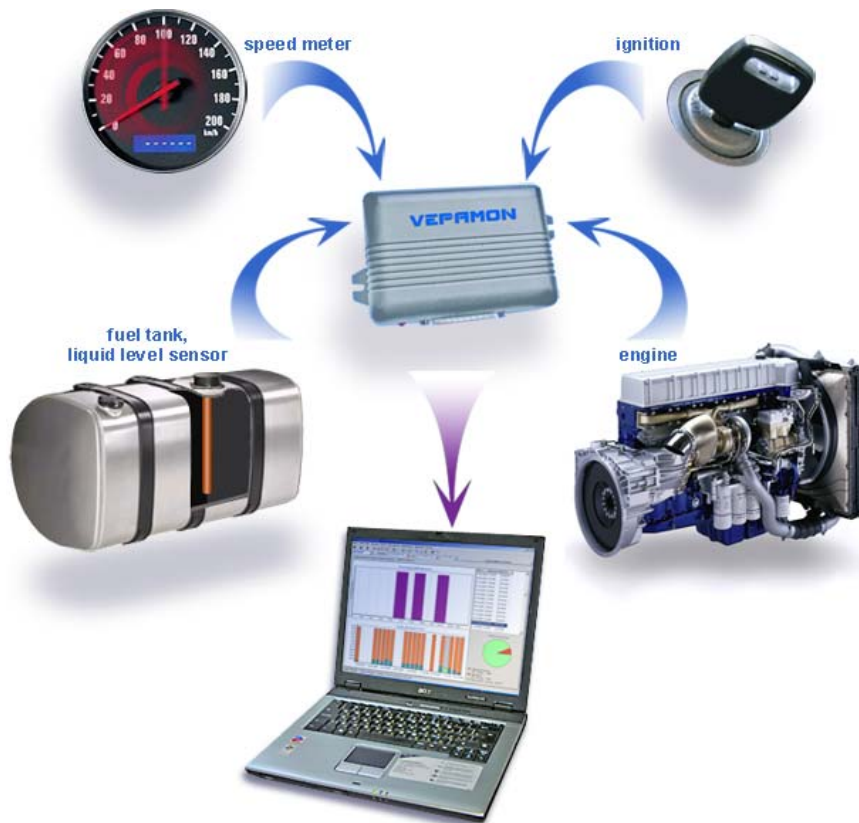


1. GENERAL

VEP- 01 Liquid Fuel Consumption Monitoring System is state of the art **OFF- LINE** intelligent electronic system, which provides with detailed information of fuel consumption, speed, route distance, motor hours, idle time and other key operation parameters of the truck, OTR, motor vehicle, coach, bus, tractor, construction, farming machines, diesel - generator, heavy equipment ,heaters, drilling rigs or other mobile or static objects, powered by internal combustion engines used liquid fuel like diesel oil, gasoline, kerosene.



General view
Picture № 1

2. SYSTEM OPERATION

VPM data logger records the data from LLS fuel level sensor, ignition key, speed sensor and other sources into the built-in 64 KB memory. The memory capacity is sufficient for storing information within at least 45-60 days (about 16000 records). When necessary, the **VPM data logger** could be easy dismantled from the place of installation and delivered to the office. In the office all the information may be read out by **DATA READER** and store in PC. **AutoCheck™** software process and stores information about the all vehicles, machines for the whole operation period. The user may get reports for any time interval:

Design and specification are each subject to change without notice. Ask factory for the current technical specification before purchase and/or use.

Should a safety concern arise regarding this product, please be sure to contact us immediately.

- Fuel consumption
- List of refuels and tank draining with indication of amount and time.
- Speed and route distance within period of time.
- Monograms of motor vehicle operation and many other features provided by software.

