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**SW Architecture Design & Interface Description :**

**DIA sw UNIT**

OBJECT: This document is the description of the design & interfaces for *DIA* SW unit.

SUMMARY: This document provides a high-level view of the *DIA* SW unit. The inputs of this document are provided by the software requirement. It is linked to the DAIMLER\_MMA\_SWarchitectureDesignInterfaceDescription.docx document.

CONCLUSION: Applicable from R8.0 SW release

**THIS DOCUMENT CONTAINS HIDDEN TEXT**

EVOLUTION OF THE DOCUMENT

|  |  |  |  |
| --- | --- | --- | --- |
| **Issue** | **Date** | **Author** | **Motive and nature of the modifications** |
| A00 | 31/08/2016 | C. Redon | First release (extract from the full PP4G architecture document) |
| A01 | 23/09/2016 | J. Lacroix | Update of requirement reference |
| A02 | 12/10/2016 | P-O Pilot | Add new requirements for some services (Variable access / Called functions). Add DIA\_runGetTxNotification runnable. |
| A03 | 18/11/2016 | C. Redon | Correction of traceability issues |
| Start extended description based on mainstream document | | | |
| 1.1.1.2 | 11/07/2019 | A. Vaché | Update traceability to match PP4G extended platform requirements IDs |
| 1.1.1.3 | 19/07/2019 | A. Vaché | Remove traceability to no more existing requirements |
| 1.1.1.4 | 08/08/2019 | A. Vaché | Solve some traceability issues highlighted by reqtify |
| 1.1.1.5 | 18/11/2019 | W. AMRI | Add missing traceability, and correct PTC issues: 801001, 801041, 801077 |
| 1.1.1.10 | 26/11/2019 | W. AMRI | Update template information |
| 1.1.1.11 | 28/01/2020 | A. Diankouuka | Update requirements to be covered |
| Start DAI MMA description based on mainstream document | | | |
| 1.5.4.1 | 06/01/2022 | A Negrea | First Revision |
| 1.5.4.2 | 06/01/2022 | A Negrea | Duplicate Revision |
| 1.5.4.3 | 21/01/2022 | A Negrea | Add specific DID |
| 1.5.4.4 | 02/02/2022 | A. Negrea | Add specific project DID for production |
| 1.5.4.5 | 16/02/2022 | A. Negrea | Update after review |
| 1.5.4.6 | 17/03/2022 | A. Negrea | Update according to SRM |
| 1.5.4.7 | 23/03/2022 | A. Negrea | Update according to SRM2 |
| 1.5.4.8 | 30/03/2022 | A. Negrea | Update according to SRM3 |
| 1.5.4.9 | 09/06/2022 | E. Jivan | Update for R02.05 release |
| 1.5.4.10 | 15/06/2022 | E. Jivan | Update after review |
| 1.5.4.11 | 16/06/2022 | E. Jivan | Added missing traceability DAI\_EXT\_TF\_E\_8177 |
| 1.5.4.12 | 17/06/2022 | E. Jivan | Removed routine 0330. |
| 1.5.4.13 | 17/06/2022 | E. Jivan | Updated table of contents. |
| 1.5.4.14 | 19/08/2022 | E. Jivan | Update for R3.0 and missing traceability. |
| 1.5.4.15 | 19/08/2022 | E. Jivan | Updated missing traceability. |
| 1.5.4.16 | 19/08/2022 | E. Jivan | Corrected traceability. |
| 1.5.4.17 | 23/08/2022 | E. Jivan | Updated missing req ID and readability. |
| 1.5.4.18 | 23/08/2022 | E. Jivan | Corrected size for 0x0302 |
| 1.5.4.19 | 23/08/2022 | E. Jivan | Corrected content of 0x0302 |
| 1.5.4.20 | 23/08/2022 | E. Jivan | Corrected 0x23, returned data for 0x0310 and 0x0302 |
| 1.5.4.21 | 14/11/2022 | T. Gligor | Update for R4.0 Release |
| 1.5.4.22 | 14/11/2022 | T. Gligor | Update for R4.0 Release |
| 1.5.4.23 | 14/11/2022 | R. Cristoi | Added traceability for ROE on DTC status change |
| 1.5.4.24 | 14/11/2022 | T. Gligor | Update for R4.0 Release (minor naming changes) |
| 1.5.4.25 | 22/11/2022 | T. Gligor | Update for R4.0 Release (corrections for ROE) |
| 1.5.4.26 | 24/11/2022 | T. Gligor | Updates for R4.0 Release (full document check for traceability issues) |
| 1.5.4.27 | 24/11/2022 | T. Gligor | Updates for R4.0 Release (update 3 missing functions) |
| 1.5.4.28 | 06/12/2022 | T. Gligor | Updates for R4.0 Release (after Review) |
| 1.5.4.29 | 16/12/2022 | T. Gligor | Update for R4.0 Release (add a leading 0 for 3 requirements) |
| 1.5.4.30 | 21/12/2022 | T. Gligor | Update for R5.0 Release (initial R5.0 revision) |
| 1.5.4.31 | 10/02/2023 | T. Gligor | Update interfaces for R5.0 Release |
| 1.5.4.32 | 13/02/2023 | T. Gligor | Update traceability with TF\_B - Can Input requirements |
| 1.5.4.33 | 16/02/2023 | T. Gligor | Update traceability with missing TF\_E requirements + review |
| 1.5.4.34 | 13/03/2023 | T. Gligor | Fix postponed findings from R5.0 Release |
| 1.5.4.35 | 12/04/2023 | E. Jivan | Added 0x0210 Can Output read |
| 1.5.4.36 | 08/05/2023 | T. Gligor | Updates for R6.0 Release |
| 1.5.4.37 | 09/05/2023 | T. Gligor | Updates for R6.0 Release (Update with TF\_B Traceability) |
| 1.5.4.38 | 09/05/2023 | T. Gligor | Updates for R6.0 Release (Update with TF\_B Traceability) |
| 1.5.4.39 | 11/05/2023 | T. Gligor | Updates for R6.0 Release (Update with TF\_B Traceability) |
| 1.5.4.40 | 19/06/2023 | T. Gligor | Updates for R6.1 Release |
| 1.5.4.41 | 20/06/2023 | T. Gligor | Updates for R6.1 Release (Correct duplicates) |
| 1.5.4.42 | 20/10/2023 | T. Gligor | Updates for R7.1 Release |
| 1.5.4.43 | 27/10/2023 | T. Gligor | Updates for R7.1 Release (After Reqtify Report) |
| 1.5.4.44 | 29/11/2023 | M. Serban | Update for R8.1 Release (Update with TF\_B Traceability) |
| 1.5.4.44 | 07/12/2023 | T. Gligor | Updates for R8.1 Release |
| 1.5.4.45 | 08/12/2023 | T. Gligor | Update for R8.1 Release (After Reqtify Report) |
| 1.5.4.46 | 08/01/2024 | T. Gligor | Update ARCH\_SW\_DIA\_0187 (R8.1) |
| 1.5.4.47 | 11/01/2024 | M. Serban | Added missing requirement |
| 1.5.4.48 | 28/03/2024 | T. Gligor | Updates for R9.0 Release |
| 1.5.4.49 | 01/04/2024 | T. Gligor | Updates for R9.0 Release |

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# Documentation

## Upper Level Relevant Documents

This section presents all the documents needed to write the software architecture design document.

|  |  |  |  |
| --- | --- | --- | --- |
| **NB.** | **Document** | **Reference** | **Company** |
|  | TF-A: To Manage the power supply | /RevAS/30\_DES\_Requirements/Technical Functions/  DES\_TF\_A\_To\_Manage\_The\_Power\_Supply | RBE/FCE |
|  | TF-B: To Manage the communication | /RevAS/30\_DES\_Requirements/Technical Functions/  DES\_TF\_B\_To\_Manage\_The\_Communication | RBE/FCE |
|  | TF-C: To Secure PP ECU functioning using Pictus MCU | /RevAS/30\_DES\_Requirements/Technical Functions/  DES\_TF\_C\_To\_Secure\_PP\_ECU\_Functioning\_Pictus | RBE/FCE |
|  | TF-D: To Program MCU | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_D\_To\_Program\_MCU | RBE/FCE |
|  | TF-E: To Manage Diagnostic Requests | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_E\_To\_Manage\_Diagnostic\_Requests | RBE/FCE |
|  | TF-F: To Perform Measurements | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_F\_To\_Perform\_Measurements | RBE/FCE |
|  | TF-G: To Drive the Motor | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_G\_To\_Drive\_the\_Motor | RBE/FCE |
|  | TF-H: To Perform Autotests | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_H\_To\_Perform\_Autotests | RBE/FCE |
|  | TF-I: To Manage the Failure | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_I\_To\_Manage\_The\_Failure | RBE/FCE |
|  | TF-J: To Manage NVM - NVP (Non Volatile Parameters) | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_J\_To\_Manage\_NVM | RBE/FCE |
|  | TF-K: To Ensure ECU Protection and Integration | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_K\_To\_Ensure\_ECU\_Protection\_And\_Integration | RBE/FCE |
|  | TF-L: To Ensure ECU Integration in Environment EMC ESD | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_L\_To\_Ensure\_ECU\_Integration\_In\_Environment\_EMC\_ESD | RBE/FCE |
|  | TF-M: To generate time base | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_M\_To\_Generate\_Time\_Base | RBE/FCE |
|  | TF-N: To evaluate belt data | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_N\_To\_Evaluate\_Belt\_Data | RBE/FCE |
|  | TF-O: To schedule the SW | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_O\_To\_Run\_SW | RBE/FCE |
|  | TF-P: To handle network management | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_P\_To Handle\_Network\_Management | RBE/FCE |
|  | TF-Q: To Provide Data For Expertise | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_Q\_To\_Provide\_Data\_For\_Expertise | RBE/FCE |
|  | TF-R: To Decide Belt Function Execution | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_R\_To\_Decide\_Belt\_Function\_Execution | RBE/FCE |
|  | TF-S: To drive the boost | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_S\_To\_Drive\_Boost | RBE/FCE |
|  | TF-X: To generate time base | /RevAS/30\_DES\_Requirements/Technical Functions/DES\_TF\_M\_To\_Generate\_Time\_Base | RBE/FCE |

## Design interface description Documents

This section presents all the documents that are linked to this software architecture design document.

Note: All links are related to S:\drive, to have them functional, please mount the S:\drive on your Audi Tr6 extended platform sandbox.

|  |  |  |  |
| --- | --- | --- | --- |
| **Nb.** | **Document** | **Reference** | **Company** |
|  | EEPROM parameters | SBE\_4G\_NVP\_layout.xls | RBE/FCE |
|  | Design Interface description of AdcIf | N/A | RBE/FCE |
|  | Design Interface Description of Auto Tests Manager | [ATM - Design Interface Description.docx](ATM%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Belt Function Decision | N/A | RBE/FCE |
|  | Design Interface Description of Belt Function Execution | [BFE - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\BFE%20-%20Design%20Interface%20Description%20.docx) | RBE/FCE |
|  | Design Interface Description of Belt Function Selection | [BFS - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\BFS%20-%20Design%20Interface%20Description%20.docx) | RBE/FCE |
|  | Design Interface Description of Belt Movement Monitoring | N/A | RBE/FCE |
|  | Design Interface Description of Belt Parking Algorithm | N/A | RBE/FCE |
|  | Design Interface Description of Belt Slack Reduction | [BSR - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\BFS%20-%20Design%20Interface%20Description%20.docx) | RBE/FCE |
|  | Design Interface Description of Basic Software Manager | N/A | RBE/FCE |
|  | Design Interface Description of Basic Software Manager Interface | N/A | RBE/FCE |
|  | Design Interface Description of Can Tranceiver Interface | N/A | RBE/FCE |
|  | Design Interface Description of Communication Interaction Layer | [CIL - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\CIL%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Diagnostic Communication Manager Interface | N/A | RBE/FCE |
|  | Design Interface Description of Diagnostic Event Manager Interface | N/A | RBE/FCE |
|  | Design Interface Description of DiagOnCAN services management | [DIA - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\DIA%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Electronic Control Unit Manager | N/A | RBE/FCE |
|  | Design Interface Description of Electronic Control Unit Manager Interface | N/A | RBE/FCE |
|  | Design Interface Description of End of life | [EOL - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\DIA%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Error Handler | [ERH - Design Interface Description.docx](ERH%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Haptic Warning | [HWA - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\DIA%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Memory Integrity Control | N/A | RBE/FCE |
|  | Design Interface Description of Mode Management | [MMG - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\MMG%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Network Management Interface | N/A | RBE/FCE |
|  | Design Interface Description of Non-Volatile Memory Interface | N/A | RBE/FCE |
|  | Design Interface Description of Non-Volatile Parameters | [NVP - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\NVP%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Operating System Interface | N/A | RBE/FCE |
|  | Design Interface Description of Power Abstraction Layer | [PAL - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\PAL%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Pre-Crash Master | N/A | RBE/FCE |
|  | Design Interface Description of Physical Measures Provider | [PMP - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\PMP%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Port Interface | N/A | RBE/FCE |
|  | Design Interface Description of Pre-Tensioning | [PRE - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\PMP%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Production cycle function | N/A | RBE/FCE |
|  | Design Interface Description of Pulse Width Modulation Interface | N/A | RBE/FCE |
|  | Design Interface Description of Reset Cause Management | N/A | RBE/FCE |
|  | Design Interface Description of SBC | N/A | RBE/FCE |
|  | Design Interface Description of System Context Management | N/A | RBE/FCE |
|  | Design Interface Description of Standard Function Recovery (releasing function) | [SFR - Design Interface Description.docx](file:///S:\Architectures\Application\Description\Associated_Documents\SFR%20-%20Design%20Interface%20Description.docx) | RBE/FCE |
|  | Design Interface Description of Serial Peripheral Interface Interface | N/A | RBE/FCE |
|  | Design Interface Description of Startup | N/A | RBE/FCE |
|  | Design Interface Description of System Time Management | N/A | RBE/FCE |
|  | Design Interface Description of Vehicle Dynamics algorithm | N/A | RBE/FCE |

## Design Specification Documents

This section presents all the documents that complete this software architecture design document.

Note: All links are related to S:\drive, to have them functional, please mount the S:\drive on your sandbox.

|  |  |  |  |
| --- | --- | --- | --- |
| **Nb** | **Document** | **Reference** | **Company** |
|  | Design document of AdcIf | N/A | RBE/FCE |
|  | Design document of Auto Tests Manager | [ATM - Detailed Design Document.docx](../../../../Components/Application/Autoliv/ATM/Design/ATM%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Belt Function Decision | N/A | RBE/FCE |
|  | Design document of Belt Function Execution | [BFE - Detailed Design Document.docx](../../../../Components/Application/Autoliv/BFE/Design/BFE%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Belt Function Selection | [BFS - Detailed Design Document.docx](../../../../Components/Application/Autoliv/BFS/Design/BFS%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Belt Movement Monitoring | N/A | RBE/FCE |
|  | Design document of Belt Parking Algorithm | N/A | RBE/FCE |
|  | Design document of Basic Software Manager Interface | N/A | RBE/FCE |
|  | Design document of Belt Slack Reduction | [BSR - Detailed Design Document.docx](../../../../Components/Application/Autoliv/BSR/Design/BSR%20-%20Detailed%20Design%20Document.docx) |  |
|  | Design document of Communication Interaction Layer | [CIL - Detailed Design Document.docx](../../../../Components/Application/Autoliv/CIL/Design/CIL%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Diagnostic Communication Manager Interface | N/A | RBE/FCE |
|  | Design document of Diagnostic Event Manager Interface | N/A | RBE/FCE |
|  | Design document of DiagOnCAN services management | [DIA - Detailed Design Document.docx](../../../../Components/Application/Autoliv/DIA/Design/DIA%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of End of life | [EOL - Detailed Design Document.docx](../../../../Components/Application/Autoliv/EOL/Design/EOL%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Error Handler | [ERH - Detailed Design Document.docx](../../../../Components/Application/Autoliv/ERH/Design/ERH%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Haptic Warning | [HWA - Detailed Design Document.docx](../../../../Components/Application/Autoliv/HWA/Design/HWA%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Memory Integrity Control | N/A | RBE/FCE |
|  | Design document of Mode Management | [MMG - Detailed Design Document.docx](../../../../Components/Application/Autoliv/MMG/Design/MMG%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Network Management Interface | N/A | RBE/FCE |
|  | Design document of Non-Volatile Memory Interface | N/A | RBE/FCE |
|  | Design document of Non-Volatile Parameters | N/A | RBE/FCE |
|  | Design document of Power Abstraction Layer | [PAL - Detailed Design Document.docx](../../../../Components/Application/Autoliv/PAL/Design/PAL%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Physical Measures Provider | [PMP - Detailed Design Document.docx](../../../../Components/Application/Autoliv/PMP/Design/PMP%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Port Interface | N/A | RBE/FCE |
|  | Design document of Production cycle function | N/A | RBE/FCE |
|  | Design document of Reset Cause Management | N/A | RBE/FCE |
|  | Design document of RTE If | N/A | RBE/FCE |
|  | Design document of System Context Management | N/A | RBE/FCE |
|  | Design document of Standard Function Recovery (releasing function) | [SFR - Detailed Design Document.docx](../../../../Components/Application/Autoliv/SFR/Design/SFR%20-%20Detailed%20Design%20Document.docx) | RBE/FCE |
|  | Design document of Serial Peripheral Interface Interface | N/A | RBE/FCE |

## Tier2 Documents

This section presents all the documents that complete this software architecture design document.

|  |  |  |  |
| --- | --- | --- | --- |
| Nb | **Document** | **Reference** | **Company** |
|  |  |  |  |
|  |  |  |  |
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## HW Datasheet

This section presents all the documents related to the HW components that complete this software architecture design document.

|  |  |  |  |
| --- | --- | --- | --- |
| Nb | **Document** | **Reference** | **Company** |
|  | Infineon-TLE9471-3ES datasheet | TLE9461-3ES-Infineon.pdf | Infineon |
|  |  |  |  |
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## Other Documents

This section presents all the documents that also have been needed to write this software architecture design document.

|  |  |  |  |
| --- | --- | --- | --- |
| Nb | **Document** | **Reference** | **Company** |
|  | Unified Modelling Language | 2.1.1 | OMG |
|  | MCU RFQ | [E2581849](https://plm.autoliv.int/linkto/latest/ProductDescription/E2581849/*) | FCE |
|  |  |  |  |

## Glossary And Definition

This section presents all the definitions and/or abbreviations used in this document.

*List of terms in alphabetical order:*

|  |  |
| --- | --- |
| ***Term*** | ***Meaning*** |
| ADC | Analog Digital Converter |
| AEC | Autoliv Error Code |
| API | Application Programming Interface |
| ASDM | Active Safety Domain Master |
| ASIC | Application Specific Integrated Circuit |
| ASY | Active SafetY |
| BSW | Basic SW modules |
| CAN | Controller Area Network |
| C/S | Chip Select |
| COP | Computer Operating Properly |
| eCPL | Electronic Crash Pole Locking |
| DART | Ditch - Airborne - Rough Terrain |
| DFLASH | Data FLASH |
| ECC | Error Code Correction |
| ECU | Electronic Control Unit |
| EOL | End Of Life |
| EEPROM | Electric Erasable and Programmable Read only Memory |
| HFPP | High Force Pre-Pre-Tensioning belt function |
| HF-PRE | High Force PRE pre-tensioning |
| HR | Hard Releasing |
| I/O | Input/Output |
| IMU | Inartial Measurements Unit |
| ISS | Integrated Safing System |
| LFPP | Low Force Pre-Pre-Tensioning belt function |
| MSA | Motor Start/Stop Automatic |
| MCAL | Micro-Controller Abstraction Layer |
| MCU | Micro-controller Unit |
| NMG | Mode ManaGement |
| NVM | Non Volatile Memory |
| OS | Operating System |
| PCM | Pre-Crash Master |
| PFLASH | Program FLASH |
| PIT | Periodic Interrupt Timer |
| PLL | Phase-locked loop |
| RAM | Random Access Memory |
| RCWM | Rear Collision Warning and Mitigation |
| RML | Left PP ECU |
| RMR | Right PP ECU |
| RMx | Both PP ECU |
| ROM | Read Only Memory |
| RSU | Remote Sensor Unit |
| RTE | Real Time Environment |
| RTOS | Real Time Operating System |
| SFR | Standard Function Recovery |
| SODL | Side Obstacle Detection Left |
| SPI | Serial Peripheral Interface |
| SRS | Supplementary Restraint System |
| TBC | To be confirmed |
| TBD | To be defined |
| TF | Technical Function |
| TFLASH | Test FLASH of the Pictus MCU (“one time programmable” memory) |
| W/D | Watchdog |

