

# FMA1X0, FM11YX FIRMWARE ERRATA

**V0.7**

## 1) INTRODUCTION

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

This document describes FMA1X0, FM11YX devices firmware improvements, changes, new features implementations as well as current firmware release version.

## 2) FIRMWARE VERSIONING

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### A) STRUCTURE

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FMA.VER. [XX] . [YY] . [ZZ] .Rev. [##]

### B) SYNTAX DESCRIPTION

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**XX** – client number. Value range: 00 – Alpha development, 01 – Teltonika, 02..99 – Specific clients

**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.

Firmware Version	Release date	Changes
01.27.15.Rev.0	2017.11.09	<ul style="list-style-type: none"> <li>• <b>Added CAN-CONTROL support</b></li> <li>• Added ALL-CAN300 parameters multiplying</li> <li>• QZSS disabling added; Static navigation speed threshold increased to 1.0 m/s.</li> </ul>
01.27.08.Rev.0	2017.10.04	<ul style="list-style-type: none"> <li>• Improved ignition detection when ignition source is movement.</li> <li>• Improved immobilizer deauthorization event generation</li> </ul>
01.27.05.Rev.0	2017.08.31	<ul style="list-style-type: none"> <li>• Included possibility use "@" symbol in APN password.</li> <li>• Improved record saving and I/O elements value averaging in Deep Sleep.</li> <li>• Improved CCID parsing. Add Luhm checksum validation for CCID.</li> <li>• Improved RFID reading when it's ID longer than 8bytes.</li> <li>• Improved odometer counting when device is not moving.</li> <li>• <b>Added response for unknown SMS command.</b></li> <li>• <b>Added received data printing to USB log.</b></li> <li>• Improved command "getimeiccid" sending response via SMS then number is provided.</li> <li>• Improved DTC fault code printing to SMS.</li> <li>• <b>Added GreenDriving source accelerometer.</b></li> <li>• <b>Added LVCAN IO element OIL level.</b></li> <li>• Improved NTP functionality. After bad server response, firmware does not close link.</li> <li>• Improved continuous odometer start value configuration via setparam.</li> <li>• Improved iButton codes saving with FOTA if one of codes byte equal 0xFF.</li> <li>• Improved FOTA and data send with UDP together.</li> <li>• Improved GPRS commands getstatus/getops/lvcansetprog.</li> <li>• Improved GPRS commands handling.</li> <li>• Changed Green Driving Harsh Cornering detection speed threshold from 10 to 30 km/h.</li> <li>• Improved setdigout dout control if scenario's disable but dout control configured.</li> <li>• Improved iButton codes configuration via sms</li> <li>• Improved setdigout DOUT control if scenario's disable but DOUT control configured.</li> <li>• Improved DOUT2 control after restart.</li> <li>• Add configurable immobilizer ignition off timeout.</li> <li>• More iButton device support added.</li> <li>• Improved firmware update via FOTA, when multiple BOOT sms are received at the same time.</li> <li>• <b>Increase iButton count from 50 to 500.</b></li> <li>• <b>Added LVCAN CNG IO elements.</b></li> <li>• Improved power manager behavior for cases when battery is empty and external voltage is in hibernation range.</li> <li>• <b>DTC code reading added.</b></li> <li>• <b>Implemented GPRS command sending via UDP protocol</b></li> </ul>

Firmware Version	Release date	Changes
		<ul style="list-style-type: none"> <li>• <b>Add iButton Detection scenario. When iButton readed - configured DOUT is turned on for 500ms.</b></li> <li>• Improved modem switched to AUTO operator search at startup.</li> <li>• Changed GPS filter defines for movement detection + angle update filter depending on movement detection.</li> <li>• Improved GPRS command response buffer.</li> <li>• Improved LVCAN data saving when "Send data with 0, if ignition is off".</li> <li>• Added all ALLCAN300 elements possible.</li> <li>• Improved coordinate saving without timestamp.</li> <li>• Improved GNSS status update on FMA after Deep Sleep.</li> </ul>
01.24.13.Rev.00	2017.04.04	<ul style="list-style-type: none"> <li>• Added socket handling improvement. SMS are now sent with 3 retries.</li> <li>• <b>Implemented Engine Temperature parsing for LVCAN200.</b></li> <li>• setdigout SMS command verification improved.</li> <li>• GPRS closing response TMO improved.</li> <li>• FM will now open link to server even no records made if some other mode needs sending to server.</li> <li>• NMEA filter added - use only sentences with 3D fix.</li> <li>• DS18x20 reset value (85 °C) averaging disabled.</li> <li>• Change Green Driving generate event type to "On Exit".</li> <li>• Odometer work improved.</li> <li>• New individual buffer for received SMS added.</li> <li>• Packet MAX size is decreased to 512 bytes (for TM2500 module).</li> <li>• Added SMS/GPRS commands: getimsi, getccid.</li> <li>• NTP synchronization is using independent socket.</li> <li>• Odometer accuracy improvements.</li> <li>• Improved jamming detection in FMA devices.</li> <li>• GPRS commands are accepted in deep sleep.</li> <li>• <b>Implemented LVCAN Door Status detection</b></li> <li>• <b>Added 1 reserved LVCAN IO</b></li> <li>• <b>Added event SMS for new LVCAN parameters.</b></li> <li>• <b>Added Total Distance I/O element.</b></li> <li>• Rename Odometer value I/O element to Trip distance.</li> <li>• Power consumption in Deep Sleep reduced.</li> <li>• All scenarios reworked. Multiple scenarios allowed on any DOUT.</li> <li>• <b>4 x DS18x20 temperature sensor support added.</b></li> <li>• <b>Black operator list functionality added.</b></li> </ul>
01.21.17.Rev.00 <sup>1</sup>	2016.12.07	<ul style="list-style-type: none"> <li>• Improved packet sending via UDP protocol in FMA devices.</li> <li>• Improved AVL record IO element encoding to prevent data</li> </ul>

