

# Template:FMB Firmware errata

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## Introduction

We are always improving our device's performance, stability, and reliability. That's why Teltonika is one of the leading GNSS trackers manufacturers in the world.

This document describes **FMBXXX platform** devices firmware improvements, changes, new features implementations as well as current firmware release version.

<b>FIRMWARE VERSION</b>	<b>SUPPORTED HARDWARE</b>
<b>01.00.XX</b>	FMB0YX, FMB9X0
<b>01.01.XX</b>	FMB0YX, FMB9X0, FMB96X
<b>01.03.XX</b>	FMB0YX, FMB9X0, FMB96X
<b>03.01.XX</b>	FMB0YX, FMB9X0, FMB96X, FMB1YX
<b>03.02.XX</b>	FMB0YX, FMB9X0, FMB96X, FMB1YX
<b>03.06.XX</b>	FMB0YX, FMB9X0, FMB96X, FMB1YX, FM30XY
<b>03.07.XX</b>	FMB0YX, FMB9X0, FMB96X, FMB1YX, FM30XY, FMB2YX
<b>03.18.XX</b>	FMB0YX, FMB9X0, FMB96X, FMB1YX, FM30XY, FMB2YX, FMT100
<b>03.25.XX</b>	FMB0YX, FMB9X0, FMB96X, FMB1YX, FM30XY, FMB2YX, FM30XY, FMT100
<b>03.27.XX</b>	FMB0YX, FMB9X0, FMB96X, FMB1YX, FMU1YX, FMM1YX, FMC1YX, FMM001, FMC001, FM30XY, FMB2YX, FMT100

## Firmware versioning

- Structure

FMB(T).VER.[XX].[YY].[ZZ].Rev.[##] \_[ID###]

- Syntax description
  - XX - major FW version.
  - YY - branch number, shows major changes in firmware, i.e. new module support added

- or new major feature added.
- ZZ - major changes like bigger fixes, improvements and new features addition.
- ## - minor changes like small fixes and improvements.
- ID[###] - Spec ID KEY - Specific clients FW changes.

## Firmware versions

FIRMWARE VERSION	RELEASE DATE	CHANGES
<b>03.25.15.Rev.32</b> (recommended for FMB1YX, FMB0X0, FMB9YX, MTB100, FMB2YX)	2020.07.21	<ul style="list-style-type: none"> <li>• <a href="#">Auto APN</a> functionality added to base firmware.</li> </ul>
<b>03.25.15.Rev.02</b> (recommended for FM30XY, FMT100)	2020.02.17	<ul style="list-style-type: none"> <li>• Improved Green Driving feature parameter sending.</li> </ul>
<b>03.25.15.Rev.01</b> (recommended for FMB96X, FMB9YX, FMB2YX, FMB1YX, FMB0YX, FMT100, MTB100)	2020.01.22	<ul style="list-style-type: none"> <li>• Records saving and sending logic improved.</li> </ul>
<b>03.25.14.Rev.05</b>	2019.12.23	<ul style="list-style-type: none"> <li>• UL202 Fuel level sensor support improvements, status IO changed from (AVL ID 328) to (AVL ID 483)</li> <li>• Odometer accuracy improvements when the Odometer Calculation Source is selected as the LVCAN</li> </ul>
<b>03.25.14.Rev.03</b>	2019.11.27	<ul style="list-style-type: none"> <li>• <a href="#">BLE beacons</a> and <a href="#">BLE sensors</a> support added to base release</li> <li>• <a href="#">Autocalibration</a> reworked and improved</li> <li>• New <a href="#">IO element</a>: Coordinates according to <a href="#">ISO6709</a></li> <li>• Added <a href="#">Multiple movement source</a> selection</li> <li>• <a href="#">Advanced eco driving</a> selections added for <b>FMT100</b></li> <li>• <a href="#">On demand tracking</a> feature added</li> <li>• Added <a href="#">On demand tracking</a> activation by AIN1/DIN1</li> <li>• <a href="#">Time synchronization</a> algorithm changed</li> <li>• <b>DOUT Control Via Ignition and DOUT Control Via CALL functionalities has been merged</b></li> <li>• DIN3 can now be selected as ignition source</li> <li>• OBD II data reading improvements</li> <li>• Bluetooth dongle OBD data reading improvements</li> <li>• Wake up from ultra deep sleep improved</li> <li>• TZBT sensors data reading improvements</li> <li>• Devices with eSIM communication improvements</li> <li>• Operators List feature improvements</li> <li>• CAN adapters data reading improvements</li> </ul>

