

GH5200 Features settings

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Over Speeding



This feature is used to prevent the driver from exceeding fixed speed and inspects the driver if needed. When vehicle speed exceeds maximum configured speed value the scenario is activated, and a record is generated. Scenario is activated until speed value decreases below the set parameter value.

Alarm



This function can only be triggered by the configured button. When the alarm is triggered, an event with IO ID 236 is generated. Eventually an SMS will be sent informing user about the event. A call possibility is also available if desired number is selected near *Call to* parameter. In addition, users are allowed to configure event priority. Two options are available - **Call** where voice call comes first and **Record** where data transmission to servers will be prioritized over a voice call.

Additional Features



User ID feature allows users to send custom number as AVL ID 854 parameter.

Power Off\On



This functionality is for informing about manually switching device on and off. There are 2 notification options: SMS event and eventual record IO ID 390 on power.

When SMS event is enabled, then SMS will be sent to the selected phone number when a device is switched on or off. In addition, the device will be turned off when SMS will be sent successfully or after 30s trying to send it.

When a user enables Event On Power Off parameter, then the device will generate high priority record on power off with event IO ID 390 and with value "1" and "0" for power on. The record sending procedure can take up to 30s. After a successful record sending procedure device shuts down immediately. If sending fails, after 30s device will shut down anyway. This record will be sent when device will be turned on.

When Event On Power Off parameter is enabled together with SMS event, after a high priority record is created, device will try to send this record first over a GPRS connection. After a successful or failed sending procedure, device starts sending an SMS event.

ManDown

ManDown

Scenario Settings

Disable Enable

Generate event

On Exit On Entrance

On Both

Sensing Method

Free-Fall Angle

Both

By Angle

Position

Horizontal Vertical

Angle (deg) 60

Silent pre-alarm delay (s) 5

Pre-alarm timeout (s) 3

Send SMS To

SMS Text ManDown

Order Priority

Call Record

Call to

Man-Down functionality has two methods and combination of them to initiate ManDown event.

- **First method FreeFall** is checking for a free-fall condition. The device should be in free-fall for user defined duration and within g-force range between 0mg and user defined threshold in all three X,Y,Z axis. Duration in a free fall can determine how long device can be falling before triggering silent pre-alarm timer. This parameter can be used to determine an approximate height. As example, 450ms in theory should give approx. 1m falling before trigger, but in a reality would be recommended to use shorter duration in order to actually trigger from required height or higher. Sensitivity can be set in percentage which is calculated from 960mg. There is a possibility to cancel Mandown in Pre-Alarm state using Mandown Cancel button action, which could be configured in Keyboard settings.
- **Second method only angle** reads current accelerometer data each second, calculates angle between selected offset position, compares calculated angle with configured angle and if this angle exceeds configured angle, the silent pre-alarm timer is triggered. When an angle returns to normal, timers are reset and an event and its indication are canceled.
- **Third combined method** waits for free-fall trigger and after the device has fallen, an angle is checked. After both conditions were met, the silent pre-alarm timer is triggered. In case, if angle returns back to normal, the timers are reset and ManDown could not be generated if it wasn't generated before that.

Timers explained: After user-defined silent timeout ends, Man-Down Pre-Alarm indication and Pre-Alarm timeout starts. After the configured Pre-alarm time ends, event is generated. When event is generated, device can send configured SMS to one of 10 defined numbers and make a call.

Horizontal position Vertical position

Audio Control

This feature allows users to customize GH5200 volume based on their needs. 3 volume control settings are available - *Indication volume, Normal Speaker Volume, Loud Speaker Volume.*

Event Notification



The purpose of this function is to notify any alarm events by sending an SMS message to up to 5 receivers and to call up to 5 pre-defined numbers.

These high priority events can be configured:

- Alarm;
- ManDown;
- Movement Event.

At least one of the following has to be selected for this feature to work - *Alarm*, *ManDown* or *Movement Event*. In addition, at least one SMS Number or one Call Number has to be configured.

Users are allowed to configure SMS sending method. Two options are available - **GPRS or SMS** option which sends an SMS when GPRS fails and **GPRS and SMS** option which sends an SMS when GPRS fails **or** device sends records to the server.

Call Answer Timeout is used for indicating successful call - if voice call was answered but configured time-out has not been reached, the voice call is considered unsuccessful and if only one number is configured, the device repeats the call as many times as the value configured in *Call Repeat* field. However, if the call is not successful and there are other predefined numbers selected, the device continues to call other configured numbers instead of repeating voice calls to the same number.

NOTE! Some operators provide voice information when the recipient is unreachable or call is not accepted. Such voice information may last longer than the configured time. In that case, the call will be considered as accepted.

Movement Event



Movement Event scenario makes an eventual high priority record (and sends an optional SMS) when the device is stationary or in motion (depending on configured "*Mode*") for set *Timeout*. *Timeout* is a configured amount of time (in seconds) after which an eventual high priority record is generated.

