

## FM11YX with CAN adapter ALL-CAN300

### 1.1 Purpose of Can Adapter ALL-CAN300

ALL-CAN300 is used to listening data from any type of transport: light vehicles, Trucks, busses, agriculture and other special transport. With this adapter FM11YX device is able to collect and send vehicle data.

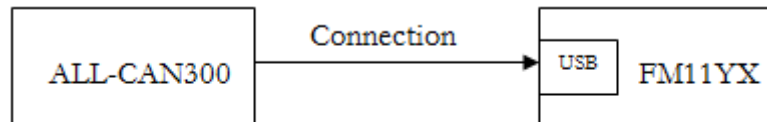


Figure 1 Connect adapter ALL-CAN300 to FM11YX

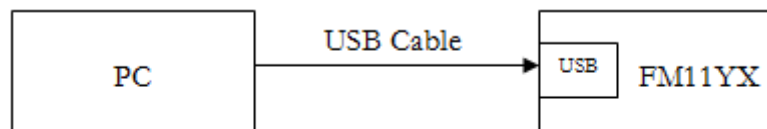


Figure 2 Connect FM11YX to PC and configure

FM11YX shares the same USB port for connecting adapter and configuring device with PC.  
ALL-CAN300 Technical characteristics:

PARAMETER	VALUE
Supply voltage	9 to 50V
Power supply current	Average 10mA Max (peak) 100mA
Working temperature	-40..85 °C
Max working humidity	60 % (non condensate)

### 1.2 ALL-CAN300 program number selection

ALL-CAN300 must be set to program number which depends on vehicle model.  
**Needed program number is always written on ALL-CAN300 mounting scheme.** Please contact Your Teltonika sales manager to get latest supported vehicle list and mounting scheme for your vehicle, please provide CAR manufacturer, model and year information.

#### 1.2.1 ALL-CAN300 program number configuration via SMS command

ALL-CAN300 program number can be set remotely, using SMS command:

##### lvcansetprog X

X is new program number value.

### 1.2.2 Selecting ALL-CAN300 program number manually

Steps to set program number:

- Hold SWITCH down till LED starts blinking
- Release the SWITCH
- Then LED starts blinking and counting first digit of program number, (one blink means digit 1, two blink digit 2 etc.)
- To stop counter push SWITCH
- Release the SWITCH, then LED starts blinking and counting second digit of program number
- To stop counter push SWITCH
- Release the SWITCH, then LED starts blinking and counting third digit on program number
- To stop counter push SWITCH
- Release SWITCH, if programming is succeeded LED will blink 10 times



Figure 3 Adapter signaling led

### 1.3 Connecting FM11YX with Can adapter

Connect USB Plug to FM11YX device, connect ALL-CAN300 to other end of the cable.  
Connect ALL-CAN300 Pin 1 and Pin 2 to cars CAN bus. CAN interface location of the supported vehicle is described on mounting scheme.

Connect car power supply lines to Pin 3 positive, Pin 4 Negative.

Pins 9,10 connection is optional it depends on exact car model.

For exact pinout see sticker on Can adapter.

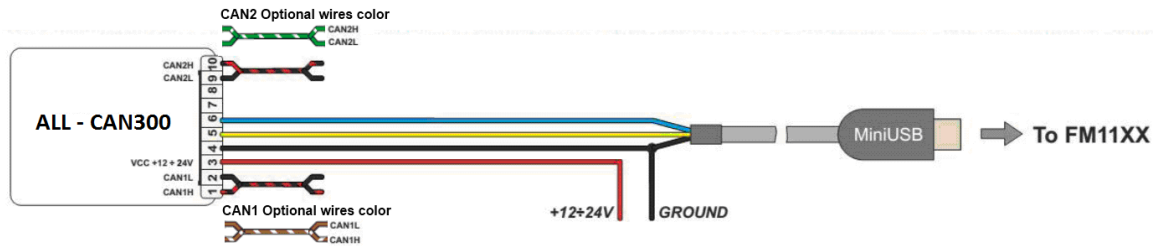


Figure 4 ALL-CAN300 Adapter connection cable pinout



**Attention! Ordered ALL-CAN300 packaging may vary:**

1. Standard with mini-USB cable.
2. USB PCB (female) + mini-USB cable.



**Attention! For detailed connection diagram of adapter to light vehicle please contact Teltonika, LTD sales representative and provide CAR manufacturer, model and year information.**



