

b.Alert manual



1. INTRODUCTION

Thank you for purchasing a b.Alert system.

You now possess a superior unit not only to trace your fleet, but especially a system that will protect your trailers and your goods in the trailers against theft, protect against fuel theft, follow the tires, This manual explains the installation possibilities and the usage of the b.Alert products and services.

The communication with the units goes through a website. This manual explains the functionality of the site and the units. We aimed at creating a site that is as user friendly and as self explaining as possible.

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3. FUNCTIONALITIES AND CHARACTERISTICS

3.1. B.ALERT CONNECT

- Tracking of trailers, vehicles and assets
 - Driving position every 2, 5 or 15 minutes (dependant on settings by producer)
 - Driving detected for speeds higher than 25 km/h
 - Parking position after 10 or 15 minutes (dependant on settings by producer)
- Hot tracking, i.e. transmission of driving position every minute, on demand
- (human) activity detection based on vibration measurements.
- Absolute g-measurement (see 7)
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual

3.2. **B.ALERT BASIC**

- Tracking of trailers, vehicles and assets
 - position at a fixed rhythm: 1, 2, 4, 6, 12 times / day
- Hot tracking, i.e. transmission of driving position every minute, on demand
- Non rechargeable batteries.
 - The number of batteries and the transmission frequency determine the autonomy
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual

3.3. B.ALERT BASIC PLUS

- Tracking of trailers, vehicles and assets
 - first driving position of the day
- Parking position after 10 or 15 minutes (dependant on settings by producer)Hot tracking, i.e. transmission of driving position every minute, on demand
- Absolute g-measurement (see 7)
- Non rechargeable batteries
- The number of batteries and the number and length of displacements determine the autonomy
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual

3.4. B.ALERT MACHINE

- Tracking of machines + measurement of engine working time through vibration measurements
 - Parking position every hour with engine on
 - Parking position within 10 minutes after engine starts
 - Parking position within 5 minutes after engine stops
 - No driving position
 - Engine activity is measured for speed lower than 25 km/h
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual
- Automated engine working reports per mail

3.5. B.ALERT MACHINE PLUS

- Tracking of machines + measurement of engine working time through vibration measurements
 - Parking position every hour with engine on
 - Parking position within 10 minutes after engine starts
 - Parking position within 5 minutes after engine stops
 - No driving position
 - Engine activity is measured for speed lower than 25 km/h
- Detection of contact status 2 possible: Activity detection: within 5 sec, exclusive transmission time due to the network
- Setting of relay outputs: 4 outputs. Transmission to the unit of the setting at the 1st radio contact after the change
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual
- Automated engine working reports per mail

3.6. B.ALERT FUEL

- Protection against fuel theft on trucks, construction machines, agricultural machines and fuel tanks
- Determination of theft based on vibration detection
- Local alarm in 2 phases
- Silent alarm : User interface through web. For the different setup and functions see the relevant paragraphs in the manual
- –
- Deactivation through a button for the driver/operatr
- Silent alarm of “activity” during deactivation
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 1 to 2 hours when power cable has been cut

3.7. B.ALERT FUEL V2

- Protection against fuel theft on trucks, construction machines, agricultural machines and fuel tanks
- Determination of theft based on vibration detection
- 1 main unit and maximum 6 sensors for fuel tanks and other parts to protect
- Local alarm in 2 phases
- Silent alarm : User interface through web. For the different setup and functions see the relevant paragraphs in the manual
- –
- Deactivation through a button for the driver/operatr
- Silent alarm of “activity” during deactivation
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 1 hour when power cable has been cut

3.8. B.ALERT TPMS

- Tracking of trailers, vehicles and assets
 - Driving position every 30 minutes. Driving detected for speeds higher than 25 km/h
 - Parking position after 10 or 15 minutes (dependant on settings by producer)
- Hot tracking, i.e. transmission of driving position every minute, on demand
- (human) activity detection based on vibration measurements.
- Absolute g-measurement (see 7)
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual
- \$TPMS settings

3.9. B.ALERT CONNECT PLUS 2/4\$

- Tracking of trailers, vehicles and assets
 - Driving position every 2, 5 or 15 minutes (dependant on settings by producer)
 - Driving detected for speeds higher than 25 km/h
 - Parking position after 10 or 15 minutes (dependant on settings by producer)
- Detection of contact status 2 possible: Activity detection: within 5 sec, exclusive transmission time due to the network
- Setting of relay outputs: 4 outputs. Transmission to the unit of the setting at the 1st radio contact after the changeHot tracking, i.e. transmission of driving position every minute, on demand
- Absolute g-measurement (see 7)
- (human) activity detection based on vibration measurements.
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual

3.10. B.ALERT P/B

- Tracking of trailers, vehicles and assets
 - Driving position every 2, 5 or 15 minutes (dependant on settings by producer)
 - Driving detected for speeds higher than 25 km/h
 - Parking position after 10 or 15 minutes (dependant on settings by producer)
- Hot tracking, i.e. transmission of driving position every minute, on demand
- (human) activity detection based on vibration measurements.
- Absolute g-measurement (see 7)
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual
- Private driving through the use of SMS communication or button
- Report with percentage private and percentage professional driving.

3.11. B.ALERT ID

- Tracking of trailers, vehicles and assets
 - Driving position every 2, 5 or 15 minutes (dependant on settings by producer)
 - Driving detected for speeds higher than 25 km/h
 - Parking position after 10 or 15 minutes (dependant on settings by producer)
- Detection of contact status 2 possible: Activity detection: within 5 sec, exclusive transmission time due to the network
- Setting of relay outputs: 4 outputs. Transmission to the unit of the setting at the 1st radio contact after the changeHot tracking, i.e. transmission of driving position every minute, on demand
- Absolute g-measurement (see 7)
- (human) activity detection based on vibration measurements.
- Passive tag reading
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual

3.12. B.ALERT LOGISTICS

- Tracking of trailers, vehicles and assets
 - Driving position every 2, 5 or 15 minutes (dependant on settings by producer)
 - Driving detected for speeds higher than 25 km/h
 - Parking position after 10 or 15 minutes (dependant on settings by producer)
- Detection of contact status 2 possible: Activity detection: within 5 sec, exclusive transmission time due to the network
- Setting of relay outputs: 4 outputs. Transmission to the unit of the setting at the 1st radio contact after the changeHot tracking, i.e. transmission of driving position every minute, on demand
- Absolute g-measurement (see 7)
- (human) activity detection based on vibration measurements.
- Active tag reading
- Internal LiPo battery
 - Needs to be connected to a DC power source 10-30V
 - Autonomy 2 to 8 weeks depending on the activity detected and the transmission rates
- User interface through web. For the different setup and functions see the relevant paragraphs in the manual

4. USE OF BATTERIES

4.1. RECHARGEABLE BATTERIES

For the b.Alert units with a rechargeable battery, it is advised that the battery is always kept fully charged.

The unit has an internal trickle charging circuit to charge.

Never leave a unit with an uncharged battery for more than 2 weeks. If this happens, the capacity of the battery (hence the autonomy) can be reduced.

To keep the internal batteries always charged at full capacity, a charging time of 12 hours/week is needed. If this is not possible, please contact b.Alert for a solution.

4.2. REPLACEABLE BATTERIES

The batteries should be replaced when they are used. For this purpose the housing needs to be opened carefully, taking care that the water tightening elements are not touched.

Take care to put the batteries in the correct direction, as indicated in the battery holders.

When a unit is not used, the batteries should be removed.

Use only batteries delivered by b.Alert to get an optimal result.

Remark that Alkaline batteries are (very) sensitive to temperature. The use in low temperature environments will reduce the autonomy.

5. WEBSITE AND LOGIN

5.1. LOGIN

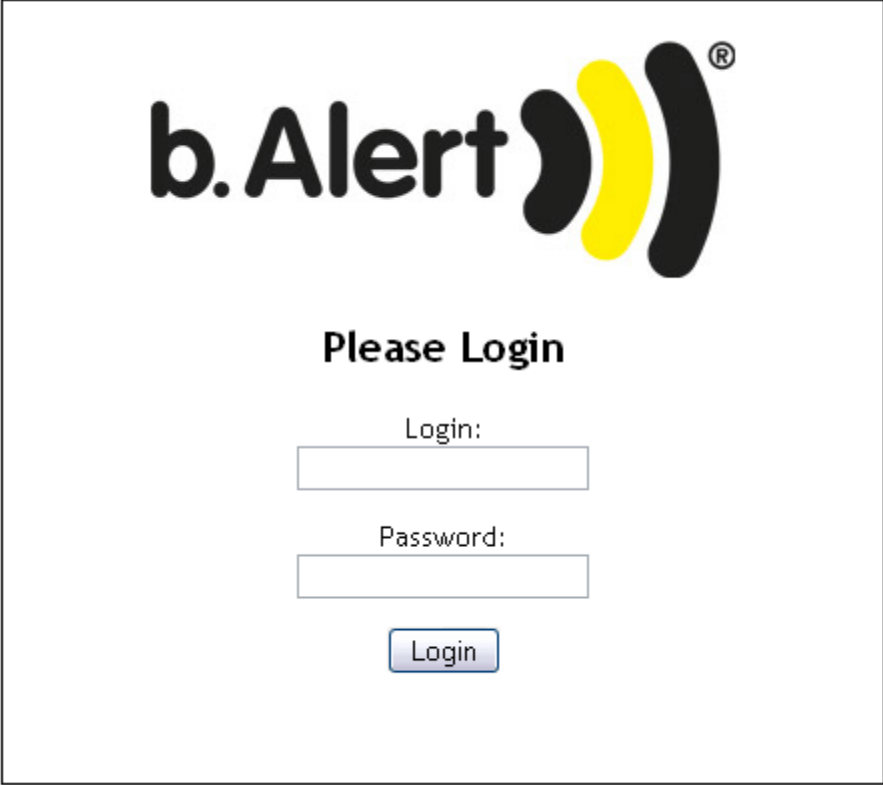
The information concerning the units and the setup can be found on a web site


<https://connect.balert.net>.

Every client gets a unique login. All units are connected to this login. A unit cannot be connected to more than 1 login.

It is however possible to login on the site with the same login from different terminals.

The login name and password are case sensitive.



b.Alert 

Please Login

Login:

Password:

Login

Figure 1 login screen

5.2. SCREEN LAY-OUT

Once logged in, one arrives at the mapping screen with a view of all active units.

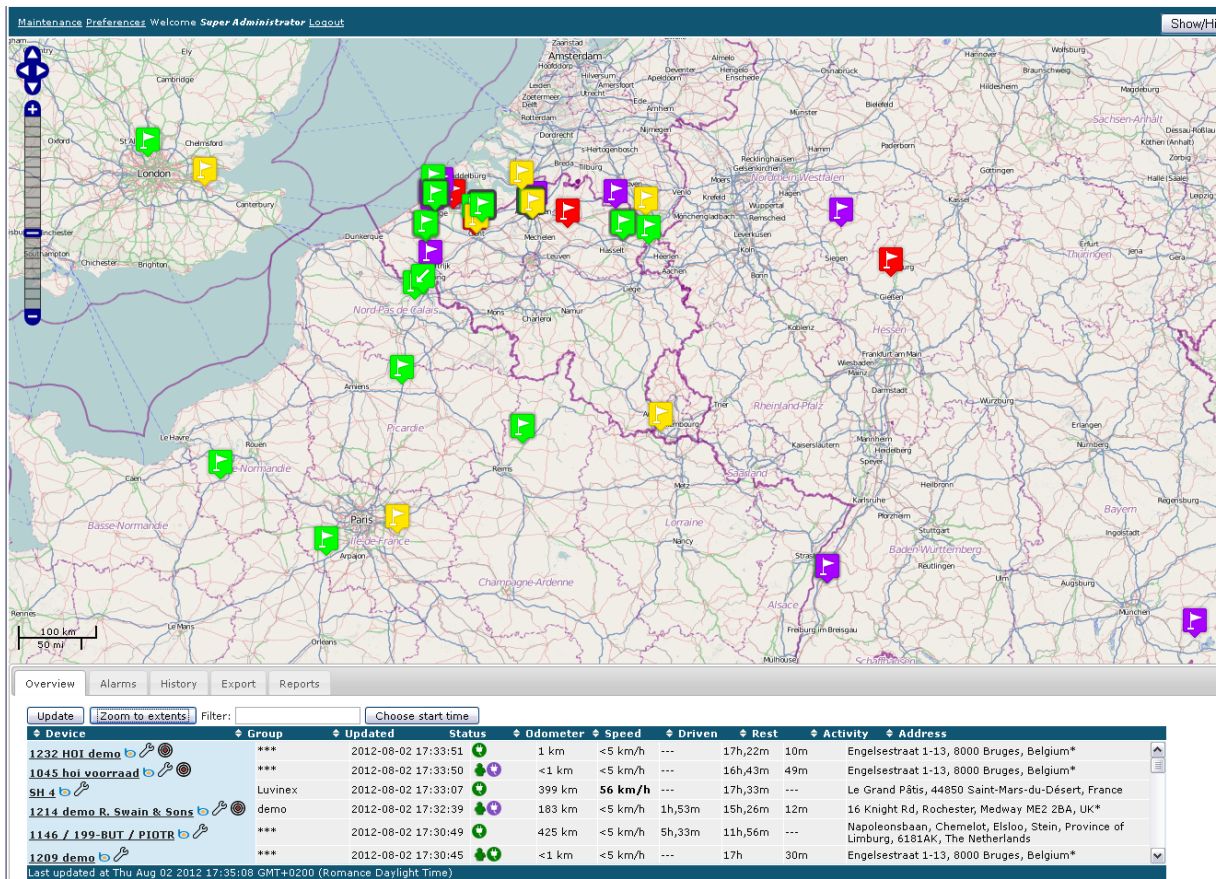


Figure 2 basic screen

This screen consists of 4 parts.

5.2.1. MAIN MENU



Figure 3 settings

Logout : leave the site.

Preferences give you a menu for setup as is explained in 5.8.

Maintenance gives you the possibility to plan the maintenance of the trailers in an efficient way. It is described in 5.7.

With the button Show/Hide Map it is possible to see a table and a map with the units or only the table.

5.2.2. MAP

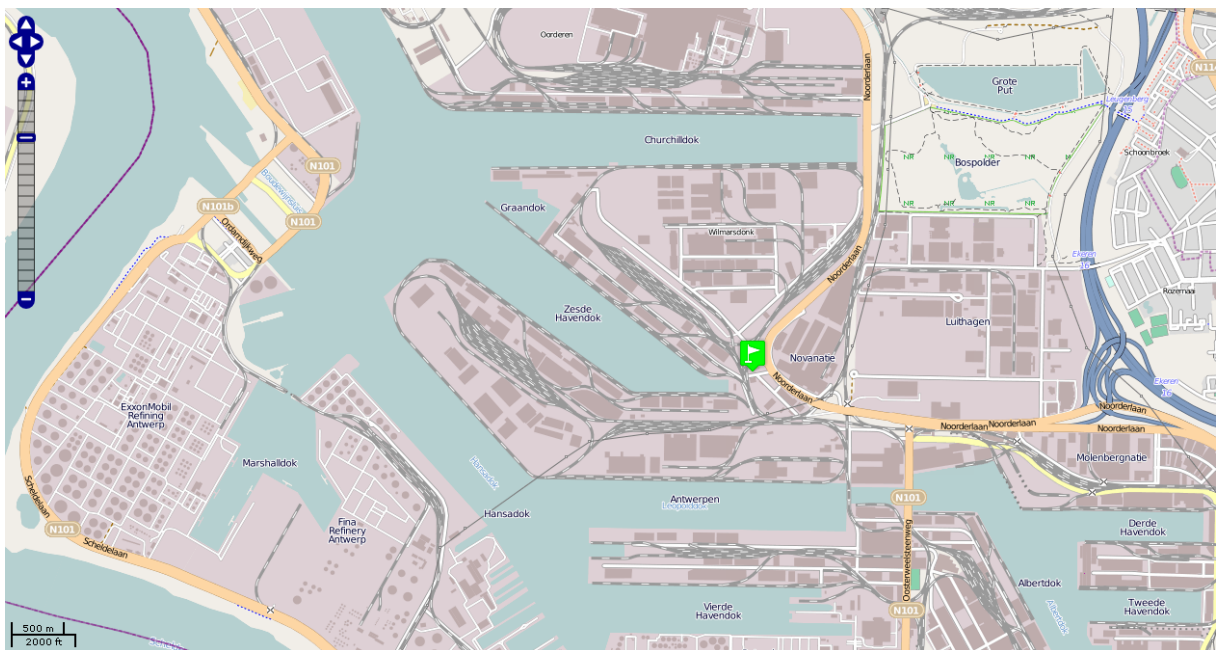
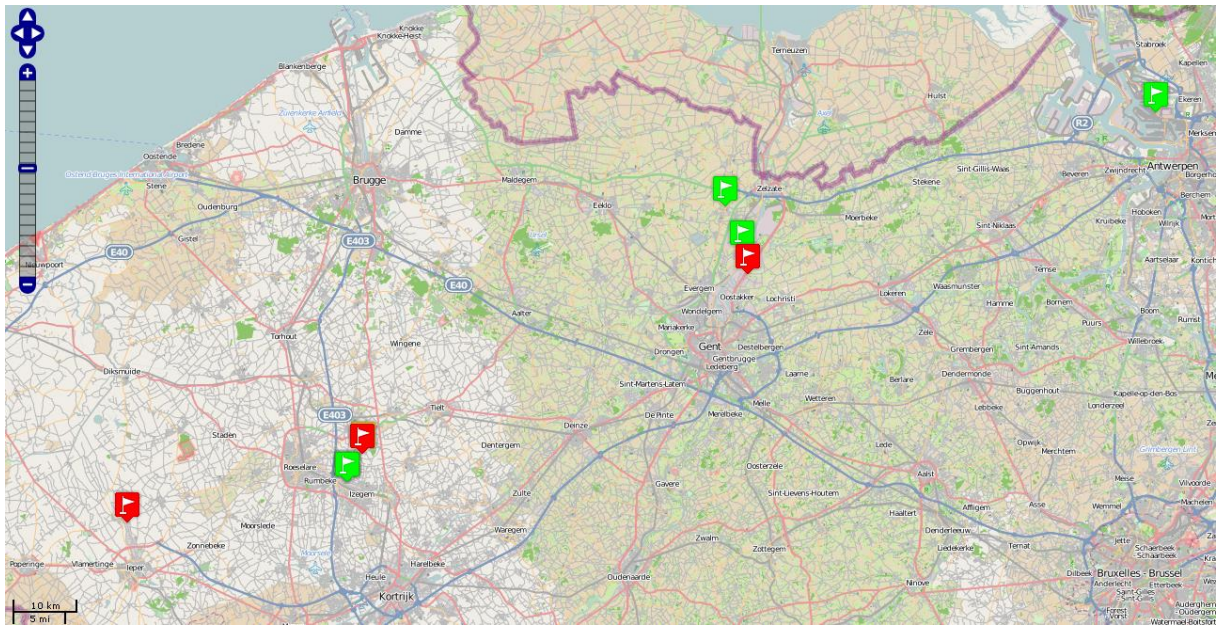


Figure 4 map

The map gives the position of the different units.

It is possible to zoom in details or move the map around. The flags give the positions of the trailers. The colors are explained further in the text and define the status of the trailers.

5.2.3. LISTS

Device	Group	Updated	Status	Odometer	Speed	Driven	Rest	Activity	Address
1045 hoi voorraad	***	2012-08-02 17:40:16		<1 km	<5 km/h	---	16h,43m	56m	Engelsestraat 1-13, 8000 Bruges, Belgium*
1218 Klaus Kienzle	demo	2012-08-02 17:40:04		<1 km	<5 km/h	---	17h,40m	---	*Haldestraße 10, 77933 Lahr, Germany*
SH 2	Luvinox	2012-08-02 17:39:54		599 km	<5 km/h	---	17h,35m	4m	Via Cuneo, Mondovì00ec, CN, PIE, Italy
1232 HDI demo	***	2012-08-02 17:38:47		1 km	<5 km/h	---	17h,26m	11m	Engelsestraat 1-13, 8000 Bruges, Belgium*
1214 demo R. Swain & Sons	demo	2012-08-02 17:37:25		183 km	<5 km/h	1h,53m	15h,26m	17m	16 Knight Rd, Rochester, Medway ME2 2BA, UK*
1146 / 199-BUT / PIOTR	***	2012-08-02 17:35:49		425 km	<5 km/h	5h,33m	12h,1m	---	Napoleonsbaan, Chemelot, Elsloo, Stein, Province of Limburg, 6181AK, The Netherlands*

Last updated at Thu Aug 02 2012 17:43:10 GMT+0200 (Romance Daylight Time)

Figure 5 lists

In the list, all active units are shown with the date of their last signal, their status, their speed and distance driven this day and current address.

By clicking on top of the column it is possible to sort the list according to that column ascending or descending.

The *update* button updates the status of all units, although this also happens automatically in a fixed time interval. This interval can be setup in the preferences.

With *zoom to extents*, it is possible to zoom the map in 1 moment to the extents where all units are.

The filter *filters* the list and the flags on the map so that only those with the letters typed in the field remain. The filter works on all fields in the table, not only the name or the group.

In the table some information is given about the past activities. "Choose the start time", gives you the possibility to change the begin point for the distance or the time or ...

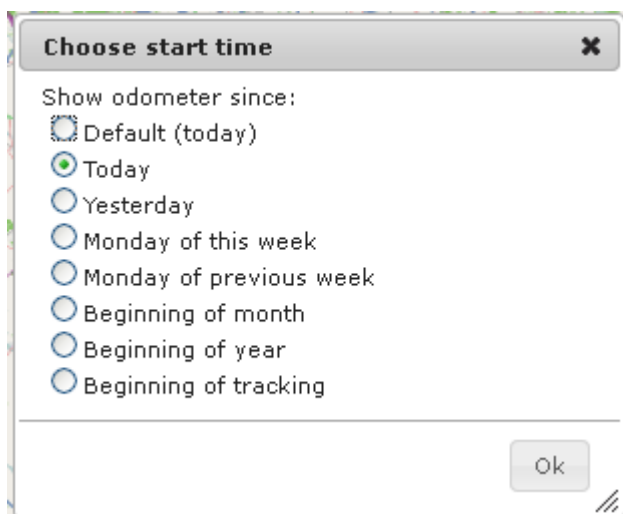


Figure 6 Choose start time

5.2.4. TABS

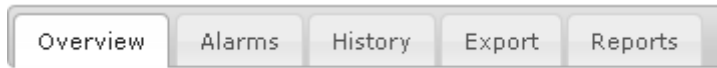










Figure 7 tabs

5.2.5. INDICATORS

Table 1 flag interpretation









allowed time/zone	 
allowed entry/unloading/loading	 
not allowed time/zone/event e.g. entry not allowed/break-in, outside safe zone	 
unit not powered, driving	
unit not powered, low speed driving OR unit low battery, stationary	

Flag = stationary or low speed

Arrow = moving with arrow indicating the direction

Speed has to be 30km/h for it to show as an arrow (GPS data below that speed is not reliable)

Table 2 icon interpretation

allowed entry/unloading/loading	
not allowed entry i.e. break-in	
tractor engine running	
outside safe zone	
unit is powered	
unit is not powered	
unit is not powered and "no power" alarm is set	
low battery	

5.2.6. MAP

On the map the position of the different units can be seen with flags.