<sup>1</sup> Firmware release version for **FMA1X0** and **FM11YX**

Firmware Version	Release date	Changes
		<p>inconsistency.</p> <ul style="list-style-type: none"> <li>• Improved LVCAN200/ALLCAN300 I/O element data handling.</li> <li>• <b>Added new parameter to send LVCAN200/ALLCAN300 data with 0 values, if ignition is off.</b></li> <li>• <b>Added SMS functionality in Deep Sleep.</b></li> <li>• Movement detection made more accurate.</li> <li>• Improved SIM PIN entering.</li> <li>• Improved LLS sensor error codes sending to server.</li> <li>• Improved Garmin RS232 parsing.</li> <li>• GPS current consumption reduced in sleep mode.</li> <li>• GPS fix improvement.</li> <li>• Improved LVCAN200/ALLCAN300 auto detection.</li> <li>• LVCAN200/ALLCAN300 IO elements are not being sent to server if it is not connected.</li> <li>• <b>Added LVCAN200 log to server functionality.</b></li> <li>• Default configuration changes: GPRS enabled, „Unknown operator“ GPRS weektime enabled all the time.</li> <li>• <b>Added binary SMS functionality. Binary SMS could be sent to FM11YX devices and generated answer from FM is sent in same binary format.</b></li> <li>• Added AIN2+DIN4 hardware detection.</li> <li>• Faster GPS start.</li> <li>• Improved SIM PIN for TM25Q modem.</li> <li>• <b>Added TM25Q modem support for FMA1X0 devices.</b></li> </ul>
01.19.13.Rev.00	2016.10.06	<ul style="list-style-type: none"> <li>• Improved LVCAN200/ALLCAN300 auto detection.</li> <li>• Changed external voltage ranges to enter hibernate state earlier.</li> <li>• <b>Added SMS commands to set LVCAN200/ALLCAN300 mode.</b></li> <li>• Improved LVCAN200 detection.</li> <li>• Added GPRS restart if no signal detected.</li> <li>• <b>Added LVCAN online log.</b></li> <li>• Improved records saving without time synchronization.</li> <li>• <b>Added static navigation movement detection by GPS.</b></li> <li>• Added Simple Tacho command sending to LVCAN and Driver 1, 2, ID, Battery level, Battery temperature parameters sending to server.</li> <li>• Trace performance improved.</li> <li>• GPRS commands handling improvement.</li> <li>• <b>Added time synchronization via NTP with configurable GNSS fix timeout and enable/disable parameter.</b></li> <li>• Changed DOUT control for Immobilizer/Authorized driving to DOUT1 on FM1125 platform.</li> </ul>
01.17.19. Rev.00	2016.05.13	<ul style="list-style-type: none"> <li>• GNSS status IO element enabled in Deep Sleep.</li> <li>• Added generic callback for LVCAN with mode detection.</li> </ul>

Firmware Version	Release date	Changes
		<p>Removed internal/external LVCAN mode (text/binary) restrictions</p> <ul style="list-style-type: none"> <li>• RS232 TCP binary mode processing data improvement.</li> <li>• Operator wait improved.</li> <li>• <b>Added new GNSS antenna states:</b> <ul style="list-style-type: none"> <li>0 OFF STATE – GPS module is off (e.g. Deep Sleep).</li> <li>1 NO GPS ANTENNA – GPS antenna is disconnected.</li> <li>2 GPS READY – GPS is working, but no fix.</li> <li>3 GPS WORKING – GPS is working with fix.</li> <li>4 GPS SLEEP – GPS is in sleep mode.</li> <li>5 OVERCURRENT – GPS antenna is short-circuit.</li> </ul> </li> <li>• Geofence event generation improvement</li> <li>• TCP configuration via FOTA improvement.</li> <li>• RS485 LLS configuration via SMS improvement.</li> <li>• Improved Hibernate operation.</li> <li>• SIM PIN functionality improvement</li> <li>• RS485 LLS data processing improvement.</li> <li>• Deep Sleep and GPRS command handling improvement</li> <li>• <b>Added periodic data saving depending on “Min Speed Delta” and “Min Speed Source”.</b></li> </ul>