synopsis	<code>J1939Dcm_DmResponseType J1939Dcm_DM19_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);</code>	
Return Value		

5.2.2.4.8. J1939Dcm_DM20_RequestProcessing

Purpose		
Synopsis	<code>J1939Dcm_DmResponseType J1939Dcm_DM20_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);</code>	
Return Value		

5.2.2.4.9. J1939Dcm_DM21_RequestProcessing

Purpose		
Synopsis	<code>J1939Dcm_DmResponseType J1939Dcm_DM21_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);</code>	

Return Value		
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5.2.2.4.10. J1939Dcm_DM26_RequestProcessing

Purpose		
Synopsis	<pre>J1939Dcm_DmResponseType J1939Dcm_DM26_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);</pre>	
Return Value		

5.2.2.4.11. J1939Dcm_DM29_RequestProcessing

Purpose		
Synopsis	<pre>J1939Dcm_DmResponseType J1939Dcm_DM29_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);</pre>	
Return Value		

5.2.2.4.12. J1939Dcm_DeInit

Purpose		
Synopsis	<pre>void J1939Dcm_DeInit (void);</pre>	

5.2.2.4.13. J1939Dcm_DemTriggerOnDTCStatus

Purpose		
Synopsis	<pre>void J1939Dcm_DemTriggerOnDTCStatus (uint32 DTC);</pre>	

5.2.2.4.14. J1939Dcm_GetVersionInfo

Purpose		
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Synopsis	<code>void J1939Dcm_GetVersionInfo (Std_VersionInfoType * versionInfo);</code>
-----------------	--

5.2.2.4.15. J1939Dcm_Init

Purpose	
Synopsis	<code>void J1939Dcm_Init (const J1939Dcm_ConfigType * configPtr);</code>

5.2.2.4.16. J1939Dcm_MainFunction

Purpose	
Synopsis	<code>void J1939Dcm_MainFunction (void);</code>

5.2.2.4.17. J1939Dcm_Memcpy

Purpose	
Synopsis	<code>void J1939Dcm_Memcpy (uint8 * lp_Dst , const uint8 * lp_Src , uint32 luv_Nb);</code>

5.2.2.4.18. J1939Dcm_ReportDTC_RequestProcessing

Purpose	
Synopsis	<code>J1939Dcm_DmResponseType J1939Dcm_ReportDTC_RequestProcessing (J1939Dcm_OpStatusType OpStatus , J1939Dcm_MsgContextType * pMsgContext , uint8 NodeId);</code>
Return Value	

5.2.2.4.19. J1939Dcm_RequestIndication

Purpose	
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Synopsis	<code>void J1939Dcm_RequestIndication (uint8 node , NetworkHandleType channel , uint32 requestedPgn , uint8 sourceAddress , uint8 destAddress , uint8 priority);</code>
-----------------	---

5.2.2.4.20. J1939Dcm_RxIndication

Purpose	
Synopsis	<code>void J1939Dcm_RxIndication (PduIdType RxPduId , const PduInfoType * PduInfoPtr);</code>

5.2.2.4.21. J1939Dcm_SetState

Purpose	
Synopsis	<code>Std_ReturnType J1939Dcm_SetState (NetworkHandleType channel , uint8 node , J1939Dcm_StateType newState);</code>
Return Value	

5.2.2.4.22. J1939Dcm_StartOfReception

Purpose	
Synopsis	<code>BufReq_ReturnType J1939Dcm_StartOfReception (PduIdType id , PduLengthType TpSduLength , PduLengthType * bufferSizePtr);</code>
Return Value	

5.2.2.4.23. J1939Dcm_TpRxIndication

Purpose	
Synopsis	<code>void J1939Dcm_TpRxIndication (PduIdType id , NotifResultType result);</code>

5.2.2.4.24. J1939Dcm_TpTxConfirmation

Purpose	
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Synopsis	<code>void J1939Dcm_TpTxConfirmation (PduIdType id , Std_ReturnType result);</code>
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5.2.2.4.25. J1939Dcm_TxConfirmation

Purpose	
Synopsis	<code>void J1939Dcm_TxConfirmation (PduIdType TxPduId);</code>

5.2.3. Integration notes

5.2.3.1. Exclusive areas

Exclusive areas information is not available for this module.

5.2.3.2. Production errors

Production errors are not reported by the J1939Dcm module.

5.2.3.3. Memory mapping

General information about memory mapping is provided in the EB tresos AutoCore Generic documentation. Refer to the section `Memory mapping and compiler abstraction` in the `Integration notes` section for details.

The following table provides the list of sections that may be mapped for this module:

Memory section
CODE
CODE_CORE
VAR_CLEARED_UNSPECIFIED
VAR_INIT_8



VAR_CLEARED_8
VAR_INIT_8
VAR_CLEARED_16
VAR_INIT_16
VAR_CLEARED_32
CONST_8
CONST_16
CONST_32
CONST_UNSPECIFIED

5.2.3.4. Integration requirements

WARNING



Integration requirements list is not exhaustive

The following list of integration requirements helps you to integrate your product. However, this list is not exhaustive. You also require information from the user guide, release notes, and EB tresos AutoCore known issues to successfully integrate your product.

Integration requirements are not listed for the J1939Dcm module.

5.3. J1939Nm

5.3.1. Configuration parameters

Containers included		
Container name	Multiplicity	Description
CommonPublishedInformation	1..1	Label: Common Published Information Common container, aggregated by all modules. It contains published information about vendor and versions.
J1939NmConfigSet	1..1	Defines the configuration parameters and sub containers of the J1939Nm module supporting multiple configuration sets.

Containers included		
		This container is a MultipleConfigurationContainer,i.e. this container and its sub-containers exist once per configuration set.
J1939NmGeneral	1..1	Defines the the general configuration parameters of the module.
PublishedInformation	1..1	Label: EB Published Information Additional published parameters not covered by Common-PublishedInformation container.

Parameters included	
Parameter name	Multiplicity
IMPLEMENTATION_CONFIG_VARIANT	1..1

Parameter Name	IMPLEMENTATION_CONFIG_VARIANT	
Label	Config Variant	
Multiplicity	1..1	
Type	ENUMERATION	
Default value	VariantPreCompile	
Range	VariantPreCompile	
Configuration class	VariantPreCompile:	VariantPreCompile

5.3.1.1. CommonPublishedInformation

Parameters included	
Parameter name	Multiplicity
ArMajorVersion	1..1
ArMinorVersion	1..1
ArPatchVersion	1..1
SwMajorVersion	1..1
SwMinorVersion	1..1
SwPatchVersion	1..1
ModuleId	1..1
VendorId	1..1

Parameters included	
Release	1..1

Parameter Name	ArMajorVersion	
Label	AUTOSAR Major Version	
Description	Major version number of AUTOSAR specification on which the appropriate implementation is based on.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	20	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	ArMinorVersion	
Label	AUTOSAR Minor Version	
Description	Minor version number of AUTOSAR specification on which the appropriate implementation is based on.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	11	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	ArPatchVersion	
Label	AUTOSAR Patch Version	
Description	Patch level version number of AUTOSAR specification on which the appropriate implementation is based on.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	0	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	SwMajorVersion	
----------------	----------------	--

Label	Software Major Version	
Description	Major version number of the vendor specific implementation of the module.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	1	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	SwMinorVersion	
Label	Software Minor Version	
Description	Minor version number of the vendor specific implementation of the module. The numbering is vendor specific.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	1	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	SwPatchVersion	
Label	Software Patch Version	
Description	Patch level version number of the vendor specific implementation of the module. The numbering is vendor specific.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	7	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	ModuleId	
Label	Numeric Module ID	
Description	Module ID of this module from Module List	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	34	

Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	VendorId	
Label	Vendor ID	
Description	Vendor ID of the dedicated implementation of this module according to the AUTOSAR vendor list	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	1	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	Release	
Label	Release Information	
Multiplicity	1..1	
Type	STRING_LABEL	
Default value		
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

5.3.1.2. J1939NmConfigSet

Containers included		
Container name	Multiplicity	Description
J1939NmChannel	1..n	<p>Defines the configuration of J1939Nm channels.</p> <p>Optimization Effect:</p> <ul style="list-style-type: none"> ▶ RAM reduction (config): Configuring less J1939Nm channels reduces the RAM consumption of the module configuration. ▶ ROM reduction (config): Configuring less J1939Nm channels reduces the ROM consumption of the module configuration.

Containers included		
		► Execution time reduction (code): Configuring less J1939Nm channels reduces the execution time of the module code.
J1939NmNode	1..n	Defines the logical node representing an another ECU, which is claiming an address in the network.

5.3.1.3. J1939NmChannel

Containers included		
Container name	Multiplicity	Description
J1939NmRxPdu	1..1	Defines the configuration of the I-PDU used to receive the AddressClaimed or CannotClaimAddress PG.
J1939NmTxPdu	1..1	Defines the configuration of the I-PDU used to transmit the AddressClaimed or CannotClaimAddress PG.
J1939NmNodeSpecificDemEventParameterRef	0..n	Defines the references to DemEventParameter elements related to one J1939NmNode which shall be invoked using the API Dem_SetEventStatus in case the corresponding error occurs. The EventId is taken from the referenced DemEventParameter's DemEventId symbolic value. The standardized errors are provided in this container and can be extended by vendor-specific error references.

Parameters included	
Parameter name	Multiplicity
J1939NmChannelUsesAddressArbitration	1..1
J1939NmComMNetworkHandleRef	1..1

Parameter Name	J1939NmChannelUsesAddressArbitration
Description	<p>Enable the initial address claim is sent, and the node reacts to address claims of other nodes.</p> <p>Disable the address claims of other nodes. The node only sends an address claim upon request.</p>
Multiplicity	1..1
Type	BOOLEAN
Default value	true

Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmComMNetworkHandleRef	
Description	<p>Reference to the ComM channel.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to ComM has to be provided. ▶ A unique channel index ComMChannelId has to be provided as reference for each ComM network channel. ▶ It is not allowed to configure same ComM channel as reference for more than one J1939NmChannel. 	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.3.1.4. J1939NmRxPdu

Parameters included	
Parameter name	Multiplicity
J1939NmRxPduId	1..1
J1939NmRxPduRef	1..1

Parameter Name	J1939NmRxPduId	
Description	<p>Defines the configuration of the Rx PDU Id to receive the AddressClaimed or CannotClaimAddress PG.</p> <p>A symbolic name (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Nm's Rx Pdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile

Origin	AUTOSAR_ECUC	
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Parameter Name	J1939NmRxPduRef	
Description	<p>Reference to the external Rx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's <code>Pdu</code> parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939NmRxPdu. ▶ It is not allowed to configured bidirectional J1939Nm PDUs(the same PDU cannot be given as reference for both <code>J1939NmRxPdu</code> and <code>J1939NmTxPdu</code>). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.3.1.5. J1939NmTxPdu

Parameters included	
Parameter name	Multiplicity
J1939NmTxPduId	1..1
J1939NmTxPduRef	1..1

Parameter Name	J1939NmTxPduId	
Description	<p>Defines the configuration of the Tx PDU Id to transmit the AddressClaimed or CannotClaimAddress PG.</p> <p>A symbolic name (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Nm's Tx Pdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile

Origin	AUTOSAR_ECUC	
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Parameter Name	J1939NmTxPduRef	
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's <code>Pdu</code> parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939NmTxPdu. ▶ It is not allowed to configured bidirectional J1939Nm PDUs(the same PDU cannot be given as reference for both <code>J1939NmTxPdu</code> and <code>J1939NmRxPdu</code>). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.3.1.6. J1939NmNodeSpecificDemEventParameterRefs

Parameters included	
Parameter name	Multiplicity
J1939NM_E_ADDRESS_LOST	1..1
J1939NmNodeRef	1..1

Parameter Name	J1939NM_E_ADDRESS_LOST	
Description	<p>Reference to the DemEventParameter which shall be issued when the ECU failed to claim one of its addresses.</p> <ul style="list-style-type: none"> ▶ A valid reference to a Dem Event Parameter must be provided. 	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeRef
-----------------------	-----------------------

Description	Reference to J1939NmNode. <ul style="list-style-type: none"> ▶ A valid reference to Node has to be provided. ▶ A unique Node reference has to be provided as reference for each channel. ▶ It is not allowed to configure same Node as reference for more than one J1939NmChannel. 	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.3.1.7. J1939NmNode

Parameters included	
Parameter name	Multiplicity
J1939NmNodeId	1..1
J1939NmNodeNameArbitraryAddressCapable	1..1
J1939NmNodeNameECUInstance	1..1
J1939NmNodeNameFunction	1..1
J1939NmNodeNameFunctionInstance	1..1
J1939NmNodeNameIdentityNumber	1..1
J1939NmNodeNameIndustryGroup	1..1
J1939NmNodeNameManufacturerCode	1..1
J1939NmNodeNameVehicleSystem	1..1
J1939NmNodeNameVehicleSystemInstance	1..1
J1939NmNodePreferredAddress	1..1
J1939NmNodeStartUpDelay	1..1
J1939NmNodeChannelRef	1..n

Parameter Name	J1939NmNodeId
Description	<p>Defines a identifier(Id) of the J1939Nm node.</p> <p>Unique identifier(Id) shall be provided to each J1939Nm node.</p> <p>A symbolic name (preprocessor macro) is also generated for each PDU ID.</p>

	Range: 0 .. 255	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameArbitraryAddressCapable	
Description	Enable the Arbitrary Address Capable field of the NAME of this node.	
	Disable the Arbitrary Address Capable field of the NAME of this node.	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameECUInstance	
Description	Defines the ECU Instance field of the NAME of this node.	
	Range: 0 .. 7	
Multiplicity	1..1	
Type	INTEGER	
Range	<=7	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameFunction	
Description	Defines the function field of the NAME of this node.	
	Range: 0 .. 255	
Multiplicity	1..1	
Type	INTEGER	
Range	<=255	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile

Origin	AUTOSAR_ECUC
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Parameter Name	J1939NmNodeNameFunctionInstance	
Description	Defines the function Instance field of the NAME of this node. Range: 0 .. 31	
Multiplicity	1..1	
Type	INTEGER	
Range	<=31	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameIdentityNumber	
Description	Defines the Identity Number field of the NAME of this node. Range: 0 .. 2097151	
Multiplicity	1..1	
Type	INTEGER	
Range	<=2097151	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameIndustryGroup	
Description	Defines the Industry Group field of the NAME of this node. Range: 0 .. 7	
Multiplicity	1..1	
Type	INTEGER	
Range	<=7	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameManufacturerCode	
----------------	--	--

Description	Defines the Manufacturer Code field of the NAME of this node. Range: 0 .. 2047	
Multiplicity	1..1	
Type	INTEGER	
Range	<=2047	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameVehicleSystem	
Description	Defines the Vehicle System field of the NAME of this node. Range: 0 .. 127	
Multiplicity	1..1	
Type	INTEGER	
Range	<=127	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodeNameVehicleSystemInstance	
Description	Defines the Vehicle System Instance field of the NAME of this node. Range: 0 .. 15	
Multiplicity	1..1	
Type	INTEGER	
Range	<=15	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmNodePreferredAddress	
Description	Defines the Source address of this node used for address claiming. Range: 0 .. 253	

Multiplicity	1..1
Type	INTEGER
Range	<div><=253</div> <div>>=0</div>
Configuration class	<div>VariantPreCompile:</div> <div>VariantPreCompile</div>
Origin	AUTOSAR_ECUC

