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**Straßenfahrzeuge –
Datenparameterspezifikation für Aufbauteneinheiten in Nutzfahrzeugen;
Text Englisch**

Road vehicles –
Data parameter specification for body application units in commercial vehicles;
Text in English

Véhicules routiers –
Spécification des paramètres de données pour les unités d'application de la carrosserie dans
les véhicules commerciaux;
Texte en anglais

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Foreword

This document has been prepared by Technical Committee NA 052-00-31 AA “Data communication” of the DIN Standards Committee Road Vehicle Engineering (NAAutomobil).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. DIN shall not be held responsible for identifying any or all such patent rights.

The document is prepared in English as it is intended to transfer it to ISO in midterm. The German definitions for the Terms mentioned in Clause 3 are given in Annex C.

For current information on this document, please go to DIN’s website (www.din.de) and search for the document number in question.

1 Scope

This document specifies data models and parameters, which can be mapped to communication systems such as SAE J1939/21 or EN 50325-4 (CANopen) as specified in Annex A and Annex B. The parameters are intended for the usage between body application units (BAU), applicable telematics gateway unit (TGU), and optionally for in-vehicle gateway unit (IGU) as well as fleet management unit (FMU) installed in commercial on-road, off-highway, and off-road vehicles. Body applications include tail-lifts, vehicle-mounted cranes, tippers, refuse collecting equipment, fire-fighting equipment, containers, and refrigerators, but are not limited to them.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12999:2013 *Cranes — Loader cranes*

EN 16815, *CleANopen — Application profile for municipal vehicles*

EN 50325-4:2002, *Industrial communications subsystem based on ISO 11898 (CAN) for controller-device interfaces — Part 4: CANopen*

ISO 11898-1, *Road vehicles — Controller area network (CAN) — Part 1: Data link layer and physical signalling*

ISO 11898-2, *Road vehicles — Controller area network (CAN) — Part 2: High-speed media access unit*

ISO 11992-2, *Road vehicles — Interchange of digital information on electrical connections between towing and towed vehicles — Part 2: Application layer for brakes and running gear*

ISO 11992-3, *Road vehicles — Interchange of digital information on electrical connections between towing and towed vehicles — Part 3: Application layer for equipment other than brakes and running gear*

ISO 15765-2, *Road vehicles — Diagnostic communication over Controller Area Network (DoCAN) — Part 2: Transport protocol and network layer services*

SAE J1939/15, *Surface vehicle recommended practice — Part 15: Physical Layer, 250 Kbps, Un-Shielded Twisted Pair (UTP)*

SAE J1939/21, *Surface vehicle recommended practice — Part 21: Data Link Layer*

SAE J1939/71, *Surface vehicle recommended practice — Part 71: Application Layer*

SAE J1939/73, *Surface vehicle recommended practice Application layer — Part 73: Diagnostics*

SAE J1939/81, *Surface vehicle recommended practice — Part 81: Network Management*

SAE J1939DA, *Digital Annex of Serial Control and Communication Heavy Duty Vehicle Network Data*

CiA 413-5 (version 1.0.0), *CANopen device profile for truck gateways — Part 5: Application objects for superstructure*

FMS-Standard description, Version 04 (2017)¹

¹ Available at: <https://www.fms-standard.com>

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

DIN and DKE maintain terminological databases for use in standardization at the following addresses:

- DIN TERMinologieportal: available at [https://www.din.de/go/din term/](https://www.din.de/go/din%20term/)
- DKE IEV: available at [http://www.dke.de/DKE IEV](http://www.dke.de/DKE%20IEV)

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

body application unit

BAU

logical unit controlling a body application mounted on a commercial vehicle

EXAMPLE Tail-lift or truck-mounted crane

3.2

change-of-state

trigger condition for PGs when one of the mapped suspect parameters changes

3.3

commercial vehicle

any type of self-propelled vehicle (e.g. truck) or not self-propelled vehicle (e.g. trailer or semitrailer) used for transporting goods or passengers

3.4

conditional

required under certain specified conditions

[SOURCE: ISO/IEC 19788-1:2011, 3.6, modified – Note to entry omitted]