**Attention! Do not swap CAN L and CAN H lines. Do not swap power supply lines. Make sure that voltage do not exceeds 30V. Power supply lines should be connected at the end of installation work.**

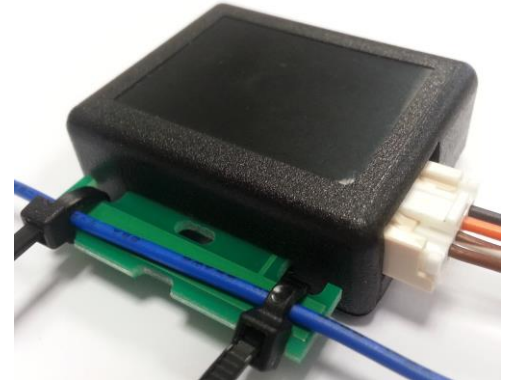
### 1.4 SIMPLE-CAN - contactless CAN-BUS reader

SIMPLE-CAN is contactless adapter used to read vehicle CAN data with LV-CAN200, ALL-CAN300. If LV-CAN200 or ALL-CAN300 connection requires two CAN lines to get all data, then you need two SIMPLE-CAN readers

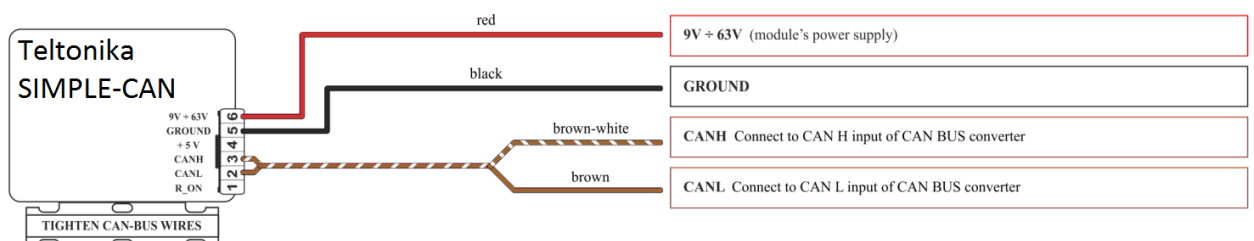
#### TECHNICAL DETAILS

- Power supply voltage 9-63 V
- Power supply current:
 

Mode	12V	24V
Active	8.3 mA	4.3 mA
Standby	1.6 mA	0.91 mA
- CAN-BUS speeds from 33,33 to 500 kb/s
- Automatically sets CAN Low, CAN High polarity
- Automatically adjusts signal level and speed



SIMPLE-CAN works in the **listening mode only**, so not all the data available on the CAN-BUS may be received using this solution. **The device automatically sets CAN L/H polarity**, but the calibration has to be always executed during installation process. Connection of previously calibrated unit to another car needs new calibration because the reader **automatically adjusts signal level and speed** to different CAN-BUSes. The device also **automatically adapts to the found noise level**.



After power supply connecting, LED shines continuously. It means that device awaits for calibration. Calibration process has to be carried out when CAN-BUS twisted pair is tightened on SIMPLE-CAN and when the ignition is ON. Please press the switch shortly and wait for the LED to start blinking every 1 second. Automatic calibration process takes up to 10 seconds depending on the vehicle's model. Correct calibration process is confirmed by LED's every 2 seconds blink (when the CAN-BUS is active). When the CAN-BUS enters sleep mode, SIMPLE-CAN device does it also and takes 1,6mA/12V. In the sleep mode LED does not shine. If after calibration process LED shines continuously, it means that device is not calibrated yet, CAN-BUS transmission has failed or ignition during calibration was not ON.

## 1.5 FM11YX Configuration

FM11YX shares the same USB port for connecting ALL-CAN300 adapter and configuring device with PC.

FM11YX can be configured using configurator in LVCAN section (Figure 7).