Parameter Name	J1939NmNodeStartUpDelay
Description	<p>Enable: The node will start communication after a delay of 250ms after transmission of the initial AddressClaimed, depending on the configured J1939NmNodePreferredAddress.</p> <p>Disable: The node will start communication immediately at network start-up.</p> <p>Please note: According to J1939/81, the 250ms delay is not required for single address CAs with desired source addresses in the ranges 0..127 or 248..253.</p>
Multiplicity	1..1
Type	BOOLEAN
Default value	true
Configuration class	<div>VariantPreCompile:</div> <div>VariantPreCompile</div>
Origin	AUTOSAR_ECUC

Parameter Name	J1939NmNodeChannelRef
Description	Reference to the J1939Nm channel.
Multiplicity	1..n
Type	REFERENCE
Configuration class	<div>VariantPreCompile:</div> <div>VariantPreCompile</div> <div>VariantPreCompile:</div> <div>VariantPreCompile</div>
Origin	AUTOSAR_ECUC

5.3.1.8. J1939NmGeneral

Parameters included	
Parameter name	Multiplicity

Parameters included	
J1939NmBusOffDelayTickPeriod	0..1
J1939NmDevErrorDetect	1..1
J1939NmMainFunctionPeriod	1..1
J1939NmUserCallout	0..1
J1939NmVersionInfoApi	1..1

Parameter Name	J1939NmBusOffDelayTickPeriod	
Description	<p>Defines the Duration of ticks that are used to time BusOff delays after conflicting address claims. This parameter must be synchronized with the main function period of the CAN State Manager.</p> <p>Range: 0.0 .. 65.535</p>	
Multiplicity	0..1	
Type	FLOAT	
Default value	0.02	
Range	<=65.535	
	>=0.0	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmDevErrorDetect	
Description	Enables the DET detection and notification.	
	Disables the DET detection and notification.	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmMainFunctionPeriod
Description	<p>Defines the Call cycle in seconds of J1939Nm_MainFunction.</p> <p>Range: 0.001 .. 0.255</p>

Multiplicity	1..1
Type	FLOAT
Default value	0.01
Range	<div><=0.255</div> <div>>=0.001</div>
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939NmUserCallout	
Description	Defines the Pre-processor switch for enabling the <User_AddressClaimedIndication> and defining the name of the callout function.	
Multiplicity	0..1	
Type	FUNCTION-NAME	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939NmVersionInfoApi	
Description	Enable the Pre-processor switch for version info API support. Disable the Pre-processor switch for version info API support.	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.3.1.9. PublishedInformation

Parameters included	
Parameter name	Multiplicity
PbcfgMSupport	1..1

Parameter Name	PbcfgMSupport
-----------------------	----------------------

Label	PbcfgM support	
Description	Specifies whether or not the J1939Nm can use the PbcfgM module for post-build support.	
Multiplicity	1..1	
Type	BOOLEAN	
Default value	false	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

5.3.2. Application programming interface (API)

5.3.2.1. Macro constants

5.3.2.1.1. DBG_J1939NM_NULL_POINTER_VALIDATION_ENTRY

Purpose	Entry point of function J1939Nm_NetworkHandleValidator().
Value	

5.3.2.1.2. DBG_J1939NM_NULL_POINTER_VALIDATION_EXIT

Purpose	Exit point of function J1939Nm_NetworkHandleValidator().
Value	

5.3.2.1.3. DBG_J1939NM_SUBSTATE_VALIDATION_ENTRY

Purpose	Check for Invalid SubState other then J1939NM_OFFLINE_CLAIMING or J1939NM_OFFLINE_ACLOST.
----------------	---

Value	
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5.3.2.1.4. DBG_J1939NM_SUBSTATE_VALIDATION_EXIT

Purpose	Check for Invalid SubState other then J1939NM_OFFLINE_CLAIMING or J1939NM_OFFLINE_ACLOST.
Value	

5.3.2.1.5. DEFAULT_CHANGE_STATE

Purpose	of Default change state of J1939Nm
Value	0U

5.3.2.1.6. J1939NM_API_ID_DEINIT

Purpose	AUTOSAR API service ID.
Value	0x02U
Description	Definition of service ID for J1939Nm_DeInit() .

5.3.2.1.7. J1939NM_API_ID_GETBUSOFFDELAY

Purpose	AUTOSAR API service ID.
Value	0x14U
Description	Definition of service ID for J1939Nm_GetBusOffDelay() .

5.3.2.1.8. J1939NM_API_ID_GETSTATE

Purpose	AUTOSAR API service ID.
Value	0x0DU

Description	Definition of service ID for J1939Nm_GetState() .
--------------------	---

5.3.2.1.9. J1939NM_API_ID_GETVERSIONINFO

Purpose	AUTOSAR API service ID.
Value	0x03U
Description	Definition of service ID for J1939Nm_GetVersionInfo() .

5.3.2.1.10. J1939NM_API_ID_INIT

Purpose	AUTOSAR API service ID.
Value	0x01U
Description	Definition of service ID for J1939Nm_Init() .

5.3.2.1.11. J1939NM_API_ID_MAINFUNCTION

Purpose	AUTOSAR API service ID.
Value	0x04U
Description	Definition of service ID for J1939Nm_MainFunction() .

5.3.2.1.12. J1939NM_API_ID_NETWORKRELEASE

Purpose	AUTOSAR API service ID.
Value	0x06U
Description	Definition of service ID for J1939Nm_NetworkRelease() .

5.3.2.1.13. J1939NM_API_ID_NETWORKREQUEST

Purpose	AUTOSAR API service ID.
----------------	-------------------------

Value	0x05U
Description	Definition of service ID for J1939Nm_NetworkRequest() .

5.3.2.1.14. J1939NM_API_ID_PASSIVESTARTUP

Purpose	AUTOSAR API service ID.
Value	0x0FU
Description	Definition of service ID for J1939Nm_PassiveStartUp() .

5.3.2.1.15. J1939NM_API_ID_REQUESTINDICATION

Purpose	AUTOSAR API service ID.
Value	0x43U
Description	Definition of service ID for J1939Nm_TxConfirmation() .

5.3.2.1.16. J1939NM_API_ID_RXINDICATION

Purpose	AUTOSAR API service ID.
Value	0x42U
Description	Definition of service ID for J1939Nm_RxIndication() .

5.3.2.1.17. J1939NM_API_ID_TXCONFIRMATION

Purpose	AUTOSAR API service ID.
Value	0x40U
Description	Definition of service ID for J1939Nm_TxConfirmation() .

5.3.2.1.18. J1939NM_CHECKREMOTESLEEPINDICATION

Purpose	Defines Dummy API id of function J1939Nm_CheckRemoteSleepIndication() .
----------------	---

Value	0xFD
--------------	------

5.3.2.1.19. J1939NM_E_INVALID_ADDRESS

Purpose	Error Code.
Value	0x08U
Description	API was called with an illegal node address.

5.3.2.1.20. J1939NM_E_INVALID_CALL

Purpose	
Value	0xFF

5.3.2.1.21. J1939NM_E_INVALID_METADATA_HANDLE

Purpose	Error Code.
Value	0x0AU
Description	API was called with an invalid Metadata handle.

5.3.2.1.22. J1939NM_E_INVALID_NETWORK_ID

Purpose	Error Code.
Value	0x05U
Description	API service was called with wrong network handle.

5.3.2.1.23. J1939NM_E_INVALID_NODE

Purpose	Error Code.
Value	0x09U

Description	API was called with an illegal node ID.
--------------------	---

5.3.2.1.24. J1939NM_E_INVALID_PDU_SDULENGTH

Purpose	Error Code.
Value	0x0BU
Description	API was called with an invalid Pdu Sdu length.

5.3.2.1.25. J1939NM_E_INVALID_PDU_SDU_ID

Purpose	Error Code.
Value	0x04U
Description	API service was called with a wrong ID.

5.3.2.1.26. J1939NM_E_INVALID_PGN

Purpose	Error Code.
Value	0x06U
Description	API was called with an unsupported PGN.

5.3.2.1.27. J1939NM_E_INVALID_PRIO

Purpose	Error Code.
Value	0x07U
Description	API was called with an illegal priority.

5.3.2.1.28. J1939NM_E_PARAM_POINTER

Purpose	Error Code.
----------------	-------------

Value	0x03U
Description	API service was called with a NULL pointer.

5.3.2.1.29. J1939NM_E_REINIT

Purpose	Error Code.
Value	0x02U
Description	The Init API was called twice.

5.3.2.1.30. J1939NM_E_UNINIT

Purpose	Error Code.
Value	0x01U
Description	API was called while the module was uninitialized.

5.3.2.1.31. J1939NM_GETPDUDATA

Purpose	Defines Dummy API id of function J1939Nm_GetPduData() .
Value	0xFC

5.3.2.1.32. J1939NM_GETUSERDATA

Purpose	Defines Dummy API id of function J1939Nm_GetUserData() .
Value	0xFB

5.3.2.1.33. J1939NM_INSTANCE_ID

Purpose	Instance identifier on 8bit.
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Value	(0U)
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5.3.2.1.34. J1939NM_SETUSERDATA

Purpose	Defines Dummy API id of function J1939Nm_SetUserData() .
Value	0xFA

5.3.2.2. Objects

5.3.2.2.1. J1939Nm_ACLostFlag

Purpose	
Type	boolean

5.3.2.2.2. J1939Nm_InitState

Purpose	
Type	J1939Nm_StateType

5.3.2.2.3. J1939Nm_PendingChannel

Purpose	
Type	uint8

5.3.2.2.4. J1939Nm_PendingNode

Purpose	
Type	uint8

5.3.2.2.5. J1939Nm_ProcessPendingRequestFlag

Purpose	
Type	boolean

5.3.2.2.6. J1939Nm_PsConfig

Purpose	
Type	const J1939Nm_DescriptorType *

5.3.2.2.7. J1939Nm_StartDelayFlag

Purpose	
Type	boolean

5.3.2.3. Functions

5.3.2.3.1. J1939Nm_CheckRemoteSleepIndication

Purpose		
Synopsis	Std_ReturnType J1939Nm_CheckRemoteSleepIndication (NetworkHandleType nmNetworkHandle , boolean * nmRemoteSleepIndPtr);	
Return Value		

5.3.2.3.2. J1939Nm_DeInit

Purpose	Uninitializes the J1939Nm.	
Synopsis	void J1939Nm_DeInit (void);	
Service ID	J1939NM_API_ID_DEINIT	
Sync/Async	Synchronous	

Reentrancy	Non-Reentrant	
Parameters (in)	configPtr	Pointer to a selected configuration structure.
Description	<p>This function Uninitializes interfaces and variables of the AUTOSAR J1939Nm module.</p> <p>Precondition: None.</p>	

5.3.2.3.3. J1939Nm_GetBusOffDelay

Purpose		
Synopsis	<pre>void J1939Nm_GetBusOffDelay (NetworkHandleType network , uint8 * delayCyclesPtr);</pre>	

5.3.2.3.4. J1939Nm_GetPduData

Purpose		
Synopsis	<pre>Std_ReturnType J1939Nm_GetPduData (NetworkHandleType NetworkHandle , uint8 * nmPduData);</pre>	
Return Value		

5.3.2.3.5. J1939Nm_GetState

Purpose		
Synopsis	<pre>Std_ReturnType J1939Nm_GetState (NetworkHandleType NetworkHandle , Nm_StateType * nmStatePtr , Nm_ModeType * nmModePtr);</pre>	
Return Value		

5.3.2.3.6. J1939Nm_GetUserData

Purpose		
Synopsis	<pre>Std_ReturnType J1939Nm_GetUserData (NetworkHandleType NetworkHandle , uint8 * nmUserDataPtr);</pre>	

Return Value		
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5.3.2.3.7. J1939Nm_GetVersionInfo

Purpose	Return the modules version information.	
Synopsis	<pre>void J1939Nm_GetVersionInfo (Std_VersionInfoType * versioninfo);</pre>	
Service ID	J1939NM_API_ID_GETVERSIONINFO	
Sync/Async	Synchronous	
Reentrancy	Non-Reentrant	
Parameters (out)	VersionInfo	Pointer to where to store the version information of this module.
Description	This function provides the information to module vendor ID, module ID and software version major.minor.patch Precondition: J1939NM_VERSION_INFO_API = STD_ON	

5.3.2.3.8. J1939Nm_Init

Purpose	Initializes the XCP.	
Synopsis	<pre>void J1939Nm_Init (const J1939Nm_ConfigType * configPtr);</pre>	
Service ID	J1939NM_API_ID_INIT	
Sync/Async	Synchronous	
Reentrancy	Non-Reentrant	
Parameters (in)	configPtr	Pointer to a selected configuration structure.
Description	This function initializes interfaces and variables of the AUTOSAR J1939Nm module. Precondition: None.	

5.3.2.3.9. J1939Nm_MainFunction

Purpose	
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Synopsis	<code>void J1939Nm_MainFunction (void);</code>
-----------------	--

5.3.2.3.10. J1939Nm_NetworkRelease

Purpose		
Synopsis	<code>Std_ReturnType J1939Nm_NetworkRelease (NetworkHandleType nm-ChannelHandle);</code>	
Return Value		

5.3.2.3.11. J1939Nm_NetworkRequest

Purpose		
Synopsis	<code>Std_ReturnType J1939Nm_NetworkRequest (NetworkHandleType nm-ChannelHandle);</code>	
Return Value		

5.3.2.3.12. J1939Nm_PassiveStartUp

Purpose		
Synopsis	<code>Std_ReturnType J1939Nm_PassiveStartUp (NetworkHandleType nm-ChannelHandle);</code>	
Return Value		

5.3.2.3.13. J1939Nm_RequestIndication

Purpose		
Synopsis	<code>void J1939Nm_RequestIndication (uint8 node , NetworkHandleType channel , uint32 requestedPgn , uint8 sourceAddress , uint8 destAddress , uint8 priority);</code>	

5.3.2.3.14. J1939Nm_RxIndication

Purpose		
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Synopsis	<code>void J1939Nm_RxIndication (PduIdType RxPduId , PduInfoType * PduInfoPtr);</code>
-----------------	--

5.3.2.3.15. J1939Nm_SetUserData

Purpose	
Synopsis	<code>Std_ReturnType J1939Nm_SetUserData (NetworkHandleType NetworkHandle , const uint8 * nmUserDataPtr);</code>
Return Value	

5.3.2.3.16. J1939Nm_TxConfirmation

Purpose	
Synopsis	<code>void J1939Nm_TxConfirmation (PduIdType TxPduId , Std_ReturnType result);</code>

5.3.3. Integration notes

5.3.3.1. Exclusive areas

Exclusive areas information is not available for this module.

5.3.3.2. Production errors

Production errors are not reported by the J1939Nm module.

5.3.3.3. Memory mapping

General information about memory mapping is provided in the EB tresos AutoCore Generic documentation. Refer to the section `Memory mapping and compiler abstraction` in the `Integration notes` section for details.

The following table provides the list of sections that may be mapped for this module:

Memory section
CODE
VAR_INIT_8
VAR_CLEARED_8
VAR_CLEARED_16
VAR_INIT_UNSPECIFIED
VAR_CLEARED_UNSPECIFIED
CONST_UNSPECIFIED
CONST_8
CONFIG_DATA_UNSPECIFIED

5.3.3.4. Integration requirements

WARNING



Integration requirements list is not exhaustive

The following list of integration requirements helps you to integrate your product. However, this list is not exhaustive. You also require information from the user guide, release notes, and EB tresos AutoCore known issues to successfully integrate your product.

