Type of document: Technical documentation		VIASAT
Document title: Realtime protocol	Date: 14-04-2025	ATANGA TELEMATICS COMPANY

Targa Viasat Realtime protocol for HVG vehicle tracking

Version	Date	Author	Description
1	19 June 2024	Bogdan Baditoiu	First release
2	16 January 2025	Bogdan Baditoiu	Added section "4.25.2 For truck" with inputs mapping for trucks
2.1	17 January 2025	Bogdan Baditoiu	Updated in 4.21.2 the Default BAT setup
2.2	10 March 2025	Bogdan Baditoiu	Added section 6 .Remote Commands – SetDeviceRequest
2.3	14 April 2025	Bogdan Baditoiu	Added section 7 Device Customer Data

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1 Purpose

The present document lists the messages sent by Targa Viasat to External Platforms (integrators), from the GPS devices provided by Targa Viasat and used for tracking high value goods transportation vehicles.

The protocol covers data sending from truck and trailer telematics.

2 Services Connectivity

The service is delivering XML messages to a HTTP terminal of the integrator (business partner).

The HTTP terminal settings and details are to be provided by the integrator to Targa Viasat team.

3 Real Time protocol general format

TSP13

Item name=serialnum

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H: Item name=method

3.1 devicetype

<Item name="devicetype">VIASAT.RT6X</Item>

3.2 serialnum

<Item name="serialnum">Unique Device Id</Item>

3.3 swrelease

<Item name="swrelease">Device Fw Release</Item>

3.4 datetime

<Item name="datetime">UTC Message Timestamp</Item>

UTC Message Timestamp: yyyyMMddhhmmss.fff

3.5 method

<Item name="method">GPRS | SMS</Item>

3.6 Events

The Events collected by Real Time for the scope of the document, are Historical Events

4 Historical Events

Are samples detected by the GPS device and stored into its memory and then sent to the Platform.

The reporting of historical events is based on the device configuration setting.

The device configuration is uploaded at the beginning of the device lifecycle, and further managed "over the air".

Each device has its own configuration setting, in accordance with the business purpose of the overall service that has be delivered to the end user.

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4.1 XML Template

Item name=Historical

- Item name=uevent
- 1 Item name=datetime
- 1 Item name=FixType
- Item name=GnssPos

- Item name=FMS DriverID

4.2 uevent

<Item name="uevent">Event_Identification</Item>

See EVENT_IDENTIFICATION Table

4.2.1 EVENT IDENTIFICATION Table

Below is the full list of events managed by Targa Viasat devices.

The events are device configuration dependant.

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The events listed are all the events managed by the GPS devices with the configuration settings for High Value Goods transportation.

Some other events not listed, could or may be delivered, if additional specific services are provided only by Targa Viasat to the end users.

E_NullEvent = 0x00	Event generated from a request of connection
E_IK15OffEvent = 0x01	IK15 Off event (physical or virtual Key Off)
E_IK15OnEvent = 0x02	IK15 On event (physical or virtual Key On)
E_TimePositionEvent = 0x09	Time Position when Key is On
E_DistancePositionEvent = 0x0A	Distance Position when Key is On
E_JRT_APP_EV_TRANSSAFETYLOCK_ICM_STATUS	Event with information from ICM door locking system - only present for trailer device installations. Containing all informations coming from the ICM to report working status and sensor status change (alarms).
E_RTCSynchronizationEvent = 0x0E	Real Time Clock synchronized on GNSS signal
E_GPIO_INDisactivationEvent = 0x0F	GPIO_IN input/ouput disactivated (input direction)
E_GPIO_INActivation = 0x10	GPIO_IN input/ouput activated (output direction)
E_GPI1Disactivation = 0x11	GPI1 input inactive
E_GPI1Activation = 0x12	GPI1 input active
E_GPI2Disactivation = 0x13	GPI2 input inactive
E_GPI2Activation = 0x14	GPI2 input active
E_GPI3Disactivation = 0x15	GPI3 input inactive
E_GPI3Activation = 0x16	GPI3 input active
E_GPO1Disactivation = 0x17	GPO1 output disactivated
E_GPO1Activation = 0x18	GPO1 output activated
E_GPO2Disactivation = 0x1B	GPO2 output disactivated
E_GPO2Activation = 0x1C	GPO2 output activated
E_K30_HPFDisconnected = 0x26	External K30 Supply disconnection (releved with High speed sampling)
E_K30_HPFVoltageLow = 0x27	External K30 Supply Low Voltage (releved with High speed sampling)
E_K30_HPFVoltageNormal = 0x28	External K30 Supply Normal Voltage return (releved with High speed sampling)
E_InternalBatteryDamage = 0x29	Internal backup battery anomaly detected
E_StartInternalBatteryRecharge = 0x2A	Start of internal backup battery recharge

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E_EndInternalBatteryRecharge = 0x2B	End of internal backup battery recharge
E_GpsInternalAntennaCurrentKO = 0x2C	Internal Gps Antenna current not ok
$E_GPSInternalAntennaCurrentOK = 0x2D$	Internal Gps Antenna current ok
E_GPSExternalAntennaCurrentKO = 0x2E	External Gps Antenna current not ok
E_GPSExternalAntennaCurrentOK = 0x2F	External Gps Antenna current ok
E_AccelMoveWithKeyOff = 0x30	Vehicle Movement in Key Off, detected from Accelerometer
E_GpsMoveWithKeyOff = 0x31	Vehicle Movement with Key Off releved from Gps
E_GpsNoPosEvent = 0x32	Gps no fix detected with vehicle in movement
E_GpsPosCurrHDOP_more_5_0Event = 0x33	Gps fix with bad quality (HDOP) detected with vehicle in movement
E_GpsPosCurrHDOP_less_5_0Event = 0x34	Gps fix with good quality (HDOP) detected with vehicle in movement
E_GsmNoRegEvent = 0x35	Gsm not registered
E_GsmHomeRegistration = 0x36	Gsm registered in Home
E_GsmRoamingRegistration = 0x37	Gsm registered in Roaming
E_GprsRegistrationLoss = 0x38	GPRS registration lost
E_GprsHomeRegistration = 0x39	GPRS Home registration
E_GprsRoamingRegistration = 0x3A	GPRS Roaming Registration
E_GsmMainCellChange = 0x3B	Gsm Mail Cell changes
E_GsmJammingStart = 0x3C	Gsm Jamming start
E_GsmJammingEnd = 0x3D	Gsm Jamming end
E_GpsJammingStart = 0x3E	Gps Jamming start
E_GpsJammingEnd = 0x3F	Gps Jamming end
E_GsmMobileCountyCodeChange = 0x41	MCC changed
E_KeepAliveEvent = 0x43	Keep Alive Event
E_K30_LPFDisconnected = 0x47	External K30 Supply disconnection (detected with Low speed sampling)
E_K30_LPFVoltageLow = 0x48	External K30 Supply Low Voltage (detected with Low speed sampling)
E K30 LPFVoltageNormal = 0x49	External K30 Supply Normal Voltage return (detected with Low speed sampling)

4.3 Date Time

Message datetime in UTC format:

<Item name="datetime">yyyyMMddhhmmss.fff</Item>

4.4 FixType

<Item name="FixType">Fix Type</Item>

Fix Type = Current_Fix | Hold_Fix

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4.5 GnssPos

- # Item name=GnssPos
 - # Item name=gnssTimestamp
 - # Item name=GnssPosInfo

 - # Item name=gnssLon

4.6 GnssTimestamp

Gnss sentence UTC Timestamp

<Item name="gnssTimestamp">UTC GNSS Timestamp</Item>

UTC GNSS Timestamp: yyyyMMddhhmmss.fff

4.7 GnssPosInfo

- ## Item name=GnssPosInfo

 - # Item name=satellitesUsed

 - # Item name=<u>accuracyExtimation</u>

4.8 fixQuality

<Item name="fixQuality">fix quality</Item>

fixQuality: No_Fix | Standard | Differential | Other

4.9 satellitesUsed

<Item name="satellitesUsed">Number of Satellites in view</Item>

4.10 hDop

<Item name="hDop">Float Hdop value

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4.11 accuracyExtimation

<Item name="accuracyExtimation">Accuracy Extimation</ltem>

Accuracy Extimation: meters

4.12 gnssLat

<Item name="gnssLat">Float Value WGS84</Item>

4.13 gnssLon

<Item name="gnssLon">Float Value WGS84</Item>

4.14 GnssPosVal

- # Item name=GnssPosVal
 - # Item name=speed
 - # Item name=heading

4.15 speed

<Item name="speed">Speed value in km/h</Item>

4.16 heading

<Item name="heading">Heading value in degrees</Item>

4.17 altitude

<Item name="altitude">Altitude value in meters//Item>

4.18 GpsK15odo

<Item name="GpsK15odo">Distance from last key on in km/Item>

4.19 GpsAbsOdo

< Item name="GpsAbsOdo">Total distance traveled by the vehicle in km</ Item>

4.20 ServiceStatus

<Item name="ServiceStatus">Status of device service</Item>

Status of device service: WaitingForActivation | Inactive | Active | Maintenance

4.21 Extras

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4.21.1 E_JRT_APP_EV_TRANSSAFETYLOCK_ICM_STATUS

Information related to TransSafetyLocks extra data:

- # Item name = IcmStatus
 - # Item name = PowerSupplyVoltage

 - # Item name = EnabledInputsVal (Inputs available/enabled in ICM, see Tab. 4.22.15.1 Enabled Inputs)
 - # Item name = EnabledInputs (inputs enabled mask, in descriptive form see Tab. 4.22.15.1 Enabled Inputs)
 - ## Item name = InputStatusVal (input status mask, see Tab. 4.22.15.2 Inputs status)
 - # Item name = InputStatus (input status mask, in descriptive form, see Tab. 4.22.15.2 Inputs status)
 - # Item name = EnabledIMMsVal (IMM enabled mask, see Tab. 4.22.15.3 Enabled IMM)
 - # Item name = EnabledIMMs (IMM enabled mask, in descriptive form, see Tab. 4.22.15.3 Enabled IMM)
 - ## Item name = IMMOnlineVal (IMMOnline mask, see Tab. 4.22.15.4 IMM Online)
 - # Item name = IMMOnline (IMM Online mask, in descriptive form, see Tab. 4.22.15.4 IMM Online)
 - # Item name = IMMDoorInputsEnabledVal (IMM door input enabled mask, see Tab. 4.22.15.5 IMM Door Inputs enabled)
 - ## Item name = IMMDoorInputsEnabled (IMM door input enabled mask, in descriptive form, see Tab. 4.22.15.5 IMM Door Inputs enabled)
- # Item name = IMMDoorInputsVal (IMM door input active mask, see Tab. 4.22.15.6 IMM Input door status)
 - # Item name = IMMDoorInputs (IMM door input active mask, in descriptive form, see Tab. 4.22.15.6 IMM Input door status)
 - # Item name = ICMSystemStatusVal (ICM System status mask, see Tab. 4.22.15.7 ICM System status)
 - # Item name = ICMSystemStatus (ICM System status mask, in descriptive form, see Tab. 4.22.15.7 ICM System status)

Tab. 4.22.15.1 Enabled Inputs

Dec. Values	Desc. Values	Note
1	IN_1_ENABLED	Inp1Enabled=(value&0x0001)
2	IN_2_ENABLED	Inp2Enabled=(value&0x0002)
4	IN_3_ENABLED	Inp3Enabled=(value&0x0004)
8	IN_4_ENABLED	Inp4Enabled=(value&0x0008)
16	IN_5_ENABLED	Inp5Enabled=(value&0x0010)
32	IN_6_ENABLED	Inp6Enabled=(value&0x0020)
64	LOOP_IN_1_ENABLED	LoopInp1Enabled=(value&0x0040)
128	LOOP_IN_2_ENABLED	LoopInp2Enabled=(value&0x0080)
256	LOOP_IN_3_ENABLED	LoopInp3Enabled=(value&0x0100)
512	LOOP_IN_4_ENABLED	LoopInp4Enabled=(value&0x0200)
1024	LOOP_IN_5_ENABLED	LoopInp5Enabled=(value&0x0400)

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Tab. 4.22.15.2 Inputs status

Dec. Values	Desc. Values	Note
1	IN_1	Inp1=(value&0x0001)
2	IN_2	Inp2=(value&0x0002)
4	IN_3	Inp3=(value&0x0004)
8	IN_4	Inp4=(value&0x0008)
16	IN_5	Inp5=(value&0x0010)
32	IN_6	Inp6=(value&0x0020)
64	LOOP_IN_1	LoopInp1=(value&0x0040)
128	LOOP_IN_2	LoopInp2=(value&0x0080)
256	LOOP_IN_3	LoopInp3=(value&0x0100)
512	LOOP_IN_4	LoopInp4=(value&0x0200)
1024	LOOP_IN_5	LoopInp5=(value&0x0400)
2048	LOOP_IN_6	LoopInp6=(value&0x0800)

Tab. 4.22.15.3 Enabled IMM

Dec. Values	Desc. Values	Note
1	IMM_1	IMM1=(value&0x01)
2	IMM_2	IMM2=(value&0x02)
4	IMM_3	IMM3=(value&0x04)
8	IMM_4	IMM4=(value&0x08)
16	IMM_5	IMM5=(value&0x10)
32	IMM_6	IMM6=(value&0x20)
64	IMM_7	IMM7=(value&0x40)
128	IMM_8	IMM8=(value&0x80)

Tab. 4.22.15.4 IMM Online

Dec. Values	Desc. Values	Note
1	IMM_1_ONLINE	IMM1online=(value&0x01)
2	IMM_2_ONLINE	IMM2online=(value&0x02)
4	IMM_3_ONLINE	IMM3online=(value&0x04)
8	IMM_4_ONLINE	IMM4online=(value&0x08)
16	IMM_5_ONLINE	IMM5online=(value&0x10)
32	IMM_6_ONLINE	IMM6online=(value&0x20)

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64 IMM_7_ONLINE		IMM7online=(value&0x40)	
128	IMM_8_ONLINE	IMM8online=(value&0x80)	

Tab. 4.22.15.5 IMM Door Inputs enabled

Dec. Values	Desc. Values	Note
1	IMM_1_DOOR_INPUT_ENABLED	IMM 1 Door input enabled=(value&0x01)
2	IMM_2_DOOR_INPUT_ENABLED	IMM 2 Door input enabled=(value&0x02)
4	IMM_3_DOOR_INPUT_ENABLED	IMM 3 Door input enabled=(value&0x04)
8	IMM_4_DOOR_INPUT_ENABLED	IMM 4 Door input enabled=(value&0x08)
16	IMM_5_DOOR_INPUT_ENABLED	IMM 5 Door input enabled=(value&0x10)
32	IMM_6_DOOR_INPUT_ENABLED	IMM 6 Door input enabled=(value&0x20)
64	IMM_7_DOOR_INPUT_ENABLED	IMM 7 Door input enabled=(value&0x40)
128	IMM_8_DOOR_INPUT_ENABLED	IMM 8 Door input enabled=(value&0x80)

Tab. 4.22.15.6 IMM Input door status

Dec. Values	Desc. Values	Note
1	IMM_1_DOOR_INPUT	IMM 1 Door input=(value&0x01)
2	IMM_2_DOOR_INPUT	IMM 2 Door input=(value&0x02)
4	IMM_3_DOOR_INPUT	IMM 3 Door input=(value&0x04)
8	IMM_4_DOOR_INPUT	IMM 4 Door input=(value&0x08)
16	IMM_5_DOOR_INPUT	IMM 5 Door input=(value&0x10)
32	IMM_6_DOOR_INPUT	IMM 6 Door input=(value&0x20)
64	IMM_7_DOOR_INPUT	IMM 7 Door input=(value&0x40)
128	IMM_8_DOOR_INPUT	IMM 8 Door input=(value&0x80)

Tab. 4.22.15.7 ICM System status

Dec. Values	Desc. Values	Note
1	ALL_DOOR_CONTACT_CLOSE	all door contact close=(value&0x0001)
2	ALL_IMM_UNLOCKED	all imm unlocked=(value&0x0002)
4	ALL_IMM_LOCKED	all imm locked=(value&0x0004)
8	SECURE_INPUT_ALARM	secure input alarm=(value&0x0008)
16	SECURE_MODE_ACTIVE	secure mode active=(value&0x0010)
32	USER_CODE_BLOCKED	user code blocked=(value&0x0020)
64	AUTOMATIC_CLOSE_BLOCKED	automatic close blocked=(value&0x0040)
128	RUN_ON_BACKUP_BATTERY	run on backup battery=(value&0x0080)

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256	POWER_SUPPLY_OK	power supply ok=(value&0x0100)	
512	ICM_HARDWARE_ALARM	ICM hardware alarm=(value&0x0200)	
1024	KEYPAD_BLOCKED	KeyPad blocked=(value&0x0400)	
2048	IMM_HARDWARE_ALARM	IMM hardware alarm=(value&0x0800)	
4096	BACKUP_BATTERY_ERROR	Backup battery error=(value&0x1000)	
8192	NOT_USED1	not used=(value&0x2000)	
16384	NOT_USED2	not used=(value&0x4000)	
32768	NOT_USED3	not used=(value&0x8000)	

Example:

<Extras>

<Item name="IcmStatus" version="0">

- <PowerSupplyVoltage unit="V">13.150</PowerSupplyVoltage>
- <BackupBatteryVoltage unit="V">2.013</BackupBatteryVoltage>
- <LoopInputsVoltage unit="V">12.713</LoopInputsVoltage>
- <EnabledInputsVal>64</EnabledInputsVal>
- <EnabledInputs>LOOP_IN_1_ENABLED</EnabledInputs>
- <InputsStausVal>64</InputsStausVal>
- <InputsStaus>LOOP_IN_1/InputsStaus>
- <EnabledIMMsVal>1</EnabledIMMsVal>
- <EnabledIMMs>IMM_1</EnabledIMMs>
- <IMMOnlineVal>1</IMMOnlineVal>
- <IMMOnline>IMM_1_ONLINE</IMMOnline>
- <IMMDoorInputsEnabledVal>1</IMMDoorInputsEnabledVal>
- $<\!IMMDoorInputsEnabled\!>\!IMM_1_DOOR_INPUT_ENABLED\!<\!/IMMDoorInputsEnabled\!>$
- <IMMDoorInputsVal>1</IMMDoorInputsVal>
- <IMMDoorInputs>IMM_1_DOOR_INPUT</IMMDoorInputs>
- <ICMSystemStatusVal>261</ICMSystemStatusVal>
- <ICMSystemStatus>ALL_DOOR_CONTACT_CLOSE, ALL_IMM_LOCKED,

POWER_SUPPLY_OK</ICMSystemStatus> </Item>

4.21.2 ICM inputs mapping

The ICM inputs are mapped differently, depending on the HW configuration on the trailer, set by the security standard to be compliant with. (Ex: BAT V1, TAPA TSR1 etc...)