To configure CAN data:

1. In car, connect ALL-CAN300 to CAN bus and to the FM11YX device (Figure 5), wait 10 seconds. Note, that car engine must be started.
2. Disconnect ALL-CAN300 from FM11YX, and connect PC USB cable to FM11YX Device (Figure 6). It is very important not to disconnect FM11YX from power source, because then all CAN data will be lost.

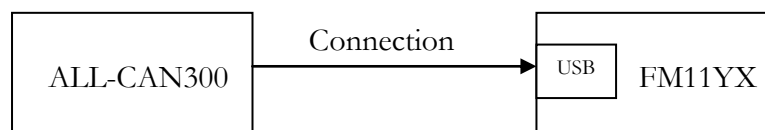


Figure 5 Connect adapter ALL-CAN300 to FM11YX

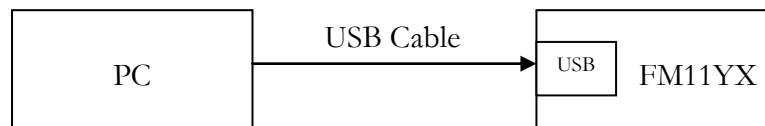


Figure 6 Connect FM11YX to PC and configure

CAN bus data which can be read from your car is shown in “ ALL-CAN300supported cars” document.

**Configuration CAN data** – user can select which CAN data can be read from ALL-CAN300 need to be sent to server without connection to adapter. Please note that parameters depend on vehicle manufacturer and vehicle model. Please for further information check “ ALL-CAN300supported cars” document.

There are two types of operations with CAN data elements:

- Monitoring of CAN bus data
- CAN bus data event capturing

Monitoring method is used when user wants to receive CAN data on regular basis, for example every 20 seconds.

Event functionality is used to store additional AVL packet when state of CAN element is changing. For example Speed changes, low fuel level, engine temperate, etc.

Send data to server field – allows enabling CAN element so it is added to the AVL data packet and sent to the server. By default, all CAN elements are disabled and FM11YX records only GPS data.

It is possible to set CAN message priority: On Low Priority, On High Priority, and On Panic. Regular packets are sent as Low priority records. When low priority event is triggered, FM11YX makes additional record with indication what was the reason for that was CAN element change. When High priority is selected, module makes additional record with high priority flag and sends event packet immediately to the server by GPRS. Panic priority triggers same actions as high priority, but if GPRS fails, it sends AVL packet to server using SMS mode if SMS is enabled in SMS settings.

Data Acquisition Type – defines when to generate event – when value enters defined range, exits it or both, also is possible to select event which you want to generate then you change values, like crossing both values in high and low levels (Hysteresis).

High and Low levels – defines CAN value range. If CAN value enter or exits this range, FM11YX generates event by “Data Acquisition Type” settings. Figure 58 show example of FM11YX CAN configuration.

Averaging constant – it is an CAN event delay parameter. In some applications there is no need to generate events on every CAN bus data range enter/exit immediately. Sometimes it is necessary to wait some time interval before event generating. Averaging constant allows setting CAN event delay (averaging). If CAN value is entering or leaving predefined range, it must have same value for Averaging constant time.

System	I/O	Property Input	<input type="checkbox"/> Enabled	Priority	Low Level	High Level	Generate Event	Averaging Constant
<b>Records</b>		Vehicle speed	<input type="checkbox"/>	Disable	0	0	Monitoring	10
<b>GSM</b>		Accelerator pedal position	<input type="checkbox"/>	Disable	0	0	Monitoring	2
<b>DataAcquisitionModes</b>		Fuel Consumed	<input type="checkbox"/>	Disable	0	0	Monitoring	
		Fuel level (liters)	<input type="checkbox"/>	Disable	0	0	Monitoring	10
<b>Features</b>		Engine RPM	<input type="checkbox"/>	Disable	0	0	Monitoring	10
<b>IO</b>		Total mileage	<input type="checkbox"/>	Disable	0	0	Monitoring	
<b>LVCAN</b>		Fuel level (%)	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Program number	<input type="checkbox"/>	Disable	0	0	Monitoring	
<b>RS232 / RS485</b>		Module ID	<input type="checkbox"/>	Disable	0	0	Monitoring	
		Engine worktime	<input type="checkbox"/>	Disable	0	0	Monitoring	
		Engine worktime (counted)	<input type="checkbox"/>	Disable	0	0	Monitoring	
		Total mileage (counted)	<input type="checkbox"/>	Disable	0	0	Monitoring	
		Fuel consumed (counted)	<input type="checkbox"/>	Disable	0	0	Monitoring	
		Fuel rate	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		AdBlue level (%)	<input type="checkbox"/>	Disable	0	5	Monitoring	10
		AdBlue level (liters)	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Engine load	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Engine temperature	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Axle 1 load	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Axle 2 load	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Axle 3 load	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Axle 4 load	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Axle 5 load	<input type="checkbox"/>	Disable	0	0	Monitoring	10
		Control state flags	<input type="checkbox"/>	Disable	0	0	Monitoring	