It is possible to zoom into the map to see a flag/position more in detail.

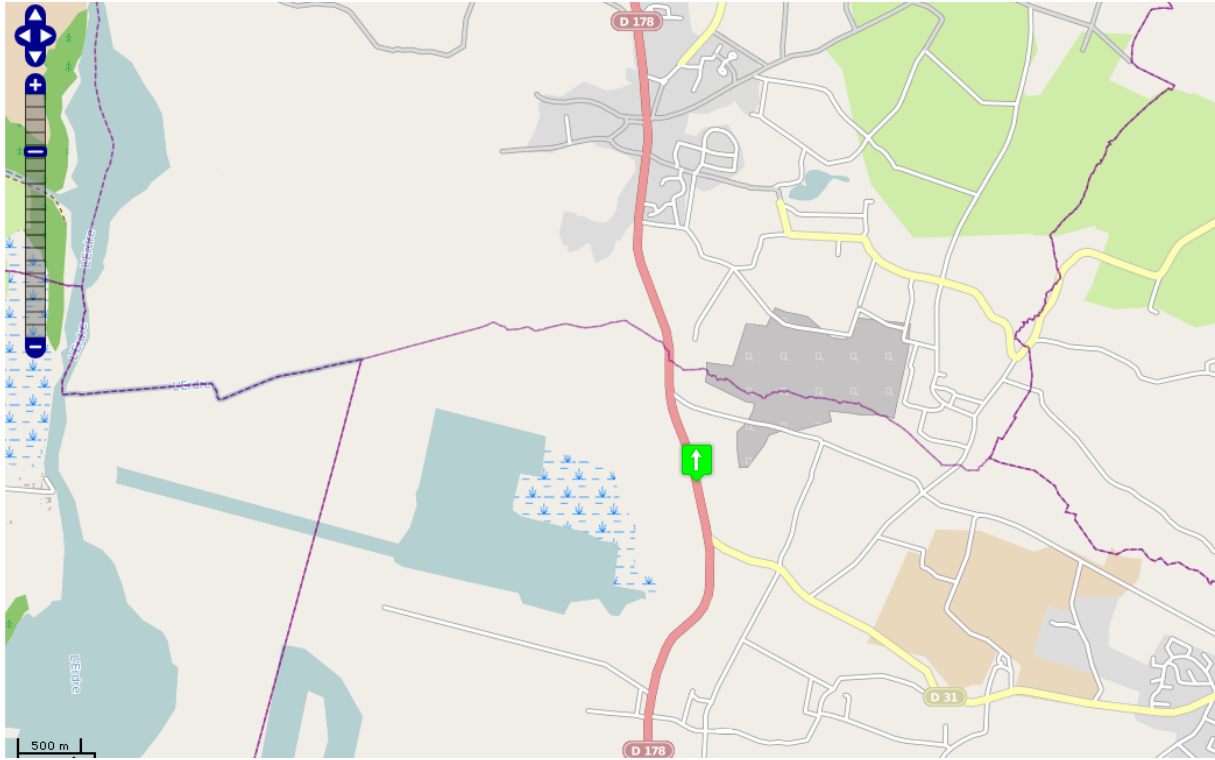


Figure 8 map zoomed

When passing over the flag or clicking on the name in the table, more information concerning the unit can be seen.



Figure 9 unit information on map

5.2.7. PICTURES

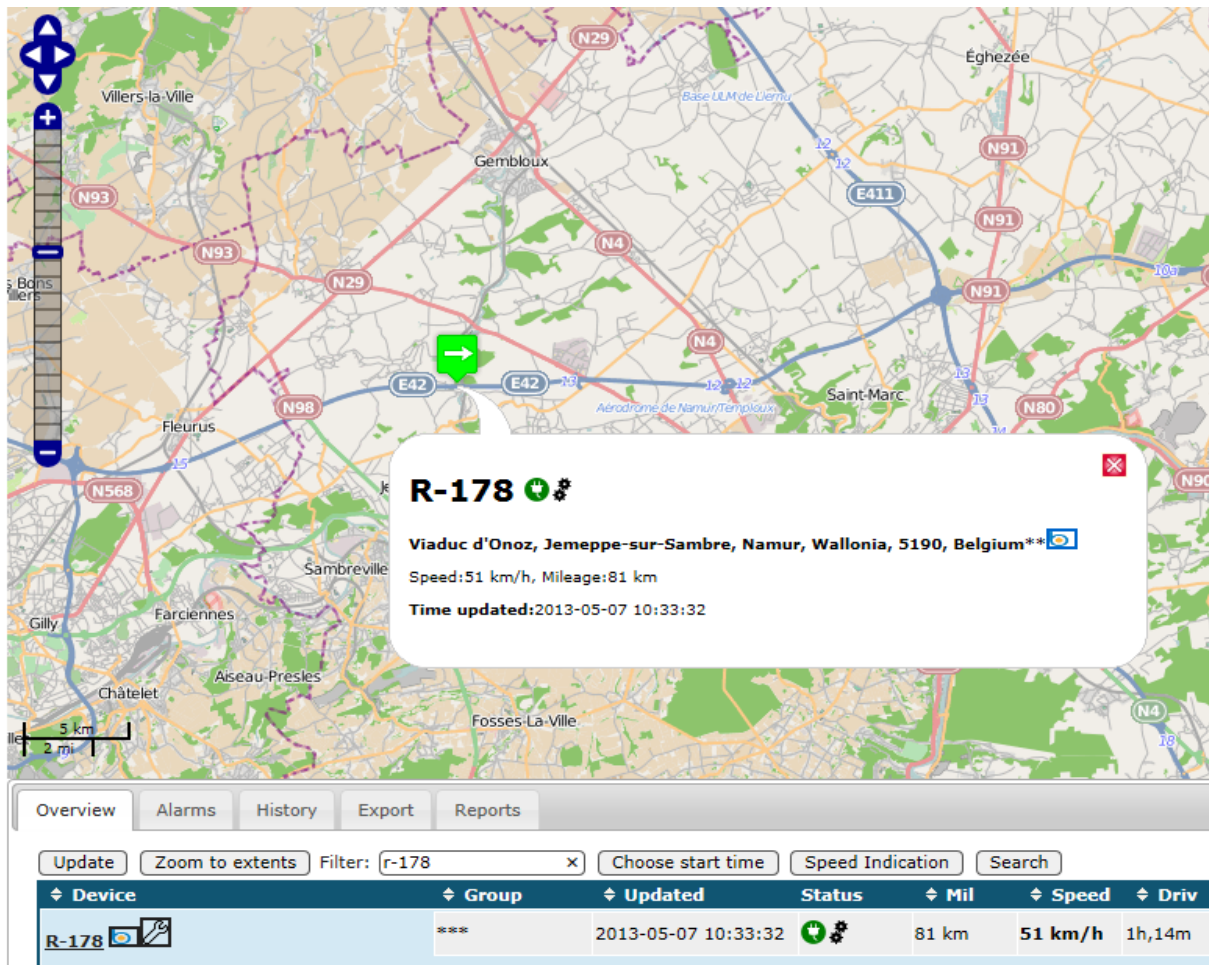


Figure 10 unit to demonstrate Bing

In the table and in the balloon, there is the icon of bing ¹. When clicking on this icon, you will arrive on the website with the aerial picture of bing, centered around the unit.

¹ Bing is a registered trade mark of Microsoft Inc.



Figure 11 aerial map of bing

Where this is possible, bing offers also a bird's eye view.

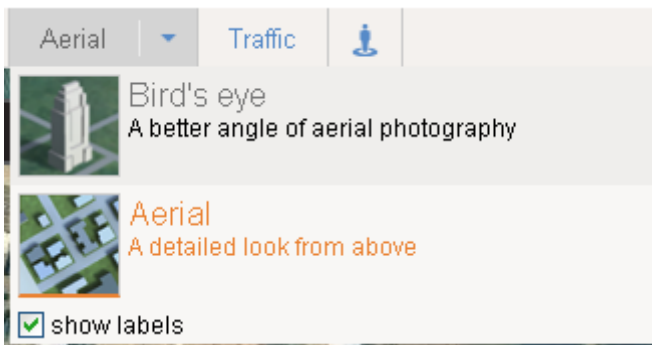


Figure 12 choose bird's eye view

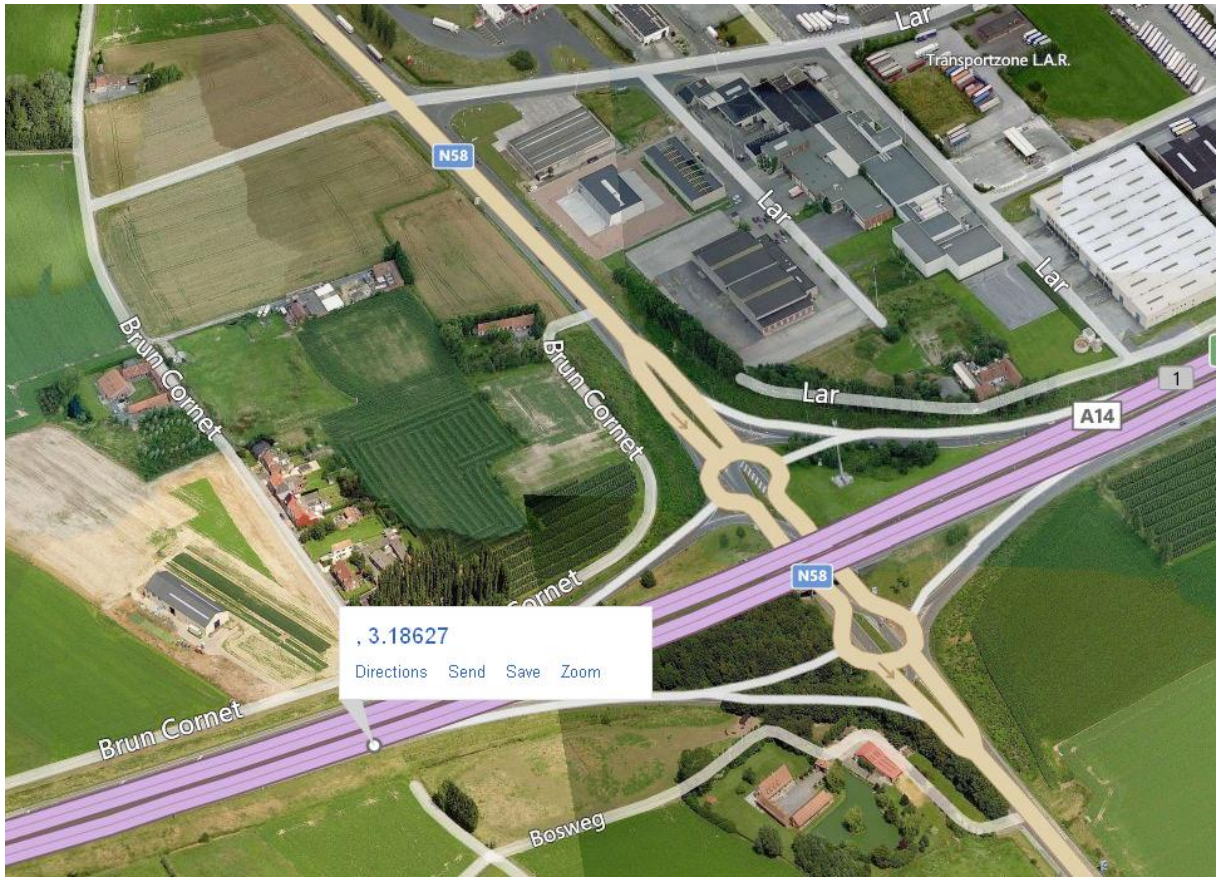


Figure 13 birds eye view.

5.2.8. TPMS INFORMATION

When clicking on the name of a unit, the last values for the pressures and temperatures are given.

MEGA1817 📍

Schlemmer Kistl, Landkommissärstraße, Stadtteil Landau-Mörnheim, Mörnheim, Landau in der Pfalz, Rheinland-Pfalz, Deutschland*📍

Speed:<5 km/h, Mileage:552 km

Time updated:2014-01-14 15:26:26

rechts voor P=9.4 bar T=13 °C @ 2014-01-14 15:24:37
 left front P=10.4 bar T=23 °C @ 2013-09-09 08:28:46
 Right Middle P=9.9 bar T=13 °C @ 2014-01-14 15:24:37
 Left Middle P=9.6 bar T=10 °C @ 2014-01-14 15:24:37
 Right Back P=9.7 bar T=8 °C @ 2014-01-14 15:24:37
 Left Back P=9.3 bar T=10 °C @ 2014-01-14 15:24:37



100 km
50 mi

Overview Alarms ID Tags History Export Reports

Update Zoom to extents Filter: mega Choose start time Speed Indication Search

Device	Group	Updated	Status	Mil	Speed	Driv	Re
MEGA1817 📍🔑🎯	middlegate	2014-01-14 15:26:26	📍	552 km	<5 km/h	7h,27m	7h,59m

Figure 14 recent pressure and temperature values

When the lowest value of the pressure in the last 20 hours is lower than the maintenance limit, this will show with the maintenance symbol  in the status column. When a tyre alert arrived, this will show with the alarm symbol .

5.3. ONLINE ANALYZING DATA

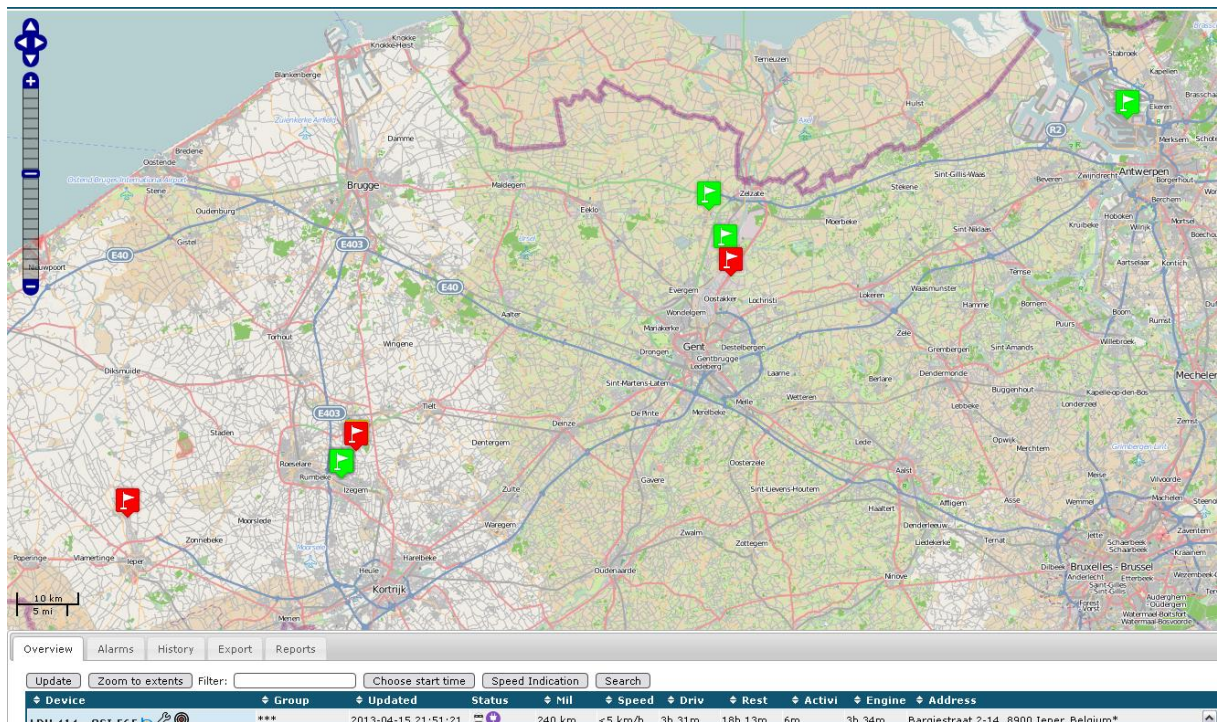


Figure 15 all units

in the table, different numbers can be seen

- Device name
- Device group
- Last time updated
- A status. The icons will be explained further in the text
- Odometer: the total distance driven since the start time²
- The speed at the transmission moment
- The time that the unit was driving
- The time that there was an activity measured by the unit. Activity will be defined further in the text
- Rest time. This is the time that there was no activity and the unit was not driving since the start time
- Address. This is the address out of public databases with the nearest address at the measured position

² The start time is defined with the button “start time”

In the table the driven distances and timings are given. With the button “choose start time”, the start time of these statistics is given.

With the button “search” it is possible to find the unit nearest to a position.

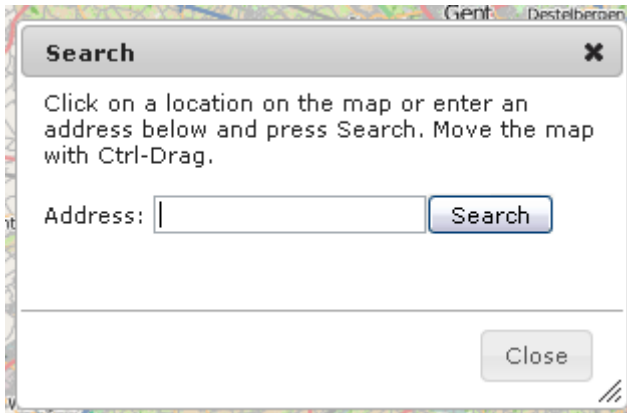


Figure 16 search menu

Or an address can be given (at whatever level) or a point on the map can be clicked.

A circle shows the position of the nearest unit. Its name is given in the menu.

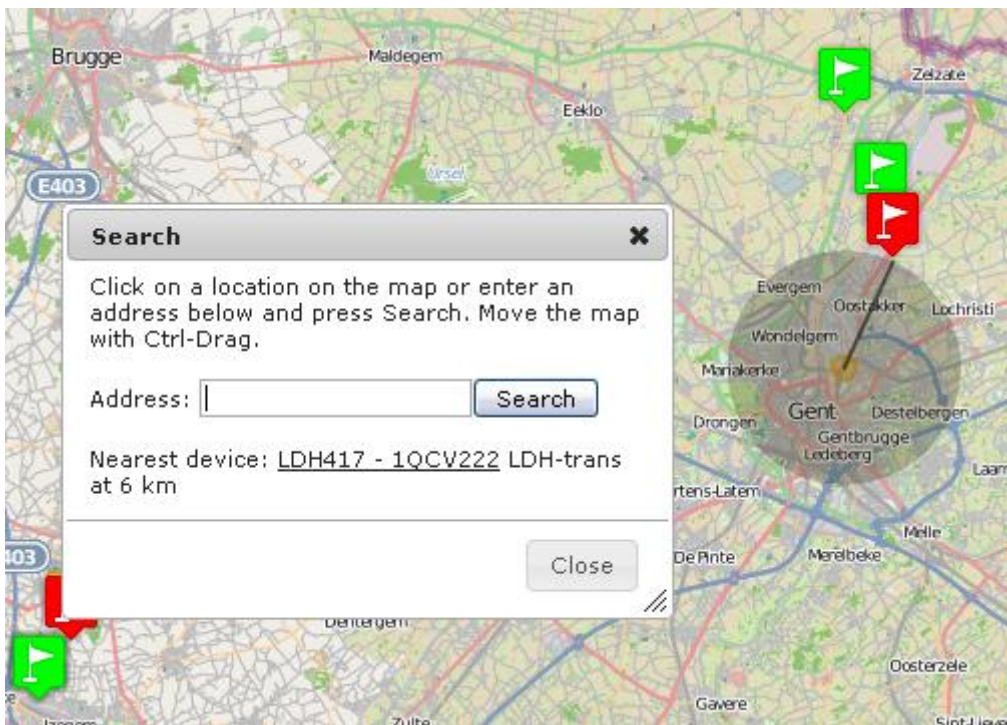


Figure 17 search result

With the button “speed indication” it is possible to change the indicated speed between the average speed between 2 points or the maximum speed. This setting is used in the overview and in the history.