03.25.07.Rev.00	2019.06.10	<ul style="list-style-type: none"> <li>• One wire data reading improvements</li> <li>• Manual geofence configuration improvements</li> <li>• Data sending in online deep sleep mode optimization</li> <li>• <a href="#">DOUT Control via Ignition</a> implementation</li> <li>• OBD data reading improvements</li> <li>• SMS command btgetlist improvements</li> <li>• Periodic sending optimization</li> <li>• Changed setdigout command response to "DOUT is disabled from CFG" if DOUT is disabled configuration</li> <li>• Improved SMS responses</li> </ul>
03.25.05.Rev.00	2019.05.06	<ul style="list-style-type: none"> <li>• <b>Added FMB207 support</b></li> <li>• <b>Added FMB964 support</b></li> <li>• <b>Added FMB130 support</b></li> <li>• <b>Added BT3 auto connection mode "User ID"</b></li> <li>• <b>Added UL202-02 fuel sensors functionality</b></li> <li>• Improved record sending to backup</li> <li>• Added DOUT3 control for scenarios with FMB130 hardware</li> <li>• Improved OBD CAN reading</li> <li>• Add "Always" battery charge mode</li> <li>• Added codec14 protocol support</li> <li>• GPS Acquisition improvements</li> <li>• Improved duplicate lvcn parameters</li> <li>• OBDII improvements, for ignition off detection and protocol changing</li> <li>• Add RS485 parity selection</li> <li>• Improved ECO driving functionality I/O elements manipulation</li> <li>• Added <a href="#">impulse counter</a> support for FMB130</li> <li>• Added FW downgrade protection</li> <li>• Rename BT user ID I/O element text default value</li> <li>• Added <a href="#">composed Bluetooth name</a> functionality</li> <li>• Changed minimum &amp; default geofence zone radius to 5 meters</li> <li>• GPS status update</li> <li>• Improved Eco Driving detection for FMB20X devices</li> <li>• Improved baud rate change</li> <li>• Change Default Time Synchronization value to Disable (GNSS only)</li> <li>• getops SMS command added</li> <li>• Only Half ICCID sent to server on ICCID event</li> <li>• bt getlist improvement</li> <li>• Added BLE connection control functionality, when service id is configured</li> <li>• Use speed if LVCAN/OBD speed is 0</li> <li>• Improved record generating when speed source is configured as OBD/CAN</li> <li>• Added speed source configuration parameter for scenarios where vehicle speed is needed</li> <li>• Improved speed jump filter</li> <li>• Crash trace improvements</li> <li>• Changed "obdinfo" sms response - returns LAST detected OBD protocol now</li> </ul>

