

# OBD II TO FMS ADAPTER AND J1939 SUPPORT IN FMx003

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## Contents

- [1 Introduction](#)
- [2 Cable specifications](#)
- [3 Cable pinout scheme](#)
- [4 Device Configuration](#)
- [5 Supported parameter list](#)
- [6 Downloads](#)

## Introduction

Due to recently added support of J1939, Teltonika OBD devices (FMB003, FMC003, FMM003) are now able to read data from heavy duty vehicles. With the new OBD to FMS adapter, clients are able to connect OBD devices to their heavy duty vehicles which have FMS female connector (usually located under the front panel). Cable is only applicable with the European truck.

## Cable specifications



### Cable specifications:

- Length: 1 meter
- Connectors: OBD II female, FMS male
- Cable type: Flexible, splash resistant

- Order code: PGCB00007950

## Cable pinout scheme



### Cable pinout scheme:

OBD 16PF	FMS 12PM
4/5	=> 4
6	=> 6
14	=> 9
16	=> 3

**DISCLAIMER:** PLEASE MAKE SURE THE FMS PINOUT OF YOUR HEAVY DUTY VEHICLE IS AS REFERRED ON THE PROVIDED PINOUT SCHEME. IN CASE OF INCORRECT PINOUT PLEASE CONTACT YOUR HEAVY DUTY VEHICLE DEALERSHIP. THE CLIENT IS RESPONSIBLE FOR ALL THE ISSUES, WHICH MIGHT OCCUR BY INCORRECT INSTALLATION.

**NOTE:** Please use FMB003, FMM003 or FMC003 devices with the FW 03.28.03.Rev.405, which has implemented J1939 protocol support.

## Device Configuration

1. Connect your FMB003, FMM003 or FMC003 device to PC via USB or Bluetooth.
2. Open Teltonika.Configurator\_1.7.53\_E.ELD\_R.8 and find your device in the list.
3. Select your device from the list.
4. Enable Codec 8 Extended protocol.
5. Open „OBD II“ section on the left.
6. In „General“ -> „OBD II Settings“ -> „OBD Feature“ select „ELD“.
7. In „OBD VIN settings“ -> „VIN Source“ select preferred source. Some heavy duty vehicles may not automatically provide VIN number, in that case we recommend to setup VIN manually.



J1939 configuration example

8. Save the configuration by pressing „Save to device“ on the top.

9. New section with J1939 parameters can be found in „ELD“ section on the right bottom.



Example of J1939 parameters

## Supported parameter list

AVL ID	Parameter Name	Bytes	Type	Units	Description	Parameter Group
1176	<b>ELD Mileage</b>	<b>4</b>	<b>Unsigned</b>	<b>km</b>		ELD
36	<b>Engine RPM</b>	<b>2</b>	<b>Unsigned</b>	<b>rpm</b>		OBD
256	<b>VIN</b>	<b>17</b>	<b>ASCII</b>			OBD
1178	<b>ELD Ignition</b>	<b>1</b>	<b>Unsigned</b>			ELD
24	<b>Speed</b>	<b>2</b>	<b>Unsigned</b>	<b>km/h</b>		I/O
1202	<b>ELD Ignition Switch Status</b>	<b>1</b>	<b>Unsigned</b>		Indicates that the ignition (or “run”) state of the operator key switch is active. <ul style="list-style-type: none"> <li>• 00b = Ignition state is not active</li> <li>• 01b = Ignition state is active</li> <li>• 10b = Error</li> <li>• 11b = Not Available</li> </ul>	ELD
1177	<b>ELD Engine hours</b>	<b>4</b>	<b>Unsigned</b>	<b>h</b>	Total Engine hours	ELD
1180	<b>ELD Total Fuel Used</b>	<b>4</b>	<b>Unsigned</b>	<b>l</b>	Fuel consumed during all or part of a journey.	ELD
1181	<b>ELD Engine Idle Hours</b>	<b>4</b>	<b>Unsigned</b>	<b>h</b>	Accumulated time of operation of the engine while under idle conditions.	ELD
1182	<b>ELD DTC Count</b>	<b>1</b>	<b>Unsigned</b>		MIL-On, DTCs count	ELD