Speed indication:

- Average speed (default)
- Maximum speed

ok



Figure 18 speed selection menu

5.3.1. SELECTING AN ALARM

For different situations an alarm is given and shown on the map. This can be done under the second tab and by selecting the type of alarm

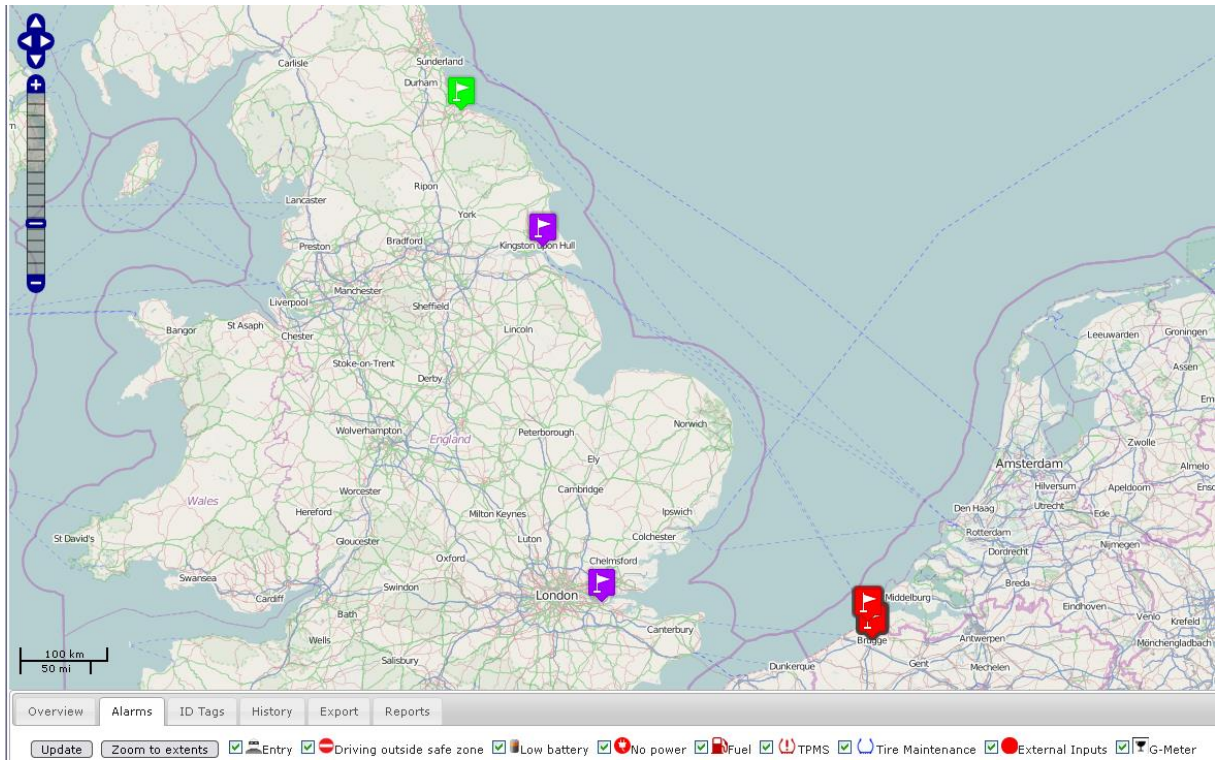


Figure 19 units with entry alarm

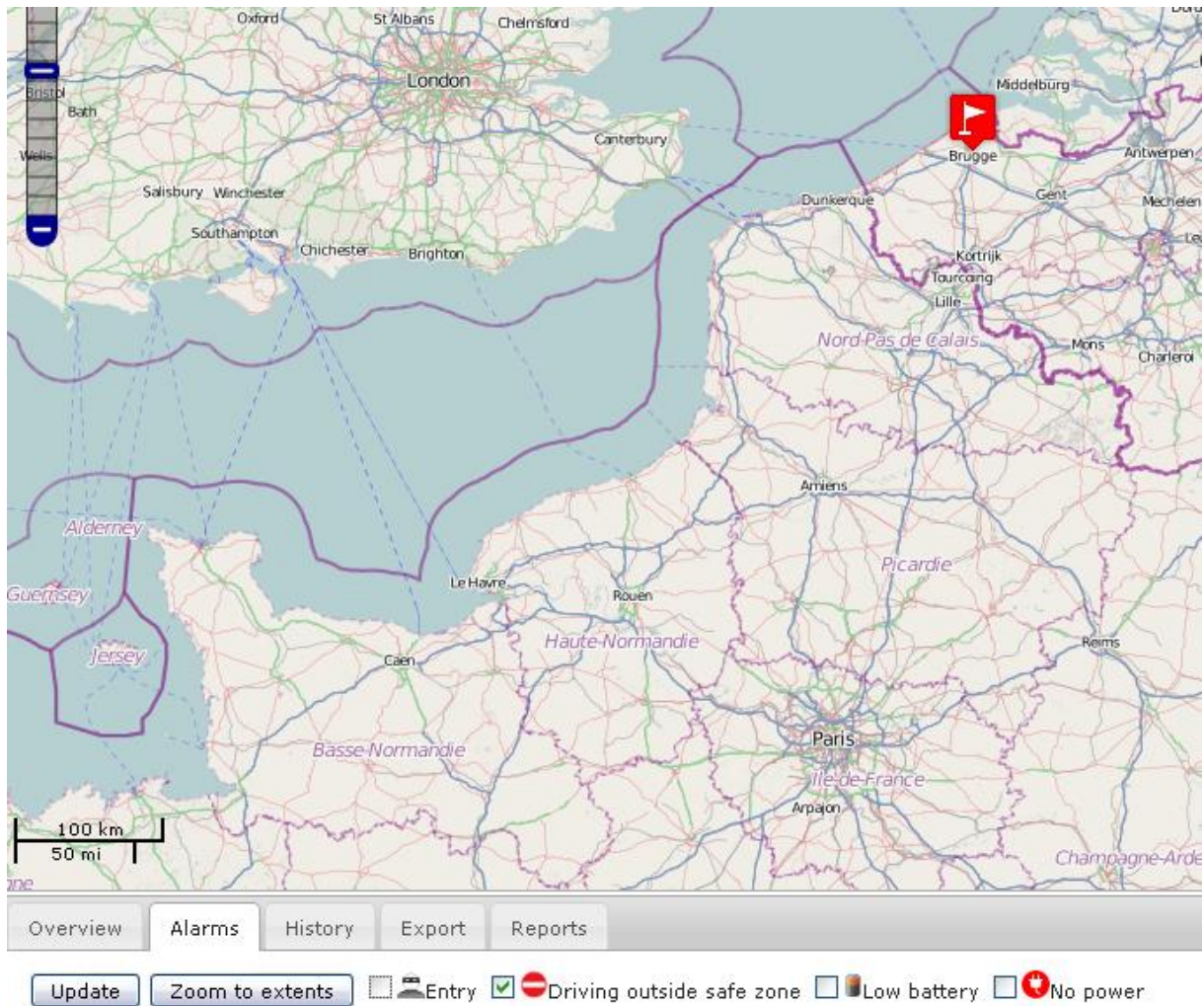


Figure 20 units driving outside safe zone

5.3.2. THE HISTORY OF A UNIT

The 3rd tab gives the possibility to see the history of a unit between 2 times (date and hour).

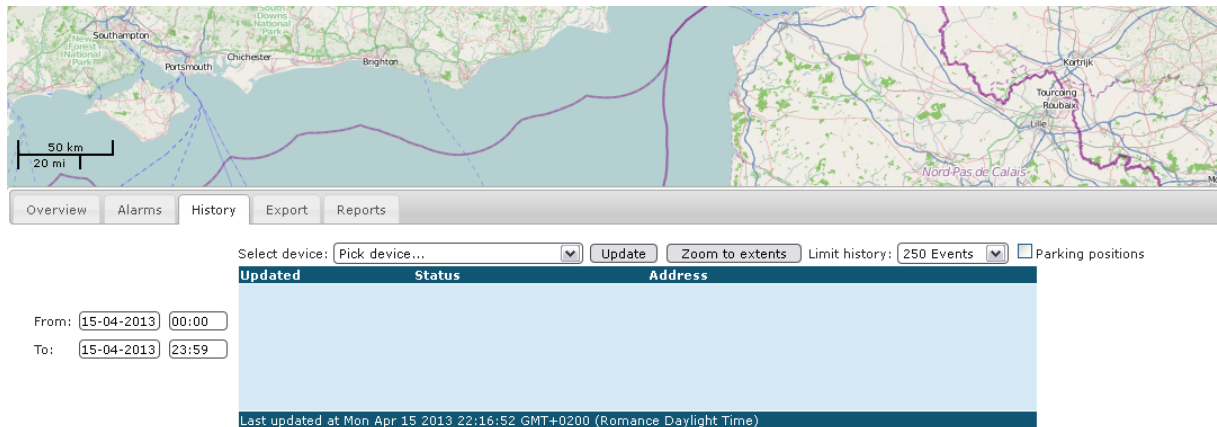
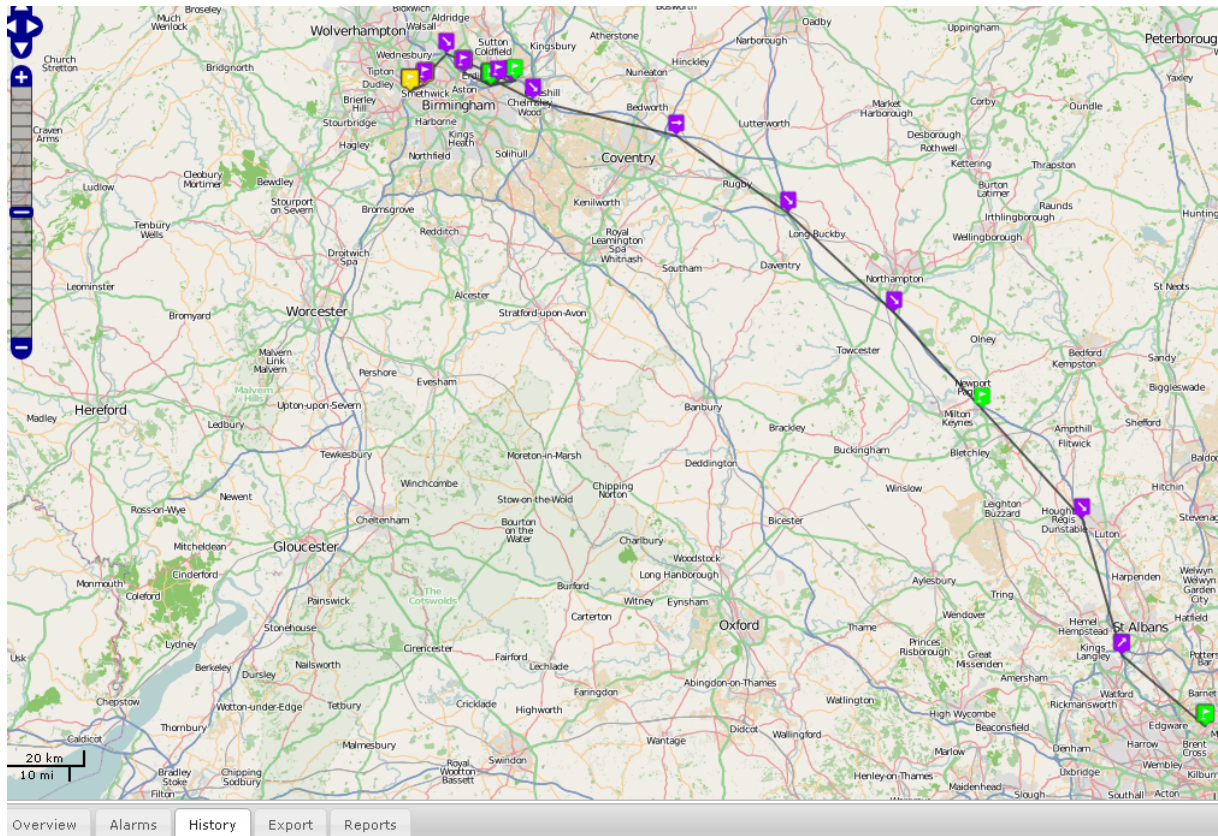


Figure 21 history selection

To select the history of a unit the start date and time and the end date and time have to be selected.

The unit name also has to be selected.

It is possible to change the number of events shown. This is the number from now, counting back to the past. Standard it put at 250 events. This can be increased for long time periods, but this will also influence the update time of the screen.



Select device: 0333 universal demo unit Limit history: 250 Events Parking positions

Updated	Status	Address
2013-04-15 21:36:32		POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L United Kingdom*
2013-04-15 21:34:53		POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L United Kingdom*
2013-04-15 21:33:53		POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L

From: 15-04-2013 00:00 To: 15-04-2013 23:59

Last updated at Mon Apr 15 2013 22:18:05 GMT+0200 (Romance Daylight Time)

Figure 22 history of a unit

The distance shown is the distance driven between the begin and the end time.

The arrows are shown when the units drives at a speed higher than 25 km/h. They indicate the driving direction.

The button “parking positions” gives only the positions where the unit has been parked.

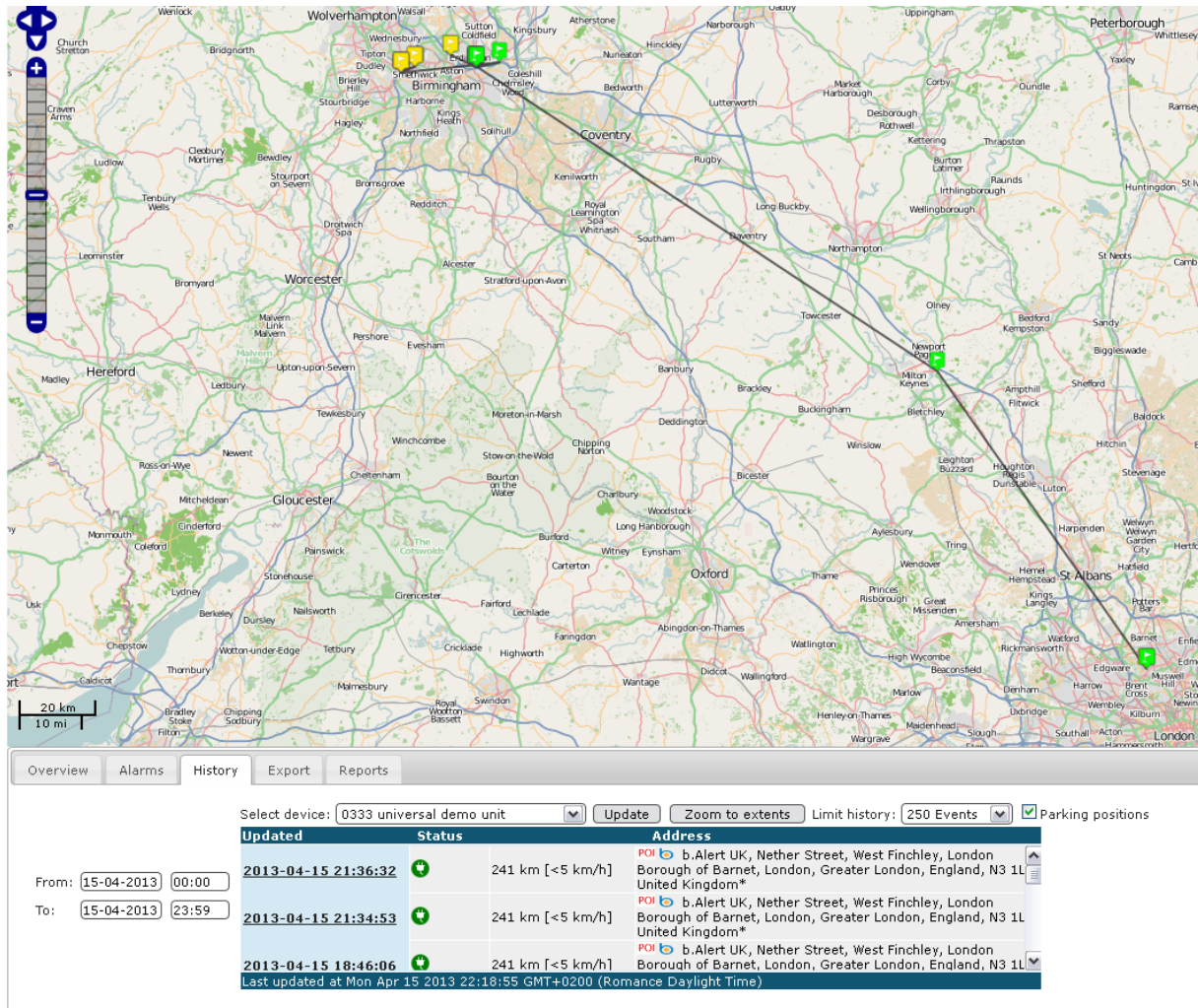


Figure 23 parking positions

To change between the parking positions and all positions, the button “update” needs to be pressed after the selection to the right of the screen.

On top of the screen, there is a button “show/hide map”.

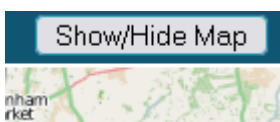


Figure 24 show/hide map

Pushing this button removes the map and shows only table view³.

³ The same effect as Overview screen

Select device: 0333 universal demo unit Limit history: 250 Events Parking positions

Updated	Status	Address
2013-04-15 21:36:32		241 km [<5 km/h] POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L United Kingdom*
2013-04-15 21:34:53		241 km [<5 km/h] POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L United Kingdom*
2013-04-15 18:46:06		241 km [<5 km/h] POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L United Kingdom*
2013-04-15 18:45:47		241 km [<5 km/h] POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L United Kingdom*
2013-04-15 18:34:12		241 km [<5 km/h] POI b.Alert UK, Nether Street, West Finchley, London Borough of Barnet, London, Greater London, England, N3 1L United Kingdom*
2013-04-15 17:26:25		169 km [<5 km/h] POI Portway, Pineham, Milton Keynes Village, Milton Keynes, South East England, England, United Kingdom**
2013-04-15 16:06:55		67 km [<5 km/h] POI Fort Shopping Centre, adj Fort Shopping Centre, Bromford, Birmingham, West Midlands B24, UK*
2013-04-15 16:05:26		67 km [<5 km/h] POI Fort Shopping Centre, adj Fort Shopping Centre, Bromford, Birmingham, West Midlands B24, UK*
2013-04-15 15:57:42		67 km [<5 km/h] POI Fort Parkway, Castle Vale, Birmingham, West Midlands England, B24, United Kingdom*
2013-04-15 15:02:55		67 km [<5 km/h] POI Fort Parkway, Castle Vale, Birmingham, West Midlands England, B24, United Kingdom*
2013-04-15 14:35:54		60 km [<5 km/h] POI Perrywell Road, Birmingham, West Midlands B6, UK*
2013-04-15 14:35:22		60 km [<5 km/h] POI Perrywell Road, Birmingham, West Midlands B6, UK*
2013-04-15 14:18:29		60 km [<5 km/h] POI Perrywell Road, Birmingham, West Midlands B6, UK*
2013-04-15 13:55:40		53 km [<5 km/h] POI Mothercare, Fort Parkway, Castle Vale, Birmingham, West Midlands, England, B24, United Kingdom*
2013-04-15 13:47:13		52 km [<5 km/h] POI Republic, Fort Parkway, Castle Vale, Birmingham, West Midlands, England, B24, United Kingdom**
2013-04-15 13:42:22		52 km [<5 km/h] POI Marks & Spencer, Fort Parkway, Castle Vale, Birmingham, West Midlands, England, B24, United Kingdom*
2013-04-15 13:37:31		52 km [<5 km/h] POI Republic, Fort Parkway, Castle Vale, Birmingham, West Midlands, England, B24, United Kingdom**
2013-04-15 13:32:40		52 km [<5 km/h] POI Carphone Warehouse, Fort Parkway, Castle Vale, Birmingham, West Midlands, England, B24, United Kingdom*
2013-04-15 13:29:48		52 km [<5 km/h] POI Carphone Warehouse, Fort Parkway, Castle Vale, Birmingham, West Midlands, England, B24, United Kingdom*
2013-04-15 13:27:49		52 km [<5 km/h] POI Fort Parkway, Castle Vale, Birmingham, West Midlands England, B24, United Kingdom*
2013-04-15 13:27:16		52 km [<5 km/h] POI Fort Parkway, Castle Vale, Birmingham, West Midlands England, B24, United Kingdom*
2013-04-15 13:20:06		52 km [<5 km/h] POI Fort Parkway, Castle Vale, Birmingham, West Midlands England, B24, United Kingdom*
2013-04-15 13:00:12		35 km [<5 km/h] POI M6, Solihull, West Midlands, England, B76 9, United Kingdom*
2013-04-15 11:50:55		7 km [<5 km/h] POI Wellington Street, Birchfield, Sandwell, West Midlands England, B69 4NH, United Kingdom*
		POI Albert Street East, Birchfield, Sandwell, West Midlands

From:
 To:

Last updated at Mon Apr 15 2013 22:20:55 GMT+0200 (Romance Daylight Time)

Figure 25 show/hide map results

5.4. EXPORT

With the tab “export”, an XML table is created that can be imported in any software.

5.5. REPORTS

Different reports can be created or in HTML or in Excel format. They give an overview of historical situations.

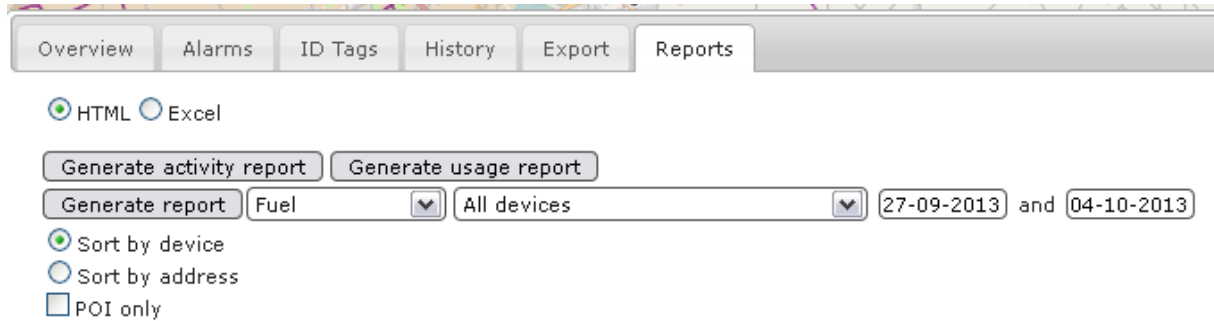


Figure 26 reports menu

The reports will differ for the different parameters set.

- Devices: a report for all devices or only for 1
- Dates: the dates in between the statistics are given
- Sorting: by device or by address. The first is useful to check the activity of 1 unit, the latter is useful to analyze the activity of the fleet
- POI only. With this selection, only the addresses with a defined POI are given in the report.

Reports are created by pushing the button of the specific report. To the right of the screen, a link is created to the report itself. Following reports are possible:

- Activity report : a statistical analysis of the activity of every individual unit
- Day summary report: the start hour and the end hour of activity for every individual unit
- Day report: hour by hour a report of the parking addresses, the parking times, the driving times, the driving speeds
- Park report: gives for the units where and how long they have been parked, sorted by address how long in total and how long for the different periods.
- Park report per address : gives for every parking address all units that have been there with the date and the time
- Status report : gives the current position of the different units and the last time they have been at a certain address
- Status report by address : gives the last time a certain unit has been at a certain address

- TPMS report\$
- Fuel report: sorted by unit, a list of all places where a silent fuel alert was generated, with the date and time of the alerts. The report also gives the duration of the alert and indicates whether the alarm was de-activated or not.

5.6. ALARMS

5.6.1. ENTRY

An entry implies that somebody entered the trailer, through the doors, at the side, ...