3.5

electronic control unit

ECU

device comprising hardware and software, which implements one or more logical entities such as BAU, FMU, IGU, and TGU

3.6

fleet management unit

FMU

logical entity (3.8) providing access to the fleet management system interface of the *commercial vehicle* (3.3)

3.7

in-vehicle network gateway unit

IGU

logical entity (3.8) providing access to the internal networks of the *commercial vehicle* (3.3)

3.8**logical entity**

entity with a specific functionality, which can be implemented for example in an *electronic control unit* (3.5)

3.9**mandatory**

keyword indicating an item that is required to be implemented as specified in this document

[SOURCE: ISO/IEC 14776-261:2012, 3.3.2, modified – "standard" exchanged with "document"]

3.10**optional**

keyword indicating an item that is not required to be implemented by this document; however, if any optional feature specified in this document is implemented, then it is implemented as specified in this document

[SOURCE: ISO/IEC 14776-261:2012, 3.3.6, modified – "standard" exchanged with "document"]

3.11**telematic gateway unit****TGU**

logical entity (3.8) providing wireless communication to a cloud service provider

4 Abbreviations

C	conditional
CAN	controller area network
CiA	CAN in Automation
CU	container unit
ENUM	enumeration
FFU	fire-fighting unit
HRU	heating and refrigerating unit
M	mandatory
N/A	not applicable
O	optional
OEM	original equipment manufacturer
PG	parameter group
RCU	refuse collecting unit
RFID	radio-frequency identification
SAE	Society of Automotive Engineering
SNM	signed numeric

TLU	tail lift unit
TPS	transport position stabilizer
TPSU	transport position sub-unit
TU	tipper unit
UNM	unsigned numeric
VMCU	vehicle-mounted crane unit
x	do not care

5 Definition of use cases

5.1 General use cases

In the communication between BAUs, FMU as well as IGU and cloud server(s) via TGU, the following value-added services are considered, but are not limited to these use cases:

- state/status information;
- diagnostic and maintenance information;
- error information to the driver;
- geofencing;
- charging systems;
- data logging;
- software/configuration updates².

The TGU can pre-process the BAU, FMU, or IGU data and forwards them to cloud service providers. Users of such services are owners of commercial vehicles, providers of BAUs, and other interested parties such as vehicle OEMs (truck, trailer and semi-trailer manufacturers). Each ECU hosting one or more logical entities (BAU, FMU, IGU, and TGU) provides a set of parameters (see 6.2). Each logical entity compliant to this document provides a set of general parameters (see 6.3). The TGU provides additional parameters as specified in 6.4. The IGU provides additional parameters as specified in 6.5. The FMU provides additional parameters as specified in 6.6. Additionally, each BAU provides a set of general BAU parameters as well as instanced parameters (see 6.7). In 6.8 there are specified the BAU-type specific parameters.

² This use case is not considered in this document due to unsolved cybersecurity solutions but may be realized in the next edition.

5.2 Examples of network-architecture

Figure 1 shows a network example with logical entities (BAU, FMU, IGU, and TGU) each mapped to single ECUs. This means an ECU compliant to this document may comprise one or several logical entities, e.g. a BAU and an IGU, or a TGU and an IGU, or an IGU plus an FMU, or several BAUs.

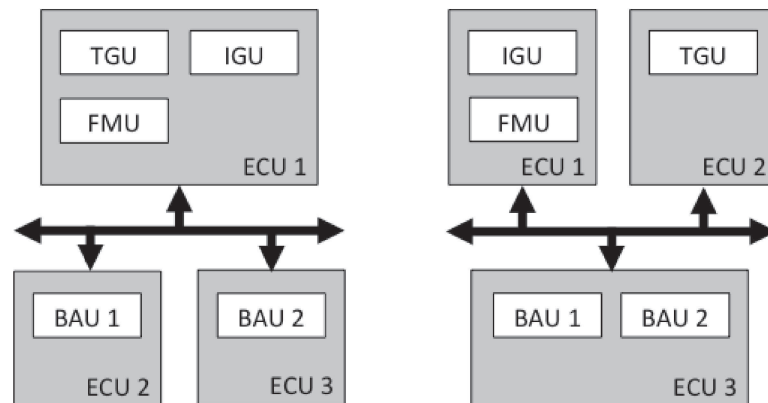


Figure 1 — Examples of network with logical entities mapped to ECUs: Two ECUs representing one BAU each plus an ECU with TGU, IGU, and FMU functionality (left); one ECU representing two BAUs and one ECU with FMU and IGU functionality as well as one TGU control unit (right)

5.3 BAU sub-parts

A complex BAU, e.g. an RCU, can comprise several sub-parts. There can be even instances of such sub-parts, e.g. multiple bin lifters, multiple compaction units, or multiple washing units. Figure 2 shows an example.