Integration requirements are not listed for the J1939Nm module.

5.4. J1939Rm

5.4.1. Configuration parameters

Containers included		
Container name	Multiplicity	Description
CommonPublishedInformation	1..1	Label: Common Published Information

Containers included		
		Common container, aggregated by all modules. It contains published information about vendor and versions.
J1939RmConfigSet	1..n	Defines the configuration parameters and sub containers of the J1939Rm module supporting multiple configuration sets. This container is a MultipleConfigurationContainer, i.e. this container and its sub-containers exist once per configuration set.
J1939RmGeneral	1..1	Defines the general configuration parameters of the J1939Rm module.
PublishedInformation	1..1	Label: EB Published Information Additional published parameters not covered by Common-PublishedInformation container.

Parameters included	
Parameter name	Multiplicity
IMPLEMENTATION_CONFIG_VARIANT	1..1

Parameter Name	IMPLEMENTATION_CONFIG_VARIANT	
Label	Config Variant	
Multiplicity	1..1	
Type	ENUMERATION	
Default value	VariantPreCompile	
Range	VariantPreCompile	
Configuration class	VariantPreCompile:	VariantPreCompile

5.4.1.1. CommonPublishedInformation

Parameters included	
Parameter name	Multiplicity
ArMajorVersion	1..1
ArMinorVersion	1..1
ArPatchVersion	1..1
SwMajorVersion	1..1

Parameters included	
SwMinorVersion	1..1
SwPatchVersion	1..1
ModuleId	1..1
VendorId	1..1
Release	1..1

Parameter Name	ArMajorVersion
Label	AUTOSAR Major Version
Description	Major version number of AUTOSAR specification on which the appropriate implementation is based on.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	4
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	ArMinorVersion
Label	AUTOSAR Minor Version
Description	Minor version number of AUTOSAR specification on which the appropriate implementation is based on.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	1
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	ArPatchVersion
Label	AUTOSAR Patch Version
Description	Patch level version number of AUTOSAR specification on which the appropriate implementation is based on.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	3

Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	SwMajorVersion	
Label	Software Major Version	
Description	Major version number of the vendor specific implementation of the module.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	1	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	SwMinorVersion	
Label	Software Minor Version	
Description	Minor version number of the vendor specific implementation of the module. The numbering is vendor specific.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	1	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	SwPatchVersion	
Label	Software Patch Version	
Description	Patch level version number of the vendor specific implementation of the module. The numbering is vendor specific.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	9	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	ModuleId
-----------------------	-----------------

Label	Numeric Module ID	
Description	Module ID of this module from Module List	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	59	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	VendorId	
Label	Vendor ID	
Description	Vendor ID of the dedicated implementation of this module according to the AUTOSAR vendor list	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	1	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	Release	
Label	Release Information	
Multiplicity	1..1	
Type	STRING_LABEL	
Default value		
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

5.4.1.2. J1939RmConfigSet

Containers included		
Container name	Multiplicity	Description
J1939RmChannel	1..n	Defines the parameters for a CAN channel supported by the J1939 Request Manager. Optimization Effect:

Containers included		
		<ul style="list-style-type: none"> ▶ RAM reduction (config): Configuring less J1939Rm channels reduces the RAM consumption of the module configuration. ▶ ROM reduction (config): Configuring less J1939Rm channels reduces the ROM consumption of the module configuration. ▶ Execution time reduction (code): Configuring less J1939Rm channels reduces the execution time of the module code.
J1939RmNode	1..n	Defines logical node representing the parameters for the support of a logical J1939 node (identified by an ECU address).

5.4.1.3. J1939RmChannel

Containers included		
Container name	Multiplicity	Description
J1939RmAckmRxPdu	0..1	Defines the configuration of the I-PDU used to receive the Acknowledgment PG.
J1939RmAckmTxPdu	0..1	Defines the configuration of the I-PDU used to transmit the Acknowledgement PG.
J1939RmRqstRxPdu	0..1	Defines the configuration of the I-PDU used to receive the Request PG.
J1939RmRqstTxPdu	0..1	Defines the configuration of the I-PDU used to transmit the Request PG.

Parameters included	
Parameter name	Multiplicity
J1939RmAckQueueSize	1..1
J1939RmRequestQueueSize	1..1
J1939RmRequestTimeoutMonitors	1..1
J1939RmComMMNetworkHandleRef	1..1

Parameter Name	J1939RmAckQueueSize
Description	Defines the number of transmitted acknowledgements that can be stored.

	Contains the size of the queue for the Transmission requests of the Acknowledgement PG shall be queued when a previous transmission of this PG is still pending.	
Multiplicity	1..1	
Type	INTEGER	
Range	<=255	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmRequestQueueSize	
Description	Defines the number of transmitted requests that can be stored.	
	Contains the size of the queue for the Transmission requests for the Request PG shall be queued when a previous transmission of this PG is still pending.	
Multiplicity	1..1	
Type	INTEGER	
Range	<=255	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmRequestTimeoutMonitors	
Description	Defines the number of transmitted requests that can be monitored for timeout.	
	Contains the Number of transmitted requests that can be monitored for timeout.	
Multiplicity	1..1	
Type	INTEGER	
Range	<=255	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmComMNetworkHandleRef	
Description	Reference to the ComM channel.	

	Dependency on parameter(s): <ul style="list-style-type: none"> ▶ A valid reference to ComM has to be provided. ▶ A Unique channel index ComMChannelId has to be provided as reference for each ComM network channel. ▶ It is not allowed to configured the same channel as reference for both J1939RmChannel. 	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.4. J1939RmAckmRxPdu

Parameters included	
Parameter name	Multiplicity
J1939RmAckmRxPduId	1..1
J1939RmAckmRxPduRef	1..1

Parameter Name	J1939RmAckmRxPduId
Description	Defines the I-PDU identifier used for RxIndication from PduR. A symbolic value (preprocessor macro) is also generated for each PDU ID. The J1939RmAckmRxPdu ids has to be zero based and consecutive. Range: 0 .. 65535
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmAckmRxPduRef
Description	Reference to the external Rx PDU definition in the EcuC module. Reference to the Pdu object representing the I-PDU. Dependency on parameter(s):

	<ul style="list-style-type: none"> ▶ A valid reference to EcuC's <code>Pdu</code> parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939RmAckmRxPdu. ▶ It is not allowed to configured bidirectional J1939Nm PDUs(the same PDU cannot be given as reference for both <code>J1939RmAckmRxPdu</code> and <code>J1939RmAckmTxPdu</code>). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.5. J1939RmAckmTxPdu

Parameters included	
Parameter name	Multiplicity
J1939RmAckmTxPduId	1..1
J1939RmAckmTxPduRef	1..1

Parameter Name	J1939RmAckmTxPduId
Description	<p>Defines the I-PDU identifier used for TxConfirmation from PduR.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939RmAckmTxPdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmAckmTxPduRef
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Reference to the Pdu object representing the I-PDU.</p> <p>Dependency on parameter(s):</p>

	<ul style="list-style-type: none"> ▶ A valid reference to EcuC's <code>Pdu</code> parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939RmAckmTxPdu. ▶ It is not allowed to configured bidirectional J1939Rm PDUs(the same PDU cannot be given as reference for both J1939RmAckmTxPdu and J1939RmAckmRxPdu). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.6. J1939RmRqstRxPdu

Parameters included	
Parameter name	Multiplicity
J1939RmRqstRxPduId	1..1
J1939RmRqstRxPduRef	1..1

Parameter Name	J1939RmRqstRxPduId
Description	<p>Defines The I-PDU identifier used to receive the Request PG.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939RmRqstRxPdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmRqstRxPduRef
Description	<p>Reference to the external Rx PDU definition in the EcuC module.</p> <p>Reference to the Pdu object representing the I-PDU.</p> <p>Dependency on parameter(s):</p>

	<ul style="list-style-type: none"> ▶ A valid reference to EcuC's <code>Pdu</code> parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939RmRqstRxPdu. ▶ It is not allowed to configured bidirectional J1939Nm PDUs(the same PDU cannot be given as reference for both J1939RmRqstRxPdu and J1939RmRqstTxPdu). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.7. J1939RmRqstTxPdu

Parameters included	
Parameter name	Multiplicity
J1939RmRqstTxPduId	1..1
J1939RmRqstTxPduRef	1..1

Parameter Name	J1939RmRqstTxPduId
Description	<p>Defines the I-PDU identifier used to transmit the Request PG.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmRqstTxPduRef
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Reference to the Pdu object representing the I-PDU.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's <code>Pdu</code> parameters has to be provided.

	<ul style="list-style-type: none"> ► Unique EcuC PDU has to be provided as reference for each J1939RmRqstTxPdu. ► It is not allowed to configured bidirectional J1939Rm PDUs(the same PDU cannot be given as reference for both J1939RmRqstTxPdu and J1939RmRqstRxPdu). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.8. J1939RmNode

Containers included		
Container name	Multiplicity	Description
J1939RmUser	1..n	Defines the configuration of a module that uses the request and acknowledgement interfaces of J1939Rm.

Parameters included	
Parameter name	Multiplicity
J1939RmNodeChannelRef	1..n
J1939RmNmNodeRef	1..1

Parameter Name	J1939RmNodeChannelRef	
Description	Reference to the J1939Rm channels for this node has access to.	
Multiplicity	1..n	
Type	REFERENCE	
Configuration class	PreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmNmNodeRef	
Description	Reference to the corresponding J1939Nm node.	
Multiplicity	1..1	
Type	SYMBOLIC-NAME-REFERENCE	

Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.9. J1939RmUser

Containers included		
Container name	Multiplicity	Description
J1939RmComIPdu	0..n	Defines the configuration of an I-PDU that is to be transmitted on request by COM. This configuration container is only relevant for J1939RmUserType J1939RM_USER_COM.

Parameters included	
Parameter name	Multiplicity
J1939RmUserAckIndication	1..1
J1939RmUserAckPGN	0..n
J1939RmUserComIPduRequestQueueSize	0..1
J1939RmUserId	0..1
J1939RmUserPGN	0..n
J1939RmUserRequestIndication	1..1
J1939RmUserSendAck	1..1
J1939RmUserSendRequest	1..1
J1939RmUserTimeoutSupervision	1..1
J1939RmUserType	1..1
J1939RmUserCddRef	0..1
J1939RmUserCddName	0..1

Parameter Name	J1939RmUserAckIndication
Description	<p>Enable the user AckIndication for this module.</p> <p>Disable the user AckIndication for this module.</p> <p>In case of CDD, the name is <apiServicePrefix>_AckIndication.</p> <p>In case of RTE, the port is defined as J1939RmRPort<J1939RmUserId>.</p>

	This parameter shall not be set for J1939RmUserType J1939RM_USER_-J1939NM, J1939RM_USER_J1939DCM, or J1939RM_USER_COM.	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUserAckPGN	
Description	<p>Defines the PGN supported to be acknowledged to this module. The PGNs supported by different modules should usually be disjunctive.</p> <p>This parameter shall not be set for J1939RmUserType J1939RM_USER_-J1939NM, J1939RM_USER_J1939DCM, and J1939RM_USER_COM.</p>	
Multiplicity	0..n	
Type	INTEGER	
Configuration class	PreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUserComIPduRequestQueueSize	
Description	Defines the number of received requests that can be stored for COM I-PDUs of this user.	
Multiplicity	0..1	
Type	INTEGER	
Range	<=255	
	>=0	
Configuration class	PreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUserId	
Description	Defines the User Id of J1939Rm. And This parameter is only required when the module uses transmission of requests.	
Multiplicity	0..1	
Type	INTEGER	
Configuration class	PreCompile:	VariantPreCompile

Origin	AUTOSAR_ECUC	
Parameter Name	J1939RmUserPGN	
Description	<p>Defines the PGN supported to be requested from this module. The PGNs supported by different modules should usually be disjunctive.</p> <p>This parameter is predefined to AC (0x0EE00) for J1939RmUserType J1939RM_USER_J1939NM and is derived from the J1939Dcm PDUs in the system description for J1939RmUserType J1939RM_USER_J1939DCM.</p> <p>It shall not be set for J1939RmUserType J1939RM_USER_COM.</p>	
Multiplicity	0..n	
Type	INTEGER	
Configuration class	PreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUserRequestIndication	
Description	<p>Enable the RequestIndication for this module.</p> <p>Disable the RequestIndication for this module.</p> <p>In case of J1939Nm or J1939Dcm, the name is fixed.</p> <p>In case of CDD, the name is <apiServicePrefix>_RequestIndication.</p> <p>In case of RTE, the port is defined as J1939RmRPort<J1939RmUserId>.</p> <p>This parameter shall not be set for J1939RmUserType J1939RM_USER_COM.</p>	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUserSendAck	
Description	<p>Enable the SendAck API for this module.</p> <p>Disable the SendAck API for this module.</p> <p>In case of RTE, the port is defined as J1939RmPPort<J1939RmUserId>.</p> <p>This parameter shall not be set for J1939RmUserType J1939RM_USER_J1939NM or J1939RM_USER_COM.</p>	

Multiplicity	1..1
Type	BOOLEAN
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmUserSendRequest
Description	<p>Enable the SendRequest API for this module.</p> <p>Disable the SendRequest API for this module.</p> <p>In case of RTE, the port is defined as J1939RmPPort<J1939RmUserId>.</p> <p>This parameter shall not be set for J1939RmUserType J1939RM_USER_ - J1939NM, J1939RM_USER_J1939DCM, or J1939RM_USER_COM.</p>
Multiplicity	1..1
Type	BOOLEAN
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmUserTimeoutSupervision
Description	<p>Enable RequestTimeoutIndication and CancelRequestTimeout for this module.</p> <p>Disable RequestTimeoutIndication and CancelRequestTimeout for this module.</p> <p>RequestTimeoutIndication: In case of CDD, the name is <apiServicePrefix>_RequestTimeoutIndication.</p> <p>In case of RTE, the port is defined as J1939RmRPort<J1939RmUserId>.</p> <p>CancelRequestTimeout: In case of RTE, the port is defined as J1939RmPPort<J1939RmUserId>.</p> <p>This parameter shall not be set for J1939RmUserType J1939RM_USER_ - J1939NM, J1939RM_USER_J1939DCM, or J1939RM_USER_COM.</p>
Multiplicity	1..1
Type	BOOLEAN
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmUserType
-----------------------	------------------------

Description	<p>Defines the type of module using J1939Rm.</p> <p>J1939RM_USER_CDD: CDDs may use all APIs provided by J1939Rm.</p> <p>J1939RM_USER_COM: J1939Rm only supports requests for COM I-PDUs.</p> <p>J1939RM_USER_J1939DCM: J1939Dcm uses only request indication and transmission of acknowledgement..</p> <p>J1939RM_USER_J1939NM: J1939Nm uses only request indication.</p> <p>J1939RM_USER_RTE: Application SW-Cs may use all APIs provided by J1939Rm.</p>	
Multiplicity	1..1	
Type	ENUMERATION	
Range	J1939RM_USER_CDD	
	J1939RM_USER_COM	
	J1939RM_USER_J1939DCM	
	J1939RM_USER_J1939NM	
	J1939RM_USER_RTE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUserCddRef	
Multiplicity	0..1	
Type	FOREIGN-REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUserCddName	
Description	Name of the CDD module.	
	This parameter is only required for J1939RmUserType J1939RM_USER_CDD.	
Multiplicity	0..1	
Type	STRING	
Configuration class	PreCompile:	VariantPreCompile
Origin	EB	

5.4.1.10. J1939RmComIPdu

Containers included		
Container name	Multiplicity	Description
J1939RmLowerComIPdu	1..1	Defines the configuration of the I-PDU that is sent from J1939Rm to IF modules (CanIf or IpduM), or Tp module (J1939Tp).
J1939RmUpperComIPdu	1..1	Defines the configuration of the I-PDU that is sent from COM to J1939Rm.