Fuel consumption

Time			
Start of period	12.11.2007 12:08:00		
Finish of period	30.11.2007 21:12:00		
Engine operation time	138 h. 46 min.		
Driving time	120 h. 40 min.		
Distance and speed			
Distance	8042,5 km		
Average speed	66,7 km/h		
Maximum speed	103 km/h		
Fuel oil			
Initial volume	191,4 L		
Final volume	373,3 L		
Minimum volume	13,6 L		
Maximum volume	471,0 L		
Refuels volume	2913,4 L		
Drainings volume	10,2 L		
Consumption	2721,2 L		
Consumption per 100 km.	33,8 L		
Consumption per motohour	19,6 L		
Consumption per 100 km. driving	32,4 L		
Mileage per 1 litre	2,96 km		

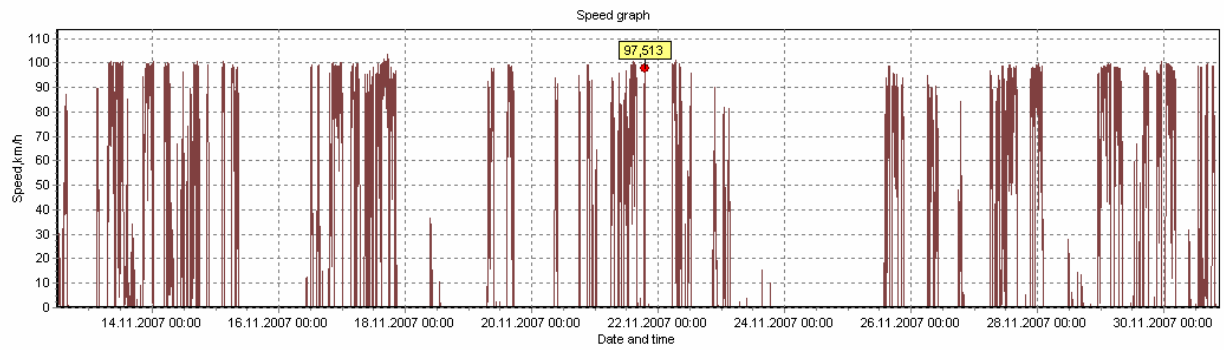
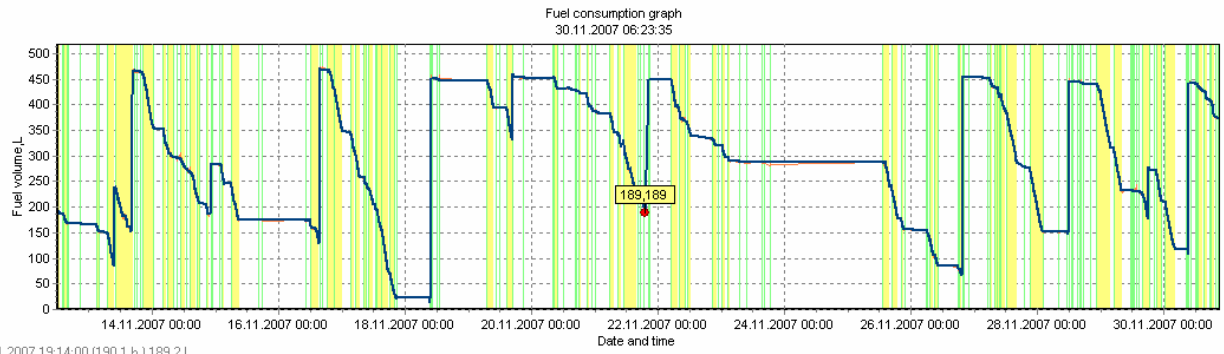
List of fuel refuels and draining with indication of VOLUME, DATE and TIME.