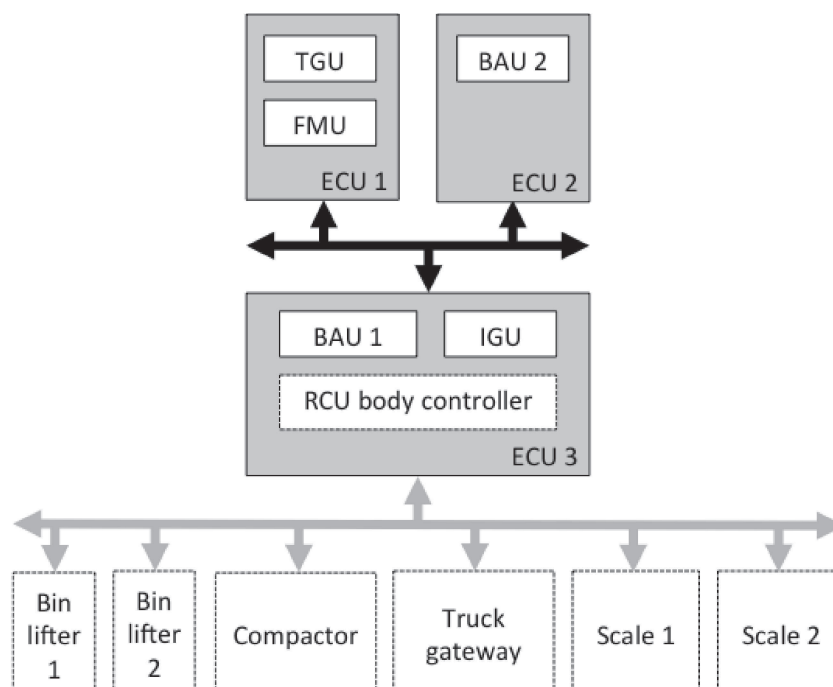


Figure 2 — Example of an RCU with sub-part instances and a truck gateway proxy provided by means of the IGU

ECUs respectively their logical entities exchange parameter by means of messages as specified in Annex A (J1939 application layer) and Annex B (CANopen application layer). The BAU logical entity may represent BAU sub-parts.

6 Specification of parameters

6.1 Parameter attributes

The ECU and the logical entity (BAU, FMU, IGU, and TGU) interfaces compliant to this document are specified by means of parameters. Table 1 specifies the attributes that are used to describe and to specify the parameters or sub-parameters.

Table 1 — Parameter and sub-parameter attributes

Attribute	Description	Value example
Parameter or sub-parameter name	Determines the name of the parameter or the sub-parameter	ECU temperature
Data type	Specifies the data type used for this parameter/sub-parameter	ENUM8, or UNM16, etc. (NOTE)
Value definition	Specifies the allowed values and their meanings	Examples 00 ₁₆ to FD ₁₆ : valid value; 00 ₂ : disabled; or 10 ₂ : error
Offset	Positive or negative deviation of the parameter/sub-parameter	none (0); -125; or N/A
Scale/SI unit	Specifies the SI unit and the prefix used for this parameter/sub-parameter	m/s; mm; or N/A
NOTE The encoding is application layer specific.		

6.2 Detailed specification of generic parameters

6.2.1 General

Some of the following generic parameters are suitable for the ECU (hardware entity) as well as the BAU, FMU, IGU, and TGU logical entities.

The unique identification of a hardware entity or a logical entity is application layer dependent. Details for J1939-based and CANopen-based are given in Annex A respectively Annex B.

6.2.2 Error code

This parameter provides information about detected errors in the ECU or in one logical entity. Table 2 specifies the parameter attributes.

