

OBD II TO FMS ADAPTER AND J1939 SUPPORT IN FMx003

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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 firmware which has implemented J1939 protocol support.

FMS Plug Location

Even though the FMS cable is standardized cable - its placement in the vehicle might differ depending on manufacturer and depending on vehicle trim level.

We were able to identify the most common places for the FMS plug - refer to the examples bellow:

Behind the Fuse panel on passenger side - for Example SCANIA S/R/G/P Euro6 Series

Near the Fuse panel on passenger side - for example DAF XF Euro6

Behind the Radio on lower deck - for example Volvo FH Euro5 and Renault T Euro6 

Behind the Tachograph on upper deck - for example Mercedes Actros MP5 Euro6 

Device Configuration

1. Connect your FMB003, FMM003 or FMC003 device to PC via USB or Bluetooth.
2. Open Teltonika Configurator 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.



Name	ID	Unit	Priority	Function	High/Low	Settings
ELD-001	1	km/h	1	Speed	High	Enabled
ELD-002	2	km/h	1	Speed	High	Enabled
ELD-003	3	km/h	1	Speed	High	Enabled
ELD-004	4	km/h	1	Speed	High	Enabled
ELD-005	5	km/h	1	Speed	High	Enabled
ELD-006	6	km/h	1	Speed	High	Enabled
ELD-007	7	km/h	1	Speed	High	Enabled
ELD-008	8	km/h	1	Speed	High	Enabled
ELD-009	9	km/h	1	Speed	High	Enabled
ELD-010	10	km/h	1	Speed	High	Enabled
ELD-011	11	km/h	1	Speed	High	Enabled
ELD-012	12	km/h	1	Speed	High	Enabled
ELD-013	13	km/h	1	Speed	High	Enabled
ELD-014	14	km/h	1	Speed	High	Enabled
ELD-015	15	km/h	1	Speed	High	Enabled
ELD-016	16	km/h	1	Speed	High	Enabled
ELD-017	17	km/h	1	Speed	High	Enabled
ELD-018	18	km/h	1	Speed	High	Enabled
ELD-019	19	km/h	1	Speed	High	Enabled
ELD-020	20	km/h	1	Speed	High	Enabled
ELD-021	21	km/h	1	Speed	High	Enabled
ELD-022	22	km/h	1	Speed	High	Enabled
ELD-023	23	km/h	1	Speed	High	Enabled
ELD-024	24	km/h	1	Speed	High	Enabled
ELD-025	25	km/h	1	Speed	High	Enabled
ELD-026	26	km/h	1	Speed	High	Enabled
ELD-027	27	km/h	1	Speed	High	Enabled
ELD-028	28	km/h	1	Speed	High	Enabled
ELD-029	29	km/h	1	Speed	High	Enabled
ELD-030	30	km/h	1	Speed	High	Enabled
ELD-031	31	km/h	1	Speed	High	Enabled
ELD-032	32	km/h	1	Speed	High	Enabled
ELD-033	33	km/h	1	Speed	High	Enabled
ELD-034	34	km/h	1	Speed	High	Enabled
ELD-035	35	km/h	1	Speed	High	Enabled
ELD-036	36	km/h	1	Speed	High	Enabled
ELD-037	37	km/h	1	Speed	High	Enabled
ELD-038	38	km/h	1	Speed	High	Enabled
ELD-039	39	km/h	1	Speed	High	Enabled
ELD-040	40	km/h	1	Speed	High	Enabled
ELD-041	41	km/h	1	Speed	High	Enabled
ELD-042	42	km/h	1	Speed	High	Enabled
ELD-043	43	km/h	1	Speed	High	Enabled
ELD-044	44	km/h	1	Speed	High	Enabled
ELD-045	45	km/h	1	Speed	High	Enabled
ELD-046	46	km/h	1	Speed	High	Enabled
ELD-047	47	km/h	1	Speed	High	Enabled
ELD-048	48	km/h	1	Speed	High	Enabled
ELD-049	49	km/h	1	Speed	High	Enabled
ELD-050	50	km/h	1	Speed	High	Enabled