Aside the self explaining ICM reporting elements, the inputs mapping is the following:

Default BATV1 setup:

	ICM Input #	ICM Input Function	Normal state	Alarm state
TE	IN1	Roof wiring	ON (unintrerupted)	OFF
HBA	IN2	Back doors wiring	ON (unintrerupted)	OFF
WIT	IN3	Side walls wiring	ON (unintrerupted)	OFF

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	IN4	Door Handle	OFF (pressed)	ON
	IN5	Fake antenna	OFF (unintrerupted)	ON
	IN6	Locked In	ON (not pressed)	OFF
≿	IN1	Bolt Sensor right	OFF (locked)	ON
	IN2	Disabled	-	-
BA]	IN3	Keypad Cover	OFF (closed)	ON
50	IN4	Emergency Cover	OFF (closed)	ON
WITHOUTBATTERY	IN5	Disabled	-	-
>	IN6	Disabled	-	-

Default TAPA TSR1 setup:

#CRT.		ICM Input #	ICM Input Function	Normal state	Alarm state
1	RY	IN1	Disabled	-	ON
2		IN2	Disabled	-	-
3	WITHOUTBATTE	IN3	Keypad Cover	OFF (closed)	ON
4	L	IN4	Emergency Cover	OFF (closed)	ON
5	Ē	IN5	Disabled	-	-
6	>	IN6	Disabled	-	-
9 8 WITHBATTERY	IN1	Motion detection in front inside of trailer	ON (unintrerupted)	OFF	
	ΞRΥ	IN2	Light detection in front inside of trailer	ON (unintrerupted)	OFF
	IN3	Motion detection in back inside of trailer	ON (unintrerupted)	OFF	
	WITI	IN4	Light detection in back inside of trailer	ON (unintrerupted)	OFF
11		IN5	Disabled	-	-
12		IN6	Disabled	-	-

Important note:

ICM inputs mapping might vary, depeding on the specific requirements from end users or security standards.

4.22 loStatus

☑ Item name=K15

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

☑ Item name=VK15_VDC

☑ Item name=VK15_VAC

☑ Item name=VK15_ACC

Item name=VK15_CAN

☑ Item name=GNSS_PWRON

Item name=GNSS Power On

Item name=GNSS status

Item name=GSM Power On

Item name=Key1 Status

Item name=Key External

☑ Item name=GPI1_DIG

☑ Item name=GPO1_DIG

Item name=GPI1_ANA

☑ Item name=Device Temperature OK

! Item name=Stability accelerometer1

Item name=Stability accelerometer2

Item name=Alarm status

☑ Item name=BT

4.23 GsmCellData_t

 $\hbox{$!$ Item name=GsmCellData_t$}\\$

☑ Item name=MCC

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY

Item name=LAC

☑ Item name=BSIC

Item name=Channel

4.24 IoStatusRt

1 Item name=Rt_Input1

Item name=Rt_Input4

☑ Item name=Rt_Input8

Item name=Rt_Input9

☑ Item name=Rt_InputPulseA

Item name=Rt_Output1

Item name=Rt_Output2

☑ Item name=Rt_Output3

Item name=Rt_Output4

Item name=Rt_Buzzer

 $\hbox{$!$ Item name=Rt_RelayEngineStart}$

☑ Item name=Rt_TLBWaitActivation

☑ Item name=Rt_TLB

☑ Item name=Rt_RestKeyOn

☐ Item name=Rt_Trailer

☑ Item name=Rt_Batterystatus

☑ Item name=Rt_Container

☑ Item name=Rt_Authenticator

 $\verb| ! Item name=Rt_External battery status | \\$

☑ Item name=Rt_ButtonBanks

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

② Item name=Rt_Frame

☑ Item name=Rt_K30externalout

☑ Item name=Rt_3V3externalout

☑ Item name=Rt_5V0extenalout

☑ Item name=Rt_Gpsantennastatus

4.25 GPS device (RT6.x) inputs mapping

4.25.1 For trailer

#CRT	GPS Input #	Function	Normal state	Alarm state
1	Input 1	GPS Tamper	ON (active)	OFF
2	Input 2	Not Used	-	-
3	Input 3	Not Used	-	-
4	Input 4	Not Used	-	-
5	Input 5	Not Used	-	-
6	Input 6	Truck connection	ON (connected)	OFF
7	Input 7	Security Input	ON (ICM connection OK)	OFF
8	Input 8	Not Used	-	-
9	Input 9	Not Used	-	-

4.25.2 For truck

#CRT	GPS Input #	Function	Normal state	Alarm state
1	Input 1	Not Used	-	-
2	Input 2	Siren	OFF (inactive)	ON
3	Input 3	Trailer back door	OFF (closed)	ON
4	Input 4	Panic button	OFF (not pressed)	ON
5	Input 5	GPS Tamper	ON (active)	OFF
6	Input 6	Truck connection	ON (active)	OFF
7	Input 7	Not Used	-	-
8	Input 8	Not Used	-	-
9	Input 9	Not Used	-	-

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١	Group S.p.A. and may not be disclosed or reproduced.	Targa Viasat HVG realtime protocol_APR2025.docx	

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Important note:

GPS inputs mapping might vary, depeding on the specific requirements from end users or security standards.

4.26 VoltageRt

☑ Item name=VoltageRt ☑ Item name=K30 ☑ Item name=K15 Item name=IntBattery Item name=ExtBattery 4.27 CanInfo t Out of scope 4.28 DriverAuthenticator_t Out of scope 4.29 AuthenticatorType Out of scope 4.30 TrailerTag_t Out of scope 4.31 FMS DriverID Out of scope 4.32 WeightSensors Out of scope 4.33 Modality Out of scope

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY

5 Some real events examples

5.1 E_IK15OffEvent

```
<Event name="Historical">
 <Item name="uevent">E_IK15OffEvent</Item>
 <Item name="datetime">20240605113211.948
 <Item name="FixType">Current_Fix</Item>
 <Item name="GnssPos">
   <Item name="gnssTimestamp">20240605113211.248
   <Item name="GnssPosInfo">
     <Item name="fixQuality">Differential</Item>
     <Item name="satellitesUsed">12</Item>
     <Item name="hDop">0.7</Item>
     <Item name="accuracyExtimation">0.7</Item>
   </ltem>
   <Item name="gnssLat">53.3756406
   <Item name="gnssLon">9.790126
   <Item name="GnssPosVal">
     <Item name="speed">0</Item>
     <Item name="heading">0</Item>
     <Item name="altitude">79</Item>
   </ltem>
 </ltem>
 <Item name="GpsK15odo">5958.8</Item>
 <Item name="GpsAbsOdo">4581680</Item>
```

Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

<Item name="ServiceStatus">Active</Item> <Item name="PrivateMode">False</Item> <Item name="IoStatus"> <Item name="IK15">Inactive</Item> <Item name="K15">Active</Item> <Item name="VK15_VDC">Inactive</Item> <Item name="VK15_VAC">Inactive</Item> <Item name="VK15_ACC">Inactive</Item> <Item name="VK15_CAN">Inactive</Item> <Item name="GNSS_PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item> <Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range</ltem> <Item name="K30 voltage status">Normal</Item> <Item name="Stability accelerometer1">Stable</Item> <Item name="Stability accelerometer2">Stable</Item> <Item name="Alarm status">Not in alarm

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Type of document: Technical documentation	Rev 2.3		VIASAT
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```
<Item name="ConfigApp">Roaming</Item>
 <Item name="BLE VCall">Not connected</Item>
 <Item name="BLE VKey1">Not connected</Item>
 <Item name="BLE VKey2">Not connected</Item>
 <Item name="BLE Rele">Not connected</Item>
 <Item name="BT">Not connected</Item>
</ltem>
<Item name="GsmCellData_t">
 <Item name="RAT">2</Item>
 <Item name="RatDesc">LTE</Item>
 <Item name="MCC">262</Item>
 <Item name="MNC">1</Item>
 <Item name="LAC">4604</Item>
 <Item name="CellId">26164233
 <Item name="BSIC">0</Item>
 <Item name="Channel">0</Item>
 <Item name="RSSI">57</Item>
</ltem>
<Item name="IoStatusRt">
 <Item name="Rt_Input1">Active</Item>
 <Item name="Rt_Input2">Inactive</Item>
 <Item name="Rt_Input3">Active</Item>
 <Item name="Rt_Input4">Inactive</Item>
 <Item name="Rt_Input5">Inactive</Item>
 <Item name="Rt_Input6">Inactive</Item>
 <Item name="Rt_Input7">Active</Item>
 <Item name="Rt_Input8">Inactive</Item>
```

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATANGA TELEMATICS COMPANY

<Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">False</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">NotConnected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item> <Item name="Rt_Gpsantennastatus">KO</Item> </ltem> <Item name="VoltageRt"> <Item name="Input0">1</Item> <Item name="Input1">480</Item> <Item name="Input2">484</Item>

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```
<Item name="Input3">478</Item>
 <Item name="Input4">484</Item>
 <Item name="Input5">123</Item>
 <Item name="K30">167</Item>
 <Item name="K15">165</Item>
 <Item name="IntBattery">811</Item>
 <Item name="ExtBattery">2295</Item>
 <Item name="Ntc">2714</Item>
</ltem>
<Item name="CanInfo_t">
 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
 <Item name="AuthenticatorType">NA</Item>
 </ltem>
<Item name="TrailerTag_t">
 <Item name="TrailerId">0</Item>
 <Item name="RSSI">0</Item>
 <Item name="DeltaOdo">0</Item>
 <Item name="TagType">0</Item>
</ltem>
<Item name="FMS_DriverID" />
<Item name="WeightSensors">0</Item>
<Item name="Modality">0</Item>
```