**Figure 7 Configurator example**

Available CAN Bus IO parameters and configuration can be found in Configurators CAN tab (Figure7) and in next chapter “Parameters ID”.

## 1.6 Parameters ID

When no I/O element is enabled, AVL packet comes with GPS information only. After enabling I/O element(s) AVL packet along with GPS information contains current value(s) of enabled I/O element. AVL packet decoding is described in “FM11YX Protocols” document. List of available CAN bus data, parameter size, ID and value range you can find in table 1.1.

**Table 1.1 ACQUIRED PARAMETERS IO IDs**

Property Input	Param index	Size (Bytes)	Param IO ID	Measurement units	a1	Remarks
ALL-CAN300 Program number	29	4	100	-	-	
Module ID	30	8	101	-	-	
Engine Work Time	31	4	102	min	1	
Engine Work Time (counted) *	32	4	103	min	1	
Total Mileage	33	4	87	meters	1	
Total Mileage (counted) *	34	4	105	meters	1	
Fuel Consumed	35	4	83	Ltr * 10	0.1	
Fuel Consumed (counted) *	36	4	107	Ltr * 10	0.1	
Fuel Level [%]	37	1	89	proc.*	1	
Fuel Level [liters]	38	2	84	Ltrs * 10	0.1	
Fuel Rate	39	2	110	(Ltrs * 10) / h	0.1	
AdBlue Level (percent)	40	1	111	proc.	1	
AdBlue Level (liters)	41	2	112	Ltrs * 10	0.1	
Engine RPM	42	2	85	-	1	
Engine Load	43	1	114	proc.	1	Valid range: 0 – 125%
Engine Temperature	44	1	115	°C x 10	0.1	signed
Accelerator Pedal Position	45	1	82	proc.	1	
Vehicle Speed	46	1	81	km/h	1	
Axle 1 Load	47	2	118	kg	1	
Axle 2 Load	48	2	119	kg	1	
Axle 3 Load	49	2	120	kg	1	
Axle 4 Load	50	2	121	kg	1	
Axle 5 Load	51	2	122	kg	1	
Control State Flags	52	4	123	-	-	see table 1.2
Agricultural Machinery Flags	53	8	124	-	-	see table 1.2
Harvesting Time	54	4	125	min	1	
Area of Harvest	55	4	126	m <sup>2</sup>	1	

Mowing Efficiency	56	4	127	m <sup>2</sup> /h	1	
Grain Mown Volume	57	4	128	kg	1	
Grain Moisture	58	2	129	proc.	1	
Harvesting Drum RPM	59	2	130	-	-	
Gap Under Harvesting Drum	60	1	131	mm	1	
Security State Flags	61	8	132	-		see table 1.2
Tacho Total Vehicle Distance	62	4	133	m	1	
Trip Distance	63	4	134	m	1	
Tacho Vehicle Speed	64	2	135	km/h	1	
Tacho Driver Card Presence	65	1	136	-	-	see table 1.2
Driver1 States	66	1	137	-	-	see table 1.2
Driver2 States	67	1	138	-	-	see table 1.2
Driver1 Continuous Driving Time	68	2	139	min	1	
Driver2 Continuous Driving Time	69	2	140	min	1	
Driver1 Cumulative Break Time	70	2	141	min	1	
Driver2 Cumulative Break Time	71	2	142	min	1	
Driver1 Duration Of Selected Activity	72	2	143	min	1	
Driver2 Duration Of Selected Activity	73	2	144	min	1	
Driver1 Cumulative Driving Time	74	2	145	min	1	
Driver2 Cumulative Driving Time	75	2	146	min	1	
Driver1 ID High	76	8	147	ASCII		
Driver1 ID Low	77	8	148	ASCII		
Driver2 ID High	78	8	149	ASCII		
Driver2 ID Low	79	8	150	ASCII		
Battery Temperature	80	2	151	°C x 10	0.1	signed
Battery Level (percent)	81	1	152	proc.	1	