# Technical functions

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0000 | Service 0x22 will be implemented for DID F18C | DIA\_runDidF18C\_EcuSerialNumberRead;  DIA\_runDidF18C\_EcuSerialNumberConditionCheckRead  DIA\_runDidF18C\_EcuSerialNumberReadDataLength | DAI\_EXT\_TF\_E\_8099; DAI\_EXT\_TF\_E\_8025 |
| ARCH\_SW\_DIA\_0001 | Service 0x22 will be implemented for DID 0340 | DIA\_runDid0340\_UniqueSeatbeltSerialNumberRead  DIA\_runDid0340\_UniqueSeatbeltSerialNumberConditionCheckRead | DAI\_EXT\_TF\_E\_8062; DAI\_EXT\_TF\_E\_8063; DAI\_EXT\_TF\_E\_8064;  DAI\_EXT\_TF\_E\_8101;  DAI\_EXT\_TF\_E\_8102 |
| ARCH\_SW\_DIA\_0008 | Service 0x2E will be implemented for DID 0340 | DIA\_runDid0340\_UniqueSeatbeltSerialNumberWrite | DAI\_EXT\_TF\_E\_8078 |
| ARCH\_SW\_DIA\_0002 | Service 0x22 will be implemented for DID FD2F. | DIA\_runDidFD2F\_EcuLocationRead | DAI\_EXT\_TF\_E\_8885;  DAI\_EXT\_TF\_E\_8888;  DAI\_EXT\_TF\_E\_8889;  DAI\_EXT\_TF\_E\_8893;  DAI\_EXT\_TF\_E\_8894 |
| ARCH\_SW\_DIA\_0004 | Service 0x22 will be implemented for DID FD10. | DIA\_runDidFD10\_CycleConfigurationRead | DAI\_EXT\_TF\_E\_8144; DAI\_EXT\_TF\_E\_8145 |
| ARCH\_SW\_DIA\_0005 | Service 0x2E will be implemented for DID FD10. | DIA\_runDidFD10\_CycleConfigurationWrite | DAI\_EXT\_TF\_E\_8269; DAI\_EXT\_TF\_E\_8270 |
| ARCH\_SW\_DIA\_0006 | Service 0x22 will be implemented for DID FD2A. | DIA\_runDidFD2A\_StepsLibraryRead | DAI\_EXT\_TF\_E\_8155; DAI\_EXT\_TF\_E\_8156 |
| ARCH\_SW\_DIA\_0007 | Service 0x2E will be implemented for DID FD2A. | DIA\_runDidFD2A\_StepsLibraryWrite | DAI\_EXT\_TF\_E\_8307; DAI\_EXT\_TF\_E\_8308 |
| ARCH\_SW\_DIA\_0009 | Service 0x2E will be implemented for DID FD03 | DIA\_runDidFD03\_AEETraceabilityNumberWrite |  |
| ARCH\_SW\_DIA\_0010 | Service Read DTC Information shall be implemented with subfunction 0x02 ReportDTCByStatusMask. |  | ALV\_EXT\_TF\_E\_195; ALV\_EXT\_TF\_E\_197; ALV\_EXT\_TF\_E\_202; ALV\_EXT\_TF\_E\_203; ALV\_EXT\_TF\_E\_6118; ALV\_EXT\_TF\_E\_6119; ALV\_EXT\_TF\_E\_6120; ALV\_EXT\_TF\_E\_6121; ALV\_EXT\_TF\_E\_6122; ALV\_EXT\_TF\_E\_6123; ALV\_EXT\_TF\_E\_6124; ALV\_EXT\_TF\_E\_6125; ALV\_EXT\_TF\_E\_208; ALV\_EXT\_TF\_E\_209; ALV\_EXT\_TF\_E\_6217; ALV\_EXT\_TF\_E\_6218; ALV\_EXT\_TF\_E\_6219; ALV\_EXT\_TF\_E\_6220; ALV\_EXT\_TF\_E\_6221; ALV\_EXT\_TF\_E\_6222; ALV\_EXT\_TF\_E\_6223; ALV\_EXT\_TF\_E\_6224;  ALV\_EXT\_TF\_E\_211 |
| ARCH\_SW\_DIA\_0011 | Service 0x22 will be implemented for DID 0244 | DIA\_runDid0244\_PreSafeCounterRead  DIA\_runDid0244\_PreSafeCounterConditionCheckRead  DIA\_runDid0244\_PreSafeCounterReadDataLength | DAI\_EXT\_TF\_E\_8108; DAI\_EXT\_TF\_E\_8109; DAI\_EXT\_TF\_E\_10221; DAI\_EXT\_TF\_E\_10222 |
| ARCH\_SW\_DIA\_0012 | Service 0x22 will be implemented for DID 0243 | DIA\_runDid0243\_BSRCounterRead  DIA\_runDid0243\_BSRCounterConditionCheckRead | DAI\_EXT\_TF\_E\_8130; DAI\_EXT\_TF\_E\_8131 |
| ARCH\_SW\_DIA\_0013 | Service 0x31 01 will be implemented for RID F703 | DIA\_runRidF703\_CycleExecutionStart | DAI\_EXT\_TF\_E\_8966;  DAI\_EXT\_TF\_E\_8962;  DAI\_EXT\_TF\_E\_8991;  DAI\_EXT\_TF\_E\_8960;  DAI\_EXT\_TF\_E\_8955;  DAI\_EXT\_TF\_E\_8947;  DAI\_EXT\_TF\_E\_8991;  DAI\_EXT\_TF\_E\_8999 |
| ARCH\_SW\_DIA\_0014 | Service 0x31 02 will be implemented for RID F703 | DIA\_runRidF703\_CycleExecutionStop | DAI\_EXT\_TF\_E\_8963;  DAI\_EXT\_TF\_E\_8995;  DAI\_EXT\_TF\_E\_8992;  DAI\_EXT\_TF\_E\_8955;  DAI\_EXT\_TF\_E\_8947;  DAI\_EXT\_TF\_E\_8960;  DAI\_EXT\_TF\_E\_8966 |
| ARCH\_SW\_DIA\_0015 | Service 0x31 01 will be implemented for RID 0329 | DIA\_runRid0329\_TriggerBSRStart | DAI\_EXT\_TF\_E\_9300;  DAI\_EXT\_TF\_E\_9301;  DAI\_EXT\_TF\_E\_9303;  DAI\_EXT\_TF\_E\_9304;  DAI\_EXT\_TF\_E\_9305; |
| ARCH\_SW\_DIA\_0016 | Service 0x31 02 will be implemented for RID 0329 | DIA\_runRid0329\_TriggerBSRStop | DAI\_EXT\_TF\_E\_9300;  DAI\_EXT\_TF\_E\_9305; |
| ARCH\_SW\_DIA\_0017 | Service 0x31 03 will be implemented for RID 0329 | DIA\_runRid0329\_TriggerBSRRequestResults | DAI\_EXT\_TF\_E\_9300;  DAI\_EXT\_TF\_E\_9305; |
| ARCH\_SW\_DIA\_0018 | Service 0x31 01 will be implemented for RID 0330 | DIA\_runRid0330\_TriggerTensioningCycleStop | DAI\_EXT\_TF\_E\_8505;  DAI\_EXT\_TF\_E\_8514;  DAI\_EXT\_TF\_E\_8519;  DAI\_EXT\_TF\_E\_8520;  DAI\_EXT\_TF\_E\_9297 |
| ARCH\_SW\_DIA\_0019 | Service 0x31 02 will be implemented for RID 0330 | DIA\_runRid0330\_TriggerTensioningCycleStart | DAI\_EXT\_TF\_E\_8505;  DAI\_EXT\_TF\_E\_9297 |
| ARCH\_SW\_DIA\_0020 | Service 0x31 03 will be implemented for RID 0330 | DIA\_runRid0330\_TriggerTensioningCycleRequestResults | DAI\_EXT\_TF\_E\_8505 |
| ARCH\_SW\_DIA\_0021 | Service 0x22 will be implemented for DID 0300 | DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_ReadData  DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_ConditionCheckRead | DAI\_EXT\_TF\_E\_9335;  DAI\_EXT\_TF\_E\_9336;  DAI\_EXT\_TF\_E\_10527;  DAI\_EXT\_TF\_E\_10528;  DAI\_EXT\_TF\_E\_10529 |
| ARCH\_SW\_DIA\_0022 | Service 0x2E will be implemented for DID 0300 | DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_WriteData | DAI\_EXT\_TF\_E\_9405;  DAI\_EXT\_TF\_E\_9406;  DAI\_EXT\_TF\_E\_9413;  DAI\_EXT\_TF\_E\_10546;  DAI\_EXT\_TF\_E\_10547;  DAI\_EXT\_TF\_E\_10548 |
| ARCH\_SW\_DIA\_0023 | Service 0x22 will be implemented for DID 0301 | DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ReadData  DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ConditionCheckRead | DAI\_EXT\_TF\_E\_9391;  DAI\_EXT\_TF\_E\_9392 |
| ARCH\_SW\_DIA\_0024 | Service 0x2E will be implemented for DID 0301 | DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ReadData\_WriteData | DAI\_EXT\_TF\_E\_9419;  DAI\_EXT\_TF\_E\_9420 |
| ARCH\_SW\_DIA\_0025 | Service 0x22 will be implemented for DID 0302 | DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_ConditionCheckRead  DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_ReadData | DAI\_EXT\_TF\_E\_9377;  DAI\_EXT\_TF\_E\_9378;  DAI\_EXT\_TF\_E\_9385;  DAI\_EXT\_TF\_E\_10536;  DAI\_EXT\_TF\_E\_10540 |
| ARCH\_SW\_DIA\_0026 | Service 0x2E will be implemented for DID 0302 | DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_WriteData | DAI\_EXT\_TF\_E\_9432;  DAI\_EXT\_TF\_E\_9433; DAI\_EXT\_TF\_E\_9440;  DAI\_EXT\_TF\_E\_10549;  DAI\_EXT\_TF\_E\_10550 |
| ARCH\_SW\_DIA\_0027 | Service 0x22 will be implemented for DID 0310 | DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_ConditionCheckRead  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_ReadData  DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_ReadData | DAI\_EXT\_TF\_E\_9363;  DAI\_EXT\_TF\_E\_9364; DAI\_EXT\_TF\_E\_10223 |
| ARCH\_SW\_DIA\_0045 | There shall be 2 reserved bytes located between Equipment 6 and Uberspannungsabbruchschwelle for response of DID 0310 |  | DAI\_EXT\_TF\_E\_9508;  DAI\_EXT\_TF\_E\_9509 |
| ARCH\_SW\_DIA\_0028 | Service 0x2E will be implemented for DID 0310 | DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_WriteData  DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_WriteData | DAI\_EXT\_TF\_E\_9444;  DAI\_EXT\_TF\_E\_9445; DAI\_EXT\_TF\_E\_10253 |
| ARCH\_SW\_DIA\_0046 | There shall be 2 reserved bytes located between Equipment 6 and Uberspannungsabbruchschwelle for request write of DID 0310 |  | DAI\_EXT\_TF\_E\_9477;  DAI\_EXT\_TF\_E\_9478 |
| ARCH\_SW\_DIA\_0029 | Service 0x22 will be implemented for DID 0311 | DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_ConditionCheckRead  DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_ConditionCheckRead  DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_ReadData  DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_ReadData | DAI\_EXT\_TF\_E\_9349;  DAI\_EXT\_TF\_E\_9350 |
| ARCH\_SW\_DIA\_0030 | Service 0x2E will be implemented for DID 0311 | DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_WriteData  DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_WriteData | DAI\_EXT\_TF\_E\_9455;  DAI\_EXT\_TF\_E\_9456; DAI\_EXT\_TF\_E\_10255; DAI\_EXT\_TF\_E\_9463; DAI\_EXT\_TF\_E\_10254; DAI\_EXT\_TF\_E\_10255 |
| ARCH\_SW\_DIA\_0031 | Service 0x22 will be implemented for DID FD08 | DIA\_runDidFD08\_ResetCauseManagementRead  DIA\_runDidFD08\_ResetCauseManagementConditionCheckRead | DAI\_EXT\_TF\_E\_8661;  DAI\_EXT\_TF\_E\_8664;  DAI\_EXT\_TF\_E\_8665;  DAI\_EXT\_TF\_E\_8668;  DAI\_EXT\_TF\_E\_8669 |
| ARCH\_SW\_DIA\_0032 | Service 0x22 will be implemented for DID FD09 | DIA\_runDidFD09\_LastWarmResetRead\_LastDetectedWarmResetCause  DIA\_runDidFD09\_LastWarmResetRead\_ResetCauseCounter  DIA\_runDidFD09\_LastWarmReseConditionChecktRead\_LastDetectedWarmResetCause  DIA\_runDidFD09\_LastWarmResetConditionCheckRead\_ResetCauseCounter | DAI\_EXT\_TF\_E\_8633;  DAI\_EXT\_TF\_E\_8634;  DAI\_EXT\_TF\_E\_8630;  DAI\_EXT\_TF\_E\_8638;  DAI\_EXT\_TF\_E\_8639 |
| ARCH\_SW\_DIA\_0033 | Service 0x22 will be implemented for DID FD31 | DIA\_runDidFD31\_HBCalibrationRead  DIA\_runDidFD31\_HBCalibrationWriteConditionCheckRead | DAI\_EXT\_TF\_E\_8833;  DAI\_EXT\_TF\_E\_8834;  DAI\_EXT\_TF\_E\_8830;  DAI\_EXT\_TF\_E\_8838;  DAI\_EXT\_TF\_E\_8839 |
| ARCH\_SW\_DIA\_0035 | Service 0x22 will be implemented for DID FE00 | DIA\_runDidFE00\_AECStatusRead  DIA\_runDidFE00\_AECStatusReadDataLength  DIA\_runDidFE00\_AECStatusConditionCheckRead | DAI\_EXT\_TF\_E\_8698; DAI\_EXT\_TF\_E\_8699;  DAI\_EXT\_TF\_E\_8695;  DAI\_EXT\_TF\_E\_8703;  DAI\_EXT\_TF\_E\_8704 |
| ARCH\_SW\_DIA\_0036 | Service 0x22 will be implemented for DID FEFF | DIA\_runDidFEFF\_MeasurementFrameConfigurationRead  DIA\_runDidFEFF\_MeasurementFrameConfigurationConditionCheckRead | DAI\_EXT\_TF\_E\_8718;  DAI\_EXT\_TF\_E\_8719;  DAI\_EXT\_TF\_E\_8715;  DAI\_EXT\_TF\_E\_8723;  DAI\_EXT\_TF\_E\_8724 |
| ARCH\_SW\_DIA\_0037 | Service 0x22 will be implemented for DID FDFF | DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigRead  DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigConditionCheckRead | DAI\_EXT\_TF\_E\_8737;  DAI\_EXT\_TF\_E\_8738;  DAI\_EXT\_TF\_E\_8734;  DAI\_EXT\_TF\_E\_8742;  DAI\_EXT\_TF\_E\_8743;  DAI\_EXT\_TF\_E\_8744 |
| ARCH\_SW\_DIA\_0038 | Service 0x2E will be implemented for DID FEFF | DIA\_runDidFEFF\_MeasurementFrameConfigurationWrite |  |
| ARCH\_SW\_DIA\_0039 | Service 0x2E will be implemented for DID FDFF | DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigWrite | DAI\_EXT\_TF\_E\_9085;  DAI\_EXT\_TF\_E\_9086;  DAI\_EXT\_TF\_E\_9082;  DAI\_EXT\_TF\_E\_9090;  DAI\_EXT\_TF\_E\_9091;  DAI\_EXT\_TF\_E\_9100;  DAI\_EXT\_TF\_E\_9101;  DAI\_EXT\_TF\_E\_9102 |
| ARCH\_SW\_DIA\_0040 | Service 0x23 will be implemented | DIA\_runSid23\_ReadMemoryByAddress | DAI\_EXT\_TF\_E\_8922;  DAI\_EXT\_TF\_E\_8919;  DAI\_EXT\_TF\_E\_8927 |
| ARCH\_SW\_DIA\_0041 | Service 0x3D will be implemented | DIA\_runSid3D\_WriteMemoryByAddress | DAI\_EXT\_TF\_E\_9209;  DAI\_EXT\_TF\_E\_9206;  DAI\_EXT\_TF\_E\_9214 |
| ARCH\_SW\_DIA\_0042 | Service 10 shall support the following sessions: Default, Programming, Extended and Development Session |  | DAI\_EXT\_TF\_E\_25;  DAI\_EXT\_TF\_E\_26;  DAI\_EXT\_TF\_E\_27;  DAI\_EXT\_TF\_E\_28 |
| ARCH\_SW\_DIA\_0043 | Service 10 shall be available in the following sessions: Default, Programming, Extended, Development Session and DefaultSession (of the Bootloader) |  | DAI\_EXT\_TF\_E\_34;  DAI\_EXT\_TF\_E\_35;  DAI\_EXT\_TF\_E\_36;  DAI\_EXT\_TF\_E\_37;  DAI\_EXT\_TF\_E\_5997;  DAI\_EXT\_TF\_E\_5998 |
| ARCH\_SW\_DIA\_0044 | Transition to Development Session will be done only with authentication |  | DAI\_EXT\_TF\_E\_9227 |
| ARCH\_SW\_DIA\_0220 | Service 0x31 (Routine Control) 0x31 01 0x31 02 0x31 03 for RID 0x0302 (Trigger Pre-Safe Display Request) will be implemented | DIA\_runRid0302\_TriggerPresafeDisplayRequestRequestResults DIA\_runRid0302\_TriggerPresafeDisplayRequestStart DIA\_runRid0302\_TriggerPresafeDisplayRequestStop | DAI\_EXT\_TF\_E\_9542;  DAI\_EXT\_TF\_E\_9543;  DAI\_EXT\_TF\_E\_9544;  DAI\_EXT\_TF\_E\_9545; DAI\_EXT\_TF\_E\_9546;  DAI\_EXT\_TF\_E\_9547;  DAI\_EXT\_TF\_E\_9548;  DAI\_EXT\_TF\_E\_9550;  DAI\_EXT\_TF\_E\_9910;  DAI\_EXT\_TF\_E\_9565;  DAI\_EXT\_TF\_E\_9566;  DAI\_EXT\_TF\_E\_9567;  DAI\_EXT\_TF\_E\_9568; DAI\_EXT\_TF\_E\_9570;  DAI\_EXT\_TF\_E\_9571;  DAI\_EXT\_TF\_E\_9572;  DAI\_EXT\_TF\_E\_9573 |
| ARCH\_SW\_DIA\_0235 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0x0142 (Availability Data) | DIA\_runDid0142\_AvailabilityDataRead | DAI\_EXT\_TF\_E\_9736; DAI\_EXT\_TF\_E\_9745;  DAI\_EXT\_TF\_E\_9945; DAI\_EXT\_TF\_E\_9760;  DAI\_EXT\_TF\_E\_9761; DAI\_EXT\_TF\_E\_10085 |
| ARCH\_SW\_DIA\_0240 | Service 0x22 (Read Data By Identifier) & 0x2E (Write Data By Identifier) for DID 0x0241 will be implemented | DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ReadDataLength DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ConditionCheckRead DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ReadData DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_WriteData | DAI\_EXT\_TF\_E\_9738; DAI\_EXT\_TF\_E\_9906; DAI\_EXT\_TF\_E\_9747;  DAI\_EXT\_TF\_E\_9947; DAI\_EXT\_TF\_E\_9838; DAI\_EXT\_TF\_E\_11509; DAI\_EXT\_TF\_E\_11510 |
| ARCH\_SW\_DIA\_0250 | Service 0x22 (Read Data By Identifier) & 0x2E (Write Data By Identifier) for DID 0x0242 will be implemented | DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ReadDataLength DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ConditionCheckRead DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ReadData DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_WriteData | DAI\_EXT\_TF\_E\_9739; DAI\_EXT\_TF\_E\_9905; DAI\_EXT\_TF\_E\_9748;  DAI\_EXT\_TF\_E\_9948; DAI\_EXT\_TF\_E\_9871; DAI\_EXT\_TF\_E\_11512; DAI\_EXT\_TF\_E\_11513 |
| ARCH\_SW\_DIA\_0210 | ROE on Dtc Status change implemented | RoELight\_DTCStatusChanged\_Callback | DAI\_EXT\_TF\_B\_2051; DAI\_EXT\_TF\_B\_2052; DAI\_EXT\_TF\_B\_2053; DAI\_EXT\_TF\_B\_2074; DAI\_EXT\_TF\_B\_2116; DAI\_EXT\_TF\_B\_2117; DAI\_EXT\_TF\_B\_2118; DAI\_EXT\_TF\_B\_2119; DAI\_EXT\_TF\_B\_2120; DAI\_EXT\_TF\_B\_2176; DAI\_EXT\_TF\_B\_2121; DAI\_EXT\_TF\_B\_2122; DAI\_EXT\_TF\_B\_2123; DAI\_EXT\_TF\_B\_2124; DAI\_EXT\_TF\_B\_2125; DAI\_EXT\_TF\_B\_2076; DAI\_EXT\_TF\_B\_2058 |
| ARCH\_SW\_DIA\_0260 | Clear Diag Request Cycle Function | DIA\_runClearDiagRequestCycle |  |
| ARCH\_SW\_DIA\_0261 | Get Diag Request Cycle Function | DIA\_runGetDiagRequestCycle |  |
| ARCH\_SW\_DIA\_0262 | Cyclic processing task of the Tensioning Routines | DIA\_cyclicProcessingTask |  |
| ARCH\_SW\_DIA\_0265 | Service 0x11 (ECU Reset) will be implemented | ResetServiceExecution | ALV\_EXT\_TF\_E\_7163; ALV\_EXT\_TF\_E\_6147; ALV\_EXT\_TF\_E\_6015; ALV\_EXT\_TF\_E\_7410; ALV\_EXT\_TF\_E\_104; ALV\_EXT\_TF\_E\_114 |
| ARCH\_SW\_DIA\_0275 | Service 0x14 (Clear Diagnostic Information) will be implemented | Dcm\_Svc14Handler | ALV\_EXT\_TF\_E\_5931; ALV\_EXT\_TF\_E\_124; ALV\_EXT\_TF\_E\_6037; ALV\_EXT\_TF\_E\_6038; ALV\_EXT\_TF\_E\_6039; ALV\_EXT\_TF\_E\_6040; ALV\_EXT\_TF\_E\_6041; ALV\_EXT\_TF\_E\_6042; ALV\_EXT\_TF\_E\_6043; ALV\_EXT\_TF\_E\_139; ALV\_EXT\_TF\_E\_140 |
| ARCH\_SW\_DIA\_0281 | Service 0x19 (Read DTC Information) will be implemented for ReportDTCByStatusMask (RDTCBST – 0x02) | Dcm\_Svc19Handler | DAI\_EXT\_TF\_E\_198; ALV\_EXT\_TF\_E\_207; DAI\_EXT\_TF\_E\_10103 |
| ARCH\_SW\_DIA\_0285 | Service 0x22 (Read Data By Identifier) will be implemented for DID FD01 (SW Version) | DIA\_runDidFD01\_SWVersionConditionCheckRead DIA\_runDidFD01\_SWVersionRead | ALV\_EXT\_TF\_E\_652; ALV\_EXT\_TF\_E\_6260; ALV\_EXT\_TF\_E\_655; ALV\_EXT\_TF\_E\_661; ALV\_EXT\_TF\_E\_7065; DAI\_EXT\_TF\_E\_10285 |
| ARCH\_SW\_DIA\_0295 | Service 0x27 (Security Access) will be implemented for Get Seed and Send Key | Dcm\_Service27Processor | ALV\_EXT\_TF\_E\_1467; DAI\_EXT\_TF\_E\_10256; ALV\_EXT\_TF\_E\_6033; ALV\_EXT\_TF\_E\_6055; DAI\_EXT\_TF\_E\_10286; ALV\_EXT\_TF\_E\_7618; ALV\_EXT\_TF\_E\_7619; ALV\_EXT\_TF\_E\_7627 |
| ARCH\_SW\_DIA\_0305 | Service 0x2E (Write Data By Identifier) will be implemented for DID FD2F (ECU Location) | DIA\_runDidFD2F\_EcuLocationWrite | DAI\_EXT\_TF\_E\_10086; DAI\_EXT\_TF\_E\_10087; DAI\_EXT\_TF\_E\_10089; DAI\_EXT\_TF\_E\_10090; ALV\_EXT\_TF\_E\_6735; DAI\_EXT\_TF\_E\_10091 |
| ARCH\_SW\_DIA\_0315 | Service 0x2E (Write Data By Identifier) will be implemented for DID FD31 (ECU Calibration Parameters) | DIA\_runDidFD31\_HBCalibrationWrite | ALV\_EXT\_TF\_E\_1833; ALV\_EXT\_TF\_E\_10092; ALV\_EXT\_TF\_E\_10093; ALV\_EXT\_TF\_E\_10995; ALV\_EXT\_TF\_E\_10996; ALV\_EXT\_TF\_E\_1853 |
| ARCH\_SW\_DIA\_0325 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0133 (Current Operating Time) | DataServices\_Current\_Operating\_Time\_Read\_Current\_Operating\_Time\_ConditionCheckRead DataServices\_Current\_Operating\_Time\_Read\_Current\_Operating\_Time\_ReadData | DAI\_EXT\_TF\_E\_9735;  DAI\_EXT\_TF\_E\_9744;  DAI\_EXT\_TF\_E\_9944;  DAI\_EXT\_TF\_E\_9757;  DAI\_EXT\_TF\_E\_9758; DAI\_EXT\_TF\_E\_9759 |
| ARCH\_SW\_DIA\_0330 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0140 (Obsolescence Data) | DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Current\_Value\_ConditionCheckRead DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Current\_Value\_Read DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Green\_To\_Yellow\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Green\_To\_Yellow\_Read DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Yellow\_To\_Red\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Yellow\_To\_Red\_Read DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Current\_Value\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Current\_Value\_Read DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Green\_To\_Yellow\_Read DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_ Yellow\_To\_Red \_Read DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Current\_Value\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Current\_Value\_Read DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Green\_To\_Yellow\_Read DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Yellow\_To\_Red\_Read DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Current\_Value\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Current\_Value\_Read DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Green\_To\_Yellow\_Read DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead  DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Yellow\_To\_Red\_Read | DAI\_EXT\_TF\_E\_10179; DAI\_EXT\_TF\_E\_10180; DAI\_EXT\_TF\_E\_10184; DAI\_EXT\_TF\_E\_10187; DAI\_EXT\_TF\_E\_10189; DAI\_EXT\_TF\_E\_10190; DAI\_EXT\_TF\_E\_10191; DAI\_EXT\_TF\_E\_10194; DAI\_EXT\_TF\_E\_10195; DAI\_EXT\_TF\_E\_10193 |
| ARCH\_SW\_DIA\_0340 | Service 0x22 (Read Data By Identifier) will be implemented for DID 01E1 (CPU Load) | DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ConditionCheckRead DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ReadDataLength DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ReadData | DAI\_EXT\_TF\_E\_10107; DAI\_EXT\_TF\_E\_10108; DAI\_EXT\_TF\_E\_10112; DAI\_EXT\_TF\_E\_10115; DAI\_EXT\_TF\_E\_10117; DAI\_EXT\_TF\_E\_10118; DAI\_EXT\_TF\_E\_10119 |
| ARCH\_SW\_DIA\_0345 | Service 0x22 (Read Data By Identifier) will be implemented for DID 01E2 (E2E Timing) | DataServices\_E2E\_Timing\_Read\_Maximum\_ConditionCheckRead DataServices\_E2E\_Timing\_Read\_Maximum\_ReadData DataServices\_E2E\_Timing\_Read\_Maximum\_ReadDataLength | DAI\_EXT\_TF\_E\_10123; DAI\_EXT\_TF\_E\_10124; DAI\_EXT\_TF\_E\_10128; DAI\_EXT\_TF\_E\_10131; DAI\_EXT\_TF\_E\_10133; DAI\_EXT\_TF\_E\_10134; DAI\_EXT\_TF\_E\_10135 |
| ARCH\_SW\_DIA\_0350 | Service 0x22 (Read Data By Identifier) will be implemented for DID 01E3 (Stack Load) | DataServices\_Stack\_Load\_Read\_Maximum\_ConditionCheckRead DataServices\_Stack\_Load\_Read\_Maximum\_ReadDataLength DataServices\_Stack\_Load\_Read\_Maximum\_ReadData | DAI\_EXT\_TF\_E\_10139; DAI\_EXT\_TF\_E\_10140; DAI\_EXT\_TF\_E\_10144; DAI\_EXT\_TF\_E\_10147; DAI\_EXT\_TF\_E\_10149; DAI\_EXT\_TF\_E\_10150; DAI\_EXT\_TF\_E\_10151;  DAI\_EXT\_TF\_E\_10274;  DAI\_EXT\_TF\_E\_10277 |
| ARCH\_SW\_DIA\_0355 | Service 0x22 (Read Data By Identifier) will be implemented for DID 01E4 (Memory Usage Cycles) | DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ConditionCheckRead DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ReadDataLength DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ReadData | DAI\_EXT\_TF\_E\_10155; DAI\_EXT\_TF\_E\_10156; DAI\_EXT\_TF\_E\_10160; DAI\_EXT\_TF\_E\_10163; DAI\_EXT\_TF\_E\_10281; DAI\_EXT\_TF\_E\_10282; DAI\_EXT\_TF\_E\_10283;  DAI\_EXT\_TF\_E\_10279 |
| ARCH\_SW\_DIA\_0360 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0200 (CAN Input) | DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_1\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_1\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_2\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_2\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_3\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_3\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_4\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_4\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_5\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_5\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_6\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_6\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Supply\_battery\_voltage\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Supply\_battery\_voltage\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_7\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_7\_ReadData DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_8\_ConditionCheckRead DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_8\_ReadData | DAI\_EXT\_TF\_E\_10200; DAI\_EXT\_TF\_E\_10201; DAI\_EXT\_TF\_E\_10205; DAI\_EXT\_TF\_E\_10208; DAI\_EXT\_TF\_E\_10210; DAI\_EXT\_TF\_E\_10211; DAI\_EXT\_TF\_E\_10212; DAI\_EXT\_TF\_E\_10213; DAI\_EXT\_TF\_E\_10214; DAI\_EXT\_TF\_E\_10217; DAI\_EXT\_TF\_E\_10218; DAI\_EXT\_TF\_E\_10219; DAI\_EXT\_TF\_E\_10220; DAI\_EXT\_TF\_E\_10216; DAI\_EXT\_TF\_B\_2303;  DAI\_EXT\_TF\_B\_2304;  DAI\_EXT\_TF\_B\_2305;  DAI\_EXT\_TF\_B\_2319;  DAI\_EXT\_TF\_B\_2320;  DAI\_EXT\_TF\_B\_2321;  DAI\_EXT\_TF\_B\_2330;  DAI\_EXT\_TF\_B\_2331;  DAI\_EXT\_TF\_B\_2332;  DAI\_EXT\_TF\_B\_2335;  DAI\_EXT\_TF\_B\_2336;  DAI\_EXT\_TF\_B\_2337;  DAI\_EXT\_TF\_B\_2340;  DAI\_EXT\_TF\_B\_2341;  DAI\_EXT\_TF\_B\_2342;  DAI\_EXT\_TF\_B\_2345;  DAI\_EXT\_TF\_B\_2346;  DAI\_EXT\_TF\_B\_2347; DAI\_EXT\_TF\_B\_2313; DAI\_EXT\_TF\_B\_2324; DAI\_EXT\_TF\_B\_2279; DAI\_EXT\_TF\_B\_2288; DAI\_EXT\_TF\_B\_2281; DAI\_EXT\_TF\_B\_2289; DAI\_EXT\_TF\_B\_2284;  DAI\_EXT\_TF\_B\_2286;  DAI\_EXT\_TF\_B\_2285;  DAI\_EXT\_TF\_B\_2287;  DAI\_EXT\_TF\_B\_2365;  DAI\_EXT\_TF\_B\_2366;  DAI\_EXT\_TF\_B\_2367; DAI\_EXT\_TF\_B\_2368;  DAI\_EXT\_TF\_B\_2369;  DAI\_EXT\_TF\_B\_2370;  DAI\_EXT\_TF\_B\_2371; DAI\_EXT\_TF\_B\_2372;  DAI\_EXT\_TF\_B\_2427;  DAI\_EXT\_TF\_B\_2428;  DAI\_EXT\_TF\_B\_2433; |
| ARCH\_SW\_DIA\_0370 | Service 0x22 (Read Data By Identifier) will be implemented for DID F150 (Hardware Version Information) | DataServices\_HardwareVersion\_Read\_HW\_patch\_level\_ConditionCheckRead  DataServices\_HardwareVersion\_Read\_HW\_patch\_level\_ReadData DataServices\_HardwareVersion\_Read\_HW\_week\_ConditionCheckRead DataServices\_HardwareVersion\_Read\_HW\_week\_ReadData DataServices\_HardwareVersion\_Read\_HW\_year\_ConditionCheckRead DataServices\_HardwareVersion\_Read\_HW\_year\_ReadData | DAI\_EXT\_TF\_E\_9733; DAI\_EXT\_TF\_E\_9749; DAI\_EXT\_TF\_E\_9942; DAI\_EXT\_TF\_E\_9830; DAI\_EXT\_TF\_E\_9831; DAI\_EXT\_TF\_E\_9832; DAI\_EXT\_TF\_E\_9833 |
| ARCH\_SW\_DIA\_0375 | Service 0x22 (Read Data By Identifier) will be implemented for DID F151 (Software Version Information) | DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ConditionCheckRead DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ReadDataLength DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ReadData | DAI\_EXT\_TF\_E\_9732;  DAI\_EXT\_TF\_E\_9750;  DAI\_EXT\_TF\_E\_9943;  DAI\_EXT\_TF\_E\_10267;  DAI\_EXT\_TF\_E\_10268;  DAI\_EXT\_TF\_E\_10271; DAI\_EXT\_TF\_E\_11467 |
| ARCH\_SW\_DIA\_0380 | Service 0x22 (Read Data By Identifier) will be implemented for DID F153 (Boot Software Version Information) | DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_patch\_level\_ConditionCheckRead DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_patch\_level\_ReadData DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_week\_ConditionCheckRead DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_week\_ReadData DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_year\_ConditionCheckRead DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_year\_ReadData | DAI\_EXT\_TF\_E\_9953;  DAI\_EXT\_TF\_E\_9956;  DAI\_EXT\_TF\_E\_9959;  DAI\_EXT\_TF\_E\_9960; DAI\_EXT\_TF\_E\_9961; DAI\_EXT\_TF\_E\_9962; DAI\_EXT\_TF\_E\_9963 |
| ARCH\_SW\_DIA\_0385 | Service 0x2E (Write Data By Identifier) will be implemented for DID 0241 (Reset Pre-Safe Recorder 1) | DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_WriteData | DAI\_EXT\_TF\_E\_9740; DAI\_EXT\_TF\_E\_9951;  DAI\_EXT\_TF\_E\_9754; DAI\_EXT\_TF\_E\_9922;  DAI\_EXT\_TF\_E\_9768; DAI\_EXT\_TF\_E\_9769;  DAI\_EXT\_TF\_E\_10320;  DAI\_EXT\_TF\_E\_10321 |
| ARCH\_SW\_DIA\_0390 | Service 0x2E (Write Data By Identifier) will be implemented for DID 0242 (Reset Pre-Safe Recorder 2) | DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_WriteData | DAI\_EXT\_TF\_E\_9741;  DAI\_EXT\_TF\_E\_9950;  DAI\_EXT\_TF\_E\_9752;  DAI\_EXT\_TF\_E\_9920;  DAI\_EXT\_TF\_E\_9770; DAI\_EXT\_TF\_E\_9771;  DAI\_EXT\_TF\_E\_10322;  DAI\_EXT\_TF\_E\_10323 |
| ARCH\_SW\_DIA\_0395 | Service 0x2E (Write Data By Identifier) will be implemented for DID 0244 (Reset Pre-Safe Counter) | DataServices\_PRE\_SAFE\_Counter\_read\_Read\_CombinedDataElement\_WriteData | DAI\_EXT\_TF\_E\_9772; DAI\_EXT\_TF\_E\_9773; DAI\_EXT\_TF\_E\_10318;  DAI\_EXT\_TF\_E\_10319 |
| ARCH\_SW\_DIA\_0405 | Service 0x28 (Communication Control) will be implemented | Dcm\_Svc28Handler | DAI\_EXT\_TF\_E\_10228; DAI\_EXT\_TF\_E\_10229; DAI\_EXT\_TF\_E\_10233; DAI\_EXT\_TF\_E\_10249; DAI\_EXT\_TF\_E\_10252; DAI\_EXT\_TF\_E\_10238; DAI\_EXT\_TF\_E\_10248 |
| ARCH\_SW\_DIA\_0415 | Service 0x85 (ControlDTCSetting Service) will be implemented | Dcm\_Svc85Handler | DAI\_EXT\_TF\_E\_9971;  DAI\_EXT\_TF\_E\_8092;  DAI\_EXT\_TF\_E\_9974;  DAI\_EXT\_TF\_E\_9975;  DAI\_EXT\_TF\_E\_9976; DAI\_EXT\_TF\_E\_9980; DAI\_EXT\_TF\_E\_9981;  DAI\_EXT\_TF\_E\_9982; DAI\_EXT\_TF\_E\_9995; DAI\_EXT\_TF\_E\_9996; DAI\_EXT\_TF\_E\_9997; DAI\_EXT\_TF\_E\_9984; DAI\_EXT\_TF\_E\_9987; DAI\_EXT\_TF\_E\_9985; DAI\_EXT\_TF\_E\_9988; DAI\_EXT\_TF\_E\_9986; DAI\_EXT\_TF\_E\_9989; DAI\_EXT\_TF\_E\_9990; DAI\_EXT\_TF\_E\_9991; DAI\_EXT\_TF\_E\_9992; DAI\_EXT\_TF\_E\_9993 |
| ARCH\_SW\_DIA\_0420 | RoELite for ObsolescenceData will be implemented | RoELite\_ObsolescenceDataHandler | DAI\_EXT\_TF\_B\_2074; DAI\_EXT\_TF\_B\_2120; DAI\_EXT\_TF\_B\_2296; DAI\_EXT\_TF\_B\_2353; DAI\_EXT\_TF\_B\_2354; DAI\_EXT\_TF\_B\_2356 |
| ARCH\_SW\_DIA\_0430 | RoELite for AvailabilityData will be implemented | RoELite\_AvailabilityDataHandler | DAI\_EXT\_TF\_B\_2082; DAI\_EXT\_TF\_B\_2355; DAI\_EXT\_TF\_B\_2126 |
| ARCH\_SW\_DIA\_0435 | RoELite for DiagSessionChange will be implemented | DiagSessionChangeCallback | DAI\_EXT\_TF\_B\_2083; DAI\_EXT\_TF\_B\_2128; DAI\_EXT\_TF\_B\_2129 |
| ARCH\_SW\_DIA\_0460 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0107 (Global Time Sync Measured Values) | DataServices\_Global\_Time\_Sync\_Measured\_Values\_ConditionCheckRead  DataServices\_Global\_Time\_Sync\_Measured\_Values\_ReadData  DataServices\_Global\_Time\_Sync\_Measured\_Values\_ReadDataLength | DAI\_EXT\_TF\_E\_9734; DAI\_EXT\_TF\_E\_9743; DAI\_EXT\_TF\_E\_9941; DAI\_EXT\_TF\_E\_9774; DAI\_EXT\_TF\_E\_9775; DAI\_EXT\_TF\_E\_9776 |
| ARCH\_SW\_DIA\_0510 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0210 (CAN Output) | DIA\_runDid0210\_CAN\_output\_Read\_CANoutput1\_ConditionCheckRead  DIA\_runDid0210\_CAN\_output\_Read\_CANoutput1\_ReadData  DIA\_runDid0210\_CAN\_output\_Read\_PS\_Curve\_XX\_Stat\_ST3\_ConditionCheckRead DIA\_runDid0210\_CAN\_output\_Read\_PS\_Curve\_XX\_Stat\_ST3\_ReadData DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_Actv\_Lvl\_ST35\_ConditionCheckRead  DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_Actv\_Lvl\_ST35\_ReadData  DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_ActvClient\_ST35\_ConditionCheckRead  DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_ActvClient\_ST35\_ReadData  DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_FctPrecond\_Stat\_ST35\_ConditionCheckRead  DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_FctPrecond\_Stat\_ST35\_ReadData | DAI\_EXT\_TF\_E\_10310;  DAI\_EXT\_TF\_E\_10311;  DAI\_EXT\_TF\_E\_10315;  DAI\_EXT\_TF\_E\_10461;  DAI\_EXT\_TF\_E\_10463;  DAI\_EXT\_TF\_E\_10464;  DAI\_EXT\_TF\_E\_10472;  DAI\_EXT\_TF\_E\_10473;  DAI\_EXT\_TF\_E\_10474;  DAI\_EXT\_TF\_E\_10475;  DAI\_EXT\_TF\_E\_10477;  DAI\_EXT\_TF\_B\_2310;  DAI\_EXT\_TF\_B\_2377;  DAI\_EXT\_TF\_B\_2378;  DAI\_EXT\_TF\_B\_2379;  DAI\_EXT\_TF\_B\_2380;  DAI\_EXT\_TF\_B\_2381;  DAI\_EXT\_TF\_B\_2382;  DAI\_EXT\_TF\_B\_2383;  DAI\_EXT\_TF\_B\_2384 |
| ARCH\_SW\_DIA\_0515 | Service 0x2E (Write Data By Identifier) will be implemented for DID FD50 (HW Version) | DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_year  DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_week  DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_patch\_level | DAI\_EXT\_TF\_E\_10293; DAI\_EXT\_TF\_E\_10541;  DAI\_EXT\_TF\_E\_10337;  DAI\_EXT\_TF\_E\_10339; DAI\_EXT\_TF\_E\_10349;  DAI\_EXT\_TF\_E\_10544 |
| ARCH\_SW\_DIA\_0525 | Service 0x19 (Read DTC Information) will be implemented for ReportNumberOfDTCByStatusMask (RNODTCBSM – 0x01) | Dcm\_Svc19Handler | ALV\_EXT\_TF\_E\_5927;  ALV\_EXT\_TF\_E\_173; ALV\_EXT\_TF\_E\_6091; ALV\_EXT\_TF\_E\_176;  ALV\_EXT\_TF\_E\_179;  ALV\_EXT\_TF\_E\_6100;  ALV\_EXT\_TF\_E\_182;  ALV\_EXT\_TF\_E\_6110;  ALV\_EXT\_TF\_E\_184 |
| ARCH\_SW\_DIA\_0530 | Service 0x19 (Read DTC Information) will be implemented for ReportSupportedDTC (RSDTC) - 0x0A | Dcm\_Svc19Handler | ALV\_EXT\_TF\_E\_5933;  ALV\_EXT\_TF\_E\_324;  ALV\_EXT\_TF\_E\_6151;  ALV\_EXT\_TF\_E\_329;  ALV\_EXT\_TF\_E\_6152;  ALV\_EXT\_TF\_E\_332;  ALV\_EXT\_TF\_E\_6153 |
| ARCH\_SW\_DIA\_0555 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0220 (HW Input) | DIA\_runDid0220\_HW\_input\_Read\_Voltage\_KL30t\_ConditionCheckRead DIA\_runDid0220\_HW\_input\_Read\_Voltage\_KL30t\_ReadData DIA\_runDid0220\_HW\_input\_Read\_Voltage\_Motor\_ConditionCheckRead DIA\_runDid0220\_HW\_input\_Read\_Voltage\_Motor\_ReadData | DAI\_EXT\_TF\_E\_10561; DAI\_EXT\_TF\_E\_10562;  DAI\_EXT\_TF\_E\_10568;  DAI\_EXT\_TF\_E\_10571;  DAI\_EXT\_TF\_E\_10573;  DAI\_EXT\_TF\_E\_10574;  DAI\_EXT\_TF\_E\_10575;  DAI\_EXT\_TF\_E\_10577 |
| ARCH\_SW\_DIA\_0565 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0240 (Internal ECU Information) | DIA\_runDid0240\_Internal\_ECU\_information\_Read\_Autosar\_System\_State\_EcuM\_State\_ConditionCheckRead  DIA\_runDid0240\_Internal\_ECU\_information\_Read\_Autosar\_System\_State\_EcuM\_State\_ReadData  DIA\_runDid0240\_Internal\_ECU\_information\_Read\_ECU\_Temperature\_ConditionCheckRead  DIA\_runDid0240\_Internal\_ECU\_information\_Read\_ECU\_Temperature\_ReadData  DIA\_runDid0240\_Internal\_ECU\_information\_Read\_MOTOR\_Current\_ConditionCheckRead  DIA\_runDid0240\_Internal\_ECU\_information\_Read\_MOTOR\_Current\_ReadData | DAI\_EXT\_TF\_E\_10582;  DAI\_EXT\_TF\_E\_10583;  DAI\_EXT\_TF\_E\_10587;  DAI\_EXT\_TF\_E\_10590;  DAI\_EXT\_TF\_E\_10592;  DAI\_EXT\_TF\_E\_10593;  DAI\_EXT\_TF\_E\_10594;  DAI\_EXT\_TF\_E\_10595;  DAI\_EXT\_TF\_E\_10597 |
| ARCH\_SW\_DIA\_0575 | Service 0x22 (Read Data By Identifier) will be implemented for DID FD03 (AEE Traceability Number And PCBA Programmed PN) | DIA\_runDidFD03\_ECUTraceablityNumberConditionCheckRead DIA\_runDidFD03\_ECUTraceablityNumberRead DIA\_runDidFD03\_PCBAProgrammedPartNumberConditionCheckRead DIA\_runDidFD03\_PCBAProgrammedPartNumberRead | DAI\_EXT\_TF\_E\_8900; DAI\_EXT\_TF\_E\_8901; DAI\_EXT\_TF\_E\_8905; DAI\_EXT\_TF\_E\_11342; DAI\_EXT\_TF\_E\_8910; DAI\_EXT\_TF\_E\_8912; DAI\_EXT\_TF\_E\_11343 |
| ARCH\_SW\_DIA\_0585 | Service 0x2E (Write Data By Identifier) will be implemented for DID FD03 (AEE Traceability Number And PCBA Programmed PN) | DIA\_runDidFD03\_ECUTraceablityNumberWrite DIA\_runDidFD03\_PCBAProgrammedPartNumberWrite | DAI\_EXT\_TF\_E\_11352; DAI\_EXT\_TF\_E\_11353; DAI\_EXT\_TF\_E\_11357; DAI\_EXT\_TF\_E\_11356; DAI\_EXT\_TF\_E\_11358; DAI\_EXT\_TF\_E\_11359; DAI\_EXT\_TF\_E\_11350; DAI\_EXT\_TF\_E\_11351 |
| ARCH\_SW\_DIA\_0595 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0100 (Reprogramming Attempt Counter) | DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ConditionCheckRead DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ReadData DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ReadDataLength | DAI\_EXT\_TF\_E\_10746; DAI\_EXT\_TF\_E\_11217; DAI\_EXT\_TF\_E\_10757; DAI\_EXT\_TF\_E\_10759; DAI\_EXT\_TF\_E\_11221; DAI\_EXT\_TF\_E\_11223; DAI\_EXT\_TF\_E\_11362 |
| ARCH\_SW\_DIA\_0605 | Service 0x22 (Read Data By Identifier) will be implemented for DID 010A (Vehicle Odometer in Low Resolution) | DataServices\_Vehicle\_Odometer\_in\_Low\_Resolution\_Read\_Vehicle\_Odometer\_in\_Low\_Resolution\_ConditionCheckRead DataServices\_Vehicle\_Odometer\_in\_Low\_Resolution\_Read\_Vehicle\_Odometer\_in\_Low\_Resolution\_ReadData | DAI\_EXT\_TF\_E\_11204; DAI\_EXT\_TF\_E\_11205; DAI\_EXT\_TF\_E\_11207; DAI\_EXT\_TF\_E\_11209; DAI\_EXT\_TF\_E\_11211; DAI\_EXT\_TF\_E\_11212 |
| ARCH\_SW\_DIA\_0615 | Service 0x22 (Read Data By Identifier) will be implemented for DID 010B (Adjust ISO 15765-2 Block Size and STmin Parameter) | DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_ConditionCheckRead DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_ReadData  DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_ConditionCheckRead  DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_ReadData | DAI\_EXT\_TF\_E\_10601;  DAI\_EXT\_TF\_E\_10604;  DAI\_EXT\_TF\_E\_10605; DAI\_EXT\_TF\_E\_10609; DAI\_EXT\_TF\_E\_10612; DAI\_EXT\_TF\_E\_10615 |
| ARCH\_SW\_DIA\_0625 | Service 0x2E (Write Data By Identifier) will be implemented for DID 010B (Adjust ISO 15765-2 Block Size and STmin Parameter) | DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_WriteData DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_WriteData | DAI\_EXT\_TF\_E\_11075; DAI\_EXT\_TF\_E\_11076; DAI\_EXT\_TF\_E\_11327; DAI\_EXT\_TF\_E\_11078; DAI\_EXT\_TF\_E\_11079; DAI\_EXT\_TF\_E\_11080 |
| ARCH\_SW\_DIA\_0635 | Service 0x22 (Read Data By Identifier) will be implemented for DID 01E0 (Task Response Time) | DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ConditionCheckRead DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ReadData DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ReadDataLength | DAI\_EXT\_TF\_E\_10620;  DAI\_EXT\_TF\_E\_10621;  DAI\_EXT\_TF\_E\_10625;  DAI\_EXT\_TF\_E\_10628;  DAI\_EXT\_TF\_E\_10631 |
| ARCH\_SW\_DIA\_0645 | Service 0x22 (Read Data By Identifier) will be implemented for DID 02EA (System Time) | DataServices\_System\_Time\_read\_Read\_System\_time\_ConditionCheckRead  DataServices\_System\_Time\_read\_Read\_System\_time\_ReadData | DAI\_EXT\_TF\_E\_10778;  DAI\_EXT\_TF\_E\_11228;  DAI\_EXT\_TF\_E\_10776;  DAI\_EXT\_TF\_E\_10783;  DAI\_EXT\_TF\_E\_11232 |
| ARCH\_SW\_DIA\_0655 | Service 0x22 (Read Data By Identifier) will be implemented for DiagCommonData Structure which is composed by the following DIDs:  EF00 (ECU Extract Version)  EF01 (Diagnostic Extract Version) EF03 (Standard Application SW Package Information)  EF05 (Minimum SW Version)  F100 (Active Diagnostic Information)  F104 (ECU Name)  F10D (DDS Package Release)  F111 (MBC ECU Identification - Hardware Part Number) F121 (MBC ECU Identification - Software Logical Block Part Number(s)) F154 (Hardware Supplier Identification) F155 (Software Supplier Identification) | DiagCommonData | DAI\_EXT\_TF\_E\_10830;  DAI\_EXT\_TF\_E\_10831;  DAI\_EXT\_TF\_E\_10828; DAI\_EXT\_TF\_E\_10835;  DAI\_EXT\_TF\_E\_11237;  DAI\_EXT\_TF\_E\_11240;  DAI\_EXT\_TF\_E\_11241;  DAI\_EXT\_TF\_E\_11242;  DAI\_EXT\_TF\_E\_11243;  DAI\_EXT\_TF\_E\_11244;  DAI\_EXT\_TF\_E\_11245;  DAI\_EXT\_TF\_E\_10843;  DAI\_EXT\_TF\_E\_11247;  DAI\_EXT\_TF\_E\_10841;  DAI\_EXT\_TF\_E\_10848;  DAI\_EXT\_TF\_E\_10849;  DAI\_EXT\_TF\_E\_10850;  DAI\_EXT\_TF\_E\_10851;  DAI\_EXT\_TF\_E\_10852;  DAI\_EXT\_TF\_E\_10853;  DAI\_EXT\_TF\_E\_10854;  DAI\_EXT\_TF\_E\_10862;  DAI\_EXT\_TF\_E\_11251;  DAI\_EXT\_TF\_E\_10860;  DAI\_EXT\_TF\_E\_10867;  DAI\_EXT\_TF\_E\_11255;  DAI\_EXT\_TF\_E\_10869;  DAI\_EXT\_TF\_E\_10870;  DAI\_EXT\_TF\_E\_10871;  DAI\_EXT\_TF\_E\_10872;  DAI\_EXT\_TF\_E\_10873;  DAI\_EXT\_TF\_E\_10874;  DAI\_EXT\_TF\_E\_10882;  DAI\_EXT\_TF\_E\_11256;  DAI\_EXT\_TF\_E\_10880;  DAI\_EXT\_TF\_E\_10893;  DAI\_EXT\_TF\_E\_11260;  DAI\_EXT\_TF\_E\_11261;  DAI\_EXT\_TF\_E\_11262;  DAI\_EXT\_TF\_E\_10906;  DAI\_EXT\_TF\_E\_11263;  DAI\_EXT\_TF\_E\_10904;  DAI\_EXT\_TF\_E\_10910;  DAI\_EXT\_TF\_E\_11266;  DAI\_EXT\_TF\_E\_10911;  DAI\_EXT\_TF\_E\_10912;  DAI\_EXT\_TF\_E\_10913;  DAI\_EXT\_TF\_E\_11363;  DAI\_EXT\_TF\_E\_10935;  DAI\_EXT\_TF\_E\_11267;  DAI\_EXT\_TF\_E\_10933;  DAI\_EXT\_TF\_E\_10939;  DAI\_EXT\_TF\_E\_11270;  DAI\_EXT\_TF\_E\_10947;  DAI\_EXT\_TF\_E\_11273;  DAI\_EXT\_TF\_E\_10945;  DAI\_EXT\_TF\_E\_10951;  DAI\_EXT\_TF\_E\_11277;  DAI\_EXT\_TF\_E\_10952;  DAI\_EXT\_TF\_E\_10953;  DAI\_EXT\_TF\_E\_11278;  DAI\_EXT\_TF\_E\_10965;  DAI\_EXT\_TF\_E\_11279;  DAI\_EXT\_TF\_E\_10963;  DAI\_EXT\_TF\_E\_10969;  DAI\_EXT\_TF\_E\_11282;  DAI\_EXT\_TF\_E\_11283; DAI\_EXT\_TF\_E\_11583; DAI\_EXT\_TF\_E\_11584; DAI\_EXT\_TF\_E\_11585;  DAI\_EXT\_TF\_E\_11284;  DAI\_EXT\_TF\_E\_11285;  DAI\_EXT\_TF\_E\_10976;  DAI\_EXT\_TF\_E\_11289;  DAI\_EXT\_TF\_E\_11029;  DAI\_EXT\_TF\_E\_11302;  DAI\_EXT\_TF\_E\_11027;  DAI\_EXT\_TF\_E\_11033;  DAI\_EXT\_TF\_E\_11306;  DAI\_EXT\_TF\_E\_11307;  DAI\_EXT\_TF\_E\_11039;  DAI\_EXT\_TF\_E\_11308;  DAI\_EXT\_TF\_E\_11309;  DAI\_EXT\_TF\_E\_11311;  DAI\_EXT\_TF\_E\_11313;  DAI\_EXT\_TF\_E\_11314;  DAI\_EXT\_TF\_E\_11315 |
| ARCH\_SW\_DIA\_0715 | Service 0x22 (Read Data By Identifier) will be implemented for DID F130 (Reprogramming Capabilities) | DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ConditionCheckRead  DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ReadData  DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ReadDataLength | DAI\_EXT\_TF\_E\_11290;  DAI\_EXT\_TF\_E\_11291;  DAI\_EXT\_TF\_E\_10992;  DAI\_EXT\_TF\_E\_11294;  DAI\_EXT\_TF\_E\_10999;  DAI\_EXT\_TF\_E\_11000;  DAI\_EXT\_TF\_E\_11295;  DAI\_EXT\_TF\_E\_11296 |
| ARCH\_SW\_DIA\_0725 | Service 0x22 (Read Data By Identifier) will be implemented for DID F131 (Supported Configuration Mechanisms) | DataServices\_Supported\_configuration\_mechanisms\_Read\_Config\_mechanisms\_ConditionCheckRead  DataServices\_Supported\_configuration\_mechanisms\_Read\_Config\_mechanisms\_ReadData | DAI\_EXT\_TF\_E\_11008;  DAI\_EXT\_TF\_E\_11297;  DAI\_EXT\_TF\_E\_11006;  DAI\_EXT\_TF\_E\_11012;  DAI\_EXT\_TF\_E\_11301 |
| ARCH\_SW\_DIA\_0735 | Service 0x22 (Read Data By Identifier) will be implemented for DID F15B (Software Fingerprint) | DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ConditionCheckRead  DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ReadData  DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ReadDataLength | DAI\_EXT\_TF\_E\_11059;  DAI\_EXT\_TF\_E\_11316;  DAI\_EXT\_TF\_E\_11057;  DAI\_EXT\_TF\_E\_11063;  DAI\_EXT\_TF\_E\_11320;  DAI\_EXT\_TF\_E\_11321;  DAI\_EXT\_TF\_E\_11322;  DAI\_EXT\_TF\_E\_11323;  DAI\_EXT\_TF\_E\_11324 |
| ARCH\_SW\_DIA\_0745 | Service 0x2E (Write Data By Identifier) will be implemented for DID F804 (Calibration Identifications (CAL ID)) | DataServices\_Calibration\_Identifications\_CAL\_ID\_Write\_CombinedDataElement\_WriteData  DataServices\_Calibration\_Identifications\_CAL\_ID\_Write\_Number\_of\_data\_items | DAI\_EXT\_TF\_E\_11183;  DAI\_EXT\_TF\_E\_11184;  DAI\_EXT\_TF\_E\_11337;  DAI\_EXT\_TF\_E\_11186;  DAI\_EXT\_TF\_E\_11187;  DAI\_EXT\_TF\_E\_11188 |
| ARCH\_SW\_DIA\_0755 | Service 0x31 (Routine Control)  0x31 01 Start  0x31 02 Stop  0x31 03 Request Results  for RID 0x0245 (Synchronize to Non-volatile Memory) will be implemented | DataServices\_Synchronize\_to\_Non\_volatile\_Memory\_Start  Synchronize\_to\_Non\_volatile\_Memory\_Stop  Synchronize\_to\_Non\_volatile\_Memory\_RequestResults | DAI\_EXT\_TF\_E\_11130;  DAI\_EXT\_TF\_E\_11143;  DAI\_EXT\_TF\_E\_11145;  DAI\_EXT\_TF\_E\_11151;  DAI\_EXT\_TF\_E\_11153;  DAI\_EXT\_TF\_E\_11157;  DAI\_EXT\_TF\_E\_11162;  DAI\_EXT\_TF\_E\_11163;  DAI\_EXT\_TF\_E\_11164 |
| ARCH\_SW\_DIA\_0765 | Service 0x31 (Routine Control)  0x31 01 Start  for RID 0x0277 (Replace Trust Model Root Certificate) will be implemented | Ssa\_ProcCtrl\_RoutineServices\_Routine\_Replace\_Trust\_model\_Certificates | DAI\_EXT\_TF\_E\_11170;  DAI\_EXT\_TF\_E\_11171; DAI\_EXT\_TF\_E\_11173;  DAI\_EXT\_TF\_E\_11175;  DAI\_EXT\_TF\_E\_11178;  DAI\_EXT\_TF\_E\_11177 |
| ARCH\_SW\_DIA\_0775 | Service 0x19 (Read DTC Information) will be implemented for ReportDTCSnapshotRecordByDTCNumber (RDTCSRBDTCN) - 0x04 | Dcm\_Svc19Handler | DAI\_EXT\_TF\_E\_10357;  DAI\_EXT\_TF\_E\_10361;  DAI\_EXT\_TF\_E\_10366;  DAI\_EXT\_TF\_E\_10367;  DAI\_EXT\_TF\_E\_10375;  DAI\_EXT\_TF\_E\_11195;  DAI\_EXT\_TF\_E\_11200;  DAI\_EXT\_TF\_E\_11367; DAI\_EXT\_TF\_E\_11536 |
| ARCH\_SW\_DIA\_0785 | Service 0x19 (Read DTC Information) will be implemented for ReportDTCExtendedDataRecordByDTCNumber (RDTCEDRBDTCN) - 0x06 | Dcm\_Svc19Handler | DAI\_EXT\_TF\_E\_10401;  DAI\_EXT\_TF\_E\_10408;  DAI\_EXT\_TF\_E\_10405;  DAI\_EXT\_TF\_E\_10409;  DAI\_EXT\_TF\_E\_10413;  DAI\_EXT\_TF\_E\_10417;  DAI\_EXT\_TF\_E\_10414;  DAI\_EXT\_TF\_E\_11191;  DAI\_EXT\_TF\_E\_11192;  DAI\_EXT\_TF\_E\_11193;  DAI\_EXT\_TF\_E\_11194 |
| ARCH\_SW\_DIA\_0800 | Service 0x19 (Read DTC Information) will be implemented for ReportDTCFaultDetectionCounte (RDTCFDC) - 0x14 | Dcm\_Svc19Handler | DAI\_EXT\_TF\_E\_10448;  DAI\_EXT\_TF\_E\_10487;  DAI\_EXT\_TF\_E\_10488 |
| ARCH\_SW\_DIA\_0805 | Service 0x31 (Routine Control)  0x31 01 Start  for RID 0x0203 (Check Reprogramming Preconditions) will be implemented | DataServices\_Check\_Reprogramming\_Preconditions\_Routine\_Start | DAI\_EXT\_TF\_E\_11085;  DAI\_EXT\_TF\_E\_11087;  DAI\_EXT\_TF\_E\_11088;  DAI\_EXT\_TF\_E\_11089;  DAI\_EXT\_TF\_E\_11090;  DAI\_EXT\_TF\_E\_11094;  DAI\_EXT\_TF\_E\_11364;  DAI\_EXT\_TF\_E\_11096;  DAI\_EXT\_TF\_E\_11099; DAI\_EXT\_TF\_E\_11499 |
| ARCH\_SW\_DIA\_0815 | Service 0x31 (Routine Control)  0x31 01 Start  for RID 0x0207 (PreCheckProgrammingDependencies) will be implemented | DataServices\_PreCheckProgrammingDependencies\_Start | DAI\_EXT\_TF\_E\_11101;  DAI\_EXT\_TF\_E\_11102;  DAI\_EXT\_TF\_E\_11103;  DAI\_EXT\_TF\_E\_11104;  DAI\_EXT\_TF\_E\_11107;  DAI\_EXT\_TF\_E\_11365;  DAI\_EXT\_TF\_E\_11109;  DAI\_EXT\_TF\_E\_11111 |
| ARCH\_SW\_DIA\_0830 | Service 0x22 (Read Data By Identifier) will be implemented for DID FD30 (Temperature Sensor Calibration Point) | DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_ConditionCheckRead DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_ReadData | DAI\_EXT\_TF\_E\_11540; DAI\_EXT\_TF\_E\_11541; DAI\_EXT\_TF\_E\_11545; DAI\_EXT\_TF\_E\_11548; DAI\_EXT\_TF\_E\_11551 |
| ARCH\_SW\_DIA\_0840 | Service 0x2E (Write Data By Identifier) will be implemented for DID FD30 (Temperature Sensor Calibration Point) | DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_WriteData | DAI\_EXT\_TF\_E\_11555; DAI\_EXT\_TF\_E\_11556; DAI\_EXT\_TF\_E\_11559; DAI\_EXT\_TF\_E\_11562 |
| ARCH\_SW\_DIA\_0845 | Service 0x22 (Read Data By Identifier) will be implemented for DID FDDF (Velocity PI Regulation Coefficient) | DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_ConditionCheckRead DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_ReadData | DAI\_EXT\_TF\_E\_11379; DAI\_EXT\_TF\_E\_11380; DAI\_EXT\_TF\_E\_11384; DAI\_EXT\_TF\_E\_11387; DAI\_EXT\_TF\_E\_11390 |
| ARCH\_SW\_DIA\_0855 | Service 0x2E (Write Data By Identifier) will be implemented for DID FDDF (Velocity PI Regulation Coefficients) | DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_WriteData | DAI\_EXT\_TF\_E\_11396; DAI\_EXT\_TF\_E\_11397; DAI\_EXT\_TF\_E\_11399; DAI\_EXT\_TF\_E\_11402 |
| ARCH\_SW\_DIA\_0860 | Service 0x31 (Routine Control)  0x31 01 Start  for RID 0xF782 (Erase All) will be implemented | RoutineServices\_Routine\_Erase\_All\_Start | DAI\_EXT\_TF\_E\_11439; DAI\_EXT\_TF\_E\_11440; DAI\_EXT\_TF\_E\_11443; DAI\_EXT\_TF\_E\_11446; DAI\_EXT\_TF\_E\_11448 |
| ARCH\_SW\_DIA\_0870 | Service 0x31 (Routine Control)  0x31 01 Start  for RID 0xF791 (External Watchdog Test) will be implemented | RoutineServices\_Routine\_Force\_External\_WDG\_Start | DAI\_EXT\_TF\_E\_11572; DAI\_EXT\_TF\_E\_11573; DAI\_EXT\_TF\_E\_11575; DAI\_EXT\_TF\_E\_11577; DAI\_EXT\_TF\_E\_11579 |
| ARCH\_SW\_DIA\_0880 | Service 0x22 (Read Data By Identifier) will be implemented for DID 0138 (Customer Settings) | DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ConditionCheckRead DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ReadData DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ReadDataLength | DAI\_EXT\_TF\_E\_11523; DAI\_EXT\_TF\_E\_11524; DAI\_EXT\_TF\_E\_11528; DAI\_EXT\_TF\_E\_11531; DAI\_EXT\_TF\_E\_11534; DAI\_EXT\_TF\_E\_11535 |
| ARCH\_SW\_DIA\_0890 | Service 0x22 (Read Data By Identifier) will be implemented for DID 01A2 (Trust Model CSR Supplier Signature) | DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ReadDataLength DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ReadData | DAI\_EXT\_TF\_E\_11410; DAI\_EXT\_TF\_E\_11411; DAI\_EXT\_TF\_E\_11415; DAI\_EXT\_TF\_E\_11418; DAI\_EXT\_TF\_E\_11421; DAI\_EXT\_TF\_E\_11422 |
| ARCH\_SW\_DIA\_0900 | Service 0x2E (Write Data By Identifier) will be implemented for DID 01A2 (Trust Model CSR Supplier Signature) | DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_WriteData | DAI\_EXT\_TF\_E\_11471; DAI\_EXT\_TF\_E\_11472; DAI\_EXT\_TF\_E\_11476; DAI\_EXT\_TF\_E\_11477; DAI\_EXT\_TF\_E\_11478; DAI\_EXT\_TF\_E\_11479 |
| ARCH\_SW\_DIA\_1000 | Service 0x22 (Read Data By Identifier) will be implemented for DID E104 (Calibration Identifications – CAL ID) | DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ConditionCheckRead DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ReadData DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ReadDataLength | DAI\_EXT\_TF\_E\_11426; DAI\_EXT\_TF\_E\_11427; DAI\_EXT\_TF\_E\_11431; DAI\_EXT\_TF\_E\_11434; DAI\_EXT\_TF\_E\_11437 |
| ARCH\_SW\_DIA\_1010 | Service 0x22 (Read Data By Identifier) will be implemented for DID F103 (Vedoc Relevant Information) | DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ConditionCheckRead DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ReadData DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ReadDataLength | DAI\_EXT\_TF\_E\_11452; DAI\_EXT\_TF\_E\_11453; DAI\_EXT\_TF\_E\_11457; DAI\_EXT\_TF\_E\_11460; DAI\_EXT\_TF\_E\_11463; DAI\_EXT\_TF\_E\_11464; DAI\_EXT\_TF\_E\_11465; DAI\_EXT\_TF\_E\_11466 |
| ARCH\_SW\_DIA\_1020 | Service 0x2E (Write Data By Identifier) will be implemented for DID 0340 (Seat Belt Serial Number) | DIA\_runDid0340\_UniqueSeatbeltSerialNumberWrite | DAI\_EXT\_TF\_E\_11487; DAI\_EXT\_TF\_E\_11488; DAI\_EXT\_TF\_E\_11492; DAI\_EXT\_TF\_E\_11493; DAI\_EXT\_TF\_E\_11494 |
| ARCH\_SW\_DIA\_1030 | Service 0x31 (Routine Control)  0x31 01 Start  for RID 0x0211 (Clear Resource Consumption Data) will be implemented | RoutineServices\_Routine\_Clear\_Resource\_Consumption\_Data\_Start\_Start | DAI\_EXT\_TF\_E\_11501; DAI\_EXT\_TF\_E\_11502; DAI\_EXT\_TF\_E\_11504; DAI\_EXT\_TF\_E\_11505; DAI\_EXT\_TF\_E\_11568; DAI\_EXT\_TF\_E\_11570 |