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</Event>

5.2 E_TimePositionEvent

```
<?xml version="1.0" encoding="utf-8"?>
<TSP13 version="1.0.0.1" user="admin">
  <Item name="devicetype">VIASAT.RT6X</Item>
  <Item name="serialnum">7225730</Item>
  <Item name="swrelease">9066</Item>
  <Item name="datetime">20240605101132</Item>
  <Item name="method">GPRS</Item>
  <Events>
    <Event name="Historical">
      <Item name="uevent">E TimePositionEvent</Item>
      <Item name="datetime">20240605101128.640</Item>
      <Item name="FixType">Current_Fix</Item>
      <Item name="GnssPos">
        <Item name="gnssTimestamp">20240605101128.000</Item>
        <Item name="GnssPosInfo">
          <Item name="fixQuality">Differential</Item>
         <Item name="satellitesUsed">12</Item>
         <Item name="hDop">0.7</Item>
          <Item name="accuracyExtimation">0.9</Item>
        </ltem>
        <Item name="gnssLat">53.5061933</Item>
        <Item name="gnssLon">9.9258488</item>
        <Item name="GnssPosVal">
```

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Document title: Realtime protocol		Date: 14-04-2025	ATANGA TELEMATICS COMPANY

```
<Item name="speed">0</Item>
   <Item name="heading">0</Item>
   <Item name="altitude">18</Item>
 </ltem>
</ltem>
<Item name="GpsK15odo">5615.7</Item>
<Item name="GpsAbsOdo">4575079</Item>
<Item name="ServiceStatus">Active</Item>
<Item name="PrivateMode">False</Item>
<Item name="IoStatus">
 <Item name="IK15">Active</Item>
 <Item name="K15">Active</Item>
 <Item name="VK15_VDC">Inactive</Item>
 <Item name="VK15_VAC">Inactive</Item>
 <Item name="VK15_ACC">Inactive</Item>
 <Item name="VK15_CAN">Inactive</Item>
 <Item name="GNSS_PWRON">Powered</Item>
 <Item name="GNSS Power On">Powered</Item>
 <Item name="GNSS status">Ready</Item>
 <Item name="GSM Power On">Not Powered</Item>
 <Item name="GSM Status">Ready</Item>
 <Item name="Key1 Status">Not Pressed</Item>
 <Item name="Key2 Status">Not Pressed</Item>
 <Item name="Key3 Status">Not Pressed</Item>
 <Item name="Key External">Not Pressed</Item>
 <Item name="GPI1_DIG">Inactive</Item>
 <Item name="GPO1_DIG">Inactive</Item>
```

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```
<Item name="GPI1_ANA">Inactive</Item>
 <Item name="Battery Charge">Not in charge</Item>
 <Item name="Device Temperature OK">Not in range</ltem>
 <Item name="K30 voltage status">Normal</Item>
 <Item name="Stability accelerometer1">Stable</Item>
 <Item name="Stability accelerometer2">Stable</Item>
 <Item name="Alarm status">Not in alarm
 <Item name="ConfigApp">Roaming</Item>
 <Item name="BLE VCall">Not connected</Item>
 <Item name="BLE VKey1">Not connected</Item>
 <Item name="BLE VKey2">Not connected</Item>
 <Item name="BLE Rele">Not connected</Item>
 <Item name="BT">Not connected</Item>
</ltem>
<Item name="GsmCellData_t">
 <Item name="RAT">2</Item>
 <Item name="RatDesc">LTE</Item>
 <Item name="MCC">262</Item>
 <Item name="MNC">1</Item>
 <Item name="LAC">4603</Item>
 <Item name="CellId">26438657</Item>
 <Item name="BSIC">0</Item>
 <Item name="Channel">0</Item>
 <Item name="RSSI">60</Item>
</ltem>
<Extras>
```

<|tem name="Schema">3</|tem>

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<Item name="AccXpCnt">0/0;0/0;0/0;0/0</Item> <Item name="AccXpAvg" um="g">0.00;0.00;0.00;0.00</ltem> <Item name="AccXnCnt">0/0;0/0;0/0;0/0</Item> <Item name="AccXnAvg" um="g">0.00;0.00;0.00;0.00</ltem> <Item name="AccYpCnt">0/0;0/0;0/0;0/0</Item> <Item name="AccYnCnt">0/0;0/0;0/0;0/0</Item> <Item name="GpsSpeedMax" um="kmh">0</Item> <Item name="GpsCntPos">0/0/0;0/0/0;0/0/0;0/0/0</Item> <Item name="GpsAvgPos" um="g">0.00;0.00;0.00;0.00</ltem> <Item name="GpsCntNeg">0/0/0;0/0/0;0/0/0;0/0/0</Item> <Item name="GpsAvgNeg" um="g">0.00;0.00;0.00;0.00</ltem> </Extras> <Item name="IoStatusRt"> <Item name="Rt_Input1">Active</Item> <Item name="Rt_Input2">Inactive</Item> <Item name="Rt_Input3">Active</Item> <Item name="Rt_Input4">Inactive</Item> <Item name="Rt_Input5">Inactive</Item> <Item name="Rt_Input6">Inactive</Item> <Item name="Rt_Input7">Active</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item>

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<Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">True</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">Connected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item> <Item name="Rt_Gpsantennastatus">KO</Item> </ltem> <Item name="VoltageRt"> <Item name="Input0">1</Item> <Item name="Input1">1535</Item> <Item name="Input2">1545</Item> <Item name="Input3">1538</Item> <Item name="Input4">1546</Item> <Item name="Input5">2454</Item> <Item name="K30">2443</Item> <Item name="K15">2454</Item>

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<Item name="IntBattery">818</Item>

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```
<Item name="ExtBattery">2291</Item>
   <Item name="Ntc">2381</Item>
 </ltem>
 <Item name="CanInfo_t">
   <Item unit="I" name="Fluxometer">0</Item>
   <Item unit="h" name="EngineTime">0</Item>
   <Item unit="%" name="FuelLevel">0</Item>
 </ltem>
 <Item name="DriverAuthenticator_t">
   <Item name="AuthenticatorType">NA</Item>
   </ltem>
 <Item name="TrailerTag_t">
   <Item name="TrailerId">0</Item>
   <Item name="RSSI">0</Item>
   <Item name="DeltaOdo">0</Item>
   <Item name="TagType">0</Item>
 </ltem>
 <Item name="FMS_DriverID" />
 <Item name="WeightSensors">0</Item>
 <Item name="Modality">0</Item>
</Event>
```

5.3 E_DistancePositionEvent

<Event name="Historical">

<Item name="uevent">E_DistancePositionEvent/Item>

<Item name="datetime">20240605103254.496</Item>

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```
<Item name="FixType">Current_Fix</Item>
<Item name="GnssPos">
 <Item name="gnssTimestamp">20240605103254.000
 <Item name="GnssPosInfo">
   <Item name="fixQuality">Differential</Item>
   <Item name="satellitesUsed">12</Item>
   <Item name="hDop">0.7</Item>
   <Item name="accuracyExtimation">0.8</Item>
 </ltem>
 <Item name="gnssLat">53.5083836
 <Item name="gnssLon">9.9217541
 <Item name="GnssPosVal">
   <Item name="speed">10</Item>
   <Item name="heading">277</Item>
   <Item name="altitude">13</Item>
 </ltem>
</ltem>
<Item name="GpsK15odo">5620.8</Item>
<Item name="GpsAbsOdo">4575176</Item>
<Item name="ServiceStatus">Active</Item>
<Item name="PrivateMode">False</Item>
<Item name="IoStatus">
 <Item name="IK15">Active</Item>
 <Item name="K15">Active</Item>
 <Item name="VK15_VDC">Active</Item>
 <Item name="VK15_VAC">Active</Item>
 <Item name="VK15_ACC">Active</Item>
```

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<Item name="VK15_CAN">Inactive</Item> <Item name="GNSS_PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item> <Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1 ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range <Item name="K30 voltage status">Normal <Item name="Stability accelerometer1">Not Stable</Item> <Item name="Stability accelerometer2">Not Stable</Item> <Item name="Alarm status">Not in alarm <Item name="ConfigApp">Roaming</Item> <Item name="BLE VCall">Not connected</Item> <Item name="BLE VKey1">Not connected</Item> <Item name="BLE VKey2">Not connected</Item> <Item name="BLE Rele">Not connected</Item> <Item name="BT">Not connected</Item> </ltem>

<Item name="GsmCellData t">

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Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY

```
<Item name="RAT">2</Item>
 <Item name="RatDesc">LTE</Item>
 <Item name="MCC">262</Item>
 <Item name="MNC">1</Item>
 <Item name="LAC">4603</Item>
 <Item name="CellId">26438657</Item>
 <Item name="BSIC">0</Item>
 <Item name="Channel">0</Item>
 <Item name="RSSI">61</Item>
</ltem>
<Extras>
 <Item name="Schema">3</Item>
 <Item name="AccXpCnt">0/0;0/0;0/0;0/0</Item>
 <Item name="AccXpAvg" um="g">0.00;0.00;0.00;0.00</ltem>
 <Item name="AccXnCnt">0/0;0/0;0/0;0/0</Item>
 <Item name="AccXnAvg" um="g">0.00;0.00;0.00;0.00</ltem>
 <Item name="AccYpCnt">0/0;0/0;0/0;0/0</Item>
 <Item name="AccYnCnt">0/0;0/0;0/0;0/0</Item>
 <Item name="GpsSpeedMax" um="kmh">31</Item>
 <Item name="GpsCntPos">0/0/0;0/0/0;4/2/0;0/0/0</Item>
 <Item name="GpsAvgPos" um="g">0.00;0.00;0.08;0.00</ltem>
 <Item name="GpsCntNeg">0/0/0;0/0/0;0/0/0;0/0/0</Item>
 <Item name="GpsAvgNeg" um="g">0.00;0.00;0.08;0.00</Item>
</Extras>
<Item name="IoStatusRt">
 <Item name="Rt_Input1">Active</Item>
 <Item name="Rt_Input2">Inactive</Item>
```

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Rt_Input3">Active</Item> <Item name="Rt_Input4">Inactive</Item> <Item name="Rt_Input5">Inactive</Item> <Item name="Rt_Input6">Inactive</Item> <Item name="Rt_Input7">Active</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">True</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">Connected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item>

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Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