**NOTE:**

„Total Fuel Used“ is sent to server multiplied by 10.

Example: if value was 150.5 liters, „1505“ will be sent to server.

\*- Fuel consumed (counted), Total mileage (counted), Engine Work Time (counted) are parameters, which are counted after ALL-CAN 300 is connected to CAN bus. For example:



Total mileage is 10000 (from CAN), ALL-CAN300 starts monitoring this parameter and at the beginning Total mileage (counted) is 0. Vehicle drives 100 km: Total mileage increases to 10100km, Total milage (counted) is 100km. Same goes for other parameters.

**Table 1.2 ALLCAN300 IO element values**

Idx	Description	Size, Bytes	AVL ID	Value bitmasks
52	Control state flags	4	123	<p><b>Byte0 (LSB):</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – STOP</li> <li><b>0x02</b> – Oil pressure / level</li> <li><b>0x04</b> – Coolant liquid temperature / level</li> <li><b>0x08</b> – Handbrake system</li> <li><b>0x10</b> – Battery charging</li> <li><b>0x20</b> – AIRBAG</li> </ul> <p><b>Byte1:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – CHECK ENGINE</li> <li><b>0x02</b> – Lights failure</li> <li><b>0x04</b> – Low tire pressure</li> <li><b>0x08</b> – Wear of brake pads</li> <li><b>0x10</b> – Warning</li> <li><b>0x20</b> – ABS</li> <li><b>0x40</b> – Low Fuel</li> </ul> <p><b>Byte2:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – ESP</li> <li><b>0x02</b> – Glow plug indicator</li> <li><b>0x04</b> – FAP</li> <li><b>0x08</b> – Electronics pressure control</li> <li><b>0x10</b> – Parking lights</li> <li><b>0x20</b> – Dipped headlights</li> <li><b>0x40</b> – Full beam headlights</li> </ul> <p><b>Byte3:</b></p> <ul style="list-style-type: none"> <li><b>0x40</b> – Passenger's seat belt</li> <li><b>0x80</b> – Driver's seat belt</li> </ul>
53	Agricultural machinery flags	8	124	<p><b>Byte0 (LSB):</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – Mowing</li> <li><b>0x02</b> – Grain release from hopper</li> <li><b>0x04</b> – First front hydraulic turned on</li> <li><b>0x08</b> – Rear Power Take-Off turned on</li> </ul> <p><b>Byte1:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – Excessive play under the threshing drum</li> <li><b>0x02</b> – Grain tank is open</li> <li><b>0x04</b> – 100% of Grain tank</li> <li><b>0x08</b> – 70% of Grain tank</li> <li><b>0x10</b> – Drain filter in hydraulic system of drive cylinders is plugged</li> <li><b>0x20</b> – Pressure filter of drive cylinders hydraulic system is plugged</li> <li><b>0x40</b> – Alarm oil level in oil tank</li> <li><b>0x80</b> – Pressure filter of brakes hydraulic system is plugged</li> </ul>