Parameters included	
Parameter name	Multiplicity
J1939RmComIPduDA	1..1
ComIPduType	1..1
J1939RmComIPduPGN	1..1
J1939RmComIPduSA	1..1

Parameter Name	J1939RmComIPduDA
Description	Defines the destination address of the COM I-PDU.
Multiplicity	1..1
Type	INTEGER
Range	<div><=253</div> <div>>=0</div>
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	ComIPduType
Multiplicity	1..1
Type	ENUMERATION
Range	<div>ComIPdu_TP</div> <div>ComIPdu_IF</div>
Configuration class	VariantPreCompile: VariantPreCompile
Origin	EB

Parameter Name	J1939RmComIPduPGN
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Description	Defines the PGN of the COM I-PDU.	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmComIPduSA	
Description	Defines the Source address of the COM I-PDU.	
Multiplicity	1..1	
Type	INTEGER	
Range	<=253	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.11. J1939RmLowerComIPdu

Parameters included	
Parameter name	Multiplicity
J1939RmLowerComIPduId	1..1
J1939RmLowerComIPduRef	1..1

Parameter Name	J1939RmLowerComIPduId	
Description	<p>Defines the configuration of the Lower COM PDU Id to communicate with PduR.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939RmLowerComIPdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmLowerComIPduRef	
Description	<p>Reference to the external Lower Com IPdu definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's <code>Pdu</code> parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939RmLowerComIPdu. ▶ It is not allowed to configured bidirectional J1939Rm Com PDUs(the same PDU cannot be given as reference for both <code>J1939RmLowerComIPdu</code> and <code>J1939RmUpperComIPdu</code>). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.12. J1939RmUpperComIPdu

Parameters included	
Parameter name	Multiplicity
J1939RmUpperComIPduId	1..1
J1939RmUpperComIPduRef	1..1

Parameter Name	J1939RmUpperComIPduId	
Description	<p>Defines the configuration of the Upper COM PDU Id to communicate with PduR.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939RmUpperComIPdu Ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmUpperComIPduRef
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Description	<p>Reference to the external Upper Com IPdu definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's Pdu parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939RmUpperComIPdu. ▶ It is not allowed to configured bidirectional J1939Rm Com PDUs(the same PDU cannot be given as reference for both J1939RmUpperComIPdu and J1939RmLowerComIPdu). 	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.13. J1939RmGeneral

Parameters included	
Parameter name	Multiplicity
J1939RmDevErrorDetect	1..1
J1939RmMainFunctionPeriod	1..1
J1939RmSupportAckIndication	1..1
J1939RmSupportAckTransmission	1..1
J1939RmSupportRequestIndication	1..1
J1939RmSupportRequestTransmission	1..1
J1939RmSupportTimeoutSupervision	1..1
J1939RmTxConfirmationTimeout	1..1
J1939RmVersionInfoApi	1..1

Parameter Name	J1939RmDevErrorDetect
Description	<p>Enable Switches the Default Error Tracer (Det) detection and notification ON.</p> <p>Disable Switches the Default Error Tracer (Det) detection and notification OFF.</p>
Multiplicity	1..1
Type	BOOLEAN

Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmMainFunctionPeriod	
Description	Defines the execution cycle of J1939Rm_MainFunction in seconds. Range: 0.001 .. 0.255	
Multiplicity	1..1	
Type	FLOAT	
Range	<=0.255	
	>=0.001	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmSupportAckIndication	
Description	Enable support of acknowledgement indications. Disable support of acknowledgement indications.	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmSupportAckTransmission	
Description	Enable support of acknowledgement transmission. Disable support of acknowledgement transmission.	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939RmSupportRequestIndication	
Description	Enable support of request indications. Disable support of request indications.	

Multiplicity	1..1
Type	BOOLEAN
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmSupportRequestTransmission
Description	Enable support of request transmission. Disable support of request transmission.
Multiplicity	1..1
Type	BOOLEAN
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmSupportTimeoutSupervision
Description	Enable support of request timeout supervision. Disable support of request timeout supervision.
Multiplicity	1..1
Type	BOOLEAN
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmTxConfirmationTimeout
Description	Defines the time in seconds to wait for a confirmation after transmission of a message. The behaviour when the time elapses depends on the transmitted message. Range: 0.0 .. 65.535
Multiplicity	1..1
Type	FLOAT
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939RmVersionInfoApi
Description	Enable the Pre-processor switch for version info API support.

	Disable the Pre-processor switch for version info API support.	
Multiplicity	1..1	
Type	BOOLEAN	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.4.1.14. PublishedInformation

Parameters included	
Parameter name	Multiplicity
PbcfgMSupport	1..1

Parameter Name	PbcfgMSupport	
Label	PbcfgM support	
Description	Specifies whether or not the J1939Rm can use the PbcfgM module for post-build support.	
Multiplicity	1..1	
Type	BOOLEAN	
Default value	false	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

5.4.2. Application programming interface (API)

5.4.2.1. Macro constants

5.4.2.1.1. J1939RM_CANCELREQUESTTIMEOUT

Purpose	
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Value	0x08u
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5.4.2.1.2. J1939RM_COMRXIPDUCALLOUT

Purpose	
Value	0x28u

5.4.2.1.3. J1939RM_COPYTXDATA

Purpose	
Value	0x43u

5.4.2.1.4. J1939RM_DEINIT

Purpose	
Value	0x02u

5.4.2.1.5. J1939RM_E_INVALID_CALL

Purpose	Definition of DET error code J1939RM_E_INVALID_CALL.
Value	0xFF

5.4.2.1.6. J1939RM_GETVERSIONINFO

Purpose	
Value	0x03u

5.4.2.1.7. J1939RM_INIT

Purpose	
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Value	0x01u
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5.4.2.1.8. J1939RM_MAINFUNCTION

Purpose	
Value	0x04u

5.4.2.1.9. J1939RM_NULL_ADDRESS

Purpose	
Value	(0xFE)

5.4.2.1.10. J1939RM_PGN_MAX

Purpose	
Value	262143

5.4.2.1.11. J1939RM_RXINDICATION

Purpose	
Value	0x42u

5.4.2.1.12. J1939RM_SENDAACK

Purpose	
Value	0x09u

5.4.2.1.13. J1939RM_SENDREQUEST

Purpose	
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Value	0x07u
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5.4.2.1.14. J1939RM_SETSTATE

Purpose	
Value	0x05u

5.4.2.1.15. J1939RM_SID_PDURTPCOPYRXDATA

Purpose	Defines Dummy API id of function J1939Rm_PduRTpCopyRxData() .
Value	0xFB

5.4.2.1.16. J1939RM_SID_PDURTPRXINDICATION

Purpose	Defines Dummy API id of function J1939Rm_PduRTpRxIndication() .
Value	0xFA

5.4.2.1.17. J1939RM_SID_PDURTPSTARTOFRECEPTION

Purpose	Defines Dummy API id of function J1939Rm_PduRTpStartOfReception() .
Value	0xFC

5.4.2.1.18. J1939RM_TPTXCONFIRMATION

Purpose	
Value	0x37u

5.4.2.1.19. J1939RM_TRANSMIT

Purpose	
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Value	0x06u
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5.4.2.1.20. J1939RM_TXCONFIRMATION

Purpose	
Value	0x40u

5.4.2.1.21. RX_DA_BYTE

Purpose	
Value	(4u)

5.4.2.1.22. RX_PRIO_BYTE

Purpose	
Value	(6u)

5.4.2.1.23. RX_SA_BYTE

Purpose	
Value	(3u)

5.4.2.1.24. TX_DA_BYTE

Purpose	
Value	(1u)

5.4.2.1.25. TX_PRIO_BYTE

Purpose	
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Value	(3u)
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5.4.2.1.26. TX_SA_BYTE

Purpose	
Value	(0u)

5.4.2.2. Functions

5.4.2.2.1. J1939Rm_CancelRequestTimeout

Purpose	
Synopsis	<code>void J1939Rm_CancelRequestTimeout (uint8 userId , NetworkHandleType channel , uint32 requestedPgn , uint8 destAddress);</code>

5.4.2.2.2. J1939Rm_CancelRequestTimeout_Operation

Purpose	
Synopsis	<code>Std_ReturnType J1939Rm_CancelRequestTimeout_Operation (uint8 UserId , NetworkHandleType channel , uint32 requestedPgn , uint8 destAddress);</code>
Return Value	

5.4.2.2.3. J1939Rm_ComRxIpduCallout

Purpose	
Synopsis	<code>boolean J1939Rm_ComRxIpduCallout (PduIdType PduId , const PduInfoType * PduInfoPtr);</code>
Return Value	

5.4.2.2.4. J1939Rm_CopyTxData

Purpose	
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Synopsis	BufReq_ReturnType J1939Rm_CopyTxData (PduIdType id , const PduInfoType * info , RetryInfoType * retry , PduLengthType * availableDataPtr);	
Return Value		

5.4.2.2.5. J1939Rm_DeInit

Purpose		
Synopsis	void J1939Rm_DeInit (void);	

5.4.2.2.6. J1939Rm_GetVersionInfo

Purpose		
Synopsis	void J1939Rm_GetVersionInfo (Std_VersionInfoType * versionInfo);	

5.4.2.2.7. J1939Rm_Init

Purpose		
Synopsis	void J1939Rm_Init (const J1939Rm_ConfigType * configPtr);	

5.4.2.2.8. J1939Rm_MainFunction

Purpose		
Synopsis	void J1939Rm_MainFunction (void);	

5.4.2.2.9. J1939Rm_PduRTpCopyRxData

Purpose	Dummy funtion for PduR.	
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Synopsis	BufReq_ReturnType J1939Rm_PduRTpCopyRxData (PduIdType PduId , const PduInfoType * PduInfoPointer , PduLengthType * RxBuffer- SizePtr);	
Service ID	0xFB	
Return Value		
Description	This function shall not be called, and if so it shall report developement error.	

5.4.2.2.10. J1939Rm_PduRTpRxIndication

Purpose	Dummy funtion for PduR.	
Synopsis	void J1939Rm_PduRTpRxIndication (PduIdType RxPduId , NotifRe- sultType Result);	
Service ID	0xFA	
Description	This function shall not be called, and if so it shall report developement error.	

5.4.2.2.11. J1939Rm_PduRTpStartOfReception

Purpose	Dummy funtion for PduR.	
Synopsis	BufReq_ReturnType J1939Rm_PduRTpStartOfReception (PduIdType PduId , PduLengthType PduLength , PduLengthType * RxBuffer- SizePtr);	
Service ID	0xFC	
Return Value		
Description	This function shall not be called, and if so it shall report developement error.	

5.4.2.2.12. J1939Rm_SendAck

Purpose		
Synopsis	Std_ReturnType J1939Rm_SendAck (uint8 userId , NetworkHandle- Type channel , uint32 ackPgn , J1939Rm_AckCode ackCode , uint8 ackAddress , uint8 priority);	

Return Value		
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5.4.2.2.13. J1939Rm_SendRequest

Purpose		
Synopsis	<code>Std_ReturnType J1939Rm_SendRequest (uint8 userId , NetworkHandleType channel , uint32 requestedPgn , uint8 destAddress , uint8 priority , boolean checkTimeout);</code>	
Return Value		

5.4.2.2.14. J1939Rm_SetState

Purpose		
Synopsis	<code>Std_ReturnType J1939Rm_SetState (NetworkHandleType channel , uint8 node , J1939Rm_StateType newState);</code>	
Return Value		

5.4.2.2.15. J1939Rm_TpTxConfirmation

Purpose		
Synopsis	<code>void J1939Rm_TpTxConfirmation (PduIdType id , Std_ReturnType result);</code>	

5.4.2.2.16. J1939Rm_Transmit

Purpose		
Synopsis	<code>Std_ReturnType J1939Rm_Transmit (PduIdType id , const PduInfoType * info);</code>	
Return Value		

5.4.2.2.17. J1939Rm_TxConfirmation

Purpose		
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Synopsis	<code>void J1939Rm_TxConfirmation (PduIdType TxPduId);</code>
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5.4.3. Integration notes

5.4.3.1. Exclusive areas

Exclusive areas information is not available for this module.

5.4.3.2. Production errors

Production errors are not reported by the J1939Rm module.

5.4.3.3. Memory mapping

General information about memory mapping is provided in the EB tresos AutoCore Generic documentation. Refer to the section `Memory mapping and compiler abstraction in the Integration notes` section for details.

The following table provides the list of sections that may be mapped for this module:

Memory section
CODE
VAR_CLEARED_8
VAR_INIT_8
VAR_CLEARED_8
VAR_INIT_UNSPECIFIED
VAR_CLEARED_UNSPECIFIED
CONST_8
CONST_16
CONST_32
CONST_UNSPECIFIED

5.4.3.4. Integration requirements

WARNING **Integration requirements list is not exhaustive**



The following list of integration requirements helps you to integrate your product. However, this list is not exhaustive. You also require information from the user guide, release notes, and EB tresos AutoCore known issues to successfully integrate your product.

Integration requirements are not listed for the J1939Rm module.

5.5. J1939Tp

5.5.1. Configuration parameters

Containers included		
Container name	Multiplicity	Description
CommonPublishedInformation	1..1	Label: Common Published Information Common container, aggregated by all modules. It contains published information about vendor and versions.
J1939TpConfiguration	1..1	Defines the configuration parameters and sub containers of the J1939Tp module that define the communication paths.
J1939TpGeneral	1..1	Defines the general configuration parameters of the J1939Tp module.
PublishedInformation	1..1	Label: EB Published Information Additional published parameters not covered by Common-PublishedInformation container.

Parameters included	
Parameter name	Multiplicity
IMPLEMENTATION_CONFIG_VARIANT	1..1

Parameter Name	IMPLEMENTATION_CONFIG_VARIANT
Label	Config Variant

Multiplicity	1..1
Type	ENUMERATION
Default value	VariantPreCompile
Range	VariantPreCompile

5.5.1.1. CommonPublishedInformation

Parameters included	
Parameter name	Multiplicity
ArMajorVersion	1..1
ArMinorVersion	1..1
ArPatchVersion	1..1
SwMajorVersion	1..1
SwMinorVersion	1..1
SwPatchVersion	1..1
ModuleId	1..1
VendorId	1..1
Release	1..1

Parameter Name	ArMajorVersion	
Label	AUTOSAR Major Version	
Description	Major version number of AUTOSAR specification on which the appropriate implementation is based on.	
Multiplicity	1..1	
Type	INTEGER_LABEL	
Default value	20	
Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

Parameter Name	ArMinorVersion	
Label	AUTOSAR Minor Version	
Description	Minor version number of AUTOSAR specification on which the appropriate implementation is based on.	