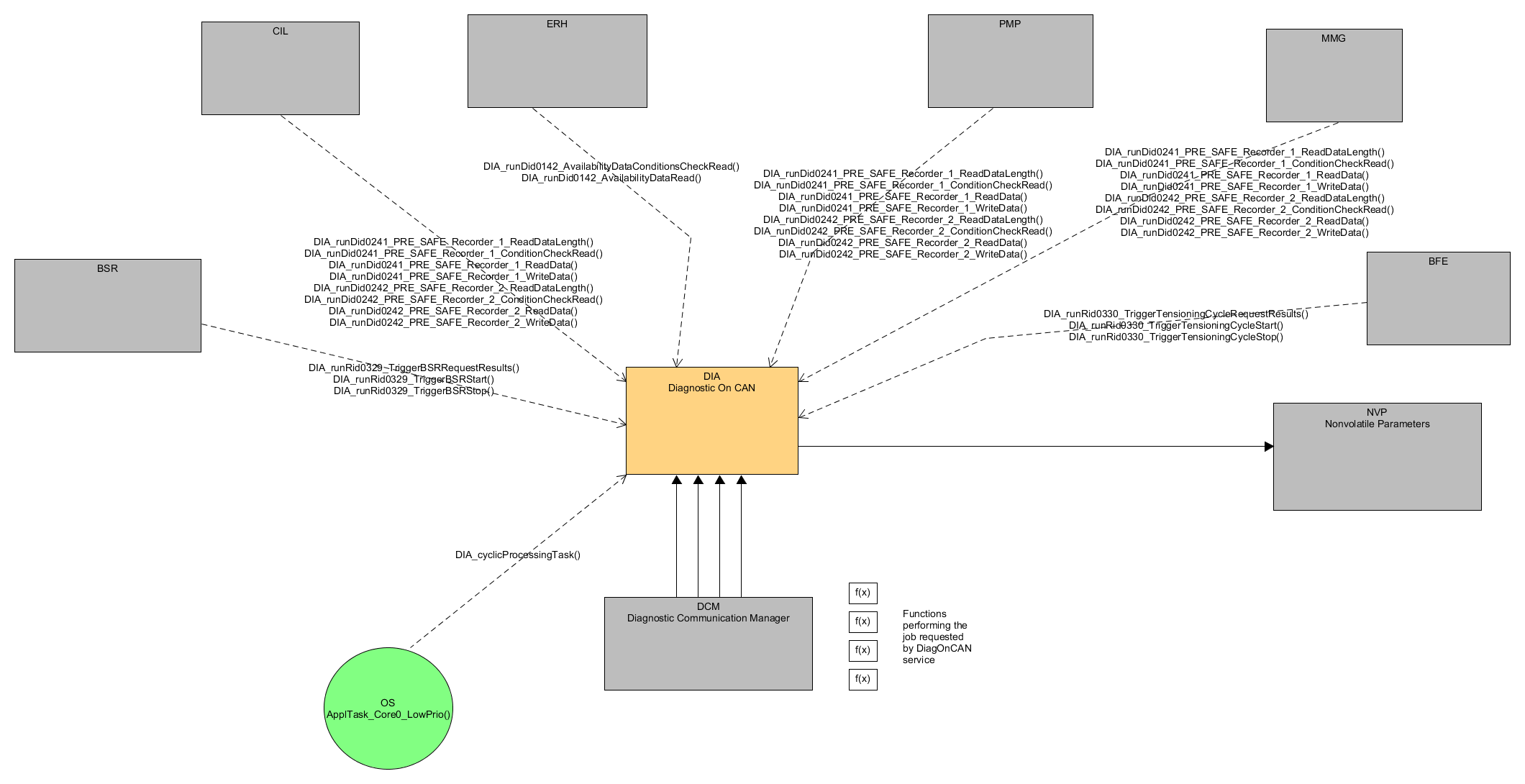
# Description

DIA is intended:

* To handle DiagOnCAN requests delegated by CAN\_DCM according to [A4]
* To prepare the DiagOnCAN answer.

Note:

Some DiagOnCAN services are partially or totally managed at CAN module level.



**Figure 1: DIA – Static description**

## To handle a diagnostic tool request with immediate positive answer

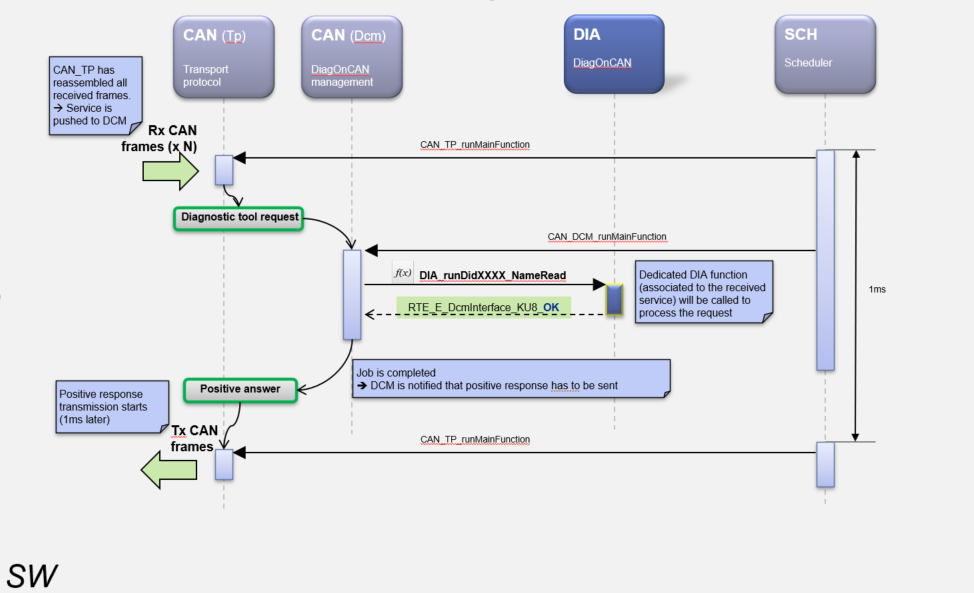
The figure below describes how the SW manages a diagnostic tool request with an immediate positive response.

First of all, the transport protocol will rebuild the complete diagnostic tool request which will be next checked by the CAN\_TP component.

If the request is recognized and the related session and security access is granted then the corresponding DIA function will be called to process the requested job. Once completed, the DIA function will return the positive response code.

This positive response code will be handled by the CAN\_DCM component which will order the transmission of the positive Diagnostic answer to the CAN\_TP.

As shown by the diagram, the real transmission will start 1ms later (next scheduler time-slot).



**Figure 2: DIA – To handle a diagnostic tool request with immediate positive answer**

## To handle a diagnostic tool request with differed positive answer

With specific diagnostic tool requests, the requested job cannot be completed within the expected DiagOnCAN protocol timings constraints.

In this case, the positive response transmission will be put off to the completion of the job.

The next figure describes how the SW manages a diagnostic tool request with a differed positive response.

First of all the transport protocol will rebuild the complete diagnostic tool request which will be next checked by the CAN\_TP component.

If the request is recognized and the related session and security access is granted then the corresponding DIA function will be called to process the requested job.

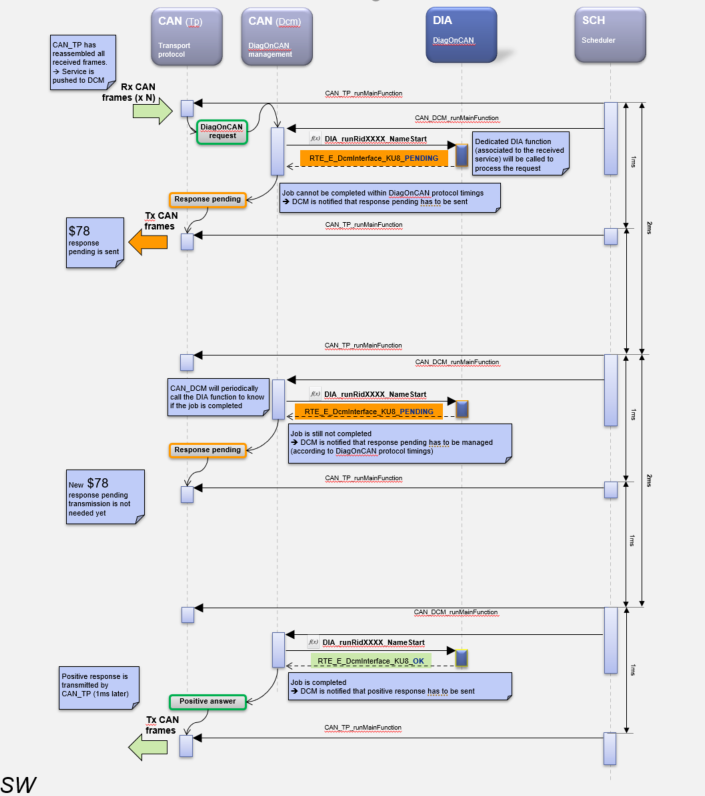
Since the job is too long, the DIA function will return the “response pending” code.

This code will be handled by the CAN\_DCM component which will order the transmission of the “response pending” to the CAN\_TP.

As shown by the diagram, the real transmission will start 1ms later (next scheduler time-slot).

From this point, the DIA function shall be periodically called by the CAN\_DCM component in order to check if the job is completed.

Once the job is completed, the DIA function will notify the CAN\_DCM that positive answer has to be sent (done by CAN\_TP 1ms later).



**Figure 3: DIA – To handle a diagnostic tool request with differed positive answer**

## To answer negative response

A negative response transmission order can be handled by 2 components: CAN\_DCM and DIA.

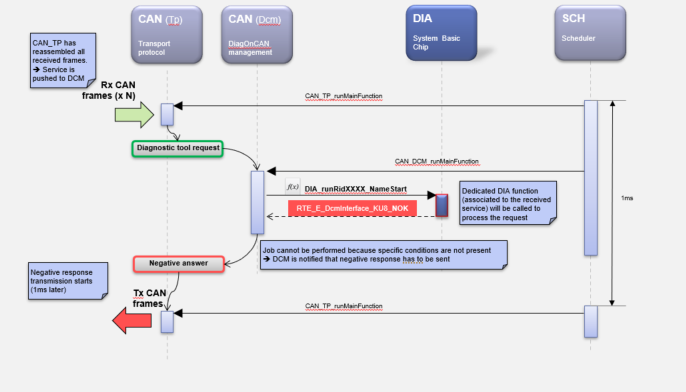
The next figure will only consider the case when the DIA component will order to transmit a negative response.

First of all the transport protocol will rebuild the complete diagnostic tool request which will be next checked by the CAN\_TP component.

If the request is recognized and the related session and security access is granted then the corresponding DIA function will be called to process the requested job.

At DIA function level additional conditions are checked in order to know if the job can be performed or not.

Here one specific condition is missing. In this case, the DIA function will notify the CAN\_DCM that negative response has to be transmitted (done by CAN\_TP 1ms later).



**Figure 4: DIA – To answer negative response**

# Runnables

## DIA\_runDidF18C\_ECUSerialNumberRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC((Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidF18C\_ECUSerialNumberRead**(Dcm\_OpStatusType OpStatus, Uint8 \* pu8Data)) | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pu8Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0000; ARCH\_SW\_DIA\_0051; ARCH\_SW\_DIA\_0052 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0051 | Service should be available in Default and extended session |  | DAI\_EXT\_TF\_E\_8021; DAI\_EXT\_TF\_E\_8022 |
| ARCH\_SW\_DIA\_0052 | NVP\_BLOCK\_ID\_AEE\_TRACEABILITY\_RamBlockData will be read. |  | DAI\_EXT\_TF\_E\_8104; DAI\_EXT\_TF\_E\_8105;  DAI\_EXT\_TF\_E\_8106 |

## DIA\_runDidF18C\_EcuSerialNumberConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidF18C\_EcuSerialNumberConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pu8Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0000; ARCH\_SW\_DIA\_0051; ARCH\_SW\_DIA\_0052 | | | |

## DIA\_runDidF18C\_EcuSerialNumberReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidF18C\_EcuSerialNumberReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| DataLength | Uint12 | Out | Length of DID |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0000; ARCH\_SW\_DIA\_0053 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0053 | Runnable shall set response length to 12 |  | DAI\_EXT\_TF\_E\_8104 |
|  |  |  |  |

## DIA\_runDID0340\_UniqueSeatbeltSerialNumberRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_**r**unDid0340\_UniqueSeatbeltSerialNumberRead (Dcm\_OpStatusType OpStatus, Uint8 \* pu8Data))** | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pu8Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0001; ARCH\_SW\_DIA\_0054; ARCH\_SW\_DIA\_0055 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0054 | The Read Belt Assembly Serial Number shall be available in the following sessions: ⦁Default Session ⦁Extended Session |  | DAI\_EXT\_TF\_E\_8062; DAI\_EXT\_TF\_E\_8063 |
| ARCH\_SW\_DIA\_0055 | Response data length shall be 28 bytes long. |  | DAI\_EXT\_TF\_E\_8102 |

## DIA\_runDid0340\_UniqueSeatbeltSerialNumberConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid0340\_UniqueSeatbeltSerialNumberConditionCheckRead(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode)** | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pu8Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0001; ARCH\_SW\_DIA\_0054; ARCH\_SW\_DIA\_0055 | | | |

## DIA\_runDID0340\_UniqueSeatbeltSerialNumberWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid0340\_UniqueSeatbeltSerialNumberWrite**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0008; ARCH\_SW\_DIA\_0056 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0056 | Response data will corespond to: Unique Seatbelt Serial number, data contained in BELT\_ASSEMBLY\_MANUF\_DATE\_AND\_SN NVM block.  Note edit: block will be written using the 0x2E Write Service. |  | DAI\_EXT\_TF\_E\_8078 |

## DIA\_runDidFD2F\_EcuLocationRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD2F\_EcuLocationRead(Dcm\_OpStatusType\_1 OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data)** | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0002; ARCH\_SW\_DIA\_0062; ARCH\_SW\_DIA\_0063 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0062 | Service should be available in Default and extended session |  | DAI\_EXT\_TF\_E\_8884 |
| ARCH\_SW\_DIA\_0063 | NVP\_BLOCK\_ID\_ECU\_LOCATION\_RamBlockData will be read. |  | DAI\_EXT\_TF\_E\_8895;  DAI\_EXT\_TF\_E\_8894 |

## DIA\_runDidFD10\_CycleConfigurationRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD10\_CycleConfigurationRead(Dcm\_OpStatusType\_1 OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data)** | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0004; ARCH\_SW\_DIA\_0064; ARCH\_SW\_DIA\_0082; ARCH\_SW\_DIA\_0065 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0064 | Service should be available in Development Session |  | DAI\_EXT\_TF\_E\_8150 |
| ARCH\_SW\_DIA\_0082 | Data Length shall be 420 bytes long. |  | DAI\_EXT\_TF\_E\_9524 |
| ARCH\_SW\_DIA\_0065 | NVP\_BLOCK\_ID\_CYCLE0-34\_RamBlockData will be read. |  | DAI\_EXT\_TF\_E\_8167;  DAI\_EXT\_TF\_E\_8168;  DAI\_EXT\_TF\_E\_8169;  DAI\_EXT\_TF\_E\_8170;  DAI\_EXT\_TF\_E\_8171;  DAI\_EXT\_TF\_E\_8172;  DAI\_EXT\_TF\_E\_8173;  DAI\_EXT\_TF\_E\_8174;  DAI\_EXT\_TF\_E\_8175;  DAI\_EXT\_TF\_E\_8176;  DAI\_EXT\_TF\_E\_8177;  DAI\_EXT\_TF\_E\_8178;  DAI\_EXT\_TF\_E\_8179;  DAI\_EXT\_TF\_E\_8180;  DAI\_EXT\_TF\_E\_8181;  DAI\_EXT\_TF\_E\_8182;  DAI\_EXT\_TF\_E\_8183;  DAI\_EXT\_TF\_E\_8184;  DAI\_EXT\_TF\_E\_8185;  DAI\_EXT\_TF\_E\_8186;  DAI\_EXT\_TF\_E\_8187;  DAI\_EXT\_TF\_E\_8188;  DAI\_EXT\_TF\_E\_8189;  DAI\_EXT\_TF\_E\_8190;  DAI\_EXT\_TF\_E\_8191;  DAI\_EXT\_TF\_E\_8192;  DAI\_EXT\_TF\_E\_8193;  DAI\_EXT\_TF\_E\_8194;  DAI\_EXT\_TF\_E\_8195;  DAI\_EXT\_TF\_E\_8196;  DAI\_EXT\_TF\_E\_8528;  DAI\_EXT\_TF\_E\_8527;  DAI\_EXT\_TF\_E\_9525;  DAI\_EXT\_TF\_E\_9526;  DAI\_EXT\_TF\_E\_9527 |

## DIA\_runDidFD10\_CycleConfigurationWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD10\_CycleConfigurationWrite(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode)** | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0005; ARCH\_SW\_DIA\_0066; ARCH\_SW\_DIA\_0084; ARCH\_SW\_DIA\_0067 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0066 | Service should be available in Development Session |  | DAI\_EXT\_TF\_E\_8273 |
| ARCH\_SW\_DIA\_0084 | Data Length shall be 420 bytes long. |  | DAI\_EXT\_TF\_E\_9530 |
| ARCH\_SW\_DIA\_0067 | NVP\_BLOCK\_ID\_CYCLE0-34\_RamBlockData will be Written. |  | DAI\_EXT\_TF\_E\_8276;  DAI\_EXT\_TF\_E\_8277;  DAI\_EXT\_TF\_E\_8278;  DAI\_EXT\_TF\_E\_8279;  DAI\_EXT\_TF\_E\_8280;  DAI\_EXT\_TF\_E\_8281;  DAI\_EXT\_TF\_E\_8282;  DAI\_EXT\_TF\_E\_8283;  DAI\_EXT\_TF\_E\_8284;  DAI\_EXT\_TF\_E\_8285;  DAI\_EXT\_TF\_E\_8286;  DAI\_EXT\_TF\_E\_8287;  DAI\_EXT\_TF\_E\_8288;  DAI\_EXT\_TF\_E\_8289;  DAI\_EXT\_TF\_E\_8290;  DAI\_EXT\_TF\_E\_8291;  DAI\_EXT\_TF\_E\_8292;  DAI\_EXT\_TF\_E\_8293;  DAI\_EXT\_TF\_E\_8294;  DAI\_EXT\_TF\_E\_8295;  DAI\_EXT\_TF\_E\_8296;  DAI\_EXT\_TF\_E\_8297;  DAI\_EXT\_TF\_E\_8298;  DAI\_EXT\_TF\_E\_8299;  DAI\_EXT\_TF\_E\_8300;  DAI\_EXT\_TF\_E\_8301;  DAI\_EXT\_TF\_E\_8302;  DAI\_EXT\_TF\_E\_8303;  DAI\_EXT\_TF\_E\_8304;  DAI\_EXT\_TF\_E\_8305;  DAI\_EXT\_TF\_E\_8557;  DAI\_EXT\_TF\_E\_8558;  DAI\_EXT\_TF\_E\_9531;  DAI\_EXT\_TF\_E\_9532;  DAI\_EXT\_TF\_E\_9533 |

## DIA\_runDidFD2A\_StepsLibraryRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD2A\_StepsLibraryRead(Dcm\_OpStatusType\_1 OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data)** | | | |
| **Object** | | | |
| This function shall provide the belt assembly manufacturer date. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0006; ARCH\_SW\_DIA\_0068; ARCH\_SW\_DIA\_0083; ARCH\_SW\_DIA\_0069 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0068 | Service should be available in Development Session |  | DAI\_EXT\_TF\_E\_8161 |
| ARCH\_SW\_DIA\_0083 | Data Length shall be 1160 bytes long. |  | DAI\_EXT\_TF\_E\_9528 |
| ARCH\_SW\_DIA\_0069 | NVP\_BLOCK\_ID\_STEPS0 -144\_RamBlockData will be read. |  | DAI\_EXT\_TF\_E\_9529 |

## DIA\_runDidFD2A\_StepsLibraryWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD2A\_StepsLibraryWrite(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode)** | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0007; ARCH\_SW\_DIA\_0070; ARCH\_SW\_DIA\_0085; ARCH\_SW\_DIA\_0071 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0070 | Service should be available in Development Session |  | DAI\_EXT\_TF\_E\_8311 |
| ARCH\_SW\_DIA\_0085 | Data Length shall be 1160 bytes long. |  | DAI\_EXT\_TF\_E\_9535 |
| ARCH\_SW\_DIA\_0071 | NVP\_BLOCK\_ID\_STEPS0-144\_RamBlockData will be Written. |  | DAI\_EXT\_TF\_E\_9536 |

## DIA\_runDidFD03\_AEETraceabilityNumberWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD03\_AEETraceabilityNumberWrite(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode)** | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0009; ARCH\_SW\_DIA\_0074; ARCH\_SW\_DIA\_0075 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0074 | Service should be available in Default and extended session |  |  |
| ARCH\_SW\_DIA\_0075 | NVP\_BLOCK\_ID\_AEE\_TRACEABILITY\_RamBlockData will be Written. |  |  |

## DIA\_runDid0244\_PreSafeCounterRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0244\_PreSafeCounterRead(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data)** | | | |
| **Object** | | | |
| This function shall provide the PreSafe Counter data. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0011; ARCH\_SW\_DIA\_0076; ARCH\_SW\_DIA\_0077; ARCH\_SW\_DIA\_0366; ARCH\_SW\_DIA\_0367 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0076 | Service should be available in Default, Extended and Development Session |  | DAI\_EXT\_TF\_E\_8112; DAI\_EXT\_TF\_E\_8113;  DAI\_EXT\_TF\_E\_8118 |
| ARCH\_SW\_DIA\_0077 | NVP\_BLOCK\_ID\_EXECUTION\_COUNTERS\_RamBlockData will be read. |  | DAI\_EXT\_TF\_E\_8119; DAI\_EXT\_TF\_E\_8123;  DAI\_EXT\_TF\_E\_8126;  DAI\_EXT\_TF\_E\_8127; |
| ARCH\_SW\_DIA\_0366 | Bytes 0-1 shall return the “request counter” value |  | DAI\_EXT\_TF\_E\_10221 |
| ARCH\_SW\_DIA\_0367 | Bytes 6-7 shall return the “Max Force counter” value |  | DAI\_EXT\_TF\_E\_10222 |

## DIA\_runDid0244\_PreSafeCounterConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0244\_PreSafeCounterConditionCheckRead(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode)** | | | |
| **Object** | | | |
| This function shall provide condition check read for PreSafe Counter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0011; ARCH\_SW\_DIA\_0076; ARCH\_SW\_DIA\_0077 | | | |

## DIA\_runDid0244\_PreSafeCounterReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0244\_PreSafeCounterReadDataLength(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength)** | | | |
| **Object** | | | |
| This function shall provide the PreSafe Counter data length. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| DataLength | Uint8 | Out | Length of DID |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0011; ARCH\_SW\_DIA\_0078 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0078 | Response data length shall be 8 bytes long |  | DAI\_EXT\_TF\_E\_8115 |

## DIA\_runDid0243\_BSRCounterRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0243\_BSRCounterRead(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data)** | | | |
| **Object** | | | |
| This function shall provide the BSR Counter data. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0012; ARCH\_SW\_DIA\_0079; ARCH\_SW\_DIA\_0080; ARCH\_SW\_DIA\_0081 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0079 | Service should be available in Default, Extended and Development Session. |  | DAI\_EXT\_TF\_E\_8134; DAI\_EXT\_TF\_E\_8135;  DAI\_EXT\_TF\_E\_8136 |
| ARCH\_SW\_DIA\_0080 | Response Data Length shall be 3 bytes. |  | DAI\_EXT\_TF\_E\_8138 |
| ARCH\_SW\_DIA\_0081 | NVP\_BLOCK\_ID\_EXECUTION\_COUNTERS\_RamBlockData.ComfortCounter will be read. |  | DAI\_EXT\_TF\_E\_8139 |

## DIA\_runDid0243\_BSRCounterConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0243\_BSRCounterConditionCheckRead(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode)** | | | |
| **Object** | | | |
| This function shall provide condition check read for BSR Counter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0012; ARCH\_SW\_DIA\_0079; ARCH\_SW\_DIA\_0080; ARCH\_SW\_DIA\_0081 | | | |

## DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType,Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0021 | | | |

## DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0021; ARCH\_SW\_DIA\_0086; ARCH\_SW\_DIA\_0087; ARCH\_SW\_DIA\_0202 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0086 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9339;  DAI\_EXT\_TF\_E\_9340;  DAI\_EXT\_TF\_E\_9341 |
| ARCH\_SW\_DIA\_0087 | Response data shall be 1048 bytes long  From R6.0 Response data shall be 1072 bytes long |  | DAI\_EXT\_TF\_E\_9343 |
| ARCH\_SW\_DIA\_0202 | Data contained in NVP\_BLOCK\_ID\_CYCLE\_0 to NVP\_BLOCK\_ID\_CYCLE\_25 and NVP\_BLOCK\_ID\_STEP\_0 to NVP\_BLOCK\_ID\_STEP\_91 shall be returned |  | DAI\_EXT\_TF\_E\_9518;  DAI\_EXT\_TF\_E\_9345;  DAI\_EXT\_TF\_E\_9346;  DAI\_EXT\_TF\_E\_9347 |
|  |  |  |  |

## DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_PreSafe\_Cycles\_Level\_1\_8\_CombinedSignal\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0022; ARCH\_SW\_DIA\_0088; ARCH\_SW\_DIA\_0089; ARCH\_SW\_DIA\_0203 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0088 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9409;  DAI\_EXT\_TF\_E\_9410;  DAI\_EXT\_TF\_E\_9411 |
| ARCH\_SW\_DIA\_0089 | Request data shall be 1048 bytes long  For R6.0 Request Data shall be 1072 bytes long |  | DAI\_EXT\_TF\_E\_9413 |
| ARCH\_SW\_DIA\_0203 | Blocks NVP\_BLOCK\_ID\_CYCLE\_0 to NVP\_BLOCK\_ID\_CYCLE\_25 and NVP\_BLOCK\_ID\_STEP\_0 to NVP\_BLOCK\_ID\_STEP\_91 shall be written |  | DAI\_EXT\_TF\_E\_9414  DAI\_EXT\_TF\_E\_9415;  DAI\_EXT\_TF\_E\_9416;  DAI\_EXT\_TF\_E\_9417 |
|  |  |  |  |

## DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0023 | | | |

## DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0023; ARCH\_SW\_DIA\_0090; ARCH\_SW\_DIA\_0091; ARCH\_SW\_DIA\_0092 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0090 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9395;  DAI\_EXT\_TF\_E\_9396;  DAI\_EXT\_TF\_E\_9397 |
| ARCH\_SW\_DIA\_0091 | Response data shall be 144 bytes long |  | DAI\_EXT\_TF\_E\_9399 |
| ARCH\_SW\_DIA\_0092 | Data contained in NVP\_BLOCK\_ID\_CYCLE\_29 to NVP\_BLOCK\_ID\_CYCLE\_32 and NVP\_BLOCK\_ID\_STEP\_92 to NVP\_BLOCK\_ID\_STEP\_115 shall be returned |  | DAI\_EXT\_TF\_E\_9400;  DAI\_EXT\_TF\_E\_9401;  DAI\_EXT\_TF\_E\_9403 |

## DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ReadData\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Release\_Cycles\_BSR\_and\_PreSafe\_CombinedSignal\_ReadData\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0024; ARCH\_SW\_DIA\_0093; ARCH\_SW\_DIA\_0094; ARCH\_SW\_DIA\_0095 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0093 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9423;  DAI\_EXT\_TF\_E\_9424;  DAI\_EXT\_TF\_E\_9425 |
| ARCH\_SW\_DIA\_0094 | Request data shall be 144 bytes long |  | DAI\_EXT\_TF\_E\_9427 |
| ARCH\_SW\_DIA\_0095 | Blocks NVP\_BLOCK\_ID\_CYCLE\_29 to NVP\_BLOCK\_ID\_CYCLE\_32 and NVP\_BLOCK\_ID\_STEP\_92 to NVP\_BLOCK\_ID\_STEP\_115 shall be written |  | DAI\_EXT\_TF\_E\_9428;  DAI\_EXT\_TF\_E\_9429;  DAI\_EXT\_TF\_E\_9430 |

## DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0025 | | | |

## DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0025; ARCH\_SW\_DIA\_0096; ARCH\_SW\_DIA\_0097; ARCH\_SW\_DIA\_0098 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0096 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9381;  DAI\_EXT\_TF\_E\_9382;  DAI\_EXT\_TF\_E\_9383 |
| ARCH\_SW\_DIA\_0097 | Response data shall be 228 bytes long  From R6.0 Response data shall be 233 bytes long |  | DAI\_EXT\_TF\_E\_9385 |
| ARCH\_SW\_DIA\_0098 | Data contained in NVP\_BLOCK\_ID\_CYCLE\_26 to NVP\_BLOCK\_ID\_CYCLE\_28 and NVP\_BLOCK\_ID\_STEP\_116 to NVP\_BLOCK\_ID\_STEP\_144 shall be returned |  | DAI\_EXT\_TF\_E\_9386;  DAI\_EXT\_TF\_E\_9389 |

## DataServices\_ Tensioning\_Cycle\_BSR\_CombinedSignal\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Tensioning\_Cycle\_BSR\_CombinedSignal\_WriteData(**P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0026; ARCH\_SW\_DIA\_0099; ARCH\_SW\_DIA\_0100; ARCH\_SW\_DIA\_0101 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0099 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9436;  DAI\_EXT\_TF\_E\_9437;  DAI\_EXT\_TF\_E\_9438 |
| ARCH\_SW\_DIA\_0100 | Request data shall be 228 bytes long For R6.0 Request Data shall be 233 bytes long |  | DAI\_EXT\_TF\_E\_9440 |
| ARCH\_SW\_DIA\_0101 | Blocks NVP\_BLOCK\_ID\_CYCLE\_26 to NVP\_BLOCK\_ID\_CYCLE\_28 and NVP\_BLOCK\_ID\_STEP\_116 to NVP\_BLOCK\_ID\_STEP\_144 shall be written |  | DAI\_EXT\_TF\_E\_9441;  DAI\_EXT\_TF\_E\_9442 |

## DIA\_runDid0310\_VehicleEquipment\_ConditionCheckRead

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType,Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType,Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_****Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType,Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

### DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType,Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027 | | | |

## DIA\_runDid0310\_VehicleEquipment\_ReadData

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0102; ARCH\_SW\_DIA\_0103; ARCH\_SW\_DIA\_0104; ARCH\_SW\_DIA\_0368 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0102 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9367;  DAI\_EXT\_TF\_E\_9368;  DAI\_EXT\_TF\_E\_9369 |
| ARCH\_SW\_DIA\_0103 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0104 | Data returned shall represent Equipment 1 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment1 |  | DAI\_EXT\_TF\_E\_9496;  DAI\_EXT\_TF\_E\_9497 |
| ARCH\_SW\_DIA\_0368 | Byte 0 shall represent Equipment 1, byte encoded as follows: Byte0\_bit0 – Configuration of Left right hand drive (steering style of the vehicle)  0x00 – right hand drive  0x01 – left hand drive [Default]  Byte0\_bit1 – Activation / Deactivation of BSR  0x00 – yes – enabled [Default]  0x01 – no – disabled  Byte0\_bit2 – Belt Handover ngagedngy  0x00 – yes – Belt hand over available  0x01 – no – Belt hand over not available [Default]  Byte0\_bit3 – Reserved [Default = 0x00]  Byte0\_bit4 – Activation / Deactivation Haptic Warning left  0x00 – yes – enabled [Default]  0x01 – no – disabled  Byte0\_bit5 – Activation / Deactivation Haptic Warning right  0x00 – yes – enabled  0x01 – no – disabled [Default]  Byte0\_bit6 - Activation / Deactivation of Service Provider (API)  0x00 – yes – enabled [Default]  0x01 – no – disabled  Byte0\_bit7 – Reserved [Default=0x00] |  | DAI\_EXT\_TF\_E\_10223 |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0108; ARCH\_SW\_DIA\_0109 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0108 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0109 | Data returned shall represent Equipment 2 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment2 |  | DAI\_EXT\_TF\_E\_9498  DAI\_EXT\_TF\_E\_9499 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0112; ARCH\_SW\_DIA\_0113 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0112 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0113 | Data returned shall represent Equipment 3 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment3 |  | DAI\_EXT\_TF\_E\_9500;  DAI\_EXT\_TF\_E\_9501 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0116; ARCH\_SW\_DIA\_0117 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0116 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0117 | Data returned shall represent Equipment 4 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment4 |  | DAI\_EXT\_TF\_E\_9502;  DAI\_EXT\_TF\_E\_9503 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0120; ARCH\_SW\_DIA\_0121 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0120 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0121 | Data returned shall represent Equipment 5 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment5 |  | DAI\_EXT\_TF\_E\_9504;  DAI\_EXT\_TF\_E\_9505 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0124; ARCH\_SW\_DIA\_0125 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0124 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0125 | Data returned shall represent Equipment 6 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment6 |  | DAI\_EXT\_TF\_E\_9506;  DAI\_EXT\_TF\_E\_9507 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0128; ARCH\_SW\_DIA\_0129 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0128 | Response data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0129 | Data returned shall represent Uberspannungsabbruchschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Uberspannungsabbruchschwelle |  | DAI\_EXT\_TF\_E\_9510;  DAI\_EXT\_TF\_E\_9511 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0132; ARCH\_SW\_DIA\_0133 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0132 | Response data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0133 | Data returned shall represent Uberspannungsbereichsschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Uberspannungsbereichsschwelle |  | DAI\_EXT\_TF\_E\_9512;  DAI\_EXT\_TF\_E\_9513 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0136; ARCH\_SW\_DIA\_0137 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0136 | Response data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0137 | Data returned shall represent Überspannungsbereichsschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Überspannungsbereichsschwelle |  | DAI\_EXT\_TF\_E\_9514;  DAI\_EXT\_TF\_E\_9515 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0027; ARCH\_SW\_DIA\_0140; ARCH\_SW\_DIA\_0141 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0140 | Response data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0141 | Data returned shall represent Überspannungsabbruchschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Überspannungsabbruchschwelle |  | DAI\_EXT\_TF\_E\_9516;  DAI\_EXT\_TF\_E\_9517 |
|  |  |  |  |