				<p><b>Byte2:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – Oil filter of engine is plugged</li> <li><b>0x02</b> – Fuel filter is plugged</li> <li><b>0x04</b> – Air filter is plugged</li> <li><b>0x08</b> – Alarm oil temperature in hydraulic system of chasis</li> <li><b>0x10</b> – Alarm oil temperature in hydraulic system of drive cylinders</li> <li><b>0x20</b> – Alarm oil pressure in engine</li> <li><b>0x40</b> – Alarm coolant level</li> <li><b>0x80</b> – Overflow chamber of hydraulic unit</li> </ul> <p><b>Byte3:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – Unloader drive is ON. Unloading tube pivot is in idle position</li> <li><b>0x02</b> – No operator!</li> <li><b>0x04</b> – Straw walker is plugged</li> <li><b>0x08</b> – Water in fuel</li> <li><b>0x10</b> – Cleaning fan RPM</li> <li><b>0x20</b> – Trashing drum RPM</li> </ul> <p><b>Byte4:</b></p> <ul style="list-style-type: none"> <li><b>0x02</b> – Low water level in the tank</li> <li><b>0x04</b> – First rear hydraulic turned on</li> <li><b>0x08</b> – Standalone engine working</li> <li><b>0x10</b> – Right joystick moved right</li> <li><b>0x20</b> – Right joystick moved left</li> <li><b>0x40</b> – Right joystick moved front</li> <li><b>0x80</b> – Right joystick moved back</li> </ul> <p><b>Byte5:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – Brushes turned on</li> <li><b>0x02</b> – Water supply turned on</li> <li><b>0x04</b> – Vacuum cleaner</li> <li><b>0x08</b> – Unloading from the hopper</li> <li><b>0x10</b> – High Pressure washer (Karcher)</li> <li><b>0x20</b> – Salt (sand) disperser ON</li> <li><b>0x40</b> – Low salt (sand) level</li> </ul> <p><b>Byte6:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – Second front hydraulic turned on</li> <li><b>0x02</b> – Third front hydraulic turned on</li> <li><b>0x04</b> – Fourth front hydraulic turned on</li> <li><b>0x08</b> – Second rear hydraulic turned on</li> <li><b>0x10</b> – Third rear hydraulic turned on</li> <li><b>0x20</b> – Fourth rear hydraulic turned on</li> <li><b>0x40</b> – Front three-point Hitch turned on</li> <li><b>0x80</b> – Rear three-point Hitch turned on</li> </ul> <p><b>Byte7:</b></p> <ul style="list-style-type: none"> <li><b>0x01</b> – Left joystick moved right</li> <li><b>0x02</b> – Left joystick moved left</li> <li><b>0x04</b> – Left joystick moved front</li> <li><b>0x08</b> – Left joystick moved back</li> <li><b>0x10</b> – Front Power Take-Off turned on</li> </ul>
61	Security state flags	8	132	<b>Byte0 (LSB):</b>

				<p><b>0x20</b> – bit appears when any operate button in car was put</p> <p><b>0x40</b> – bit appears when immobilizer is in service mode</p> <p><b>0x80</b> – immobiliser, bit appears during introduction of a programmed sequence of keys in the car.</p> <p><b>Byte1:</b></p> <p><b>0x01</b> – the key is in ignition lock</p> <p><b>0x02</b> – ignition on</p> <p><b>0x04</b> – dynamic ignition on</p> <p><b>0x08</b> – webasto</p> <p><b>0x20</b> – car closed by factory's remote control</p> <p><b>0x40</b> – factory-installed alarm system is actuated (is in panic mode)</p> <p><b>0x80</b> – factory-installed alarm system is emulated by module</p> <p><b>Byte2:</b></p> <p><b>0x01</b> – parking activated (automatic gearbox)</p> <p><b>0x10</b> – handbrake is actuated (information available only with ignition on)</p> <p><b>0x20</b> – footbrake is actuated (information available only with ignition on)</p> <p><b>0x40</b> – engine is working (information available only when the ignition on)</p> <p><b>0x80</b> – revers is on</p> <p><b>Byte3:</b></p> <p><b>0x01</b> – Front left door opened</p> <p><b>0x02</b> – Front right door opened</p> <p><b>0x04</b> – Rear left door opened</p> <p><b>0x08</b> – Rear right door opened</p> <p><b>0x10</b> – engine cover opened</p> <p><b>0x20</b> – trunk door opened</p> <p><b>Byte4:</b></p> <p><b>0x01</b> – car was closed by the factory's remote control</p> <p><b>0x02</b> – car was opened by the factory's remote control</p> <p><b>0x03</b> – trunk cover was opened by the factory's remote control</p> <p><b>0x04</b> – module has sent a rearming signal</p> <p><b>0x05</b> – car was closed three times by the factory's remote control</p> <p>- High nibble (mask 0xF0 bit)</p> <p><b>0x80</b> – CAN module goes to sleep mode</p>
65	Tachograph driver card presence	1	136	<p><b>0x00</b> – No driver card</p> <p><b>0x01</b> – Driver1 card presence</p> <p><b>0x02</b> – Driver2 card presence</p> <p><b>0x03</b> – Driver1 and driver2 cards present</p>
66	Driver 1 states	1	137	<b>0xX0</b> – break/rest
67	Driver 2 states	1	138	<p><b>0xX1</b> – availability</p> <p><b>0xX2</b> – work</p>

