OBDBox

Light Vehicle Telematics / Fleet Tracking Solution

Information Sheet

FTP TECHNOLOGIES

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Created by	**Acea Quigg**
Approved by	**Acea Quigg**

Version History

Date	Version	Author	Description of Change
27/10/2017	**1.0**	**Acea Quigg**	**OBDBox v1.0**
24/05/2018	**2.0**	**Acea Quigg**	**OBDBox v2.0**

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Real-time Vehicle Telemetry & Location

The OBDBox provides the ability to read vehicle telemetry data through the On Board Diagnostic Port II (OBDII) of almost all light and commercial vehicles. The unit also contains an LTE modem and GPS to provide real-time telemetry and tracking through FTP Technologies' IMS platform.

Vehicle and OBD Data

Interface the OBDBox with the vehicle's OBD port to read data from the ECU, such as:

- Vehicle Speed (km/h)
- Engine RPM
- Engine Coolant Temperature (C)
- Throttle Pedal Position (%)
- Engine Load (%)
- Fuel Rail Pressure (kPa)
- Engine Fuel Rate (L/h)
- O2 Sensor Voltage (V)
- Fuel Tank Level (%)
- Vehicle Battery Voltage (V)
- GPS Location (Lat, Lon)
- Intake Air Temperature (C)
- Timing Advance (deg.)
- Narrow Band Air/Fuel Ratio
- Engine Oil Temperature (C)
- Commanded AFR

NOTE: Not all data is available on all vehicles

Driver Behaviour Monitoring

- Rough Braking
- Harsh Driving
- No Warm Up
- Long Idle
- Fatigued Driving
- Rough Terrain
- High RPM
- Over Speed

Crash detection is also possible!

Mounting Options

The small form factor of the OBDBox allows it to be installed directly into the vehicles OBD port without any special harnesses or wiring. Extension cables and Y cables are available to allow the user to move the OBDBox to a more suitable location if needed.

Applications

- Fleet Management
- Insurance and Rental
- Driver Behaviour Monitoring
- Mileage Tracking
- Vehicle Tracking
- Safety and Security
- Driver Profiling
- Vehicle Profiling

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Support for Integrators

IMS allows for 3rd party applications to integrate OBDBox data through the IMS Application Programing Interface (API). Any data that the OBDBox transmits is available through the IMS platform.

Pricing

Units:	**OBDBox v2**
1-20	$450
21-50	$425
51+	$400

Extras:	
OBDII double adapter, fits OEM port	$80 each
60cm OBDII extension cable	$40 each
2m OBDII extension cable	$80 each

Specialty cables are available on request, J1939 to OBDII for example. We have most conversion cables available, give us a call.

All prices exclude GST

Technical Specifications

Name:	OBDBox
Mounting:	OBD Port
Weight:	60g
Dimensions:	50mmx50mmx23mm + J1962 connector
Operational Temperature:	-30 – +80 degrees C
Input Voltage:	8 – 32v DC (32v DC max.)
Backup Battery:	LiPo 3.7v 180 mAh
Current Draw:	70mA hotspot off, 160mA hotspot on, 10mA sleep
Onboard Storage:	16MB, ~22000 records
WiFi:	802.11 b/g/n, AP only
WiFi Security:	WPA2
Antennas:	GPS – Internal, LTE – Internal, WiFi - Internal
SIM Card:	Micro
Indicator LEDs:	LTE, GPS, OBD, WiFi
GPS Type:	u-blox MAX-7C, ~3m accuracy
OBD Compatibility:	All OBD Protocols + J1939 + J1708/J1587

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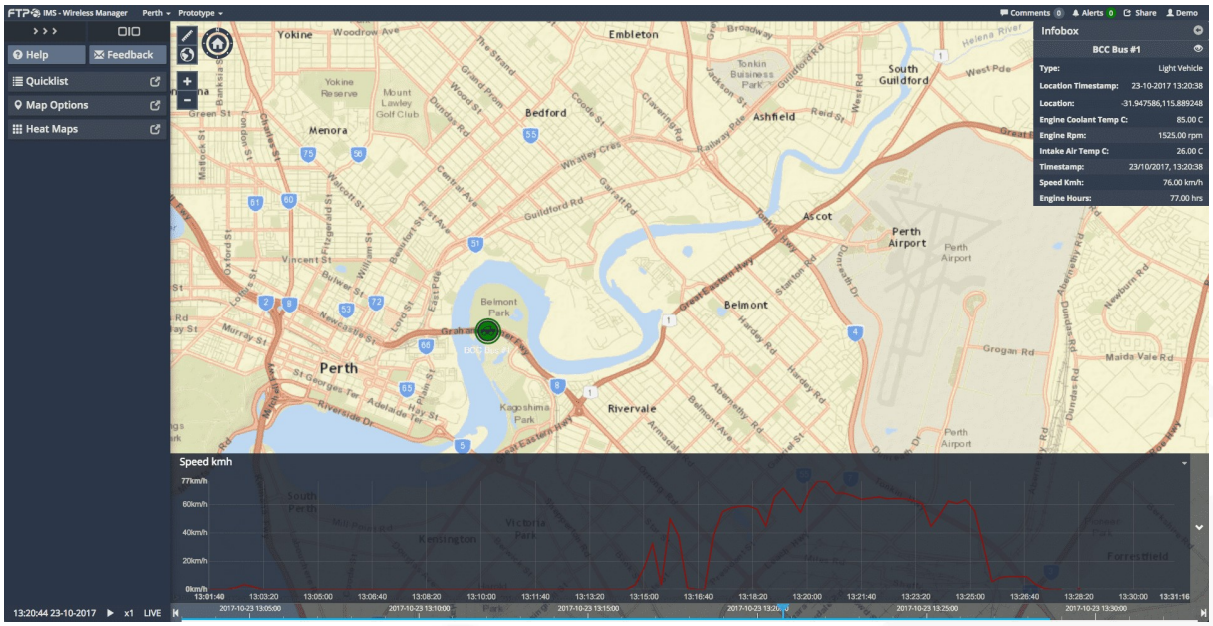
IMS Integration