☐ Refuels and drainings			
Refuel/drain	Start	Finish	Volume
Refuel	13.11.2007 09:28:00	13.11.2007 09:48:00	155,5
Refuel	13.11.2007 16:25:00	13.11.2007 16:45:00	321,0
Refuel	14.11.2007 21:59:00	14.11.2007 22:15:00	99,8
Drain	16.11.2007 14:53:00	16.11.2007 15:03:00	10,2
Refuel	16.11.2007 15:21:00	16.11.2007 15:42:00	349,3
Refuel	18.11.2007 09:28:00	18.11.2007 09:54:00	446,5
Refuel	19.11.2007 16:43:01	19.11.2007 16:58:00	130,8
Refuel	21.11.2007 19:20:01	21.11.2007 20:41:59	270,3
Refuel	26.11.2007 19:22:01	26.11.2007 19:40:59	396,1
Refuel	28.11.2007 11:59:00	28.11.2007 12:16:00	303,0
Refuel	29.11.2007 18:10:00	29.11.2007 18:18:00	103,2
Refuel	30.11.2007 09:24:00	30.11.2007 09:47:00	338,0

FUEL CONSUMPTION - DATE/TIME/SPEED

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FUEL CONSUMPTION - MOTORHOURS



Views of motor vehicle operation

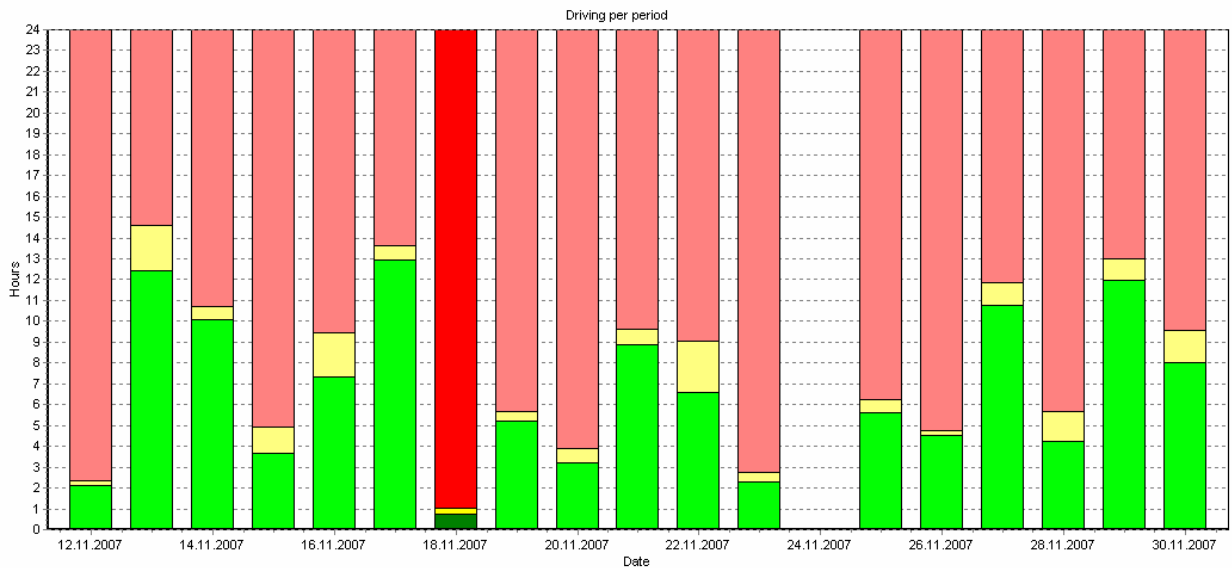
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EFFECIENCY QUICK LOOK

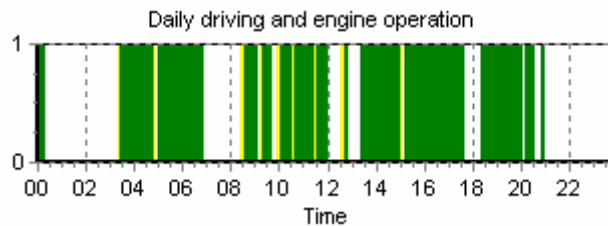
Drive 120 h. 40 min. - 27,4%
Idle 18 h. 04 min. - 4,1%
Stand time 302 h. 01 min. - 68,5%



DAILY OPREATION



DAILY DRIVING AND ENGINE OPERATION



3. MOTOR VEHICLE ELECTRICAL DIAGRAMM CONNECTION.

VEP-01 system components connect to key points of motor vehicle electrical equipment:

- Ignition;
- Alternator
- Speed sensor (tachograph);
- Main power supply.

