

How to read ELD data with FM3001?



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Introduction

This document contains information required for developing an application for receiving Electronic Logging Devices data via Bluetooth® from [FM3001](#) series devices.

Acronyms and terms used in the document:

- BT - Bluetooth®
- ELD - Electronic Logging Devices

Configurable parameters

ELD functionality has 3 additional parameters: ELD data send period and ELD VIN.

Parameter ID	Parameter Type	Default Value	Value Range		Value	Parameter Name
			Min	Max		
40000	UInt8	1	0	2	0 - Disable 1 - OBD 2 - ELD	OBD Feature
40002	UInt16	10	2	65535	Seconds	ELD data send period
40003	String	""	17	17	Characteres	ELD VIN

ELD VIN number has to be exactly 17-character long, contain uppercase letters and do not include letters I(i), O(o) and Q(q) (to avoid confusion with numerals 1 and 0).

ELD APP workflow

ELD functionality start to send data periodically via BT right after external BT device has been connected if OBD Feature (parameter ID 40000) is set to ELD (option 2). ELD data sending is paused if Configurator is connected. ELD data is resumed after configurator disconnects. ELD data sending resumes automatically when external BT device reconnects after connection loss.

ELD data packet structure

ELD data packets have JSON structure as shown below:

```
{
"dashboard_mileage": "919483",
"obd_rpm": "0",
"obd_vin": "4V4NC9EH4FN187825",
"ignition": "0",
```

```
"loc": "-10310092,3517679",
"obd_speed": "4",
"engine_hours": "0",
"time": "1518588000",
"can_data": "0".
}
Braces "{" and "}" marks packet start and end.
```

Parameters definitions

Parameter name	Parameter definition
dashboard_mileage	Units in km, vehicle Total Distance PCN 65217 SPN 917
obd_rpm	Vehicle RPM PCN 61444 SPN 1906217 SPN 917
obd_vin	Vehicle VIN PCN 65260 SPN 237
ignition	Ignition state according to RPM, possible values: 0 - RPM=0 or 1- RPM>0
loc	Current coordinates (longitude and latitude), example value "-10310092,3517679", actual position is lon=-103.10092, lat=35.17679
obd_speed	Units in km/h, wheel based speed PCN 65265 SPN 34
engine_hours	Total Engine hours PCN 65253 SPN 247
time	A point in time, defined as the number of seconds that have elapsed since 00:00:00 Coordinated Universal Time (UTC), Thursday, 1 January 1970. Current timestamp used in FM3001 record saving.
Can_data	Shows whether CAN data is being read. 0 - CAN data is not being read, 1 - CAN data is being read.

 Can_data parameter has been added from firmware version 03.18.00.

Ignition is set depending on RPM value received from TLT chip:

- ignition is set to 1 if RPM is more than 0 and is set to 0 if RPM is equal to 0.

RPM and Speed are also saved to Engine RPM and Vehicle Speed OBD IO elements.