Updated	Status	Address
9/2/2012 15:19:59		35 D62, 59147 Gondecourt, France*
9/2/2012 15:19:15		35 D62, 59147 Gondecourt, France*
9/2/2012 15:15:12		35 D62, 59147 Gondecourt, France*
9/2/2012 15:15:09		35 D62, 59147 Gondecourt, France*
9/2/2012 15:10:50		35 D62, 59147 Gondecourt, France*

Last updated at Thu Feb 09 2012 15:23:31 GMT+0100 (Romance Standard Time)

Figure 27 entries in table

When this is an allowed entry, we presume loading or unloading, a “green man” is shown in the table. On the map it is indicated as a yellow flag.



Figure 28 green man

When it is not allowed, we presume a burglary and it is seen as a burglar in the table.



Figure 29 burglar

On the map it is indicated with a red flag.

As an example, we show a trailer arriving at the car park of a client. The driver has to wait and already opens the side curtains. Then he drives to the quay at the back side of the company for the effective unloading⁴.

⁴ This is shown with a picture instead of a map, as it shows clearly the situation.

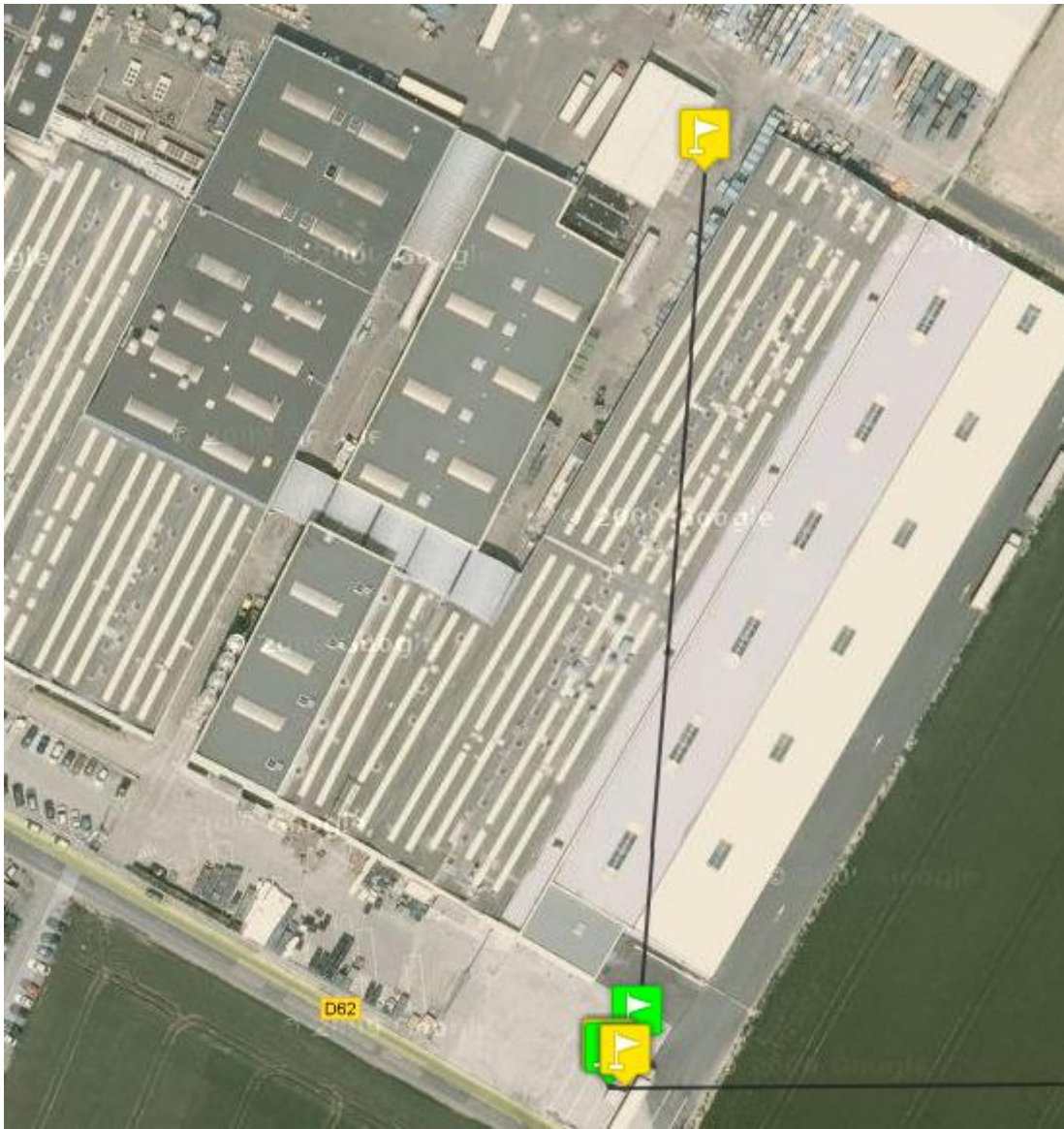


Figure 30 example of unloading

5.6.2. DRIVING OUTSIDE SAFE ZONE

With geo-fences, secure and unsecure zones are indicated. Driving outside a secure zone implies a red flag on the map and inside the geo-fence a green flag is used.

In the table a red traffic sign is used.

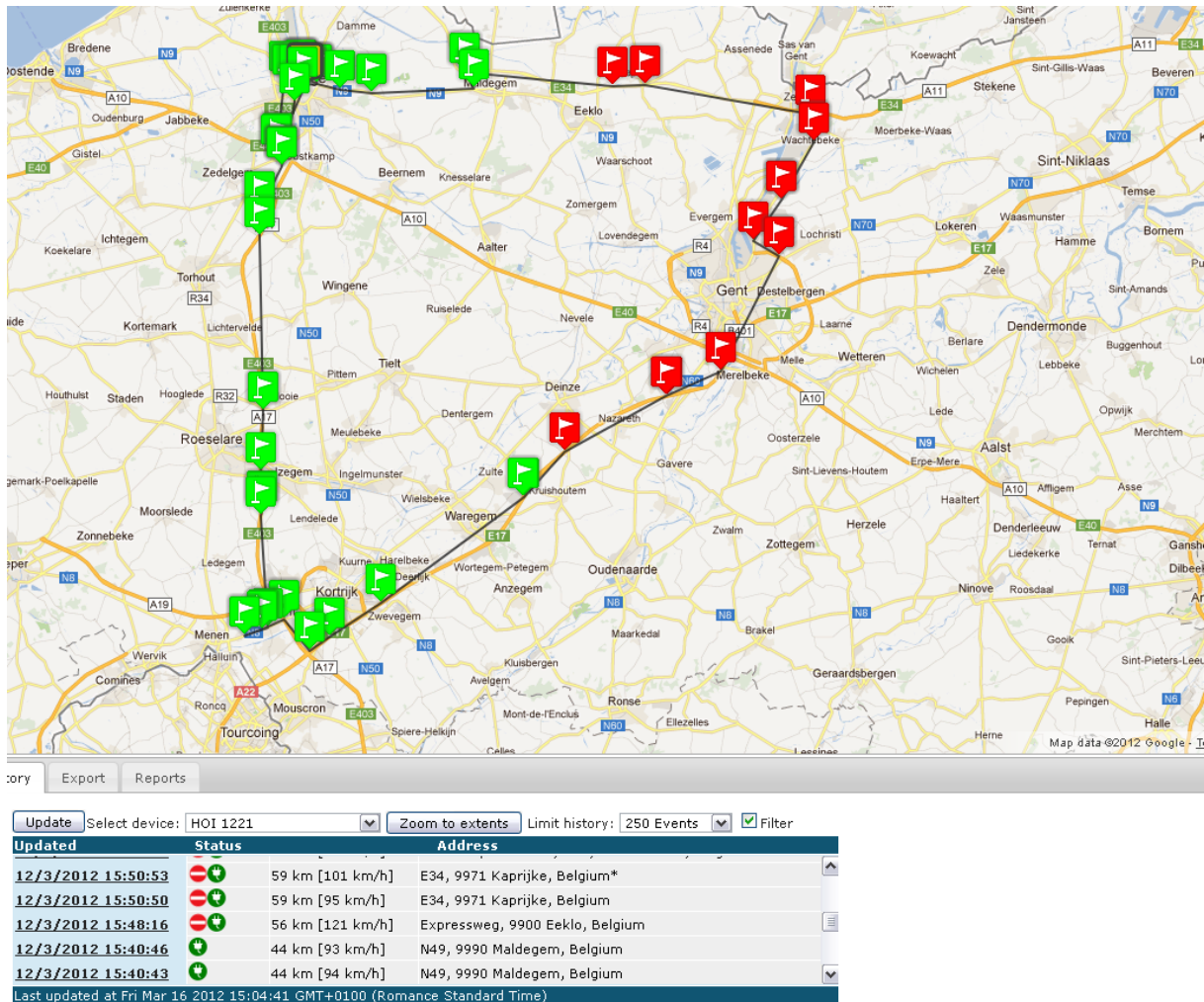


Figure 31 example of safe zone

For the unit of Figure 31, the safe zone is “West Vlaanderen”, the province. In this province, we get the green flags, outside, the red.



Figure 32 read traffic sign

5.6.3. DRIVING OUTSIDE ALLOWED TIME

The geo-fences are defined for the day period and for the night period.

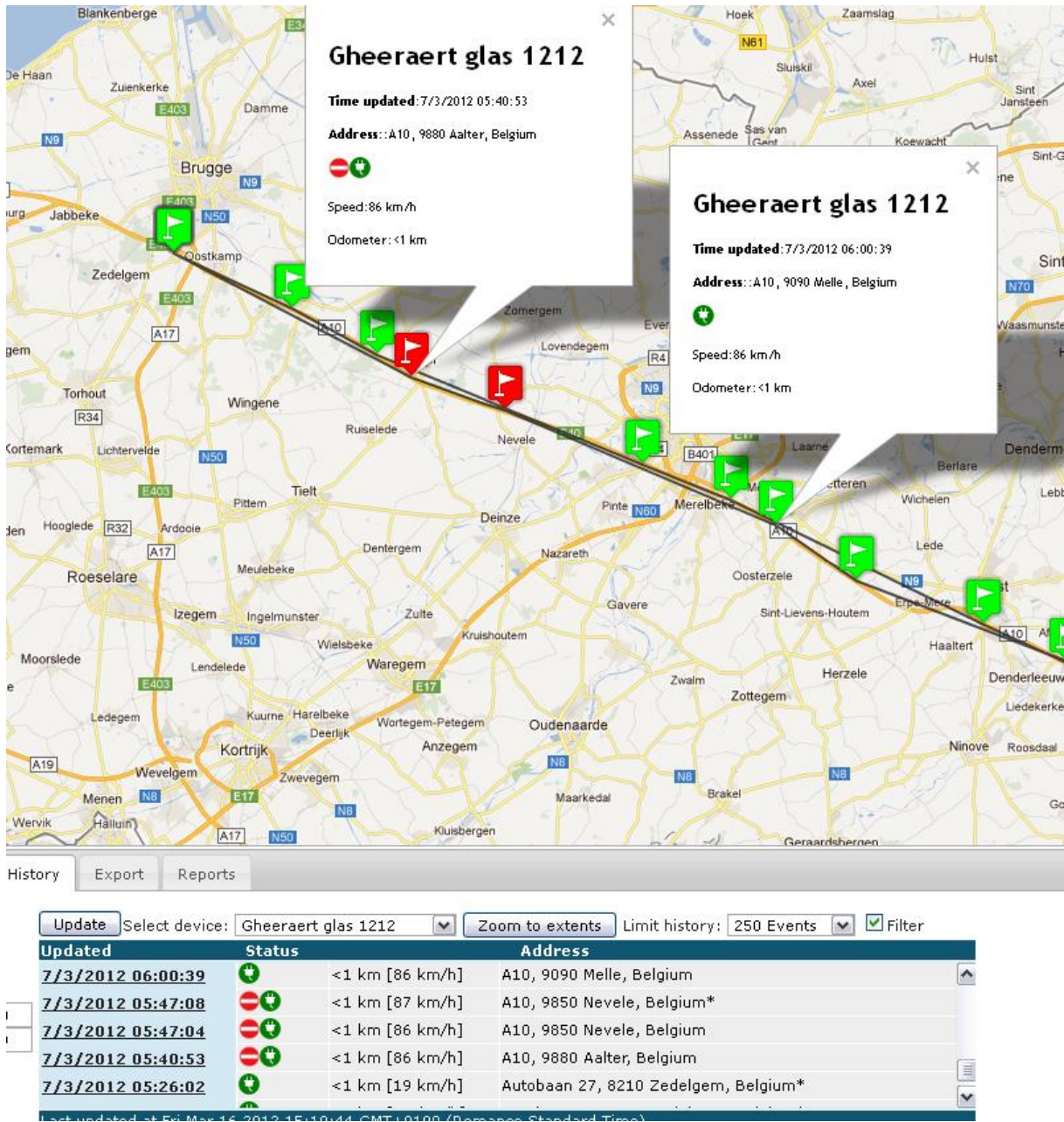


Figure 33 geo-fence during day and night

The trailer on Figure 33 is allowed to drive in Belgium from 6 AM until 8 PM. He started before 6 AM and therefore the first 2 positions are outside the safe zone. Just after 6 AM, they turn green.

5.6.4. NO POWER

It is possible for a unit to be without external power, when the trailer is parked. Once it is driving, it should get power.

In the preferences, it is possible to define a safe zone to drive without power. In this zone, driving without power will give a purple flag and a green icon in the table.

If the unit is driving outside a safe zone without power, this is not allowed, the “plug” in the table turns red and the flag on the map turns also red.

When the trailer is parked, the plug and the flag turn green.

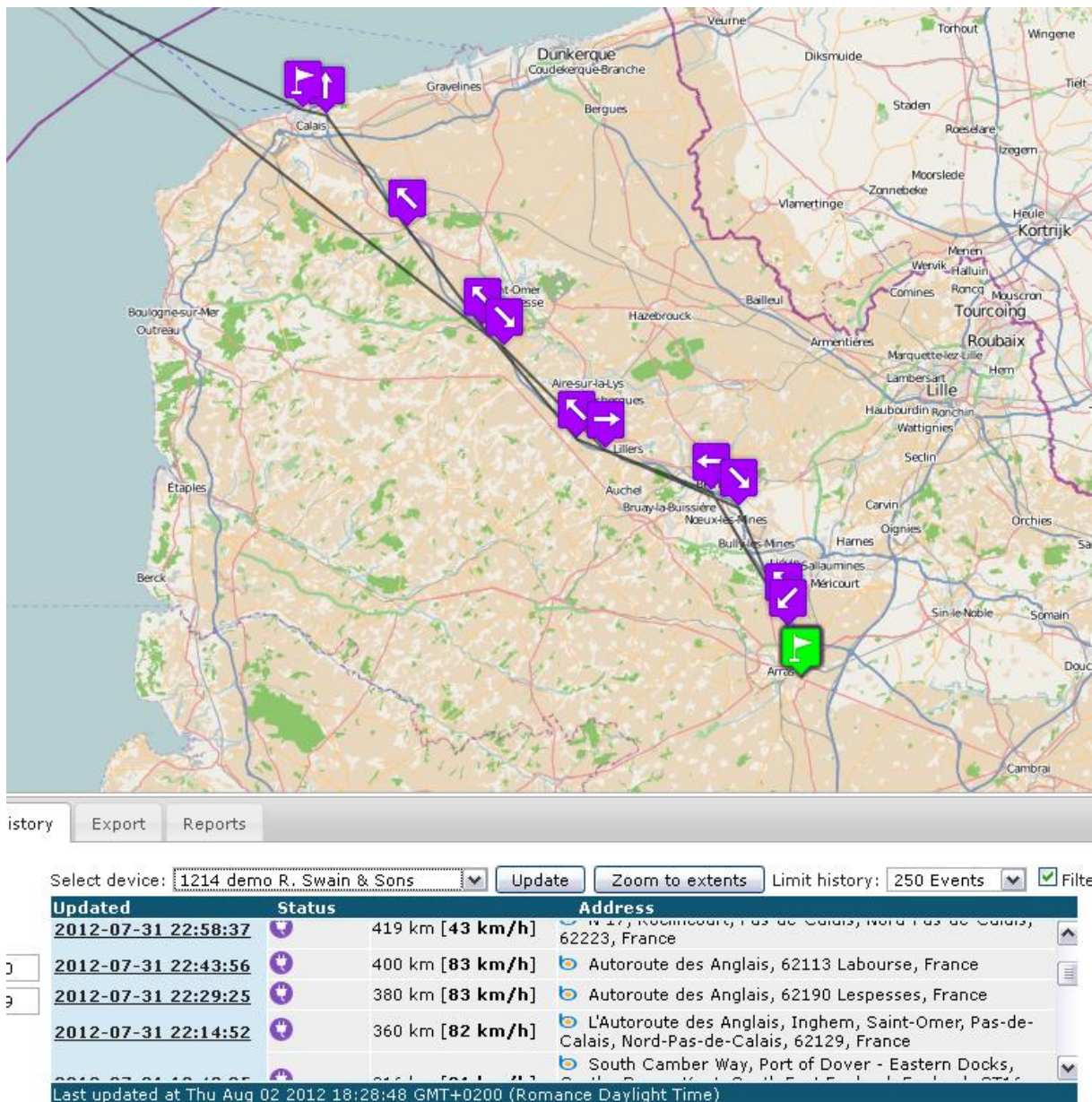


Figure 34 example of driving and parking without power

5.6.5. BATTERY LOW

When the battery is low, the number of transmissions during driving is reduced to keep the possibility to send entries as long as possible.

This situation is indicated with a red flag and a battery sign in the table.

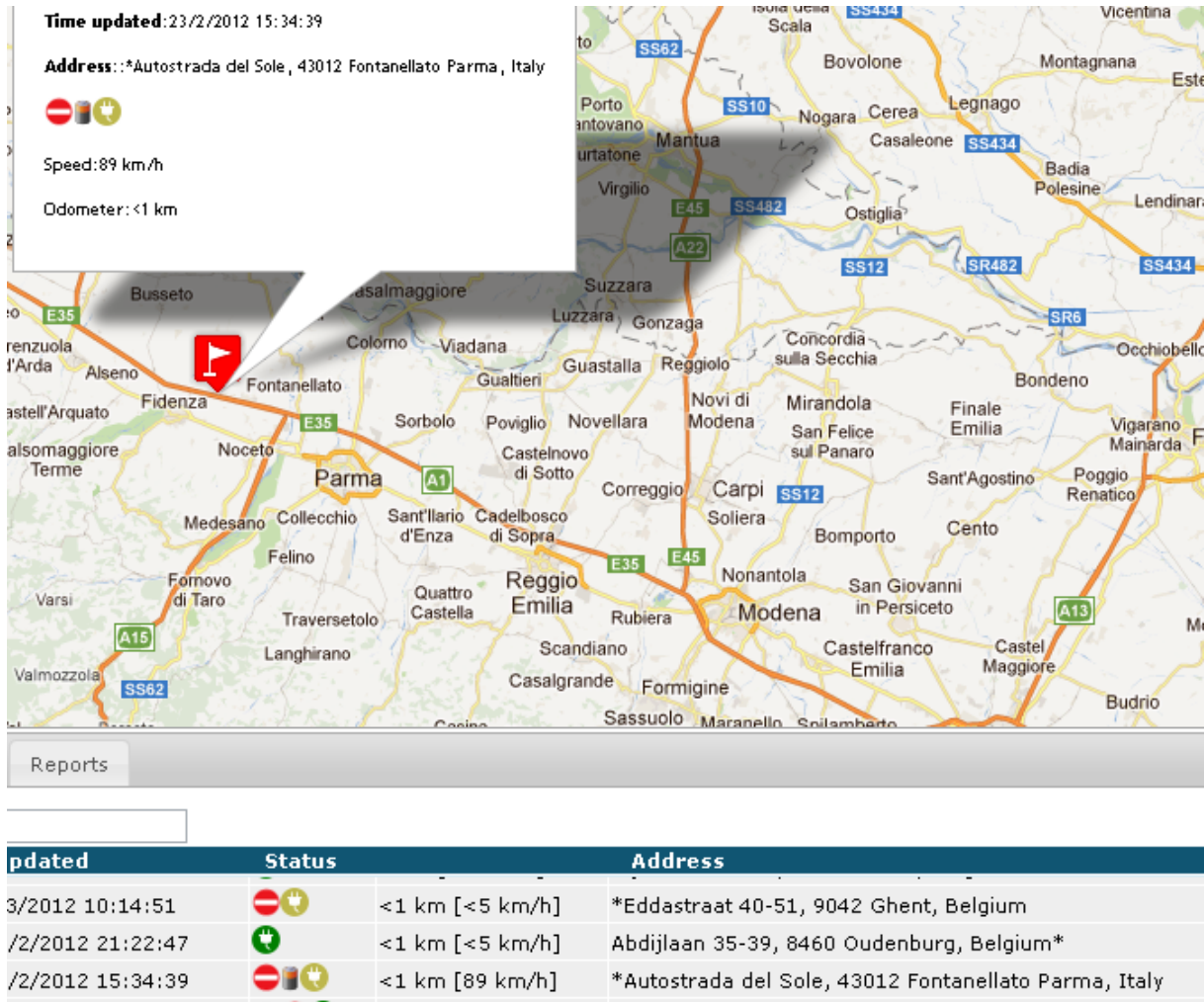


Figure 35 low battery indication

Driving with a low battery is indicated in red, being parked with a low battery also.

5.6.6. TPMS ALARM

When the TPMS is giving an alarm situation for a tyre, this will show on the map and with an alarm symbol.

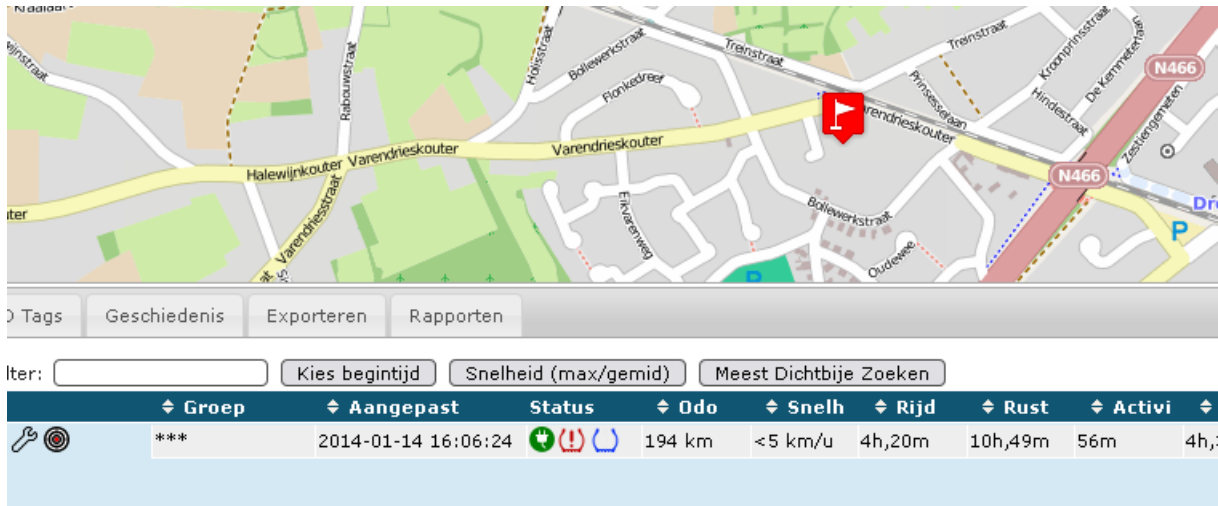


Figure 36 TPMS alarm

5.6.7. FUEL ALARM

There are 2 possible indications for the fuel alarm:

- A real (phase 2) alarm for a real break in: a red status symbol



Figure 37 real fuel alert

- An indication of an important vibration, probably a break in or something important on the fuel tank caused by a human, **with the unit deactivated by the driver**. This can in principle only exist when refueling or with maintenance on the truck : an orange symbol




Figure 38 deactivated fuel alert

5.6.8. ALARM ON EXTERNAL INPUTS (B.ALERT PLUS & B.ALERT MACHINE PLUS)

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5.6.9. G-METER ALARM

For the g-meter⁵ it is possible to enter the maximum value allowed (between 2g and 16g). an alarm will only be created in a prohibited zone, defined by a geophence.

 **G-meter**

Tag

Threshold: G

Nacht

Threshold: G


Figure 39 example setup g-meter alarm

⁵ See 7

5.6.10. WORKING OF ALARMS

The exact working of the different geo-fences and alarms is given in following table.

Entry	<input checked="" type="checkbox"/>	Safe zone	When entry, yellow flag and green man This is shown on the screen for the delay time or until driving starts When no entry, green flag
			No SMS or email
	Prohibited zone	When entry, red flag and burglar This is shown on the screen for the delay time or until driving start When no entry, green flag	
		SMS and email are sent. During the delay time, no new SMS or mail is sent. After the delay time, when there is a new entry, a new SMS or mail is sent	
<input type="checkbox"/>		Nothing happens	
Driving outside safe zone	<input checked="" type="checkbox"/>	Safe zone	Green flag No SMS or email
		Prohibited zone	Red flag Red traffic sign icon SMS and email are sent after the delay time. When the unit goes back into the safe zone in this period, nothing is sent. An SMS is sent only once. A email is sent every 6 hours during 24 hours.
	<input type="checkbox"/>		Nothing happens
	No power	<input checked="" type="checkbox"/>	Safe zone
Prohibited zone			Red flag and red icon. SMS and email are sent after the delay time. When the power comes up again in this period, nothing is sent. An SMS is sent only once. An email is sent every 6 hours during 24 hours.
<input type="checkbox"/>			Nothing happens
			Nothing happens

	<input type="checkbox"/>		Nothing happens
Shake (during driving an impact lager than 4g)	<input checked="" type="checkbox"/>	Safe zone	Red flag
			SMS and email are sent
	Prohibited zone	Red flag	
		SMS and email are sent	
	<input type="checkbox"/>		Nothing happens
Low battery	<input checked="" type="checkbox"/>	Safe zone	Red flag and battery icon
			SMS and email are sent after the delay time. When the power comes up again in this period, nothing is sent. An SMS is sent only once. A email is sent every 6 hours during 24 hours.
	Prohibited zone	Red flag and battery icon	
		SMS and email are sent after the delay time. When the power comes up again in this period, nothing is sent. An SMS is sent only once. A email is sent every 6 hours during 24 hours.	
	<input type="checkbox"/>		Nothing happens
g-meter	<input checked="" type="checkbox"/>	Safe zone	Nothing happens
		Prohibited zone	Red flag Broken glas icon 
		<input type="checkbox"/>	

5.7. MAINTENANCE ALERTS

With the maintenance utility, it is possible to group the units and to define for every group the criteria, after which a maintenance is necessary. These criteria can be defined in function of

- The distance driven
- The time
- The engine time measured with vibrations
- The time an external input was high or low

As an example we use trailers and cars for which we define maintenance alerts for

- Tires
- Brakes
- Engine

On the screen this gives

Device	Mileage	demo1	demo2	demo time	[AlarmID=16]	Earliest	Last maintenance	Last comment
1209 hoi auto demo	34524 km						---	---
1217 demo p2r	10702 km						---	---
1227 demo p2r	19561 km						300 days ago [6593 km]	admin reset
0333 universal demo unit	36103 km	-10862	14138			-72 h	-10862	75 days ago [19151 km] demo
1332 demo basic 1 hour	40 km						---	---
1344 test	3227 km						---	---
1376 demo basic	0 km						---	---
1400 demo basic plus	14537 km						---	---
1509 demo Container Guy	1 km						---	---
1543 long PU demo	0 km						---	---
1544 test oud potting materiaal en silicone	3071 km						---	---
1545 demo basic Guy	0 km						---	---
1641 demo basic Guy Barrois	0 km						---	---

Figure 40 maintenance screen

Or in groups

No grouping Show by device group

Device group **trailer**

Device	Mileage	demo1	demo2	demo time	[AlarmID=16]	Earliest	Last maintenance	Last comment
0333 universal demo unit	36103 km	-10862	14138	---	-72 h	-10862	75 days ago [19151 km]	demo

[Locations](#) [Preferences](#) Welcome *Test User* [Logout](#)

No grouping Show by device group

Device group **car**

Device	Odometer	engine maintenance	tires
Test Serge 1205	130 km	20000	50000
Test Serge 1201	23 km	20000	50000
hoi auto vincent 1219	4246 km	4915	49915

Device group **trailer**

Device	Odometer	brakes	tires
Van Hoof 1211	750 km	40000	75000
hoi 1217	5502 km	50000	50000

Figure 41 grouped maintenance screen

For every device, we have the distance driven with this device and the distance that still can be driven before a maintenance alert is given.

One click on the distance left for a certain alert, gives a menu

Update ✕

hoi auto vincent 1219
 Odometer: **4246** km
 Next alarm within: **4915** km (at 9161 km)

Reset alarm

Extend with km

Comments:

Confirm action

Figure 42 maintenance per unit menu

The odometer gives the distance driven since the alert was reset. The menu also gives the distance that still can be driven.

It is possible to reset the alarm (when the maintenance action has been performed) with the button *reset*. Before doing this the comment has to be filled in and the *confirm action* has to be checked.

When it is clear for the technician that there not yet a maintenance necessary, he can extend the distance to drive before an alert is given. Again, a comment has to be added and the action has to be confirmed before he can use the button *extend*.

5.8. PREFERENCES

5.8.1. USER INFO

▼ User info

Login: demo
Customer number:108
Name : demo
Email address:
SMS:
Time zone: Europe/Brussels ▼
Unit: Metric ▼

New password:
Confirm new password:

- ▶ Website preferences
- ▶ Device groups
- ▶ Devices
- ▶ Tracking preferences
- ▶ Maintenance preferences
- ▶ Geo-fences

Figure 43 user info

This is an informational screen about the user. It gives his name, email address, mobile phone.

It is also possible to choose the time zone or to change the units. At last the password can be changed.

- Asia/Istanbul
- Europe/Amsterdam
- Europe/Berlin
- Europe/Brussels
- Europe/London
- Europe/Paris

Figure 44 available time zones

Unit: Metric ▼
Metric
Imperial

Figure 45 available units

The login, the user name and the customer number cannot be changed.

When a setup has been changed, it is always necessary to push the appropriate “update” button.

5.8.2. WEBSITE PREFERENCES



▼ Website preferences

Update interval:

Language: ▼

Figure 46 website preferences

The website can work in different languages.

The website will automatically update the information on the screen. The update interval can be chosen in seconds. In between, it is always possible to use the different update buttons.

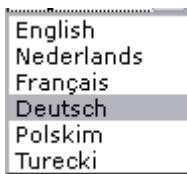


Figure 47 available languages

5.8.3. DEVICE GROUPS

▼ Device groups

Add group

Id	Name	
7	car	✘
8	trailer	

Figure 48 device groups

An unlimited number of groups can be defined for the units. These groups are only used for the maintenance alerts; for the TPMS and for viewing and sorting on the overview.

Setups can be defined per group of units. This is described in detail in 5.10.

5.8.4. DEVICES

▼ Devices






Id	Name	Group	Enabled	Device specific settings	
1211	Van Hoof 1211	trailer	1	No	
1205	Test Serge 1205	car	1	No	
1201	Test Serge 1201	car	1	No	
1217	hoi 1217	trailer	1	No	
1219	hoi auto vincent 1219	car	1	No	

Figure 49 devices of specific account

A list of devices is given. If needed they can be deactivated. With the key symbol, the setting for a unit can be changed.

The settings can be defined for every individual unit. A detailed description is given in 5.9.

5.8.5. USER GROUPS

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5.8.6. LIMITED USERS


Every administrative user can create limited users. These users get a personal login.

Login of user to create:	<input type="text" value="myNewUser"/>
Initial password:	<input type="text" value="password"/>
Name of user to create:	<input type="text" value="Name of user"/>
Email address:	<input type="text"/>
SMS number:	<input type="text"/>
User can view devices:	<input type="checkbox"/>
User can perform maintenance tasks:	<input type="checkbox"/>
User can couple to devices:	<input type="checkbox"/>
User can change private/business usage:	<input type="checkbox"/>
User can temporary disable entry alarm:	<input type="checkbox"/>
<input type="button" value="Add user"/>	

Figure 50 creation of limited users

The administrative user defines the rights of the limited user.

Devices

With the button  , the administrative user assigns units to a limited user. Units can be defined to different limited users.

Assigned devices


Login	Device	
vincent	1209 hoi auto demo	<input type="checkbox"/>
vincent	1376 demo basic	<input type="checkbox"/>
vincent	1332 demo basic 1 hour	<input type="checkbox"/>
vincent	1509 demo Container Guy	<input type="checkbox"/>
vincent	1400 demo basic plus	<input type="checkbox"/>

Figure 51 assigned devices to a limited user

A limited user will only see the units assigned to him.

5.8.7. ID TAGS

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5.8.8. ASSETS

\$

5.8.9. TRACKING PREFERENCES

▼ Tracking preferences

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Start of Day	06:00	06:00	06:00	06:00	06:00	06:00	06:00
Start of Night	20:00	20:00	20:00	20:00	20:00	20:00	20:00

	Entry	Driving outside safe zone	No power	Shake	Low battery
Day					
Creates alarm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Email	vspruytte@lunahra.be	vspruytte@lunahra.be			
SMS					
Delay	3600	120	0	120	120
Geo-fence	(83) europe	(83) europe	(83) europe		
Night					
Creates alarm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Email	vspruytte@lunahra.be	vspruytte@lunahra.be			
SMS					
Delay	3600	120	0	120	120
Geo-fence	(---) No safe zone	(83) europe	(83) europe		

Figure 52 tracking preferences

The tracking preferences for all units are defined at 2 levels.

- In time: For every day, there is a day period and a night period. For both, the settings can be different.
- In space : a geo-fence is defining the zones where certain situation can occur without an alarm⁶ (positive geo-fence) or cannot occur⁷ (negative geo-fence), at which stage an alarm will be given.

Alarms can be set for the different situations as described before, when selected in this screen. On activation, an email or SMS will be sent to the input address/number.

The flags and symbols on the map and list views will always be determined by the time and geo-fence settings configured in this screen.

All alarm types can be activated or de-activated in this screen.

Depending on the type of alarm, delay time has a different meaning:

- Entry, no power, no power : an alert is sent to SMS or email. For the “delay time” no new alert will be sent. In this way the alarm is not repeated every “second or minute”
- Driving outside zone, low battery: the system will wait a “delay time” before sending a SMS or email. In this way, when the unit leaves the safe zone for a very short time (on the side) and comes back in or when the battery level is for a very short time too low, it will not be notified as this is not relevant.

⁶ Safe zone

⁷ Prohibited zone



5.8.10. TPMS PREFERENCES

The TPMS preferences can be defined for all units, for a group of units or for individual units.

▼ TPMS preferences

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Start of Day	06:00	06:00	06:00	06:00	06:00	06:00	06:00
Start of Night	20:00	20:00	20:00	20:00	20:00	20:00	20:00

	Day	Night
Email	<input type="text"/>	<input type="text"/>
Sms	<input type="text"/>	<input type="text"/>
On Board Computer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Maximum temperature difference: °C

<input type="button" value="1"/>	<input type="button" value="2"/>	<input type="button" value="3"/>	<input type="button" value="4"/>	<input type="button" value="5"/>	<input type="button" value="6"/>	<input type="button" value="7"/>	<input type="button" value="8"/>	<input type="button" value="9"/>	<input type="button" value="10"/>	<input type="button" value="11"/>	<input type="button" value="12"/>	<input type="button" value="13"/>	<input type="button" value="14"/>	<input type="button" value="15"/>	<input type="button" value="16"/>	<input type="button" value="17"/>	<input type="button" value="18"/>	<input type="button" value="19"/>	<input type="button" value="20"/>	<input type="button" value="21"/>	<input type="button" value="22"/>	<input type="button" value="23"/>	<input type="button" value="24"/>	<input type="button" value="25"/>	<input type="button" value="26"/>	<input type="button" value="27"/>	<input type="button" value="28"/>	<input type="button" value="29"/>	<input type="button" value="30"/>	<input type="button" value="31"/>	<input type="button" value="32"/>	<input type="button" value="33"/>	<input type="button" value="34"/>	<input type="button" value="35"/>	<input type="button" value="36"/>	<input type="button" value="37"/>	<input type="button" value="38"/>
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Figure 53 TPMS settings menu

In the first 2 tables, the setting for SMS, email and onboard computer need to be entered. The first table defines the day and night times.

With the button overview, it is possible to see the setting for all individual tyres.

Name	Alarm Enabled	Low Pressure	High Pressure	Maintenance Pressure	Pressure Difference	High Temperature	Flat Tire Alarm
Tire 1	✓	1.8	3	2.2	1	90	✓
Tire 2	✓	1.8	3	2.2	1	90	✓
Tire 3	✓	1.8	3	2.2	1	90	✓
Tire 4	✓	1.8	3	2.2	1	90	✓
Tire 5	✓	1.8	3	2.2	1	90	✓
Tire 6	✓	1.8	3	2.2	1	90	✓
Tire 7	✓	1.8	3	2.2	1	90	✓
Tire 8	✓	1.8	3	2.2	1	90	✓
Tire 9	✓	1.8	3	2.2	1	90	✓
Tire 10	✓	1.8	3	2.2	1	90	✓
Tire 12	✓	1.8	3	2.2	1	90	✓
Tire 13	✓	1.8	3	2.2	1	90	✓
Tire 14	✓	1.8	3	2.2	1	90	✓
Tire 15	✓	1.8	3	2.2	1	90	✓
Tire 16	✓	1.8	3	2.2	1	90	✓
Tire 17		6	8	8.5	1	90	✓
Tire 18		6	8	8.5	1	90	✓

Figure 54 overview tyre settings

It is possible to change the settings for all tyres or for an individual tyre. The numbers are defined in the unit.

Alarm enabled

Low pressure bar

High pressure bar

Maintenance pressure bar

Pressure difference bar/h

High temperature °C

Flat tire alarm

Figure 55 change TPMS settings

In the table of Figure 55 the values can be changed, after which the button update need to be pressed to change the settings. The alarm will only be active with the “alarm enabled”.

A specific setting is the temperature difference. This is the temperature difference between the highest temperature measured and the lowest temperature measured. It is a good indication for a high temperature problem on 1 or more tyres where the temperatures of the other tyres are used as a reference for the normal situation.

5.8.11. MAINTENANCE PREFERENCES

Device group **trailer** [Add distance based alert](#) [Add time based alert](#) [Add engine time based alert](#)

Name	Distance/time	Warn ahead	Enabled	Email	
<input type="text" value="demo1"/>	<input type="text" value="20000"/> km	<input type="text" value="2500"/> km	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text" value="demo2"/>	<input type="text" value="50000"/> km	<input type="text" value="2500"/> km	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text" value="demo time"/>	<input type="text" value="60"/> days	<input type="text" value="5"/> days	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
<input type="text"/>	<input type="text" value="400"/> hours	<input type="text" value="20"/> hours	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

Device group **car** [Add distance based alert](#) [Add time based alert](#) [Add engine time based alert](#)

Device group **container** [Add distance based alert](#) [Add time based alert](#) [Add engine time based alert](#)

▼ Maintenance Preferences

Device group **car** [Add distance based alarm](#)

Name	Distance	Warn ahead	Enabled	Email	
<input type="text" value="engine maintenance"/>	<input type="text" value="20000"/> km	<input type="text" value="1000"/> km	<input checked="" type="checkbox"/>	<input type="text" value="vspruytte@balert.eu"/>	<input type="checkbox"/>
<input type="text" value="tires"/>	<input type="text" value="50000"/> km	<input type="text" value="2500"/> km	<input checked="" type="checkbox"/>	<input type="text" value="vspruytte@balert.eu"/>	<input type="checkbox"/>

Device group **trailer** [Add distance based alarm](#)

Name	Distance	Warn ahead	Enabled	Email	
<input type="text" value="brakes"/>	<input type="text" value="100000"/> km	<input type="text" value="2500"/> km	<input checked="" type="checkbox"/>	<input type="text" value="vspruytte@balert.eu"/>	<input type="checkbox"/>
<input type="text" value="tires"/>	<input type="text" value="50000"/> km	<input type="text" value="2500"/> km	<input checked="" type="checkbox"/>	<input type="text" value="vspruytte@balert.eu"/>	<input type="checkbox"/>

[Update preferences](#)

Figure 56 maintenance preferences

For every device group (see 4.6.3), an unlimited number of maintenance alerts can be defined. There are 3 types

- Distance (driven) based
- Time based
- Engine (running) time based

The following needs to be defined for each maintenance alert:

- The name of the alert
- The distance or time between two of this type of maintenance job

- The “Warn ahead”, which is the distance or time ahead of the due date when an alert is given. This gives the technician time to organize or plan the maintenance
- Activate or de-activate the alert by clicking the *Enabled* field
- Email address to which the alert is sent

By clicking the last field (the red cross), it is possible to permanently remove that alert. Please note that, if you do this, all distances for this type of alert will be removed and reset if the alert is subsequently recreated.

5.8.12. MAILING OF REPORTS

▼ Mail Reports

Add report to be mailed

Name	Time span of report	Frequency	Send at	Format	
Park report sorted by address limited to POI	Since last report	Daily	11 h	HTML	<input type="checkbox"/>
Day summary report	Since midnight day before	Daily	11 h	HTML	<input type="checkbox"/>
Day report	Since midnight Monday	On weekdays	3 h	HTML	<input type="checkbox"/>
Day report	Since midnight first of month	Daily	11 h	HTML	<input type="checkbox"/>
Day summary report	Since last report	Daily	14 h	Excel	<input type="checkbox"/>
Activity report	Since last report	Daily	0 h	HTML	<input type="checkbox"/>

Update preferences

Figure 57 mailing of reports

All of the report types can be configured for defined time periods and emailed out at defined timings to the email address of the login user.

The menu defines the type of report, the time span covered by the report, the frequency of sending, the exact time of sending and the format.

5.8.13. GEO-FENCES

▼ Geo-fences

Add geo-fence

#	Name	
9	test geo fence	 
10	Test Geo-Fence Serge	 
25	Belgium	 
12	Test voor Tom's Device	 
35	Unnamed Geo-Fence	 
34	Unnamed Geo-Fence	 
33	Unnamed Geo-Fence	 
17	Thuis-basis	 
31	West Vlaanderen	 
30	Unnamed Geo-Fence	 
29	brugge	 
28	Unnamed Geo-Fence	 
27	Unnamed Geo-Fence	 
26	Unnamed Geo-Fence	 
50	lyon	 
51	track VI	 
58	Unnamed Geo-Fence	 
83	europe	

Figure 58 geo fence

Different geo-fences can be created or adapted. This is described in detail in 5.11.

5.9. DEFINE DEVICE SPECIFIC SETTINGS

5.9.1. NAME AND STATUS

Name and status

Device id: 1216

Device name:

Enabled:

Figure 59 name and status of device

The name of a unit can be changed.

One should use intelligent coding for the names, as this is the basis to select groups of trailers to see on the screen.

Also, a unit can be de-activated. This means that the server will not respond to the signals of these units.

5.9.2. TRACKING PREFERENCES

The tracking preferences for an individual unit can be defined in the same way as for the general preferences. The specific preferences prevail on the general ones.

The device specific setting can also be removed to activate the general tracking settings for this unit.

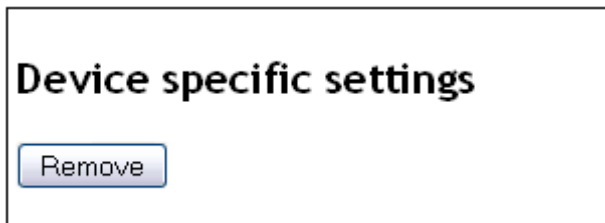


Figure 60 remove device specific settings

5.9.3. TPMS PREFERENCES

▼ Devices











◆ Id ◆	Name	Group	Enabled	Device specific settings
1159	1159 depret omheining	werf testen	<input checked="" type="checkbox"/>	
1162	1162 test machine dan	*no group*	<input checked="" type="checkbox"/>	
1214	1214 depret werfkeet	werf testen	<input checked="" type="checkbox"/>	
1294	1294 HOI probleem	*no group*	<input type="checkbox"/>	
1332	1332 demo basic 1 hou	*no group*	<input checked="" type="checkbox"/>	
1334	1334 HOI demo	*no group*	<input checked="" type="checkbox"/>	
1366	1366 dummy	*no group*	<input checked="" type="checkbox"/>	
1371	1371 test TPMS	*no group*	<input checked="" type="checkbox"/>	
1384	1384 depret omheining	werf testen	<input checked="" type="checkbox"/>	
1391	1391 test Serge	*no group*	<input checked="" type="checkbox"/>	

Figure 61 device specific TPMS settings

For a specific device, with the key specific settings for this device are created.