Multiplicity	1..1
Type	INTEGER_LABEL
Default value	11
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	ArPatchVersion
Label	AUTOSAR Patch Version
Description	Patch level version number of AUTOSAR specification on which the appropriate implementation is based on.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	0
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	SwMajorVersion
Label	Software Major Version
Description	Major version number of the vendor specific implementation of the module.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	1
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	SwMinorVersion
Label	Software Minor Version
Description	Minor version number of the vendor specific implementation of the module. The numbering is vendor specific.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	2
Configuration class	PublishedInformation:

Origin	Elektrobit Automotive GmbH
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Parameter Name	SwPatchVersion
Label	Software Patch Version
Description	Patch level version number of the vendor specific implementation of the module. The numbering is vendor specific.
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	4
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	ModuleId
Label	Numeric Module ID
Description	Module ID of this module from Module List
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	37
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	VendorId
Label	Vendor ID
Description	Vendor ID of the dedicated implementation of this module according to the AUTOSAR vendor list
Multiplicity	1..1
Type	INTEGER_LABEL
Default value	1
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

Parameter Name	Release
Label	Release Information

Multiplicity	1..1
Type	STRING_LABEL
Default value	
Configuration class	PublishedInformation:
Origin	Elektrobit Automotive GmbH

5.5.1.2. J1939TpConfiguration

Containers included		
Container name	Multiplicity	Description
J1939TpRxChannel	0..n	<p>Defines the configuration of J1939Tp channels.</p> <p>A channel referencing N-PDUs without MetaData is used for all N-SDUs that share the same source address (SA) and the same destination address (BAM: DA = 0xFF, CMDT: DA != 0xFF).</p> <p>A channel with N-PDUs with MetaData is used for all possible source and destination addresses.</p> <p>Optimization Effect:</p> <ul style="list-style-type: none"> ▶ RAM reduction (config): Configuring less J1939Tp channels reduces the RAM consumption of the module configuration. ▶ ROM reduction (config): Configuring less J1939Tp channels reduces the ROM consumption of the module configuration. ▶ Execution time reduction (code): Configuring less J1939Tp channels reduces the execution time of the module code.
J1939TpTxChannel	0..n	<p>Defines the configuration of J1939Tp Tx channels.</p> <p>A channel referencing N-PDUs without MetaData is used for all N-SDUs that share the same source address (SA) and the same destination address (BAM: DA = 0xFF, CMDT: DA != 0xFF).</p> <p>A channel with N-PDUs with MetaData is used for all possible source and destination addresses.</p>

5.5.1.3. J1939TpRxChannel

Containers included		
Container name	Multiplicity	Description
J1939TpRxCmNPdu	1..1	Defines the N-PDU represents the TP.CM frame of a J1939 transport protocol session. TP.CM is used both by BAM and CMDT to initialize the connection. For CMDT, it is also used to abort the connection.
J1939TpRxDtNPdu	1..1	Defines the N-PDU represents the TP.DT frame of a J1939 transport protocol session. TP.DT is used both by BAM and CMDT to transfer the contents of an N-SDU.
J1939TpRxPg	1..n	Defines the Parameter group received by the J1939 transport layer.
J1939TpTxFcNPdu	0..1	Defines this N-PDU represents the TP.CM frame that is used in reverse direction for a J1939 transport protocol session using the CMDT protocol type. TP.CM in reverse direction is used for intermediate and final acknowledgement of received data and to abort the connection.

Parameters included	
Parameter name	Multiplicity
J1939TpRxCancellationSupport	0..1
J1939TpRxCanFDSupport	1..1
J1939TpRxDa	0..1
J1939TpRxDynamicBlockCalculation	0..1
J1939TpRxDynamicBufferRatio	0..1
J1939TpRxPacketsPerBlock	0..1
J1939TpRxProtocolType	0..1
J1939TpRxRetrySupport	0..1
J1939TpRxSa	0..1

Parameter Name	J1939TpRxCancellationSupport
Description	<p>Enable the receive cancellation using the API J1939Tp_CancelReceive() for this channel.</p> <p>Disable the receive cancellation for this channel.</p>
Multiplicity	0..1
Type	BOOLEAN

Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxCanFDSupport	
Description	Enable only the CanFD message reception handling according to J1939-22 SAE on this channel.	
	Disable the CanFD message reception handling on this channel.	
Multiplicity	1..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

Parameter Name	J1939TpRxDa	
Description	Defines the destination address (DA) of this channel. This parameter is only required for channels with fixed DA which use N-PDUs with MetaData containing the DA.	
Multiplicity	0..1	
Type	INTEGER	
Range	<=253	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxDynamicBlockCalculation	
Description	Enable the dynamic calculation of "number of packets that can be sent" value in TP.CM_CTS, based on the size of buffers in upper layers reported via StartOfReception and PduR_J1939TpCopyRxData.	
	Disable the dynamic calculation of "number of packets that can be sent" value in TP.CM_CTS, based on the size of buffers in upper layers reported via StartOfReception and PduR_J1939TpCopyRxData.	
Multiplicity	0..1	

Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxDynamicBufferRatio	
Description	<p>Defines the Percentage of available buffer that shall be used for retry.</p> <p>This parameter is only applicable when "J1939TpRxRetrySupport" and "J1939TpRxDynamicBlockCalculation" are enabled.</p>	
Multiplicity	0..1	
Type	INTEGER	
Default value	80	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxPacketsPerBlock	
Description	<p>Defines the number of TP.DT frames the receiving J1939Tp module allows the sender to send before waiting for another TP.CM_CTS. This parameter is transmitted in the TP.CM_CTS frame, and is thus only relevant for reception of messages via CMDT. When J1939TpRxDynamicBlockCalculation is enabled, this parameter specifies a maximum for the calculated value.</p>	
Multiplicity	0..1	
Type	INTEGER	
Default value	16	
Range	<=255	
	>=1	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxProtocolType	
Description	<p>Defines the Protocol type used by this Rx channel. This parameter is only required for channels with fixed destination address.</p>	

	J1939TP_PROTOCOL_BAM: required for channels with global address. J1939TP_PROTOCOL_CMDT: required for channels with fixed destination address.	
Multiplicity	0..1	
Type	ENUMERATION	
Range	J1939TP_PROTOCOL_BAM	
	J1939TP_PROTOCOL_CMDT	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxRetrySupport	
Description	Enable the support for triggering repetition of failed transmission using TP.CM_CTS with a packet number that has already been sent. Retransmission is triggered when a sequence number is missing or a timeout occurs during reception. Disable the support for triggering repetition of failed transmission.	
Multiplicity	0..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxSa	
Description	Defines Source address (SA) of this channel. This parameter is only required for channels with fixed SA which use N-PDUs with MetaData.	
Multiplicity	0..1	
Type	INTEGER	
Range	<=253	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.5.1.4. J1939TpRxCmNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpRxCmNPduId	1..1
J1939TpRxCmNPduRef	1..1

Parameter Name	J1939TpRxCmNPduId
Description	<p>Defines the configuration of the RxCmNPdu identifier used for communication with CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Rx(Dt,Cm,Fc,Direct)NPdu ids has to unique.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpRxCmNPduRef
Description	<p>Reference to the external Rx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpRxPDU. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu, J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).
Multiplicity	1..1
Type	REFERENCE
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

5.5.1.5. J1939TpRxDtNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpRxDtNPduId	1..1
J1939TpRxDtNPduRef	1..1

Parameter Name	J1939TpRxDtNPduId
Description	<p>Contains the configuration of the RxDtNPdu identifier used for communication with CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Rx(Dt,Cm,Fc,Direct)NPdu ids has to unique.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpRxDtNPduRef
Description	<p>Reference to the external Rx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpRxDtNPdu. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu, J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).
Multiplicity	1..1
Type	REFERENCE
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

5.5.1.6. J1939TpRxPg

Containers included		
Container name	Multiplicity	Description
J1939TpRxDirectNPdu	0..1	Defines this N-PDU represents the short frame that is used for a dynamic length PGN when it has a length of less than 8 bytes.
J1939TpRxNSdu	1..n	Defines the parameters that are relevant for the reception of a specific N-SDU.

Parameters included	
Parameter name	Multiplicity
J1939TpRxPgDynLength	1..1
J1939TpRxPgPGN	1..1

Parameter Name	J1939TpRxPgDynLength
Description	<p>Enable the flag when the N-SDU refers to a PGN with variable length.</p> <p>When this attribute is TRUE, the sub container J1939TpRxDirectNPdu is required.</p> <p>Disable the flag when the N-SDU doesn't refers to a PGN with variable length.</p>
Multiplicity	1..1
Type	BOOLEAN
Default value	false
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpRxPgPGN
Description	Defines the PGN of the referenced N-SDUs.
Multiplicity	1..1
Type	INTEGER
Range	<p><=262143</p> <p>>=0</p>
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

5.5.1.7. J1939TpRxDirectNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpRxDirectNPdulId	1..1
J1939TpRxDirectNPduRef	1..1

Parameter Name	J1939TpRxDirectNPdulId
Description	<p>Defines the configuration of the RxDirectNPdu identifier used for communication with CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Rx(Dt,Cm,Fc,Direct)NPdu ids has to unique.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpRxDirectNPduRef
Description	<p>Reference to the external Rx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpRxDirectNPdu. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu, J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).
Multiplicity	1..1
Type	REFERENCE
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

5.5.1.8. J1939TpRxNSdu

Parameters included	
Parameter name	Multiplicity
J1939TpRxNSduld	1..1
J1939TpRxNSduRef	1..1
J1939TpRxAssuranceDataType	1..1
J1939TpRxAssuranceDataLength	0..1

Parameter Name	J1939TpRxNSduld
Description	<p>Defines the configuration of the RxNSdu identifier for a received N-SDU. This Id is used in the CancelReceive and ChangeParameter API call.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's RxNSdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpRxNSduRef
Description	<p>Reference to the external Rx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpRxNSdu. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu, J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).
Multiplicity	1..1
Type	REFERENCE
Configuration class	VariantPreCompile: VariantPreCompile

Origin	AUTOSAR_ECUC	
Parameter Name	J1939TpRxAssuranceDataType	
Description	<p>Type of the assurance data for CanFD reception.</p> <p>Enabled only if the Tx channel supports CanFD reception</p> <ul style="list-style-type: none"> ▶ J1939TP_NO_ASSURANCE_DATA: No assurance data for this NSDU. ▶ J1939TP_CYBERSECURITY_ASSURANCE_DATA: Cybersecurity assurance data for this NSDU. ▶ J1939TP_FUNCTIONAL_SAFETY_ASSURANCE_DATA: Functional safety assurance data for this NSDU. ▶ J1939TP_COMBINED_CYBERSECURITY_FUNCTIONAL_SAFETY_ASSURANCE_DATA: Combined assurance data for this NSDU. 	
Multiplicity	1..1	
Type	ENUMERATION	
Default value	J1939TP_NO_ASSURANCE_DATA	
Range	J1939TP_NO_ASSURANCE_DATA	
	J1939TP_CYBERSECURITY_ASSURANCE_DATA	
	J1939TP_FUNCTIONAL_SAFETY_ASSURANCE_DATA	
	J1939TP_COMBINED_CYBERSECURITY_FUNCTIONAL_SAFETY_ASSURANCE_DATA	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

Parameter Name	J1939TpRxAssuranceDataLength	
Description	<p>Length of the assurance data for CanFD reception in the EOMS if supported for this NSDU.</p> <p>Enabled only if the Rx channel supports CanFD reception and the assurance data type isn't J1939TP_NO_ASSURANCE_DATA.</p> <p>If the enabling condition is met and the parameter is not configured, then the assurance data size is dynamic, and the PduR_J1939TpStartOfReception is called with PduLength zero.</p>	
Multiplicity	0..1	
Type	INTEGER	
Range	<=52	

	>=1	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

5.5.1.9. J1939TpTxFcNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpTxFcNPduTxConflD	1..1
J1939TpTxFcNPduRef	1..1

Parameter Name	J1939TpTxFcNPduTxConflD
Description	<p>Defines the configuration of the TxFcNPduTxConf identifier for a transmit N-SDU. This Id is used for Tx confirmation from CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Tx(Dt,Cm,Fc,Direct)NPduTxConf ids has to be unique .</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpTxFcNPduRef
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpTxFcNPdu. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu,

	J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.5.1.10. J1939TpTxChannel

Containers included		
Container name	Multiplicity	Description
J1939TpRxFcNPdu	0..1	Defines This N-PDU represents the TP.CM frame that is used in reverse direction for a J1939 transport protocol session using the CMDT protocol type. TP.CM in reverse direction is used for intermediate and final acknowledgement of received data and to abort the connection.
J1939TpTxCmNPdu	1..1	Defines This N-PDU represents the TP.CM frame of a J1939 transport protocol session. TP.CM is used both by BAM and CMDT to initialize the connection. For CMDT, it is also used to abort the connection.
J1939TpTxDtNPdu	1..1	Defines this N-PDU represents the TP.DT frame of a J1939 transport protocol session. TP.DT is used both by BAM and CMDT to transfer the contents of an N-SDU.
J1939TpTxPg	1..n	Defines the Parameter group transmitted by the J1939 transport layer.