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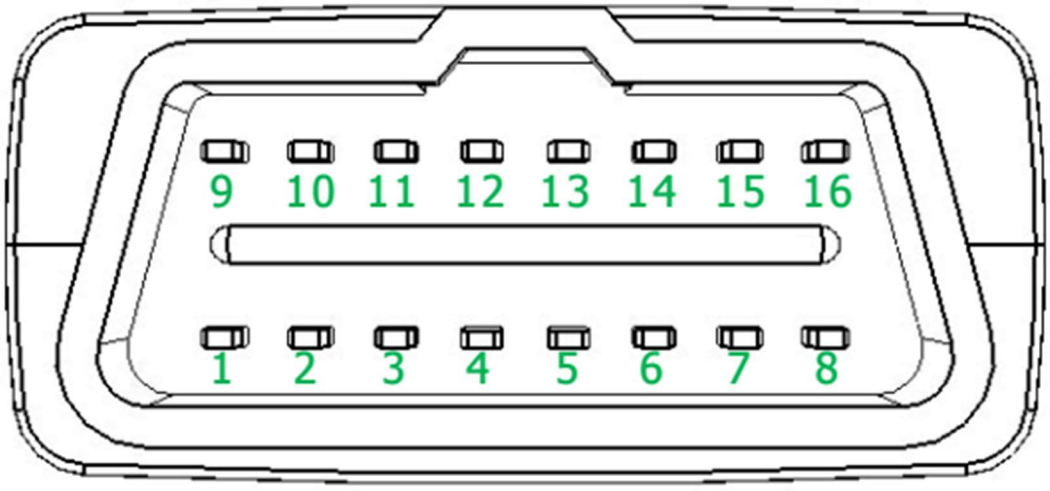
OBD Interface



Description of OBD II Connections:

PIN	Description	PIN	Description
1	Not connect	9	Not connect
2	Bus positive line of SAE J1850	10	Bus negative line of SAE J1850
3	Not connect	11	Not connect
4	Ground	12	Engine cut line(Optional)
5	Ground	13	Multi-functions input(Optional)
6	CAN_H line of ISO 15765-4	14	CAN_L line of ISO 15765-4
7	K line of ISO 9141-2 and ISO 14230-4	15	L line of ISO 9141-2 and ISO 14230-4
8	Not connect	16	External DC power input, 8-32V