Name and status

Device id: 1159

Device name:

Group: ▼

Enabled:

Coupling code:

External code:

Tracking and TPMS

Device specific settings **Tracking** **TPMS**

Figure 62 device specific settings

The TPMS settings need to be activated/created and then changed.

Name and status

Device id: 1159
 Device name: 1159 depret omheining
 Group: werf testen
 Enabled:
 Coupling code:
 External code:

Tracking and TPMS

Tracking TPMS
 Device specific settings:

TPMS preferences

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Start of Day	06:00	06:00	06:00	06:00	06:00	06:00	06:00
Start of Night	20:00	20:00	20:00	20:00	20:00	20:00	20:00

	Day	Night
Email	<input type="text"/>	<input type="text"/>
Sms	<input type="text"/>	<input type="text"/>
On Board Computer	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Maximum temperature difference: °C

<input type="button" value="1"/>	<input type="button" value="2"/>	<input type="button" value="3"/>	<input type="button" value="4"/>	<input type="button" value="5"/>	<input type="button" value="6"/>	<input type="button" value="7"/>	<input type="button" value="8"/>	<input type="button" value="9"/>	<input type="button" value="10"/>	<input type="button" value="11"/>	<input type="button" value="12"/>	<input type="button" value="13"/>	<input type="button" value="14"/>	<input type="button" value="15"/>	<input type="button" value="16"/>	<input type="button" value="17"/>	<input type="button" value="18"/>	<input type="button" value="19"/>	<input type="button" value="20"/>	<input type="button" value="21"/>	<input type="button" value="22"/>	<input type="button" value="23"/>	<input type="button" value="24"/>	<input type="button" value="25"/>	<input type="button" value="26"/>	<input type="button" value="27"/>	<input type="button" value="28"/>	<input type="button" value="29"/>	<input type="button" value="30"/>	<input type="button" value="31"/>	<input type="button" value="32"/>	<input type="button" value="33"/>	<input type="button" value="34"/>	<input type="button" value="35"/>	<input type="button" value="36"/>	...
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<input type="button" value="All"/>

Figure 63 device specific TPMS settings

5.10. DEFINE GROUP SPECIFIC SETTINGS

5.10.1. TRACKING PREFERENCES

5.10.2. TPMS PREFERENCES

To change the TPMS settings of a group, first the settings need to be created.

▼ Device groups

Add group

Id	Name	Tracking	TPMS	ID Tags	
7	car	Create	Create		
8	trailer	Create	Create		
33	test	Create	Create		
35	demo	Create	Create		
36	voorraad	Create	Create		
68	mobilAd	Create	Create		<input type="checkbox"/>
171	werf testen	Create	Create		
187	test groep 25 11	Create	Create		

Update preferences

Figure 64 create group TPMS settings

Then the TPMS settings can be changed.

▼ Device groups

Add group

Id	Name	Tracking	TPMS	ID Tags	
7	car	Create	X		
8	trailer	Create	Create		
33	test	Create	Create		
35	demo	Create	Create		
36	voorraad	Create	Create		
68	mobilAd	Create	Create		<input type="checkbox"/>
171	werf testen	Create	Create		
187	test groep 25 11	Create	Create		

Update preferences

Figure 65 group TPMS settings created

The key brings you to the menu of Figure 55, that will only be activated for the units in this group. With the red cross, these specific settings can be removed.

5.11. GEO-FENCES

5.11.1. GEO-FENCE

▼ Geo-fences

[Add geo-fence](#)

#	Name	
9	test geo fence	 
10	Test Geo-Fence Serge	 
25	Belgium	 
12	Test voor Tom's Device	 
17	Thuis-basis	 
31	West Vlaanderen	 
30	Unnamed Geo-Fence	 
29	brugge	 
93	Unnamed Geo-Fence	 
50	lyon	 
51	track VI	 
58	Unnamed Geo-Fence	 
83	europa	

Figure 66 geo-fence and regions

A geo-fence is built of different “regions”. Every region is a rectangle. By combining them, a geo-fence can take complex shapes.

Under the Geo-fences menu in Preferences, a geo-fence can be added, deleted (click the red cross) or its regions configured/modified (click the spanner icon).

5.11.2. REGION(S)

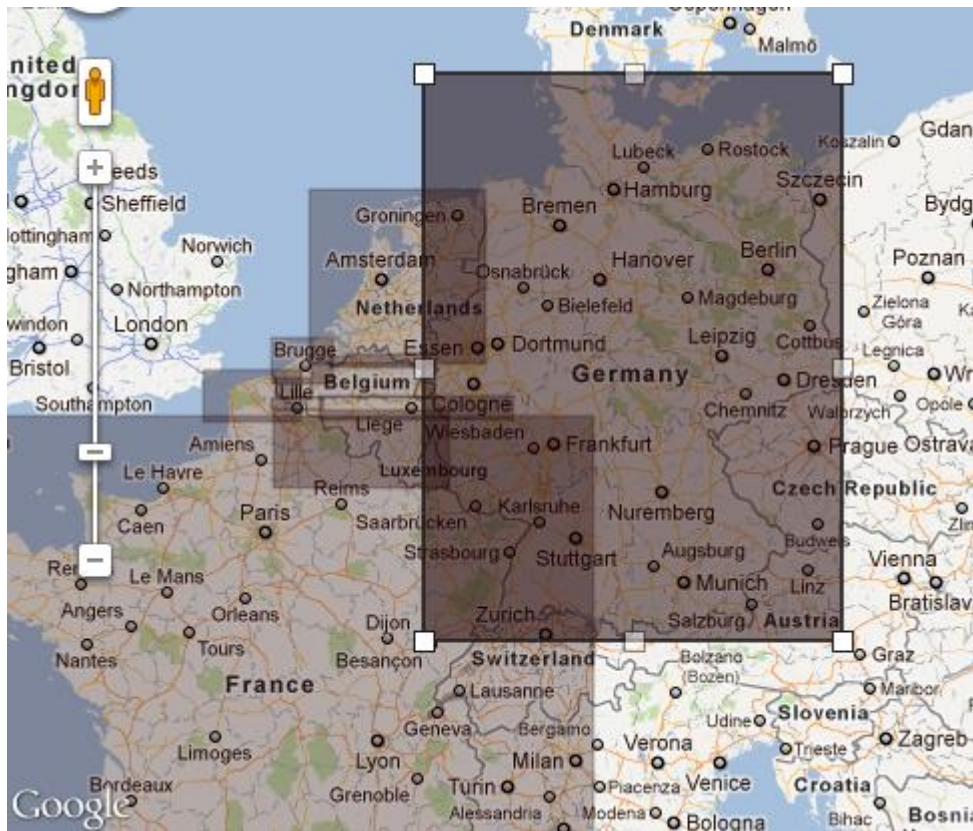
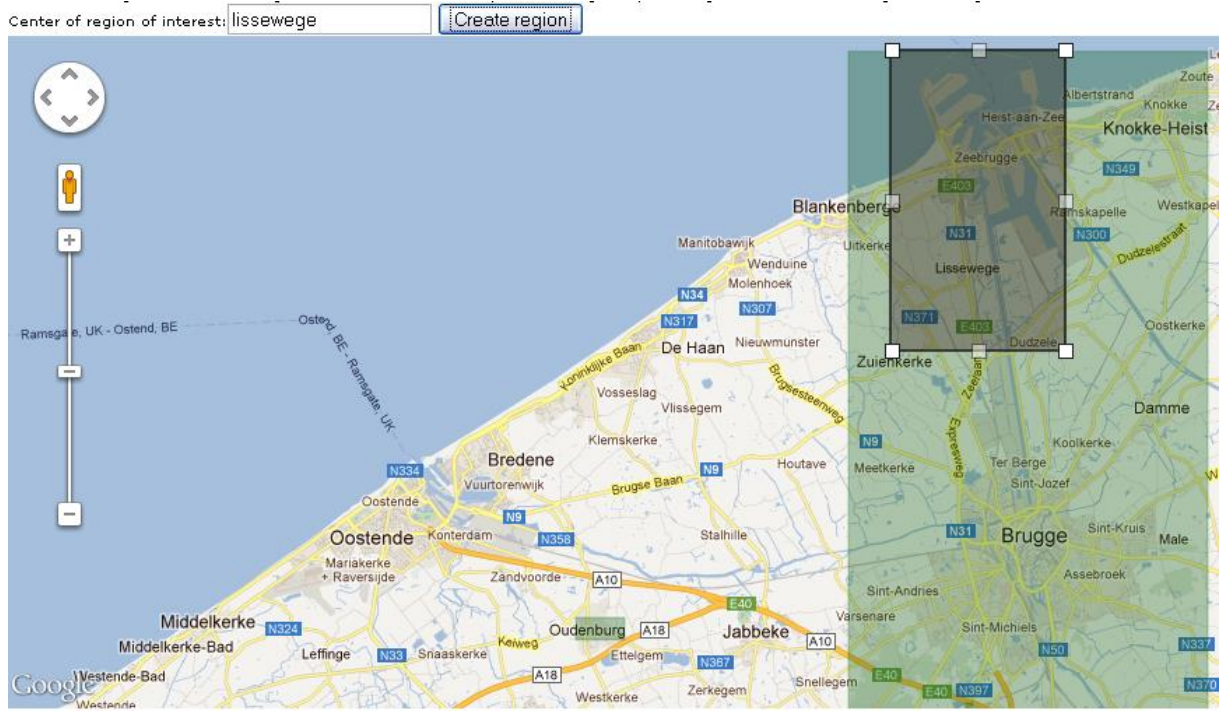


Figure 67 regions

Regions are rectangles. On Figure 67 a combination of regions is shown to build up a custom made geofence.



Geo-fence name:

Enabled:

Role:

Regions of interest	
Name	
Gheeraerts Parkeerterrein	
oudenburg	
brugge	
Unnamed Region	

Figure 68 create a region

A region is created by entering the name of a region (city, street country, ...) and pushing "create region". Then the rectangle can be changed.

For every region, it is possible to define it as a positive or as a negative geo-fence with the *role* it gets

Geo-fence name:

Enabled:

Role:

Figure 69 role of geo-fences

The role can be a *safe zone* or a *prohibited zone*. The latter has always priority on the first one.

Update geo-fence

Regions of interest	
Name	
Gheeraerts Parkeerterein	
oudenburg	
brugge	
Unnamed Region	

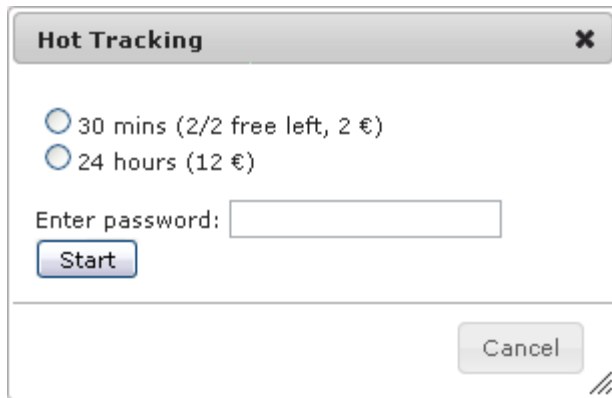
Figure 70 add region to geo-fence

Add it to the geo-fence and you are ready.

6. HOT TRACKING

In some versions of the software it is possible to activate hot tracking. This implies that during a period of time, during driving, a position will be sent every minute, as long as the battery power allows this.

The hot tracking can be activated by pushing  next to the unit hot tracking is wanted for.



The image shows a dialog box titled "Hot Tracking" with a close button (X) in the top right corner. It contains two radio button options: "30 mins (2/2 free left, 2 €)" and "24 hours (12 €)". Below these options is a text input field labeled "Enter password:" and a "Start" button. At the bottom right of the dialog is a "Cancel" button. The dialog box has a standard Windows-style border and a small icon in the bottom right corner.

Figure 71 hot tracking menu

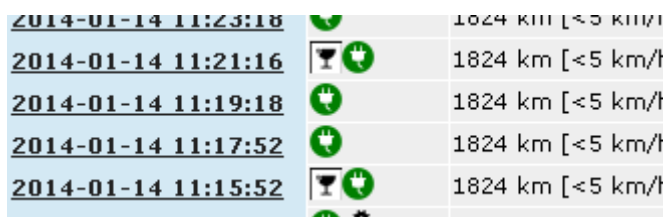
This will activate the menu of Figure 71. You have the choice between 30 minutes (which can be used twice a month for free) or for 24 hours. The login password needs to be given.

If you press by accident, this window can be closed without consequences.

7. ABSOLUTE G-FORCE MEASUREMENT

Almost every b.Alert unit is capable of measuring g-forces on the unit. This is a good indication for the protection of sensitive goods. In function of the weight, a larger alarm is necessary, as a larger force is necessary to damage the goods. The g-measurement is independent of the direction/vector of the force/impact. It is always the amplitude of the largest impact vector that will be used.

When the alarm level is exceeded, this is indicated on the screen



2014-01-14 11:23:18	✓	1024 km [<5 km/t]
2014-01-14 11:21:16	⚠+	1824 km [<5 km/t]
2014-01-14 11:19:18	+	1824 km [<5 km/t]
2014-01-14 11:17:52	+	1824 km [<5 km/t]
2014-01-14 11:15:52	⚠+	1824 km [<5 km/t]

Figure 72 g-force indication too high

This can be found in the history. Under the alarm tab, there is an indicator, to filter out only the units that exceed the force.

A report is generated for the g-values



Figure 73 g-value report button

Only the values above the limit are given in the report.

The setup of the g-alarm is done in the tracking settings as described under 5.8.9 and can be defined for all units, for 1 unit or for a group.

8. SMS COMMUNICATION AND COMMANDS

9. B.ALERT CONNECT UNIT



Figure 74 b.Alert Connect unit

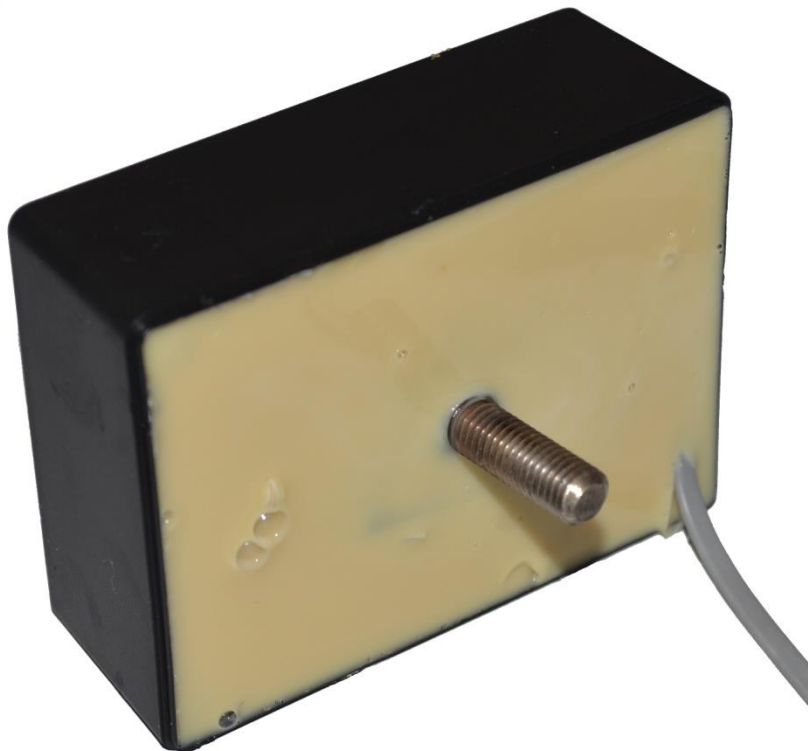


Figure 75 b.Alert Connect unit

The unit exists in 2 versions. They are shown on Figure 74(IP65) and Figure 75(IP 68).

It can be mounted on the chassis of a trailer, vertically or horizontally. The upper side of Figure 74 contains the antennas. It should not be sheltered by metal pieces and should have a sight to the ground. The same goes for the side without fixation of Figure 75.

The fixation of the unit needs to be done to a structural element of the chassis of a trailer. The best way is with a screw and bolts. On Figure 76 the ideal position on the chassis is given.

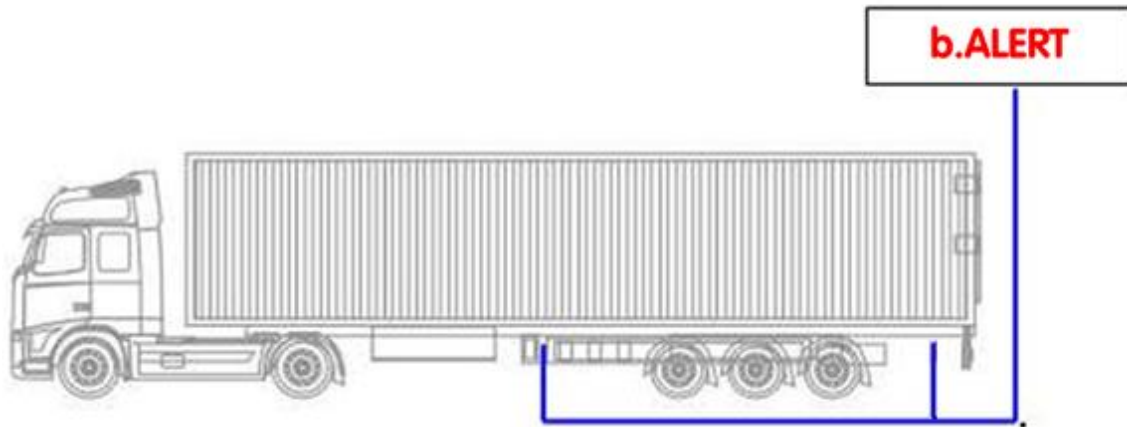


Figure 76 position on trailer

The electrical power connection is done with the wire. The red wire is connected to the positive power and the black to the negative or the mass. The connection needs to be powered as long as the trailer is connected to the tractor, also when the engine of the tractor is not running. The specification is 10 – 30 V DC.

Before installation, it is advised to fully charge the internal battery. Depending on the remaining power in the battery, this will take a maximum of 24 hours. It is advised to charge for 24 hours before installing.

With a fully charged internal battery, the unit consumes a maximum of 10 mA at 24V. The maximum current consumption with an empty internal battery at 24V is 150 mA.

10. B.ALERT MACHINE UNIT

The unit exists in 2 versions. They are shown on Figure 74(IP65) and Figure 75(IP 68).

It can be mounted on the chassis of a trailer, vertically or horizontally. The upper side of Figure 74 contains the antennas. It should not be sheltered by metal pieces and should have a sight to the ground. The same goes for the side without fixation of Figure 75.

The fixation of the unit needs to be done to a structural element that is in direct relation with the engine. The best way is with a screw and bolts.

The electrical power connection is done with the wire. The red wire is connected to the positive power and the black to the negative or the mass. The connection needs to be powered as long as the trailer is connected to the tractor, also when the engine of the tractor is not running. The specification is 10 – 30 V DC.

Before installation, it is advised to fully charge the internal battery. Depending on the remaining power in the battery, this will take a maximum of 24 hours. It is advised to charge for 24 hours before installing.

With a fully charged internal battery, the unit consumes a maximum of 10 mA at 24V. the maximum current consumption with an empty internal battery at 24V is 150 mA.

11. B.ALERT FUEL UNIT

11.1. INSTALLATION



Figure 77 b.Alert Fuel unit

The unit is fixed with the metal ring around the neck of the fuel tank. It needs to be rigidly fixed.



Figure 78 b.Alert Fuel installed on tank

11.2. ELECTRICAL CONNECTIONS

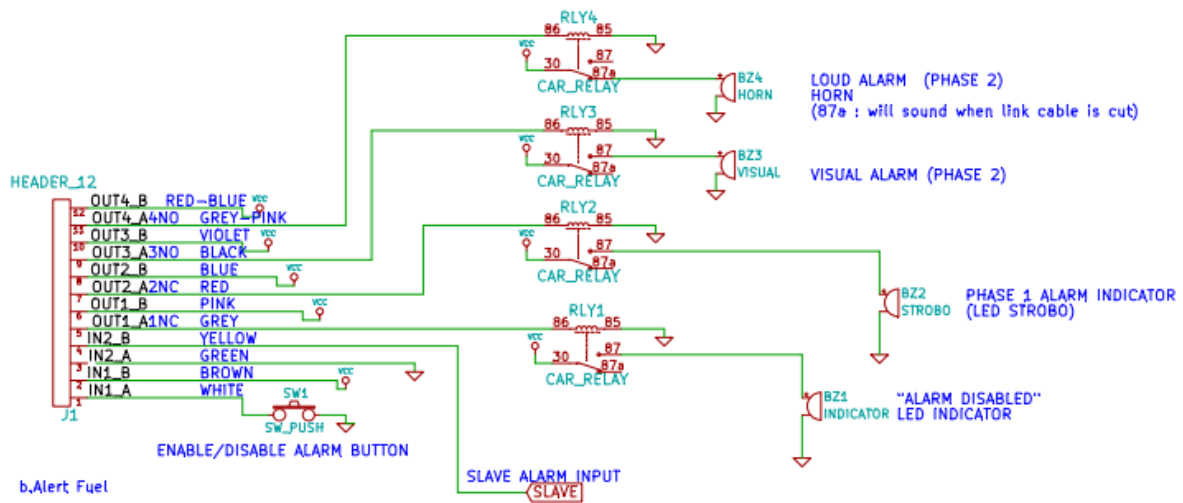


Figure 79 electrical connections b.Alert Fuel

The electrical power connection is done with the power wire. The red wire is connected to the positive power and the black to the negative or the mass. The connection needs to be powered Continuously to keep the unit activated.

The signal cable needs to be connected to lights and horn to produce the alerts in case of an event. Every connection needs to be made through a relay. The choice of the relay connections is important to make sure that, when the cable is cut as a sabotage action, the alarms are activated automatically. The correct port numbers are given on Figure 79.

The alerts are given in 2 phases.

- Phase 1 is given to show the thief that he has been detected. It can be connected to a working light nearby the tank, stroboscope LED's, Also, when somebody touches the tank by accident, he will be warned, without the alarm alerting everybody.
- Phase 2 alert should be connected to the lights of the truck and the horn. When a thief continues to steal, an audible signal is needed.

The alert can be de-activated by a button to be placed in the cabin. In that button, a (red) LED shows that the unit has been deactivated. The button should be a push button as the unit re-activates itself when the user forgets to re-activate the unit.

When a second tank is present, a slave unit has to be placed on this tank. The slave unit has the same physical characteristics as the main unit, but has only 2 wires in the signal cable. These need to be connected to the slave alarm input.

11.3. COLOR CODE CABLE

The color code for the different cable lines and numbers is given on Figure 79.

11.4. ELECTRICAL CHARACTERISTICS OF THE CONNECTIONS

The specification for the power is 10 – 30 V DC. With a fully charged internal battery, the unit consumes a maximum of 0.01 A. the maximum current consumption with an empty internal battery at 24V is 150 mA. With a fully charged internal battery, the unit consumes a maximum of 0.01 A. the maximum current consumption with an empty internal battery at 24V is 150 mA.

The unit has maximum 6 connections: 2 inputs and 4 outputs. They have following electronic characteristics and functionality.

For the outputs, there are 2 types present: normally open and normally closed. These outputs are meant to connect to relays. These (automotive) relays are connected to the automotive electronics. **This needs to be executed by competent specialists.** They need to make the correct choice of the (automotive) relays in function of the car/truck/trailer/van/... electronics and the needed functionality.

The characteristics and functionality of the b.Alert Plus outputs and inputs is given by

- 2 x Input connections : Bidirectional optically isolated inputs : max 30V continuous (both polarities supported) : Input voltage determines the logical value of the input
 - voltage between the 2 pins of the input > 3V = input logical ON state
 - voltage between the 2 pins of the input < 1V = input logical OFF state
- 4 x Output connections : OptoMos Relay : works like a switch
 - specs: max 250mA, max 30V continuous (both polarities supported)
 - nr 1, 2 and 3 are normally closed types,
 - nr 4 is normally open types.
- **WARNINGS**
 - **Do not control heavy loads directly, respect the max current limit: Recommended automotive setup : use the OptoMos relay output to control an appropriate automotive relay coil.**
 - **Do not connect GND to one pin and VCC to the other pin of the output : the moment the relay closes you have short circuit.**

11.5. B.ALERT FUEL UTILIZATION

b.Alert fuel works fully automated. The alerts are created the moment an important vibration is given on the fuel tank, for instance by opening the lid or by drilling a hole.

The advanced version will also send a silent alert.

There is only 1 manipulation for the driver:



- **When refilling the tank, when maintaining the truck or when loading or unloading the trailer/truck, the alarm has to be de-activated by pushing the button in the cabin.** At this moment the led on the button will light up and the alarm will not activate.
- Re-pushing the button will re-activate the alarm. When the driver forgets to re-activate the alarm, it is re-activated automatically when he drives again.

The same button is used to stop an alarm situation.

When the unit is de-activated, there will be no alarm signals, except a silent alarm that is sent to the platform. The operator can check if the alarm was on on a site where it is logical and allowed to deactivate the alarm.

11.6. B.ALERT FUEL ON THE PLATFORM

A silent alarm is generated for phase 2 and is indicated on the screen with following symbols.

- Fuel alert: 
- Fuel alert with the de-activation button pressed, i.e. only a silent alert: 

The details are given in 5.6.10 on page 57.

A special fuel report is created with the dates and the addresses for all alerts. Details are given in 5.5 on page 45.

12. B.ALERT FUEL V2

12.1. INSTALLATION

The unit consists of 2 or more elements:

- A main unit
- One or more sensors

The main units has to be fixed with a nut on the chassis, as close as possible to the point where the fuel tanks are fixed to the chassis.

The sensors are connected to the main unit with a cable, one after the other. They are foreseen with a metal ring and need to be fixed to the neck of the fuel tank as rigidly as possible. This is shown on Figure 78.

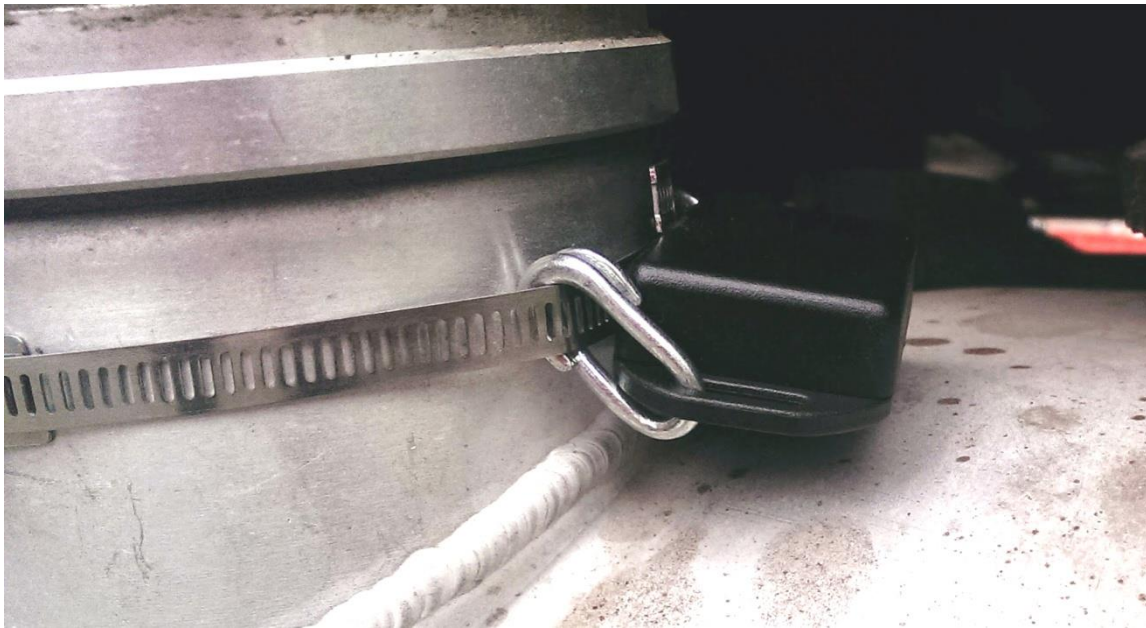


Figure 80 b.Alert Fuel v2 sensor installed on tank

12.2. ELECTRICAL CONNECTIONS

The electrical connections need to be made on the main unit. There is a small cable glant for the power connection and a wide cable glant for the connections to the different alarms.

Be careful to close the cable glants after putting the cables through with enough strength that they are closed perfectly around the cables. This is necessary to keep the unit water tight.

To make the connections, open the main unit carefully by unscrewing the 4 top screws.

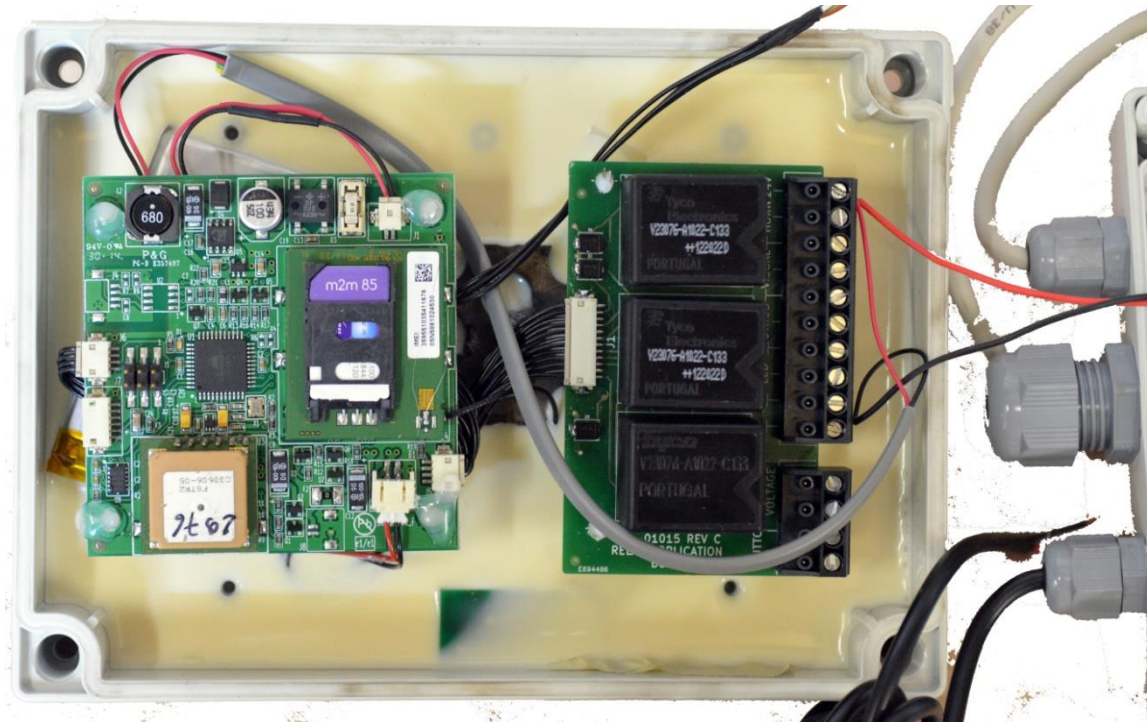


Figure 81 inside of main unit

All cables need to be connected to the screw connectors as shown on Figure 82 and Figure 83.

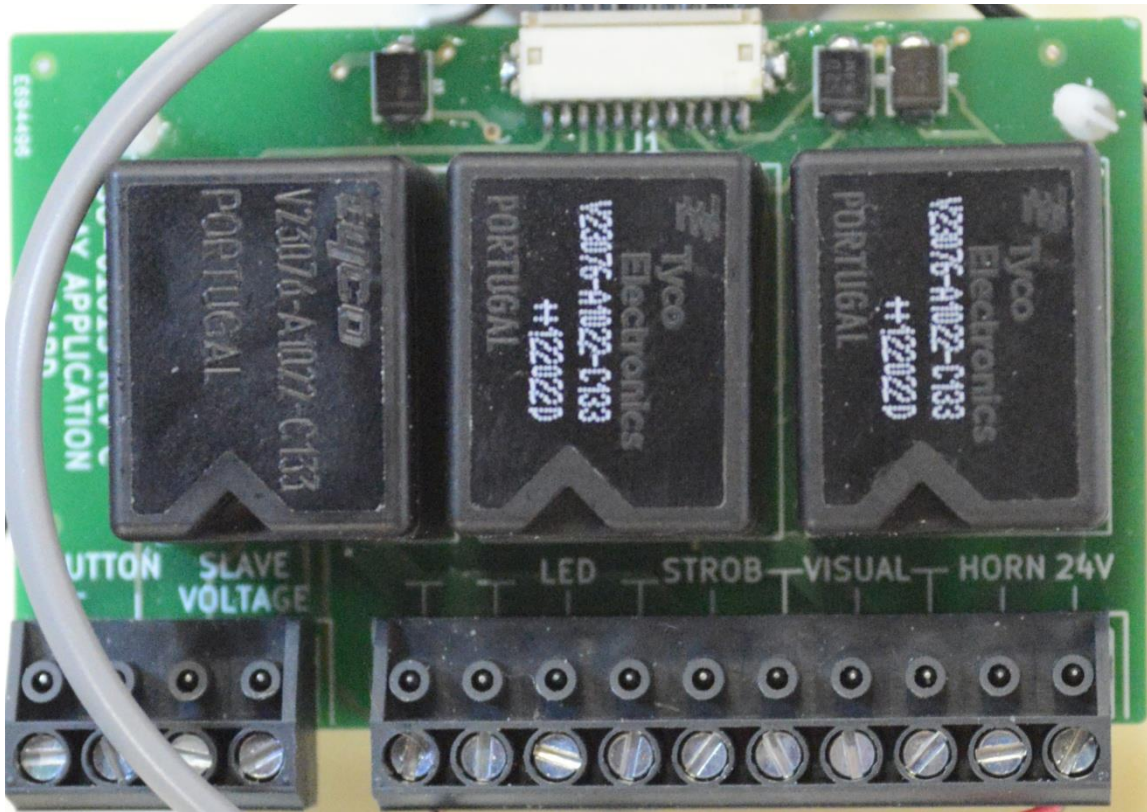


Figure 82 cable connections on main unit

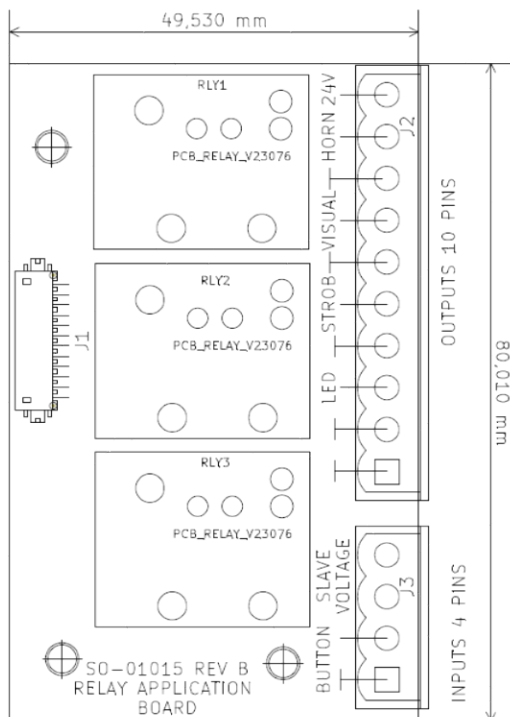


Figure 83 cabel connections main unit : scheme

On the pcb lay-out, the names of the connections are printed. For every function, there is a positive connector and a (negative) mass. All mass connections are connected to each other. In this way, it is possible to connect a double wire (positive and negative) or only a single positive cable and to connect the mass to a mass point on the truck.

The electrical power connection is connected to the positive power 24V and to the negative or the mass on the other side of the connector. The connection needs to be powered continuously to keep the unit activated. When the power is disconnected or lost, a phase 2 alarm will be given. The power consumption has a maximum charge of 12 A.

The signal cables need to be connected to lights and horn to produce the alerts in case of an event. A relay is not necessary, these are already present in the main unit as can be seen on Figure 82. The correct port numbers are given on Figure 79.

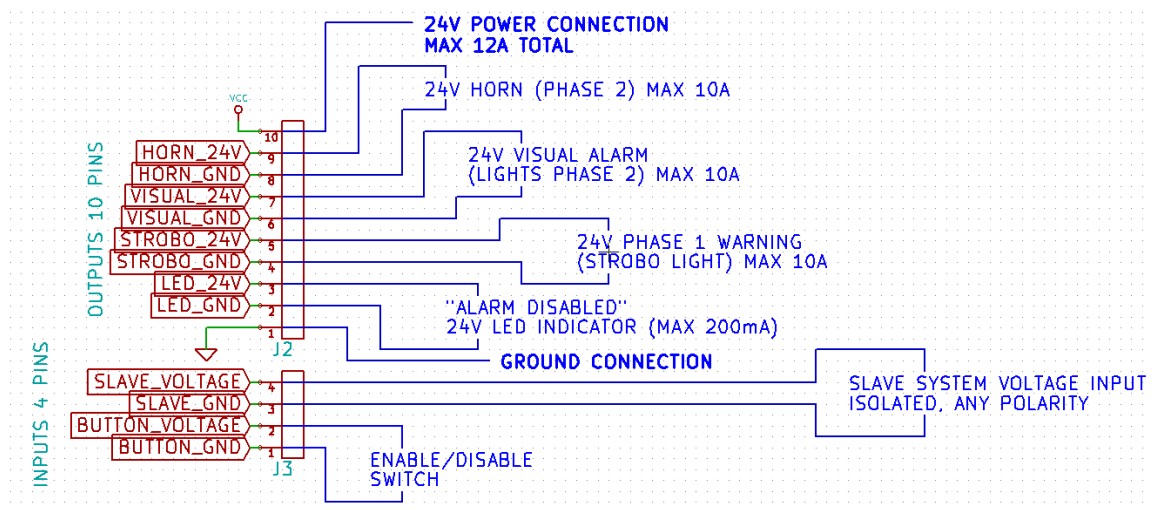


Figure 84 electrical connections b.Alert Fuel V2

The alerts are given in 2 phases.

- Phase 1 is given to show the thief that he has been detected. It can be connected to a working light nearby the tank, stroboscope LED's, Also, when somebody touches the tank by accident, he will be warned, without the alarm alerting everybody. This is connector **STROB**.
- Phase 2 alert should be connected to the lights of the truck and the horn. When a thief continues to steal, an audible signal is needed. The connections are **VISUAL** and **HORN**. **REMARK THAT ON THE PCB THE NAMES HAVE BEEN PRINTED WRONGLY. THE HORN NEEDS TO BE CONNECTED TO THE WORD "VISUAL" AND THE VISUAL TO THE WORK "HORN"**.

The alert can be de-activated by a button to be placed in the cabin. In that button, a (red) LED shows that the unit has been deactivated. The button should be a push button as the unit re-activates itself when the user forgets to re-activate the unit.

The connections for the button are

- **BUTTON** on the small connector fo the button itself
- **LED** for the indicator LED in or near the button

12.3. ELECTRICAL CHARACTERISTICS OF THE CONNECTIONS

The specification for the power is 10 – 30 V DC. With a fully charged internal battery, the unit consumes a maximum of 0.01 A. the maximum current consumption with an empty internal battery at 24V is 150 mA. With a fully charged internal battery, the unit consumes a maximum of 0.01 A. the maximum current consumption with an empty internal battery at 24V is 150 mA.

The unit has maximum 6 connections: 2 inputs and 4 outputs. They have following electronic characteristics and functionality.

For the outputs, there are 2 types present: normally open and normally closed.

The characteristics and functionality of the b.Alert Plus outputs and inputs is given by

- 2 x Input connections : Bidirectional optically isolated inputs : max 30V continuous (both polarities supported) : Input voltage determines the logical value of the input
 - voltage between the 2 pins of the input > 3V = input logical ON state
 - voltage between the 2 pins of the input < 1V = input logical OFF state
- 1 x Output connections : OptoMos Relay : works like a switch
 - specs: max 250mA, max 30V continuous (both polarities supported)
 - connection LED
- 3 x output connection : relay :
 - specs: max 10A, max 30V continuous (both polarities supported)
 - horn is normally open type, the others are normally closed.

12.4. B.ALERT FUEL V2 UTILIZATION

b.Alert fuel works fully automated. The alerts are created the moment an important vibration is given on the fuel tank, for instance by opening the lid or by drilling a hole.

The advanced version will also send a silent alert.

There is only 1 manipulation for the driver:



- **When refilling the tank, when maintaining the truck or when loading or unloading the trailer/truck, the alarm has to be de-activated by pushing the button in the cabin.** At this moment the led on the button will light up and the alarm will not activate.
- Re-pushing the button will re-activate the alarm. When the driver forgets to re-activate the alarm, it is re-activated automatically when he drives again.

The same button is used to stop an alarm situation.

When the unit is de-activated, there will be no alarm signals, except a silent alarm that is sent to the platform. The operator can check if the alarm was on on a site where it is logical and allowed to deactivate the alarm.

12.5. B.ALERT FUEL V2 ON THE PLATFORM

A silent alarm is generated for phase 2 and is indicated on the screen with following symbols.

- Fuel alert: 
- Fuel alert with the de-activation button pressed, i.e. only a silent alert: 

The details are given in 5.6.10 on page 57.

A special fuel report is created with the dates and the addresses for all alerts. Details are given in 5.5 on page 45.

13. B.ALERT TPMS

13.1. INSTALLATION OF THE UNIT



Figure 85 TPMS unit with sensors

The unit needs to be placed on the chassis of the truck or trailer.

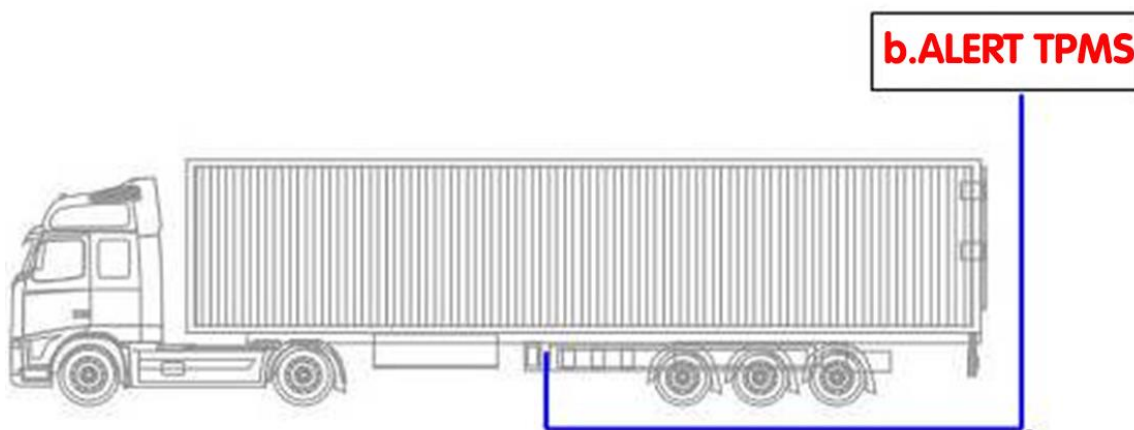


Figure 86 TPMS optimal position

An optimal position of the b.Alert TPMS unit on a trailer is on the inside of the chassis positioned as shown on Figure 86 TPMS optimal position.

13.2. ELECTRICAL CONNECTIONS

The electrical power connection is done with the wire. The red wire is connected to the positive power and the black to the negative or the mass. The connection needs to be powered as long as the trailer is connected to the tractor, also when the engine of the tractor is not running. The specification is 12 or 24 V DC.

With a fully charged internal battery, the unit consumes a maximum of 70 mA. the maximum current consumption with an empty internal battery at 24V is 150 mA.

If wanted, the unit is foreseen with a local alarm.

Relay 4 (seeFigure 93) is closed for an alarm situation.

- **WARNINGS**

- **Do not control heavy loads directly, respect the max current limit: Recommended automotive setup : use the OptoMos relay output to control an appropriate automotive relay coil.**
- **Do not connect GND to one pin and VCC to the other pin of the output : the moment the relay closes you have short circuit.**

13.3. PROGRAMMING OF THE SENSOR NUMBERS

The unit is delivered with pre-programmed sensors. They only have to be reprogrammed when they are replaced.

Remark that the numbering of the sensors is defined during the programming. With the unit, a document is delivered with the sensor numbers and their position. So, it is important to keep the sensors on the correct positions to get a correct report.

13.3.1. OPENING THE UNIT

Open the main unit on the screws with a screw as indicated on \$. You need a screw driver as shown on \$ with flat ends. Be careful to do this in a dry environment and to be careful with the wires inside. The unit needs to be powered to be able to make the changes.