				<p><b>0xX3</b> – driving</p> <p><b>0x0X</b> – no time-related warning detected</p> <p><b>0x1X</b> – limit #1: 15 min before 4 1/2 h</p> <p><b>0x2X</b> – limit #2: 4 1/2 h reached (continuous driving time exceeded)</p> <p><b>0x3X</b> – limit #3: 15 minutes before optional warning 1</p> <p><b>0x4X</b> – limit #4: optional warning 1 reached</p> <p><b>0x5X</b> – limit #5: 15 min before optional warning</p> <p><b>0x6X</b> – limit #6: optional warning 2 reached</p>
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## 1.7 SMS Configuration

All ALL-CAN300 IO elements can be configured remotely via SMS command. First ID number is always '2', seconds and third ID numbers refers to specific ALL-CAN300 IO element (table 1.2). And the last ID number refers to sections – Property; Generation Type; Low level, High level and Averaging Constant (Table 1.3).

Here's example:

ID 2013 – configures Accelerator Pedal position parameter “High Level”.

**Table 1.2 ALL-CAN300 IO elements SMS configuration Ids range**

ALL-CAN300 IO Element	Parameter Ids range
Speed	2000-2004
Accelerator pedal position	2010-2014
Total fuel used	2020-2023
Fuel level (liters)	2030-2034
Engine RPM	2040-2044
Total mileage	2050-2053
Fuel level (proc.)	2060-2064
Program number	2070-2073
Module ID	2080-2083
Engine Work Time	2090-2093
Engine Work Time (counted)	2100-2103
Total Mileage (counted)	2110-2113
Fuel Consumed (counted)	2120-2123
Fuel Rate	2130-2134
AdBlue Level (percent)	2140-2144
AdBlue Level (liters)	2150-2154
Engine Load	2160-2164
Engine Temperature	2170-2174
Axle 1 Load	2180-2184
Axle 2 Load	2190-2194
Axle 3 Load	2200-2204
Axle 4 Load	2210-2214
Axle 5 Load	2220-2224
Control State Flags	2230-2233
Agricultural Machinery Flags	2240-2243
Harvesting Time	2250-2253
Area of Harvest	2260-2263

Mowing Efficiency	2270-2274
Grain Mown Volume	2280-2283
Grain Moisture	2290-2294
Harvesting Drum RPM	2300-2304
Gap Under Harvesting Drum	2310-2314
Security State Flags	2320-2323
Tachograph Total Vehicle Distance	2330-2333
Trip Distance	2340-2343
Tachograph Vehicle Speed	2350-2354
Tachograph Driver Card Presence	2360-2363
Driver1 States	2370-2373
Driver2 States	2380-2383
Driver1 Continuous Driving Time	2390-2393
Driver2 Continuous Driving Time	2400-2403
Driver1 Cumulative Break Time	2410-2413
Driver2 Cumulative Break Time	2420-2423
Driver1 Selected Activity Duration	2430-2433
Driver2 Selected Activity Duration	2440-2443
Driver1 Cumulative Driving Time	2450-2453
Driver2 Cumulative Driving Time	2460-2463