```
<Item name="Rt_Gpsantennastatus">KO</Item>
</ltem>
<Item name="VoltageRt">
 <Item name="Input0">3</Item>
 <Item name="Input1">1762</Item>
 <Item name="Input2">1773</Item>
 <Item name="Input3">1768</Item>
 <Item name="Input4">1777</Item>
 <Item name="Input5">2800</Item>
 <Item name="K30">2790</Item>
 <Item name="K15">2802</Item>
 <Item name="IntBattery">818</Item>
 <Item name="ExtBattery">2293</Item>
 <Item name="Ntc">2426</Item>
</ltem>
<Item name="CanInfo_t">
 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
 <Item name="AuthenticatorType">NA</Item>
 </ltem>
<Item name="TrailerTag_t">
 <Item name="TrailerId">0</Item>
 <ltem name="RSSI">0</ltem>
```

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="DeltaOdo">0</Item>
<Item name="TagType">0</Item>
</Item>
</Item name="FMS_DriverID" />
<Item name="WeightSensors">0</Item>
<Item name="Modality">0</Item>
</Event>
```

5.4 ICM STATUS

```
<Event name="Historical">
```

```
<ltem name="uevent">E_JRT_APP_EV_TRANSSAFETYLOCK_ICM_STATUS</ltem>
<Item name="datetime">20240605101128.816
<Item name="FixType">Current Fix</Item>
<Item name="GnssPos">
 <Item name="gnssTimestamp">20240605101128.248
 <Item name="GnssPosInfo">
   <Item name="fixQuality">Differential</Item>
   <Item name="satellitesUsed">12</Item>
   <Item name="hDop">0.7</Item>
   <Item name="accuracyExtimation">0.9</Item>
 </ltem>
 <Item name="gnssLat">53.506193</Item>
 <Item name="gnssLon">9.9258483</item>
 <Item name="GnssPosVal">
   <Item name="speed">0</Item>
   <Item name="heading">0</Item>
```

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="altitude">18</Item> </ltem> </ltem> <Item name="GpsK15odo">5615.7</Item> <Item name="GpsAbsOdo">4575079</Item> <Item name="ServiceStatus">Active</Item> <Item name="PrivateMode">False</Item> <Item name="IoStatus"> <Item name="IK15">Active</Item> <Item name="K15">Active</Item> <Item name="VK15_VDC">Inactive</Item> <Item name="VK15_VAC">Inactive</Item> <Item name="VK15_ACC">Inactive</Item> <Item name="VK15_CAN">Inactive</Item> <Item name="GNSS_PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item> <Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item>

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<Item name="Battery Charge">Not in charge</Item>

File Name:

Targa Viasat HVG realtime protocol_APR2025.docx

Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

```
<Item name="Device Temperature OK">Not in range</ltem>
 <Item name="K30 voltage status">Normal</Item>
 <Item name="Stability accelerometer1">Stable</Item>
 <Item name="Stability accelerometer2">Stable</Item>
 <Item name="Alarm status">Not in alarm</Item>
 <Item name="ConfigApp">Roaming</Item>
 <Item name="BLE VCall">Not connected</Item>
 <Item name="BLE VKey1">Not connected</Item>
 <Item name="BLE VKey2">Not connected</Item>
 <Item name="BLE Rele">Not connected</Item>
 <Item name="BT">Not connected</Item>
</ltem>
<Item name="GsmCellData_t">
 <Item name="RAT">2</Item>
 <Item name="RatDesc">LTE</Item>
 <Item name="MCC">262</Item>
 <Item name="MNC">1</Item>
 <Item name="LAC">4603</Item>
 <Item name="CellId">26438657</Item>
 <Item name="BSIC">0</Item>
 <Item name="Channel">0</Item>
 <Item name="RSSI">60</Item>
</ltem>
<Extras>
 <Item name="IcmStatus" version="0">
   <PowerSupplyVoltage unit="V">24.500</PowerSupplyVoltage>
```

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Group S.p.A. and may not be disclosed or reproduced.

File Name:
Targa Viasat HVG realtime protocol_APR2025.docx

<BackupBatteryVoltage unit="V">6.200</BackupBatteryVoltage>

Technical documentation Rev 2.3		VIASAT
Document title: Realtime protocol	Date: 14-04-2025	A TAPIGA TELEMATICS COMPANY

```
<LoopInputsVoltage unit="V">12.863</LoopInputsVoltage>
         <EnabledInputsVal>989</EnabledInputsVal>
         <EnabledInputs>IN_1_ENABLED, IN_3_ENABLED, IN_4_ENABLED, IN_5_ENABLED,
LOOP_IN_1_ENABLED, LOOP_IN_2_ENABLED, LOOP_IN_3_ENABLED,
LOOP IN 4 ENABLED</EnabledInputs>
         <InputsStausVal>0</InputsStausVal>
         <InputsStaus>0</InputsStaus>
         <EnabledIMMsVal>1</EnabledIMMsVal>
         <EnabledIMMs>IMM 1</EnabledIMMs>
         <IMMOnlineVal>1</IMMOnlineVal>
         <IMMOnline>IMM 1 ONLINE</IMMOnline>
         <IMMDoorInputsEnabledVal>1</IMMDoorInputsEnabledVal>
         <IMMDoorInputsEnabled>IMM 1 DOOR INPUT ENABLED</IMMDoorInputsEnabled>
         <IMMDoorInputsVal>1</IMMDoorInputsVal>
         <IMMDoorInputs>IMM_1_DOOR_INPUT</IMMDoorInputs>
         <ICMSystemStatusVal>4357</ICMSystemStatusVal>
         <ICMSystemStatus>ALL DOOR CONTACT CLOSE, ALL IMM LOCKED, POWER SUPPLY OK,
BACKUP_BATTERY_ERROR</ICMSystemStatus>
       </ltem>
       <Item name="RawData">0007A801F0040503DD0000010101011105/Item>
     </Extras>
     <Item name="IoStatusRt">
       <Item name="Rt_Input1">Active</Item>
       <Item name="Rt_Input2">Inactive</Item>
       <Item name="Rt_Input3">Active</Item>
       <Item name="Rt_Input4">Inactive</Item>
       <Item name="Rt_Input5">Inactive</Item>
```

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Group S.p.A. and may not be disclosed or reproduced.	Targa Viasat HVG realtime protocol_APR2025.docx	Page 30

<Item name="Rt_Input6">Inactive</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Rt_Input7">Active</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">True</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">Connected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item> <Item name="Rt_Gpsantennastatus">KO</Item> </ltem> <Item name="VoltageRt">

<Item name="Input0">0</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="Input1">1531</Item>
 <Item name="Input2">1546</Item>
 <Item name="Input3">1539</Item>
 <Item name="Input4">1547</Item>
 <Item name="Input5">2452</Item>
 <Item name="K30">2445</Item>
 <Item name="K15">2455</Item>
 <Item name="IntBattery">818</Item>
 <Item name="ExtBattery">2293</Item>
 <Item name="Ntc">2378</Item>
</ltem>
<Item name="CanInfo_t">
 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
 <Item name="AuthenticatorType">NA</Item>
 </ltem>
<Item name="TrailerTag_t">
 <Item name="TrailerId">0</Item>
 <Item name="RSSI">0</Item>
 <Item name="DeltaOdo">0</Item>
 <Item name="TagType">0</Item>
</ltem>
<Item name="FMS_DriverID" />
```

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-	Type of document: Technical documentation	Rev 2.3		VIASAT
	Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="WeightSensors">0</Item>
<Item name="Modality">0</Item>
</Event>
```

5.5 E_RT_APP_INPUT6_OFF

<Event name="Historical">

```
<Item name="uevent">E_RT_APP_INPUT6_OFF</Item>
<Item name="datetime">20240605113236.424
<Item name="FixType">Current_Fix</Item>
<Item name="GnssPos">
 <Item name="gnssTimestamp">20240605113235.748
 <Item name="GnssPosInfo">
   <Item name="fixQuality">Differential</Item>
   <Item name="satellitesUsed">12</Item>
   <Item name="hDop">0.7</Item>
   <Item name="accuracyExtimation">0.7</Item>
 </ltem>
 <Item name="gnssLat">53.3756266
 <Item name="gnssLon">9.790118
 <Item name="GnssPosVal">
   <Item name="speed">0</Item>
   <Item name="heading">0</Item>
   <Item name="altitude">80</Item>
 </ltem>
```

Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

</ltem> <Item name="GpsK15odo">0.0</Item> <Item name="GpsAbsOdo">4581680</Item> <Item name="ServiceStatus">Active</Item> <Item name="PrivateMode">False</Item> <Item name="IoStatus"> <Item name="IK15">Active</Item> <Item name="K15">Active</Item> <Item name="VK15_VDC">Inactive</Item> <Item name="VK15_VAC">Active</Item> <Item name="VK15_ACC">Inactive</Item> <Item name="VK15_CAN">Inactive</Item> <Item name="GNSS PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item> <Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range/Item> <Item name="K30 voltage status">Normal</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATANGA TELEMATICS COMPANY

<Item name="Stability accelerometer1">Stable</Item> <Item name="Stability accelerometer2">Stable</Item> <Item name="Alarm status">Not in alarm <Item name="ConfigApp">Roaming</Item> <Item name="BLE VCall">Not connected</Item> <Item name="BLE VKey1">Not connected</Item> <Item name="BLE VKey2">Not connected</Item> <Item name="BLE Rele">Not connected</Item> <Item name="BT">Not connected</Item> </ltem> <Item name="GsmCellData_t"> <Item name="RAT">2</Item> <Item name="RatDesc">LTE</Item> <Item name="MCC">262</Item> <Item name="MNC">1</Item> <Item name="LAC">4604</Item> <Item name="CellId">26164233</Item> <Item name="BSIC">0</Item> <Item name="Channel">0</Item> <Item name="RSSI">52</Item> </ltem> <Item name="IoStatusRt"> <Item name="Rt_Input1">Active</Item> <Item name="Rt_Input2">Inactive</Item> <Item name="Rt_Input3">Active</Item> <Item name="Rt_Input4">Inactive</Item> <Item name="Rt_Input5">Inactive</Item>

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-	Type of document: Technical documentation	Rev 2.3		VIASAT
	Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Rt_Input6">Inactive</Item> <Item name="Rt_Input7">Active</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">True</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">Connected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item> <Item name="Rt_Gpsantennastatus">KO</Item> </ltem>

<Item name="VoltageRt">

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY

```
<Item name="Input0">0</Item>
 <Item name="Input1">1618</Item>
 <Item name="Input2">1628</Item>
 <Item name="Input3">1621</Item>
 <Item name="Input4">1629</Item>
 <Item name="Input5">2581</Item>
 <Item name="K30">2568</Item>
 <Item name="K15">2581</Item>
 <Item name="IntBattery">814</Item>
 <Item name="ExtBattery">2296</Item>
 <Item name="Ntc">2711</Item>
</ltem>
<Item name="CanInfo_t">
 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
 <Item name="AuthenticatorType">NA</Item>
 </ltem>
<Item name="TrailerTag_t">
 <Item name="TrailerId">0</Item>
 <Item name="RSSI">0</Item>
 <Item name="DeltaOdo">0</Item>
 <Item name="TagType">0</Item>
```

</ltem>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="FMS_DriverID" />
  <Item name="WeightSensors">0</Item>
  <Item name="Modality">0</Item>
</Event>
```

5.6 E_RT_APP_INPUT6_ON

```
<Event name="Historical">
```

```
<Item name="uevent">E_RT_APP_INPUT6_ON</Item>
<Item name="datetime">20240605113212.900
<Item name="FixType">Current_Fix</Item>
<Item name="GnssPos">
 <Item name="gnssTimestamp">20240605113212.248
 <Item name="GnssPosInfo">
   <Item name="fixQuality">Differential</Item>
   <Item name="satellitesUsed">12</Item>
   <Item name="hDop">0.7</Item>
   <Item name="accuracyExtimation">0.7</Item>
 </ltem>
 <Item name="gnssLat">53.3756405
 <Item name="gnssLon">9.7901263</Item>
 <Item name="GnssPosVal">
   <Item name="speed">0</Item>
   <Item name="heading">0</Item>
   <Item name="altitude">79</Item>
 </ltem>
```

Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

</ltem> <Item name="GpsK15odo">5958.8</Item> <Item name="GpsAbsOdo">4581680</Item> <Item name="ServiceStatus">Active</Item> <Item name="PrivateMode">False</Item> <Item name="IoStatus"> <Item name="IK15">Inactive</Item> <Item name="K15">Active</Item> <Item name="VK15_VDC">Inactive</Item> <Item name="VK15_VAC">Active</Item> <Item name="VK15_ACC">Inactive</Item> <Item name="VK15_CAN">Inactive</Item> <Item name="GNSS PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item> <Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range <Item name="K30 voltage status">Normal</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Stability accelerometer1">Stable</Item> <Item name="Stability accelerometer2">Stable</Item> <Item name="Alarm status">Not in alarm <Item name="ConfigApp">Roaming</Item> <Item name="BLE VCall">Not connected</Item> <Item name="BLE VKey1">Not connected</Item> <Item name="BLE VKey2">Not connected</Item> <Item name="BLE Rele">Not connected</Item> <Item name="BT">Not connected</Item> </ltem> <Item name="GsmCellData_t"> <Item name="RAT">2</Item> <Item name="RatDesc">LTE</Item> <Item name="MCC">262</Item> <Item name="MNC">1</Item> <Item name="LAC">4604</Item> <Item name="CellId">26164233</Item> <Item name="BSIC">0</Item> <Item name="Channel">0</Item> <Item name="RSSI">57</Item> </ltem> <Item name="IoStatusRt"> <Item name="Rt_Input1">Active</Item> <Item name="Rt_Input2">Inactive</Item> <Item name="Rt_Input3">Active</Item> <Item name="Rt_Input4">Inactive</Item> <Item name="Rt_Input5">Inactive</Item>

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Rt_Input6">Active</Item> <Item name="Rt_Input7">Active</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">False</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">NotConnected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item> <Item name="Rt_Gpsantennastatus">KO</Item> </ltem>

<Item name="VoltageRt">

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="Input0">1</Item>
 <Item name="Input1">454</Item>
 <Item name="Input2">456</Item>
 <Item name="Input3">455</Item>
 <Item name="Input4">457</Item>
 <Item name="Input5">122</Item>
 <Item name="K30">121</Item>
 <Item name="K15">122</Item>
 <Item name="IntBattery">808</Item>
 <Item name="ExtBattery">2291</Item>
 <Item name="Ntc">2741</Item>
</ltem>
<Item name="CanInfo_t">
 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
 <Item name="AuthenticatorType">NA</Item>
 </ltem>
<Item name="TrailerTag_t">
 <Item name="TrailerId">0</Item>
 <Item name="RSSI">0</Item>
 <Item name="DeltaOdo">0</Item>
 <Item name="TagType">0</Item>
```

</ltem>

Type of document: Technical documentation	n	Rev 2.3		VIASAT
Document title: Realtime protocol			Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="FMS_DriverID" />
  <Item name="WeightSensors">0</Item>
  <Item name="Modality">0</Item>
</Event>
```

5.7 E_RT_APP_INPUT7_OFF

```
<Event name="Historical">
```

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<Item name="uevent">E_RT_APP_INPUT7_OFF</Item>
<Item name="datetime">20240605113213.004
<Item name="FixType">Current_Fix</Item>
<Item name="GnssPos">
 <Item name="gnssTimestamp">20240605113212.248
 <Item name="GnssPosInfo">
   <Item name="fixQuality">Differential</Item>
   <Item name="satellitesUsed">12</Item>
   <Item name="hDop">0.7</Item>
   <Item name="accuracyExtimation">0.7</Item>
 </ltem>
 <Item name="gnssLat">53.3756405
 <Item name="gnssLon">9.7901263
 <Item name="GnssPosVal">
   <Item name="speed">0</Item>
   <Item name="heading">0</Item>
   <Item name="altitude">79</Item>
 </ltem>
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</ltem>

Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

<Item name="GpsK15odo">5958.8</ltem> <Item name="GpsAbsOdo">4581680</Item> <Item name="ServiceStatus">Active</Item> <Item name="PrivateMode">False</Item> <Item name="IoStatus"> <Item name="IK15">Inactive</Item> <Item name="K15">Active</Item> <Item name="VK15_VDC">Inactive</Item> <Item name="VK15_VAC">Active</Item> <Item name="VK15_ACC">Inactive</Item> <Item name="VK15_CAN">Inactive</Item> <Item name="GNSS_PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item> <Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range <Item name="K30 voltage status">Normal</Item> <Item name="Stability accelerometer1">Stable</Item>

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Group S.p.A. and may not be disclosed or reproduced.	Targa Viasat HVG realtime protocol_APR2025.docx	rage 32

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="Stability accelerometer2">Stable</Item>
 <Item name="Alarm status">Not in alarm
 <Item name="ConfigApp">Roaming</Item>
 <Item name="BLE VCall">Not connected</Item>
 <Item name="BLE VKey1">Not connected</Item>
 <Item name="BLE VKey2">Not connected</Item>
 <Item name="BLE Rele">Not connected</Item>
 <Item name="BT">Not connected</Item>
</ltem>
<Item name="GsmCellData_t">
 <Item name="RAT">2</Item>
 <Item name="RatDesc">LTE</Item>
 <Item name="MCC">262</Item>
 <Item name="MNC">1</Item>
 <Item name="LAC">4604</Item>
 <Item name="CellId">26164233</Item>
 <Item name="BSIC">0</Item>
 <Item name="Channel">0</Item>
 <Item name="RSSI">57</Item>
</ltem>
<Item name="IoStatusRt">
 <Item name="Rt_Input1">Active</Item>
 <Item name="Rt_Input2">Inactive</Item>
 <Item name="Rt_Input3">Inactive</Item>
 <Item name="Rt_Input4">Inactive</Item>
 <Item name="Rt_Input5">Inactive</Item>
 <Item name="Rt_Input6">Active</Item>
```

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Rt_Input7">Inactive</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">False</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">NotConnected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item> <Item name="Rt_Gpsantennastatus">KO</Item> </ltem> <Item name="VoltageRt">

<Item name="Input0">0</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY

```
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 <Item name="Input2">458</Item>
 <Item name="Input3">455</Item>
 <Item name="Input4">458</Item>
 <Item name="Input5">121</Item>
 <Item name="K30">121</Item>
 <Item name="K15">121</Item>
 <Item name="IntBattery">809</Item>
 <Item name="ExtBattery">2294</Item>
 <Item name="Ntc">2741</Item>
</ltem>
<Item name="CanInfo_t">
 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
 <Item name="AuthenticatorType">NA</Item>
 </ltem>
<Item name="TrailerTag_t">
 <Item name="TrailerId">0</Item>
 <Item name="RSSI">0</Item>
 <Item name="DeltaOdo">0</Item>
 <Item name="TagType">0</Item>
</ltem>
```

<Item name="FMS_DriverID" />

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="WeightSensors">0</Item>
<Item name="Modality">0</Item>
</Event>
```

5.8 E_K30_HPFDisconnected

<Event name="Historical">

```
<Item name="uevent">E_K30_HPFDisconnected</Item>
<Item name="datetime">20240605113214.340
<Item name="FixType">Current_Fix</Item>
<Item name="GnssPos">
 <Item name="gnssTimestamp">20240605113213.748
 <Item name="GnssPosInfo">
   <Item name="fixQuality">Differential</Item>
   <Item name="satellitesUsed">12</Item>
   <Item name="hDop">0.8</Item>
   <Item name="accuracyExtimation">0.7</Item>
 </ltem>
 <Item name="gnssLat">53.37564
 <Item name="gnssLon">9.7901266
 <Item name="GnssPosVal">
   <Item name="speed">0</Item>
   <Item name="heading">0</Item>
   <Item name="altitude">79</Item>
 </ltem>
</ltem>
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Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol	Date: 14-04-202	Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

<Item name="GpsK15odo">5958.8</ltem> <Item name="GpsAbsOdo">4581680</Item> <Item name="ServiceStatus">Active</Item> <Item name="PrivateMode">False</Item> <Item name="IoStatus"> <Item name="IK15">Inactive</Item> <Item name="K15">Inactive</Item> <Item name="VK15_VDC">Inactive</Item> <Item name="VK15_VAC">Active</Item> <Item name="VK15_ACC">Inactive</Item> <Item name="VK15_CAN">Inactive</Item> <Item name="GNSS_PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item> <Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range <Item name="K30 voltage status">KO</Item> <Item name="Stability accelerometer1">Stable</Item>

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Group S.p.A. and may not be disclosed or reproduced.	Targa Viasat HVG realtime protocol_APR2025.docx	Page 37

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATANGA TELEMATICS COMPANY

```
<Item name="Stability accelerometer2">Stable</Item>
 <Item name="Alarm status">Not in alarm
 <Item name="ConfigApp">Roaming</Item>
 <Item name="BLE VCall">Not connected</Item>
 <Item name="BLE VKey1">Not connected</Item>
 <Item name="BLE VKey2">Not connected</Item>
 <Item name="BLE Rele">Not connected</Item>
 <Item name="BT">Not connected</Item>
</ltem>
<Item name="GsmCellData_t">
 <Item name="RAT">2</Item>
 <Item name="RatDesc">LTE</Item>
 <Item name="MCC">262</Item>
 <Item name="MNC">1</Item>
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 <Item name="CellId">26164233</Item>
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 <Item name="RSSI">56</Item>
</ltem>
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 <Item name="Rt_Input4">Inactive</Item>
 <Item name="Rt_Input5">Inactive</Item>
 <Item name="Rt_Input6">Active</Item>
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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Rt_Input7">Inactive</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">False</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent</Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item> <Item name="Rt_ButtonBanks">NotPressed</Item> <Item name="Rt_Frame">NotConnected</Item> <Item name="Rt_K30externalout">Inactive</Item> <Item name="Rt_3V3externalout">Inactive</Item> <Item name="Rt_5V0extenalout">Inactive</Item> <Item name="Rt_Gpsantennastatus">KO</Item> </ltem> <Item name="VoltageRt">

<Item name="Input0">0</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY

```
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 <Item name="Input2">458</Item>
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 <Item name="K15">121</Item>
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 <Item name="ExtBattery">2291</Item>
 <Item name="Ntc">2738</Item>
</ltem>
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 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
 <Item name="AuthenticatorType">NA</Item>
 </ltem>
<Item name="TrailerTag_t">
 <Item name="TrailerId">0</Item>
 <Item name="RSSI">0</Item>
 <Item name="DeltaOdo">0</Item>
 <Item name="TagType">0</Item>
</ltem>
```

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<Item name="FMS_DriverID" />

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

5.9 E_K30_HPFVoltageNormal

<Event name="Historical">

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="accuracyExtimation">0.7</Item> </ltem> <Item name="gnssLat">53.3756266</Item> <Item name="gnssLon">9.790118 <Item name="GnssPosVal"> <Item name="speed">0</Item> <Item name="heading">0</Item> <Item name="altitude">80</Item> </ltem> </ltem> <Item name="GpsK15odo">0.0</Item> <Item name="GpsAbsOdo">4581680</Item> <Item name="ServiceStatus">Active</Item> <Item name="PrivateMode">False</Item> <Item name="IoStatus"> <Item name="IK15">Active</Item> <Item name="K15">Active</Item> <Item name="VK15_VDC">Inactive</Item> <Item name="VK15_VAC">Active</Item> <Item name="VK15_ACC">Inactive</Item> <Item name="VK15_CAN">Inactive</Item> <Item name="GNSS_PWRON">Powered</Item> <Item name="GNSS Power On">Powered</Item> <Item name="GNSS status">Ready</Item> <Item name="GSM Power On">Not Powered</Item> <Item name="GSM Status">Ready</Item> <Item name="Key1 Status">Not Pressed</Item>

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATANGA TELEMATICS COMPANY

<Item name="Key2 Status">Not Pressed</Item> <Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range</ltem> <Item name="K30 voltage status">Normal</Item> <Item name="Stability accelerometer1">Stable</Item> <Item name="Stability accelerometer2">Stable</Item> <Item name="Alarm status">Not in alarm <Item name="ConfigApp">Roaming</Item> <Item name="BLE VCall">Not connected</Item> <Item name="BLE VKey1">Not connected</Item> <Item name="BLE VKey2">Not connected</Item> <Item name="BLE Rele">Not connected</Item> <Item name="BT">Not connected</Item> </ltem> <Item name="GsmCellData_t"> <Item name="RAT">2</Item> <Item name="RatDesc">LTE</Item> <Item name="MCC">262</Item> <Item name="MNC">1</Item> <Item name="LAC">4604</Item> <Item name="CellId">26164233</Item>

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<Item name="BSIC">0</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

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  <Item name="RSSI">52</Item>
</ltem>
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  <Item name="Rt_Input2">Inactive</Item>
  <Item name="Rt_Input3">Active</Item>
  <Item name="Rt_Input4">Inactive</Item>
  <Item name="Rt_Input5">Inactive</Item>
  <Item name="Rt_Input6">Active</Item>
  <Item name="Rt_Input7">Inactive</Item>
  <Item name="Rt_Input8">Inactive</Item>
  <Item name="Rt_Input9">Inactive</Item>
  <Item name="Rt_InputPulseA">Inactive</Item>
  <Item name="Rt_Output1">Inactive</Item>
  <Item name="Rt_Output2">Inactive</Item>
  <Item name="Rt_Output3">Inactive</Item>
  <Item name="Rt_Output4">Inactive</Item>
  <Item name="Rt_Buzzer">Inactive</Item>
  <Item name="Rt_RelayEngineStart">Inactive</Item>
  <Item name="Rt_TLBWaitActivation">Inactive</Item>
  <Item name="Rt_TLB">Inactive</Item>
  <Item name="Rt_RestKeyOn">True</Item>
  <Item name="Rt_Trailer">Unlocked</Item>
  <Item name="Rt_Batterystatus">ChargeOk</Item>
  <Item name="Rt_Container">NotPresent</Item>
  <Item name="Rt_Authenticator">NotPresent</Item>
```

-	Type of document: Technical documentation	Rev 2.3		VIASAT
	Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

```
<Item name="Rt_Externalbatterystatus">ChargeLow</Item>
 <Item name="Rt_ButtonBanks">NotPressed</Item>
 <Item name="Rt_Frame">Connected</Item>
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 <Item name="Rt_3V3externalout">Inactive</Item>
 <Item name="Rt_5V0extenalout">Inactive</Item>
 <Item name="Rt_Gpsantennastatus">KO</Item>
</ltem>
<Item name="VoltageRt">
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 <Item name="Input1">1614</Item>
 <Item name="Input2">1623</Item>
 <Item name="Input3">1618</Item>
 <Item name="Input4">1622</Item>
 <Item name="Input5">2573</Item>
 <Item name="K30">2565</Item>
 <Item name="K15">2575</Item>
 <Item name="IntBattery">813</Item>
 <Item name="ExtBattery">2293</Item>
 <Item name="Ntc">2717</Item>
</ltem>
<Item name="CanInfo_t">
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 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
```

<pre><item name="DriverAuthenticator_t"></item></pre>
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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

5.10 E_RT_APP_INPUT7_ON

<Event name="Historical">

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File Name:

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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

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 <Item name="GnssPosVal">
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   <Item name="heading">0</Item>
   <Item name="altitude">80</Item>
 </ltem>
</ltem>
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<Item name="GpsAbsOdo">4581680</Item>
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<Item name="PrivateMode">False</Item>
<Item name="IoStatus">
 <Item name="IK15">Active</Item>
 <Item name="K15">Active</Item>
 <Item name="VK15_VDC">Inactive</Item>
 <Item name="VK15_VAC">Active</Item>
 <Item name="VK15_ACC">Inactive</Item>
 <Item name="VK15_CAN">Inactive</Item>
 <Item name="GNSS_PWRON">Powered</Item>
 <Item name="GNSS Power On">Powered</Item>
 <Item name="GNSS status">Ready</Item>
 <Item name="GSM Power On">Not Powered</Item>
 <Item name="GSM Status">Ready</Item>
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 <Item name="Key2 Status">Not Pressed</Item>
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Type of document: Technical documentation	Rev 2.3		VIASAT
Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