Movement Event mode generates a record after the start of movement whereas *No Movement Event* generates a record after the stop of movement.

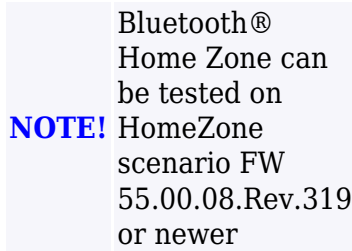
NOTE! In case if *No Movement Event* is selected as Mode, then *Pre Alarm Timeout* is counted additionally.

When enabled, device waits for instant movement/stop detection, then waits for its own Timeout, generates a high priority eventual record and sends it.

ManDown/No/Movement while charging disables Mandown, No Movement, Movement events when device is charging.

Bluetooth® Home Zone settings

[File:Bluetooth® Home Zone settings.png](#)



Important Home Zone parameters in Bluetooth® features section:

• **BLE Geofence** - Select to use ELA MOV, ELA BLE advertiser Sensors, Beacons or Proximity.

• **Home Zone RSSI (dBm)** - Lowest Home Zone RSSI threshold before an alarm event.

Example: If Home Zone RSSI (dBm) is set to -100 and the device signal becomes worse (e.x.-101) an alarm event is generated.

• **Time-Without-Beacon(s)** - Time without beacon detection before violation (minimum 40 seconds)

Example: If Beacon has not been detected by the device for 60 seconds, an alarm event is generated.

Pre-Alarm: Defines how much time user has before record will be send to the server. During this time Alarm event could be disarmed.

Note: This setting also controls Proximity Pre-Alarm.

RSSI (dBm): Defines lowest RSSI signal level for BLE advertising device.

Generate Event

• On Exit - Generates an event after device has left the zone.

• On Entrance - Generates an event after device has entered the zone.

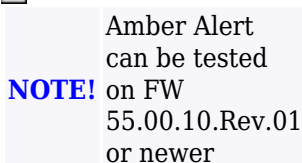
• On Both - Generates an event when device has left and entered the zone.


Call to: Select a number from 10 GSM Predefined Numbers list to which alarm call will be made.

Send SMS To: Select a number from 10 GSM Predefined Numbers list to which SMS will be send.

SMS Text: Defines SMS text that will be send when Home Zone event is generated.

Amber Alert Instructions on how to configure Bluetooth® Home Zone functionality can be found in [here](#).



 Instructions on how to configure Amber Alert functionality can be found in [here](#).

Important Amber Alert parameters in Features section:

Timeout: Defines time until Amber Alert alarm is processed.

Pre-Alarm: Sets the remaining time, when the pre-alarm should be triggered.

Order Priority: Defines call or record priority.

When Call is selected, device will call to defined number and creates Amber Alert record.

When Record is selected, device will create Amber Alert record and calls to defined number.

Initial call number: Select a number from 10 GSM Predefined Numbers list to which alarm call will be made.

Alarm call number: Select a number from 10 GSM Predefined Numbers list to which alarm call will be made.

Send SMS To: Selects number from 10 GSM Predefined Numbers list to which Amber Alert SMS will be send.

SMS Text: Defines SMS text that will be send when Amber Alert event will be generated.

Last Known Position

Last Known Position can be tested on FW 55.00.10.Rev.01 or newer

NOTE!

This feature adds low priority record AVL ID 386 to all records.
The record shows how much time in seconds has passed since last GNSS fix.
✖ This feature affects Alarm, ManDown, Movement event and Amber Alert features.

If the last good coordinate at the time the record is created is older than 60 seconds, then the new high priority record AVL ID 69 will be sent immediately after GNSS fix appears. No matter how many different records have been created when there was no GNSS fix, only one high priority AVL ID 69 record will be created when GNSS fix appears.

Heart rate Alert

Heart Rate Alert

Scenario Settings

Disable

Enable

MAC Address

Scan Period (s)

600

SMS Event/Xiaomi Mi Band 2 Time Zone

UTC+00:00

Min Heart rate (bpm)

50

Max Heart rate (bpm)

130

Call To

Heart rate Alert feature is available on FW 55.00.21.Rev.00 or newer

NOTE!

When this feature is enabled, handheld device searches for configured Xiaomi Mi Band 2 MAC address. When the band is found, handheld device initiates connection. Once connected, it tries to authenticate with the band. If authentication succeeds, handheld queries the time set in Xiaomi Mi Band 2. When time difference between synchronized handheld and the band is more than 30 seconds, Teltonika device sets its time to band, taking into account configured time zone.
When this initial process is done, one-time heart rate measurement request is sent to Xiaomi Mi Band. Usually it takes 7 to 14 seconds for the measurement. Afterwards, at each 'Scan Period' (param ID 1802) a new heart rate measurement is made and saved.
If the measured heart rate is outside the configured Min/Max rates, there will be a call to a specified number and High priority record made. Order priority: call, then record sending.