Table 2 — Error code parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
Error code	UNM16	0000 ₁₆ to FFFF ₁₆ : See CiA 301 [5], Table 26 (8210 ₁₆ , 8220 ₁₆ , 8230 ₁₆ , 8240 ₁₆ , 8250 ₁₆ are only used in CANopen) FF01 ₁₆ to FFBF ₁₆ : Reserved for BAU-specific error codes FFC0 ₁₆ to FFCF ₁₆ : Reserved for IGU-specific error codes FFD0 ₁₆ to FFDF ₁₆ : Reserved for TGU-specific error codes FFE0 ₁₆ to FFEF ₁₆ : Reserved for FMU-specific error codes	N/A	N/A

6.2.3 Alarm code

This parameter provides information about occurred alarms in one logical entity. Table 3 specifies the parameter attributes.

Table 3 — Alarm code parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
Alarm code	UNM16	0000 ₁₆ : No alarm 0001 ₁₆ : Shutdown initiated 0002 ₁₆ : Service required 0003 ₁₆ to 9FFF ₁₆ : reserved A000 ₁₆ to CFFF ₁₆ : BAU-specific alarms D000 ₁₆ to FFFF ₁₆ : manufacturer-specified alarms	N/A	N/A

6.2.4 Commercial vehicle status

This parameter provides the status of the commercial vehicle. Table 4 specifies the parameter attributes.

Table 4 — Commercial vehicle status parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
Commercial vehicle status	ENUM8	00 ₁₆ : standstill 01 ₁₆ : moving forward 02 ₁₆ : moving backward 03 ₁₆ : unknown moving direction 04 ₁₆ to 0D ₁₆ : reserved 0E ₁₆ : error 0F ₁₆ : not available 10 ₁₆ to FF ₁₆ : reserved	N/A	N/A

6.2.5 Vehicle lowering status

This parameter provides the chassis lowering status of the commercial vehicle. Table 5 specifies the parameter attributes.

Table 5 — Vehicle lowering status parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
Vehicle lowering status	ENUM8	00 ₁₆ : reserved by document 01 ₁₆ : driving (normal) level 02 ₁₆ : alternative level 03 ₁₆ : exhausted bellow 04 ₁₆ to 0D ₁₆ : reserved 0E ₁₆ : error 0F ₁₆ : not available	N/A	N/A

6.2.6 Vehicle load

This parameter provides the vehicle load. It is not specified, how to measure it. Table 6 specifies the parameter attributes.

Table 6 — Vehicle load sum parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
Vehicle load	UNM16	0000 ₁₆ to FAFF ₁₆ : valid value FC00 ₁₆ to FDFF ₁₆ : reserved FFxx ₁₆ : error FFxx ₁₆ : not available	None	2 kg

6.3 Detailed specification of general ECU parameters

6.3.1 General

The following general ECU parameters are independent of the implemented logical entities such as BAU, FMU, IGU, and TGU.

6.3.2 ECU input voltage

This parameter indicates the input voltage of the ECU's power supply. Table 7 specifies the parameter attributes.

Table 7 — ECU input voltage parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
ECU input voltage	UNM16	0000 ₁₆ to FAFF ₁₆ : valid value FB00 ₁₆ to FDFF ₁₆ : reserved FExx ₁₆ : error FFxx ₁₆ : not available	None	0,05 V

6.3.3 ECU temperature

This parameter indicates the temperature inside the ECU. Table 8 specifies the parameter attributes.

Table 8 — ECU temperature parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
ECU temperature	UNM8	00 ₁₆ to D2 ₁₆ : valid value D3 ₁₆ to FA ₁₆ : reserved FB ₁₆ : parameter specific indicator FC ₁₆ to FD ₁₆ : reserved FE ₁₆ : error FF ₁₆ : not available	−40 °C	1 °C

6.3.4 CPU temperature

This parameter indicates the temperature of the CPU. Table 9 specifies the parameter attributes.