## DIA\_runDid0310\_VehicleEquipment\_WriteData

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_****Vehicle\_Equipment\_Read\_Equipment\_1\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0105; ARCH\_SW\_DIA\_0106; ARCH\_SW\_DIA\_0107; ARCH\_SW\_DIA\_0393 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0105 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9448;  DAI\_EXT\_TF\_E\_9449;  DAI\_EXT\_TF\_E\_9450 |
| ARCH\_SW\_DIA\_0106 | Request data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9452 |
| ARCH\_SW\_DIA\_0107 | Runnable shall write Equipment 1 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment1 |  | DAI\_EXT\_TF\_E\_9453;  DAI\_EXT\_TF\_E\_9465 |
| ARCH\_SW\_DIA\_0393 | The new data written by Vehicle Equipment Configuration Data service (0x2E 0310) shall be stored in non-volatile memoy and shall be available only after reset. |  | DAI\_EXT\_TF\_E\_10253 |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_2\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0110; ARCH\_SW\_DIA\_0111 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0110 | Request data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9452 |
| ARCH\_SW\_DIA\_0111 | Runnable shall write Equipment 2 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment2 |  | DAI\_EXT\_TF\_E\_9467;  DAI\_EXT\_TF\_E\_9468 |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_3\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0114 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0114 | Request data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9452 |
| ARCH\_SW\_DIA\_0115 | Runnable shall write Equipment 3 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment3 |  | DAI\_EXT\_TF\_E\_9469;  DAI\_EXT\_TF\_E\_9470 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_4\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0118; ARCH\_SW\_DIA\_0119 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0118 | Request data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9452 |
| ARCH\_SW\_DIA\_0119 | Runnable shall write Equipment 4 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment4 |  | DAI\_EXT\_TF\_E\_9471;  DAI\_EXT\_TF\_E\_9472 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_5\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0122; ARCH\_SW\_DIA\_0123 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0122 | Request data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9452 |
| ARCH\_SW\_DIA\_0123 | Runnable shall write Equipment 5 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment5 |  | DAI\_EXT\_TF\_E\_9473;  DAI\_EXT\_TF\_E\_9474 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Equipment\_6\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Equipment\_1\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0126; ARCH\_SW\_DIA\_0127 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0126 | Request data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9452 |
| ARCH\_SW\_DIA\_0127 | Runnable shall write Equipment 6 stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment.Equipment6 |  | DAI\_EXT\_TF\_E\_9475;  DAI\_EXT\_TF\_E\_9476 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsabbruchschwelle\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0130; ARCH\_SW\_DIA\_0131 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0130 | Request data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0131 | Runanble shall write Uberspannungsabbruchschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Uberspannungsabbruchschwelle |  | DAI\_EXT\_TF\_E\_9479;  DAI\_EXT\_TF\_E\_9480 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Uberspannungsbereichsschwelle\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0134; ARCH\_SW\_DIA\_0135 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0134 | Request data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0135 | Runanble shall write Uberspannungsbereichsschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Uberspannungsbereichsschwelle |  | DAI\_EXT\_TF\_E\_9481;  DAI\_EXT\_TF\_E\_9482 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsabbruchschwelle\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0138; ARCH\_SW\_DIA\_0139 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0138 | Request data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0139 | Runanble shall write Unterspannungsabbruchschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Unterspannungsabbruchschwelle |  | DAI\_EXT\_TF\_E\_9483;  DAI\_EXT\_TF\_E\_9484 |
|  |  |  |  |

### DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Vehicle\_Equipment\_Read\_Unterspannungsbereichsschwelle\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0028; ARCH\_SW\_DIA\_0142; ARCH\_SW\_DIA\_0143 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0142 | Request data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0143 | Runanble shall write Unterspannungsbereichsschwelle stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_VehicleEquipment. Unterspannungsbereichsschwelle |  | DAI\_EXT\_TF\_E\_9487;  DAI\_EXT\_TF\_E\_9488 |
|  |  |  |  |

## DIA\_runDid0311\_VehicleEquipmentDevelopment\_ConditionCheckRead

### DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType,Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_****ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0029 | | | |

### DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType,Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0029 | | | |

## DIA\_runDid0311\_VehicleEquipmentDevelopment\_ReadData

### DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_****ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0029; ARCH\_SW\_DIA\_0150; ARCH\_SW\_DIA\_0151 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0150 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9357 |
| ARCH\_SW\_DIA\_0151 | Data returned shall represent Zykluszeit Messtechnikstored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_ZZZ\_VehicleEquipment\_Development. Zykluszeit\_Messtechnik |  | DAI\_EXT\_TF\_E\_9494 |
|  |  |  |  |

### DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0029; ARCH\_SW\_DIA\_0144; ARCH\_SW\_DIA\_0145; ARCH\_SW\_DIA\_0146 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0144 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9353;  DAI\_EXT\_TF\_E\_9354;  DAI\_EXT\_TF\_E\_9355 |
| ARCH\_SW\_DIA\_0145 | Response data shall be 2 bytes long |  | DAI\_EXT\_TF\_E\_9357 |
| ARCH\_SW\_DIA\_0146 | Data returned shall represent Bitfield stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_ZZZ\_VehicleEquipment\_Development.Bitfield |  | DAI\_EXT\_TF\_E\_9492;  DAI\_EXT\_TF\_E\_9493 |

## DIA\_runDid0311\_VehicleEquipmentDevelopment\_WriteData

### DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Zykluszeit\_Messtechnik\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0030; ARCH\_SW\_DIA\_0152; ARCH\_SW\_DIA\_0153; ARCH\_SW\_DIA\_0394; ARCH\_SW\_DIA\_0507 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0152 | Request data shall be 3 byte long |  | DAI\_EXT\_TF\_E\_9463 |
| ARCH\_SW\_DIA\_0153 | Runnable shall write Zykluszeit Messtechnik stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_ZZZ\_VehicleEquipment\_Development. Zykluszeit\_Messtechnik |  | DAI\_EXT\_TF\_E\_9490 |
| ARCH\_SW\_DIA\_0394 | The new data written by Vehicle Equipment Configuration Data service (0x2E 0311) shall be stored in non-volatile memoy and shall be available only after reset. |  | DAI\_EXT\_TF\_E\_10255 |
| ARCH\_SW\_DIA\_0507 | Byte 0: Reserved (shall not be used)  -----------------------------------------------  Byte1\_bit0 - Activation/deactivation of PRE-SAFE function  0x00 - yes - PRE-SAFE function activated  0x01 - no - PRE-SAFE function not activated  Byte1\_bit1 - Activation/deactivation of Display message (signal RBTM\_xy\_Disp\_Rq\_ST3)  0x00 - yes - Display message activated  0x01 - no - Display message not activated  Byte1\_bit2 - Activation / deactivation of counter limit.  0x00 - yes - counter limit deactivated  0x01 - no - counter limit activated  Byte1\_bit3 - CRC Fault monitoring  0x00 - yes - deactivated  0x01 - no - Activated    Byte1\_bits4-7: Reserved  -----------------------------------------------  Byte 2: Reserved (shall not be used) |  | DAI\_EXT\_TF\_E\_10254 |

### DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_WriteData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_ZZZ\_Vehicle\_Equipment\_Development\_Read\_Bitfield\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write NVP parameter about serial number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0030; ARCH\_SW\_DIA\_0147; ARCH\_SW\_DIA\_0148; ARCH\_SW\_DIA\_0149 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0147 | Service shall be available in Default, Extended and Development session |  | DAI\_EXT\_TF\_E\_9459;  DAI\_EXT\_TF\_E\_9460;  DAI\_EXT\_TF\_E\_9461 |
| ARCH\_SW\_DIA\_0148 | Request data shall be 3 byte long |  | DAI\_EXT\_TF\_E\_9463 |
| ARCH\_SW\_DIA\_0149 | Runnable shall write Bitfield stored in Rte\_Ct\_MBBL\_SsaAppl\_Coding\_ZZZ\_VehicleEquipment\_Development.Bitfield |  | DAI\_EXT\_TF\_E\_9464;  DAI\_EXT\_TF\_E\_9489 |

## DIA\_runDidFD08\_ResetCauseManagementRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD08\_ResetCauseManagementRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0031; ARCH\_SW\_DIA\_0154; ARCH\_SW\_DIA\_0155; ARCH\_SW\_DIA\_0156 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0154 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8660 |
| ARCH\_SW\_DIA\_0155 | Response data shall be 1 byte long |  | DAI\_EXT\_TF\_E\_9371 |
| ARCH\_SW\_DIA\_0156 | Response shall return Last SW Reset Cause |  | DAI\_EXT\_TF\_E\_8670;  DAI\_EXT\_TF\_E\_8671;  DAI\_EXT\_TF\_E\_8672;  DAI\_EXT\_TF\_E\_8673;  DAI\_EXT\_TF\_E\_8674;  DAI\_EXT\_TF\_E\_8675;  DAI\_EXT\_TF\_E\_8676;  DAI\_EXT\_TF\_E\_8677;  DAI\_EXT\_TF\_E\_8678;  DAI\_EXT\_TF\_E\_8679;  DAI\_EXT\_TF\_E\_8680;  DAI\_EXT\_TF\_E\_8681;  DAI\_EXT\_TF\_E\_8682;  DAI\_EXT\_TF\_E\_8683;  DAI\_EXT\_TF\_E\_8684;  DAI\_EXT\_TF\_E\_8685;  DAI\_EXT\_TF\_E\_8686;  DAI\_EXT\_TF\_E\_8687;  DAI\_EXT\_TF\_E\_8688;  DAI\_EXT\_TF\_E\_8689;  DAI\_EXT\_TF\_E\_8690 |

## DIA\_runDidFD08\_ResetCauseManagementConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD08\_ResetCauseManagementConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0031 | | | |

## DIA\_runDidFD09\_LastWarmResetRead\_LastDetectedWarmResetCause

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_****runDidFD09\_LastWarmResetRead\_LastDetectedWarmResetCause**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0032; ARCH\_SW\_DIA\_0157; ARCH\_SW\_DIA\_0158; ARCH\_SW\_DIA\_0159 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0157 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8629 |
| ARCH\_SW\_DIA\_0158 | Response data shall be 4 bytes long |  | DAI\_EXT\_TF\_E\_8640; |
| ARCH\_SW\_DIA\_0159 | Response shall return Last Detected Warm Reset Cause |  | DAI\_EXT\_TF\_E\_8640;  DAI\_EXT\_TF\_E\_8641;  DAI\_EXT\_TF\_E\_8642;  DAI\_EXT\_TF\_E\_8643;  DAI\_EXT\_TF\_E\_8644;  DAI\_EXT\_TF\_E\_8645;  DAI\_EXT\_TF\_E\_8646;  DAI\_EXT\_TF\_E\_8647;  DAI\_EXT\_TF\_E\_8648;  DAI\_EXT\_TF\_E\_8649;  DAI\_EXT\_TF\_E\_8650;  DAI\_EXT\_TF\_E\_8651;  DAI\_EXT\_TF\_E\_8652;  DAI\_EXT\_TF\_E\_8655;  DAI\_EXT\_TF\_E\_8654 |

## DIA\_runDidFD09\_LastWarmReseConditionCheckRead\_LastDetectedWarmResetCause

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD09\_LastWarmReseConditionChecktRead\_LastDetectedWarmResetCause**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0032 | | | |

## DIA\_runDidFD09\_LastWarmResetRead\_ResetCauseCounter

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD09\_LastWarmResetRead\_ResetCauseCounter**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0032; ARCH\_SW\_DIA\_0160; ARCH\_SW\_DIA\_0161 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0160 | Response data shall be 4 bytes long |  | DAI\_EXT\_TF\_E\_8653 |
| ARCH\_SW\_DIA\_0161 | Response shall return Reset Cause Counter |  | DAI\_EXT\_TF\_E\_8653;  DAI\_EXT\_TF\_E\_8656 |
|  |  |  |  |

## DIA\_runDidFD09\_LastWarmResetConditionCheckRead\_ResetCauseCounter

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_****runDidFD09\_LastWarmResetConditionCheckRead\_ResetCauseCounter**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0032 | | | |

## DIA\_runDidFD31\_HBCalibrationRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD31\_HBCalibrationRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0033; ARCH\_SW\_DIA\_0162; ARCH\_SW\_DIA\_0163; ARCH\_SW\_DIA\_0164 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0162 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8829 |
| ARCH\_SW\_DIA\_0163 | Response data shall be 40 bytes long |  | DAI\_EXT\_TF\_E\_8841 |
| ARCH\_SW\_DIA\_0164 | Response data shall return HB Calibration parameters stored in NVP\_BLOCK\_ID\_HB\_CALIBRATION |  | DAI\_EXT\_TF\_E\_8841;  DAI\_EXT\_TF\_E\_8842;  DAI\_EXT\_TF\_E\_8843;  DAI\_EXT\_TF\_E\_8844;  DAI\_EXT\_TF\_E\_8845 |

## DIA\_runDidFD31\_HBCalibrationWriteConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD31\_HBCalibrationWriteConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0033 | | | |

## DIA\_runDidFE00\_AECStatusRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFE00\_AECStatusRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0035; ARCH\_SW\_DIA\_0165; ARCH\_SW\_DIA\_0166 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0165 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8694 |
| ARCH\_SW\_DIA\_0166 | Response data shall return AEC\_ID\_X and Status\_X of said AEC |  | DAI\_EXT\_TF\_E\_8707;  DAI\_EXT\_TF\_E\_8708;  DAI\_EXT\_TF\_E\_8705 |
|  |  |  |  |

## DIA\_runDidFE00\_AECStatusConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFE00\_AECStatusConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0035 | | | |

## DIA\_runDidFE00\_AECStatusReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFE00\_AECStatusReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| DataLength | Uint168 | Out | Length of DID |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0035; ARCH\_SW\_DIA\_0167 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0167 | Runnable shall set response length to 168 |  | DAI\_EXT\_TF\_E\_8710 |
|  |  |  |  |

## DIA\_runDidFEFF\_MeasurementFrameConfigurationRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFEFF\_MeasuruementFrameConfigurationRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0036; ARCH\_SW\_DIA\_0168; ARCH\_SW\_DIA\_0169; ARCH\_SW\_DIA\_0170 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0168 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8714 |
| ARCH\_SW\_DIA\_0169 | Response data shall be 4 bytes long |  | DAI\_EXT\_TF\_E\_8725 |
| ARCH\_SW\_DIA\_0170 | Response shall return Timing and Block Config stored in NVP\_BLOCK\_ID\_MEASUREMENT\_FRAME\_CONFIG |  | DAI\_EXT\_TF\_E\_8726;  DAI\_EXT\_TF\_E\_8728;  DAI\_EXT\_TF\_E\_8729 |

## DIA\_runDidFEFF\_MeasurementFrameConfigurationConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFEFF\_MeasuruementFrameConfigurationConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeesponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| . | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0036 | | | |

## DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0037; ARCH\_SW\_DIA\_0171; ARCH\_SW\_DIA\_0172; ARCH\_SW\_DIA\_0173 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0171 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8733 |
| ARCH\_SW\_DIA\_0172 | Response data shall be 5 bytes long |  | DAI\_EXT\_TF\_E\_8745 |
| ARCH\_SW\_DIA\_0173 | Response shall return Ram Address and Size stored in NVP\_BLOCK\_ID\_MEASUREMENT\_FRAME\_12\_CONFIG |  | DAI\_EXT\_TF\_E\_8746;  DAI\_EXT\_TF\_E\_8747;  DAI\_EXT\_TF\_E\_8748 |

## DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0037 | | | |

## DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFDFF\_MeasurementFrameBlock12ConfigWrite**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0039; ARCH\_SW\_DIA\_0174; ARCH\_SW\_DIA\_0175 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0174 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_9081 |
| ARCH\_SW\_DIA\_0175 | Request data shall be 5 bytes long |  | DAI\_EXT\_TF\_E\_8745 |
| ARCH\_SW\_DIA\_0176 | Runnable shall write Ram Address and Size stored in NVP\_BLOCK\_ID\_MEASUREMENT\_FRAME\_12\_CONFIG |  | DAI\_EXT\_TF\_E\_9095;  DAI\_EXT\_TF\_E\_9096;  DAI\_EXT\_TF\_E\_9097;  DAI\_EXT\_TF\_E\_9098;  DAI\_EXT\_TF\_E\_9099 |

## DIA\_runSid23\_ReadMemoryByAddress

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runSid23\_ReadMemoryByAddress** (Dcm\_OpStatusType OpStatus, uint8 MemoryIdentifier, uint32 MemoryAddress, uint32 MemorySize, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) MemoryData, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | OperationStatus response code (if applicable) |
| MemoryIdentifier | Uint8 | In | Address and Length format identifier |
| MemoryAddress | Uint32 | In | Address to read from |
| MemorySize | Uint32 | In | Size to read |
| MemoryData | Array of unsigned 8-bits | Out | Buffer to put read data into |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0040; ARCH\_SW\_DIA\_0177; ARCH\_SW\_DIA\_0178; ARCH\_SW\_DIA\_0179; ARCH\_SW\_DIA\_0180; ARCH\_SW\_DIA\_0181; ARCH\_SW\_DIA\_0182 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0177 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8918 |
| ARCH\_SW\_DIA\_0178 | Runnable shall return data with the length of maximum 300 byes |  | DAI\_EXT\_TF\_E\_8931 |
| ARCH\_SW\_DIA\_0179 | MemoryIdentifier shall represent Address and Length format identifier |  | DAI\_EXT\_TF\_E\_8933;  DAI\_EXT\_TF\_E\_8934;  DAI\_EXT\_TF\_E\_8935;  DAI\_EXT\_TF\_E\_8936 |
| ARCH\_SW\_DIA\_0180 | MemoryAddress shall represent the address to read from |  | DAI\_EXT\_TF\_E\_8937 |
| ARCH\_SW\_DIA\_0181 | MemorySize shall represent the size to read |  | DAI\_EXT\_TF\_E\_8938;  DAI\_EXT\_TF\_E\_8939;  DAI\_EXT\_TF\_E\_8942 |
| ARCH\_SW\_DIA\_0182 | MemoryData shall return data to be read with parameters above |  | DAI\_EXT\_TF\_E\_8940;  DAI\_EXT\_TF\_E\_8941 |

## DIA\_runSid3D\_WriteMemoryByAddress

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runSid3D\_WriteMemoryByAddress** (Dcm\_OpStatusType OpStatus, uint8 MemoryIdentifier, uint32 MemoryAddress, uint32 MemorySize, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) MemoryData, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | OperationStatus response code (if applicable) |
| MemoryIdentifier | Uint8 | In | Address and Length format identifier |
| MemoryAddress | Uint32 | In | Address to write to |
| MemorySize | Uint32 | In | Size to write |
| MemoryData | Array of unsigned 8-bits | In | Buffer of data to be written |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0041; ARCH\_SW\_DIA\_0183; ARCH\_SW\_DIA\_0184; ARCH\_SW\_DIA\_0185; ARCH\_SW\_DIA\_0186; ARCH\_SW\_DIA\_0187 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0183 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_9205 |
| ARCH\_SW\_DIA\_0184 | MemoryIdentifier shall represent Address and Length format identifier |  | DAI\_EXT\_TF\_E\_9217;  DAI\_EXT\_TF\_E\_9218;  DAI\_EXT\_TF\_E\_9223 |
| ARCH\_SW\_DIA\_0185 | MemoryAddress shall represent the address to write to |  | DAI\_EXT\_TF\_E\_9219;  DAI\_EXT\_TF\_E\_9224 |
| ARCH\_SW\_DIA\_0186 | MemorySize shall represent the size to write |  | DAI\_EXT\_TF\_E\_9220;  DAI\_EXT\_TF\_E\_9221;  DAI\_EXT\_TF\_E\_9225;  DAI\_EXT\_TF\_E\_9226 |
| ARCH\_SW\_DIA\_0187 | New R8.1 Feature:  MemoryAddress also works with the EEPROM Alias.  Hence, the MemoryAddress range for the EEPROM Alias is between: 0xEE000000 - 0xFF000000  EEPROM Alias for each block can be taken from the NVP Excel file on the column U from Dynamic EEPROM.  There are in total 27 Blocks that can be modified via the EEPROM Alias.  When writing to an EEPROM Alias Block, the Request should look like this:  3D 24 **EE 12 00 00** 00 01 9C  Legend:  **EEPROM ALIAS BLOCK ADDRESS**  Data  Note: Service 3D supports from DCM several other ALFIDs (Address and Length Format Identifiers).  For example, if you want to write 1 byte length of Data the request should be:  3D 14 EE 12 00 00 01 9C  Only works via Raw Request. |  | DAI\_EXT\_TF\_E\_9222 |

## DIA\_runRidF703\_CycleExecutionStart

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRidF703\_CycleExecutionStart**(Dcm\_StartDataIn\_Routine\_Cycle\_Execution\_Start\_CycleType Cycle, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Cycle\_Execution\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Cycle | Uint8 | In | Requested Cycle |
| routineInfo | Uint8 \* | Out | Routine status |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0013; ARCH\_SW\_DIA\_0188; ARCH\_SW\_DIA\_0189; ARCH\_SW\_DIA\_0190 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0188 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8946 |
| ARCH\_SW\_DIA\_0189 | The RoutineControlOptionRecord shall reflect the selected cycle |  | DAI\_EXT\_TF\_E\_8968 |
| ARCH\_SW\_DIA\_0190 | RoutineInfo can have the following values: 0x00, 0x01, 0x02 and 0xFF |  | DAI\_EXT\_TF\_E\_8997 |

## DIA\_runRidF703\_CycleExecutionStop

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRidF703\_CycleExecutionStop**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StopDataOut\_Routine\_Cycle\_Execution\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0014; ARCH\_SW\_DIA\_0191 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0191 | Service shall be available in Development session |  | DAI\_EXT\_TF\_E\_8946 |
|  |  |  |  |
|  |  |  |  |

## DIA\_runRid0329\_TriggerBSRStart

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRid0329\_TriggerBSRStart**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Trigger\_BSR\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_StartDataOut\_Routine\_Trigger\_BSR\_Start\_ResultType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Result, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Result | Uint8 \* | Out | Result of request |
| routineInfo | Uint8 \* | Out | Routine status |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0015; ARCH\_SW\_DIA\_0192; ARCH\_SW\_DIA\_0193 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0192 | Service shall be available in Extended and Development session |  | DAI\_EXT\_TF\_E\_9308;  DAI\_EXT\_TF\_E\_9309 |
| ARCH\_SW\_DIA\_0193 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_9317;  DAI\_EXT\_TF\_E\_9318;  DAI\_EXT\_TF\_E\_9319 |
|  |  |  |  |

## DIA\_runRid0329\_TriggerBSRStop

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRid0329\_TriggerBSRStop**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StopDataOut\_Routine\_Trigger\_BSR\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0016; ARCH\_SW\_DIA\_0194 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0194 | Service shall be available in Extended and Development session |  | DAI\_EXT\_TF\_E\_9308;  DAI\_EXT\_TF\_E\_9309 |
|  |  |  |  |
|  |  |  |  |

## DIA\_runRid0329\_TriggerBSRRequestResults

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRid0329\_TriggerBSRRequestResults**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_RequestDataOut\_Routine\_Trigger\_BSR\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_RequestDataOut\_Routine\_Trigger\_BSR\_Start\_ResultType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Result, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| Result | Uint8 \* | Out | Result of request |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0017; ARCH\_SW\_DIA\_0195; ARCH\_SW\_DIA\_0196 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0195 | Service shall be available in Extended and Development session |  | DAI\_EXT\_TF\_E\_9308;  DAI\_EXT\_TF\_E\_9309 |
| ARCH\_SW\_DIA\_0196 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_9330;  DAI\_EXT\_TF\_E\_9331;  DAI\_EXT\_TF\_E\_9332 |
|  |  |  |  |

## DIA\_runRid0330\_TriggerTensioningCycleStart

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRid0330\_TriggerTensioningCycleStart**(Dcm\_StartDataIn\_Routine\_Trigger\_Tensioning\_Cycle\_Start\_Type\_of\_tensioning\_cycleType Type\_of\_tensioning\_cycle, Dcm\_StartDataIn\_Routine\_Trigger\_Tensioning\_Cycle\_Start\_PreSafe\_DurationType PreSafe\_Duration, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Trigger\_Tensioning\_Cycle\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_StartDataOut\_Routine\_Trigger\_Tensioning\_Cycle\_Start\_ResultType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Result, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Type\_of\_tensioning\_cycle | Uint8 | In | Type of cycle to trigger |
| PreSafe\_Duration | Uint8 | In | Duration |
| Result | Uint8 \* | Out | Result of request |
| routineInfo | Uint8 \* | Out | Routine status |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0019; ARCH\_SW\_DIA\_0197; ARCH\_SW\_DIA\_0198; ARCH\_SW\_DIA\_0199; ARCH\_SW\_DIA\_0200 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0197 | Service shall be available in Extended and Development session |  | DAI\_EXT\_TF\_E\_8555;  DAI\_EXT\_TF\_E\_8556 |
| ARCH\_SW\_DIA\_0198 | Type of Tensioning Cycle shall accept only values between 0x01 and 0x05. |  | DAI\_EXT\_TF\_E\_8521 |
| ARCH\_SW\_DIA\_0199 | Presafe Duration shall determine the time of the tensioning cycle |  | DAI\_EXT\_TF\_E\_8522 |
| ARCH\_SW\_DIA\_0200 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_8524;  DAI\_EXT\_TF\_E\_8525;  DAI\_EXT\_TF\_E\_8526 |

## DIA\_runRid0330\_TriggerTensioningCycleStop

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRid0330\_TriggerTensioningCycleStop**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StopDataOut\_Routine\_Trigger\_Tensioning\_Cycle\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0018; ARCH\_SW\_DIA\_0201 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0201 | Service shall be available in Extended and Development session |  | DAI\_EXT\_TF\_E\_8555;  DAI\_EXT\_TF\_E\_8556 |
|  |  |  |  |
|  |  |  |  |

## DIA\_runRid0330\_TriggerTensioningCycleRequestResults

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runRid0330\_TriggerTensioningCycleRequestResults**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_RequestDataOut\_Routine\_Trigger\_Tensioning\_Cycle\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_RequestDataOut\_Routine\_Trigger\_Tensioning\_Cycle\_Start\_ResultType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Result, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| Result | Uint8 \* | Out | Result of request |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0020; ARCH\_SW\_DIA\_0204; ARCH\_SW\_DIA\_0205 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0204 | Service shall be available in Extended and Development session |  | DAI\_EXT\_TF\_E\_8555;  DAI\_EXT\_TF\_E\_8556 |
| ARCH\_SW\_DIA\_0205 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_8549;  DAI\_EXT\_TF\_E\_8550;  DAI\_EXT\_TF\_E\_8551 |
|  |  |  |  |

## DIA\_runRid0302\_TriggerPresafeDisplayRequestRequestResults

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runRid0302\_TriggerPresafeDisplayRequestRequestResults**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_RequestDataOut\_Routine\_Trigger\_Presafe\_Display\_Request\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_RequestDataOut\_Routine\_Trigger\_Presafe\_Display\_Request\_Start\_ResultType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Result, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function returns the Request Results of TriggerPresafeDisplay | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| Result | Uint8 \* | Out | Result of request |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0220; ARCH\_SW\_DIA\_0221; ARCH\_SW\_DIA\_0222; ARCH\_SW\_DIA\_0223; ARCH\_SW\_DIA\_0224 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0221 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9550 |
| ARCH\_SW\_DIA\_0222 | Service shall be available in the following forms of Authentication: Supplier, Development ENHANCED, Production, After-Sales ENHANCED, After-Sales |  | DAI\_EXT\_TF\_E\_9910 |
| ARCH\_SW\_DIA\_0223 | Successful Authentication is a pre-condition for running this Service |  | DAI\_EXT\_TF\_E\_9548 |
| ARCH\_SW\_DIA\_0224 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_9566; DAI\_EXT\_TF\_E\_9566; DAI\_EXT\_TF\_E\_9567; DAI\_EXT\_TF\_E\_9568 |

## DIA\_runRid0302\_TriggerPresafeDisplayRequestStart

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runRid0302\_TriggerPresafeDisplayRequestStart**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Trigger\_Presafe\_Display\_Request\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_StartDataOut\_Routine\_Trigger\_Presafe\_Display\_Request\_Start\_ResultType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Result, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function starts the Request of TriggerPresafeDisplay | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| Result | Uint8 \* | Out | Result of request |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0220; ARCH\_SW\_DIA\_0225; ARCH\_SW\_DIA\_0226; ARCH\_SW\_DIA\_0227; ARCH\_SW\_DIA\_0228 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0225 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9550 |
| ARCH\_SW\_DIA\_0226 | Service shall be available in the following forms of Authentication: Supplier, Development ENHANCED, Production, After-Sales ENHANCED, After-Sales |  | DAI\_EXT\_TF\_E\_9910 |
| ARCH\_SW\_DIA\_0227 | Successful Authentication is a pre-condition for running this Service |  | DAI\_EXT\_TF\_E\_9548 |
| ARCH\_SW\_DIA\_0228 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_9566; DAI\_EXT\_TF\_E\_9567; DAI\_EXT\_TF\_E\_9568 |

## DIA\_runRid0302\_TriggerPresafeDisplayRequestStop

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runRid0302\_TriggerPresafeDisplayRequestStop**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StopDataOut\_Routine\_Trigger\_Presafe\_Display\_Request\_Start\_routineInfoType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function stops the Request of TriggerPresafeDisplay | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| Result | Uint8 \* | Out | Result of request |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0220; ARCH\_SW\_DIA\_0229; ARCH\_SW\_DIA\_0230; ARCH\_SW\_DIA\_0231; ARCH\_SW\_DIA\_0232 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0229 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9550 |
| ARCH\_SW\_DIA\_0230 | Service shall be available in the following forms of Authentication: Supplier, Development ENHANCED, Production, After-Sales ENHANCED, After-Sales |  | DAI\_EXT\_TF\_E\_9910 |
| ARCH\_SW\_DIA\_0231 | Successful Authentication is a pre-condition for running this Service |  | DAI\_EXT\_TF\_E\_9548 |
| ARCH\_SW\_DIA\_0232 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_9566; DAI\_EXT\_TF\_E\_9567; DAI\_EXT\_TF\_E\_9568 |

## DIA\_runDid0142\_AvailabilityDataRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0142\_AvailabilityDataRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the AvailabilityData Service | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| Data | Uint8 \* | Out | Stores Aec Group Status |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0235; ARCH\_SW\_DIA\_0236; ARCH\_SW\_DIA\_0237; ARCH\_SW\_DIA\_0238; ARCH\_SW\_DIA\_0336; ARCH\_SW\_DIA\_0337 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0236 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9745 |
| ARCH\_SW\_DIA\_0237 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9945 |
| ARCH\_SW\_DIA\_0238 | Result can have the following values: 0x00, 0x01 and 0x02 |  | DAI\_EXT\_TF\_E\_9761 |
| ARCH\_SW\_DIA\_0337 | Positive Response: Green – no DTC or DTC without Warning indicator.  Yellow – is not used  Red – Display message is requested -> DTC with Warning indicator is set |  | DAI\_EXT\_TF\_E\_10085 |

## DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function reads the Data Length from the NVP Block of the Pre-Safe Recorder 1 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| DataLength | Uint22 \* | Out | Size of the NvP Block |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0240; ARCH\_SW\_DIA\_0241; ARCH\_SW\_DIA\_0242; ARCH\_SW\_DIA\_0243 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0241 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9747 |
| ARCH\_SW\_DIA\_0242 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9947 |
| ARCH\_SW\_DIA\_0243 | Response data shall be 22 bytes long |  | DAI\_EXT\_TF\_E\_9838 |

## DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function reads the Condition Check for the Pre-Safe Recorder 1 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0240; ARCH\_SW\_DIA\_0244; ARCH\_SW\_DIA\_0245 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0244 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9747 |
| ARCH\_SW\_DIA\_0245 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9947 |
|  |  |  |  |

## DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_ReadData(**Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the Data from NVP Block for the Pre-Safe Recorder 1 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| Data | Uint8 \* | Out | NvP Block Data |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0240; ARCH\_SW\_DIA\_0246; ARCH\_SW\_DIA\_0247 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0246 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9747 |
| ARCH\_SW\_DIA\_0247 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9947 |

## DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_Ret6urnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, uint16 DataLength, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the Data from NVP Block for the Pre-Safe Recorder 1 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 \* | Out | NvP Block Data |
| DataLength | Uint22 \* | Out | Size of the NvP Block Data |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0240; ARCH\_SW\_DIA\_0248; ARCH\_SW\_DIA\_0249; ARCH\_SW\_DIA\_1026; ARCH\_SW\_DIA\_1027 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0248 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9747 |
| ARCH\_SW\_DIA\_0249 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9947 |
| ARCH\_SW\_DIA\_1026 | The "Pre-Safe Recorder 1" data shall be written in NvM after:  ⦁Profile End  ⦁Profile Inhibition  ⦁Profile Abortion |  | DAI\_EXT\_TF\_E\_11509 |
| ARCH\_SW\_DIA\_1027 | The "Pre-Safe Recorder 1" data shall be kept over a Hard Reset/ Power Off-On |  | DAI\_EXT\_TF\_E\_11510 |

## DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function reads the Data Length from the NVP Block of the Pre-Safe Recorder 2 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| DataLength | Uint22 \* | Out | Size of the NvP Block |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0250; ARCH\_SW\_DIA\_0251; ARCH\_SW\_DIA\_0252; ARCH\_SW\_DIA\_0253 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0251 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9748 |
| ARCH\_SW\_DIA\_0252 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9948 |
| ARCH\_SW\_DIA\_0253 | Response data shall be 22 bytes long |  | DAI\_EXT\_TF\_E\_9871 |

## DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function reads the Condition Check for the Pre-Safe Recorder 2 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| routineInfo | Uint8 \* | Out | Routine status |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0250; ARCH\_SW\_DIA\_0254; ARCH\_SW\_DIA\_0255 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0254 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9748 |
| ARCH\_SW\_DIA\_0255 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9948 |

## DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the Data from NVP Block for the Pre-Safe Recorder 2 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| Data | Uint8 \* | Out | NvP Block Data |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0250; ARCH\_SW\_DIA\_0256; ARCH\_SW\_DIA\_0257 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0256 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9748 |
| ARCH\_SW\_DIA\_0257 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9948 |

## DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, uint16 DataLength, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the Data from NVP Block for the Pre-Safe Recorder 2 Mechanism | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 \* | Out | NvP Block Data |
| DataLength | Uint22 \* | Out | Size of the NvP Block Data |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0250; ARCH\_SW\_DIA\_0258; ARCH\_SW\_DIA\_0259; ARCH\_SW\_DIA\_1028; ARCH\_SW\_DIA\_1029 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0258 | Service shall be available in Default session, Extended session  Update session and Development session |  | DAI\_EXT\_TF\_E\_9748 |
| ARCH\_SW\_DIA\_0259 | Service shall be available in the following forms of Authentication: Development ENHANCED, Production  After-Sales ENHANCED, After-Sales  After-Sales BASIC, Internal Diagnostic Test Tool, ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9948 |
| ARCH\_SW\_DIA\_1028 | The "Pre-Safe Recorder 2" data shall be written in NvM after:  ⦁Profile End  ⦁Profile Inhibition  ⦁Profile Abortion |  | DAI\_EXT\_TF\_E\_11512 |
| ARCH\_SW\_DIA\_1029 | The "Pre-Safe Recorder 2" data shall be kept over a Hard Reset/ Power Off-On |  | DAI\_EXT\_TF\_E\_11513 |

## RoELight\_DTCStatusChanged\_Callback

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **RoELight\_DTCStatusChanged\_Callback**(uint32 DTC, Dem\_UdsStatusByteType DTCStatusOld, Dem\_UdsStatusByteType DTCStatusNew) | | | |
| **Object** | | | |
| Function implements the RoE Light DTC Status Callback | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| DTC | Uint32 \* | Out | DTC |
| DTCStatusOld | Dem\_UdsStatusByteType | Out | DTC Status |
| DTCStatusNew | Dem\_UdsStatusByteType | Out | DTC Status |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0210; ARCH\_SW\_DIA\_0211; ARCH\_SW\_DIA\_0212; ARCH\_SW\_DIA\_0213 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0211 | This frame shall be identified with the address:  Left side: 0x18E1A400 – ROE\_RBTM\_FL\_ST3  Right side: 0x18E1A500 – ROE\_RBTM\_FR\_ST3 |  | DAI\_EXT\_TF\_B\_2051 |
| ARCH\_SW\_DIA\_0212 | ROE\_0\_RBTM\_xy\_ST3 (Byte 1) signal shall be transmitted with the value 0x01 - DTC\_STATUS\_CHANGE if DTC status has been changed.  Byte 2 of the ROE\_RBTM\_xy\_ST3 frame shall contain the availability mask of the DTC.  Bytes 3-5 of the ROE\_RBTM\_xy\_ST3 frame shall contain the DTC code.  Byte 6 of the ROE\_RBTM\_xy\_ST3 frame shall contain the status of the DTC.  Bytes 7-8 of the ROE\_RBTM\_xy\_ST3 frame shall be 0x0000. |  | DAI\_EXT\_TF\_B\_2076 |
| ARCH\_SW\_DIA\_0213 | Default value: 0 |  | DAI\_EXT\_TF\_B\_2058 |

## DIA\_runClearDiagRequestCycle

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| void **DIA\_runClearDiagRequestCycle**(void) | | | |
| **Object** | | | |
| Function implements the clearing of the DiagRequestCycle | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
|  |  |  |  |
| **Returned value** | | | |
| Name | Description | | |
| Rte\_IrvWrite\_DIA\_runClearDiagRequestCycle\_u8DiagRequestedCycle | Calls an Rte\_Write to clear the Requested Cycle | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0260 | | | |

## DIA\_runGetDiagRequestCycle

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| void **DIA\_runGetDiagRequestCycle**(u8CycleNumberType \* u8DiagRequestCycle) | | | |
| **Object** | | | |
| Function acts like a getter function of the DiagRequestCycle | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| u8DiagRequestCycle | u8CycleNumberType \* | Out | Requested Cycle |
| **Returned value** | | | |
| Name | Description | | |
| u8DiagRequestCycle | Performs an Rte\_Read of the DiagRequestCycle | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0261 | | | |

## DIA\_cyclicProcessingTask

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(void, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_cyclicProcessingTask**(void) | | | |
| **Object** | | | |
| Function implements the cyclic processing task of the Tensioning Routines | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
|  |  |  |  |
| **Returned value** | | | |
| Name | Description | | |
| routineStatus | Handles routineStatuses according to DIA’s task cyclicality | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0262 | | | |

## ResetServiceExecution

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(void, Ct\_MBBL\_ResetManager\_CODE) **ResetServiceExecution**(void) | | | |
| **Object** | | | |
| Function implements the ECU Reset States using DcmEcuReset APIs | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
|  |  |  |  |
| **Returned value** | | | |
| Name | Description | | |
| routineStatus | Handles routineStatuses according to DIA’s task cyclicality | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0265; ARCH\_SW\_DIA\_0266; ARCH\_SW\_DIA\_0267; ARCH\_SW\_DIA\_0268; ARCH\_SW\_DIA\_0269; ARCH\_SW\_DIA\_0270; ARCH\_SW\_DIA\_0271 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0266 | The ECUReset service shall be available in the following sessions: |  | ALV\_EXT\_TF\_E\_7163 |
| ARCH\_SW\_DIA\_0267 | The ECUReset service shall be available under the following forms of Authentication: Supplier  Development ENHANCED  Production  After-Sales ENHANCED  After-Sales |  | ALV\_EXT\_TF\_E\_6147 |
| ARCH\_SW\_DIA\_0268 | ResetType of the Reset service shall be: 0x01 – Hardware Reset |  | ALV\_EXT\_TF\_E\_6015 |
| ARCH\_SW\_DIA\_0269 | ResetType of the Reset service shall be: 0x03 – Software Reset |  | ALV\_EXT\_TF\_E\_7410 |
| ARCH\_SW\_DIA\_0270 | Bytes #2: Reset type should be an echo of the “ResetType” parameter in the request message. |  | ALV\_EXT\_TF\_E\_104 |
| ARCH\_SW\_DIA\_0271 | After a successful ECU Reset, ECU shall be in DefaultSession. |  | ALV\_EXT\_TF\_E\_114 |