Heart rate that is within Min/Max is saved in a low priority periodic record with AVL ID 403. Otherwise it is saved in eventual high priority record with the same AVL ID: 403. They are sent according to 'Send Period' configured in 'Data Acquisition'.

NOTE!

Shutdown command

- shutdown - SMS/GPRS command, used to shutdown device. Device should respond with "Shutdown has been initiated" and turn off in 15 s after receiving command.

After shutdown device should be able to turn on by pressing powerkey, or connecting charger.



EYE Sensors filtered by Name List

This feature scans for Bluetooth® EYE sensors and checks each sensor's name (up to the first 10 characters) defined in "EYE Name List". An exact name match isn't required, the match is considered based on the beginning of their names. If a sensor's name partially or fully aligns with a name on the list, the sensor's data is stored in record (AVL ID: 11317). In cases where multiple sensors have matching names, data from all these sensors are stored into the record.

Sensors

Sensor Configuration

Custom SensorEYE Sensors

EYE Sensor Filter

Name

MAC

In order to filter EYE Sensors by their complete local name and create EYE Sensor records (AVL ID: 11317), in Bluetooth® 4.0 tab, Sensors group EYE Sensors and Name has to be selected.

NOTE

Currently EYE Name List and EYE Beacon Name List is sharing same list and it is duplicated

When EYE Sensor filtering by Name List is configured, records will be created according to configured Record Period when FMB is operating in either On Move or On Stop modes.

Data Clear Period

Parameter "Data Clear Period" determines the length of time a sensor must go undetected by the device before it is removed from the EYE Sensor list, thus stopping the transmission of its measurements. If the 'Data Clear Period' is set to 0, the sensor will never be removed from the EYE Sensor list. Consequently, it will always be included in the periodic records, even if the sensor has disappeared.

RSSI

This parameter defines which EYE Sensors add to EYE Sensor List, according to their current RSSI value. If captured EYE Sensor RSSI value is lower than configured RSSI parameter, sensor will not be added to the list. If sensor already has been added to the list and its RSSI value drops below configured threshold, then such sensor's values will not be updated anymore and if such sensor's RSSI value will not come back to acceptable range, it will be removed from EYE Sensor List after Data Clear Period. If Data Clear Period is set to 0, sensor will not be removed, when its RSSI value drop below configured threshold.

Record Period parameters

These parameters define how often to send EYE Sensor data to the server, when FMB is operating in On Stop or On Move modes. EYE Sensors do not have a feature to send their data using On Change mode. Records will be sent only periodically.

EYE Sensor Settings

This parameter defines what sensor data to add to periodic EYE Sensor records. Sensor can broadcast up to 9 different sensor parameters. In order to reduce record size and traffic, feature has been added to Enable/Disable such parameters from being added to the record if some of parameters are not needed.

EYE Name List

This parameter list defines what EYE Sensors will be added to EYE Sensor List. If captured EYE Sensor's complete local name matches the one configured in the list, such EYE Sensor will be added to EYE Sensor List. If EYE Name List is empty, then every detected EYE Sensor will be added to EYE Sensor List. Keep in mind EYE Name List is sharing same parameters with EYE Beacon Name List, since these lists are duplicated.

NOTE

Not full sensor name has to match parameters in configured EYE Name List. For example, in EYE Name List there is added name EYE SENSOR and FMB captures EYE Sensors with complete local names EYE SENSOR1, EYE SENSOR2, then both EYE Sensors will be added to the list. Only part from the name start has to match configured parameters in EYE Name List.

If EYE Sensor has a name that matches configured one in EYE Name List and if it has a MAC address, that matches configured one in EYE Sensors filtered by MAC address, then such sensor will not be added to EYE Sensor list, but it's data will be added to according EYE Sensor filtered by MAC IO elements.

Record structure

EYE sensor record stores multiple eye sensors data that match with names in eye sensor name list.

Name	Data type	Description
Length	UInt8, t	Reserved. Added to each EYE Sensor start. Currently always 0.
Device Name	Array	Device's name from Device Name List tab
Temperature	Int16, t	Temperature value measured by EYE Sensor from List. Values from -32768 to +32768 with 0.01 C delta
Humidity	UInt8, t	Humidity measured by EYE Sensor from List. Values from 0 to 100%
Magnet	UInt8, t	Magnet measured by EYE Sensor from List. Values from 0 to 1
Movement	UInt8, t	Movement measured by EYE Sensor from List. Values
Movement count	UInt16, t	Movement counts measured by EYE Sensor from List. Values
Angle Pitch	Int8, t	Pitch Angle measured by EYE Sensor from List. Values from
Angle Roll	Int16, t	Roll Angle measured by EYE Sensor from List. Values from
Low Battery State	UInt8, t	Low battery state measured by EYE Sensor from List. Values from 0 to 1
Battery Voltage	UInt16, t	Battery voltage measured by EYE Sensor from List
MAC address	UInt8, t array	Device's MAC address
Magnet Trigger Count	UInt16, t	Magnetic sensor trigger counts measured by EYE Sensor from List Values