All circuits and connection points are protected with fuses.

4. SYSTEM COMPONENTS

The set of **VEP-01 system** may be installed in any kind of motor vehicle or heavy equipment and includes the following components:

1. DATALOGGER VPM - 01 (Picture 2)

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Should a safety concern arise regarding this product, please be sure to contact us immediately.

2. **PLUG-AND-SOCKET (MOUNTING) PLATFORM (Picture 3)**
3. **LIQUID FUEL LEVEL SENSOR LLS (digital) (Picture 4)**
4. **DATA READER (Picture 5)**
5. **SENSOR CALIBRATION DEVICE (Picture 6)**

DATA LOGGER VPM-01



Picture 2

This device intends for vehicle parameters data collection. Connected to speed sensor, tachograph, power battery, ignition key and fuel level sensor through plug-and-socket platform.

The following main electronic components are inside:

- microprocessor, which converts all received data into digital format.
- built in memory, which store al data in digital format.
- real time clock, which ties the data to time scale.

The built-in lithium battery supply power to real time clock, when no supply from vehicle regular battery.

Specification:

- | | |
|--|------------------|
| 1.1. Operation temperature interval, C | – 40 °C ...85 °C |
| 1.2. Rated supply voltage, V (DC) | 9 to 30 |

PLUG-AND-SOCKET PLATFORM (MOUNTING PLATFORM)

This device provides DATA LOGGER VPM connection to electrical diagramm of the monitored equipment.

The PLUG-AND-SOCKET unit with cables set equipped with fuses (for short circuit protection) install on metal plate with REGISTRATION DEVICE fastening elements.

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Picture 3

**FUEL LEVEL SENSOR (digital)
LLS 700-232 (485), LLS1000-232 (485)**

LIQUID FUEL LEVEL SENSOR detects the fuel level in the fuel tank and sends signals in digital format from the to the **DATA LOGGER VPM** .



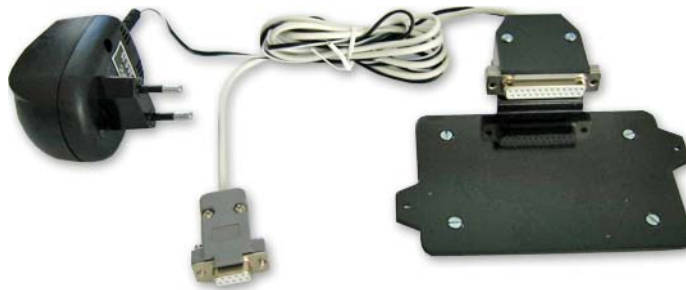
Picture 4

Specification.

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Operating power supply, V (DC) stabilized	9 - 14
Maximum operating current, mA not more	60
Operation temperature interval, °C	-40...+80
Mode of operation,	long period

DATA READER



Picture 5

DATA LOGGER VPM connects to computer via **DATA READER**, which composed from:

- Metal plate with fastening elements.
- Set of cables
- Power supply

SENSOR CALIBRATION DEVICE



Picture 6

SENSOR CALIBRATION DEVICE (Picture 6) provides adaptation adjustment of **DATA LOGGER VPM** for parameters of specific vehicle or machine.

Interface electronics components are mounted inside plastic enclosure; **DATA LOGGER VPM** and **LIQUID LEVEL SENSOR** connect via **SENSOR CALIBRATION DEVICE** to PC at the system installation, LLS sensor calibration period.

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