Table 9 — ECU temperature parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
CPU temperature	UNM8	00 ₁₆ to D2 ₁₆ : valid value D3 ₁₆ to FA ₁₆ : reserved FB ₁₆ : parameter specific indicator FC ₁₆ to FD ₁₆ : reserved FE ₁₆ : error FF ₁₆ : not available	−40 °C	1 °C

6.3.5 Hosting vehicle type

This parameter indicates on which kind of vehicle the ECU is mounted. Table 10 specifies the parameter attributes.

Table 10 — Vehicle type parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
Hosting vehicle type	ENUM8	01 ₁₆ : truck 02 ₁₆ : trailer 03 ₁₆ : semitrailer 04 ₁₆ : dolly 05 ₁₆ to FD ₁₆ : reserved FE ₁₆ : error FF ₁₆ : not available	N/A	N/A

6.3.6 Implemented logical entities

This parameter provides information about the implemented logical entities in an ECU. Figure 3 specifies the parameter structure. Table 11 specifies the parameter attributes.

15	14	13	12		8	7	6	5	4	3	2	1	0
TGU	IGU	FMU		Reserved		BAU	BAU	BAU	BAU	BAU	BAU	BAU	BAU
						8	7	6	5	4	3	2	1
MSB													LSB

Figure 3 — Structure of the implemented logical entities parameter

Table 11 — Implemented logical entities parameter attributes

Sub-parameter name	Data type	Value definition	Offset	Scale/ Unit
TGU, IGU, FMU, BAU 1 to BAU 8	UNM1	0 ₂ : not implemented 1 ₂ : implemented	N/A	N/A
Reserved	UNM5	00000 ₂	N/A	N/A

6.4 Detailed specification of TGU parameters

6.4.1 General

The TGU is collecting data from the connected functional units. Additionally, it can optionally control the connected BAUs.

6.4.2 BAU or sub-part enable request

This parameter requests to enable or to disable the BAU or one of its sub-parts. Figure 4 specifies the parameter structure. Table 12 specifies the sub-parameter attributes. The general function sub-parameter requests the enabling or disabling of the BAU or one of its sub-parts. The time-window sub-parameter requests to enable or disable the configured time-window. The geofencing sub-parameter requests the enabling and disabling of the configured geographic coordinates.

EXAMPLE If the geofencing function of a tail-lift is enabled, the tail-lift can be moved locally only, when the current geographic coordinates match. If the time window of a tail-lift is enabled, the tail-lift can be moved locally only, when the current time matches.

Table 12 — BAU or sub-part enable request sub-parameter attributes

Sub-parameter name	Data type	Value definition	Offset	Scale/ Unit
General function	ENUM2	00 ₂ : disable 01 ₂ : enable 10 ₂ : error 11 ₂ : no action	N/A	N/A
Time window	ENUM2	00 ₂ : disable 01 ₂ : enable 10 ₂ : error 11 ₂ : no action	N/A	N/A
Geofencing	ENUM2	00 ₂ : disable 01 ₂ : enable 10 ₂ : error 11 ₂ : no action	N/A	N/A
Reserved	ENUM2	11 ₂	N/A	N/A

6.5 Detailed specification of IGU parameters

6.5.1 General

The IGU implemented on the commercial truck is normally different from an IGU implemented on the trailer or semi-trailer.

6.5.2 ISO 11992 parameters

Parameters specified in ISO 11992-2 and ISO 11992-3 may be provided by the IGU.

6.5.3 CiA 413-5 parameters

Parameters specified in CiA 413-5 may be provided by the IGU.

6.5.4 J1939 parameters

Parameters specified in SAE J1939DA and in SAE J1939/71 may be provided by the IGU.

6.6 Detailed specification of the FMU parameters

The FMU logical unit shall comply with the parameter specifications as given in the FMS-Standard description (Version 04).

6.7 Detailed specification of general BAU parameters

6.7.1 General

The general BAU parameters are suitable for all types of BAUs. Some value definitions are BAU-specific; they are specified in detail in 6.8.

6.7.2 BAU type

This parameter assigned by the manufacturer indicates the main function of the BAU. Table 13 specifies the parameter attributes.