Parameters included	
Parameter name	Multiplicity
J1939TpTxCancellationSupport	0..1
J1939TpTxCanFDsupport	1..1
J1939TpTxDa	0..1
J1939TpTxDynamicBlockCalculation	0..1
J1939TpTxMaxPacketsPerBlock	0..1
J1939TpTxProtocolType	0..1
J1939TpTxRetrySupport	0..1

Parameters included	
J1939TpTxSa	0..1

Parameter Name	J1939TpTxCancellationSupport	
Description	Enable the transmit cancellation using the API J1939Tp_CancelTransmit() for this channel.	
	Disable the transmit cancellation.	
Multiplicity	0..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxCanFDSupport	
Description	Enable only the CanFD message transmission handling according to J1939-22 SAE on this channel.	
	Disable the CanFD message transmission handling on this channel.	
Multiplicity	1..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

Parameter Name	J1939TpTxDa	
Description	Defines the destination address (DA) of this channel.	
	This parameter is only required for channels with fixed DA which use N-PDUs with MetaData containing the DA.	
Multiplicity	0..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxDynamicBlockCalculation	
Description	<p>Enable the dynamic calculation of "maximum number of packets that can be sent" value in TP.CM_RTS, based on the available amount of data in upper layers reported via PduR_J1939TpCopyTxData.</p> <p>Disable the dynamic calculation of "maximum number of packets that can be sent" value in TP.CM_RTS.</p>	
Multiplicity	0..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxMaxPacketsPerBlock	
Description	<p>Defines the maximum number of TP.DT frames the transmitting J1939Tp module is ready to send before waiting for another TP.CM_CTS.</p> <p>This parameter is transmitted in the TP.CM_RTS frame, and is thus only relevant for transmission of messages via CMTD.</p> <p>When J1939TpTxDynamicBlockCalculation is enabled, this parameter specifies a maximum for the calculated value.</p>	
Multiplicity	0..1	
Type	INTEGER	
Default value	255	
Range	<=255	
	>=1	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxProtocolType
Description	<p>Defines the Protocol type used by this Tx channel. This parameter is only required for channels with fixed destination address.</p> <p>J1939TP_PROTOCOL_BAM: required for channels with global address.</p>

	J1939TP_PROTOCOL_CMDT: required for channels with fixed destination address.	
Multiplicity	0..1	
Type	ENUMERATION	
Range	J1939TP_PROTOCOL_BAM	
	J1939TP_PROTOCOL_CMDT	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxRetrySupport	
Description	<p>Enable the support for repetition of failed transmission using TP.CM_CTS with a packet number that has already been sent. Retransmission is handled via the retry feature of PduR_J1939TpCopyTxData.</p> <p>Disable the support for repetition of failed transmission using TP.CM_CTS with a packet number that has already been sent.</p>	
Multiplicity	0..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxSa	
Description	<p>Defines the Source address (SA) of this channel.</p> <p>This parameter is only required for channels with fixed SA which use N-PDUs with MetaData.</p>	
Multiplicity	0..1	
Type	INTEGER	
Range	<=253	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile

Origin	AUTOSAR_ECUC
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5.5.1.11. J1939TpRxFcNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpRxFcNPduld	1..1
J1939TpRxFcNPduRef	1..1

Parameter Name	J1939TpRxFcNPduld	
Description	<p>Defines the configuration of the RxFCNPdu identifier for a receive N-SDU. This N-PDU identifier used for communication with CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Rx(Dt,Cm,Fc,Direct)NPdu ids has to be unique.</p> <p>Range: 0 .. 65535</p>	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpRxFcNPduRef
Description	<p>Reference to the external Rx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Unique EcuC PDU has to be provided as reference for each J1939TpRxFcNPdu. ▶ It is not allowed to configure bidirectional J1939Tp PDUs (the same PDU cannot be given as reference for J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCmNPdu, J1939TpTxCMNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu, J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).
Multiplicity	1..1
Type	REFERENCE

Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.5.1.12. J1939TpTxCmNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpTxCmNPduTxConflD	1..1
J1939TpTxCmNPduRef	1..1

Parameter Name	J1939TpTxCmNPduTxConflD	
Description	<p>Defines the configuration of the TxCmNPduTxConf identifier for a transmit N-PDU. This N-PDU identifier used for Tx confirmation from CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Tx(Dt,Cm,Fc,Direct)NPduTxConf ids has to be unique .</p> <p>Range: 0 .. 65535</p>	
Multiplicity	1..1	
Type	INTEGER	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxCmNPduRef
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpTxCmNPdu. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu, J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).

Multiplicity	1..1
Type	REFERENCE
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

5.5.1.13. J1939TpTxDtNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpTxDtNPduTxConflD	1..1
J1939TpTxDtNPduRef	1..1

Parameter Name	J1939TpTxDtNPduTxConflD
Description	<p>Defines the configuration of the TxDtNPduTxConf identifier for a transmit N-PDU. This N-PDU identifier used for Tx confirmation from CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Tx(Dt,Cm,Fc,Direct)NPduTxConf ids has to be unique .</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpTxDtNPduRef
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpTxDtNPdu. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu,

	J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.5.1.14. J1939TpTxPg

Containers included		
Container name	Multiplicity	Description
J1939TpTxDirectNPdu	0..1	Defines the N-PDU represents the short frame that is used for a dynamic length PGN when it has a length of less that 8 bytes.
J1939TpTxNSdu	1..n	Defines the the parameters that are relevant for the transmission of a specific N-SDU.

Parameters included	
Parameter name	Multiplicity
J1939TpTxPgDynLength	1..1
J1939TpTxPgPGN	1..1

Parameter Name	J1939TpTxPgDynLength
Description	Enable when the N-SDU refers to a PGN with variable length. Disable when the N-SDU refers to a PGN with variable length.
Multiplicity	1..1
Type	BOOLEAN
Default value	false
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpTxPgPGN
Description	Defines the PGN of the referenced N-SDUs.
Multiplicity	1..1
Type	INTEGER

Range	<=262143	
	>=0	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.5.1.15. J1939TpTxDirectNPdu

Parameters included	
Parameter name	Multiplicity
J1939TpTxDirectNPduTxConflD	1..1
J1939TpTxDirectNPduRef	1..1

Parameter Name	J1939TpTxDirectNPduTxConflD
Description	<p>Defines the configuration of the TxDirectNPduTxConf identifier for a transmit N-PDU. This N-PDU identifier used for Tx confirmation from CanIf.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's Tx(Dt,Cm,Fc,Direct)NPduTxConf ids has to be unique .</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpTxDirectNPduRef
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpTxDirectNPdu. ▶ It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCMNPdu, J1939TpTxCMNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu,

	J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.5.1.16. J1939TpTxNSdu

Parameters included	
Parameter name	Multiplicity
J1939TpTxNSduId	1..1
J1939TpTxNSduRef	1..1
J1939TpTxAssuranceDataType	1..1
J1939TpTxAssuranceDataLength	1..1

Parameter Name	J1939TpTxNSduId
Description	<p>Defines the configuration of the TxNSdu identifier for a transmit N-PDU. This N-SDU identifier used for communication with PduR.</p> <p>A symbolic value (preprocessor macro) is also generated for each PDU ID.</p> <p>The J1939Tp's TxNSdu ids has to be zero based and consecutive.</p> <p>Range: 0 .. 65535</p>
Multiplicity	1..1
Type	INTEGER
Configuration class	VariantPreCompile: VariantPreCompile
Origin	AUTOSAR_ECUC

Parameter Name	J1939TpTxNSduRef
Description	<p>Reference to the external Tx PDU definition in the EcuC module.</p> <p>Dependency on parameter(s):</p> <ul style="list-style-type: none"> ▶ A valid reference to EcuC's PDU parameters has to be provided. ▶ Uniq EcuC PDU has to be provided as reference for each J1939TpTxNSdu.

	<p>► It is not allowed to configured bidirectional J1939Tp PDUs(the same PDU cannot be given as reference for J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDtNPdu, J1939TpTxDtNPdu, J1939TpRxCmNPdu, J1939TpTxCmNPdu, J1939TpRxDirectNPdu, J1939TpTxDirectNPdu, J1939TpRxNSdu, J1939TpTxNSdu, J1939TpRxFcNPdu and J1939TpTxFcNPdu).</p>	
Multiplicity	1..1	
Type	REFERENCE	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpTxAssuranceDataType	
Description	<p>Type of the assurance data for CanFD transmission.</p> <p>Enabled only if the Tx channel supports CanFD transmission</p> <p>► J1939TP_NO_ASSURANCE_DATA: No assurance data for this NSDU.</p> <p>► J1939TP_CYBERSECURITY_ASSURANCE_DATA: Cybersecurity assurance data for this NSDU.</p> <p>► J1939TP_FUNCTIONAL_SAFETY_ASSURANCE_DATA: Functional safety assurance data for this NSDU.</p> <p>► J1939TP_COMBINED_CYBERSECURITY_FUNCTIONAL_SAFETY_ASSURANCE_DATA: Combined assurance data for this NSDU.</p>	
Multiplicity	1..1	
Type	ENUMERATION	
Default value	J1939TP_NO_ASSURANCE_DATA	
Range	<p>J1939TP_NO_ASSURANCE_DATA</p> <p>J1939TP_CYBERSECURITY_ASSURANCE_DATA</p> <p>J1939TP_FUNCTIONAL_SAFETY_ASSURANCE_DATA</p> <p>J1939TP_COMBINED_CYBERSECURITY_FUNCTIONAL_SAFETY_ASSURANCE_DATA</p>	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

Parameter Name	J1939TpTxAssuranceDataLength	
Description	Length of the assurance data for CanFD transmission in the EOMS if supported for this NSDU.	

	Enabled only if the Tx channel supports CanFD transmission and the assurance data type isn't J1939TP_NO_ASSURANCE_DATA.	
Multiplicity	1..1	
Type	INTEGER	
Range	<=52	
	>=1	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

5.5.1.17. J1939TpGeneral

Parameters included	
Parameter name	Multiplicity
J1939TpCancellationSupport	0..1
J1939TpDevErrorDetect	1..1
J1939TpReliableTxConfirmation	1..1
J1939TpTxConfirmationTimeOut	1..1
J1939TpMainFunctionPeriod	1..1
J1939TpTBAMMinTimeout	1..1
J1939TpVersionInfoApi	1..1

Parameter Name	J1939TpCancellationSupport	
Description	Enable transmit and receive cancellation.	
	Disable transmit and receive cancellation.	
Multiplicity	0..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpDevErrorDetect
Description	Enable Switches the development error detection and notification ON.

	Disable Switches the development error detection and notification OFF.	
Multiplicity	1..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

Parameter Name	J1939TpReliableTxConfirmation	
Description	<p>Enable Switches the reliable TxConfirmation ON.</p> <p>Disable Switches the reliable TxConfirmation OFF.</p> <ul style="list-style-type: none"> ▶ If the CanFD is enabled for TxChannel and C-PGN is transmitted using the CanFD, ▶ Then this parameter must be disabled as both the PduR and the IpduM don't support reliable TxConfirmation. 	
Multiplicity	1..1	
Type	BOOLEAN	
Default value	true	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

Parameter Name	J1939TpTxConfirmationTimeout	
Description	<p>Defines the time for the J1939TpTxConfirmationTimeout (in seconds).</p> <p>Enabled if the reliable TxConfirmation is switched OFF.</p>	
Multiplicity	1..1	
Type	FLOAT	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	EB_ECUC	

Parameter Name	J1939TpMainFunctionPeriod	
Description	Configure the time for the MainFunction (in seconds).	
Multiplicity	1..1	
Type	FLOAT	
Configuration class	VariantPreCompile:	VariantPreCompile

Origin	AUTOSAR_ECUC	
Parameter Name	J1939TpTBAMMinTimeout	
Description	Configure the timeout in seconds for BAM data frames. After this time the J1939Tp shall transmit the next data frame.	
Multiplicity	1..1	
Type	FLOAT	
Default value	.050	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	Elektrobit Automotive GmbH	

Parameter Name	J1939TpVersionInfoApi	
Description	Enable the Pre-processor switch for version info API support. Diasable the Pre-processor switch for version info API support.	
Multiplicity	1..1	
Type	BOOLEAN	
Default value	false	
Configuration class	VariantPreCompile:	VariantPreCompile
Origin	AUTOSAR_ECUC	

5.5.1.18. PublishedInformation

Parameters included	
Parameter name	Multiplicity
PbcfgMSupport	1..1

Parameter Name	PbcfgMSupport
Label	PbcfgM support
Description	Specifies whether or not the J1939Tp can use the PbcfgM module for post-build support.
Multiplicity	1..1
Type	BOOLEAN
Default value	false

Configuration class	PublishedInformation:	
Origin	Elektrobit Automotive GmbH	

5.5.2. Application programming interface (API)

5.5.2.1. Type definitions

5.5.2.1.1. J1939TP_FrameStateType

Purpose		
Type	enum	
Constants	J1939TP_FRAME_SENT	
	J1939TP_FRAME_PENDING	
	J1939TP_FRAME_REJECTED	

5.5.2.1.2. J1939Tp_CancelReceive_FctPtrType

Purpose	
Type	Std_ReturnType (*) (PduIdType RxSduId)

5.5.2.1.3. J1939Tp_CancelTransmit_FctPtrType

Purpose	
Type	Std_ReturnType (*) (PduIdType TxSduId)

5.5.2.1.4. J1939Tp_ChannelAbortType

Purpose		
Type	struct	
Members	uint32 pgn	
	boolean AbortFlag	
	boolean txconfirmation	

	uint8 AbortReason	
	uint8 sa	
	uint8 da	
	uint8 session_num	

5.5.2.1.5. J1939Tp_ChannelInfoType

Purpose		
Type	struct	
Members	uint8 J1939TpSrcAdd	
	uint8 J1939TpDestAdd	
	boolean J1939TpChannelBusy	
	boolean J1939TpTxNmNPduAvailable	
	boolean J1939TpTxDtNPduAvailable	
	boolean J1939TpTxDirectNPduAvailable	
	boolean J1939TpTxFcNPduAvailable	

5.5.2.1.6. J1939Tp_ConfigType

Purpose		
Type	struct	
Members	uint32 Dummy	Dummy variable to have valid C code

5.5.2.1.7. J1939Tp_GeneralConfigType

Purpose		
Type	struct	
Members	const J1939Tp_TxChannelType *const J1939TpTxChannel	
	J1939Tp_RxChannelType *const J1939TpRxChannel	

	const J1939Tp_GeneralType *const J1939TpGeneral	
	uint8 J1939TpNumberOfTxChannels	
	uint8 J1939TpNumberOfRxChannels	

5.5.2.1.8. J1939Tp_GeneralType

Purpose		
Type	struct	
Members	J1939Tp_Cancel- Transmit_FctPtrType J1939TpCancelTransmitFctPtr	
	J1939Tp_CancelRe- ceive_FctPtrType J1939TpCancelReceiveFctPtrt	
	J1939Tp_GetVersionIn- foType_FctPtrType J1939TpVersionInfoFctPtr	
	uint16 T1	
	uint16 T2	
	uint16 T3	
	uint16 T4	
	uint16 T5	
	uint16 Tr	
	uint16 Tbammin	
	uint16 Th	
	uint16 Tbammax	
	uint16 TxConfirmationTimeOut	
	boolean J1939TpDevErrorDetect	

5.5.2.1.9. J1939Tp_GetVersionInfoType_FctPtrType

Purpose	
Type	void(*) (Std_VersionInfoType *VersionInfo)

5.5.2.1.10. J1939Tp_NSduCtrlType

Purpose		
Type	struct	
Members	PduLengthType SduLength	
	uint32 pgn	
	uint32 msglength	
	uint32 RxNoPacketsInRTS	
	uint32 sn	
	uint32 data_cnt	
	uint32 RxNoPacketReceived	
	uint32 SN_Confirmed_in_CTS	
	uint16 T1TimeCounter	
	uint16 T2TimeCounter	
	uint16 T3TimeCounter	
	uint16 T4TimeCounter	
	uint16 T5TimeCounter	
	uint16 ThTimeCounter	
	uint16 TrTimeCounter	
	uint16 TxConfirmationTimeOut-Counter	
	uint8 state	
	uint8 error_code	
	uint8 cts_packets	
	uint8 cnt_packets	
	uint8 NrOfRxPacketsInCts	
	uint8 TbamminTimeElapsed	
	uint8 StartTbamminTime	
	uint8 TbamminTimeCounter	
	uint8 StartT3Time	
	uint8 T3TimeElapsed	
	uint8 StartThTime	
	uint8 ThTimeElapsed	
	uint8 StartT4Time	

	uint8 T4TimeElapsed	
	uint8 StartT5Time	
	uint8 T5TimeElapsed	
	uint8 StartT1Time	
	uint8 T1TimeElapsed	
	uint8 StartT2Time	
	uint8 T2TimeElapsed	
	uint8 StartTrTime	
	uint8 TrTimeElapsed	
	uint8 StartTxConfirmationTime- Out	
	uint8 TxConfirmationTimeOutE- lapsed	
	uint8 TrTimeout_SendAbort	
	uint8 J1939TpMetaDataInfo	
	Std_ReturnType txconfirmation- Result	
	boolean txconfirmation	
	uint8 sa	
	uint8 da	
	boolean IsMultipleFrameType	
	uint8 u8MAx_Nr_Pkts_Per_CTS	
	boolean retry_cts_flag	
	boolean RxStartOfReceptionFlag	
	uint8 AbortReason	
	uint8 session_num	