**Table 1.3 ALL-CAN300 IO parameters configuration**

Parameter ID	Parameter name	Available values
2xx0	Priority	0 – IO element disabled 1 – Low priority 2 – High priority 3 – Panic priority
2xx1	Generation type	0 – Event on exit 1 – Event on entrance 2 – Event on both 3 – Monitoring 4 – Hysteresis 5 – On change
2xx2	Low level	See table 9.4 – <b>Allowed Values</b> From 0 to 2 <sup>32</sup>
2xx3	High Level	
2xx4	Averaging Constant	

### 1.8 CAN Program Number request by SMS

CAN program number can be obtained via SMS:

**SMS Text:** “Ivcangetprog”

### 1.9 Get ALL-CAN info by SMS

Full ALL-CAN information via SMS:

SMS Text: "lvcangetinfo"

Response:

Program number, SW creation date, SW revision, Kern version, Option and its ID, Simple tachometer configuration.

Clear counted parameters value

It is possible to clear Total Mileage (counted), Engine Work Time (counted), Fuel Consumed (counted) parameters with following SMS command.

SMS text: "lvcancel #"

Possible values of #:

- 0 – Engine work time (counted);
- 1 – Fuel Consumed (counted);
- 2 – Vehicle Mileage (counted);

### 1.10 References

1. ALL-CAN300 supported vehicle list;
2. Vehicle mounting scheme.

### 1.11 LV-CAN200/ALLAN300 Important Information

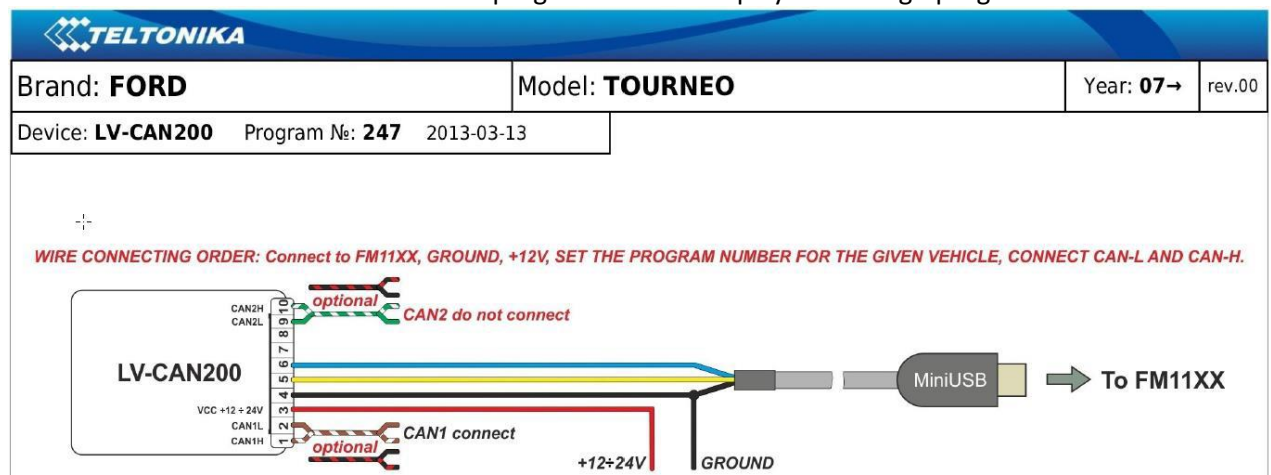
#### Program Number logic change

Due to the growing number of supported cars, program numbers have exceeded 999. In order to maintain one number format, we are moving from 3 digits, to 4 digits program numbers. In new LV-CAN200/ALL-CAN300 firmware (from 2017-09-01) all program numbers that were up to 999 are changed to start from 1000. So that further program numbers would continue the counting with 4 digit numbers.

However, all existing program numbers stays the same, it is just "1" appeared in front of them. Device still understands entered 3 digit program number (via SMS/GPRS), it will automatically add "1" before it. If you enter "247" - device will turn it into the "1247". In Bootloader it is only 4 digit format available, just add "1" in front of the needed program number.

#### Example

If use oldest connection schemes where program number displayed as 3 digit program number:



Using LV-CAN200/ALL-CAN300 Bootloader from soft version 2017-09-27 need to add "1" before it:

