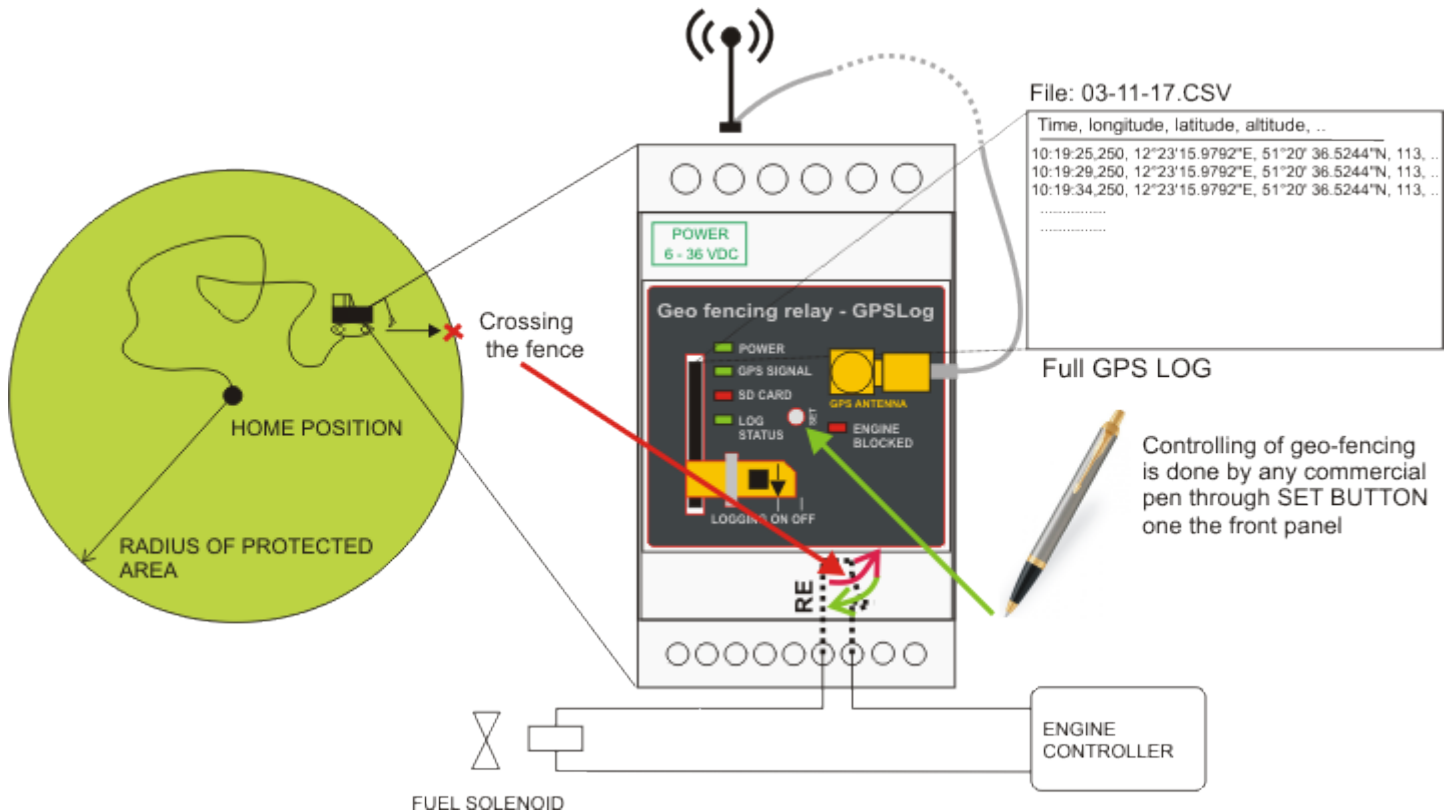


Geo fencing relay - GPSLog



Geo fencing relay - GPSLog

The Geo fencing relay – GPSLog is industrial FAT32 GPS data logger with smart relay providing geo fencing feature of blocking and unblocking the engine for various equipment. Developed to be compatible with VW 80 000 standard represents very robust solution especially suitable for using in industrial sectors.



Features:

- Smart relay behavior causing to unblock and block the engine depending of the equipment location
- Whole life history of your application movement through logged gps coordinates easily importable to google maps
- FAT32 SD card format provides folders, files data structure immediately visible in any PC OS (Windows, Linux, ..) or mobile phone (Android, iOS) with common micro USB cabel
- No other HW tool for device setting, after connection with cabel the device acts as the external hard drive (mass storage device), configuration file is edited on the disk
- Robust automotive design - developed to be compatible with VW 80 000, VW 801 01 standards
- New FW automatic re-flashing function
- Fake stickers available – covering the real functionality of the device

Applications:

- protecting of gen-sets, pumps, machinery on construction sites, etc. ...
- marine applications

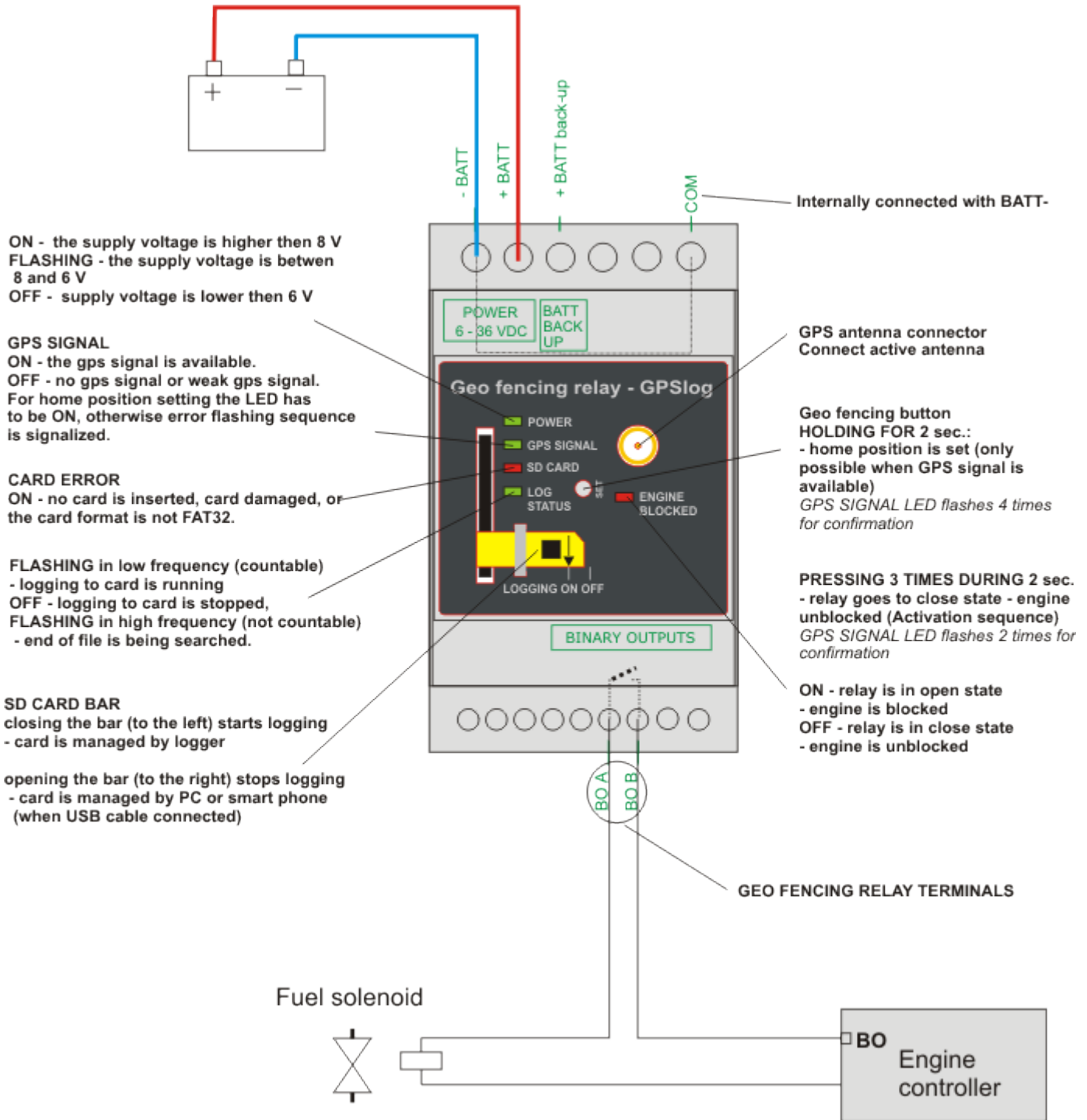
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Document revisions:

Date	Comment
4/5/17	First release

Product description – wiring diagram:

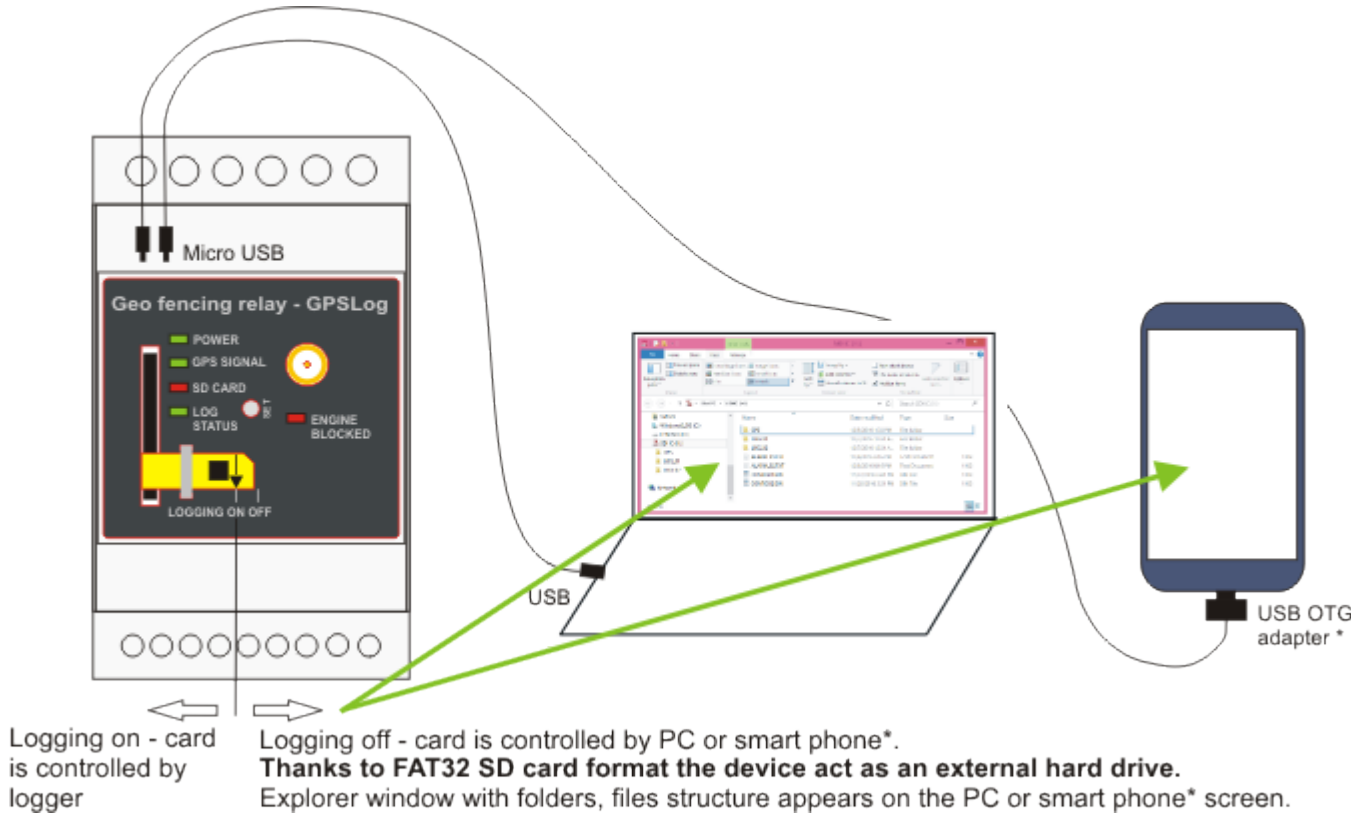


Basic functionality – data management:

As the file system on the card is FAT32, depending of the position of card bar, the card is controlled either with:

- PC or smart phone (logging off, bar on the right side)
- with the logger (logging on, bar on the left side)

When none USB cable is available, the card can be removed and read directly in any laptop, PC, or smart phone.



Note: For USB connection any conventional micro USB (mobile phone cable) cable can be used.

**Some older version of smart phones doesn't have to support USB OTG functionality (external flash memory as the external disk). Check your phone documentation for support of USB OTG.*

Setting of the device:

No external transducer is necessary for device configuration. User edits configuration file directly on the SD card with the free LogConfig PC SW or mLogConfig (for the smart phones).

When the card bar is in OFF position and the USB cable is connected:

- Create configuration file (CONFIG.BIN) in the LogConfig PC, mLogConfig software
- Re-write configuration file (CONFIG.BIN) in the root directory of the SD card with your file

After switching the card bar to ON position, the configuration file is read by logger and the setting is updated.

Editing configuration file with Log Config or mLog Config SW:

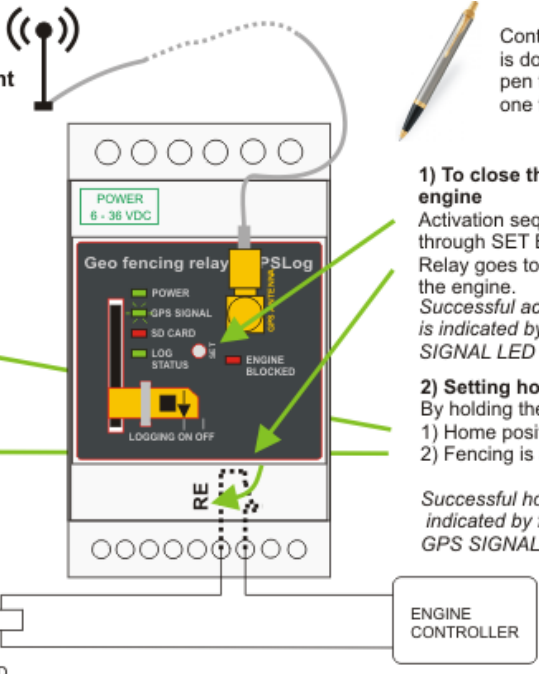
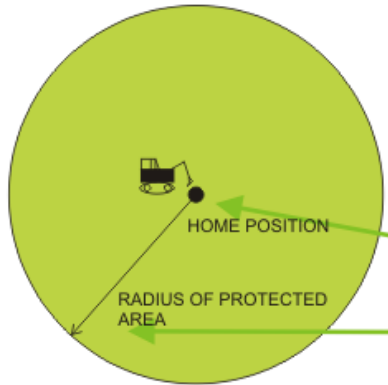
List of adjustable parameters in configuration file:

Parameter on the tab general:	Description
Security level:	<ul style="list-style-type: none"> high - phone or PC must be used to unblock the engine low - relay can be closed by pen (default value)
Pin:	4 digits number for unblocking the engine (only used if high security level is set)
Automatic time synchronization on GPS time:	System time is synchronized once per day according to GPS time (only when GPS time is available). <ul style="list-style-type: none"> enabled (default value) disabled
Time zone:	Time zone for system time. User should set it based on the current location. <ul style="list-style-type: none"> GMT +- 12 (default value = GMT + 1)
Automatic switch to summer time:	<ul style="list-style-type: none"> enabled disabled (default value)
New file creation frequency:	<ul style="list-style-type: none"> new file each day (default value) new file each week new file each month
Logging period of GPS data:	Logging period to gps files. <ul style="list-style-type: none"> 1 – 360 s (default value = 5 s) 0 – logging disabled
Geo fencing area radius:	Radius of protected area. <ul style="list-style-type: none"> 0 – 10 000 m (default value = 100 m) 0 – geo fencing disabled
Fence timer:	Minimum time before alarm announcing when alarm situation occurs. <ul style="list-style-type: none"> 0 – 360 s (default value = 10 s)

Pridat obrázky z Log Config a mLog Config

Geo fencing:

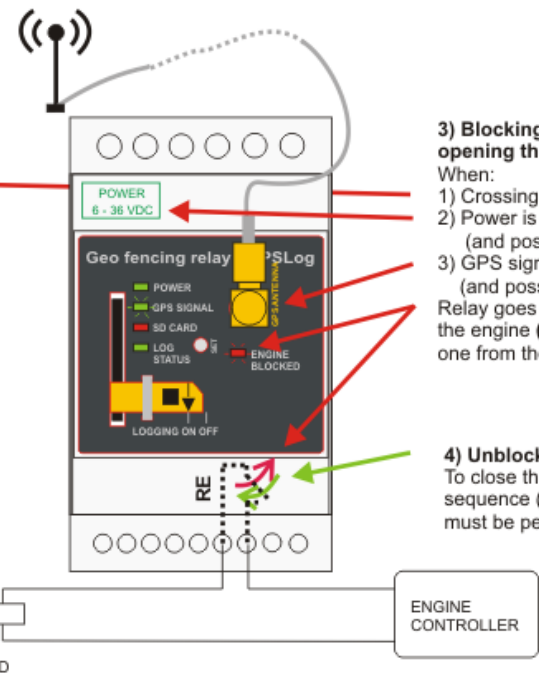
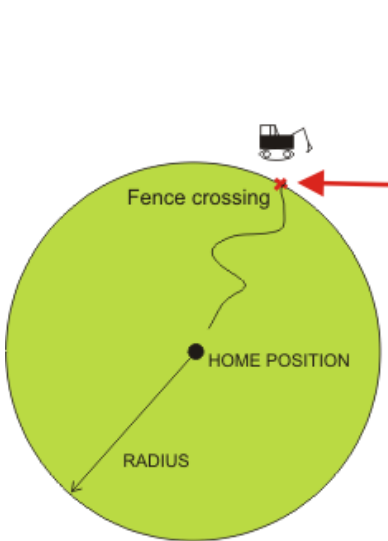
Controlling of geo-fencing with pen - Basic security level
- used for frequently moved equipment



Controlling of geo-fencing is done by any commercial pen through SET BUTTON one the front panel

- 1) To close the relay - unblock the engine**
Activation sequence* must be performed through SET BUTTON
Relay goes to close state unblocking the engine.
Successful activation sequence is indicated by flashing the GPS SIGNAL LED 2 times.
- 2) Setting home position**
By holding the SET button for 2 sec.:
1) Home position is set
2) Fencing is activated

Successful home position setting is indicated by flashing the GPS SIGNAL LED 4 times.



- 3) Blocking of the engine - opening the relay**
When:
1) Crossing of the fence occurs
2) Power is lost (and possibly renew again)
3) GPS signal is lost (and possibly found again)
Relay goes to open state - blocking the engine (**and stay open**) if any one from the conditions above occurs.
- 4) Unlocking the engine**
To close the relay again activation sequence (same as the one above) must be performed

Controlling of geo-fencing - High security level

- Unlocking of engine is only possible with smart phone or PC after typing correct password



Setting the geo-fencing parametrs:

Setting is done through configuration file, see adjustable parameters on page 6.

Default parameters of geo fencing:

- geo fencing radius: 100 m
- delay of alarm situation: 10 s

GPS logger:

The device is assembled with high sensitivity U-blox GPS chip, which provides excellent signal strength. Best performance can be achieved with usage of active antenna.

Recommended antennas:

Data logged:

- date
- time (HH:MM:SS.SSS)
- longitude (DMS)
- latitude (DMS)
- altitude [m]
- course
- speed [km/h]
- satellites used
- distance from home position [m]

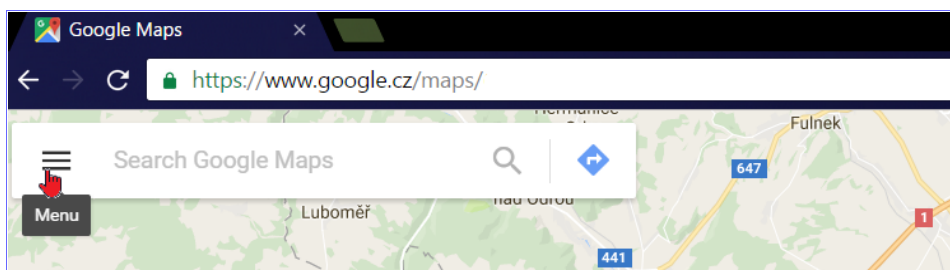
GPS data history log:

The logger is creating complete history of movement for the user application. Data in DMS format are logged in GPS folder to *.CSV files and can be imported directly to maps.google.com – providing complete history of the application movement.

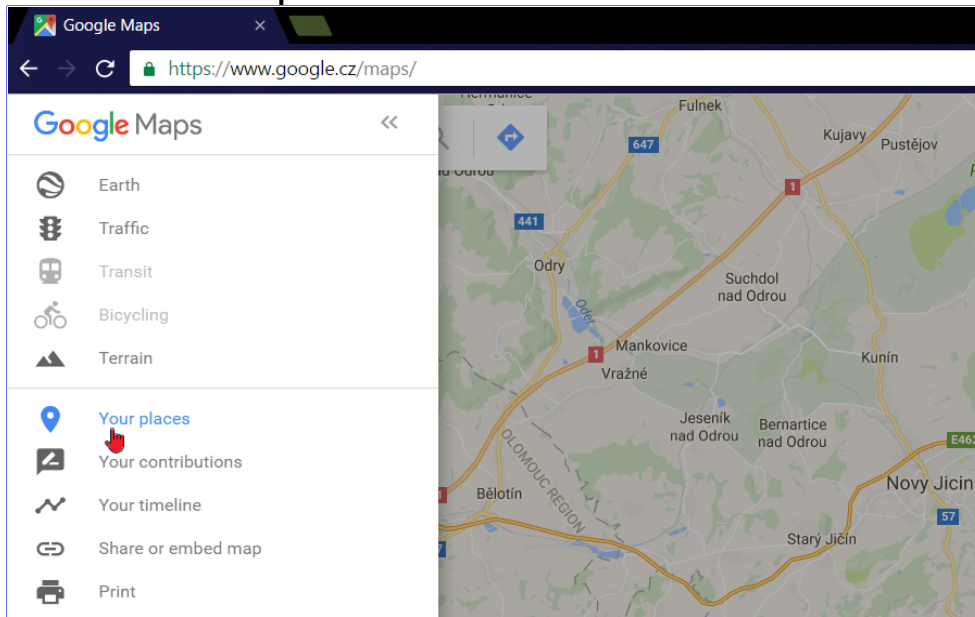
Offline gps tracking in the maps.google.com:

You must create (unless you have one) google.com account for possibility of using following google maps functions:

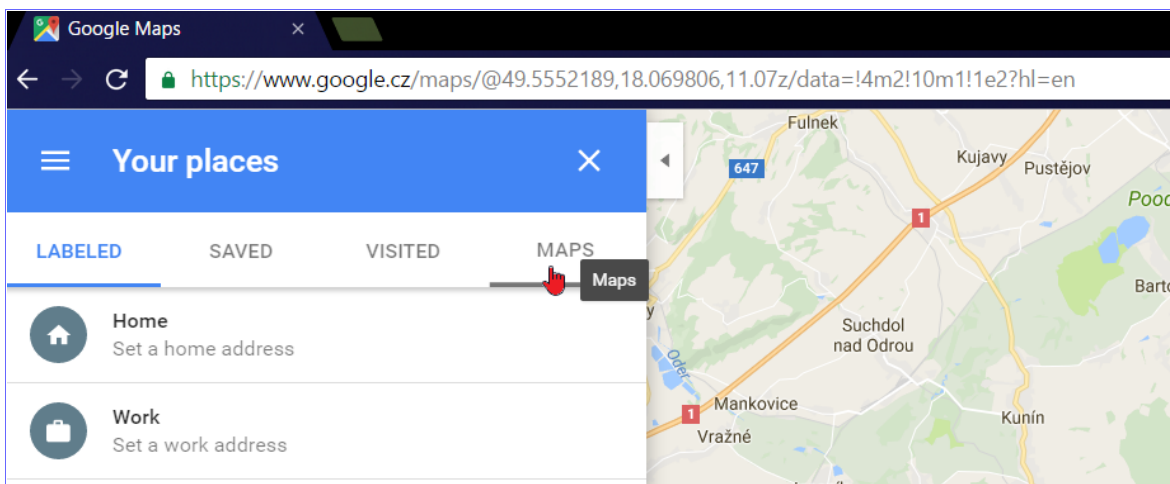
1. Open maps.google.com and choose Menu:



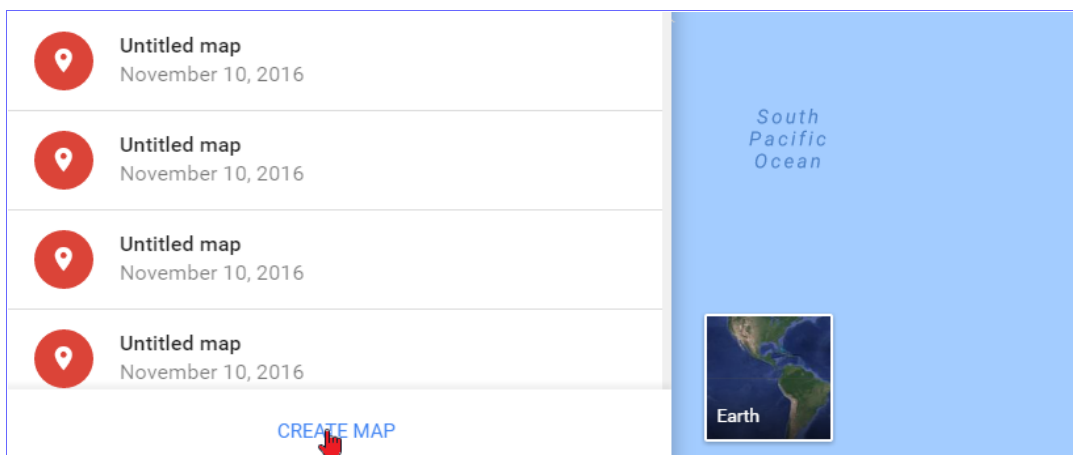
2. Then choose Your places:



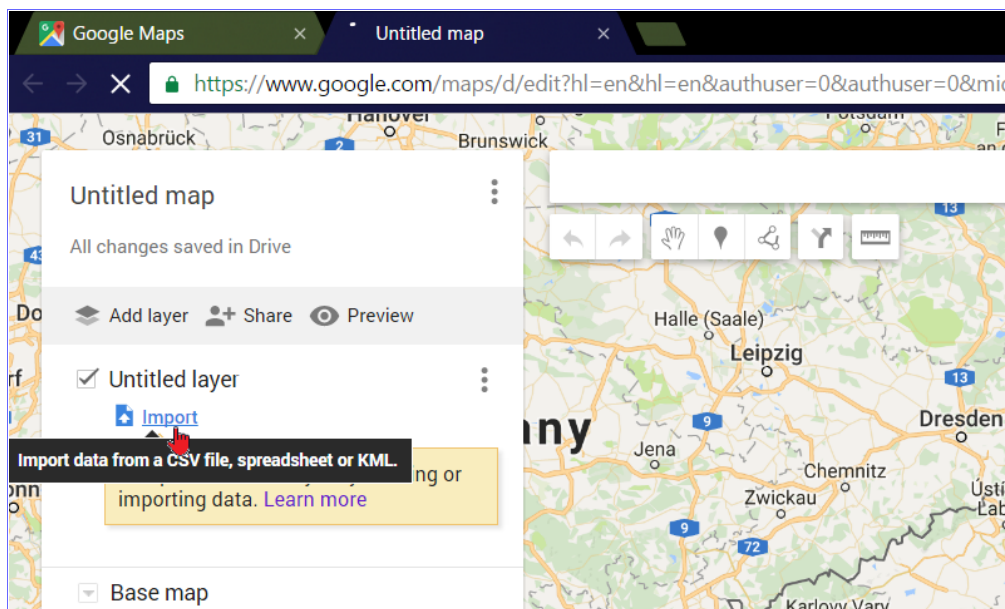
3. Choose Maps:



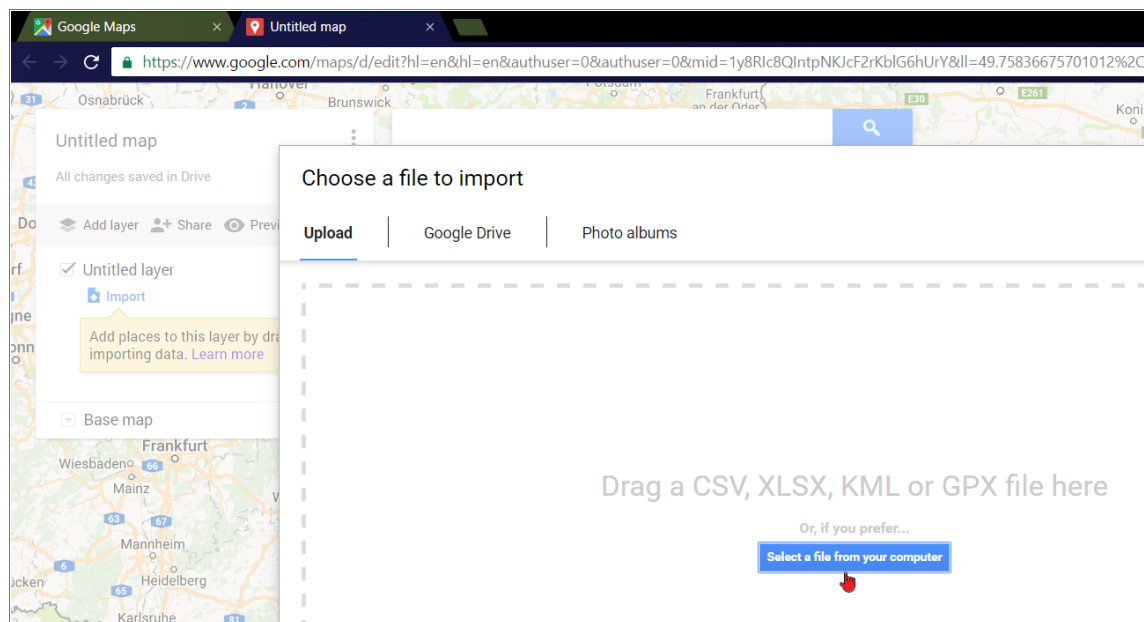
4. Create new map:



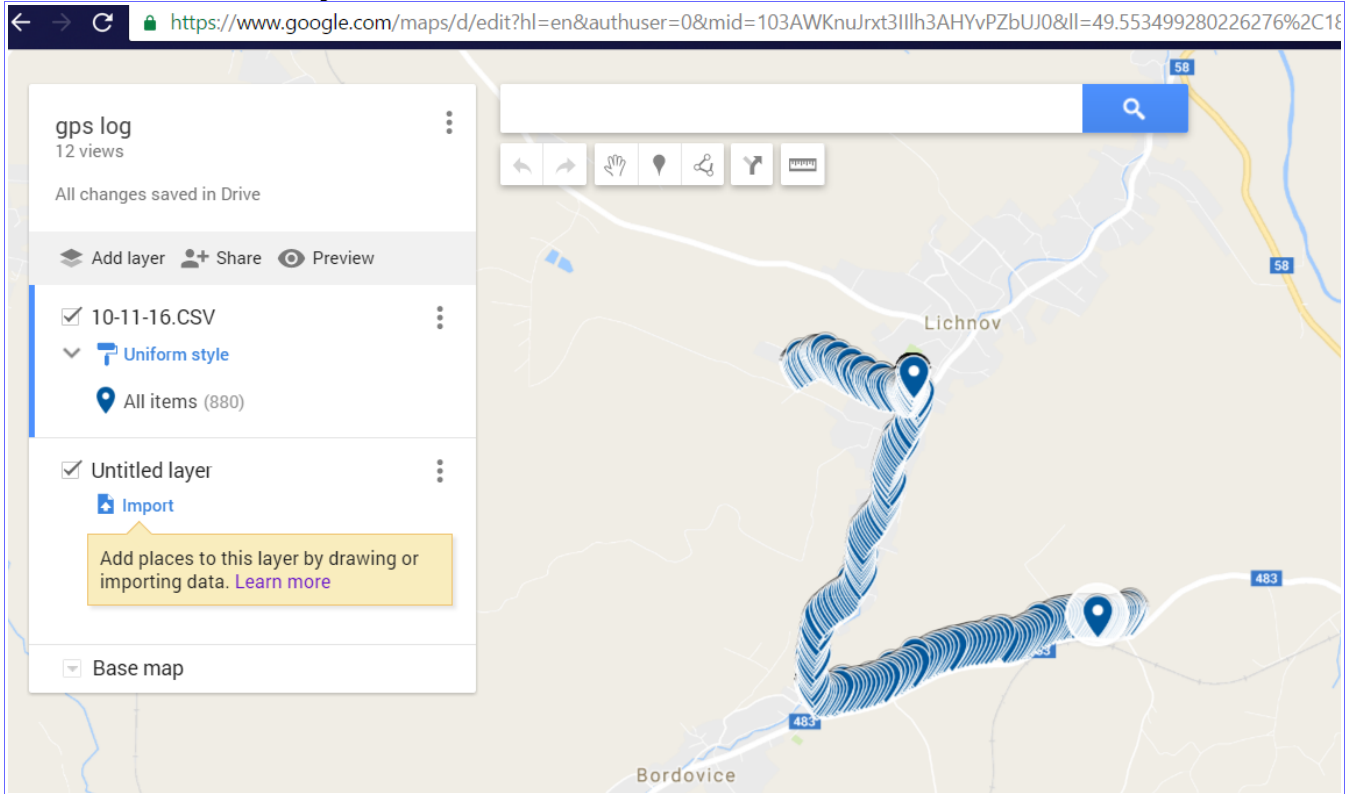
5. Import data from CSV file:



6. Drag and drop or choose the *.CSV file from the card:



7. Trace the history of movement:

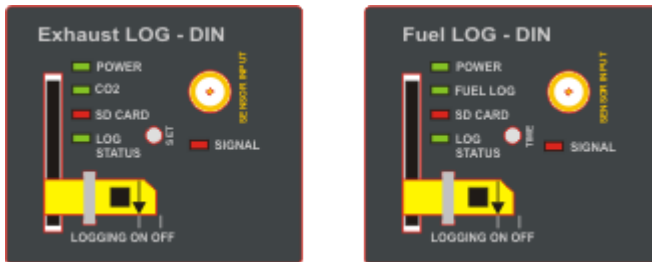


New FW automatic re-flashing:

Once the device FW find on the root directory of the SD card new version of FW, with correct file name, it automatically re-flash itself. Flashing of the new FW version is indicated of synchronized flashing of all LEDs with ½ second time interval. It takes approximately 25 seconds.

Fake stickers:

Different versions available – enabling to cover real functionality of the product.

**Technical data:**

Nominal power supply: 12, 24 VDC

Power supply range: 6 – 36 VDC (voltage under 8 V is indicated by flashing of power LED)

Power consumption: 350 mA for 12 VDC, 250 mA for 24 VDC

Temperature range: - 40 – 85 °C

Maximal relay current: 10 A

Dimensions: 90 x 52,5 x 65 mm

Weight: 660 g

Protection level: IP65