Table 13 — BAU type parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
BAU type	ENUM8	00 ₁₆ : reserved 01 ₁₆ : lifting unit (LU) 02 ₁₆ : heating and refrigerating unit (HRU) 03 ₁₆ : refuse collecting unit (RCU) 04 ₁₆ : container unit (CU) 05 ₁₆ : tipper unit (TU) 06 ₁₆ : fire-fighting unit (FFU) 07 ₁₆ to FE ₁₆ : reserved FF ₁₆ : not available	N/A	N/A

6.7.3 BAU sub-type

This parameter assigned by the manufacturer indicates the special functionality of the BAU by means of the category and class sub-parameters. The category describes the main function of the BAU type. The class describes the specific function of the category. Figure 4 specifies the parameter structure. Table 14 specifies the sub-parameter attributes.

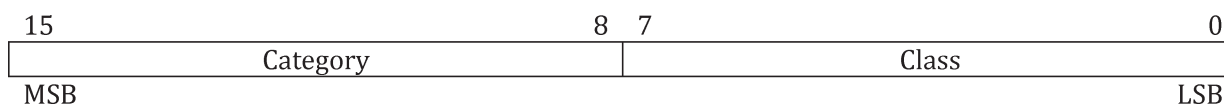


Figure 4 — Structure of the BAU sub-type parameter

Table 14 — BAU sub-type sub-parameter attributes

Sub-parameter name	Data type	Value definition	Offset	Scale/Unit
Category	ENUM8	See 6.8	N/A	N/A
Class	ENUM8	See 6.8	N/A	N/A

6.7.4 Next maintenance day

This parameter provides the day of the next maintenance date information. Table 15 specifies the parameter attributes.

Table 15 — Next maintenance day parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
Next maintenance day	ENUM8	00 ₁₆ : reserved 01 ₁₆ to 1F ₁₆ : 1 st to 31 st 20 ₁₆ to FD ₁₆ : reserved FE ₁₆ : error FF ₁₆ : not available	N/A	N/A

6.7.5 Next maintenance month

This parameter provides the month of the next maintenance date information. Table 16 specifies the parameter attributes.

Table 16 — Next maintenance month parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
Next maintenance month	ENUM8	00 ₁₆ : reserved 01 ₁₆ to 0C ₁₆ : January to December 0D ₁₆ to FD ₁₆ : reserved FE ₁₆ : error FF ₁₆ : not available	N/A	N/A

6.7.6 Next maintenance year

This parameter provides the year of the next maintenance date information. Table 17 specifies the parameter attributes.

Table 17 — Next maintenance year parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/ Unit
Next maintenance year	UNM8	00 ₁₆ to FF ₁₆ : 0 to 250	1985	N/A

6.8 Detailed specification of generic BAU and BAU sub-part parameters

6.8.1 General

The parameters in this sub-clause are related to the entire BAU or one of its sub-parts. In order to relate these parameters to the entire BAU or one of its sub-parts, the BAU or BAU sub-part parameter is used; it is a multiplexer for other parameters (for details see 6.8.2).

EXAMPLE A refuse collecting BAU comprises four bin lifters, the position of one dedicated bin lifter is given by the BAU sub-part position parameter plus the BAU or BAU sub-part parameter indicating the dedicated bin lifter.

Some value definitions are BAU-specific; they are specified in detail in Clause 7.

6.8.2 BAU or BAU sub-part

This parameter indicates the BAU or sub-part to which an associated parameter is assigned. The BAU sub-parts are specified in detail in Clause 7 for each BAU type.

Table 18 specifies the parameter attributes.

Table 18 — BAU or BAU sub-part parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
BAU or BAU sub-part	ENUM8	00 ₁₆ : entire BAU 01 ₁₆ to FD ₁₆ : BAU sub-part 1 to BAU sub-part 252 FE ₁₆ : error FF ₁₆ : not available	N/A	N/A

6.8.3 BAU or BAU sub-part mode

This parameter indicates the BAU or sub-part mode, which is currently active.

Table 19 specifies the parameter attributes.

Table 19 — BAU or BAU sub-part mode parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
BAU or BAU sub-part	ENUM8	00 ₁₆ : Unknown mode 01 ₁₆ to FD ₁₆ : Mode 1 to mode 252 FE ₁₆ : error FF ₁₆ : not available	N/A	N/A

6.8.4 BAU or sub-part mounting location

This parameter indicates the specific location at the vehicle, where the BAU or one of its sub-parts is mounted.