Example of J1939 parameters

Supported parameter list

AVL ID	Parameter Name	Bytes	Type	Units	Description	Parameter Group
1176	ELD Mileage	4	Unsigned	km		ELD
36	Engine RPM	2	Unsigned	rpm		OBD
256	VIN	17	ASCII			OBD
1178	ELD Ignition	1	Unsigned			ELD
24	Speed	2	Unsigned	km/h		I/O
1202	ELD Ignition Switch Status	1	Unsigned		Indicates that the ignition (or "run") state of the operator key switch is active. <ul style="list-style-type: none"> • 00b = Ignition state is not active • 01b = Ignition state is active <ul style="list-style-type: none"> • 10b = Error • 11b = Not Available 	ELD
1177	ELD Engine hours	4	Unsigned	h	Total Engine hours	ELD
1180	ELD Total Fuel Used	4	Unsigned	l	Fuel consumed during all or part of a journey.	ELD
1181	ELD Engine Idle Hours	4	Unsigned	h	Accumulated time of operation of the engine while under idle conditions.	ELD
1182	ELD DTC Count	1	Unsigned		MIL-On, DTCs count	ELD
48	Fuel Level	1	Unsigned	%	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	ELD Fuel Level 2	1	Unsigned	%	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	ELD Battery Voltage	2	Unsigned	V	SLI battery terminal voltage	ELD
1185	ELD Total Idle Fuel Used	4	Unsigned	l	Accumulated amount of fuel used during vehicle operation while under idle conditions.	ELD

1186	ELD Trip Distance	4	Unsigned	m	Distance traveled during all or part of a journey.	ELD
1187	ELD Fuel Economy	4	Unsigned	km/L	Current fuel economy at current vehicle velocity.	ELD
1188	ELD Ambient Air Temperature	2	Signed	°C	Temperature of air surrounding vehicle.	ELD
1189	ELD Engine Load	2	Unsigned	%	Absolute Engine Load - Percent Air Mass is the normalized value of air mass per intake stroke displayed as a percent.	ELD
1190	ELD Engine Throttle	1	Unsigned	%	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	ELD Trip Fuel Used	4	Unsigned	l	Fuel consumed during all or part of a journey.	ELD
1191	ELD Oil Temperature	2	Unsigned	°C	Temperature of the engine lubricant.	ELD
1193	ELD Oil Pressure	2	Unsigned	kPa	Gage pressure of oil in engine lubrication system as provided by oil pump.	ELD
1194	ELD Seat Belt Status	1	Unsigned		State of switch used to determine if Seat Belt is buckled <ul style="list-style-type: none"> • 00b = NOT Buckled • 01b = OK - Seat Belt is buckled • 10b = Error - Switch state cannot be determined • 11b = Not Available 	ELD

1195	ELD Cruise Control State	1	Unsigned		Indicates the state of the PCC controller. <ul style="list-style-type: none"> • 0000b = Disabled • 0001b = Enabled • 0010b = Enabled, but not functional due to vehicle position not available • 0011b = Enabled, but not functional due to map position not available • 0100b = Enabled, but not functional due to road grade info not available • 0101b = Enabled, but not functional due to predicted path not available • 0110b = Enabled, but not functional due to vehicle speed below speed threshold • 0111b = Enabled, but not functional due to inhibited by driver • 1000b = Enabled, but not functional due to self test • 1001b to 1101b = SAE Reserved <ul style="list-style-type: none"> • 1110b = Error • 1111b = Not Available 	ELD
1196	ELD Throttle Pedal Position	1	Unsigned	%	Accelerator Pedal Position	ELD
1197	ELD Engine Coolant Level	1	Unsigned	%	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	ELD Engine Coolant Pressure	2	Unsigned	kPa	Gage pressure of liquid found in engine cooling system.	ELD
1199	ELD Transmission Oil Temperature	2	Signed	°C	Transmission Oil Temperature	ELD
1179	ELD Parking Brake Status	1	Unsigned		Switch signal which indicates when the parking brake is set. <ul style="list-style-type: none"> • 00b = Parking brake not set • 01b = Parking brake set <ul style="list-style-type: none"> • 10b = Error • 11b = Not available 	ELD
1200	ELD Brake Application Pressure	2	Unsigned	kPa	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	ELD Brake Pedal Position	1	Unsigned	%	Ratio of brake pedal position to maximum pedal position.	ELD

Downloads

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