5.5.2.1.11. J1939Tp_NsduAbortCtrlType

Purpose		
Type	struct	
Members	J1939Tp_NSduCtrlType * NsduC- trlPrt	
	uint8 NsduNextState	

5.5.2.1.12. J1939Tp_ProtocolType

Purpose		
Type	enum	
Constants	J1939TP_PROTOCOL_BAM	
	J1939TP_PROTOCOL_CMDT	

5.5.2.1.13. J1939Tp_RxChannelType

Purpose		
Type	struct	
Members	const J1939Tp_RxPgType *const J1939TpRxPg	
	J1939Tp_ChannelInfoType * Chan- nelStatus	
	J1939Tp_ChannelAbortType * J1939TpRxChannelAbort	
	J1939Tp_ProtocolType J1939TpRxProtocolType	
	const uint16 J1939TpTxFcNPduRxConfIdEcuC	
	const uint16 J1939TpRxCmNPduRxConfIdEcuC	
	const uint16 J1939TpRxDtNPduRxConfIdEcuC	
	uint16 J1939TpRxCmNPduId	
	uint16 J1939TpRxDtNPdu	
	uint16 J1939TpTxCTSCanIf	
	uint16 J1939TpTxCTSCanIfConf	
	uint8 J1939TpRxDynamicBufferRatio	
	uint8 J1939TpRxDa	
	uint8 J1939TpRxPacketsPerBlock	
	uint8 J1939TpRxSa	
	const uint8 J1939TpNumberOfRxPg	

	const uint8 J1939TpRxCmNPduMetaDataLen	
	const uint8 J1939TpRxDtNPduMetaDataLen	
	const uint8 J1939TpTxFcNPduMetaDataLen	
	boolean J1939TpRxRetrySupport	
	boolean J1939TpRxDynamicBlockCalculation	
	boolean J1939TpRxCancellationSupport	
	boolean J1939TpRxCanFDSupport	

5.5.2.1.14. J1939Tp_RxNSduType

Purpose	
Type	struct
Members	<div>J1939Tp_NSduCtrlType *</div> <div>J1939TpRxNSduCtrl</div> <div>uint16 J1939TpRxNSduId</div> <div>uint16 J1939TpRxNSduIdPduR</div> <div>uint16 J1939TpRxNSduIdEcuC</div> <div>const uint8 RxNsduMetaDataLen</div> <div>uint8 AssuranceDataType</div> <div>uint8 AssuranceDataLength</div>

5.5.2.1.15. J1939Tp_RxPgType

Purpose	
Type	struct
Members	<div>const J1939Tp_RxNSduType *const</div> <div>J1939TpRxNSdu</div> <div>uint32 J1939TpRxPgPGN</div> <div>uint16 J1939TpTxDirectNPduRxConfIdEcuC</div>

	uint16 J1939TpRxDirectNPduId	
	const uint8 J1939TpRxDirectNPduMetaDataLen	
	const uint8 J1939TpNumberOfRxNSdu	
	boolean J1939TpRxPgDynLength	

5.5.2.1.16. J1939Tp_SdulInfoType

Purpose		
Type	struct	
Members	uint32 metaDatacanId	
	uint32 pgn	
	uint8 sa	
	uint8 da	
	uint8 MessageType	
	uint8 MetaDataLen	
	uint8 ReceivedLength	
	uint8 ch_idx	
	uint8 pg_idx	
	uint8 nsdu_idx	
	uint8 session_num	
	uint8 AssuranceDataType	
	boolean PduIdDirectPg	
	boolean PduId_CM_BAM	

5.5.2.1.17. J1939Tp_TxChannelType

Purpose		
Type	struct	
Members	const J1939Tp_TxPgType *const J1939TpTxPg	
	J1939Tp_ChannelInfoType * Chan- nelStatus	

	RetryInfoType *	
	J1939TpTxRetryInfo	
	J1939Tp_ProtocolType	
	J1939TpTxProtocolType	
	uint16 J1939TpTxCmNPduTxRTS	
	uint16	
	J1939TpTxCmNPduTxRTSCanIf	
	uint16 J1939TpTxDtNPduTxConfId	
	uint16	
	J1939TpTxDtNPduTxConfIdCanIf	
	uint16 J1939TpRxFcNPduIdCTS	
	const uint16	
	J1939TpRxFcNPduTxConfIdEcuC	
	const uint16	
	J1939TpTxCmNPduTxConfIdEcuC	
	const uint16	
	J1939TpTxDtNPduTxConfIdEcuC	
	const uint8 J1939TpTxDa	
	const uint8	
	J1939TpTxMaxPacketsPerBlock	
	const uint8 J1939TpTxSa	
	const uint8 J1939TpNumberOfTxPg	
	const uint8	
	J1939TpRxFcNPduMetaData	
	const uint8	
	J1939TpTxCmNPduMetaData	
	const uint8	
	J1939TpTxDtNPduMetaData	
	boolean J1939TpTxRetrySupport	
	boolean	
	J1939TpTxDynamicBlockCalculation	
	boolean	
	J1939TpTxCancellationSupport	
	boolean J1939TpTxCanFDSupport	

5.5.2.1.18. J1939Tp_TxNSduType

Purpose		
Type	struct	
Members	J1939Tp_NSduCtrlType *	
	J1939TpTxNSduCtrl	
	uint16 J1939TpTxNSduId	
	uint16 J1939TpTxNSduIdPduR	
	uint16 J1939TpTxNSduIdEcuC	
	uint8 txnsdumetadatalength	
	uint8 AssuranceDataType	
	uint8 AssuranceDataLength	

5.5.2.1.19. J1939Tp_TxPgType

Purpose		
Type	struct	
Members	const J1939Tp_TxNSduType *const	
	J1939TpTxNSdu	
	uint32 J1939TpTxPgPGN	
	uint16	
	J1939TpTxDirectNPduTxConfIdEcuC	
	uint16	
	J1939TpTxDirectNPduTxConfId	
	uint16	
	J1939TpTxDirectNPduTxConfIdTxIf	
	const uint8	
	J1939TpTxDirectNPduMetaDataLen	
	const uint8	
	J1939TpNumberOfTxNSdu	
	boolean J1939TpTxPgDynLength	

5.5.2.2. Macro constants

5.5.2.2.1. DBG_J1939TP_CANCELRECEIVE_ENTRY

Purpose	Entry point of function J1939Tp_CancelReceive() .
Value	

5.5.2.2.2. DBG_J1939TP_CANCELRECEIVE_EXIT

Purpose	Exit point of function J1939Tp_CancelReceive() .
Value	

5.5.2.2.3. DBG_J1939TP_CANCELTRANSMIT_ENTRY

Purpose	Entry point of function J1939Tp_CancelTransmit() .
Value	

5.5.2.2.4. DBG_J1939TP_CANCELTRANSMIT_EXIT

Purpose	Exit point of function J1939Tp_CancelTransmit() .
Value	

5.5.2.2.5. DBG_J1939TP_CHANGEPARAMETER_ENTRY

Purpose	Entry point of function J1939Tp_ChangeParameter() .
Value	

5.5.2.2.6. DBG_J1939TP_CHANGEPARAMETER_EXIT

Purpose	Exit point of function J1939Tp_ChangeParameter() .
Value	

5.5.2.2.7. DBG_J1939TP_GETVERSIONINFO_ENTRY

Purpose	Entry point of function J1939Tp_GetVersionInfo() .
Value	

5.5.2.2.8. DBG_J1939TP_GETVERSIONINFO_EXIT

Purpose	Exit point of function J1939Tp_GetVersionInfo() .
Value	

5.5.2.2.9. DBG_J1939TP_INIT_ENTRY

Purpose	Entry point of function J1939Tp_Init() .
Value	

5.5.2.2.10. DBG_J1939TP_INIT_EXIT

Purpose	Exit point of function J1939Tp_Init() .
Value	

5.5.2.2.11. DBG_J1939TP_MAINFUNCTION_ENTRY

Purpose	Entry point of function J1939Tp_MainFunction() .
Value	

5.5.2.2.12. DBG_J1939TP_MAINFUNCTION_EXIT

Purpose	Exit point of function J1939Tp_MainFunction() .
Value	

5.5.2.2.13. DBG_J1939TP_RXINDICATION_ENTRY

Purpose	Entry point of function J1939Tp_RxIndication() .
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Value	
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5.5.2.2.14. DBG_J1939TP_RXINDICATION_EXIT

Purpose	Exit point of function J1939Tp_RxIndication() .
Value	

5.5.2.2.15. DBG_J1939TP_SHUTDOWN_ENTRY

Purpose	Entry point of function J1939Tp_Shutdown() .
Value	

5.5.2.2.16. DBG_J1939TP_SHUTDOWN_EXIT

Purpose	Exit point of function J1939Tp_Shutdown() .
Value	

5.5.2.2.17. DBG_J1939TP_TRANSMIT_ENTRY

Purpose	Entry point of function J1939Tp_Transmit() .
Value	

5.5.2.2.18. DBG_J1939TP_TRANSMIT_EXIT

Purpose	Exit point of function J1939Tp_Transmit() .
Value	

5.5.2.2.19. DBG_J1939TP_TXCONFIRMATION_ENTRY

Purpose	Entry point of function J1939Tp_TxConfirmation() .
Value	

5.5.2.2.20. DBG_J1939TP_TXCONFIRMATION_EXIT

Purpose	Exit point of function J1939Tp_TxConfirmation() .
Value	

5.5.2.2.21. J1939TP_BAM_RX_STATE_NOTIFY_PDUR

Purpose	
Value	0x20U

5.5.2.2.22. J1939TP_BAM_RX_STATE_WAIT_DATA

Purpose	
Value	0x21U

5.5.2.2.23. J1939TP_BAM_TX_STATE_ABORT

Purpose	
Value	0x14U

5.5.2.2.24. J1939TP_BAM_TX_STATE_DATA_TRANSMISSION

Purpose	
Value	0x12U

5.5.2.2.25. J1939TP_BAM_TX_STATE_EOMS_TRANSMISSION

Purpose	
Value	0x52U

5.5.2.2.26. J1939TP_BAM_TX_STATE_REQ

Purpose	
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Value	0x10U
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5.5.2.2.27. J1939TP_BAM_TX_STATE_WAIT_CONFIRMATION_ABORT

Purpose	
Value	0x15U

5.5.2.2.28. J1939TP_BAM_TX_STATE_WAIT_CONFIRMATION_CM

Purpose	
Value	0x13U

5.5.2.2.29. J1939TP_BAM_TX_STATE_WAIT_CONFIRMATION_DT

Purpose	
Value	0x11U

5.5.2.2.30. J1939TP_BAM_TX_STATE_WAIT_CONFIRMATION_EOMS

Purpose	
Value	0x53U

5.5.2.2.31. J1939TP_BUFFER_MAX_PERCENT

Purpose	
Value	(PduLengthType)100U

5.5.2.2.32. J1939TP_CANCELRECEIVE_SERVICEID

Purpose	
Value	0x4cU

5.5.2.2.33. J1939TP_CANCELTRANSMIT_SERVICEID

Purpose	
Value	0x4aU

5.5.2.2.34. J1939TP_CANFD_BAM_MAX_CONCURRENT_SESSIONS

Purpose	
Value	4U

5.5.2.2.35. J1939TP_CANFD_CMDT_MAX_CONCURRENT_SESSIONS

Purpose	
Value	8U

5.5.2.2.36. J1939TP_CANFD_CONTROL_FRAME_LENGTH

Purpose	
Value	12U

5.5.2.2.37. J1939TP_CANFD_DT_SESSION_NUMBER

Purpose	
Value	((Session_num) = ((FirstByte) & 0x0FU))

5.5.2.2.38. J1939TP_CANFD_PADDING

Purpose	
Value	0xAAU

5.5.2.2.39. J1939TP_CANFD_TPCM_ABORT

Purpose	
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Value	0x0FU
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5.5.2.2.40. J1939TP_CANFD_TPCM_BAM

Purpose	
Value	0x04U

5.5.2.2.41. J1939TP_CANFD_TPCM_CTS

Purpose	
Value	0x01U

5.5.2.2.42. J1939TP_CANFD_TPCM_ENDOFMSGACK

Purpose	
Value	0x03U

5.5.2.2.43. J1939TP_CANFD_TPCM_ENDOFMSGSTATUS

Purpose	
Value	0x02U

5.5.2.2.44. J1939TP_CANFD_TPCM_RTS

Purpose	
Value	0x00U

5.5.2.2.45. J1939TP_CANFD_TP_CM_PGN

Purpose	
Value	0x4DU

5.5.2.2.46. J1939TP_CANFD_TP_DT_PGN

Purpose	
Value	0x4EU

5.5.2.2.47. J1939TP_CANID_EXTENDED

Purpose	
Value	(((CanId) & 0x80000000U) > 0U) ? TRUE : FALSE)

5.5.2.2.48. J1939TP_CHANGEPARAMETER_SERVICEID

Purpose	
Value	0x4bU

5.5.2.2.49. J1939TP_CMDT_RX_STATE_ABORT

Purpose	
Value	0x48U

5.5.2.2.50. J1939TP_CMDT_RX_STATE_CTS

Purpose	
Value	0x42U

5.5.2.2.51. J1939TP_CMDT_RX_STATE_CTS0

Purpose	
Value	0x43U

5.5.2.2.52. J1939TP_CMDT_RX_STATE_DATA_COMPLETE

Purpose	
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Value	0x46U
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5.5.2.2.53. J1939TP_CMDT_RX_STATE_RTS_RECEIVED

Purpose	
Value	0x40U

5.5.2.2.54. J1939TP_CMDT_RX_STATE_WAIT_CONFIRMATION_ABORT

Purpose	
Value	0x49U

5.5.2.2.55. J1939TP_CMDT_RX_STATE_WAIT_CONFIRMATION_CTS

Purpose	
Value	0x44U

5.5.2.2.56. J1939TP_CMDT_RX_STATE_WAIT_CONFIRMATION_CTS0

Purpose	
Value	0x45U

5.5.2.2.57. J1939TP_CMDT_RX_STATE_WAIT_CONFIRMATION_DATA_COMPLETE

Purpose	
Value	0x47U

5.5.2.2.58. J1939TP_CMDT_RX_STATE_WAIT_DATA

Purpose	
Value	0x41U

5.5.2.2.59. J1939TP_CMDT_STATE_CTS

Purpose	
Value	0x33U

5.5.2.2.60. J1939TP_CMDT_STATE_CTS0

Purpose	
Value	0x32U

5.5.2.2.61. J1939TP_CMDT_TX_STATE_ABORT

Purpose	
Value	0x37U

5.5.2.2.62. J1939TP_CMDT_TX_STATE_DATA_TRANSMISSION

Purpose	
Value	0x34U

5.5.2.2.63. J1939TP_CMDT_TX_STATE_EOMS_TRANSMISSION

Purpose	
Value	0x4FU

5.5.2.2.64. J1939TP_CMDT_TX_STATE_RTS_SEND

Purpose	
Value	0x30U

5.5.2.2.65. J1939TP_CMDT_TX_STATE_WAIT_CONFIRMATION_ABORT

Purpose	
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Value	0x38U
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5.5.2.2.66. J1939TP_CMDT_TX_STATE_WAIT_CONFIRMATION_DATA