Table 20 specifies the parameter attributes.

Table 20 — BAU or sub-part mounting location parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
BAU or sub-part mounting location	ENUM8	00 ₁₆ : unknown 01 ₁₆ : front left 02 ₁₆ : front centre 03 ₁₆ : front right 04 ₁₆ : rear left 05 ₁₆ : rear centre 06 ₁₆ : rear right 07 ₁₆ : side front 08 ₁₆ : side centre 09 ₁₆ : side rear 0A ₁₆ to FD ₁₆ : reserved FE ₁₆ : error FF ₁₆ : not available	N/A	N/A

6.8.5 BAU or sub-part status

This parameter provides the application status of the BAU or one of its sub-parts. Table 21 specifies the parameter attributes.

Table 21 — BAU or sub-part status parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
BAU or sub-part status	ENUM8	00 ₁₆ : application not active 01 ₁₆ : in manual mode 02 ₁₆ : in automatic mode 03 ₁₆ : set-up mode ^a 04 ₁₆ : remote mode ^b 05 ₁₆ : emergency mode ^c 06 ₁₆ : limp home mode ^d 07 ₁₆ to 0D ₁₆ : reserved 0E ₁₆ : error 0F ₁₆ : not available 10 ₁₆ to FF ₁₆ : reserved	N/A	N/A
^a In this mode, the BAU or the sub-part is prepared and shall not operate. ^b In this mode, the BAU or the sub-part is operated via remote control. ^c In this mode, the BAU or the sub-part is stopping the normal operation due to its functional safety behaviour and transits to the specified safe state. ^d In this mode, the BAU or the sub-part is using pre-specified values to transit to home position, for example.				
NOTE Set-up, remote, emergency, and limp-home modes are not commandable by the application layers specified in this document.				

6.8.6 BAU or sub-part enable status

This parameter provides the general function sub-parameter of the BAU or one of its sub-parts as well as sub-parameters of the time window and the geofencing functions. Figure 5 specifies the parameter structure. Table 22 specifies the sub-parameter attributes.

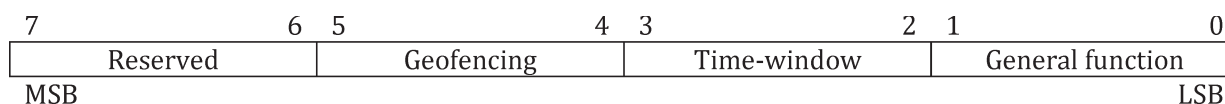


Figure 5 — Structure of the BAU or sub-part enable request parameter

Table 22 — BAU or sub-part sub-parameter attributes

Sub-parameter name	Category	Value definition	Offset	Scale/Unit
General function	0	00 ₂ : disabled 01 ₂ : enabled 10 ₂ : error 11 ₂ : not available	N/A	N/A
Time window	0	00 ₂ : disabled 01 ₂ : enabled 10 ₂ : error 11 ₂ : not available	N/A	N/A
Geofencing	0	00 ₂ : disabled 01 ₂ : enabled 10 ₂ : error 11 ₂ : not available	N/A	N/A
Reserved	0	11 ₂	N/A	N/A

6.8.7 BAU or sub-part position status

This parameter provides the position status of the BAU or one of its sub-parts. The definitions of the position values are BAU-specific and are specified in detail in Clause 7. Table 23 specifies the parameter attributes.

Table 23 — BAU or sub-part position status parameter attributes

Parameter name	Data type	Value definition	Offset	Scale/Unit
BAU or sub-part position status	ENUM8	00 ₁₆ to FD ₁₆ : position 1 to position 253 FE ₁₆ : error FF ₁₆ : not available	N/A	N/A

6.8.8 BAU or sub-part moving status

This parameter provides the moving status of the BAU or one of its sub-parts. The definitions of the moving values are BAU-specific; they are specified in detail in Clause 7. In the set-up mode, the BAU or its sub-part may be configured. In the remote mode, a remote terminal controls the BAU or the sub-part. The BAU or the sub-part is in emergency mode when the emergency button is activated. Table 24 specifies the parameter attributes.