48	<b>Fuel Level</b>	<b>1</b>	<b>Unsigned</b>	<b>%</b>	Ratio of volume of fuel to the total volume of fuel storage container. When Fuel Level 2 (AVL ID 1183) is not used, Fuel Level 1 represents the total fuel in all fuel storage containers. When Fuel Level 2 is used, Fuel Level 1 represents the fuel level in the primary or left-side fuel storage container.	OBD
1183	<b>ELD Fuel Level 2</b>	<b>1</b>	<b>Unsigned</b>	<b>%</b>	Ratio of volume of fuel to the total volume of fuel in the second or right-side storage container. When Fuel Level 2 is not used, Fuel Level 1 (AVL ID 48) represents the total fuel in all fuel storage containers.	ELD
1184	<b>ELD Battery Voltage</b>	<b>2</b>	<b>Unsigned</b>	<b>V</b>	SLI battery terminal voltage	ELD
1185	<b>ELD Total Idle Fuel Used</b>	<b>4</b>	<b>Unsigned</b>	<b>l</b>	Accumulated amount of fuel used during vehicle operation while under idle conditions.	ELD
1186	<b>ELD Trip Distance</b>	<b>4</b>	<b>Unsigned</b>	<b>m</b>	Distance traveled during all or part of a journey.	ELD
1187	<b>ELD Fuel Economy</b>	<b>4</b>	<b>Unsigned</b>	<b>km/L</b>	Current fuel economy at current vehicle velocity.	ELD
1188	<b>ELD Ambient Air Temperature</b>	<b>2</b>	<b>Signed</b>	<b>°C</b>	Temperature of air surrounding vehicle.	ELD
1189	<b>ELD Engine Load</b>	<b>2</b>	<b>Unsigned</b>	<b>%</b>	Absolute Engine Load - Percent Air Mass is the normalized value of air mass per intake stroke displayed as a percent.	ELD

1190	<b>ELD Engine Throttle</b>	<b>1</b>	<b>Unsigned</b>	<b>%</b>	The desired position of the Throttle valve 1 that is regulating the fluid, usually air/fuel mixture to the engine as commanded by the Engine Control unit. 0% represents no supply and 100% is full supply.	ELD
1192	<b>ELD Trip Fuel Used</b>	<b>4</b>	<b>Unsigned</b>	<b>l</b>	Fuel consumed during all or part of a journey.	ELD
1191	<b>ELD Oil Temperature</b>	<b>2</b>	<b>Unsigned</b>	<b>°C</b>	Temperature of the engine lubricant.	ELD
1193	<b>ELD Oil Pressure</b>	<b>2</b>	<b>Unsigned</b>	<b>kPa</b>	Gage pressure of oil in engine lubrication system as provided by oil pump.	ELD
1194	<b>ELD Seat Belt Status</b>	<b>1</b>	<b>Unsigned</b>		State of switch used to determine if Seat Belt is buckled <ul style="list-style-type: none"> <li>• 00b = NOT Buckled</li> <li>• 01b = OK - Seat Belt is buckled</li> <li>• 10b = Error - Switch state cannot be determined</li> <li>• 11b = Not Available</li> </ul>	ELD

1195	<b>ELD Cruise Control State</b>	<b>1</b>	<b>Unsigned</b>		Indicates the state of the PCC controller. <ul style="list-style-type: none"> <li>• 0000b = Disabled</li> <li>• 0001b = Enabled</li> <li>• 0010b = Enabled, but not functional due to vehicle position not available</li> <li>• 0011b = Enabled, but not functional due to map position not available</li> <li>• 0100b = Enabled, but not functional due to road grade info not available</li> <li>• 0101b = Enabled, but not functional due to predicted path not available</li> <li>• 0110b = Enabled, but not functional due to vehicle speed below speed threshold</li> <li>• 0111b = Enabled, but not functional due to inhibited by driver</li> <li>• 1000b = Enabled, but not functional due to self test</li> <li>• 1001b to 1101b = SAE Reserved <ul style="list-style-type: none"> <li>• 1110b = Error</li> <li>• 1111b = Not Available</li> </ul> </li> </ul>	ELD
1196	<b>ELD Throttle Pedal Position</b>	<b>1</b>	<b>Unsigned</b>	<b>%</b>	Accelerator Pedal Position	ELD
1197	<b>ELD Engine Coolant Level</b>	<b>1</b>	<b>Unsigned</b>	<b>%</b>	Ratio of volume of liquid found in engine cooling system to total cooling system volume. Typical monitoring location is in the coolant expansion tank.	ELD
1198	<b>ELD Engine Coolant Pressure</b>	<b>2</b>	<b>Unsigned</b>	<b>kPa</b>	Gage pressure of liquid found in engine cooling system.	ELD
1199	<b>ELD Transmission Oil Temperature</b>	<b>2</b>	<b>Signed</b>	<b>°C</b>	Transmission Oil Temperature	ELD

1179	<b>ELD Parking Brake Status</b>	<b>1</b>	<b>Unsigned</b>		Switch signal which indicates when the parking brake is set. <ul style="list-style-type: none"> <li>• 00b = Parking brake not set</li> <li>• 01b = Parking brake set</li> <li>• 10b = Error</li> <li>• 11b = Not available</li> </ul>	ELD
1200	<b>ELD Brake Application Pressure</b>	<b>2</b>	<b>Unsigned</b>	<b>kPa</b>	Gage pressure of compressed air or fluid in vehicle braking system measured at the brake chamber when brake shoe (or pad) is placed against brake drum (or disc).	ELD
1201	<b>ELD Brake Pedal Position</b>	<b>1</b>	<b>Unsigned</b>	<b>%</b>	Ratio of brake pedal position to maximum pedal position.	ELD

## Downloads

You can download suitable firmware and configurator over [here](#).