<Item name="Key3 Status">Not Pressed</Item> <Item name="Key External">Not Pressed</Item> <Item name="GPI1_DIG">Inactive</Item> <Item name="GPO1_DIG">Inactive</Item> <Item name="GPI1_ANA">Inactive</Item> <Item name="Battery Charge">Not in charge</Item> <Item name="Device Temperature OK">Not in range <Item name="K30 voltage status">Normal</Item> <Item name="Stability accelerometer1">Stable</Item> <Item name="Stability accelerometer2">Stable</Item> <Item name="Alarm status">Not in alarm <Item name="ConfigApp">Roaming</Item> <Item name="BLE VCall">Not connected</Item> <Item name="BLE VKey1">Not connected</Item> <Item name="BLE VKey2">Not connected</Item> <Item name="BLE Rele">Not connected</Item> <Item name="BT">Not connected</Item> </ltem> <Item name="GsmCellData_t"> <Item name="RAT">2</Item> <Item name="RatDesc">LTE</Item> <Item name="MCC">262</Item> <Item name="MNC">1</Item> <Item name="LAC">4604</Item> <Item name="CellId">26164233</Item> <Item name="BSIC">0</Item>

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<Item name="Channel">0</Item>

Type of document: Technical documentation	Rev 2.3		VIASAT	
Document title: Realtime protocol		Date: 14-04-2025	A TARGA TELEMATICS COMPANY	

<Item name="RSSI">52</Item> </ltem> <Item name="IoStatusRt"> <Item name="Rt_Input1">Active</Item> <Item name="Rt_Input2">Inactive</Item> <Item name="Rt_Input3">Active</Item> <Item name="Rt_Input4">Inactive</Item> <Item name="Rt_Input5">Inactive</Item> <Item name="Rt_Input6">Inactive</Item> <Item name="Rt_Input7">Active</Item> <Item name="Rt_Input8">Inactive</Item> <Item name="Rt_Input9">Inactive</Item> <Item name="Rt_InputPulseA">Inactive</Item> <Item name="Rt_Output1">Inactive</Item> <Item name="Rt_Output2">Inactive</Item> <Item name="Rt_Output3">Inactive</Item> <Item name="Rt_Output4">Inactive</Item> <Item name="Rt_Buzzer">Inactive</Item> <Item name="Rt_RelayEngineStart">Inactive</Item> <Item name="Rt_TLBWaitActivation">Inactive</Item> <Item name="Rt_TLB">Inactive</Item> <Item name="Rt_RestKeyOn">True</Item> <Item name="Rt_Trailer">Unlocked</Item> <Item name="Rt_Batterystatus">ChargeOk</Item> <Item name="Rt_Container">NotPresent</Item> <Item name="Rt_Authenticator">NotPresent/Item> <Item name="Rt_Externalbatterystatus">ChargeLow</Item>

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-	Type of document: Technical documentation	Rev 2.3		VIASAT
	Document title: Realtime protocol		Date: 14-04-2025	ATARGA TELEMATICS COMPANY

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 <Item name="Rt_5V0extenalout">Inactive</Item>
 <Item name="Rt_Gpsantennastatus">KO</Item>
</ltem>
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 <Item name="Input1">1619</Item>
 <Item name="Input2">1625</Item>
 <Item name="Input3">1621</Item>
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 <Item name="IntBattery">814</Item>
 <Item name="ExtBattery">2293</Item>
 <Item name="Ntc">2714</Item>
</ltem>
<Item name="CanInfo_t">
 <Item unit="I" name="Fluxometer">0</Item>
 <Item unit="h" name="EngineTime">0</Item>
 <Item unit="%" name="FuelLevel">0</Item>
</ltem>
<Item name="DriverAuthenticator_t">
```

<ltem name="AuthenticatorType">NA</ltem>

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6 Remote Commands – SetDeviceRequest

POST Method, to send a setting to the device. This method queues a request to device. An Ok response confirms that the request was acquired, not that the device has received it. The confirmation by the device will be sent, asynchronously through the Real Time Tsp13. For a correct management of the request it is important for the device to be in a gsm/gprs covered area.

Input

- Username and password transmitted in the security header information.
- CUID: attribute in the root of the XML

Tag	Description	Mandatory	Туре
<deviceid></deviceid>	Device Id.	Х	Long
<devicetypeid></devicetypeid>	Device Type Id	Х	Long
<pre><devicerequestparameters></devicerequestparameters></pre>	XML Element		
<requestid></requestid>	Request identifier. This value can be used to trace the request in the partner platform.		Long
<requesttype></requesttype>	Type of Request. For the list of possible values see 3.2.40	Х	Long
<sendwakeup></sendwakeup>	true = send sms wakeup to device; false = wait for a spontaneous connection	Х	Bool
<numwakeup></numwakeup>	Number of retries of wakeup sms. Mandatory if <sendwakeup> = true.</sendwakeup>	Х	Long
<wakeuptimeinterval></wakeuptimeinterval>	Number of minutes between each wakeup. Mandatory if <sendwakeup> = true.</sendwakeup>	Х	Long
<requestparameters></requestparameters>	Based on the specific parameters of the request type		

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6.1 Request for the Wabco ICM

The request is initiated as TSLCommand and the device feedback is a TSLCommand Result.

- # Item = TransSafetyLock
 - # Item name = TslCommand (see Tab. 8.2.1 TslCommand)

 - # Item name = TslCommandResult see (Tab. 8.2.2 TslCommandResult)
 - ${\it x}$ Item name = TslCommandResultDesc (descriptive form of TslCommandResult)

The request for Wabco ICM commands is identified with Transparent Data - RequestType 20 – TransSafetyLock

Tab. 8.2.1 TslCommand

TslCommand	Description
1	MasterCodeEmergencyUnlock
2	Block user code and turn on the alarm
3	Lock even if doorcontact is open and secure (no alarm doorcontact)
4	Disable alarm and enable user code
5	Disable alarm and unlock and stay unlocked
6	Delay turn of alarm, unlock and auto lock and alarm
7	Disable alarm and ulock and enable user code
8	ICM Status

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An example of request for the Wabco ICM through TSP13 WS is the following:

```
<?xml version="1.0" encoding="utf-8" ?>
<TSP13 version="1.0.0.1" action="SetDeviceRequest" user="">
    <DeviceId>7200113/DeviceId>
    <DeviceTypeId>225
    <DeviceRequestParameters>
    <RequestId>20201008133908</RequestId>
       <RequestType>44</RequestType>
       <SendWakeup>true</SendWakeup>
        <NumWakeup>3</NumWakeup>
        <WakeupTimeInterval>2</WakeupTimeInterval>
        <RequestParameters>
           <IcmMessage>
               <IdCommandTsl>10</IdCommandTsl>
                <MasterCode>10101010</MasterCode>
            </IcmMessage>
        </RequestParameters>
     </DeviceRequestParameters>
</TSP13>
```

The Response is received back from the device as a "Notification", arriving from the Viasatline Platform as soon as the device acknowledges a procedure request through TSP13 Web Service.

Command response from Wabco (TransSafetyLock) device

XML Format

```
# Item name=deviceType
# Item name=serialnum
# Item name =swrelease
# Item name =datetime
# Item name =method
# Events
# Notification name = WriteMemory|Procedure| Procedure
```

Tab. 8.2.2 TslCommandResult

ResultCode = True | False # CommandRelatedId = See RD[1]

Value	Value(hex)	Description
0	0x00	Positive
253	0xFD	No response from TransSafetyLock
254	0xFE	Wrong response from TransSafetyLock
255	0xFF	Wrong command id

Device notification response example for Wabco ICM:

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```
<?xml version="1.0" encoding="utf-8"?>
<TSP13 version="1.0.0.1" user="admin">
    <Item name="devicecode">225</Item>
   <Item name="devicetype">VIASAT.RT6X<//item>
   <Item name="serialnum">7200113</Item>
   <Item name="swrelease">9040</Item>
   <Item name="datetime">20201009115817</Item>
   <Item name="method">GPRS</Item>
    (Events)
       <Notification name="TransparentData">
           <ResultCode>True</ResultCode>
           <CommandCodeRelatedId type="commands.icmmessage">20201008133908</CommandCodeRelatedId>
           <RequestType>20</RequestType>
           (TransSafetyLock)
               <TslCommand>10</TslCommand>
               <TslCommandDesc>10</TslCommandDesc>
               <TslCommandResult>255</TslCommandResult>
               <TslCommandResultDesc>WrongCommandId</TslCommandResultDesc>
            </TransSafetyLock>
        </Notification>
    </Events>
</TSP13>
```

7 Device Customer Data

7.1 Description

This service is for extracting information related to the specific customer ID.

The request returns the devices associated with the customer account with an active service/contract.

7.2 Parameters

• Relative URI:

https://businesstsp13.viasatline.com/fleetsolutionsservice.svc/json/GetServiceDevicesList

Credentials*:

Username

Password



7.3 GetServiceDevicesList

POST Method, to get the list of active devices related to the customer ID.

- Input
- Username and password
- User Unique Code* Viasatline customer code
- Flow Type BASIC
 - Input JSON example

```
{
"action": "GetServiceDevicesList",
"ServiceFilter": {
"UserUniqueCode": "328750",
"FlowType": "BASIC",
}
}
```

- Output
 - Plate vehicle license plate registered in Viasatline
 - DeviceID serial number of the GPS device associated with the vehicle plate
 - Device Type ID Viasatline ID of the GPS device
- Output JSON example

```
{
"action": "GetServiceDevicesList", "ServiceDevices":[
{"Plate": "B101TST", "DeviceID": 7217171, "DeviceTypeID": 225},
{"Plate": "B102TST", "DeviceID": 7227171, "DeviceTypeID": 225},
{"Plate": "B103TST", "DeviceID": 7237171, "DeviceTypeID": 225},
}
```

*Information provided upon request

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