## Dcm\_Svc14Handler

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DCM\_LOCAL\_INLINE FUNC(Std\_ReturnType, DCM\_CODE) **Dcm\_Svc14Handler**(Dcm\_ContextPtrType pContext, Dcm\_OpStatusType opStatus, Dcm\_MsgContextPtrType pMsgContext, Dcm\_NegativeResponseCodePtrType ErrorCode, Dcm\_Svc14RepeaterProxyContextPtrType pRepContext) | | | |
| **Object** | | | |
| Function implements the clearing of all Diagnostic Information related to a specified DTC Identifier Mask | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pContext | Dcm\_ContextPtrType | Out |  |
| opStatus | Dcm\_OpStatusType | Out |  |
| pMsgContext | Dcm\_MsgContextPtrType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodePtrType | Out |  |
| pRepContext | Dcm\_Svc14RepeaterProxyContextPtrType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0275; ARCH\_SW\_DIA\_0276; ARCH\_SW\_DIA\_0277; ARCH\_SW\_DIA\_0278; ARCH\_SW\_DIA\_0279; ARCH\_SW\_DIA\_0280 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0276 | The ClearDiagnosticInformation service shall be available in the following sessions:  Default Session (0x01)  Extended Session (0x03)  Supplier Session/Development Session (0x7E)  Update Session (0x42) |  | ALV\_EXT\_TF\_E\_5931 |
| ARCH\_SW\_DIA\_0277 | This service shall be available with or without any form of Authentication. |  | ALV\_EXT\_TF\_E\_124 |
| ARCH\_SW\_DIA\_0278 | The ECU shall send a Positive Response when the ClearDiagnosticInformation service is completely processed Explanation:  ClearDiagnosticInformation service is considered completely processed when the data used by the ReadDiagnosticInformation (0x19) are cleared |  | ALV\_EXT\_TF\_E\_139 |
| ARCH\_SW\_DIA\_0279 | The ECU shall send a Positive Response even if no DTCs are stored in the server’s memory |  | ALV\_EXT\_TF\_E\_140 |
| ARCH\_SW\_DIA\_0280 | Each bit mask corresponds to the following DTC Groups: 0x000000 = GROUP\_EMISSION\_RELATED 0x000002 = GROUP\_POWERTRAIN 0x000004 = GROUP\_CHASSIS 0x000006 = GROUP\_BODY 0x000008 = GROUP\_NETWORK\_COM 0xA00000 = GROUP\_SBE 0XFFFFFF = ALL DTC GROUP |  | ALV\_EXT\_TF\_E\_6037; ALV\_EXT\_TF\_E\_6038; ALV\_EXT\_TF\_E\_6039; ALV\_EXT\_TF\_E\_6040; ALV\_EXT\_TF\_E\_6041; ALV\_EXT\_TF\_E\_6042; ALV\_EXT\_TF\_E\_6043 |

## Dcm\_Svc19Handler

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DCM\_LOCAL\_INLINE FUNC(Std\_ReturnType, DCM\_CODE) **Dcm\_Svc19Handler**(Dcm\_ContextPtrType pContext,  Dcm\_OpStatusType opStatus, Dcm\_MsgContextPtrType pMsgContext, Dcm\_NegativeResponseCodePtrType ErrorCode, Dcm\_Svc19RepeaterProxyContextPtrType pRepContext) | | | |
| **Object** | | | |
| Function reads the DTC Information reported by different types of DIDs from BSW | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pContext | Dcm\_ContextPtrType | Out |  |
| opStatus | Dcm\_OpStatusType | Out |  |
| pMsgContext | Dcm\_MsgContextPtrType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodePtrType | Out |  |
| pRepContext | Dcm\_Svc19RepeaterProxyContextPtrType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0281; ARCH\_SW\_DIA\_0282; ARCH\_SW\_DIA\_0283; ARCH\_SW\_DIA\_0284; ARCH\_SW\_DIA\_0525; ARCH\_SW\_DIA\_0526; ARCH\_SW\_DIA\_0527; ARCH\_SW\_DIA\_0528; ARCH\_SW\_DIA\_0530; ARCH\_SW\_DIA\_0531; ARCH\_SW\_DIA\_0532; ARCH\_SW\_DIA\_0775; ARCH\_SW\_DIA\_0776; ARCH\_SW\_DIA\_0777; ARCH\_SW\_DIA\_0778; ARCH\_SW\_DIA\_0779; ARCH\_SW\_DIA\_0780; ARCH\_SW\_DIA\_0781; ARCH\_SW\_DIA\_0782; ARCH\_SW\_DIA\_0783; ARCH\_SW\_DIA\_0785; ARCH\_SW\_DIA\_0786; ARCH\_SW\_DIA\_0787; ARCH\_SW\_DIA\_0788; ARCH\_SW\_DIA\_0789; ARCH\_SW\_DIA\_0790; ARCH\_SW\_DIA\_0791; ARCH\_SW\_DIA\_0792; ARCH\_SW\_DIA\_0793; ARCH\_SW\_DIA\_0794;  ARCH\_SW\_DIA\_0795; ARCH\_SW\_DIA\_0796; ARCH\_SW\_DIA\_0800; ARCH\_SW\_DIA\_0801; ARCH\_SW\_DIA\_0802;  ARCH\_SW\_DIA\_0803 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0282 | The ReportDTCByStatusMask shall be available in the following sessions: Update session |  | DAI\_EXT\_TF\_E\_198 |
| ARCH\_SW\_DIA\_0283 | The byte 3 shall be reserved for the DTCStatusAvailabilityMask of the ReadDiagnosticInformation service. |  | ALV\_EXT\_TF\_E\_207 |
| ARCH\_SW\_DIA\_0284 | DTCStatusAvailabilityMask shall be 0x39.  REVAS supported status bits are the following ones:  - Test Failed (bit 0)  - Confirmed DTC (bit 3)  - Test Not Completed Sinœ Last Clear (bit 4)  - Test Failed this Operation Cycle (bit 5) |  | DAI\_EXT\_TF\_E\_10103 |
| ARCH\_SW\_DIA\_0526 | The byte 1 shall be reserved for the SID-RQ of the ReadDiagnosticInformation service:  ⦁ The value 0x19 shall correspond to the SID-RQ of the ReadDiagnosticInformation service. |  | ALV\_EXT\_TF\_E\_173 |
| ARCH\_SW\_DIA\_0527 | The byte 2 shall be reserved for the ReportType of the ReadDiagnosticInformation service:  ⦁ The value 0x01 shall correspond to the ReportType: ReportNumberOfDTCByStatusMask |  | ALV\_EXT\_TF\_E\_6091 |
| ARCH\_SW\_DIA\_0528 | The byte 3 shall be reserved for the DTCStatusMask of the ReadDiagnosticInformation service:  ⦁The bit 0 shall correspond to 'Test failed'  ⦁The bit 1 shall correspond to 'Test failed this Operation cycle'  ⦁The bit 2 shall correspond to 'Pending DTC'  ⦁The bit 3 shall correspond to 'Confirmed DTC'  ⦁The bit 4 shall correspond to 'Test not completed since last clear'  ⦁The bit 5 shall correspond to 'Test failed since last clear'  ⦁The bit 6 shall correspond to 'Test not completed this operation cycle'  ⦁The bit 7 shall correspond to 'Warning indicator requested' |  | ALV\_EXT\_TF\_E\_176 |
| ARCH\_SW\_DIA\_0531 | The byte 1 shall be reserved for the SID-RQ of the ReadDiagnosticInformation service:  ⦁The value 0x19 shall correspond to the SID-RQ of theReadDiagnosticInformation service |  | ALV\_EXT\_TF\_E\_324 |
| ARCH\_SW\_DIA\_0532 | The byte 2 shall be reserved for the ReportType of the ReadDiagnosticInformation service:  ⦁The value 0x0A shall correspond to the ReportType: ReportSupportedDTC |  | ALV\_EXT\_TF\_E\_6151 |
| ARCH\_SW\_DIA\_0776 | The ReportDTCSnapshotRecordByDTCNumber shall be available in the following diagnostic sessions:  ⦁Default Session  ⦁Extended Session  ⦁Development Session  Service shall be available under any form of Authentication |  | DAI\_EXT\_TF\_E\_10357 |
| ARCH\_SW\_DIA\_0777 | ⦁The value 0x19 shall correspond to the SID-RQ of theReadDiagnosticInformation service.  ⦁The value 0x04 shall correspond to the ReportType: ReportDTCSnapshotRecordByDTCNumber |  | DAI\_EXT\_TF\_E\_10361 |
| ARCH\_SW\_DIA\_0778 | The bytes #3...#5 shall be reserved for the DTCRecord of the ReadDiagnosticInformation service. |  | DAI\_EXT\_TF\_E\_10366 |
| ARCH\_SW\_DIA\_0779 | The byte #6 shall be reserved for the DTCSnapshotRecordNumber of the ReadDiagnosticInformation service.  0x10 = First Occurence (triggered on CONFIRMED)  0x20 = Last Occurence (triggered on TEST\_FAILED)  0xFF = All Snapshot records |  | DAI\_EXT\_TF\_E\_10367 |
| ARCH\_SW\_DIA\_0780 | The byte #6 shall be reserved for the StatusOfDTC of the ReadDiagnosticInformation service. |  | DAI\_EXT\_TF\_E\_10375 |
| ARCH\_SW\_DIA\_0781 | The byte #7 shall be reserved for the DTCSnapshotRecordNumber |  | DAI\_EXT\_TF\_E\_11195 |
| ARCH\_SW\_DIA\_0782 | The byte #8 shall be reserved for DTCSnapshotRecordNumberOfIdentifiers |  | DAI\_EXT\_TF\_E\_11200 |
| ARCH\_SW\_DIA\_0783 | The bytes #9 ... #9 + length(DTCSnapshotRecord #x) -1 shall be reserved for DTCSnapshotRecord  Note:  DTCSnapshotRecord contains several dataIdentifiers and their returned data.  Each DTC has its specific dataidentifiers which can be found in CDD.  x= DTCSnapshotRecordNumber |  | DAI\_EXT\_TF\_E\_11367 |
| ARCH\_SW\_DIA\_0786 | The ReportDTCExtendedDataRecordByDTCNumber shall be available in the following diagnostic sessions:  ⦁Default Session  ⦁Extended Session  ⦁Development Session  Service shall be available under any form of Authentication |  | DAI\_EXT\_TF\_E\_10401 |
| ARCH\_SW\_DIA\_0787 | ⦁ The value 0x19 (byte1) shall correspond to the SID-RQ of theReadDiagnosticInformation service.  ⦁ The value 0x06 (byte2) shall correspond to the ReportType: ReportDTCExtendedDataRecordByDTCNumber |  | DAI\_EXT\_TF\_E\_10408 |
| ARCH\_SW\_DIA\_0788 | The bytes #3..#5 shall be reserved for the DTCRecord of the ReadDiagnosticInformation service. |  | DAI\_EXT\_TF\_E\_10405 |
| ARCH\_SW\_DIA\_0789 | The byte #6 shall be reserved for the DTCExtendedDataRecordNumber of the ReadDiagnosticInformation service.  0x01 = StandardEnvironmentalData  0xFF = All environmental data |  | DAI\_EXT\_TF\_E\_10409 |
| ARCH\_SW\_DIA\_0790 | The bytes #3...#5 shall be reserved for the DTCRecord of the ReadDiagnosticInformation service. |  | DAI\_EXT\_TF\_E\_10413 |
| ARCH\_SW\_DIA\_0791 | The byte #6 shall be reserved for the StatusOfDTC of the ReadDiagnosticInformation service. |  | DAI\_EXT\_TF\_E\_10417 |
| ARCH\_SW\_DIA\_0792 | The byte #7 shall be reserved for the ExtDataRecordlist of the ReadDiagnosticInformation service.  byte #7 shall be set to 0x01 because the list of ExtendedDataRecordNumber contains only one element: StandardEnvironmentalData |  | DAI\_EXT\_TF\_E\_10414 |
| ARCH\_SW\_DIA\_0793 | ⦁Standardized DTCExtendedData byte #8 shall correspond to 'Occurrence Flag'  0x00 - Occurence  0x01 - Fault |  | DAI\_EXT\_TF\_E\_11191 |
| ARCH\_SW\_DIA\_0794 | ⦁Standardized DTCExtendedData byte #9 shall correspond to 'External tester present Flag'  0x00 - Not present  0x01 - Present |  | DAI\_EXT\_TF\_E\_11192 |
| ARCH\_SW\_DIA\_0795 | ⦁Standardized DTCExtendedData byte #10 shall correspond to 'Frequency Counter' |  | DAI\_EXT\_TF\_E\_11193 |
| ARCH\_SW\_DIA\_0796 | ⦁Standardized DTCExtendedData byte #11 shall correspond to 'Ignition Cycle Counter' |  | DAI\_EXT\_TF\_E\_11194 |
| ARCH\_SW\_DIA\_0801 | ⦁The value 0x14 shall correspond to the ReportType: ReportDTCFaultDetectionCounter |  | DAI\_EXT\_TF\_E\_10448 |
| ARCH\_SW\_DIA\_0802 | The bytes #3..#5 shall be reserved for the DTCRecord of the ReadDiagnosticInformation service. |  | DAI\_EXT\_TF\_E\_10487 |
| ARCH\_SW\_DIA\_0803 | The byte #6 shall be reserved for the DTCFaultDetectionCounter of the ReadDiagnosticInformation service. (The DTCFaultDetectionCounter reports the number of fault detection counts of a DTC.)  See SYS\_DAI\_MF09\_692 for more details |  | DAI\_EXT\_TF\_E\_10488 |
| ARCH\_SW\_DIA\_0826 | Each Root Cause will be reported on 1 byte and will have a dependency with AEC Groups and DTCs:  ⦁1 byte: AEC ID (# 0x00 - These DTCs doesn't have a specific root cause besided the description of the DTC) |  | DAI\_EXT\_TF\_E\_11536 |

## DIA\_runDidFD01\_SWVersionConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD01\_SWVersionConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function implements Service 0x22 for DID FD01 | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0285 | | | |

## DIA\_runDidFD01\_SWVersionRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD01\_SWVersionRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function implements Service 0x22 for DID FD01 | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0285; ARCH\_SW\_DIA\_0286; ARCH\_SW\_DIA\_0287; ARCH\_SW\_DIA\_0288; ARCH\_SW\_DIA\_0289; ARCH\_SW\_DIA\_0290; ARCH\_SW\_DIA\_0291 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0286 | The Read SW Version shall be available in the following sessions:  Supplier Session/Development Session (0x7E) |  | ALV\_EXT\_TF\_E\_652 |
| ARCH\_SW\_DIA\_0287 | Service Read SW Version shall be processed with or without Any form of Authentication. |  | ALV\_EXT\_TF\_E\_6260 |
| ARCH\_SW\_DIA\_0288 | DataIdentifier of SW Version shall be **0xFD01** |  | ALV\_EXT\_TF\_E\_655 |
| ARCH\_SW\_DIA\_0289 | Read SW Version service Response DataRecord shall have 12 bytes length |  | ALV\_EXT\_TF\_E\_661 |
| ARCH\_SW\_DIA\_0290 | DataRecord: SW Version  Bytes “SN1” to “SN12” are coded in ASCII and shall reflect the SW Identification (letters and digits allowed) |  | ALV\_EXT\_TF\_E\_7065 |
| ARCH\_SW\_DIA\_0291 | SNx shall be ordered from MSB to LSB, ASCI coded i.e. bytes #4 to #15 form a string in that order that can be read directly. It will be formatted as follow:  ⦁           AABCCZWH.YYY  Where:  AA-reflects product code, e.g. ER for ECU PP (a.k.a. ERR)  B -reflects BM identification according to current software version, e.g. 0 for PP4G Extended  CC-reflects customer code, e.g. 18 for DAI Group  Z-reflects software type code, 6 for DAI MMA  W-Digit subject to change in case the SW release have been modified between SW Freeze and M2 Milestone.  H-defines a FLASHED software version  YYY-reflects the software version over 3 digits |  | DAI\_EXT\_TF\_E\_10285 |

## Dcm\_Service27Processor

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DCM\_CALLOUT\_CODE) **Dcm\_Service27Processor**(Dcm\_ContextPtrType pContext, Dcm\_OpStatusType opStatus, Dcm\_MsgContextPtrType pMsgContext, Dcm\_NegativeResponseCodePtrType ErrorCode) | | | |
| **Object** | | | |
| Function calculates the Security Access for generated Seed and comparison Key Handling of Data | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pContext | Dcm\_ContextPtrType | Out |  |
| opStatus | Dcm\_OpStatusType | Out |  |
| pMsgContext | Dcm\_MsgContextPtrType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodePtrType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0295; ARCH\_SW\_DIA\_0296; ARCH\_SW\_DIA\_0297; ARCH\_SW\_DIA\_0298; ARCH\_SW\_DIA\_0299; ARCH\_SW\_DIA\_0300; ARCH\_SW\_DIA\_0301; ARCH\_SW\_DIA\_0302; ARCH\_SW\_DIA\_0303 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0296 | The Security Access service shall only be available in the following sessions:  Programming Session (0x02) |  | ALV\_EXT\_TF\_E\_1467 |
| ARCH\_SW\_DIA\_0297 | Security Access service shall be available under the following forms of Authentication: |  | DAI\_EXT\_TF\_E\_10256 |
| ARCH\_SW\_DIA\_0298 | SecurityAccessType of the SecurityAccess service shall be 0x11 for Get Programming Seed. |  | ALV\_EXT\_TF\_E\_6033 |
| ARCH\_SW\_DIA\_0299 | Bytes #2-#3: SecurityAccessType shall be: 0x11 |  | ALV\_EXT\_TF\_E\_6055 |
| ARCH\_SW\_DIA\_0300 | Bytes #3-#34: Shall contain SecuritySeed |  | DAI\_EXT\_TF\_E\_10286 |
| ARCH\_SW\_DIA\_0301 | SecurityAccessType of the SecurityAccess service shall be 0x12 for Get Programming Key. |  | ALV\_EXT\_TF\_E\_7618 |
| ARCH\_SW\_DIA\_0302 | The bytes from 3 to 66 shall be reserved for the SecurityKey of the SecurityAccess service. |  | ALV\_EXT\_TF\_E\_7619 |
| ARCH\_SW\_DIA\_0303 | Bytes #2-#3: SecurityAccessType shall be: 0x12 |  | ALV\_EXT\_TF\_E\_7627 |

## DIA\_runDidFD2F\_EcuLocationWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD2F\_EcuLocationWrite**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType\_1 OpStatus, P2VAR(Dcm\_NegativeResponseCodeType\_1, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function that writes EcuLocation inside the NvM (NVP\_BLOCK\_ID\_ECU\_LOCATION\_RamBlockData) | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 | Out |  |
| OpStatus | Dcm\_OpStatusType\_1 | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType\_1 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0305; ARCH\_SW\_DIA\_0306; ARCH\_SW\_DIA\_0307; ARCH\_SW\_DIA\_0308; ARCH\_SW\_DIA\_0309; ARCH\_SW\_DIA\_0310; ARCH\_SW\_DIA\_0311 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0306 | The Write ECU Location service shall be available in the following sessions:  Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10086 |
| ARCH\_SW\_DIA\_0307 | Service Write ECU Location shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Production |  | DAI\_EXT\_TF\_E\_10087 |
| ARCH\_SW\_DIA\_0308 | Data Identifier of Write ECU Location shall be: **0xFD2F** |  | DAI\_EXT\_TF\_E\_10089 |
| ARCH\_SW\_DIA\_0309 | The SIDE parameter shall be 1 byte and shall correspond to the side the ECU shall be configured to:  0x99 – RIGHT SIDE  0x9C – LEFT SIDE |  | DAI\_EXT\_TF\_E\_10090 |
| ARCH\_SW\_DIA\_0310 | Bytes #2-#3: DataIdentifier of the Write ECU location service shall be: 0xFD2F |  | ALV\_EXT\_TF\_E\_6735 |
| ARCH\_SW\_DIA\_0311 | If positive answer is sent, then value of SIDE shall be taken into account after reset. |  | DAI\_EXT\_TF\_E\_10091 |

## DIA\_runDidFD31\_HBCalibrationWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD31\_HBCalibrationWrite**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function that writes HB Calibration Parameters inside NvM (NVP\_BLOCK\_ID\_HB\_CALIBRATION\_RamBlockData) | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 | Out |  |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0315; ARCH\_SW\_DIA\_0316; ARCH\_SW\_DIA\_0317; ARCH\_SW\_DIA\_0318; ARCH\_SW\_DIA\_0319; ARCH\_SW\_DIA\_0320; ARCH\_SW\_DIA\_0321 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0316 | The ECU calibration parameters shall be modified in non-volatile and RAM memories.  It means the changes will immediately affect the current SW session (ECU reset is not necessary to take into account the modifications). |  | ALV\_EXT\_TF\_E\_1833 |
| ARCH\_SW\_DIA\_0317 | The Write ECU Calibration Parameters service shall be available in the following sessions:  Supplier Session/Development Session (0x7E) |  | ALV\_EXT\_TF\_E\_10092 |
| ARCH\_SW\_DIA\_0318 | Service Write ECU Location shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Production |  | ALV\_EXT\_TF\_E\_10093 |
| ARCH\_SW\_DIA\_0319 | Data Identifier of Write ECU Calibration Parameters shall be: **0xFD31** |  | ALV\_EXT\_TF\_E\_10995 |
| ARCH\_SW\_DIA\_0320 | Write ECU Calibration Parameters Request data shall be 40 bytes long. |  | ALV\_EXT\_TF\_E\_10996 |
| ARCH\_SW\_DIA\_0321 | Bytes #2-#3: DataIdentifier of the Write ECU Calibration Parameters shall be: **0xFD31** |  | ALV\_EXT\_TF\_E\_1853 |

## DataServices\_Current\_Operating\_Time\_Read\_Current\_Operating\_Time\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Current\_Operating\_Time\_Read\_Current\_Operating\_Time\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Current Operating Time | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0325 | | | |

## DataServices\_Current\_Operating\_Time\_Read\_Current\_Operating\_Time\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Current\_Operating\_Time\_Read\_Current\_Operating\_Time\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Current Operating Time using the API provided by StbM - StbM\_GetCurrentTime | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0325; ARCH\_SW\_DIA\_0326; ARCH\_SW\_DIA\_0327; ARCH\_SW\_DIA\_0467; ARCH\_SW\_DIA\_0468; ARCH\_SW\_DIA\_0469; ARCH\_SW\_DIA\_0470 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0467 | DataIdentifier shall be **0x0133** |  | DAI\_EXT\_TF\_E\_9735 |
| ARCH\_SW\_DIA\_0468 | The DID shall be available in the following sessions:  ⦁Default Session  ⦁Programming  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9744 |
| ARCH\_SW\_DIA\_0469 | This service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_9944 |
| ARCH\_SW\_DIA\_0326 | Response data shall be 5 bytes long. |  | DAI\_EXT\_TF\_E\_9757 |
| ARCH\_SW\_DIA\_0470 | Bytes 0-3 of the positive response shall represent the Current Operating Time. |  | DAI\_EXT\_TF\_E\_9758 |
| ARCH\_SW\_DIA\_0327 | Byte 4 of the positive response shall represent the Operating Time Status, defined as follows:  ⦁ Bits 0 – 3: converted value based on timeBaseStatus  ⦁ Bits 4 – 7: value of userByte0 |  | DAI\_EXT\_TF\_E\_9759 |

## DIA\_runDid00140\_Obsolescence\_Data\_Current\_Value\_ConditionCheckRead

### DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Current\_Value\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Current\_Value\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Current\_Value\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Current\_Value\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Current\_Value\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Current\_Value\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Current\_Value\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Current\_Value\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

## DIA\_runDid00140\_Obsolescence\_Data\_Threshold \_ConditionCheckRead

### DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Green\_To\_Yellow\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Green\_To\_Yellow\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode**)** | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Yellow\_To\_Red\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Yellow\_To\_Red\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Green\_To\_Yellow\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Yellow\_To\_Red\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Conditions of the Obsolescence Data DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330 | | | |

## DIA\_runDid00140\_Obsolescence\_Data\_Current\_Value\_Read

### DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Current\_Value\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Current\_Value\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from BSR | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0331; ARCH\_SW\_DIA\_0332; ARCH\_SW\_DIA\_0333 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Current\_Value\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Current\_Value\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from Haptic\_Warning | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0331; ARCH\_SW\_DIA\_0332; ARCH\_SW\_DIA\_0333 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Current\_Value\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Current\_Value\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from 4 different Block Numbers PRE\_CRASH | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0331; ARCH\_SW\_DIA\_0332; ARCH\_SW\_DIA\_0333 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Current\_Value\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Current\_Value\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from PRE\_SAFE\_LVL\_4\_5 | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0331; ARCH\_SW\_DIA\_0332; ARCH\_SW\_DIA\_0333 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0331 | The Read Obsolescence Data service shall be available in the following sessions:  Default Session (0x01)  Programming (0x02)  Extended Session (0x03)  Supplier Session/Development Session (0x7E)  Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10179 |
| ARCH\_SW\_DIA\_0332 | Read Obsolescence Data service shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Production  After-Sales ENHANCED  After-Sales  After-Sales BASIC  Internal Diagnostic Test Tool  ePTI Test Tool |  | DAI\_EXT\_TF\_E\_10180 |
| ARCH\_SW\_DIA\_0333 | DataIdentifier of the Read Obsolescence Data shall be: **0x0140** |  | DAI\_EXT\_TF\_E\_10184 |

## DIA\_runDid00140\_Obsolescence\_Data\_Threshold\_Read

### DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Green\_To\_Yellow\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Green\_To\_Yellow\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from BSR | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Yellow\_To\_Red\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_BSR\_Threshold\_Yellow\_To\_Red\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from BSR | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Green\_To\_Yellow\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Green\_To\_Yellow\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from Haptic\_Warning | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Yellow\_To\_Red\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_Haptic\_Warning\_Treshold\_Yellow\_To\_Red\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from Haptic\_Warning | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Green\_To\_Yellow\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Green\_To\_Yellow\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from PRE\_CRASH | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Yellow\_To\_Red\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_CRASH\_Treshold\_Yellow\_To\_Red\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from PRE\_CRASH | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Green\_To\_Yellow\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Green\_To\_Yellow\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from PRE\_SAFE\_Lvl\_4\_5 | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Yellow\_To\_Red\_Read

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid00140\_Obsolescence\_Data\_PRE\_SAFE\_Lvl\_4\_5\_Treshold\_Yellow\_To\_Red\_Read** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Obsolescence Data collected from PRE\_SAFE\_Lvl\_4\_5 | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0330; ARCH\_SW\_DIA\_0334; ARCH\_SW\_DIA\_0335 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0334 | Response data length shall be 24 bytes long:  Bytes #2-#3: DataIdentifier of the Read Obsolescence Data shall be: **0x0140** Bytes #4 - #5 = Remaining BSR Activations [2bytes] :  Bytes #6 - #7 = Threshold Green to Yellow for Remaining BSR Activation [2bytes] = 0x00 0x00  Bytes #8 - #9 = Threshold Yellow to Red for Remaining BSR Activation [2bytes] = 0x00 0x00 Bytes #10 - #11 = Remaining Low Force Activations [2bytes] :  Bytes #12 - #13 = Threshold Green to Yellow for Remaining Low Force Activation [2bytes] = 0x00 0x00  Bytes #14 - #15 = Threshold Yellow to Red for Remaining Low Force Activation [2bytes] = 0x00 0x00 Bytes #16 - #17 = Remaining high Force Activations [2bytes] :  Bytes #18 - #19 = Threshold Green to Yellow for Remaining High Force Activation [2bytes] = 0x00 0x00  Bytes #20 - #21 = Threshold Yellow to Red for Remaining High Force Activation [2bytes] = 0x00 0x00 Bytes #22 - #23 = Remaining Max Force Activations [2bytes] :  Bytes #24 - #25 = Threshold Green to Yellow for Remaining Max Force Activation [2bytes] = 0x00 0x00  Bytes #26 - #27 = Threshold Yellow to Red for Remaining Max Force Activation [2bytes] = 0x00 0x00  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10187; DAI\_EXT\_TF\_E\_10189; DAI\_EXT\_TF\_E\_10190; DAI\_EXT\_TF\_E\_10191; DAI\_EXT\_TF\_E\_10194; DAI\_EXT\_TF\_E\_10195 |
| ARCH\_SW\_DIA\_0335 | Read Obsolescence Data service shall return the number of remaing BSR(Comfort), Low Force, High Force, Max Force possible activation. |  | DAI\_EXT\_TF\_E\_10193 |

## DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the CPU Load Read Condition | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0340 | | | |

## DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the length of the CPU Load DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint12 | Out | RTM\_NUMBER\_OF\_CORES \* (1 + RESOURCE\_MEASUREMENT\_DIAG\_STUB\_NUMBER\_OF\_CPULOAD\_PERCENTILES |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0340; ARCH\_SW\_DIA\_0344 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0344 | Response data length shall be 12 bytes long:  Bytes #2-#3: DataIdentifier of the Read CPU Load shall be: **0x01E1**  Byte #4 = CPU ID [1byte]:  [0x00] Core 1  Bytes #5 - #15 = CPU Load [11 bytes]:  [Byte1] 0-9%, PercentUpdate  [Byte2] 10-19%, PercentUpdate  [Byte3] 20-29%, PercentUpdate  [Byte4] 30-39%, PercentUpdate  [Byte5] 40-49%, PercentUpdate  [Byte6] 50-59%, PercentUpdate  [Byte7] 60-69%, PercentUpdate  [Byte8] 70-79%, PercentUpdate  [Byte9] 80-89%, PercentUpdate  [Byte10] 90-99%, PercentUpdate  [Byte11] 100%, PercentUpdate  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10115; DAI\_EXT\_TF\_E\_10117; DAI\_EXT\_TF\_E\_10118; DAI\_EXT\_TF\_E\_10119 |

## DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_CPU\_Load\_Read\_CPU\_load\_histograms\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns CPU Load in a histogram format | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0340; ARCH\_SW\_DIA\_0341; ARCH\_SW\_DIA\_0342; ARCH\_SW\_DIA\_0343 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0341 | The Read CPU Load service shall be available in the following sessions:  Default Session (0x01)  Programming (0x02)  Extended Session (0x03)  Supplier Session/Development Session (0x7E)  Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10107 |
| ARCH\_SW\_DIA\_0342 | Read CPU Load service shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_10108 |
| ARCH\_SW\_DIA\_0343 | DataIdentifier of the Read CPU Load shall be: **0x01E1** |  | DAI\_EXT\_TF\_E\_10112 |

## DataServices\_E2E\_Timing\_Read\_Maximum\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_E2E\_Timing\_Read\_Maximum\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function that checks the E2E Timing Read Condition | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0345 | | | |

## DataServices\_E2E\_Timing\_Read\_Maximum\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_E2E\_Timing\_Read\_Maximum\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function that calculates the E2E Timing Read Data Length | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint2 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0345; ARCH\_SW\_DIA\_0349 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0349 | Response data length shall be 2 bytes long:  Bytes #2-#3: DataIdentifier of the Read E2E Timing shall be: **0x01E2** Byte #4 = E2E ID [1byte] :  [0x00] Please insert KPI name (Please insert E2E KPI value)  [0x01] Please insert KPI name (Please insert E2E KPI value)  [0x02] Please insert KPI name (Please insert E2E KPI value)  [0x03] Please insert KPI name (Please insert E2E KPI value)  Bytes #5 = Maximum [1 byte]  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10131; DAI\_EXT\_TF\_E\_10133; DAI\_EXT\_TF\_E\_10134; DAI\_EXT\_TF\_E\_10135 |

## DataServices\_E2E\_Timing\_Read\_Maximum\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| Prototype | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) DataServices\_E2E\_Timing\_Read\_Maximum\_ReadData(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) Data) | | | |
| Object | | | |
| Function that calculates the E2E Timing per ID and its Maximum Percent | | | |
| Parameters | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| Returned value | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| Covered requirements | | | |
| ARCH\_SW\_DIA\_0345; ARCH\_SW\_DIA\_0346; ARCH\_SW\_DIA\_0347; ARCH\_SW\_DIA\_0348 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0346 | The Read E2E Timing service shall be available in the following sessions:  Default Session (0x01)  Programming (0x02)  Extended Session (0x03)  Supplier Session/Development Session (0x7E)  Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10123 |
| ARCH\_SW\_DIA\_0347 | Read E2E Timing service shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_10124 |
| ARCH\_SW\_DIA\_0348 | DataIdentifier of the Read E2E Timing shall be: **0x01E2** |  | DAI\_EXT\_TF\_E\_10128 |

## DataServices\_Stack\_Load\_Read\_Maximum\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Stack\_Load\_Read\_Maximum\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function that checks the Read Condition of the Stack Load DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0350 | | | |

## DataServices\_Stack\_Load\_Read\_Maximum\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Stack\_Load\_Read\_Maximum\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function that calculates the Length of the Stack Load DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint22 | Out | RTM\_NUMBER\_OF\_TASKS(11u) \* 2 |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0350; ARCH\_SW\_DIA\_0354 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0354 | Response data length shall be 2 bytes long:  Bytes #2-#3: DataIdentifier of the Read Stack Load shall be: **0x01E3** Byte #4 = Task Stack ID [1byte]  [0x00] Core 1  Byte #5 = Maximum[1 byte]  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10147; DAI\_EXT\_TF\_E\_10149; DAI\_EXT\_TF\_E\_10150; DAI\_EXT\_TF\_E\_10151 |

## DataServices\_Stack\_Load\_Read\_Maximum\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Stack\_Load\_Read\_Maximum\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that calculates maximum Task Stack Usage per TaskID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0350; ARCH\_SW\_DIA\_0351; ARCH\_SW\_DIA\_0352; ARCH\_SW\_DIA\_0353 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0351 | The Read Stack Load service shall be available in the following sessions:  Default Session (0x01)  Programming (0x02)  Extended Session (0x03)  Supplier Session/Development Session (0x7E)  Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10139 |
| ARCH\_SW\_DIA\_0352 | Read Stack Load service shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_10140 |
| ARCH\_SW\_DIA\_0353 | DataIdentifier of the Read Stack Load shall be: **0x01E3** |  | DAI\_EXT\_TF\_E\_10144 |

## DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Memory Usage Cycles DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0355 | | | |

## DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Memory Usage Cycles DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | 5u \* Fee\_Config.FeeBlkCnt | Out | 8-bit blockId + 32 bit writeCounter = 5 Byte per block |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0355; ARCH\_SW\_DIA\_0359 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0359 | Response data length shall be 5 bytes long:  DataIdentifier of the Read Memory Usage Cycles shall be: 0x01E4  For each block there is a 5 byte response:  Memory Block ID [1byte]:  ⦁[0x00] Please insert memory ID (e.g. Data Flash Bank0) Memory Usage Cycles [4 bytes]  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10163; DAI\_EXT\_TF\_E\_10281; DAI\_EXT\_TF\_E\_10282; DAI\_EXT\_TF\_E\_10283 |

## DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Memory\_Usage\_Cycles\_Read\_Memory\_Usage\_Cycles\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that calculates Memory Usage Cycles reported by FEE | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0355; ARCH\_SW\_DIA\_0356; ARCH\_SW\_DIA\_0357; ARCH\_SW\_DIA\_0358 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0356 | The Read Memory usage Cycles service shall be available in the following sessions:  Default Session (0x01)  Programming (0x02)  Extended Session (0x03)  Supplier Session/Development Session (0x7E)  Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10155 |
| ARCH\_SW\_DIA\_0357 | Read Memory usage Cycles service shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_10156 |
| ARCH\_SW\_DIA\_0358 | DataIdentifier of the Read Memory usage Cycles shall be: **0x01E4** |  | DAI\_EXT\_TF\_E\_10160 |

## DIA\_runDid0200\_ CAN\_input\_ConditionCheckRead

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_1\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_1\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 1st Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_2\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_2\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 2nd Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_3\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_3\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 3rd Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_4\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_4\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 4th Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_5\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_5\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 5th Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_6\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_6\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 6th Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Supply\_battery\_voltage\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Supply\_battery\_voltage\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the Supply Battery Voltage of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_7\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_7\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 7th Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_8\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_8\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 8th Bitfield of DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360 | | | |

## DIA\_runDid0200\_ CAN\_input\_Read

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_1\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_1\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 1st Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_2\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_2\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 2nd Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_3\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_3\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 3rd Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365; ARCH\_SW\_DIA\_0441; ARCH\_SW\_DIA\_0442; ARCH\_SW\_DIA\_0443 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_4\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_4\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 4th Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_5\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_5\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 5th Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365; ARCH\_SW\_DIA\_0447; ARCH\_SW\_DIA\_0448; ARCH\_SW\_DIA\_0449; ARCH\_SW\_DIA\_0453; ARCH\_SW\_DIA\_0454; ARCH\_SW\_DIA\_0455; ARCH\_SW\_DIA\_0456; ARCH\_SW\_DIA\_0457; ARCH\_SW\_DIA\_0458 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_6\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_6\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 6th Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Supply\_battery\_voltage\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Supply\_battery\_voltage\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Supply Battery Voltage for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365; ARCH\_SW\_DIA\_0450; ARCH\_SW\_DIA\_0451; ARCH\_SW\_DIA\_0452 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_7\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_7\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 7th Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365; ARCH\_SW\_DIA\_0444; ARCH\_SW\_DIA\_0445; ARCH\_SW\_DIA\_0446; ARCH\_SW\_DIA\_0824; ARCH\_SW\_DIA\_0825 | | | |

### DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_8\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0200\_CAN\_input\_Read\_Neues\_Bitfeld\_8\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 8th Bitfield for DID 0200 CAN Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0360; ARCH\_SW\_DIA\_0361; ARCH\_SW\_DIA\_0362; ARCH\_SW\_DIA\_0363; ARCH\_SW\_DIA\_0364; ARCH\_SW\_DIA\_0365; ARCH\_SW\_DIA\_0441; ARCH\_SW\_DIA\_0442; ARCH\_SW\_DIA\_0443; ARCH\_SW\_DIA\_0444; ARCH\_SW\_DIA\_0445; ARCH\_SW\_DIA\_0446; ARCH\_SW\_DIA\_0447; ARCH\_SW\_DIA\_0448; ARCH\_SW\_DIA\_0449; ARCH\_SW\_DIA\_0450; ARCH\_SW\_DIA\_0451; ARCH\_SW\_DIA\_0452; ARCH\_SW\_DIA\_0453; ARCH\_SW\_DIA\_0454; ARCH\_SW\_DIA\_0455; ARCH\_SW\_DIA\_0456; ARCH\_SW\_DIA\_0457; ARCH\_SW\_DIA\_0458; ARCH\_SW\_DIA\_0497; ARCH\_SW\_DIA\_0498; ARCH\_SW\_DIA\_0499; ARCH\_SW\_DIA\_0500; ARCH\_SW\_DIA\_0501; ARCH\_SW\_DIA\_0502; ARCH\_SW\_DIA\_0503; ARCH\_SW\_DIA\_0504; ARCH\_SW\_DIA\_0505; ARCH\_SW\_DIA\_0506; ARCH\_SW\_DIA\_0535; ARCH\_SW\_DIA\_0536; ARCH\_SW\_DIA\_0537; ARCH\_SW\_DIA\_0538; ARCH\_SW\_DIA\_0539; ARCH\_SW\_DIA\_0540; ARCH\_SW\_DIA\_0541; ARCH\_SW\_DIA\_0542; ARCH\_SW\_DIA\_0824; ARCH\_SW\_DIA\_0825 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0361 | The Read CAN Input service shall be available in the following sessions:  Default Session (0x01)  Extended Session (0x03)  Supplier Session/Development Session (0x7E)  Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10200 |
| ARCH\_SW\_DIA\_0362 | Read CAN Input service shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Production  After-Sales ENHANCED  After-Sales  After-Sales BASIC  Internal Diagnostic Test Tool  ePTI Test Tool |  | DAI\_EXT\_TF\_E\_10201 |
| ARCH\_SW\_DIA\_0363 | DataIdentifier of the Read CAN Input shall be: **0x0200** |  | DAI\_EXT\_TF\_E\_10205 |
| ARCH\_SW\_DIA\_0364 | Response data length shall be 9 bytes long:  Bytes #2-#3: DataIdentifier of the Read CAN Input shall be: **0x0200** Byte #4 :  bits 0-2: Ignition switch state (Isw\_Stat\_ST3 signal)  bit 3 : Reserved (set to 0)  bits 4-5 : Buckle switch driver state (Bckl\_Sw\_D\_Stat\_ST3)  bits 6-7 : Buckle switch front passenger state (Bckl\_Sw\_FP\_Stat\_ST3) Byte #5 :  bits 0-1 : Presafe enabled (Presf\_Enbl\_ST3)  bits 2-3 : Presafe actuator RBTM\_FL tensioning suppress request (PresfAct\_TensSupp\_Rq\_ST3)  bits 4-7 : Presafe level (Presf\_Lvl\_ST3) Byte #6 :  bits 0-1 : Belt hand over left state (BeltHdOvr\_FL\_Stat\_ST3)  bits 2-3 : Belt hand over right state (BeltHdOvr\_FR\_Stat\_ST3)  bits 4-6 : Engine start state (PT4\_PTCoor\_EngStartPN14\_Stat\_ST3)  bit 7 : Reserved (set to 0)  Byte #7 :  bit 0 : Impact event X (Impact\_X\_ST3)  bit 1 : Reserved (set to 0)  bit 2 : Turn over event 1 RO\_type1 (Impact\_RO\_type1\_ST3)  bit 3 : Turn over event 2 RO\_type2 (Impact\_RO\_type2\_ST3)  bits 4-5 : Steering variant (EVC\_List03\_StStyle\_ST3)  bits 6-7 : Reserved (set to 0) Byte #8 :  bits 0-7 : Supply battery voltage (ngagedng of PN14\_SupBat\_Volt\_ST3 signal with 0.1V resolution) Byte #9 :  bits 0-2: Supply battery cutoff switch status ((PN14\_DDP\_Sw\_Stat\_ST3)  bits3-5 : Powernet Production mode status (PN14\_ProdMd\_Stat\_ST3)  bits 6-7 : Powernet transport mode status (PN14\_TransMd\_Stat\_ST3)  Byte #10 :  bits 0-1: Belt slack decreasing mode request (BltSlckDec\_Md\_Rq\_HU\_ST3)  bits 2-3 : Powertrain ready (PT4\_PTCoor\_PT\_Rdy\_ST3)  bits 4-7 : Reverse gear ngaged (PT4\_PTCoor\_DrvPosn\_Stat\_ST3)  Byte #11 :  bits 0-5: RBTMFL\_SP\_Lvl\_Rq\_ST35  bits 6-7: DidA external tester present (DidA\_ExtTest\_Pres\_ST3)  Byte #12 :  bits 0-5: RBTMFR\_SP\_Lvl\_Rq\_ST35  bits 6-7: Presafe acceleration threshold (PresfAccelReset\_NotExcd\_ST3)  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10208; DAI\_EXT\_TF\_E\_10210; DAI\_EXT\_TF\_E\_10211;  DAI\_EXT\_TF\_E\_10212;  DAI\_EXT\_TF\_E\_10213;  DAI\_EXT\_TF\_E\_10214;  DAI\_EXT\_TF\_E\_10217;  DAI\_EXT\_TF\_E\_10218;  DAI\_EXT\_TF\_E\_10219;  DAI\_EXT\_TF\_E\_10220 |
| ARCH\_SW\_DIA\_0365 | Read CAN Input service shall return the current values of the mentioned CAN signals. |  | DAI\_EXT\_TF\_E\_10216 |
| ARCH\_SW\_DIA\_0441 | Signal PT4\_PTCoor\_EngStartPN14\_Stat\_ST3 Position:  ⦁ StartByte = 4;  ⦁ StartBit = 4;  ⦁ SignalLength = 3;  Note:StartByte starts from 1 and StartBit starts from 0 |  | DAI\_EXT\_TF\_B\_2303 |
| ARCH\_SW\_DIA\_0442 | Signal Values:  0 = NO\_COMBUSTIONSTART\_RQ (No combustion start required)  1 = CUSTOMER\_START\_RQ(Customer start required)  2 = AUTO\_START\_NO\_PN\_SUP\_RQ(Automatic start without Powernet support required)  3 = AUTO\_START\_PN\_SUP\_RQ(Automatic start with Powernet support required)  7 = Signal not Available (SNA) |  | DAI\_EXT\_TF\_B\_2304 |
| ARCH\_SW\_DIA\_0443 | PT4\_PTCoor\_EngStartPN14\_Stat\_ST3 signal shall be read by both Front LEFT ECU and Front RIGHT ECU and reported via CAN Input Service (0x0200) |  | DAI\_EXT\_TF\_B\_2305 |
| ARCH\_SW\_DIA\_0444 | Signal DidA\_ExtTest\_Pres\_ST3 Position:  ⦁ StartByte = 1  ⦁ StartBit = 2;  ⦁ SignalLength = 2  Note:StartByte starts from 1 and StartBit starts from 0 |  | DAI\_EXT\_TF\_B\_2319 |
| ARCH\_SW\_DIA\_0445 | Signal Values:  0x01= FALSE  0x02 = TRUE  0x03 = default / Signal not Available (SNA) |  | DAI\_EXT\_TF\_B\_2320 |
| ARCH\_SW\_DIA\_0446 | DidA\_ExtTest\_Pres\_ST3 signal shall be read by both Front LEFT ECU and Front RIGHT ECU and reported via CAN Input Service (0x0200) |  | DAI\_EXT\_TF\_B\_2321 |
| ARCH\_SW\_DIA\_0824 | If DidA\_ExtTest\_Pres\_ST3 signal is received with SNA value then the value that shall be reported is 0x01 - External Tester Not Present |  | DAI\_EXT\_TF\_B\_2427 |
| ARCH\_SW\_DIA\_0825 | If timeout of DIAG\_Stat\_ST3 frame (10000ms) is detected then the value that shall be reported is 0x01 - External Tester Not Present |  | DAI\_EXT\_TF\_B\_2428 |
| ARCH\_SW\_DIA\_0447 | Signal PN14\_DDP\_Sw\_Stat\_ST3 Position:  ⦁ StartByte = 1  ⦁ StartBit = 2;  ⦁ SignalLength = 3  ⦁  Note:StartByte starts from 1 and StartBit starts from 0 |  | DAI\_EXT\_TF\_B\_2330 |
| ARCH\_SW\_DIA\_0448 | Signal Values:  0 = CLS TDP (switch is closed)  1 = PRE\_RESET (Pre-Reset warning)  2 = RESET (Reset active)  3 = PRE\_OPN (Pre-Open warning)  4 = OPN (TDP switch is open)  7 = default / Signal not Available (SNA) |  | DAI\_EXT\_TF\_B\_2331 |
| ARCH\_SW\_DIA\_0449 | PN14\_DDP\_Sw\_Stat\_ST3 signal shall be read by both Front LEFT ECU and Front RIGHT ECU and reported via CAN Input Service (0x0200) |  | DAI\_EXT\_TF\_B\_2332 |
| ARCH\_SW\_DIA\_0450 | Signal PN14\_SupBat\_Volt\_ST3 Position:  ⦁ StartByte = 3  ⦁ StartBit = 6;  ⦁ SignalLength = 10  Note:StartBytes starts from 1 and StartBits starts from 0 |  | DAI\_EXT\_TF\_B\_2335 |
| ARCH\_SW\_DIA\_0451 | Signal Values:  0x00...0x3FE (0..25.55 V)  0x03FF = default / Signal not Available (SNA)  unit: 0.025 V |  | DAI\_EXT\_TF\_B\_2336 |
| ARCH\_SW\_DIA\_0452 | PN14\_SupBat\_Volt\_ST3 signal shall be read by both Front LEFT ECU and Front RIGHT ECU and reported via CAN Input Service (0x0200) |  | DAI\_EXT\_TF\_B\_2337 |
| ARCH\_SW\_DIA\_0453 | Signal PN14\_ProdMd\_Stat\_ST3 Position:  ⦁ StartByte = 1  ⦁ StartBit = 5;  ⦁ SignalLength = 3;  Note:StartBytes starts from 1 and StartBits starts from 0 |  | DAI\_EXT\_TF\_B\_2340 |
| ARCH\_SW\_DIA\_0454 | Signal Values:  0 = OFF (Productionmode off)  1 = ON (Productionmode active)  2 = SF01 (Productionmode Special Funcion 1)  3 = SF02 (Productionmode Special Funcion 2)  4 = SF03 (Productionmode Special Funcion 3)  7 = default / Signal not Available (SNA) |  | DAI\_EXT\_TF\_B\_2341 |
| ARCH\_SW\_DIA\_0455 | PN14\_ProdMd\_Stat\_ST3 signal shall be read by both Front LEFT ECU and Front RIGHT ECU and reported via CAN Input Service (0x0200) |  | DAI\_EXT\_TF\_B\_2342 |
| ARCH\_SW\_DIA\_0456 | Signal PN14\_TransMd\_Stat\_ST3 Position:  ⦁ StartByte = 1  ⦁ StartBit = 0;  ⦁ SignalLength = 2;  Note:StartBytes starts from 1 and StartBits starts from 0 |  | DAI\_EXT\_TF\_B\_2345 |
| ARCH\_SW\_DIA\_0457 | Signal Values:  0 = OFF (Transport mode permanently off)  1 = TEMP\_OFF (Transport mode temporarily off)  2 = ACTV (Transport mode active)  3 = default / Signal not Available (SNA) |  | DAI\_EXT\_TF\_B\_2346 |
| ARCH\_SW\_DIA\_0458 | PN14\_TransMd\_Stat\_ST3 signal shall be read by both Front LEFT ECU and Front RIGHT ECU and reported via CAN Input Service (0x0200) |  | DAI\_EXT\_TF\_B\_2347 |
| ARCH\_SW\_DIA\_0497 | CAN Frame DIAG\_Stat\_ST3 shall be identified with the address 0x6D0 |  | DAI\_EXT\_TF\_B\_2313 |
| ARCH\_SW\_DIA\_0498 | CAN Frame PN14\_Master\_Stat1\_ST3 shall be identified with the address 0x464 |  | DAI\_EXT\_TF\_B\_2324 |
| ARCH\_SW\_DIA\_0499 | Diagnostic request frame DIAG\_RBTM\_FL\_03\_ExtEth\_RQ\_ST3 identifier shall be 0x18E1A488 if ECU is configured as FRONT LEFT side |  | DAI\_EXT\_TF\_B\_2279 |
| ARCH\_SW\_DIA\_0500 | DIAG\_RBTM\_FL\_03\_ExtEth\_RQ\_ST3  Frame size: variable, max 8 bytes |  | DAI\_EXT\_TF\_B\_2288 |
| ARCH\_SW\_DIA\_0501 | Diagnostic request frame DIAG\_RBTM\_FR\_03\_ExtEth\_RQ\_ST3 identifier shall be 0x18E1A588 if ECU is configured as FRONT RIGHT side |  | DAI\_EXT\_TF\_B\_2281 |
| ARCH\_SW\_DIA\_0502 | DIAG\_RBTM\_FR\_03\_ExtEth\_RQ\_ST3  Frame size: variable, max 8 bytes |  | DAI\_EXT\_TF\_B\_2289 |
| ARCH\_SW\_DIA\_0503 | If a diagnostic service request is received via CAN Frame DIAG\_RBTM\_xy\_03\_ExtEth\_RQ\_ST3 then RGS shall respond via DIAG\_RBTM\_FL\_03\_ExtEth\_RS\_ST3 (Id: 0x18E1A480) frame |  | DAI\_EXT\_TF\_B\_2284 |
| ARCH\_SW\_DIA\_0504 | DIAG\_RBTM\_FL\_03\_ExtEth\_RS\_ST3  Frame size: variable max 8 bytes |  | DAI\_EXT\_TF\_B\_2286 |
| ARCH\_SW\_DIA\_0505 | If a diagnostic service request is received via CAN Frame DIAG\_RBTM\_FR\_03\_ExtEth\_RQ\_ST3 then RGS shall respond via DIAG\_RBTM\_FR\_03\_ExtEth\_RS\_ST3 (Id: 0x18E1A580) frame |  | DAI\_EXT\_TF\_B\_2285 |
| ARCH\_SW\_DIA\_0506 | DIAG\_RBTM\_FR\_03\_ExtEth\_RS\_ST3  Frame size: variable max 8 bytes |  | DAI\_EXT\_TF\_B\_2287 |
| ARCH\_SW\_DIA\_0535 | Diagnostic request frame DIAG\_RBTM\_FL\_03\_ExtCAN\_RQ\_ST3 identifier shall be 0x18E1A489 if ECU is configured as FRONT LEFT side. |  | DAI\_EXT\_TF\_B\_2365 |
| ARCH\_SW\_DIA\_0536 | DIAG\_RBTM\_FL\_03\_ExtCAN\_RQ\_ST3  Frame size: variable, max 8 bytes |  | DAI\_EXT\_TF\_B\_2366 |
| ARCH\_SW\_DIA\_0537 | Diagnostic request frame DIAG\_RBTM\_FR\_03\_ExtCAN\_RQ\_ST3 identifier shall be 0x18E1A589 if ECU is configured as FRONT LEFT side |  | DAI\_EXT\_TF\_B\_2367 |
| ARCH\_SW\_DIA\_0538 | DIAG\_RBTM\_FR\_03\_ExtCAN\_RQ\_ST3  Frame size: variable, max 8 bytes |  | DAI\_EXT\_TF\_B\_2368 |
| ARCH\_SW\_DIA\_0539 | Diagnostic request frame DIAG\_RBTM\_FL\_03\_IntEth\_RQ\_ST3 identifier shall be 0x18E1A48D if ECU is configured as FRONT LEFT side |  | DAI\_EXT\_TF\_B\_2369 |
| ARCH\_SW\_DIA\_0540 | DIAG\_RBTM\_FL\_03\_IntEth\_RQ\_ST3  Frame size: variable, max 8 bytes |  | DAI\_EXT\_TF\_B\_2370 |
| ARCH\_SW\_DIA\_0541 | Diagnostic request frame DIAG\_RBTM\_FR\_03\_IntEth\_RQ\_ST3 identifier shall be 0x18E1A58D if ECU is configured as FRONT LEFT side |  | DAI\_EXT\_TF\_B\_2371 |
| ARCH\_SW\_DIA\_0542 | DIAG\_RBTM\_FR\_03\_IntEth\_RQ\_ST3  Frame size: variable, max 8 bytes |  | DAI\_EXT\_TF\_B\_2372 |

## DataServices\_HardwareVersion\_Read\_HW\_ReadData

### DataServices\_HardwareVersion\_Read\_HW\_patch\_level\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_HardwareVersion\_Read\_HW\_patch\_level\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of Patch Level of the HW | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0370 | | | |

### DataServices\_HardwareVersion\_Read\_HW\_patch\_level\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_HardwareVersion\_Read\_HW\_patch\_level\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Patch Level of the HW | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0370; ARCH\_SW\_DIA\_0371; ARCH\_SW\_DIA\_0372; ARCH\_SW\_DIA\_0373 | | | |

### DataServices\_HardwareVersion\_Read\_HW\_week\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_HardwareVersion\_Read\_HW\_week\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of Week in which HW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0370 | | | |

### DataServices\_HardwareVersion\_Read\_HW\_week\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_HardwareVersion\_Read\_HW\_week\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Week when the HW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0370; ARCH\_SW\_DIA\_0371; ARCH\_SW\_DIA\_0372; ARCH\_SW\_DIA\_0373 | | | |

### DataServices\_HardwareVersion\_Read\_HW\_year\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_HardwareVersion\_Read\_HW\_year\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of Year in which HW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0370 | | | |

### DataServices\_HardwareVersion\_Read\_HW\_year\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_HardwareVersion\_Read\_HW\_year\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Year when the HW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0370; ARCH\_SW\_DIA\_0371; ARCH\_SW\_DIA\_0372; ARCH\_SW\_DIA\_0373; ARCH\_SW\_DIA\_0374; ARCH\_SW\_DIA\_0471; ARCH\_SW\_DIA\_0472; ARCH\_SW\_DIA\_0473 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0471 | DataIdentifier shall be **0xF150** |  | DAI\_EXT\_TF\_E\_9733 |
| ARCH\_SW\_DIA\_0472 | The DID shall be available in the following sessions:  ⦁Default Session  ⦁Programming  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9749 |
| ARCH\_SW\_DIA\_0473 | This service shall be available with or without Any form of Authentication. |  | DAI\_EXT\_TF\_E\_9942 |
| ARCH\_SW\_DIA\_0371 | Response data shall be 3 bytes long |  | DAI\_EXT\_TF\_E\_9830 |
| ARCH\_SW\_DIA\_0372 | Byte 0 of the positive response shall represent the year when the HW was designed. |  | DAI\_EXT\_TF\_E\_9831 |
| ARCH\_SW\_DIA\_0373 | Byte 1 of the positive response shall represent the week when the HW was designed. |  | DAI\_EXT\_TF\_E\_9832 |
| ARCH\_SW\_DIA\_0374 | Byte 2 of the positive response shall represent the current patch level of the HW. |  | DAI\_EXT\_TF\_E\_9833 |

## DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Year / Week / Patch Level when the software was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0375 | | | |

## DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function checks the Length of the F151 DID | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint6 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0375; ARCH\_SW\_DIA\_0376; ARCH\_SW\_DIA\_0377; ARCH\_SW\_DIA\_0378; ARCH\_SW\_DIA\_0379 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0376 | Response data shall be 6 bytes long |  | DAI\_EXT\_TF\_E\_10267 |
| ARCH\_SW\_DIA\_0377 | Byte 0 of the positive response shall represent the year when the Boot SW Version was designed.  Byte 1 of the positive response shall represent the week when the Boot SW Version was designed.  Byte 2 of the positive response shall represent the current patch level of the Boot SW. |  | DAI\_EXT\_TF\_E\_10268 |
| ARCH\_SW\_DIA\_0378 | Byte 3 of the positive response shall represent the year when the Application SW Version was designed.  Byte 4 of the positive response shall represent the week when the Application SW Version was designed.  Byte 5 of the positive response shall represent the current patch level of the Application SW. |  | DAI\_EXT\_TF\_E\_10271 |
| ARCH\_SW\_DIA\_0379 | Byte 6 of the positive response shall represent the year when the HSM SW Version was designed.  Byte 7 of the positive response shall represent the week when the HSM SW Version was designed.  Byte 8 of the positive response shall represent the current patch level of the HSM SW. |  | DAI\_EXT\_TF\_E\_11467 |

## DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_SoftwareVersion\_Read\_Software\_Logical\_Block\_Version\_Information\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Year / Week / Patch Level when software was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0375; ARCH\_SW\_DIA\_0474; ARCH\_SW\_DIA\_0475; ARCH\_SW\_DIA\_0476 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0474 | DataIdentifier shall be **0xF151** |  | DAI\_EXT\_TF\_E\_9732 |
| ARCH\_SW\_DIA\_0475 | The DID shall be available in the following sessions:  ⦁Default Session  ⦁Programming  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9750 |
| ARCH\_SW\_DIA\_0476 | This service shall be available with or without Any form of Authentication. |  | DAI\_EXT\_TF\_E\_9943 |

## DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_ReadData

### DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_patch\_level\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_patch\_level\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Patch Level when the Boot SW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0380 | | | |

### DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_patch\_level\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_patch\_level\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Patch Level when the Boot SW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0380; ARCH\_SW\_DIA\_0381; ARCH\_SW\_DIA\_0382; ARCH\_SW\_DIA\_0383 | | | |

### DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_week\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_week\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Week when the Boot SW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0380 | | | |

### DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_week\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_week\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Week when the Boot SW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0380; ARCH\_SW\_DIA\_0381; ARCH\_SW\_DIA\_0382; ARCH\_SW\_DIA\_0383 | | | |

### DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_year\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_year\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Year when the Boot SW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0380 | | | |

### DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_year\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_BootSoftwareVersion\_Read\_Boot\_SW\_year \_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the Year when the Boot SW was designed | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0380; ARCH\_SW\_DIA\_0381; ARCH\_SW\_DIA\_0382; ARCH\_SW\_DIA\_0383; ARCH\_SW\_DIA\_0477; ARCH\_SW\_DIA\_0478; ARCH\_SW\_DIA\_0479 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0477 | DataIdentifier shall be **0xF153** |  | DAI\_EXT\_TF\_E\_9953 |
| ARCH\_SW\_DIA\_0478 | The DID shall be available in the following sessions:  ⦁Default Session  ⦁Programming  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9956 |
| ARCH\_SW\_DIA\_0479 | This service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_9959 |
| ARCH\_SW\_DIA\_0381 | Response data shall be 3 bytes long |  | DAI\_EXT\_TF\_E\_9960 |
| ARCH\_SW\_DIA\_0382 | Byte 0 of the positive response shall represent the year when the Boot SW was designed. |  | DAI\_EXT\_TF\_E\_9961 |
| ARCH\_SW\_DIA\_0383 | Byte 1 of the positive response shall represent the week when the Boot SW was designed. |  | DAI\_EXT\_TF\_E\_9962 |
| ARCH\_SW\_DIA\_0384 | Byte 2 of the positive response shall represent the current patch level of the Boot SW. |  | DAI\_EXT\_TF\_E\_9963 |

## DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0241\_PRE\_SAFE\_Recorder\_1\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, uint16 DataLength, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function resets/erases the values of the Pre-Safe Recorder 1 structure | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| DataLength | Uint22 |  |  |
| OpStatus | Dcm\_OpStatusType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0385; ARCH\_SW\_DIA\_0386; ARCH\_SW\_DIA\_0387; ARCH\_SW\_DIA\_0480; ARCH\_SW\_DIA\_0481; ARCH\_SW\_DIA\_0482; ARCH\_SW\_DIA\_0483 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0480 | DataIdentifier shall be **0x0241** |  | DAI\_EXT\_TF\_E\_9740 |
| ARCH\_SW\_DIA\_0481 | Using this service shall lead to the Pre-Safe Recorder 1 to be set to default value. |  | DAI\_EXT\_TF\_E\_9951 |
| ARCH\_SW\_DIA\_0482 | The DID shall be available in the following sessions:  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9754 |
| ARCH\_SW\_DIA\_0483 | This service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales |  | DAI\_EXT\_TF\_E\_9922 |
| ARCH\_SW\_DIA\_0386 | Request data shall be 1 byte long. |  | DAI\_EXT\_TF\_E\_9768 |
| ARCH\_SW\_DIA\_0387 | Byte 0 shall be defined as the Erase Pre-Safe Memory command and shall always have value 0x01. |  | DAI\_EXT\_TF\_E\_9769 |

## DIA\_runDid0242\_PRE\_SAFE\_Recorder\_2\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_CODE) **DIA\_runDid0241\_PRE\_SAFE\_Recorder\_2\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, uint16 DataLength, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function resets/erases the values of the Pre-Safe Recorder 2 structure | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| DataLength | Uint22 |  |  |
| OpStatus | Dcm\_OpStatusType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0390; ARCH\_SW\_DIA\_0391; ARCH\_SW\_DIA\_0392; ARCH\_SW\_DIA\_0484; ARCH\_SW\_DIA\_0485; ARCH\_SW\_DIA\_0486; ARCH\_SW\_DIA\_0487 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0484 | DataIdentifier shall be **0x0242** |  | DAI\_EXT\_TF\_E\_9741 |
| ARCH\_SW\_DIA\_0485 | Using this service shall lead to the Pre-Safe Recorder 2 to be set to default value. |  | DAI\_EXT\_TF\_E\_9950 |
| ARCH\_SW\_DIA\_0486 | The DID shall be available in the following sessions:  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9752 |
| ARCH\_SW\_DIA\_0487 | This service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales |  | DAI\_EXT\_TF\_E\_9920 |
| ARCH\_SW\_DIA\_0391 | Request data shall be 1 byte long. |  | DAI\_EXT\_TF\_E\_9770 |
| ARCH\_SW\_DIA\_0392 | Byte 0 shall be defined as the Erase Pre-Safe Memory command and shall always have value 0x01. |  | DAI\_EXT\_TF\_E\_9771 |

## DataServices\_PRE\_SAFE\_Counter\_read\_Read\_CombinedDataElement\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_PRE\_SAFE\_Counter\_read\_Read\_CombinedDataElement\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_DATA) Data, uint16 DataLength, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function resets/erases the values of the Pre Safe Counter structure | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 | Out |  |
| DataLength | Uint16 | Out |  |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0395; ARCH\_SW\_DIA\_0396; ARCH\_SW\_DIA\_0397; ARCH\_SW\_DIA\_0488; ARCH\_SW\_DIA\_0489; ARCH\_SW\_DIA\_0490; ARCH\_SW\_DIA\_0491 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0488 | DataIdentifier shall be **0x0244** |  | DAI\_EXT\_TF\_E\_9742 |
| ARCH\_SW\_DIA\_0489 | Using this service shall lead to the Pre-Safe Counter to be set to default value (i.e. 0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00) |  | DAI\_EXT\_TF\_E\_9914 |
| ARCH\_SW\_DIA\_0490 | The DID shall be available in the following sessions:  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9753 |
| ARCH\_SW\_DIA\_0491 | This service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production |  | DAI\_EXT\_TF\_E\_9917 |
| ARCH\_SW\_DIA\_0396 | Request data shall be 1 byte long. |  | DAI\_EXT\_TF\_E\_9772 |
| ARCH\_SW\_DIA\_0397 | Byte 0 shall be defined as the Pre-Safe Request Counter Reset command and shall always have value 0x01. |  | DAI\_EXT\_TF\_E\_9773 |

## Dcm\_Svc28Handler

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DCM\_LOCAL\_INLINE FUNC(Std\_ReturnType, DCM\_CODE) **Dcm\_Svc28Handler**(Dcm\_ContextPtrType pContext, Dcm\_OpStatusType opStatus, Dcm\_MsgContextPtrType pMsgContext, Dcm\_NegativeResponseCodePtrType ErrorCode, Dcm\_Svc28RepeaterProxyContextPtrType pRepContext) | | | |
| **Object** | | | |
| Function handles the Communication Control Service | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| opStatus | Dcm\_OpStatusType | Out |  |
| pMsgContext | Dcm\_MsgContextPtrType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodePtrType | Out |  |
| pRepContext | Dcm\_Svc28RepeaterProxyContextPtrType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0400; ARCH\_SW\_DIA\_0401; ARCH\_SW\_DIA\_0402; ARCH\_SW\_DIA\_0403; ARCH\_SW\_DIA\_0404; ARCH\_SW\_DIA\_0405; ARCH\_SW\_DIA\_0406; ARCH\_SW\_DIA\_0407 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0401 | The Communication control service shall be available in the following sessions:  Extended Session (0x03)  Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10228 |
| ARCH\_SW\_DIA\_0402 | Communication control service shall be available under the following forms of Authentication:  Supplier  Development ENHANCED  Production  After-Sales ENHANCED |  | DAI\_EXT\_TF\_E\_10229 |
| ARCH\_SW\_DIA\_0403 | Control Type = 0x00 correspond to the Enable Rx and Tx  Note: This value indicates that the reception and transmission of messages shall be enabled for the specified communicationType. |  | DAI\_EXT\_TF\_E\_10233 |
| ARCH\_SW\_DIA\_0404 | Control Type = 0x01 correspond to the Enable Rx and Disable Tx  Note: This value indicates that the reception of messages shall be enabled and the transmission shall be disabled for the specified communicationType |  | DAI\_EXT\_TF\_E\_10249 |
| ARCH\_SW\_DIA\_0405 | Communication Type = 0x01 correspond to Normal Communication type.  Note: Normal Communication is referring to all application-related communication signals |  | DAI\_EXT\_TF\_E\_10252 |
| ARCH\_SW\_DIA\_0406 | Byte #2: Control Type of the Communication control shall be an echo of "Control Type" parameter from the request message. |  | DAI\_EXT\_TF\_E\_10238 |
| ARCH\_SW\_DIA\_0407 | If positive response of the Communication Control service has been received, then the transmission / reception of messages shall be done according the "Control Type" and "Communication Type" requested. |  | DAI\_EXT\_TF\_E\_10248 |

## Dcm\_Svc85Handler

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DCM\_LOCAL\_INLINE FUNC(Std\_ReturnType, DCM\_CODE) **Dcm\_Svc85Handler**(Dcm\_ContextPtrType pContext, Dcm\_OpStatusType opStatus, Dcm\_MsgContextPtrType pMsgContext, Dcm\_NegativeResponseCodePtrType ErrorCode, Dcm\_Svc85RepeaterProxyContextPtrType pRepContext) | | | |
| **Object** | | | |
| Function handles the ControlDTCSetting Service | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| pContext | Dcm\_ContextPtrType |  |  |
| opStatus | Dcm\_OpStatusType opStatus |  |  |
| pMsgContext | Dcm\_MsgContextPtrType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodePtrType |  |  |
| pRepContext | Dcm\_Svc85RepeaterProxyContextPtrType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0410; ARCH\_SW\_DIA\_0411; ARCH\_SW\_DIA\_0412; ARCH\_SW\_DIA\_0413; ARCH\_SW\_DIA\_0414; ARCH\_SW\_DIA\_0415; ARCH\_SW\_DIA\_0416; ARCH\_SW\_DIA\_0417; ARCH\_SW\_DIA\_0418; ARCH\_SW\_DIA\_0492; ARCH\_SW\_DIA\_0493; ARCH\_SW\_DIA\_0494; ARCH\_SW\_DIA\_0495; ARCH\_SW\_DIA\_0496 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0492 | The DID shall be available in the following sessions:  ⦁Extended session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9971 |
| ARCH\_SW\_DIA\_0493 | This service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED |  | DAI\_EXT\_TF\_E\_8092 |
| ARCH\_SW\_DIA\_0494 | ⦁The value 0x85 shall correspond to the SID-RQ of the ControlDTCSetings Service |  | DAI\_EXT\_TF\_E\_9974 |
| ARCH\_SW\_DIA\_0495 | ⦁The value 0x01 shall correspond to the DTCSettingType: DTC Setting Enabled |  | DAI\_EXT\_TF\_E\_9975 |
| ARCH\_SW\_DIA\_0496 | ⦁The value 0x02 shall correspond to the DTCSettingType: DTC Setting Disabled |  | DAI\_EXT\_TF\_E\_9976 |
| ARCH\_SW\_DIA\_0411 | The byte 1 shall be reserved for the SID-PR of the ControlDTCSetting service: The value 0xC5 shall correspond to the SID-PR of the ControlDTCSetting service. |  | DAI\_EXT\_TF\_E\_9980 |
| ARCH\_SW\_DIA\_0412 | The byte 2 shall be reserved for the DTCSettingType of the ControlDTCSetting service: The value 0x01 shall correspond to the DTCSettingType: DTC Setting Enabled. The value 0x02 shall correspond to the DTCSettingType: DTC Setting Disabled. |  | DAI\_EXT\_TF\_E\_9979; DAI\_EXT\_TF\_E\_9981; DAI\_EXT\_TF\_E\_9982 |
| ARCH\_SW\_DIA\_0413 | If positive response has been received for "DTC Setting Disabled" then the status of the DTCs shall be frozen.  Note: ControlDTCSetting deactivates only the updating of the StatusOfDTC bits. The service is not used to deactivate substitute functions. |  | DAI\_EXT\_TF\_E\_9995 |
| ARCH\_SW\_DIA\_0414 | If positive response has been received for "DTC Setting Enabled" then the status of the DTCs shall be resumed. |  | DAI\_EXT\_TF\_E\_9996 |
| ARCH\_SW\_DIA\_0415 | If a clearDiagnosticInformation (14 hex) service is sent by the client, the ControlDTCSetting shall not prohibit  resetting the server's DTC memory.  If a successful ECUReset is performed, then this re-enables the setting of DTCs. |  | DAI\_EXT\_TF\_E\_9997 |
| ARCH\_SW\_DIA\_0416 | The byte 1 shall be reserved for the SID-NR of the ControlDTCSetting service: ⦁ The value 0x7F shall correspond to the SID-NR of the ControlDTcSetting service. |  | DAI\_EXT\_TF\_E\_9984; DAI\_EXT\_TF\_E\_9987 |
| ARCH\_SW\_DIA\_0417 | The byte 2 shall be reserved for the SID-RQ-NR of the ControlDTCSetting service: The value 0x85 shall correspond to the SID-RQ-NR of the ControlDTCSetting service. |  | DAI\_EXT\_TF\_E\_9985; DAI\_EXT\_TF\_E\_9988 |
| ARCH\_SW\_DIA\_0418 | The byte 3 shall be reserved for the NRC-CDTCS of the ControlDTCSetting service: The value 0x12 shall correspond to the NRC-CDTCS: SubFunctionNotSupported The value 0x13 shall correspond to the NRC-CDTCS: IncorrectMessageLengthOrInvalidFormat The value 0x22 shall correspond to the NRC-CDTCS: ConditionsNotCorrect The value 0x7E shall correspond to the NRC-CDTCS: SubfunctionNotSupportedInActiveSession The value 0x7F shall correspond to the NRC-CDTCS: ServiceNotSupportedInActiveSession |  | DAI\_EXT\_TF\_E\_9986; DAI\_EXT\_TF\_E\_9989; DAI\_EXT\_TF\_E\_9990; DAI\_EXT\_TF\_E\_9991; DAI\_EXT\_TF\_E\_9992; DAI\_EXT\_TF\_E\_9993 |

## RoELite\_ObsolescenceDataHandler

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(void, DiagFunction\_CODE) **RoELite\_ObsolescenceDataHandler**(void) | | | |
| **Object** | | | |
| Function collects the ObsolescenceData provided by EOL and returns it on the RoELite PDU Structure | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0420; ARCH\_SW\_DIA\_0421; ARCH\_SW\_DIA\_0422; ARCH\_SW\_DIA\_0423; ARCH\_SW\_DIA\_0424; ARCH\_SW\_DIA\_0425; ARCH\_SW\_DIA\_0426 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0421 | Frame contents shall be transmitted depending on the event detect (Type). |  | DAI\_EXT\_TF\_B\_2074 |
| ARCH\_SW\_DIA\_0422 | If more than one RoE-lite PDU needs to be transmitted within one Transmission Cycle, the associated RoE-Lite PDUs shall be transmitted as depicted in figure [Transmitting RoE-lite PDUs from the transmission queue]. |  | DAI\_EXT\_TF\_B\_2120 |
| ARCH\_SW\_DIA\_0423 | ROE\_0\_RBTM\_xy\_ST3 (Byte 1) signal shall be transmitted with the value 0x02 - Obsolescence\_DATA if availability data has been changed.  Byte 2 of the ROE\_RBTM\_xy\_ST3 frame shall contain the block number.  Bytes 3-4 of the ROE\_RBTM\_xy\_ST3 frame shall contain the current value  Bytes 5-6 of the ROE\_RBTM\_xy\_ST3 frame shall be threshold "Green to Yellow"  Bytes 7-8 of the ROE\_RBTM\_xy\_ST3 frame shall be threshold "Yellow to Red" |  | DAI\_EXT\_TF\_B\_2296 |
| ARCH\_SW\_DIA\_0424 | Block number:  BSR: 0x00  PRE-SAFE 1-3: 0x01  PRE-SAFE 4-5: 0x02  PRE-SAFE 6-8: 0x03 |  | DAI\_EXT\_TF\_B\_2353 |
| ARCH\_SW\_DIA\_0425 | Threshold "Green to Yellow" = "Yellow to Red" = 0 |  | DAI\_EXT\_TF\_B\_2354 |
| ARCH\_SW\_DIA\_0426 | Only when the Obsolescence changes from  - “Green” to “Red”  the ECU shall send the corresponding RoE-Lite PDU. |  | DAI\_EXT\_TF\_B\_2356 |

## RoELite\_AvailabilityDataHandler

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(void, DiagFunction\_CODE) **RoELite\_AvailabilityDataHandler**(void) | | | |
| **Object** | | | |
| Function collects the AvailabilityData provided by MMG and returns it on the RoELite PDU Structure | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0430; ARCH\_SW\_DIA\_0431; ARCH\_SW\_DIA\_0432; ARCH\_SW\_DIA\_0433 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0431 | ROE\_0\_RBTM\_xy\_ST3 (Byte 1) signal shall be transmitted with the value 0x04 - AVAILABILITY\_DATA if availability data has been changed.  Byte 2 of the ROE\_RBTM\_xy\_ST3 frame shall contain the function number.  Bytes 3 of the ROE\_RBTM\_xy\_ST3 frame shall contain the category (yelow, green, red)  Bytes 4-8 of the ROE\_RBTM\_xy\_ST3 frame shall be 0x0000000000. |  | DAI\_EXT\_TF\_B\_2082 |
| ARCH\_SW\_DIA\_0432 | Function number:  BSR: 0x00  PRE-SAFE 1-3: 0x00  PRE-SAFE 4-5: 0x00  PRE-SAFE 6-8: 0x00 |  | DAI\_EXT\_TF\_B\_2355 |
| ARCH\_SW\_DIA\_0433 | Only when the Availability changes from  - “Green” to “Red”  the ECU shall send the corresponding RoE-Lite PDU. |  | DAI\_EXT\_TF\_B\_2126 |

## DiagSessionChangeCallback

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(void, DCM\_CALLOUT\_CODE) **DiagSessionChangeCallback**(Dcm\_SesCtrlType formerState, Dcm\_SesCtrlType newState) | | | |
| **Object** | | | |
| Function takes from DCM any change of the Diag Session and returns it on the RoELite PDU Structure | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| formerState | Dcm\_SesCtrlType | In |  |
| newState | Dcm\_SesCtrlType | In/Out |  |
| **Returned value** | | | |
| Name | Description | | |
| roe\_DiagSessionChange.ROE\_X | RoELite PDU Structure | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0435; ARCH\_SW\_DIA\_0436; ARCH\_SW\_DIA\_0437; ARCH\_SW\_DIA\_0438 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0436 | ROE\_0\_RBTM\_xy\_ST3 (Byte 1) signal shall be transmitted with the value 05 - DIAG\_SESSION\_CHANGE if diagnostic sesion has been changed.  Byte 2 of the ROE\_RBTM\_xy\_ST3 frame shall contain the new Diagnostic session.  Bytes 3-8 of the ROE\_RBTM\_xy\_ST3 frame shall be 0x000000000000. |  | DAI\_EXT\_TF\_B\_2083 |
| ARCH\_SW\_DIA\_0437 | On ECU start-up the ECU shall transmit a RoE-lite PDU containing the DiagnosticSessionType of the target session. (This includes ECU start-ups for example due to ECUReset or watchdog resets.) |  | DAI\_EXT\_TF\_B\_2128 |
| ARCH\_SW\_DIA\_0438 | RoE-lite PDUs indicating Diagnostic Session Changes shall only be sent from Application Software, not from Boot Software. |  | DAI\_EXT\_TF\_B\_2129 |

## DataServices\_Global\_Time\_Sync\_Measured\_Values\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Global\_Time\_Sync\_Measured\_Values\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of Global Time Sync Measured Values | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0460 | | | |

## DataServices\_Global\_Time\_Sync\_Measured\_Values\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Global\_Time\_Sync\_Measured\_Values\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function calculates the Global Time Sync Measured Values | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0460; ARCH\_SW\_DIA\_0461; ARCH\_SW\_DIA\_0462; ARCH\_SW\_DIA\_0463; ARCH\_SW\_DIA\_0464; ARCH\_SW\_DIA\_0465 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0461 | DataIdentifier shall be **0x0107** |  | DAI\_EXT\_TF\_E\_9734 |
| ARCH\_SW\_DIA\_0462 | The DID shall be available in the following sessions:  ⦁Default Session  ⦁Programming  ⦁Extended session  ⦁Update Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_9743 |
| ARCH\_SW\_DIA\_0463 | This service shall be available with or without Any form of Authentication. |  | DAI\_EXT\_TF\_E\_9941 |
| ARCH\_SW\_DIA\_0464 | Byte 0 of the positive response shall represent the Source Domain Information for Interpretation |  | DAI\_EXT\_TF\_E\_9775 |
| ARCH\_SW\_DIA\_0465 | Bytes 1-201 of the positive response shall represent the Global Time Sync Measured Values. |  | DAI\_EXT\_TF\_E\_9776 |

## DataServices\_Global\_Time\_Sync\_Measured\_Values\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Global\_Time\_Sync\_Measured\_Values\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the length of the Global Time Sync Measured Values | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint201 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0460; ARCH\_SW\_DIA\_0466 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Requirements | Criteria | Levels/Tolerances | Source |
| ARCH\_SW\_DIA\_0466 | Response data shall be 201 bytes long. |  | DAI\_EXT\_TF\_E\_9774 |

## DIA\_runDid0210\_CAN\_output\_Read

### DIA\_runDid0210\_CAN\_output\_Read\_CANoutput1\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_CANoutput1\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

### DIA\_runDid0210\_CAN\_output\_Read\_CANoutput1\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)**DIA\_runDid0210\_CAN\_output\_Read\_CANoutput1\_ReadData(**Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the Presafe Display Request and Belt Slack Decreasing Mode | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0510; ARCH\_SW\_DIA\_0511; ARCH\_SW\_DIA\_0543; ARCH\_SW\_DIA\_0544; ARCH\_SW\_DIA\_0545; ARCH\_SW\_DIA\_0546; ARCH\_SW\_DIA\_0547; ARCH\_SW\_DIA\_0548; ARCH\_SW\_DIA\_0549; ARCH\_SW\_DIA\_0550; ARCH\_SW\_DIA\_0551 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0511 | Response data shall contain Presafe Display Request, Belt Slack Decreasing Mode. |  | DAI\_EXT\_TF\_E\_10464 |
| ARCH\_SW\_DIA\_0543 | The last value of BSR Function Mode BltSlckDec\_Md\_FR\_Stat\_ST3) shall keep over a next power cycle ( any type of reset ) |  | DAI\_EXT\_TF\_B\_2310 |
| ARCH\_SW\_DIA\_0544 | If a diagnostic service request is received via CAN Frame DIAG\_RBTM\_FL\_03\_ExtCAN\_RQ\_ST3 then RGS shall respond via DIAG\_RBTM\_FL\_03\_ExtCAN\_RS\_ST3 (Id: 0x18E1A481) frame |  | DAI\_EXT\_TF\_B\_2377 |
| ARCH\_SW\_DIA\_0545 | DIAG\_RBTM\_FL\_03\_ExtCAN\_RS\_ST3  Frame size: variable max 8 bytes |  | DAI\_EXT\_TF\_B\_2378 |
| ARCH\_SW\_DIA\_0546 | If a diagnostic service request is received via CAN Frame DIAG\_RBTM\_FR\_03\_ExtCAN\_RQ\_ST3 then RGS shall respond via DIAG\_RBTM\_FR\_03\_ExtCAN\_RS\_ST3 (Id: 0x18E1A581) frame |  | DAI\_EXT\_TF\_B\_2379 |
| ARCH\_SW\_DIA\_0547 | DIAG\_RBTM\_FR\_03\_ExtCAN\_RS\_ST3  Frame size: variable max 8 bytes |  | DAI\_EXT\_TF\_B\_2380 |
| ARCH\_SW\_DIA\_0548 | If a diagnostic service request is received via CAN Frame DIAG\_RBTM\_FL\_03\_IntEth\_RS\_ST3 then RGS shall respond via DIAG\_RBTM\_FL\_03\_IntEth\_RS\_ST3 (Id: 0x18E1A485) frame |  | DAI\_EXT\_TF\_B\_2381 |
| ARCH\_SW\_DIA\_0549 | DIAG\_RBTM\_FL\_03\_IntEth\_RS\_ST3  Frame size: variable max 8 bytes |  | DAI\_EXT\_TF\_B\_2382 |
| ARCH\_SW\_DIA\_0550 | If a diagnostic service request is received via CAN Frame DIAG\_RBTM\_FR\_03\_IntEth\_RS\_ST3 then RGS shall respond via DIAG\_RBTM\_FR\_03\_IntEth\_RS\_ST3 (Id: 0x18E1A585) frame |  | DAI\_EXT\_TF\_B\_2383 |
| ARCH\_SW\_DIA\_0551 | DIAG\_RBTM\_FR\_03\_IntEth\_RS\_ST3  Frame size: variable max 8 bytes |  | DAI\_EXT\_TF\_B\_2384 |