<b>03.18.21.Rev.00</b>	2019.02.28	<ul style="list-style-type: none"> <li>• Improved OBD data reading</li> <li>• Changed "obdinfo" sms response</li> </ul>
<b>03.18.20.Rev.00</b>	2019.02.21	<ul style="list-style-type: none"> <li>• Improved Ultra Deep sleep mode</li> </ul>
<b>03.18.19.Rev.00</b>	2019.01.14	<ul style="list-style-type: none"> <li>• Improved FMB207 support</li> <li>• Improved simultaneous DNS requests issue (DNS fails if requesting at same time). Do not affects FM3/FM4 with ext modem</li> <li>• Improved path creating for NMEA logging file (after sdformat)</li> <li>• OBD &amp; ELD improvements</li> <li>• 1-Wire Dallas temperature sensors improvements</li> <li>• Do not allow unauthorized incoming calls if any authorized number is configured</li> <li>• VIN reset/change on ELD improved</li> <li>• Changed default battery level sms text to "Battery level %"</li> <li>• Improved CODEC12 CMD server -&gt; RS232/RS485 data length</li> <li>• CAN interrupt handling reworked</li> <li>• Improvement for putting space to APN configuration then it's empty and sim is inserted</li> <li>• Improved DOUT control over SMS when no DOUTs are enabled</li> <li>• Reworked external modem power off/on procedures</li> <li>• Changed SMS cmd "getgps" time source, to prevent zero values when GPS is OFF</li> <li>• GSM numbers handling rework</li> <li>• Improvement for Bluetooth communication over BT 3.0</li> </ul>
<b>03.18.16.Rev.00</b>	2018.12.04	<ul style="list-style-type: none"> <li>• Changed default configuration <a href="#">parameters</a> values</li> <li>• Improved SIM switch algorithm for DUAL-SIM devices (FMB125, FMB122)</li> <li>• Added possibility to set <a href="#">LV-CAN200</a>, <a href="#">ALL-CAN300</a>, <a href="#">CAN-CONTROL</a> program number using SMS command in Online Deep Sleep mode</li> <li>• Improved RS485 LLS reconfiguring on different positions</li> </ul>

<b>03.18.15.Rev.00</b>	2018.11.26	<ul style="list-style-type: none"> <li>• The conditions for entering sleep depend on this parameter: Always / After Time Sync / After Position Fix</li> <li>• Improved records reading and sending</li> <li>• Fixed Total Odometer IO values appearing in Trip Odometer IO</li> <li>• Fixed unexpected GPS LED blinking after wake up from sleep</li> <li>• UDP data sending improvements</li> <li>• Fixed CAN CONTROL speed I/O element value parsing</li> <li>• Fixed Battery Voltage I/O coefficients</li> <li>• Improved Crash Detection duration calculation</li> <li>• Changed odometer configuration parameter available min value to 0, while on TCP configuration values is from 1</li> <li>• Improved auto calibration algorithm</li> <li>• Improved data sending algorithm</li> <li>• Removed forced record sending after waking up from deep sleep</li> <li>• Fixed ELD data sending via BLE</li> <li>• ELD speed source selection improvements</li> <li>• Fixed BLE temperature sensors I/O low level configuration</li> <li>• Changed odometer source switching algorithm (OBD&lt;-&gt;GNSS). If OBD data becomes unavailable device will not switch to GNSS source automatically</li> <li>• Improved crash data packing</li> <li>• Fixed SMS "odoset:" max value validation</li> <li>• Fixed device restarts due too many BLE devices in range when performing scanning operation</li> <li>• Improved LLS data reading stability</li> <li>• Changed "Engine Oil Temperature" OBD IO element value representation from SIGNED to UNSIGNED</li> <li>• Increased Odometer max value from 999999 to 4294967</li> </ul>
<b>03.18.03.Rev.00</b>	2018.09.25	<ul style="list-style-type: none"> <li>• Fixed AIN1 and External Voltage swap for FMB900</li> </ul>

<b>03.18.02.Rev.00</b>	2018.09.24	<ul style="list-style-type: none"> <li>• Added shadow calibration functionality</li> <li>• Improved eco driving events functionality</li> <li>• Improved GNSS hdop&amp;pdop validation</li> <li>• Fixed LVCAN Fuel Level value coefficient according to IO protocol</li> <li>• Added Battery level % IO element</li> <li>• Fixed gps fix acquisition</li> <li>• Added Configurable BLE transmitting power</li> <li>• Added ELD support into base OBD FW version</li> <li>• Improved communication with FOTA WEB</li> <li>• Reworked IO manager to properly support variable length of IO</li> <li>• Improved operation in Deep Sleep</li> <li>• Improved records packing</li> <li>• Improved crash records generation.</li> <li>• Improved FW startup speed</li> <li>• Increased Trip status reading from BTAPP rate</li> <li>• Improved Idling functionality</li> <li>• Fixed duplicated record issue</li> <li>• Improved Bluetooth scanning functionality</li> <li>• Added OBD DTC, LVCAN DTC IO elements</li> <li>• Improved Power consumption in sleep mode</li> <li>• Fixed incomming call detection</li> <li>• Improved records saving scenario</li> <li>• Added MIN SPEED protections for ECO DRIVING</li> <li>• Improved RS232 operation after device initialization</li> <li>• Improved TZBT data reading</li> <li>• Improved eco/green driving and crash detection functionalities</li> <li>• Max packet size increased from 1024 bytes to 1280 bytes</li> </ul>
<b>03.10.09.Rev.00</b>	2018.07.03	<ul style="list-style-type: none"> <li>• Improved LiPo battery detection</li> </ul>
<b>03.10.08.Rev.00</b>	2018.06.25	<ul style="list-style-type: none"> <li>• Fixed FOTA WEB hardware detection</li> <li>• Improved SMS/GPRS command "setdigout" with speed parameter according to documentation (do not trigger DOUTx if GNSS FIX unavailable)</li> <li>• Added ELD VIN number validation</li> <li>• Fixed OBD and LVCAN IO current value showing in configurator</li> <li>• Fixed record sending if mode was changed and send period "0"</li> <li>• Added FMB125 BLE DualSIM HW support</li> </ul>

<b>03.10.03.Rev.00</b>	2018.05.31	<ul style="list-style-type: none"> <li>• Added TZ-BT05B sensor support</li> <li>• Improved BLE scanning</li> <li>• Improved data sending scenario</li> <li>• Fixed configuration loading after download via FOTA WEB issue</li> <li>• Improved DOUT functionality</li> <li>• Added CAN-CONTROL support</li> <li>• Changed LVCAN Engine Temperature and LVCAN Fuel Level value coefficient (according IO protocol)</li> <li>• Added new SMS/GPRS command "getimsi" for IMSI number reading</li> <li>• Added ELD functionality</li> <li>• DNS support improvement</li> <li>• Stability improvements</li> </ul>
<b>03.09.01.Rev.00</b>	2018.04.30	<ul style="list-style-type: none"> <li>• Improved FOTA WEB functionality</li> <li>• Improved odometer value calculating from LVCAN (km-&gt;m)</li> <li>• Improved 1-wire operation with long wires</li> <li>• Improved Bluetooth functionality</li> <li>• Improved OBD data reading</li> </ul>
<b>03.08.05.Rev.00</b>	2018.04.18	<ul style="list-style-type: none"> <li>• Improved Static Navigation filter</li> <li>• Improved Crash Detection scenario</li> <li>• Improved device connection to configurator after FW update</li> <li>• Updated LVCAN protocol to support 4 and 5 digits numbers</li> <li>• BT functionality optimization</li> </ul>
<b>03.07.07.Rev.00</b>	2018.04.05	<ul style="list-style-type: none"> <li>• Improved simultaneous use of several Bluetooth connections</li> </ul>
<b>03.07.06.Rev.00</b>	2018.03.19	<ul style="list-style-type: none"> <li>• Fixed IO elements High/Low config parameters negative values saving</li> <li>• Improved OBD communication</li> <li>• Improved Outgoing Call trigger conditions</li> <li>• Improved VIN reading</li> <li>• Record saving optimization</li> <li>• Improved iButton expire time calculation</li> </ul>
<b>03.07.01.Rev.00</b>	2018.03.02	<ul style="list-style-type: none"> <li>• OBD pinout for FM3 improvement</li> <li>• Improved data sending</li> <li>• Improved FOTA WEB configuration sending</li> <li>• Changed GPS state values reporting in SMS "getinfo" according documentation</li> <li>• Improved Crash Detection</li> <li>• Added GPRS OPEN timeout for FOTA WEB</li> <li>• Improved UNLOCK key generation for keyword restoring</li> <li>• LiPo battery charging optimization</li> <li>• <b>Added FMB2YX hardware support</b></li> </ul>
<b>03.06.04.Rev.00</b>	2018.02.12	<ul style="list-style-type: none"> <li>• Improved record storing and sending algorithm</li> <li>• Improved communication with accelerometer</li> <li>• Improved firmware update handling with internal flash memory</li> </ul>

03.06.01.Rev.00	2018.01.29	<ul style="list-style-type: none"> <li>• <b>BLE functionality added</b></li> <li>• Improved OBD request functionality</li> <li>• Improved record search and sending scenario</li> <li>• Fixed SD storage (used/total) info displaying</li> <li>• Added OBD stuck protection</li> <li>• Improved logging</li> <li>• Improved movement detection in sleep modes</li> <li>• <b>Added SMS "getrecord" for High prio record generation</b></li> <li>• Added fix for GPRS authentication pap/chap</li> <li>• <b>Added Ultra Deep Sleep functionality</b></li> <li>• Improved LiPo charging algorithm</li> <li>• <b>Added support of FM30XY hardware</b></li> </ul>
03.03.07.Rev.00	2018.01.03	<ul style="list-style-type: none"> <li>• <b>New parameter for SMS event compositor: %gmap - provides Google Maps link in SMS event message</b></li> <li>• Improvement for OBD data display in Configurator Status window</li> <li>• Improved Ignition and Movement detection by CAN data (OBD/LVCAN)</li> <li>• Improved iButton IO event generation after sleep mode</li> <li>• Fixed Trip odometer precision when counting mode is "Between records"</li> <li>• Fixed "setdigout" command usage on FMB9YX</li> </ul>
03.03.06.Rev.00	2018.01.03	<ul style="list-style-type: none"> <li>• Fixed GPS speed value</li> </ul>
03.03.03.Rev.00	2017.12.05	<ul style="list-style-type: none"> <li>• Added iButton ID inversion to solve incompatibility with FMA</li> <li>• Added additional iButton family ID's</li> <li>• Improved backup server triggering if main server DNS request fails</li> <li>• Removed Ios generation in deep/online sleep for EcoScore, Dallas Temp/ID, iButton, RFID, LLS</li> <li>• Enabled GSM I/O's in online sleep</li> <li>• Added setdigout dependency on speed. DOUT change is not executed while speed is too high.</li> <li>• GPS version string truncated in "getver" SMS response</li> <li>• Movement detection sensitivity decreased</li> <li>• Improvement in records manager to prevent records corruption</li> <li>• High priority events are not checking to send period now</li> <li>• Towing IO reset on feature reactivation added</li> <li>• Fixed FOTA WEB issue when APN has login and password</li> <li>• <b>Major stability improvement patch!</b></li> <li>• Added immobilizer state restore on startup</li> <li>• SMS sending is now aborted after 3 unsuccessful attempts</li> <li>• <b>SMS events text composition added.</b> You can add additional parameters to SMS text</li> <li>• Improved HID RFID reading in FMB125</li> <li>• <b>Added Green Driving Duration IO element (AVL ID: 243)</b></li> <li>• Fixed SIM PIN change via Bluetooth</li> <li>• <b>RS232 buffered modes added</b></li> </ul>



<b>03.02.03.Rev.00</b>	2017.10.17	<ul style="list-style-type: none"> <li>• Updated GPS FW (Galileo satellites are used now too)</li> <li>• Auto calibration procedure improved</li> <li>• Added new LV-CAN200 parameters: CNG Status, CNG Used, CNG Level, OIL Level, Engine Temperature</li> <li>• Added "getimeiccid" SMS/GPRS command</li> <li>• IMEI packaging for UDP fixed</li> <li>• Crash Trace fixed</li> <li>• BTAPP application improvement</li> <li>• OBD PID data requesting when VIN unavailable fixed</li> <li>• Fake overspeeding events are now filtered out</li> <li>• Fixed BT name autogenerating if empty</li> <li>• Fixed records sending via UDP</li> <li>• Autoconnect to FotaWeb on power ON and after "cpureset" added</li> <li>• OBD protocol detection improvements</li> <li>• GNSS (used for records) data while device is in GPS sleep / deep sleep / online deep sleep fixed</li> <li>• Changed BT DEFAULT name autogeneration by device type</li> <li>• Improved SD present and mounted state detection</li> <li>• Removed check for AIN min value 500mV</li> <li>• Records sending by min saved records fix</li> </ul>
<b>03.01.04.Rev.00</b>	2017.09.06	<ul style="list-style-type: none"> <li>• New feature: NMEA via Bluetooth</li> <li>• New feature: Read records</li> <li>• New feature: iButton reading notification via DOUT.</li> <li>• New SMS/GPRS command: getvin (Returns vehicle VIN number. Aplicable for FMB001, or other FMB devices with connected OBDII dongle)</li> <li>• BTAPP protocol updated</li> <li>• Improvements in records sending (fixes increased traffic usage)</li> <li>• Improved configuration saving time</li> </ul>

<b>01.03.13.Rev.00</b>	2017.11.07	<ul style="list-style-type: none"> <li>• Improved overall device stability</li> <li>• Fixed Bluetooth Data Link.</li> <li>• Fixed Bluetooth name auto-generating if empty.</li> <li>• Fixed Bluetooth clear all Paired device list from configurator.</li> <li>• Fixed records sending via UDP.</li> <li>• Fixed IMEI packaging for UDP.</li> <li>• Improved SMS login/pass validator. All characters are now allowed.</li> <li>• Added protection for OBD Odometer value reset.</li> <li>• Added protection for IMEI corruption.</li> <li>• Fixed bad records detector.</li> <li>• Added call functionality (when event detected) in Deep Sleep mode.</li> <li>• Restart protection fixed.</li> <li>• Improvements in SIM PIN setting.</li> <li>• Changed default FOTA WEB Domain.</li> <li>• Fixed OBD PID data requesting when VIN unavailable.</li> <li>• OBD protocol detection improvements.</li> <li>• Modem power ON improvements.</li> <li>• NTP improvements.</li> <li>• Added “getimeiccid” SMS/GPRS command.</li> <li>• SMS/GPRS command “sdformat” improvements.</li> <li>• SMS Login/Pass validator improvements.</li> <li>• Removed check for AIN min value 500mV.</li> <li>• Added additional IO High/Low-level setter by ParamID.</li> <li>• Fixed SMS processing state check in modem SLEEP mode setter.</li> <li>• FOTA functionality improvement.</li> <li>• Added protections by GSM number and text length.</li> <li>• IO event External Voltage DeltaChange improvements.</li> <li>• Fixed issues with double records, bad records, record search.</li> <li>• Fixed microSD to RAM switching for records saving.</li> <li>• Added retries for unsuccessful outgoing call.</li> </ul>
<b>01.03.11.Rev.00</b>	2017.10.19	<ul style="list-style-type: none"> <li>• Fixed Crash detection functionality.</li> <li>• Battery charging improvement.</li> <li>• Record sending via UDP fixed.</li> <li>• Record sending in DeepSleep improvement.</li> <li>• FOTA WEB functionality improvement.</li> <li>• Added protection for IMEI corruption.</li> </ul>

<b>01.03.03.Rev.00</b>	2017.07.24	<ul style="list-style-type: none"> <li>• Added FOTA WEB functionality</li> <li>• Optimization of power consumption in sleep modes</li> <li>• GNSS IO Text "GNSSpower" changed to "GNSSStatus"</li> <li>• Added zero filling the ibutton values</li> <li>• Enabled IOs GNSS, Total Odometer in dsleep mode</li> <li>• Improved getio SMS response for FMB125</li> <li>• Added CCID validity check before PIN registration</li> <li>• Minimized power consumptions in sleep modes</li> <li>• Added SD card check before it's usage</li> <li>• Changed excessive idling default/max values</li> <li>• DUAL SIM functionality implementation</li> <li>• PIN Entering to second SIM improvement</li> <li>• SMS/GPRS getgps command improvement</li> <li>• Added dual server support</li> <li>• Operator Black list implementation</li> </ul>
<b>01.00.32.Rev.00</b>	2017.07.10	<ul style="list-style-type: none"> <li>• Authorized GSM numbers list increased to 200</li> <li>• Unplug feature improvement</li> <li>• SMS command 'sdformat' - deletes all internal memory</li> <li>• SMS command 'deleterecords' - deletes Avl records from memory</li> <li>• Faster GPS FIX after leaving sleep mode</li> <li>• 'odomet' SMS command fixed</li> <li>• Excessive Idling functionality improvement</li> <li>• DOUT state is restored on startup</li> <li>• Towing activation timeout max value increased</li> <li>• Averaging now works in Deep Sleep mode too</li> <li>• Minor OBD improvements</li> <li>• Bluetooth pairing improvements</li> <li>• FMB962/FMB964 hardware support added</li> <li>• Records sending when link is open fixed</li> </ul>
<b>01.00.30.Rev.05</b>	2017.05.26	<ul style="list-style-type: none"> <li>• Added 5 geozones functionality</li> <li>• IO elements ICCID and SD Status are added</li> <li>• Added Keyword functionality</li> <li>• Crash detection improvement, now it detects consecutive events</li> <li>• Towing Detection improvement</li> <li>• Unplug detection improvement</li> <li>• GPRS connection stability improvement</li> <li>• Improved Unplug detection - now detects "plug" events too</li> <li>• Data sending without microSD card</li> <li>• getgps SMS commands format fixed</li> <li>• Default configuration changed - allow sending in roaming and unknown modes</li> </ul>
<b>01.00.22.Rev.12</b>	2017.04.13	<ul style="list-style-type: none"> <li>• Improved connection to GSM operators</li> </ul>
<b>01.00.22.Rev.11</b>	2017.04.07	<ul style="list-style-type: none"> <li>• Improved LiPo battery charger state interpretation</li> </ul>
<b>01.00.22.Rev.09</b>	2017.03.28	<ul style="list-style-type: none"> <li>• Updated GPS firmware version</li> <li>• Hardware detection improvement</li> </ul>

<b>01.00.22.Rev.06</b>	2017.03.14	<ul style="list-style-type: none"> <li>• Corrected “Green driving” values: “m/s2” conversion to “g”</li> <li>• SIM PIN entering fixed.</li> <li>• SMS Reading improved. Don't go to DeepSleep if there are SMS to read in memory.</li> <li>• GPS Fuel Counter fix.</li> <li>• Jamming detection improvement.</li> <li>• AutoGeofence functionality improvement.</li> <li>• Entering to DeepSleep fixed</li> <li>• IO elements “event only” parameter fix</li> <li>• Improvement in connection to GSM operator</li> <li>• Added SD card drive capacity parameter to Status window</li> <li>• Added BeiDou satellite numbers</li> <li>• Trip odometer I/O calculation improvement.</li> </ul>
<b>01.00.19.Rev.02</b>	2017.01.18	<ul style="list-style-type: none"> <li>• OBD data, VIN, DTC error count reading, DTC PID's requests, DTC delete via Bluetooth</li> <li>• Fixed GPS no fix lock-up</li> </ul>
<b>01.00.17.Rev.03</b>	2017.01.06	<ul style="list-style-type: none"> <li>• Bluetooth Voice call added</li> </ul>
<b>01.00.15.Rev.00</b>	2016.11.23	<ul style="list-style-type: none"> <li>• Accelerometer axis values XYZ as IO elements</li> <li>• Configuration send/save over Bluetooth</li> <li>• NTP+NITZ Time synchronization</li> <li>• EcoDriving auto-calibration</li> </ul>

<references />