OBDBox PID Compatibility

PID	No.	Description
01	01	Status since the last clearing of fault codes
02	02	Fault code that caused the recording of "freeze frame" data
03	03	Fuel system status
04	04	Engine load calculated in %
05	05	Temperature of the engine coolant in Â°C
06	06	Short-term fuel % trim bank 1
07	07	Long-term fuel % trim bank 1
08	08	Short-term fuel % trim bank 2
09	09	Long-term fuel % trim bank 2
0A	10	Fuel pressure in kPa
0B	11	Intake manifold absolute pressure in kPa
0C	12	Engine speed in rpm
0D	13	Vehicle speed in kph
0E	14	Timing advance on cylinder 1 in degrees
0F	15	Intake air temperature in Â°C
10	16	Air flow measured by the flowmeter in g/s
11	17	Throttle position in %
12	18	Status of the secondary intake circuit
13	19	O2 sensor positions bank/sensor
14	20	Oxygen sensor volts bank 1 sensor 1/td>
15	21	Oxygen sensor volts bank 1 sensor 2
16	22	Oxygen sensor volts bank 1 sensor 3
17	23	Oxygen sensor volts bank 1 sensor 4
18	24	Oxygen sensor volts bank 2 sensor 1
19	25	Oxygen sensor volts bank 2 sensor 2
1A	26	Oxygen sensor volts bank 2 sensor 3
1B	27	Oxygen sensor volts bank 2 sensor 4
1C	28	OBD computer specification
1D	29	O2 sensor positions bank/sensor
1E	30	Auxiliary input status
1F	31	Run time since engine start
20	32	List of PIDs supported (range 33 to 64)
21	33	Distance travelled with MIL on in kms
22	34	Relative fuel rail pressure in kPa
23	35	Fuel rail pressure in kPa
24	36	O2 sensor (extended range) bank 1, sensor 1 (lambda and volts)
25	37	O2 sensor (extended range) bank 1, sensor 2 (lambda and volts)
26	38	O2 sensor (extended range) bank 1, sensor 3 (lambda and volts)
27	39	O2 sensor (extended range) bank 1, sensor 4 (lambda and volts)
28	40	O2 sensor (extended range) bank 2, sensor 1 (lambda and volts)
29	41	O2 sensor (extended range) bank 2, sensor 2 (lambda and volts)
2A	42	O2 sensor (extended range) bank 2, sensor 3 (lambda and volts)
2B	43	O2 sensor (extended range) bank 2, sensor 4 (lambda and volts)
2C	44	EGR in %
2D	45	EGR error in %
2E	46	Evaporation purge in %
2F	47	Fuel level in %
30	48	Number of warning(s) since faults (DTC) were cleared
31	49	Distance since faults (DTC) were cleared.
32	50	Evaporation system vapour pressure in Pa
33	51	Barometic pressure in kPa
34	52	O2 sensor (extended range) bank 1, sensor 1 (lambda and volts)
35	53	O2 sensor (extended range) bank 1, sensor 2 (lambda and volts)
36	54	O2 sensor (extended range) bank 1, sensor 3 (lambda and volts)
37	55	O2 sensor (extended range) bank 1, sensor 4 (lambda and volts)
38	56	O2 sensor (extended range) bank 2, sensor 1 (lambda and volts)
39	57	O2 sensor (extended range) bank 2, sensor 2 (lambda and volts)
3A	58	O2 sensor (extended range) bank 2, sensor 3 (lambda and volts)
3B	59	O2 sensor (extended range) bank 2, sensor 4 (lambda and volts)
3C	60	Catalyst temperature in Â°C bank 1, sensor 1
3D	61	Catalyst temperature in Â°C bank 2, sensor 1
3E	62	Catalyst temperature in Â°C bank 1, sensor 2
3F	63	Catalyst temperature in Â°C bank 2, sensor 1
40	64	List of PIDs supported (range 65 to 96)
41	65	Monitor status this drive cycle
42	66	Control module voltage in V
43	67	Absolute engine load
44	68	Equivalent fuel/air mixture request
45	69	Relative throttle position in %

46	70	Ambient air temperature in Â°C
47	71	Absolute throttle position B in %
48	72	Absolute throttle position C in %
49	73	Accelerator pedal position D in %
4A	74	Accelerator pedal position E in %
4B	75	Accelerator pedal position F in %
4C	76	Commanded throttle actuator in %
4D	77	Engine run time since MIL on in min
4E	78	Engine run time since faults cleared in min
4F	79	Exteral test equipment no. 1 configuration information
50	80	Exteral test equipment no. 2 configuration information
51	81	Fuel type used by the vehicle
52	82	Ethanol fuel %
53	83	Absolute evaporation system vapour pressure in kPa
54	84	Evaporation system vapour pressure in Pa
55	85	Short-term O2 sensor trim bank 1 and 3
56	86	Long-term O2 sensor trim bank 1 and 3
57	87	Short-term O2 sensor trim bank 2 and 4
58	88	Long-term O2 sensor trim bank 2 and 4
59	89	Absolute fuel rail pressure in kPa
5A	90	Relative accelerator pedal position in %
5B	91	Battery unit remaining life (hybrid) in %
5C	92	Engine oil temperature in Â°C
5D	93	Fuel injection timing in Â°
5E	94	Fuel consumption in litre/hr
5F	95	Fuel consumption in litre/hr
60	96	List of PIDs supported (range 97 to 128)
61	97	Driver demand: torque percentage (%)
62	98	Final engine torque percentage (%)
63	99	Engine torque reference in Nm
64	100	Engine torque data in %
65	101	Auxiliary inputs / outputs
66	102	Flowmeter sensor
67	103	Engine water temperature in Â°C
68	104	Air temperature sensor in Â°C
69	105	Commanded EGR and EGR error
6A	106	Commanded Diesel intake air flow control and relative intake air flow position
6B	107	Recirculation gas temperature in Â°C
6C	108	Commanded throttle actuator control and relative throttle position
6D	109	Fuel pressure control system
6E	110	Injection pressure control system
6F	111	Turbocharger compressor inlet pressure in kPa
70	112	Boost pressure control in kPa
71	113	Variable Geometry turbo (VGT) control
72	114	Wastegate control
73	115	Exhaust pressure in kPa
74	116	Turbocharger RPM
75	117	Turbocharger A temperature in Â°C
76	118	Turbocharger B temperature in Â°C
77	119	Charge air cooler temperature in Â°C
78	120	Exhaust Gas temperature (EGT) Bank 1
79	121	Exhaust Gas temperature (EGT) Bank 2
7A	122	Diesel particulate filter (DPF) bank 1
7B	123	Diesel particulate filter (DPF) bank 2
7C	124	Diesel Particulate filter (DPF) temperature
7D	125	NOx NTE control area status
7E	126	PM NTE control area status
7F	127	Engine run time
80	128	List of PIDs supported (range 129 to 160)

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