### DIA\_runDid0210\_CAN\_output\_Read\_PS\_Curve\_XX\_Stat\_ST3\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_PS\_Curve\_XX\_Stat\_ST3\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

### DIA\_runDid0210\_CAN\_output\_Read\_PS\_Curve\_XX\_Stat\_ST3\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_PS\_Curve\_XX\_Stat\_ST3\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the PS\_Curve\_xy\_Stat\_ST3 signal | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0512 | Response data shall contain PS\_Curve\_xy\_Stat\_ST3 |  | DAI\_EXT\_TF\_E\_10475 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_Actv\_Lvl\_ST35\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_Actv\_Lvl\_ST35\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

### DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_Actv\_Lvl\_ST35\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_Actv\_Lvl\_ST35\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the RBTMxy\_ACTV\_LVL\_ST35 signal | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0512 | Response data shall contain RBTMxy\_ACTV\_LVL\_ST35 |  | DAI\_EXT\_TF\_E\_10473 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_ActvClient\_ST35\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_ActvClient\_ST35\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

### DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_ActvClient\_ST35\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_ActvClient\_ST35\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the RBTMxy\_SP\_ActvClient\_ST35 signal | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0513 | Response data shall contain RBTMxy\_SP\_ActvClient\_ST35 |  | DAI\_EXT\_TF\_E\_10474 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_FctPrecond\_Stat\_ST35\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_FctPrecond\_Stat\_ST35\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

### DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_FctPrecond\_Stat\_ST35\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DIA\_runDid0210\_CAN\_output\_Read\_RBTMxx\_SP\_FctPrecond\_Stat\_ST35\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the RBTMxy\_SP\_FCTPrecond\_Stat\_ST35 signal | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0514 | Response data shall contain RBTMxy\_SP\_FCTPrecond\_Stat\_ST35 |  | DAI\_EXT\_TF\_E\_10472 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## DIA\_runDidFD50\_Hardware\_Version\_Information\_Write

### DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_patch\_level

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_patch\_level**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function calculates the | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0515 | Runnable shall return 2 bytes, representing **PATCH** of HW version |  | DAI\_EXT\_TF\_E\_10339 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_week

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_week(**P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function calculates the | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0516 | Runnable shall return 2 bytes, representing **WEEK** of HW version |  | DAI\_EXT\_TF\_E\_10339 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

### DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_year

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD50\_Hardware\_Version\_Information\_Write\_HW\_year**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function calculates the | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
|  | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0517 | Runnable shall return 2 bytes, representing **YEAR** of HW version |  | DAI\_EXT\_TF\_E\_10339 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## DIA\_ runDid0220\_HW\_input\_Read\_ConditionCheckRead

### DIA\_runDid0220\_HW\_input\_Read\_Voltage\_KL30t\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0220\_HW\_input\_Read\_Voltage\_KL30t\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 1st Bitfield of DID 0220 HW Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0555 | | | |

### DIA\_runDid0220\_HW\_input\_Read\_Voltage\_Motor\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0220\_HW\_input\_Read\_Voltage\_Motor\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 2nd Bitfield of DID 0220 HW Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0555 | | | |

## DIA\_ runDid0220\_HW\_input\_Read

### DIA\_runDid0220\_HW\_input\_Read\_Voltage\_KL30t\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0220\_HW\_input\_Read\_Voltage\_KL30t\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 1st Bitfield for DID 0220 HW Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0555; ARCH\_SW\_DIA\_0556; ARCH\_SW\_DIA\_0557; ARCH\_SW\_DIA\_0558; ARCH\_SW\_DIA\_0559; ARCH\_SW\_DIA\_0560; ARCH\_SW\_DIA\_0561; ARCH\_SW\_DIA\_0562 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0556 | The Read HW Input service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E)  ⦁Update Session (0x42)Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10561 |
| ARCH\_SW\_DIA\_0557 | The Read HW Input service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_10562 |
| ARCH\_SW\_DIA\_0558 | DataIdentifier of the Read HW Input shall be: 0x0220 |  | DAI\_EXT\_TF\_E\_10568 |
| ARCH\_SW\_DIA\_0559 | Response data length shall be 5 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10571 |
| ARCH\_SW\_DIA\_0560 | Bytes #2-#3: DataIdentifier of the Read HW Input shall be: 0x0220 |  | DAI\_EXT\_TF\_E\_10573 |
| ARCH\_SW\_DIA\_0561 | Byte #4:  ⦁bits 0-7: Voltage KL30t  Any value from 0x00 -> 0xFF  Offset is 0 (i.e. 0x00 = 0V)  Resolution is 0.1 (e.g. 0x10 = 1.6 V)  Range is 0V -> 25.4V |  | DAI\_EXT\_TF\_E\_10574 |
| ARCH\_SW\_DIA\_0562 | Read HW Input service shall return the Voltage measured. |  | DAI\_EXT\_TF\_E\_10577 |

### DIA\_runDid0220\_HW\_input\_Read\_Voltage\_Motor\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0220\_HW\_input\_Read\_Voltage\_Motor\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 2nd Bitfield for DID 0220 HW Input Read | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0555; ARCH\_SW\_DIA\_0556; ARCH\_SW\_DIA\_0557; ARCH\_SW\_DIA\_0558; ARCH\_SW\_DIA\_0559; ARCH\_SW\_DIA\_0560; ARCH\_SW\_DIA\_0561; ARCH\_SW\_DIA\_0563 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0563 | Byte #5:  ⦁bits 0-7: Voltage Motor  Any value from 0x00 -> 0xFF  Offset is 0 (i.e. 0x00 = 0V)  Resolution is 0.1 (e.g. 0x10 = 1.6 V)  Range is 0V -> 25.4V |  | DAI\_EXT\_TF\_E\_10575 |

## DIA\_ runDid0240\_Internal\_ECU\_Information\_Read\_ ConditionCheckRead

### DIA\_runDid0240\_Internal\_ECU\_information\_Read\_Autosar\_System\_State\_EcuM\_State\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0240\_Internal\_ECU\_information\_Read\_Autosar\_System\_State\_EcuM\_State\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 1st Bitfield of DID 0240 Internal ECU Information | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0565 | | | |

### DIA\_runDid0240\_Internal\_ECU\_information\_Read\_ECU\_Temperature\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0240\_Internal\_ECU\_information\_Read\_ECU\_Temperature\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 2nd Bitfield of DID 0240 Internal ECU Information | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0565 | | | |

### DIA\_runDid0240\_Internal\_ECU\_information\_Read\_MOTOR\_Current\_ConditionCheckRead

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0240\_Internal\_ECU\_information\_Read\_MOTOR\_Current\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition for the 3rd Bitfield of DID 0240 Internal ECU Information | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0565 | | | |

## DIA\_ runDid0240\_Internal\_ECU\_Information\_ Read

### DIA\_runDid0240\_Internal\_ECU\_information\_Read\_Autosar\_System\_State\_EcuM\_State\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0240\_Internal\_ECU\_information\_Read\_Autosar\_System\_State\_EcuM\_State\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 1st Bitfield for DID 0240 Internal ECU Information | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0565; ARCH\_SW\_DIA\_0566; ARCH\_SW\_DIA\_0567; ARCH\_SW\_DIA\_0568; ARCH\_SW\_DIA\_0569; ARCH\_SW\_DIA\_0570; ARCH\_SW\_DIA\_0571; ARCH\_SW\_DIA\_0572 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0566 | The Read Internal ECU Information service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E)  ⦁Update Session (0x42) |  | DAI\_EXT\_TF\_E\_10582 |
| ARCH\_SW\_DIA\_0567 | The Read Internal ECU Information service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_10583 |
| ARCH\_SW\_DIA\_0568 | DataIdentifier of the Read Internal ECU Information shall be: 0x0240 |  | DAI\_EXT\_TF\_E\_10587 |
| ARCH\_SW\_DIA\_0569 | Response data length shall be 6 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10590 |
| ARCH\_SW\_DIA\_0570 | Bytes #2-#3: DataIdentifier of the Read Internal ECU Information shall be: 0x0240 |  | DAI\_EXT\_TF\_E\_10592 |
| ARCH\_SW\_DIA\_0571 | Byte #4:  ⦁bits 0-7: Autosar System State (EcuM\_State)  0x10 - Startup  0x20 - Wakeup  0x30 - Run  0x40 - Shutdown  0x50 - Sleep |  | DAI\_EXT\_TF\_E\_10593 |
| ARCH\_SW\_DIA\_0572 | Read Internal ECU Information service shall return the values measured. |  | DAI\_EXT\_TF\_E\_10597 |

### DIA\_runDid0240\_Internal\_ECU\_information\_Read\_ECU\_Temperature\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0240\_Internal\_ECU\_information\_Read\_ECU\_Temperature\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 2nd Bitfield for DID 0240 Internal ECU Information | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0565; ARCH\_SW\_DIA\_0566; ARCH\_SW\_DIA\_0567; ARCH\_SW\_DIA\_0568; ARCH\_SW\_DIA\_0569; ARCH\_SW\_DIA\_0570; ARCH\_SW\_DIA\_0571; ARCH\_SW\_DIA\_0573 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0573 | Bytes #5-#6:  ⦁bits 0-7: ECU Temperature  Any value from 0x0A -> 0x043F  Offset is -52.7875 (i.e. 0x0A = -50 V)  Resolution is 0.2325 (e.g. 0x10 = -49.0675 V)  Range is -50 deg C -> 200 deg C  Range 0x00 -> 0x09 is Undefined  Range 0x0440 -> 0xFFFF is Undefined |  | DAI\_EXT\_TF\_E\_10594 |

### DIA\_runDid0240\_Internal\_ECU\_information\_Read\_MOTOR\_Current\_ReadData

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDid0240\_Internal\_ECU\_information\_Read\_MOTOR\_Current\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function returns the 3rd Bitfield for DID 0240 Internal ECU Information | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0565; ARCH\_SW\_DIA\_0566; ARCH\_SW\_DIA\_0567; ARCH\_SW\_DIA\_0568; ARCH\_SW\_DIA\_0569; ARCH\_SW\_DIA\_0570; ARCH\_SW\_DIA\_0571; ARCH\_SW\_DIA\_0574 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0574 | Bytes #7-#8:  ⦁bits 0-7: Motor Current  Any value from 0x00 -> 0xFF  Offset is 0 (i.e. 0x00 = 0A)  Resolution is 0.01 (e.g. 0x100 = 16 A)  Range is 0A -> 163.83A |  | DAI\_EXT\_TF\_E\_10595 |

## DIA\_runDidFD03\_ECUTraceablityNumberConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD03\_ECUTraceablityNumberConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of ECU Traceability Number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0575 | | | |

## DIA\_runDidFD03\_ECUTraceablityNumberRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD03\_ECUTraceablityNumberRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the ECU Traceability Number stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0575; ARCH\_SW\_DIA\_0576; ARCH\_SW\_DIA\_0577 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0576 | The Read AEE Traceability Number And PCBA programmed PN shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E)  ⦁Update Session (0x42) |  | DAI\_EXT\_TF\_E\_8900 |
| ARCH\_SW\_DIA\_0577 | The Read AEE Traceability Number And PCBA programmed PN shall be processed without Authentification. |  | DAI\_EXT\_TF\_E\_8901 |

## DIA\_runDidFD03\_PCBAProgrammedPartNumberConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD03\_ECUTraceablityNumberConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of PCBA Programmed Part Number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0575 | | | |

## DIA\_runDidFD03\_PCBAProgrammedPartNumberRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD03\_ECUTraceablityNumberRead**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the ECU Traceability Number stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0575; ARCH\_SW\_DIA\_0578; ARCH\_SW\_DIA\_0579; ARCH\_SW\_DIA\_0580; ARCH\_SW\_DIA\_0581; ARCH\_SW\_DIA\_0582 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0578 | Data Identifier of the Read AEE Traceability Number And PCBA programmed PN Service shall be: 0xFD03 |  | DAI\_EXT\_TF\_E\_8905 |
| ARCH\_SW\_DIA\_0579 | Response data length shall be 22 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11342 |
| ARCH\_SW\_DIA\_0580 | Bytes #2-#3: DataIdentifier of the Read AEE Traceability Number And PCBA programmed PN shall be: 0xFD03 |  | DAI\_EXT\_TF\_E\_8910 |
| ARCH\_SW\_DIA\_0581 | Bytes #4-#15:  ⦁AEE Traceability Number [ASCII Coded] |  | DAI\_EXT\_TF\_E\_8912 |
| ARCH\_SW\_DIA\_0582 | Bytes #16-#25:  ⦁PCBA programmed Part Number [ASCII Coded] |  | DAI\_EXT\_TF\_E\_11343 |

## DIA\_runDidFD03\_ECUTraceablityNumberWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD03\_ECUTraceablityNumberWrite**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType\_1 OpStatus, P2VAR(Dcm\_NegativeResponseCodeType\_1, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the Ecu Traceability Number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| OpStatus | Dcm\_OpStatusType\_1 |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType\_1 |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0585; ARCH\_SW\_DIA\_0586; ARCH\_SW\_DIA\_0587; ARCH\_SW\_DIA\_0588 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0586 | The Write AEE Traceability Number And PCBA programmed PN shall be available in the following sessions:  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11352 |
| ARCH\_SW\_DIA\_0587 | The Write AEE Traceability Number And PCBA Programmed PN service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production |  | DAI\_EXT\_TF\_E\_11353 |
| ARCH\_SW\_DIA\_0588 | Request data shall be 22 bytes long.  Note: Full Request length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11357 |

## DIA\_runDidFD03\_PCBAProgrammedPartNumberWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DIA\_runDidFD03\_PCBAProgrammedPartNumberWrite** (P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType\_1 OpStatus, P2VAR(Dcm\_NegativeResponseCodeType\_1, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the PCBA Programmed Part Number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| OpStatus | Dcm\_OpStatusType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0585; ARCH\_SW\_DIA\_0589; ARCH\_SW\_DIA\_0590; ARCH\_SW\_DIA\_0591; ARCH\_SW\_DIA\_0592; ARCH\_SW\_DIA\_0593 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0589 | Bytes #2-#3: DataIdentifier of the Write AEE Traceability Number And PCBA programmed PN shall be: 0xFD03 |  | DAI\_EXT\_TF\_E\_11356 |
| ARCH\_SW\_DIA\_0590 | Bytes #4-#15:  ⦁AEE Traceability Number [ASCII Coded] |  | DAI\_EXT\_TF\_E\_11358 |
| ARCH\_SW\_DIA\_0591 | Bytes #16-#25:  ⦁PCBA programmed Part Number [ASCII Coded] |  | DAI\_EXT\_TF\_E\_11359 |
| ARCH\_SW\_DIA\_0592 | Byte #1: SID-PR of the WriteDataByIdentifier service shall be 0x6E. |  | DAI\_EXT\_TF\_E\_11350 |
| ARCH\_SW\_DIA\_0593 | Bytes #2-#3: Data Identifier of the Write AEE Traceability Number And PCBA programmed PN Service shall be: 0xFD03 |  | DAI\_EXT\_TF\_E\_11351 |

## DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Reprogramming Attempt Counter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0595 | | | |

## DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the Reprogramming Attempt Counter stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0595; ARCH\_SW\_DIA\_0596; ARCH\_SW\_DIA\_0597; ARCH\_SW\_DIA\_0598 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0596 | The Read Reprogramming Attempt Counter service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10746 |
| ARCH\_SW\_DIA\_0597 | The Read Reprogramming Attempt Counter service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11217 |
| ARCH\_SW\_DIA\_0598 | DataIdentifier of the Read Reprogramming Attempt Counter shall be: 0x0100 |  | DAI\_EXT\_TF\_E\_10757 |

## DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Reprogramming\_Attempt\_Counter\_Read\_Reprogramming\_Attempts\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the length of the Reprogramming Attempt Counter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0595; ARCH\_SW\_DIA\_0599; ARCH\_SW\_DIA\_0600; ARCH\_SW\_DIA\_0601; ARCH\_SW\_DIA\_0602 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0599 | Response data length shall be (4 bytes\* number of logical blocks) long.  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10759 |
| ARCH\_SW\_DIA\_0600 | Byte #4 #5:  ⦁Number Of Reprogramming Attempts  default value: 0x0000 if ECU erased and Programmed by the ECU supplier |  | DAI\_EXT\_TF\_E\_11221 |
| ARCH\_SW\_DIA\_0601 | Byte #6 #7:  ⦁Max. Number Of Reprogramming Attempts |  | DAI\_EXT\_TF\_E\_11223 |
| ARCH\_SW\_DIA\_0602 | The reprogramming attempt counter shall be incremented by each reprogramming attempt. |  | DAI\_EXT\_TF\_E\_11362 |

## DataServices\_Vehicle\_Odometer\_in\_Low\_Resolution\_Read\_Vehicle\_Odometer\_in\_Low\_Resolution\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DataServices\_Vehicle\_Odometer\_in\_Low\_Resolution\_Read\_Vehicle\_Odometer\_in\_Low\_Resolution\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Vehicle Odometer in Low Resolution. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0605 | | | |

## DataServices\_Vehicle\_Odometer\_in\_Low\_Resolution\_Read\_Vehicle\_Odometer\_in\_Low\_Resolution\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DataServices\_Vehicle\_Odometer\_in\_Low\_Resolution\_Read\_Vehicle\_Odometer\_in\_Low\_Resolution\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the Vehicle Odometer in Low Resolution stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0605; ARCH\_SW\_DIA\_0606; ARCH\_SW\_DIA\_0607; ARCH\_SW\_DIA\_0608; ARCH\_SW\_DIA\_0609; ARCH\_SW\_DIA\_0610; ARCH\_SW\_DIA\_0611 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0606 | The Read Vehicle Odometer in Low Resolution service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11204 |
| ARCH\_SW\_DIA\_0607 | The Read Vehicle Odometer in Low Resolution service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11205 |
| ARCH\_SW\_DIA\_0608 | DataIdentifier of the Read Vehicle Odometer in Low Resolution shall be: 0x010A |  | DAI\_EXT\_TF\_E\_11207 |
| ARCH\_SW\_DIA\_0609 | Response data length shall be 2 bytes long.  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11209 |
| ARCH\_SW\_DIA\_0610 | Bytes #2-#3: DataIdentifier of the Read Vehicle Odometer in Low Resolution shall be: 0x010A |  | DAI\_EXT\_TF\_E\_11211 |
| ARCH\_SW\_DIA\_0611 | Byte #4 #5:  ⦁Vehicle Odometer In Low Resolution  Offset is 0 (i.e. 0x00 = 0 km)  Resolution is 16 (e.g. 0x10 = 16 km)  Range is 0 km -> 1048544 km |  | DAI\_EXT\_TF\_E\_11212 |

## DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DataServices\_Vehicle\_Odometer\_in\_Low\_Resolution\_Read\_Vehicle\_Odometer\_in\_Low\_Resolution\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Adjust ISO 15765-2 Block Size and STmin Parameter | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0615 | | | |

## DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the Adjust ISO 15765-2 Block Size and STmin Parameter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0615; ARCH\_SW\_DIA\_0616; ARCH\_SW\_DIA\_0617; ARCH\_SW\_DIA\_0618; ARCH\_SW\_DIA\_0619 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0616 | Description: Service Read Adjust ISO 15765-2 Block Size and STmin Parameter shall report the ISO 15762-2 Transport Protocol parameters such as BlockSize (BS) and minimum Separation Time which are transmitted within the FlowControl message. |  | DAI\_EXT\_TF\_E\_10601 |
| ARCH\_SW\_DIA\_0617 | The Read Adjust ISO 15765-2 Block Size and STmin Parameter service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10604 |
| ARCH\_SW\_DIA\_0618 | The Read Adjust ISO 15765-2 Block Size and STmin Parameter service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_10605 |
| ARCH\_SW\_DIA\_0619 | DataIdentifier of the Read Adjust ISO 15765-2 Block Size and STmin Parameter shall be: 0x010B |  | DAI\_EXT\_TF\_E\_10609 |

## DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE)  **DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Read Condition of the Adjust ISO 15765-2 Block Size and STmin Parameter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0615 | | | |

## DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function reads the Adjust ISO 15765-2 Block Size and STmin Parameter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0615; ARCH\_SW\_DIA\_0620; ARCH\_SW\_DIA\_0621 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0620 | Response data length shall be 2 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10612 |
| ARCH\_SW\_DIA\_0621 | Bytes #4 #5:  ⦁Block Size Value as defined in ISO 15765-2  ⦁STmin Value as defined in ISO 15765-2 |  | DAI\_EXT\_TF\_E\_10615 |

## DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_Block\_Size\_Value\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| OpStatus | Dcm\_OpStatusType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0625; ARCH\_SW\_DIA\_0626; ARCH\_SW\_DIA\_0627; ARCH\_SW\_DIA\_0628 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0626 | The Write Adjust ISO 15765-2 Block Size and STmin Parameter service shall be available in the following sessions:  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11075 |
| ARCH\_SW\_DIA\_0627 | The Write Adjust ISO 15765-2 Block Size and STmin Parameter service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11076 |
| ARCH\_SW\_DIA\_0628 | Bytes #2-#3: DataIdentifier of the Write Adjust ISO 15765-2 Block Size and STmin Parameter shall be: 0x010B |  | DAI\_EXT\_TF\_E\_11327 |

## DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter\_Read\_STmin\_Value\_WriteData** (P2CONST(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the Adjust\_ISO\_15765\_2\_Block\_Size\_and\_STmin\_Parameter. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| OpStatus | Dcm\_OpStatusType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0625; ARCH\_SW\_DIA\_0629; ARCH\_SW\_DIA\_0630; ARCH\_SW\_DIA\_0631 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0629 | Request data length shall be 2 bytes long  Note: Full Request length = 3 bytes + Request data length |  | DAI\_EXT\_TF\_E\_11078 |
| ARCH\_SW\_DIA\_0630 | Byte #4:  ⦁bits 0-7: Block Size Value as defined in ISO 15765-2 |  | DAI\_EXT\_TF\_E\_11079 |
| ARCH\_SW\_DIA\_0631 | Byte #5:  ⦁bits 0-7: STmin Value as defined in ISO 15765-2 |  | DAI\_EXT\_TF\_E\_11080 |

## DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Task Response Time Condition. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0635 | | | |

## DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that calculates Task Response Time per each task in a histogram type of calculation. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0635; ARCH\_SW\_DIA\_0636; ARCH\_SW\_DIA\_0637; ARCH\_SW\_DIA\_0638 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0636 | The Read Task Response Time service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10620 |
| ARCH\_SW\_DIA\_0637 | The Read Task Response Time service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_10621 |
| ARCH\_SW\_DIA\_0638 | DataIdentifier of the Read Task Response Time shall be: 0x01E0 |  | DAI\_EXT\_TF\_E\_10625 |

## DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_Task\_Response\_Time\_Read\_Task\_histograms\_ReadDataLength** (Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Task Response Time for each task. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | uint176 | Out | Note: For each task there will be 16 bytes on response meaning that the total length for each task is 16 bytes x 11 tasks = 176 bytes |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0635; ARCH\_SW\_DIA\_0639; ARCH\_SW\_DIA\_0640 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0639 | Response data length shall be 16 bytes for each task.  Note: Full Response length = 3 bytes + Response data length  Note: For each task there will be 16 bytes on response meaning that the total length for each task is 16 bytes x 11 tasks = 176 bytes |  | DAI\_EXT\_TF\_E\_10628 |
| ARCH\_SW\_DIA\_0640 | Bytes #4 - #15 = Task Histogram [16 bytes]:  ⦁[Byte0] Task ID  ⦁[Byte1] 0-19%, PercentUpdate  ⦁[Byte2] 20-39%, PercentUpdate  ⦁[Byte3] 40-59%, PercentUpdate  ⦁[Byte4] 60-79%, PercentUpdate  ⦁[Byte5] 80-99%, PercentUpdate  ⦁[Byte6] 100-119%, PercentUpdate  ⦁[Byte7] 120-139%, PercentUpdate  ⦁[Byte8] 140-159%, PercentUpdate  ⦁[Byte9] 160-179%, PercentUpdate  ⦁[Byte10] 180-199%, PercentUpdate  ⦁[Byte11] >=200%, PercentUpdate  ⦁[Byte12-Byte15] Max us, Microseconds |  | DAI\_EXT\_TF\_E\_10631 |

## DataServices\_System\_Time\_read\_Read\_System\_time\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_System\_Time\_read\_Read\_System\_time\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the System Time Read Condition. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0645 | | | |

## DataServices\_System\_Time\_read\_Read\_System\_time\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **DataServices\_System\_Time\_read\_Read\_System\_time\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that retrieves the System Time stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0645; ARCH\_SW\_DIA\_0646; ARCH\_SW\_DIA\_0647; ARCH\_SW\_DIA\_0648; ARCH\_SW\_DIA\_0649; ARCH\_SW\_DIA\_0650 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0646 | The Read System Time service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10778 |
| ARCH\_SW\_DIA\_0647 | The Read System Time service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11228 |
| ARCH\_SW\_DIA\_0648 | DataIdentifier of the Read System Time shall be: 0x02EA |  | DAI\_EXT\_TF\_E\_10776 |
| ARCH\_SW\_DIA\_0649 | Response data length shall be 4 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10783 |
| ARCH\_SW\_DIA\_0650 | Bytes #4 to #7  ⦁ bits 0-7: System Time [BCD coded] |  | DAI\_EXT\_TF\_E\_11232 |

## DiagCommonData – EF00 / EF01 / EF03 / EF05 / F100 / F104 / F10D / F111 / F121 / F154 / F155

### EF00 - ECU Extract Version

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function that retrieves the version information of the ECU Extract. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0656; ARCH\_SW\_DIA\_0657; ARCH\_SW\_DIA\_0658; ARCH\_SW\_DIA\_0659; ARCH\_SW\_DIA\_0660 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0656 | The Read ECU Extract Version service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10830 |
| ARCH\_SW\_DIA\_0657 | The Read ECU Extract Version service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_10831 |
| ARCH\_SW\_DIA\_0658 | DataIdentifier of the Read ECU Extract Version shall be: 0xEF00 |  | DAI\_EXT\_TF\_E\_10828 |
| ARCH\_SW\_DIA\_0659 | Response data length shall be 54 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10835 |
| ARCH\_SW\_DIA\_0660 | Byte #4:  ⦁bits 0-7: ECU Extract Major Version  Byte #5:  ⦁bits 0-7: ECU Extract Minor Version  Byte #6:  ⦁bits 0-7: ECU Extract Patch Version  Bytes #7:  ⦁bits 0-7: Identification Type (Constant = 0x00)  Note: This is not returned on response, instead it is just for EF00 Identification between the CDD Routines.  Byte #8-#17:  ⦁bits 0-7: XDIS Version  Byte #18-#27:  ⦁bits 0-7: Export Date  Byte #28-#57:  ⦁bits 0-7: ECU Name |  | DAI\_EXT\_TF\_E\_11237;  DAI\_EXT\_TF\_E\_11240;  DAI\_EXT\_TF\_E\_11241;  DAI\_EXT\_TF\_E\_11242;  DAI\_EXT\_TF\_E\_11243;  DAI\_EXT\_TF\_E\_11244;  DAI\_EXT\_TF\_E\_11245 |

### EF01 - Diagnostic Extract Version

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function that retrieves the version information of the CANdela File (CDD) and the Diagnostic Extract. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0661; ARCH\_SW\_DIA\_0662; ARCH\_SW\_DIA\_0663; ARCH\_SW\_DIA\_0664; ARCH\_SW\_DIA\_0665 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0661 | The Read Diagnostic Extract Version service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10843 |
| ARCH\_SW\_DIA\_0662 | The Read Diagnostic Extract Version service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11247 |
| ARCH\_SW\_DIA\_0663 | DataIdentifier of the Read Diagnostic Extract Version shall be: 0xEF01 |  | DAI\_EXT\_TF\_E\_10841 |
| ARCH\_SW\_DIA\_0664 | Response data length shall be 53 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10848 |
| ARCH\_SW\_DIA\_0665 | Byte #4:  ⦁bits 0-7: Diagnostic Extract Major Version  Byte #5:  ⦁bits 0-7: Diagnostic Extract Minor Version  Byte #6:  ⦁bits 0-7: Diagnostic Extract Patch Version  Bytes #7-#16:  ⦁bits 0-7: CANDela Version  Bytes #17-#26:  ⦁bits 0-7: DDM Version  Bytes #27-#56:  ⦁bits 0-7: Exported Diagnostic Variant |  | DAI\_EXT\_TF\_E\_10849;  DAI\_EXT\_TF\_E\_10850;  DAI\_EXT\_TF\_E\_10851;  DAI\_EXT\_TF\_E\_10852;  DAI\_EXT\_TF\_E\_10853;  DAI\_EXT\_TF\_E\_10854 |

### EF03 - Standard Application SW Package Information

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function shall report information regarding the Autosar Platform, Software Package Version, the µC Identification and Supplier Identification of the Application Software Communication stack. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0666; ARCH\_SW\_DIA\_0667; ARCH\_SW\_DIA\_0668; ARCH\_SW\_DIA\_0669; ARCH\_SW\_DIA\_0670 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0666 | The Read Standard Application SW Package Information service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10862 |
| ARCH\_SW\_DIA\_0667 | The Read Standard Application SW Package Information service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_11251 |
| ARCH\_SW\_DIA\_0668 | DataIdentifier of the Read Standard Application SW Package Information shall be: 0xEF03 |  | DAI\_EXT\_TF\_E\_10860 |
| ARCH\_SW\_DIA\_0669 | Response data length shall be 17 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10867 |
| ARCH\_SW\_DIA\_0670 | Byte #4:  ⦁bits 0-7: Standard Application SW Package Major Version  Byte #5:  ⦁bits 0-7: Standard Application SW Package Minor Version  Byte #6:  ⦁bits 0-7: Standard Application SW Package Patch Version  Byte #7:  ⦁bits 0-7: Standard Application SW Package Build Version  Bytes #8-#17:  ⦁bits 0-7: µC ID  Bytes #18-#19:  ⦁bits 0-7: Supplier Identification  Byte #20:  ⦁bits 0-7: AUTOSAR Platform |  | DAI\_EXT\_TF\_E\_11255;  DAI\_EXT\_TF\_E\_10869;  DAI\_EXT\_TF\_E\_10870;  DAI\_EXT\_TF\_E\_10871;  DAI\_EXT\_TF\_E\_10872;  DAI\_EXT\_TF\_E\_10873;  DAI\_EXT\_TF\_E\_10874 |

### EF05 - Minimum SW Version

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function shall read Minimum SW Version for each logical block, that can be flashed to this ECU. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0671; ARCH\_SW\_DIA\_0672; ARCH\_SW\_DIA\_0673; ARCH\_SW\_DIA\_0674; ARCH\_SW\_DIA\_0675 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0671 | The Read Minimum SW Version service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10882 |
| ARCH\_SW\_DIA\_0672 | The Read Minimum SW Version service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_11256 |
| ARCH\_SW\_DIA\_0673 | DataIdentifier of the Read Minimum SW Version shall be: 0xEF05 |  | DAI\_EXT\_TF\_E\_10880 |
| ARCH\_SW\_DIA\_0674 | Response data length shall be 3 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10893 |
| ARCH\_SW\_DIA\_0675 | Byte #4:  ⦁bits 0-7: SW Year  Byte #5:  ⦁bits 0-7: SW Week  Byte #6:  ⦁bits 0-7: SW Patch Level |  | DAI\_EXT\_TF\_E\_11260;  DAI\_EXT\_TF\_E\_11261;  DAI\_EXT\_TF\_E\_11262 |

### F100 - Active Diagnostic Information

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function shall read information about the Diagnostic Identification (current Diagnostic Status, Diagnostic Variant and Version) and the current Diagnostic Session of an ECU. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0676; ARCH\_SW\_DIA\_0677; ARCH\_SW\_DIA\_0678; ARCH\_SW\_DIA\_0679; ARCH\_SW\_DIA\_0680; ARCH\_SW\_DIA\_0681 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0676 | The Read Active Diagnostic Information shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10906 |
| ARCH\_SW\_DIA\_0677 | The Read Active Diagnostic Information service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11263 |
| ARCH\_SW\_DIA\_0678 | DataIdentifier of the Read Active Diagnostic Information shall be: 0xF100 |  | DAI\_EXT\_TF\_E\_10904 |
| ARCH\_SW\_DIA\_0679 | Response data length shall be 4 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10910 |
| ARCH\_SW\_DIA\_0680 | Bytes #2-#3: DataIdentifier of the Read Active Diagnostic Information shall be: 0xF100 |  | DAI\_EXT\_TF\_E\_11266 |
| ARCH\_SW\_DIA\_0681 | Byte #4:  ⦁bits 0-7: Active Diagnostic Status  0 = Application / 1 = Bootloader  Byte #5:  ⦁bits 0-7: Active Diagnostic Variant  Byte #6:  ⦁bits 0-7: Active Diagnostic Version  Byte #7:  ⦁bits 0-7: Active Diagnostic Sesion  -- 0x01: Default  -- 0x02: Programming  -- 0x04: Extended |  | DAI\_EXT\_TF\_E\_10911;  DAI\_EXT\_TF\_E\_10912;  DAI\_EXT\_TF\_E\_10913;  DAI\_EXT\_TF\_E\_11363 |

### F104 - ECU Name

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function is used to retrieve the name of the CANdela file from the ECU. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0682; ARCH\_SW\_DIA\_0683; ARCH\_SW\_DIA\_0684; ARCH\_SW\_DIA\_0685; ARCH\_SW\_DIA\_0686 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0682 | The Read ECU Name shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10935 |
| ARCH\_SW\_DIA\_0683 | The Read ECU Name service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11267 |
| ARCH\_SW\_DIA\_0684 | DataIdentifier of the Read ECU Name shall be: 0xF104 |  | DAI\_EXT\_TF\_E\_10933 |
| ARCH\_SW\_DIA\_0685 | Response data length shall be 1 byte long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10939 |
| ARCH\_SW\_DIA\_0686 | Byte #4: Diagnostic ECU Name coded in ASCII  Left ECU - RBTMFL174  Right ECU - RBTMFR174 |  | DAI\_EXT\_TF\_E\_11270 |

### F10D - DDS Package Release

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function shall provide the release information (YY-MM) of the MBDS Package (Mercedes-Benz Diagnostic Specification) according to which the ECU diagnostic software was developed. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0687; ARCH\_SW\_DIA\_0688; ARCH\_SW\_DIA\_0689; ARCH\_SW\_DIA\_0690; ARCH\_SW\_DIA\_0691 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0687 | The Read DDS Package Release shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10947 |
| ARCH\_SW\_DIA\_0688 | The Read DDS Package Release service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Internal Diagnostic Test Tool |  | DAI\_EXT\_TF\_E\_11273 |
| ARCH\_SW\_DIA\_0689 | DataIdentifier of the Read DDS Package Release shall be: 0xF10D |  | DAI\_EXT\_TF\_E\_10945 |
| ARCH\_SW\_DIA\_0690 | Response data length shall be 4 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10951 |
| ARCH\_SW\_DIA\_0691 | Byte #4:  ⦁bits 0-7: Year Application DDS Package Release  Byte #5:  ⦁bits 0-7: Month Application DDS Package Release  Byte #6:  ⦁bits 0-7: Year Boot DDS Package Release  Byte #7:  ⦁bits 0-7: Month Boot DDS Package Release |  | DAI\_EXT\_TF\_E\_11277;  DAI\_EXT\_TF\_E\_10952;  DAI\_EXT\_TF\_E\_10953;  DAI\_EXT\_TF\_E\_11278 |

### F111 - MBC ECU Identification - Hardware Part Number

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function shall report the Hardware Part Number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0692; ARCH\_SW\_DIA\_0693; ARCH\_SW\_DIA\_0694; ARCH\_SW\_DIA\_0695; ARCH\_SW\_DIA\_0696; ARCH\_SW\_DIA\_1040; ARCH\_SW\_DIA\_1041; ARCH\_SW\_DIA\_1042 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0692 | The Read MBC ECU Identification - Hardware Part Number shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_10965 |
| ARCH\_SW\_DIA\_0693 | The Read MBC ECU Identification - Hardware Part Number service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11279 |
| ARCH\_SW\_DIA\_0694 | DataIdentifier of the Read MBC ECU Identification - Hardware Part Number shall be: 0xF111 |  | DAI\_EXT\_TF\_E\_10963 |
| ARCH\_SW\_DIA\_0695 | Response data length shall be 10 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_10969 |
| ARCH\_SW\_DIA\_0696 | Bytes #2-#3: DataIdentifier of the Read MBC ECU Identification - Hardware Part Number shall be: 0xF111  Bytes #4-#13: Hardware Part Number [ASCII coded] |  | DAI\_EXT\_TF\_E\_11282;  DAI\_EXT\_TF\_E\_11283 |
| ARCH\_SW\_DIA\_1040 | Hardware Part Number shall not be overwritten during flashing process. |  | DAI\_EXT\_TF\_E\_11583 |
| ARCH\_SW\_DIA\_1041 | Both Hardware Part Numbers for Left side and Right side shall be stored in ECU, and based on the ECU location shall be automatically alocated to that ECU |  | DAI\_EXT\_TF\_E\_11584 |
| ARCH\_SW\_DIA\_1042 | Default Hardware Part Number if has not been written:  Left Hardware Part Number: 0x30 0x30 0x30 0x30 0x30 0x30 0x30 0x30 0x30 0x30  Right Hardware Part Number: 0x30 0x30 0x30 0x30 0x30 0x30 0x30 0x30 0x30 0x30 |  | DAI\_EXT\_TF\_E\_11585 |

### F121 - MBC ECU Identification - Software Logical Block Part Number(s)

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function is used to report the Software Part Number(s). | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0697; ARCH\_SW\_DIA\_0698; ARCH\_SW\_DIA\_0699; ARCH\_SW\_DIA\_0700 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0697 | The Read MBC ECU Identification - Software Logical Block Part Number(s) shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11284 |
| ARCH\_SW\_DIA\_0698 | The Read MBC ECU Identification - Software Logical Block Part Number(s) service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11285 |
| ARCH\_SW\_DIA\_0699 | DataIdentifier of the Read MBC ECU Identification - Software Logical Block Part Number(s) shall be: 0xF121 |  | DAI\_EXT\_TF\_E\_10976 |
| ARCH\_SW\_DIA\_0700 | ⦁Bytes #4-#13: Software Logical Block # Part Number (shall be repetead for each software logical block) |  | DAI\_EXT\_TF\_E\_11289 |

### F154 - Hardware Supplier Identification

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function shall report the Hardware Supplier Identification of an ECU which determines the manufacturer of an ECU's hardware. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0701; ARCH\_SW\_DIA\_0702; ARCH\_SW\_DIA\_0703; ARCH\_SW\_DIA\_0704; ARCH\_SW\_DIA\_0705 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0701 | The Read Hardware Supplier Identification shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E |  | DAI\_EXT\_TF\_E\_11029 |
| ARCH\_SW\_DIA\_0702 | The Read Hardware Supplier Identification service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11302 |
| ARCH\_SW\_DIA\_0703 | DataIdentifier of the Read Hardware Supplier Identification shall be: 0xF154 |  | DAI\_EXT\_TF\_E\_11027 |
| ARCH\_SW\_DIA\_0704 | Response data length shall be 2 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11033 |
| ARCH\_SW\_DIA\_0705 | Byte #4:  ⦁bits 0-7: Hardware Supplier Identification  Byte #5:  ⦁bits 0-7: Hardware Supplier Identification |  | DAI\_EXT\_TF\_E\_11306;  DAI\_EXT\_TF\_E\_11307 |

### F155 - Software Supplier Identification

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| DiagCommonData {} | | | |
| **Object** | | | |
| Function shall read the Software Supplier Identification of an ECU. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| **Returned value** | | | |
| Name | Description | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0655; ARCH\_SW\_DIA\_0706; ARCH\_SW\_DIA\_0707; ARCH\_SW\_DIA\_0708; ARCH\_SW\_DIA\_0709; ARCH\_SW\_DIA\_0710; ARCH\_SW\_DIA\_0711 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0706 | DataIdentifier of the Software Supplier Identification shall be: 0xF155 |  | DAI\_EXT\_TF\_E\_11039 |
| ARCH\_SW\_DIA\_0707 | The Read Software Supplier Identification shall be available in the following sessions:  ⦁ Default Session (0x01)  ⦁ Programming Session (0x02)  ⦁ Extended Session (0x03)  ⦁ Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11308 |
| ARCH\_SW\_DIA\_0708 | The Read Software Supplier Identification service shall be available under the following forms of Authentication:  ⦁ Supplier  ⦁ Development ENHANCED  ⦁ Production  ⦁ After-Sales ENHANCED  ⦁ After-Sales  ⦁ After-Sales BASIC  ⦁ Internal Diagnostic Test Tool  ⦁ ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11309 |
| ARCH\_SW\_DIA\_0709 | Response data length shall be 2 bytes long for eack logical block  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11311 |
| ARCH\_SW\_DIA\_0710 | Bytes #2-#3: DataIdentifier of the Read Software Supplier Identification shall be: 0xF155 |  | DAI\_EXT\_TF\_E\_11313 |
| ARCH\_SW\_DIA\_0711 | Byte #4:  ⦁bits 0-7: Software Logical Block Supplier Identification  Byte #5:  ⦁bits 0-7: Software Logical Block Supplier Identification |  | DAI\_EXT\_TF\_E\_11314;  DAI\_EXT\_TF\_E\_11315 |

## DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Reprogramming Capabilities Read Service. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0715 | | | |

## DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that returns the Reprogramming Capabilities stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0715; ARCH\_SW\_DIA\_0716; ARCH\_SW\_DIA\_0717; ARCH\_SW\_DIA\_0718 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0716 | The Read Reprogramming Capabilities shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11290 |
| ARCH\_SW\_DIA\_0717 | The Read Reprogramming Capabilities service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11291 |
| ARCH\_SW\_DIA\_0718 | DataIdentifier of the Read Reprogramming Capabilities shall be: 0xF130 |  | DAI\_EXT\_TF\_E\_10992 |

## DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Reprogramming\_capabilities\_Read\_Reprogramming\_Capabilities\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Reprogramming Capabilities DID. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint32 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0715; ARCH\_SW\_DIA\_0719; ARCH\_SW\_DIA\_0720 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0719 | Bytes #2-#3: DataIdentifier of the Read Reprograming Capabilities shall be: 0xF130 |  | DAI\_EXT\_TF\_E\_11294 |
| ARCH\_SW\_DIA\_0720 | Byte #4:  ⦁bits 0-7: Security Class  Default Value = 0x03 (CCCv2)  Byte #5:  ⦁bits 0-7: Delta Update Support  Byte #6-#35:  ⦁bits 0-7: Delta Algorithm  Byte #36:  ⦁bits 0-7: OFR |  | DAI\_EXT\_TF\_E\_10999; DAI\_EXT\_TF\_E\_11000;  DAI\_EXT\_TF\_E\_11295;  DAI\_EXT\_TF\_E\_11296 |

## DataServices\_Supported\_configuration\_mechanisms\_Read\_Config\_mechanisms\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Supported\_configuration\_mechanisms\_Read\_Config\_mechanisms\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Supported Configuration Mechanisms Read Service. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0725 | | | |

## DataServices\_Supported\_configuration\_mechanisms\_Read\_Config\_mechanisms\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Supported\_configuration\_mechanisms\_Read\_Config\_mechanisms\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that returns the Reprogramming Capabilities stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0725; ARCH\_SW\_DIA\_0726; ARCH\_SW\_DIA\_0727; ARCH\_SW\_DIA\_0728; ARCH\_SW\_DIA\_0729; ARCH\_SW\_DIA\_0730 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0726 | The Read Supported Configuration Mechanisms shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11008 |
| ARCH\_SW\_DIA\_0727 | The Read Supported Configuration Mechanisms service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11297 |
| ARCH\_SW\_DIA\_0728 | DataIdentifier of the Read Supported Configuration Mechanisms shall be: 0xF131 |  | DAI\_EXT\_TF\_E\_11006 |
| ARCH\_SW\_DIA\_0729 | Response data length shall be 1 byte long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11012 |
| ARCH\_SW\_DIA\_0730 | Byte #4:  ⦁bits 0-7: Configuration Mechanisms |  | DAI\_EXT\_TF\_E\_11301 |

## DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Software Fingerprint Read Service. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0735 | | | |

## DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that returns the Software Fingerprint stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0735; ARCH\_SW\_DIA\_0736; ARCH\_SW\_DIA\_0737; ARCH\_SW\_DIA\_0738 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0736 | The Read Software Fingerprint shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11059 |
| ARCH\_SW\_DIA\_0737 | The Read Software Fingerprint service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11316 |
| ARCH\_SW\_DIA\_0738 | DataIdentifier of the Read Software Fingerprint shall be: 0xF15B |  | DAI\_EXT\_TF\_E\_11057 |

## DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_ReadFingerprint\_Read\_Software\_Fingerprint\_s\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Software Fingerprint DID. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint32 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0735; ARCH\_SW\_DIA\_0739; ARCH\_SW\_DIA\_0740 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0739 | Response data length shall be 20 bytes\* nb of logical blocks  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11063 |
| ARCH\_SW\_DIA\_0740 | Byte #4:  ⦁Status Information - Logical Block #0  Bytes #5 -#20:  ⦁Diagnostic Authentication Certificate ID  Byte #21:  ⦁Programming Date Year  Byte #22:  ⦁Programming Date Month  Byte #23:  ⦁Programming Date Day |  | DAI\_EXT\_TF\_E\_11320;  DAI\_EXT\_TF\_E\_11321;  DAI\_EXT\_TF\_E\_11322;  DAI\_EXT\_TF\_E\_11323;  DAI\_EXT\_TF\_E\_11324 |

## DataServices\_Calibration\_Identifications\_CAL\_ID\_Write\_CombinedDataElement\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Calibration\_Identifications\_CAL\_ID\_Write\_CombinedDataElement\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, uint16 DataLength, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the Calibration Identifications CombinedDataElement Data. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| OpStatus | Dcm\_OpStatusType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0745; ARCH\_SW\_DIA\_0746; ARCH\_SW\_DIA\_0747; ARCH\_SW\_DIA\_0748 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0746 | The Write Calibration Identifications (CAL ID) service shall be available in the following sessions:  ⦁Programming (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11183 |
| ARCH\_SW\_DIA\_0747 | The Write Calibration Identifications (CAL ID) service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11184 |
| ARCH\_SW\_DIA\_0748 | Bytes #2-#3: DataIdentifier of the Write Calibration Identifications (CAL ID) shall be: 0xF804 |  | DAI\_EXT\_TF\_E\_11337 |

## DataServices\_Calibration\_Identifications\_CAL\_ID\_Write\_Number\_of\_data\_items

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_MBBL\_SsaAppl\_Coding\_CODE) **DataServices\_Calibration\_Identifications\_CAL\_ID\_Write\_Number\_of\_data\_items**(P2CONST(uint8, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_MBBL\_SSAAPPL\_CODING\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function writes the Calibration Identifications Number of Data Items. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 |  |  |
| OpStatus | Dcm\_OpStatusType |  |  |
| ErrorCode | Dcm\_NegativeResponseCodeType |  |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0745; ARCH\_SW\_DIA\_0749; ARCH\_SW\_DIA\_0750 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0749 | Request data shall be 17 bytes long.  Note: Full Request length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11186 |
| ARCH\_SW\_DIA\_0750 | Byte #4:  ⦁bits 0-7: Number of data items  Bytes #5-#21:  ⦁bits 0-7: Calibration Identification |  | DAI\_EXT\_TF\_E\_11187;  DAI\_EXT\_TF\_E\_11188 |

## DataServices\_Synchronize\_to\_Non\_volatile\_Memory\_Start

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Synchronize\_to\_Non\_volatile\_Memory\_Start**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Synchronize\_to\_Non\_volatile\_Memory\_Start\_routineInfoType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function executes the 0245 Routine Activation. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_Synchronize\_to\_Non\_volatile\_Memory\_Start\_routineInfoType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0755; ARCH\_SW\_DIA\_0756; ARCH\_SW\_DIA\_0757; ARCH\_SW\_DIA\_0758 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0756 | RoutineIdentifier shall be 0x0245. |  | DAI\_EXT\_TF\_E\_11130 |
| ARCH\_SW\_DIA\_0757 | Routine Start 0x01 shall be available in the following diagnostic sessions:  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E)  Routine Start requires the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11143 |
| ARCH\_SW\_DIA\_0758 | Routine Start 0x01 shall synchronize all data currently not synchronized from volatile memory to non-volatile memory. |  | DAI\_EXT\_TF\_E\_11145 |

## DataServices\_Synchronize\_to\_Non\_volatile\_Memory\_Stop

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **Synchronize\_to\_Non\_volatile\_Memory\_Stop**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StopDataOut\_Routine\_Synchronize\_to\_Non\_volatile\_Memory\_Start\_routineInfoType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function stops the execution of the 0245 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_Synchronize\_to\_Non\_volatile\_Memory\_Start\_routineInfoType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0755; ARCH\_SW\_DIA\_0759; ARCH\_SW\_DIA\_0760 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0759 | Routine Stop 0x02 shall be available in the following diagnostic sessions:  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E)  Routine Stop requires the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11151 |
| ARCH\_SW\_DIA\_0760 | Routine Stop 0x02 shall be responsible for deactivating the synchronization of all data |  | DAI\_EXT\_TF\_E\_11153 |

## DataServices\_Synchronize\_to\_Non\_volatile\_Memory\_RequestResults

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **Synchronize\_to\_Non\_volatile\_Memory\_Stop**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StopDataOut\_Routine\_Synchronize\_to\_Non\_volatile\_Memory\_Start\_routineInfoType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function stops the execution of the 0245 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_Synchronize\_to\_Non\_volatile\_Memory\_Start\_routineInfoType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0755; ARCH\_SW\_DIA\_0761; ARCH\_SW\_DIA\_0762 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0761 | Routine Request Results 0x03 shall be available in the following diagnostic sessions:  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E)  Routine Stop requires the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11157 |
| ARCH\_SW\_DIA\_0762 | RID specific Routine Result shall be represented by the following:  ⦁0x00 - Terminated successful.  ⦁0x01 - Routine still running.  ⦁0x02 - Stopped without result |  | DAI\_EXT\_TF\_E\_11162;  DAI\_EXT\_TF\_E\_11163;  DAI\_EXT\_TF\_E\_11164 |

## Ssa\_ProcCtrl\_RoutineServices\_Routine\_Replace\_Trust\_model\_Certificates

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ssa\_ProcCtrl\_CODE) **Ssa\_ProcCtrl\_RoutineServices\_Routine\_Replace\_Trust\_model\_Certificates(**P2CONST(uint8, AUTOMATIC, RTE\_SSA\_PROCCTRL\_APPL\_DATA) Trust\_Certificates\_In,Dcm\_OpStatusType OpStatus,P2VAR(uint8, AUTOMATIC, RTE\_SSA\_PROCCTRL\_APPL\_VAR) routineInfo\_Out,P2VAR(uint8, AUTOMATIC, RTE\_SSA\_PROCCTRL\_APPL\_VAR) Verification\_Result\_Out,uint16 DataLength,P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_SSA\_PROCCTRL\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function executes the 0277 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Trust\_Certificates\_In | Uint8 | In |  |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo\_Out | Uint8 | Out |  |
| Verification\_Result\_Out | Uint8 | Out |  |
| DataLength | Uint16 | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0765; ARCH\_SW\_DIA\_0766; ARCH\_SW\_DIA\_0767; ARCH\_SW\_DIA\_0768; ARCH\_SW\_DIA\_0769; ARCH\_SW\_DIA\_0770 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0766 | RoutineIdentifier shall be 0x0277. |  | DAI\_EXT\_TF\_E\_11170 |
| ARCH\_SW\_DIA\_0767 | The folowing request shall be available for this RID:  - Start Routine |  | DAI\_EXT\_TF\_E\_11171 |
| ARCH\_SW\_DIA\_0771 | Routine Start shall be available in the following diagnostic sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E)  ⦁Update Session (0x42)  Routine Start requires the following forms of Authentication:  ⦁Production |  | DAI\_EXT\_TF\_E\_11173 |
| ARCH\_SW\_DIA\_0768 | Routine Start shall replace the currently stored Trust model ECU Root Certificate |  | DAI\_EXT\_TF\_E\_11175 |
| ARCH\_SW\_DIA\_0769 | RID specific Control Options Record shall be represented by the following:  ⦁Byte 0: Signature new Root  ⦁Byte 64: Signature  ⦁Byte128: Certificates |  | DAI\_EXT\_TF\_E\_11178 |
| ARCH\_SW\_DIA\_0770 | RID specific Routine Start Result shall be represented by the following:  ⦁Byte 0: Verification Result |  | DAI\_EXT\_TF\_E\_11177 |

## DataServices\_Check\_Reprogramming\_Preconditions\_Routine\_Start

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Check\_Reprogramming\_Preconditions\_Routine\_Start(**Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Check\_Reprogramming\_Preconditions\_Start\_routineInfoType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) routineInfo, P2VAR(Dcm\_StartDataOut\_Routine\_Check\_Reprogramming\_Preconditions\_Start\_Number\_of\_Unfulfilled\_PreconditionsType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Number\_of\_Unfulfilled\_Preconditions, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) List\_of\_Preconditions, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function executes the 0203 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_Check\_Reprogramming\_Preconditions\_Start\_routineInfoType | Out |  |
| Number\_of\_Unfulfilled\_Preconditions | Dcm\_StartDataOut\_Routine\_Check\_Reprogramming\_Preconditions\_Start\_Number\_of\_Unfulfilled\_PreconditionsType | Out |  |
| List\_of\_Preconditions | Uint8 | Out |  |
| DataLength | Uint16 | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0805; ARCH\_SW\_DIA\_0806; ARCH\_SW\_DIA\_0807; ARCH\_SW\_DIA\_0808; ARCH\_SW\_DIA\_0809; ARCH\_SW\_DIA\_0810; ARCH\_SW\_DIA\_0811; ARCH\_SW\_DIA\_0812; ARCH\_SW\_DIA\_0813; ARCH\_SW\_DIA\_0814 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0806 | RoutineIdentifier shall be 0x0203. |  | DAI\_EXT\_TF\_E\_11085 |
| ARCH\_SW\_DIA\_0807 | The folowing request shall be available for this RID:  - Start Routine (01) |  | DAI\_EXT\_TF\_E\_11087 |
| ARCH\_SW\_DIA\_0808 | If the ECU does not need any preconditions to be fulfilled for being reprogrammed or all preconditions are fulfilled, it shall return 0x00 as Number of Unfulfilled Preconditions. |  | DAI\_EXT\_TF\_E\_11088 |
| ARCH\_SW\_DIA\_0809 | If there are unfulfilled preconditions, the ECU shall include each of them in the List of Unfulfilled Preconditions. |  | DAI\_EXT\_TF\_E\_11089 |
| ARCH\_SW\_DIA\_0810 | If there are additional preconditions necessary which are not contained in the List of Unfulfilled Preconditions, these shall be added in consultation with the Diagnostic Development Team. |  | DAI\_EXT\_TF\_E\_11090 |
| ARCH\_SW\_DIA\_0811 | Routine Start shall be available in the following diagnostic sessions:  ⦁Programming Session  ⦁Extended Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_11094 |
| ARCH\_SW\_DIA\_0812 | Routine Start shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED |  | DAI\_EXT\_TF\_E\_11364 |
| ARCH\_SW\_DIA\_0813 | Routine Start shall be responsible to check if any system or ECU conditions to successfully reprogram the ECU are not fulfilled. |  | DAI\_EXT\_TF\_E\_11096 |
| ARCH\_SW\_DIA\_0814 | RID specific Routine Start Result shall be represented by the following:  ⦁Byte 0: Number of Unfulfilled Preconditions.  ⦁Byte 1: List of Unfulfilled Preconditions |  | DAI\_EXT\_TF\_E\_11099 |
| ARCH\_SW\_DIA\_1019 | The programming shall still be possible in the folowing cases  ⦁vehicle\_speed information or Impact\_x information (CAN signals) not received since last power on/wake-up.  ⦁vehicle\_speed information or Impact\_x information is SNA  ⦁if vehicle\_speed information or Impact\_x information is lost during the active diagnostic session, the ECU shall use the last known valid preconditions to determine if a transition from Application Software to Reprogramming Software is allowed. |  | DAI\_EXT\_TF\_E\_11499 |

## DataServices\_PreCheckProgrammingDependencies\_Start

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_PreCheckProgrammingDependencies\_Start**(P2CONST(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_DATA) Pre\_Check\_Informations, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_PreCheckProgrammingDependencies\_Start\_routineInfoType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) routineInfo, P2VAR(Dcm\_StartDataOut\_Routine\_PreCheckProgrammingDependencies\_Start\_Dependencies\_Verification\_Check\_ResultType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Dependencies\_Verification\_Check\_Result, uint16 DataLength, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function executes the 0207 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Pre\_Check\_Informations | Uint8 | Out |  |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_PreCheckProgrammingDependencies\_Start\_routineInfoType | Out |  |
| Dependencies\_Verification\_Check\_Result | Dcm\_StartDataOut\_Routine\_PreCheckProgrammingDependencies\_Start\_Dependencies\_Verification\_Check\_ResultType | Out |  |
| DataLength | Uint16 | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0815; ARCH\_SW\_DIA\_0816; ARCH\_SW\_DIA\_0817; ARCH\_SW\_DIA\_0818; ARCH\_SW\_DIA\_0819; ARCH\_SW\_DIA\_0820; ARCH\_SW\_DIA\_0821; ARCH\_SW\_DIA\_0822; ARCH\_SW\_DIA\_0823 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0816 | RoutineIdentifier shall be 0x0207. |  | DAI\_EXT\_TF\_E\_11101 |
| ARCH\_SW\_DIA\_0817 | The folowing request shall be available for this RID:  - Start Routine (01) |  | DAI\_EXT\_TF\_E\_11102 |
| ARCH\_SW\_DIA\_0818 | Regarding the SW/SW and HW/SW compatibility checks the same algorithms shall be used like for RoutineControl "checkProgrammingDependencies |  | DAI\_EXT\_TF\_E\_11103 |
| ARCH\_SW\_DIA\_0819 | Contrary to RoutineControl "checkProgrammingDependencies", this service shall not change any ECU flags |  | DAI\_EXT\_TF\_E\_11104 |
| ARCH\_SW\_DIA\_0820 | Routine Start shall be available in the following diagnostic sessions:  ⦁Programming Session  ⦁Extended Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_11107 |
| ARCH\_SW\_DIA\_0821 | Routine Start shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED |  | DAI\_EXT\_TF\_E\_11365 |
| ARCH\_SW\_DIA\_0822 | Routine Start shall be responsible to check if any system or ECU conditions to successfully reprogram the ECU are not fulfilled.  RID specific Control Options Record shall be represented by the following:  Byte 0: Precheck Informations |  | DAI\_EXT\_TF\_E\_11109 |
| ARCH\_SW\_DIA\_0823 | RID specific Routine Start Result shall be represented by the following:  ⦁Byte 0: Dependencies Verification Check Result |  | DAI\_EXT\_TF\_E\_11111 |

## DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that Reads the Temperature Sensor Calibration Point. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0830; ARCH\_SW\_DIA\_0831; ARCH\_SW\_DIA\_0832; ARCH\_SW\_DIA\_0833 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0831 | The Read Temperature Sensor Calibration Point shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11540 |
| ARCH\_SW\_DIA\_0832 | The Read Temperature Sensor Calibration Point service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11541 |
| ARCH\_SW\_DIA\_0833 | Data Identifier of the Read Temperature Sensor Calibration Point Service shall be: 0xFD30 |  | DAI\_EXT\_TF\_E\_11545 |

## DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_ConditionCheckRead.**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0830; ARCH\_SW\_DIA\_0834; ARCH\_SW\_DIA\_0835 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0834 | Response data length shall be 1 byte long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11548 |
| ARCH\_SW\_DIA\_0835 | Byte #4:  ⦁ Offset Point (signed value) |  | DAI\_EXT\_TF\_E\_11551 |

## DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFD30\_Temperature\_Sensor\_Calibration\_Point\_Read\_Offset\_Point\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function that writes the Temperature Sensor Calibration Point | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 | Out |  |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0840; ARCH\_SW\_DIA\_0841; ARCH\_SW\_DIA\_0842; ARCH\_SW\_DIA\_0843; ARCH\_SW\_DIA\_0844 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0841 | The Write Temperature Sensor Calibration Point Service shall be available in the following sessions:  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11555 |
| ARCH\_SW\_DIA\_0842 | The Write Temperature Sensor Calibration Point service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11556 |
| ARCH\_SW\_DIA\_0843 | Request data shall be 1 byte long.  Note: Full Request length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11559 |
| ARCH\_SW\_DIA\_0844 | Byte #4:  ⦁Offset Point (signed value) |  | DAI\_EXT\_TF\_E\_11562 |

## DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that Reads the Velocity PI Regulation Coefficient. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | Out | Data to send to DiagOnCAN tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0845; ARCH\_SW\_DIA\_0846; ARCH\_SW\_DIA\_0847; ARCH\_SW\_DIA\_0848 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0846 | The Read Velocity PI Regulation Coefficients Service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E |  | DAI\_EXT\_TF\_E\_11379 |
| ARCH\_SW\_DIA\_0847 | The Read Velocity PI Regulation Coefficients service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11380 |
| ARCH\_SW\_DIA\_0848 | Data Identifier of the Read Velocity PI Regulation Coefficients Service shall be: 0xFDDF |  | DAI\_EXT\_TF\_E\_11384 |

## DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_ConditionCheckRead(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
|  | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0845; ARCH\_SW\_DIA\_0849; ARCH\_SW\_DIA\_0850 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0849 | Response data length shall be 30 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11387 |
| ARCH\_SW\_DIA\_0850 | Bytes #4-#33:  ⦁Input Velocity Coefficient |  | DAI\_EXT\_TF\_E\_11390 |

## DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDidFDDF\_Velocity\_PI\_Regulation\_Coefficient\_Read\_Input\_Velocity\_Coefficient\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function that writes the Temperature Sensor Calibration Point | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 | Out |  |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0855; ARCH\_SW\_DIA\_0856; ARCH\_SW\_DIA\_0857; ARCH\_SW\_DIA\_0858; ARCH\_SW\_DIA\_0859 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0856 | The Write Velocity PI Regulation Coefficients Service shall be available in the following sessions:  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11396 |
| ARCH\_SW\_DIA\_0857 | The Write Velocity PI Regulation Coefficients service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11397 |
| ARCH\_SW\_DIA\_0858 | Request data shall be 30 bytes long.  Note: Full Request length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11399 |
| ARCH\_SW\_DIA\_0859 | Bytes #4-#33:  ⦁Input Velocity Coefficient |  | DAI\_EXT\_TF\_E\_11402 |

## RoutineServices\_Routine\_Erase\_All\_Start

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **RoutineServices\_Routine\_Erase\_All\_Start**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Erase\_All\_Start\_routineInfoType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) routineInfo, P2VAR(Dcm\_StartDataOut\_Routine\_Erase\_All\_Start\_StatusType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Status, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function executes the F782 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_ DataServices\_Erase\_All\_Start\_Start\_routineInfoType | Out |  |
| Status | Dcm\_StartDataOut\_Routine\_Erase\_All\_Start\_StatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0860; ARCH\_SW\_DIA\_0861; ARCH\_SW\_DIA\_0862; ARCH\_SW\_DIA\_0863; ARCH\_SW\_DIA\_0864; ARCH\_SW\_DIA\_0865 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0861 | RoutineIdentifier shall be 0xF782. |  | DAI\_EXT\_TF\_E\_11439 |
| ARCH\_SW\_DIA\_0862 | The folowing request shall be available for this RID:  - Start Routine |  | DAI\_EXT\_TF\_E\_11440 |
| ARCH\_SW\_DIA\_0863 | Routine Start shall be available in the following diagnostic sessions:  ⦁Supplier Session/Development Session (0x7E)  Routine Start requires the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11443 |
| ARCH\_SW\_DIA\_0864 | Routine Start shall be used to reset/clear the following NVM data:  ⦁All cycle counters (EOL counters, Request Counters)  ⦁System context  ⦁System time  ⦁Deficiency level  ⦁Warm Reset data |  | DAI\_EXT\_TF\_E\_11446 |
| ARCH\_SW\_DIA\_0865 | RID specific Routine Status Record Start shall be represented by the following:  The following NvM Blocks shall be erased:  ⦁EOL Counters  NVP\_BLOCK\_ID\_EXECUTION\_COUNTERS  ⦁Request Counters  NVP\_BLOCK\_ID\_MEASUREMENT\_FRAME\_12\_CONFIG  ⦁System Context  NVP\_BLOCK\_ID\_SYSTEM\_CONTEXT\_0  NVP\_BLOCK\_ID\_SYSTEM\_CONTEXT\_1  NVP\_BLOCK\_ID\_SYSTEM\_CONTEXT\_2  ⦁System Time  NVP\_BLOCK\_ID\_PRE\_SAFE\_RECORDER\_1  NVP\_BLOCK\_ID\_PRE\_SAFE\_RECORDER\_2  ⦁Deficiency Level  NVP\_BLOCK\_ID\_TESTS\_PARAM  ⦁Warm Reset Data  NVP\_BLOCK\_ID\_WARM\_RESET |  | DAI\_EXT\_TF\_E\_11448 |

## RoutineServices\_Routine\_Force\_External\_WDG\_Start

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **RoutineServices\_Routine\_Force\_External\_WDG\_Start**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Force\_External\_WDG\_Start\_routineInfoType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) routineInfo, P2VAR(Dcm\_StartDataOut\_Routine\_Force\_External\_WDG\_Start\_StatusType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Status, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function executes the F791 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_Force\_External\_WDG\_Start\_routineInfoType | Out |  |
| Status | Dcm\_StartDataOut\_Routine\_Force\_External\_WDG\_Start\_StatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0870; ARCH\_SW\_DIA\_0871; ARCH\_SW\_DIA\_0872; ARCH\_SW\_DIA\_0873; ARCH\_SW\_DIA\_0874; ARCH\_SW\_DIA\_0875 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0871 | RoutineIdentifier shall be 0xF791 |  | DAI\_EXT\_TF\_E\_11572 |
| ARCH\_SW\_DIA\_0872 | The folowing request shall be available for this RID:  - Start Routine |  | DAI\_EXT\_TF\_E\_11573 |
| ARCH\_SW\_DIA\_0873 | Routine Start shall be available in the following diagnostic sessions:  ⦁Supplier Session/Development Session (0x7E)  Routine Start requires the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD |  | DAI\_EXT\_TF\_E\_11575 |
| ARCH\_SW\_DIA\_0874 | Routine Start shall be used to test the external watchdog by stopping its refresh and causing a reset. |  | DAI\_EXT\_TF\_E\_11577 |
| ARCH\_SW\_DIA\_0875 | RID specific Routine Status Record Start shall be represented by the following:  ⦁Byte 6: Watchdog Status  ⦁WDG\_RESET\_NOT\_EXECUTED = 0x00  ⦁WDG\_RESET\_BY\_DIAG = 0xAA  ⦁WDG\_NOT\_RESET\_BY\_DIAG = 0x55 |  | DAI\_EXT\_TF\_E\_11579 |

## DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ConditionCheckRead** (Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Customer Settings Read Service. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0880 | | | |

## DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ReadData** (Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that returns the Customer Settings stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0880; ARCH\_SW\_DIA\_0881; ARCH\_SW\_DIA\_0882; ARCH\_SW\_DIA\_0883 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0881 | The Read Customer Settings service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11523 |
| ARCH\_SW\_DIA\_0882 | The Read Customer Settings service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales |  | DAI\_EXT\_TF\_E\_11524 |
| ARCH\_SW\_DIA\_0883 | DataIdentifier of the Read Customer Settings shall be: 0x0138 |  | DAI\_EXT\_TF\_E\_11528 |

## DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Customer\_Settings\_Read\_Customer\_Settings\_ReadDataLength** (Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Customer Settings DID. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint32 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0880; ARCH\_SW\_DIA\_0884; ARCH\_SW\_DIA\_0885; ARCH\_SW\_DIA\_0886 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0884 | Response data length shall be 2 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11531 |
| ARCH\_SW\_DIA\_0885 | Byte #4: BltSlckDec\_Md\_xy\_Stat\_ST3  obs: Service shall not report the current value of signal, but the value of parameter stored in NVM  xy = FL or FR |  | DAI\_EXT\_TF\_E\_11534 |
| ARCH\_SW\_DIA\_0886 | Byte #5: PS\_Curve\_xy\_Stat\_ST3  obs: Service shall not report the current value of signal, but the value of parameter stored in NVM  xy = FL or FR |  | DAI\_EXT\_TF\_E\_11535 |

## DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Trust Model CSR Supplier Signature Read Service. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0890 | | | |

## DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that returns the Trust Model CSR Supplier Signature stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0890; ARCH\_SW\_DIA\_0891; ARCH\_SW\_DIA\_0892; ARCH\_SW\_DIA\_0893 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0891 | The Read Trust Model CSR Supplier Signature service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11410 |
| ARCH\_SW\_DIA\_0892 | The Read Trust Model CSR Supplier Signature service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED |  | DAI\_EXT\_TF\_E\_11411 |
| ARCH\_SW\_DIA\_0893 | DataIdentifier of the Read Trust Model CSR Supplier Signature shall be: 0x01A2 |  | DAI\_EXT\_TF\_E\_11415 |

## DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Trust Model CSR Supplier Signature DID. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint258 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0890; ARCH\_SW\_DIA\_0894; ARCH\_SW\_DIA\_0895; ARCH\_SW\_DIA\_0896 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_0894 | Response data length shall be 258 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11418 |
| ARCH\_SW\_DIA\_0895 | Bytes #4 - #131:  ⦁Supplier Public Key  Supplier Public Key Format[1 leading size byte + 128 bytes]:  1 leading size byte is automatically calculated by CANoe after the input of the Supplier Public Key.  Receiving an example of 128 bytes value in CANoe will be sufficient to test:  0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 |  | DAI\_EXT\_TF\_E\_11421 |
| ARCH\_SW\_DIA\_0896 | Bytes #132 - #261:  ⦁Supplier Signature  Supplier Signature Format [1 leading size byte + 128 bytes]:  1 leading size byte is automatically calculated by CANoe after the input of the Supplier Signature  Receiving an example of 128 bytes value in CANoe will be sufficient to test:  0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x12 |  | DAI\_EXT\_TF\_E\_11422 |

## DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_WriteData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Trust\_Model\_CSR\_Supplier\_Signature\_Read\_Trust\_Model\_CSR\_Supplier\_Signature\_WriteData**(P2CONST(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_DATA) Data, uint16 DataLength, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function that writes the Trust Model CSR Supplier Signature | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Uint8 | Out |  |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint16 | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_0900; ARCH\_SW\_DIA\_0901; ARCH\_SW\_DIA\_0902; ARCH\_SW\_DIA\_0903; ARCH\_SW\_DIA\_0904; ARCH\_SW\_DIA\_0905; ARCH\_SW\_DIA\_0906 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_0901 | The Write Trust Model CSR Supplier Signature service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11471 |
| ARCH\_SW\_DIA\_0902 | The Write Trust Model CSR Supplier Signature service shall be available under the following forms of Authentication:  ⦁Supplier |  | DAI\_EXT\_TF\_E\_11472 |
| ARCH\_SW\_DIA\_0903 | Bytes #2-#3: DataIdentifier of the Write Trust Model CSR Supplier Signature shall be: 0x01A2 |  | DAI\_EXT\_TF\_E\_11476 |
| ARCH\_SW\_DIA\_0904 | Request data length shall be 258 bytes long  Note: Full Request length = 3 bytes + Request data length |  | DAI\_EXT\_TF\_E\_11477 |
| ARCH\_SW\_DIA\_0905 | Bytes #4 - #131:  ⦁Supplier Public Key  Supplier Public Key Format [1 leading size byte + 128 bytes]:  1 leading size byte is automatically calculated by CANoe after the input of the Supplier Public Key.  Inserting an example of 128 bytes value in CANoe will be sufficient to test:  0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 0x0B 0x0C 0x0D 0x0E 0x0F 0x10 0x11 0x12 |  | DAI\_EXT\_TF\_E\_11478 |
| ARCH\_SW\_DIA\_0906 | Bytes #132 - #261:  ⦁Supplier Signature  Supplier Signature Format [1 leading size byte + 128 bytes]:  1 leading size byte is automatically calculated by CANoe after the input of the Supplier Signature  Inserting an example of 128 bytes value in CANoe will be sufficient to test:  0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x0B 0x12 0x11 0x10 0x0F 0x0E 0x0D 0x0C 0x12 |  | DAI\_EXT\_TF\_E\_11479 |

## DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_DID\_01A2\_Trust\_model\_CSR\_Supplier\_Signature\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Calibration Identifications Read Service. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1000 | | | |

## DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that returns the Calibration Identifications stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1000; ARCH\_SW\_DIA\_1001; ARCH\_SW\_DIA\_1002; ARCH\_SW\_DIA\_1003 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_1001 | The Read Calibration Identifications (CAL ID) service shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11426 |
| ARCH\_SW\_DIA\_1002 | The Read Calibration Identifications (CAL ID) service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales STANDARD  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11427 |
| ARCH\_SW\_DIA\_1003 | DataIdentifier of the Read Calibration Identifications (CAL ID) shall be: 0xE104 |  | DAI\_EXT\_TF\_E\_11431 |

## DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Calibration\_Identifications\_CAL\_ID\_Read\_CombinedDataElement\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Calibration Identifications DID. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint16 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1000; ARCH\_SW\_DIA\_1004; ARCH\_SW\_DIA\_1005 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_1004 | Response data length shall be 16 bytes long  Note: Full Response length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11434 |
| ARCH\_SW\_DIA\_1005 | Bytes #4-#19:  ⦁Calibration Identification |  | DAI\_EXT\_TF\_E\_11437 |

## DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ConditionCheckRead

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ConditionCheckRead**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function checks the Dump of Vedoc Relevant Information Read Service. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1010 | | | |

## DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ReadData

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ReadData**(Dcm\_OpStatusType OpStatus, P2VAR(uint8, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) Data) | | | |
| **Object** | | | |
| Function that returns the Dump of Vedoc Relevant Information stored. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| Data | Uint8 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1010; ARCH\_SW\_DIA\_1011; ARCH\_SW\_DIA\_1012; ARCH\_SW\_DIA\_1013 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_1011 | The Read Vedoc Relevant Information shall be available in the following sessions:  ⦁Default Session (0x01)  ⦁Programming Session (0x02)  ⦁Extended Session (0x03)  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11452 |
| ARCH\_SW\_DIA\_1012 | The Read Vedoc Relevant Information service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production  ⦁After-Sales ENHANCED  ⦁After-Sales  ⦁After-Sales BASIC  ⦁Internal Diagnostic Test Tool  ⦁ePTI Test Tool |  | DAI\_EXT\_TF\_E\_11453 |
| ARCH\_SW\_DIA\_1013 | DataIdentifier of the Read Vedoc Relevant Information shall be: 0xF103 |  | DAI\_EXT\_TF\_E\_11457 |

## DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ReadDataLength

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DiagFunction\_CODE) **DataServices\_Dump\_of\_Vedoc\_Relevant\_Information\_Read\_PatchedObject\_ReadDataLength**(Dcm\_OpStatusType OpStatus, P2VAR(uint16, AUTOMATIC, RTE\_DIAGFUNCTION\_APPL\_VAR) DataLength) | | | |
| **Object** | | | |
| Function calculates the Length of the Dump of Vedoc Relevant Information DID. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| DataLength | Uint16 | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1010; ARCH\_SW\_DIA\_1014; ARCH\_SW\_DIA\_1015; ARCH\_SW\_DIA\_1016; ARCH\_SW\_DIA\_1017; ARCH\_SW\_DIA\_1018 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| ARCH\_SW\_DIA\_1014 | Response data length shall be 16 byte long  Note: Full Response length = 3 bytes + Response data length |  |  |
| ARCH\_SW\_DIA\_1015 | Bytes #4-#13: Hardware Part Number [ASCII] |  |  |
| ARCH\_SW\_DIA\_1016 | Byte #14: Constant [ASCII] |  | DAI\_EXT\_TF\_E\_11464 |
| ARCH\_SW\_DIA\_1017 | Bytes #15-#18: Hardware Supplier Identification [Hex to ASCII] |  | DAI\_EXT\_TF\_E\_11465 |
| ARCH\_SW\_DIA\_1018 | Byte #19: ECU Serial Number [ASCII] |  | DAI\_EXT\_TF\_E\_11466 |

## DIA\_runDID0340\_UniqueSeatbeltSerialNumberWrite

### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, DIA\_AC\_DiagOnCAN\_CODE) **DIA\_runDid0340\_UniqueSeatbeltSerialNumberWrite**(P2CONST(uint8, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_DATA) Data, Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_DIA\_AC\_DIAGONCAN\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| This function shall write the Seat Belt Serial Number. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| Data | Array of unsigned 8-bits | In | Data sent by the tester |
| OpStatus | Dcm\_OpStatusType | Out | Negative response code (if applicable) |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out | Negative response code (if applicable) |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| **Dynamic aspect** | | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1020; ARCH\_SW\_DIA\_1021; ARCH\_SW\_DIA\_1022; ARCH\_SW\_DIA\_1023; ARCH\_SW\_DIA\_1024; ARCH\_SW\_DIA\_1025 | | | |

### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_1021 | The Write Seat Belt Serial Number service shall be available in the following sessions:  ⦁Supplier Session/Development Session (0x7E) |  | DAI\_EXT\_TF\_E\_11487 |
| ARCH\_SW\_DIA\_1022 | The Write Seat Belt Serial Number service shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED  ⦁Production |  | DAI\_EXT\_TF\_E\_11488 |
| ARCH\_SW\_DIA\_1023 | Bytes #2-#3: DataIdentifier of the Write Seat Belt Serial Number shall be: 0x0340 |  | DAI\_EXT\_TF\_E\_11492 |
| ARCH\_SW\_DIA\_1024 | Request data shall be 28 bytes long.  Note: Full Request length = 3 bytes + Response data length |  | DAI\_EXT\_TF\_E\_11493 |
| ARCH\_SW\_DIA\_1025 | Bytes #4 - #31: Unique Seatbelt Serial Number [ASCII] |  | DAI\_EXT\_TF\_E\_11494 |

## RoutineServices\_Routine\_Clear\_Resource\_Consumption\_Data\_Start\_Start

#### Definition

|  |  |  |  |
| --- | --- | --- | --- |
| **Prototype** | | | |
| FUNC(Std\_ReturnType, Ct\_ResourceMeasurement\_CODE) **RoutineServices\_Routine\_Clear\_Resource\_Consumption\_Data\_Start\_Start**(Dcm\_OpStatusType OpStatus, P2VAR(Dcm\_StartDataOut\_Routine\_Clear\_Resource\_Consumption\_Data\_Start\_routineInfoType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) routineInfo, P2VAR(Dcm\_NegativeResponseCodeType, AUTOMATIC, RTE\_CT\_RESOURCEMEASUREMENT\_APPL\_VAR) ErrorCode) | | | |
| **Object** | | | |
| Function executes the 0211 Routine. | | | |
| **Parameters** | | | |
| Name | Type | Direction | Description |
| OpStatus | Dcm\_OpStatusType | Out |  |
| routineInfo | Dcm\_StartDataOut\_Routine\_Clear\_Resource\_Consumption\_Data\_Start\_routineInfoType | Out |  |
| ErrorCode | Dcm\_NegativeResponseCodeType | Out |  |
| **Returned value** | | | |
| Name | Description | | |
| E\_OK | DiagOnCAN request is processed, positive answer can be sent | | |
| E\_NOT\_OK | DiagOnCAN request cannot be processed, negative answer has to be sent | | |
| Synchronous server operation  Non-Reentrant | | | |
| **Covered requirements** | | | |
| ARCH\_SW\_DIA\_1030; ARCH\_SW\_DIA\_1031; ARCH\_SW\_DIA\_1032; ARCH\_SW\_DIA\_1033; ARCH\_SW\_DIA\_1034; ARCH\_SW\_DIA\_1035; ARCH\_SW\_DIA\_1036 | | | |

#### Data flow / Parameters

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_1031 | RoutineIdentifier shall be 0x0211. |  | DAI\_EXT\_TF\_E\_11501 |
| ARCH\_SW\_DIA\_1032 | The folowing request shall be available for this RID:  - Start Routine (01) |  | DAI\_EXT\_TF\_E\_11502 |
| ARCH\_SW\_DIA\_1033 | Routine Start shall be available in the following diagnostic sessions:  ⦁Extended Session  ⦁Development Session |  | DAI\_EXT\_TF\_E\_11504 |
| ARCH\_SW\_DIA\_1034 | Routine Start shall be available under the following forms of Authentication:  ⦁Supplier  ⦁Development ENHANCED |  | DAI\_EXT\_TF\_E\_11505 |
| ARCH\_SW\_DIA\_1035 | Routine Start shall be responsible to reset all resource data that is provided by the DIDs 0x01E0, 0x01E1, 0x01E2 and 0x01E3. |  | DAI\_EXT\_TF\_E\_11568 |
| ARCH\_SW\_DIA\_1036 | RID specific Routine Start Result shall be represented by the following:  ⦁Byte 0: Routine Info |  | DAI\_EXT\_TF\_E\_11570 |

# MCU resources

The following requirements on resource consumption objectives apply to the module/package:

|  |  |  |  |
| --- | --- | --- | --- |
| **Requirements** | **Criteria** | **Levels/Tolerances** | **Source** |
| ARCH\_SW\_DIA\_9997 | The ROM size consumed by this component shall not exceed 18K bytes. |  |  |
| ARCH\_SW\_DIA\_9998 | The RAM size consumed by this component shall be 700 bytes. |  |  |