Purpose	
Value	0x35U

5.5.2.2.67. J1939TP_CMDT_TX_STATE_WAIT_CONFIRMATION_EOMS

Purpose	
Value	0x50U

5.5.2.2.68. J1939TP_CMDT_TX_STATE_WAIT_CONFIRMATION_RTS

Purpose	
Value	0x31U

5.5.2.2.69. J1939TP_CMDT_TX_STATE_WAIT_ENDOFMSGACK

Purpose	
Value	0x36U

5.5.2.2.70. J1939TP_COMBINED_CYBERSECURITY_FUNCTIONAL_SAFETY_ASSURANCE_DATA

Purpose	
Value	0x03U

5.5.2.2.71. J1939TP_CYBERSECURITY_ASSURANCE_DATA

Purpose	
Value	0x01U

5.5.2.2.72. J1939TP_DATA_LENGTH

Purpose	
Value	7U

5.5.2.2.73. J1939TP_DEFAULT_PRIORITY

Purpose	
Value	0x07U

5.5.2.2.74. J1939TP_DIRECTPG_TX_STATE_REQ

Purpose	
Value	0x01U

5.5.2.2.75. J1939TP_DIRECTPG_TX_STATE_WAIT_CONFIRMATION

Purpose	
Value	0x02U

5.5.2.2.76. J1939TP_DT_CANFD_OVERHEAD_LENGTH

Purpose	
Value	4U

5.5.2.2.77. J1939TP_DT_OVERHEAD_LENGTH

Purpose	
Value	1U

5.5.2.2.78. J1939TP_DYNAMIC_ASSURANCE_DATA_LENGTH

Purpose	
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Value	0xFFU
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5.5.2.2.79. J1939TP_E_INIT_FAILED

Purpose	
Value	0x03U

5.5.2.2.80. J1939TP_E_INVALID_CAR

Purpose	
Value	0x46U

5.5.2.2.81. J1939TP_E_INVALID_MNOP

Purpose	
Value	0x42U

5.5.2.2.82. J1939TP_E_INVALID_NOP

Purpose	
Value	0x44U

5.5.2.2.83. J1939TP_E_INVALID_NPN

Purpose	
Value	0x45U

5.5.2.2.84. J1939TP_E_INVALID_PDU_SDU_ID

Purpose	
Value	0x11U

5.5.2.2.85. J1939TP_E_INVALID_PGN

Purpose	
Value	0x43U

5.5.2.2.86. J1939TP_E_INVALID_SDU_LENGTH

Purpose	
Value	0x48U

5.5.2.2.87. J1939TP_E_INVALID_SESSION_NUMBER

Purpose	
Value	0x49U

5.5.2.2.88. J1939TP_E_INVALID_SN

Purpose	
Value	0x47U

5.5.2.2.89. J1939TP_E_INVALID_TMS

Purpose	
Value	0x40U

5.5.2.2.90. J1939TP_E_INVALID_TNOP

Purpose	
Value	0x41U

5.5.2.2.91. J1939TP_E_PARAM_POINTER

Purpose	
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Value	0x10U
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5.5.2.2.92. J1939TP_E_REINIT

Purpose	
Value	0x02U

5.5.2.2.93. J1939TP_E_TIMEOUT_T1

Purpose	
Value	0x30U

5.5.2.2.94. J1939TP_E_TIMEOUT_T2

Purpose	
Value	0x31U

5.5.2.2.95. J1939TP_E_TIMEOUT_T3

Purpose	
Value	0x32U

5.5.2.2.96. J1939TP_E_TIMEOUT_T4

Purpose	
Value	0x33U

5.5.2.2.97. J1939TP_E_TIMEOUT_T5

Purpose	
Value	0x51U

5.5.2.2.98. J1939TP_E_TIMEOUT_TH

Purpose	
Value	0x35U

5.5.2.2.99. J1939TP_E_TIMEOUT_TR

Purpose	
Value	0x34U

5.5.2.2.100. J1939TP_E_UNINIT

Purpose	
Value	0x01U

5.5.2.2.101. J1939TP_FRAME_LENGTH

Purpose	
Value	8U

5.5.2.2.102. J1939TP_FUNCTIONAL_SAFETY_ASSURANCE_DATA

Purpose	
Value	0x02U

5.5.2.2.103. J1939TP_GETVERSIONINFO_SERVICEID

Purpose	
Value	0x03U

5.5.2.2.104. J1939TP_GET_FRAME_TYPE

Purpose	
----------------	--

Value	((FrameType) = ((CtrlByte) & (0x0FU)))
--------------	--

5.5.2.2.105. J1939TP_GET_GE

Purpose	
Value	((GroupExtention) = (uint8)((PgnConfig) & 0x0000FFU))

5.5.2.2.106. J1939TP_GET_PGN

Purpose	
Value	((Pgn) = (uint8)(((PgnConfig) & 0x00FF00U) >> 8U))

5.5.2.2.107. J1939TP_GET_SESSION_NUMBER

Purpose	
Value	((Session_num) = (((CtrlByte) & 0xF0U) >> 4U))

5.5.2.2.108. J1939TP_GLOBAL_ADDRESS

Purpose	
Value	0xFF

5.5.2.2.109. J1939TP_IDLE

Purpose	
Value	0U

5.5.2.2.110. J1939TP_INIT_SERVICEID

Purpose	
Value	0x01U

5.5.2.2.111. J1939TP_INSTANCE_ID

Purpose	
Value	(uint8)0x00U

5.5.2.2.112. J1939TP_INVALID_ADDRESS

Purpose	
Value	0xFFU

5.5.2.2.113. J1939TP_INVALID_ECUC_ID

Purpose	
Value	0xFFFFU

5.5.2.2.114. J1939TP_INVALID_FC

Purpose	
Value	0xFFU

5.5.2.2.115. J1939TP_INVALID_IPDU

Purpose	
Value	0xFFU

5.5.2.2.116. J1939TP_INVALID_SEQUENCE_NUMBER

Purpose	
Value	0xFFFFFFFFU

5.5.2.2.117. J1939TP_INVALID_SESSION_NUMBER

Purpose	
Value	0xFFU

5.5.2.2.118. J1939TP_MAINFUNCTION_SERVICEID

Purpose	
Value	0x04U

5.5.2.2.119. J1939TP_MAX_CANFD_DT_MSGLENGTH

Purpose	
Value	60U

5.5.2.2.120. J1939TP_MAX_CANFD_FRAME_LENGTH

Purpose	
Value	64U

5.5.2.2.121. J1939TP_MAX_CAN_FRAME_LENGTH

Purpose	
Value	8U

5.5.2.2.122. J1939TP_MAX_DT_MSGLENGTH

Purpose	
Value	7U

5.5.2.2.123. J1939TP_MAX_SAE_22_BAM_ALLOWED_MSGLENGTH

Purpose	
Value	15300U

5.5.2.2.124. J1939TP_MAX_SAE_22_CMDT_ALLOWED_MSGLENGTH

Purpose	
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Value	16777215U
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5.5.2.2.125. J1939TP_MAX_SAE_ALLOWED_MSGLENGTH

Purpose	
Value	1785U

5.5.2.2.126. J1939TP_NO_ASSURANCE_DATA

Purpose	
Value	0x00U

5.5.2.2.127. J1939TP_OFF

Purpose	
Value	(uint8)0x00U
Description	The feature is switched OFF

5.5.2.2.128. J1939TP_ON

Purpose	
Value	(uint8)0x01U
Description	The feature is switched ON

5.5.2.2.129. J1939TP_PGN_PDU_2

Purpose	
Value	((Pgn >= 0xF0) ? TRUE : FALSE)

5.5.2.2.130. J1939TP_RXINDICATION_SERVICEID

Purpose	
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Value	0x42U
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5.5.2.2.131. J1939TP_RX_IDLE

Purpose	
Value	0U

5.5.2.2.132. J1939TP_RX_STATE_BAM_WAIT_EOMS

Purpose	
Value	0x22U

5.5.2.2.133. J1939TP_RX_STATE_CMDT_WAIT_CONFIRMATION_EOMS_RQST

Purpose	
Value	0x24U

5.5.2.2.134. J1939TP_RX_STATE_CMDT_WAIT_EOMS

Purpose	
Value	0x23U

5.5.2.2.135. J1939TP_SET_SESSION_NUMBER

Purpose	
Value	((Frame) = ((Session_num) & (0x0FU)))

5.5.2.2.136. J1939TP_SHUTDOWN_SERVICEID

Purpose	
Value	0x02U

5.5.2.2.137. J1939TP_SN_MAX

Purpose	
Value	0xFFU

5.5.2.2.138. J1939TP_TPCM_ABORT

Purpose	
Value	0xFFU

5.5.2.2.139. J1939TP_TPCM_ABORT_REASON_ASSURANCE_DATA_MISMATCH

Purpose	
Value	0x0AU

5.5.2.2.140. J1939TP_TPCM_ABORT_REASON_ASSURANCE_DATA_NOT_RECEIVED

Purpose	
Value	0x0BU

5.5.2.2.141. J1939TP_TPCM_ABORT_REASON_BAD_SEQUENCE_NUMBER

Purpose	
Value	0x07U

5.5.2.2.142. J1939TP_TPCM_ABORT_REASON_CONNECTION

Purpose	
Value	0x01U

5.5.2.2.143. J1939TP_TPCM_ABORT_REASON_CTS_RX_WHEN_DATA_TRANSMIT

Purpose	
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Value	0x04U
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5.5.2.2.144. J1939TP_TPCM_ABORT_REASON_DUPLICATE_SEQUENCE_NUMBER

Purpose	
Value	0x08U

5.5.2.2.145. J1939TP_TPCM_ABORT_REASON_GREATER_TOTAL_MSG_SIZE

Purpose	
Value	0x09U

5.5.2.2.146. J1939TP_TPCM_ABORT_REASON_MAX_RETRANSMIT_REACHED

Purpose	
Value	0x05U

5.5.2.2.147. J1939TP_TPCM_ABORT_REASON_RESOURCES

Purpose	
Value	0x02U

5.5.2.2.148. J1939TP_TPCM_ABORT_REASON_TIMEOUT

Purpose	
Value	0x03U

5.5.2.2.149. J1939TP_TPCM_ABORT_REASON_UNDEFINED

Purpose	
Value	0xFFU

5.5.2.2.150. J1939TP_TPCM_ABORT_REASON_UNEXPECTED_DATA_PACKET

Purpose	
Value	0x06U

5.5.2.2.151. J1939TP_TPCM_ABORT_REASON_UNLISTED

Purpose	
Value	0xFAU

5.5.2.2.152. J1939TP_TPCM_BAM

Purpose	
Value	0x20U

5.5.2.2.153. J1939TP_TPCM_CTS

Purpose	
Value	0x11U

5.5.2.2.154. J1939TP_TPCM_ENDOFMSGACK

Purpose	
Value	0x13U

5.5.2.2.155. J1939TP_TPCM_RTS

Purpose	
Value	0x10U

5.5.2.2.156. J1939TP_TP_CM_PGN

Purpose	
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Value	0xECU
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5.5.2.2.157. J1939TP_TP_DT_PGN

Purpose	
Value	0xEBU

5.5.2.2.158. J1939TP_TRANSMIT_SERVICEID

Purpose	
Value	0x49U

5.5.2.2.159. J1939TP_TXCONFIRMATION_SERVICEID

Purpose	
Value	0x40U

5.5.2.2.160. J1939TP_TX_IDLE

Purpose	
Value	0U

5.5.2.2.161. J1939TP_UNUSED_BYTE_PADDING

Purpose	
Value	0xFFU

5.5.2.2.162. J1939TP_VALID_DT_CANFD_FRAME

Purpose	
Value	((ValidFrame) = (((CtrlByte) & 0xF0U) == 0U) ? TRUE : FALSE))

5.5.2.2.163. METADATA_DA_BYTE_NINE

Purpose	
Value	9u

5.5.2.2.164. METADATA_DA_INDEX_1

Purpose	
Value	1U

5.5.2.2.165. METADATA_PGN_BYTE_TEN

Purpose	
Value	10u

5.5.2.2.166. METADATA_PGN_INDEX_2

Purpose	
Value	2U

5.5.2.2.167. METADATA_PRIORITY_BYTE_ELEVEN

Purpose	
Value	11u

5.5.2.2.168. METADATA_PRIORITY_INDEX_3

Purpose	
Value	3U

5.5.2.2.169. METADATA_SA_BYTE_EIGHT

Purpose	
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Value	8u
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5.5.2.2.170. METADATA_SA_INDEX_0

Purpose	
Value	0U

5.5.2.3. Functions

5.5.2.3.1. J1939Tp_CancelReceive

Purpose	
Synopsis	<code>Std_ReturnType J1939Tp_CancelReceive (PduIdType RxPduId);</code>
Return Value	

5.5.2.3.2. J1939Tp_CancelTransmit

Purpose	
Synopsis	<code>Std_ReturnType J1939Tp_CancelTransmit (PduIdType TxPduId);</code>
Return Value	

5.5.2.3.3. J1939Tp_ChangeParameter

Purpose	
Synopsis	<code>Std_ReturnType J1939Tp_ChangeParameter (PduIdType id , TPParameterType parameter , uint16 value);</code>
Return Value	

5.5.2.3.4. J1939Tp_GetVersionInfo

Purpose	
Synopsis	<code>void J1939Tp_GetVersionInfo (Std_VersionInfoType * VersionInfo);</code>

5.5.2.3.5. J1939Tp_Init

Purpose	
Synopsis	<code>void J1939Tp_Init (const J1939Tp_GeneralConfigType * ConfigPtr);</code>

5.5.2.3.6. J1939Tp_MainFunction

Purpose	
Synopsis	<code>void J1939Tp_MainFunction (void);</code>

5.5.2.3.7. J1939Tp_RxIndication

Purpose	
Synopsis	<code>void J1939Tp_RxIndication (PduIdType RxPduId , PduInfoType * PduInfoPtr);</code>

5.5.2.3.8. J1939Tp_Shutdown

Purpose	
Synopsis	<code>void J1939Tp_Shutdown (void);</code>

5.5.2.3.9. J1939Tp_Transmit

Purpose	
Synopsis	<code>Std_ReturnType J1939Tp_Transmit (PduIdType TxPduId , const PduInfoType * PduInfoPtr);</code>
Return Value	

5.5.2.3.10. J1939Tp_TxConfirmation

Purpose	
Synopsis	<code>void J1939Tp_TxConfirmation (PduIdType TxPduId , Std_ReturnType result);</code>

5.5.3. Integration notes

5.5.3.1. Exclusive areas

Exclusive areas information is not available for this module.

5.5.3.2. Production errors

Production errors are not reported by the J1939Tp module.

5.5.3.3. Memory mapping

General information about memory mapping is provided in the EB tresos AutoCore Generic documentation. Refer to the section `Memory mapping and compiler abstraction` in the `Integration notes` section for details.

The following table provides the list of sections that may be mapped for this module:

Memory section
CODE
VAR_CLEARED_8
VAR_INIT_UNSPECIFIED
VAR_INIT_8
VAR_CLEARED_UNSPECIFIED
CONFIG_DATA_UNSPECIFIED

5.5.3.4. Integration requirements

WARNING



Integration requirements list is not exhaustive

The following list of integration requirements helps you to integrate your product. However, this list is not exhaustive. You also require information from the user guide, release notes, and EB tresos AutoCore known issues to successfully integrate your product.

Integration requirements are not listed for the J1939Tp module.