Inside a screen and buttons are present as shown on

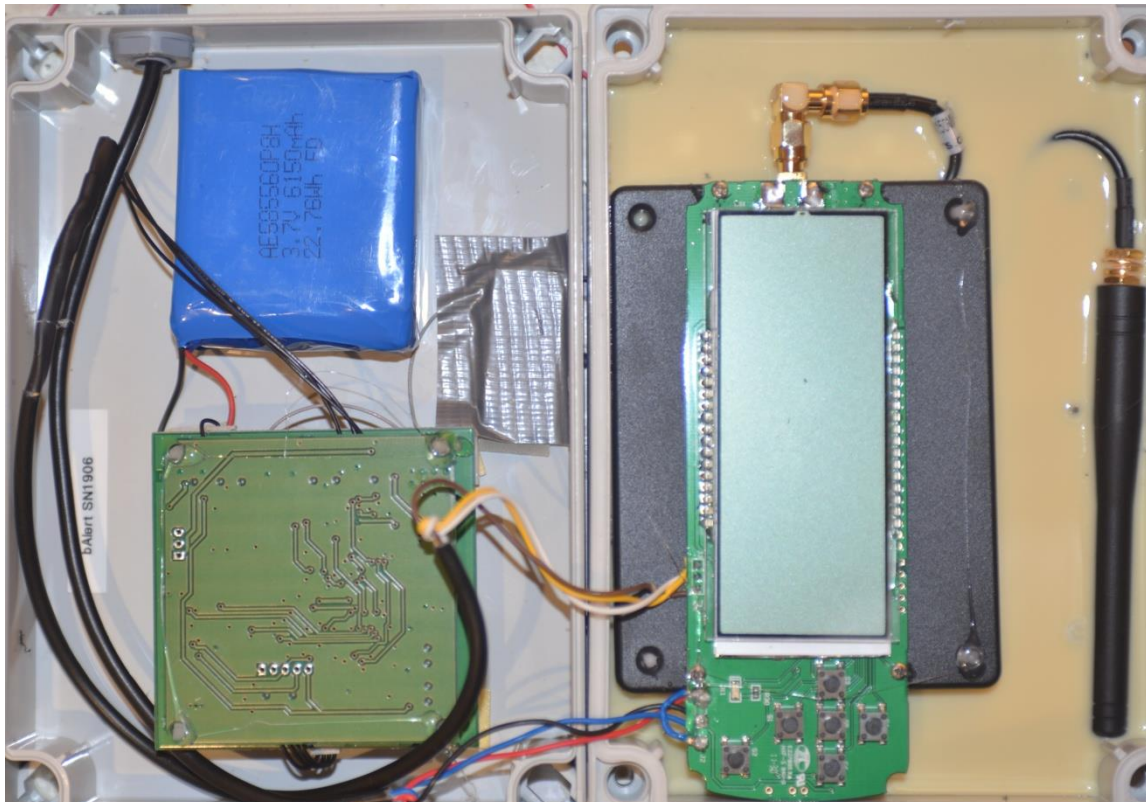


Figure 87 open b.Alert TPMS unit

13.3.2. PROGRAMMING THE SENSOR NUMBERS

Each transmitter has 4 groups of ID, for example when program the transmitter with ID of 001 001 001 158 to front right tire position, the user only needs to input the last 3 digits "158". Receiver will record the rest 3 groups of ID automatically.

Press P for 3 seconds to access the system programming mode, the first interface is for ID programming as shown on Figure 88.

Press the P button to go through the menu until you arrive at the “delete” menu, as in Figure 89. Press any of the four arrow keys to choose the transmitter position which needs to be changed. Press S for 3 seconds to delete with the screen flashes twice and beep buzzes twice to confirm the deletion. Then it automatically switches to next transmitter location.



Figure 88 program menu

Press the P button to go through the menu until you arrive at the “program” menu as in.



Figure 89 delete menu

Press any of the four arrow keys to choose the transmitter position which needs to be programmed. Then press S for 3 seconds to start programming and the digit flashes, then press up or down arrow key to adjust the value. Once finish programming of the first digit, press -> to start programming the second digit which flashes. Press up or down arrow key to adjust the value. Press -> again to program the third digit which flashes. Press up or down arrow key to adjust the value. When finish programming these 3 digits, press S for 3 seconds to save with the screen flashes twice, beep buzzes twice. Then it will automatically switch to next tire position. Follow the above operations to program ID of other transmitters.

After programming, press P key for 3 seconds to return to normal mode.

13.4. INSTALLATION OF THE SENSORS

Transmitter

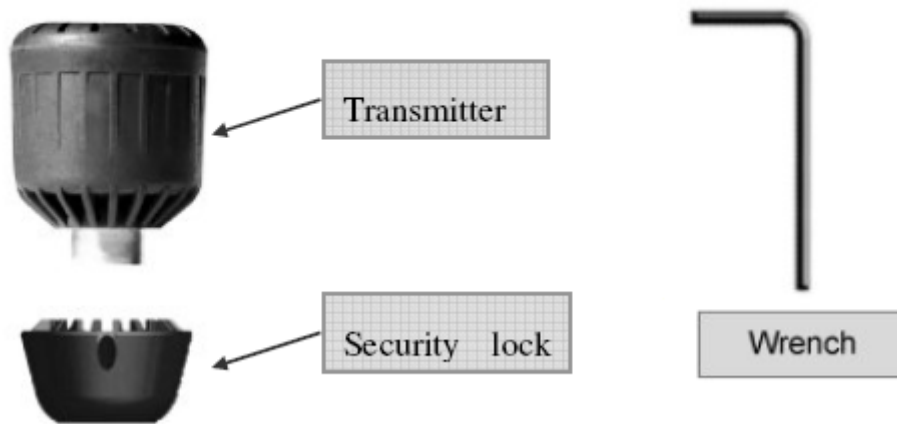


Figure 90 TPMS sensor

Before install the transmitter, make sure the transmitter has been programmed into the unit. When the transmitter is screwed onto the valve according to the programmed position, the receiver can receive the signals.



Figure 91 position of tyre sensor

The sensors are screwed on the valves of the wheels as is shown on Figure 91. Check the connection of Transmitter and valve with the soap solution to confirm whether the transmitter is firmly screwed onto the valve or not, check whether there is air leakage caused by the installation or the seal of the Transmitters or not.

Each transmitter has a lock to prevent it becomes loose or falls off. Install the lock or not will not influence the functions of the Transmitter. Each transmitter has a security lock and wrench to prevent it becoming loose or falling off. First connect the meshing parts of the Lock and the Transmitter to make them an integrated part, and then screw the Transmitter together with the Lock firmly onto the valve, as shown in Figure 90. Use the provided wrench to fasten the three bolts inside the sockets on the Lock to make sure the Transmitter together with the Lock firmly onto the valve. Then the Transmitter cannot be screwed off unless the three bolts are screwed off by using the wrench.

13.5. INSTALLING SENSORS ON DOUBLE WHEELS/TIRES

When a wheel is behind another, a full metal spacer is needed. Plastic tubes or metal tubes with plastic fillings are no allowed.

The standard setup of sensor, T-piece and spacer is given on



Figure 92 installatin in inner tire

This implies that both sensors will be outside.

When it is possible to put the b.Alert TPMS unit at a maximum distance of 4 m of all tires and sensors and when there are enough non metallic opening in the wheels, it is possible, after testing, to put the T-pieces and sensors on the wheel and the spacer to the outside to inflate the tires..

13.6. USE OF B.ALERT TPMS

b.Alert TPMS works fully automated. All data and every setup are done through the web interface. The transmission of the data starts the moment the main unit is powered. Remark that, when the unit starts, it will take some time before all measurements are transmitted from the sensors to the main unit and from the main unit to the platform. Only alarms are sent instantaneously.

b.Alert TPMS has 3 functions:

- Information about the current and the historical pressures and temperatures of the tyres
- A maintenance program to indicate which tyres need to be inflated. To define these tyres, we use the values of the pressures at low temperatures and not at high temperatures during driving
- Alarms by email, SMS, on screen and to onboard computer in the tractor for
 - High pressure
 - Low pressure
 - Pressure change too fast
 - Temperature difference between wheels too high
 - Tyre deflated

14. B.ALERT CONNECT PLUS

14.1. INSTALLATION

The unit b.Alert Connect Plus has 1 or 2 inputs. These inputs can be used

- to connect to an external voltage signal to check for instance if an engine is running or powered, ...
- to connect to a push button where an operator can send a signal to the server
- to connect to a switch button to change a status on the server

14.2. ELECTRICAL CONNECTIONS

The electrical power is given via the 2 line wire. The connection needs to be powered permanently. The specification is 10 – 30 V DC.

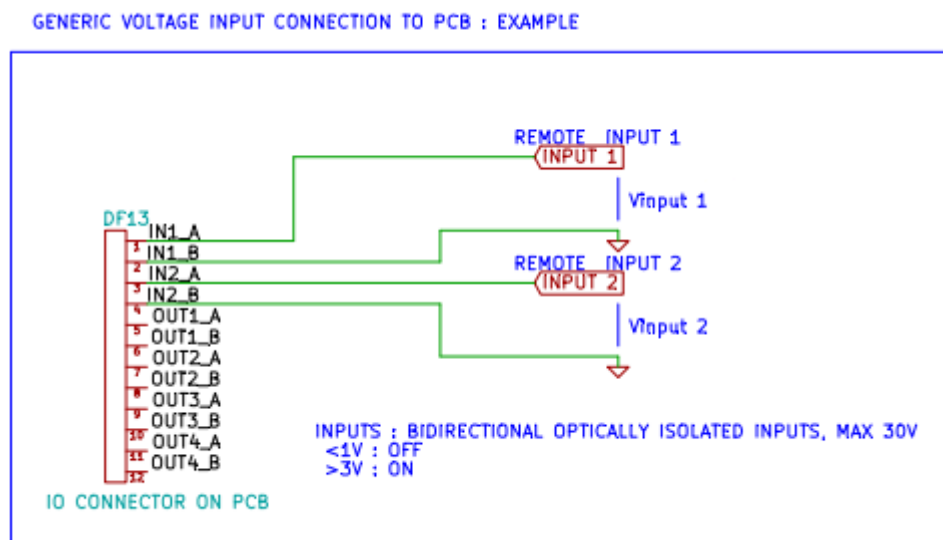


Figure 93 generic voltage input and output connections

The colors of the wires are

- IN1 A: white
- IN1 B: brown
- IN 2C: yellow
- IN2 D: greens

1x PUSH BUTTON INPUT + 1 x VOLTAGE INPUT CONNECTION TO PCB : EXAMPLE

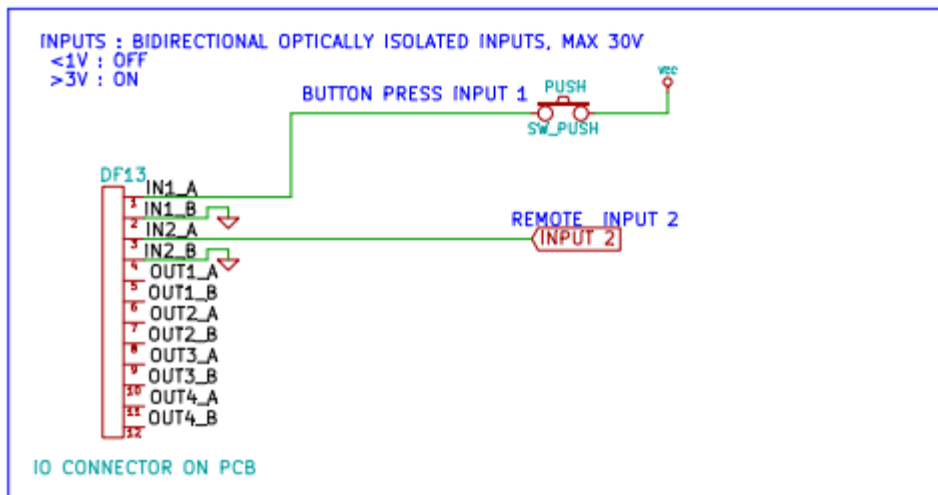


Figure 94 1 x push button input + 1 x voltage input

The 2 or 4 signal line cable needs to be connected to a button or to a signal to be measured. The connections for the 3 possible setups are given on the examples of Figure 94, Figure 95 and Figure 93. The different types can be combined in any way.

2x PUSH BUTTON INPUT CONNECTION TO PCB : EXAMPLE

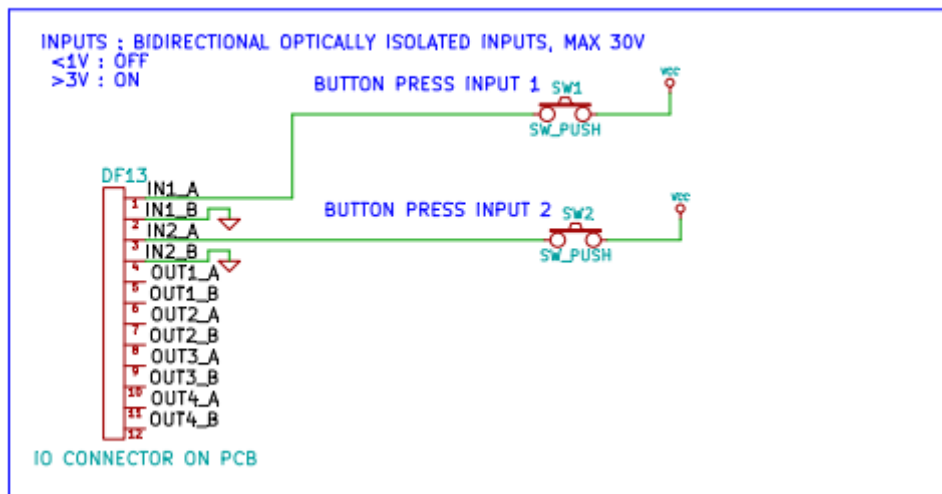


Figure 95 2x push button input connection

The input signal will be recognized as “on” or “off” by the measured voltage. This voltage is limited to 30 V. When it is lower than 1V, the signal is “off”, when it is higher than 3 V, it is “on”.

Remark that it is not enough to connect a button or switch to the input. There is always the need of a power source.

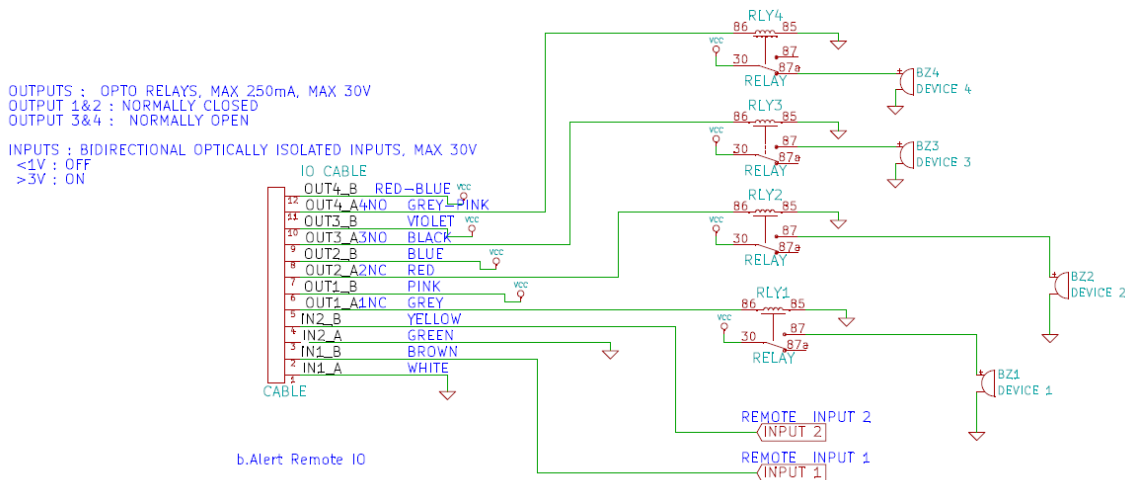


Figure 96 full connection scheme

When the inputs and the outputs are used, all inputs and outputs are connected. In that case the color code of Figure 96 is valid.

14.3. COLOR CODE CABLE

The color code for the different cable lines and numbers is given on **Error! Reference source not found.**

14.4. ELECTRICAL CHARACTERISTICS OF THE CONNECTIONS

The unit has maximum 6 connections: 2 inputs and 4 output. They have following electronic characteristics and functionality. For the outputs, there are 2 types present: normally open and normally closed. These outputs are meant to connect to relays. These (automotive) relays are connected to the automotive electronics. This need to be executed by competent specialists. They need to make the correct choice of the (automotive) relays in function of the car/truck/trailer/van/... electronics and the needed functionality.

The characteristics and functionality of the b.Alert Plus outputs and inputs is given by

- 2 x Input connections : Bidirectional optically isolated inputs : max 30V continuous (both polarities supported) : Input voltage determines the logical value of the input

- voltage between the 2 pins of the input > 3V = input logical ON state
- voltage between the 2 pins of the input < 1V = input logical OFF state
- 4 x Output connections : OptoMos Relay : works like a switch
 - specs: max 250mA, max 30V continuous (both polarities supported)
 - nr 1 and 2 are normally closed types,
 - nr 3 and 4 are normally open types.
- **WARNINGS**
 - **Do not control heavy loads directly, respect the max current limit: Recommended automotive setup : use the OptoMos relay output to control an appropriate automotive relay coil.**
 - **Do not connect GND to one pin and VCC to the other pin of the output : the moment the relay closes you have short circuit.**

14.5. B.ALERT CONNECT PLUS UTILIZATION

The status of the input signals is given by an indication in the status field as shown on **Error! Reference source not found.** It is shown in the overview screen and in the history screen.

A grey symbol indicates that the input has no input, i.e. has a status 0 or “off”. A red circle indicates that this input has an input and the status is 1 or “on”.

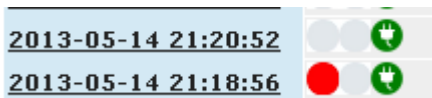


Figure 97 indication status field

When the status of the inputs changes, a transmission to the server is given. In this way the timing of the signal being on or off is correct.

Alarms can be defined on the inputs. They can be defined for a level “high” or a level “low”. When this alarm is triggered, it is indicated with a red triangle

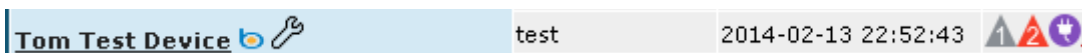


Figure 98 indication status field alarm

15. B.ALERT IMMOBILIZER

15.1. INSTALLATION

The unit b.Alert Connect Plus has 1 output and 1 power line.

The power needs to be connected to the battery, the output line to a relay that opens or closes the power to the start engine.

15.2. ELECTRICAL CONNECTIONS

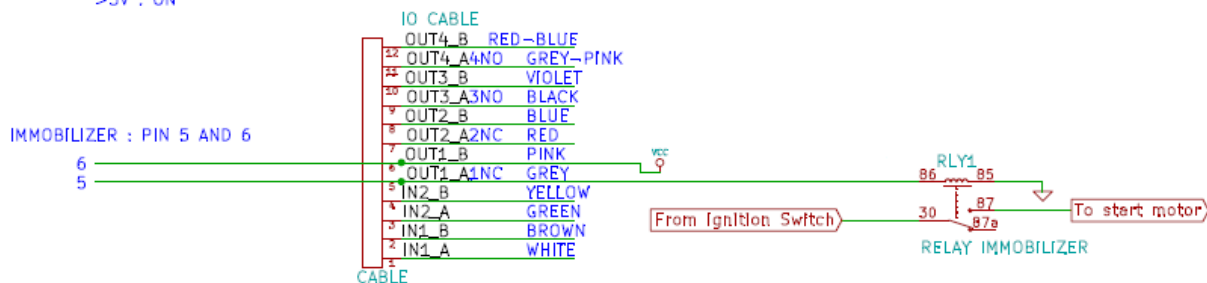
The electrical power is given via the 2 line wire. The connection needs to be powered permanently. The specification is 10 – 30 V DC.

Next to this there are 2 lines to block or unblock the start engine.

REMOTE IO CONNECTION EXAMPLE IMMOBILIZER

OUTPUTS : OPTO RELAYS, MAX 250mA, MAX 30V
OUTPUT 1&2 : NORMALLY CLOSED
OUTPUT 3&4 : NORMALLY OPEN

INPUTS : BIDIRECTIONAL OPTICALLY ISOLATED INPUTS, MAX 30V
<1V : OFF
>3V : ON



b.Alert Remote IO

Figure 99 electrical connections start engine blocking.

15.3. COLOR CODE CABLE

The color code for the different cable lines and numbers is given on **Error! Reference source not found.**

15.4. ELECTRICAL CHARACTERISTICS OF THE CONNECTIONS

The output is meant to connect to a relay. This(automotive) relay is connected to the automotive electronics. This need to be executed by competent specialists. They need to make the correct choice of




the (automotive) relays in function of the car/truck/trailer/van/... electronics and the needed functionality.

The characteristics and functionality of the b.Alert output is inputs is given by

- Output connection : OptoMos Relay : works like a switch
 - specs: max 250mA, max 30V continuous (both polarities supported)
- **WARNINGS**
 - **Do not control heavy loads directly, respect the max current limit: Recommended automotive setup : use the OptoMos relay output to control an appropriate automotive relay coil.**
 - **Do not connect GND to one pin and VCC to the other pin of the output : the moment the relay closes you have short circuit.**


15.5. IMMOBILIZER UTILIZATION

Next to the name of the unit in the table the symbol  appears. This symbol indicates that the start engine is unlocked and that the vehicle can be started.

To change the status and block the start engine, the user has to click on this icon. A menu appears



Figure 100 block start engine confirmation

The user has to enter and confirm the password and the icon changes in .

The next time the unit will contact the server, the command to block the engine will be transmitted. Remark that the start engine will only be blocked after this communication. When this communication is at a moment that the engine is running or the vehicle is driving, the start engine will only effectively be blocked after the next time the engine is switched off.

The exact timing is a function of the exact timing of the settings.

To make sure that it is easy to de-block the start engine, as long as the start engine is blocked, the transmission interval will be 5 minutes. So, **when the start-engine is blocked, within a maximum of 5 minutes it can be released.**

To de-block the engine, the user has to click on the icon mentioned, the menu of Figure 100 will re-appear, to enter the password.

16. B.ALERT CONNECT PLUS : PRIVATE/BUSINESS

16.1. INSTALLATION

The unit b.Alert Connect Plus has 1 input, 1 output and 1 power line.

The power needs to be connected to the battery, the output line to a relay that opens or closes the power to the start engine.

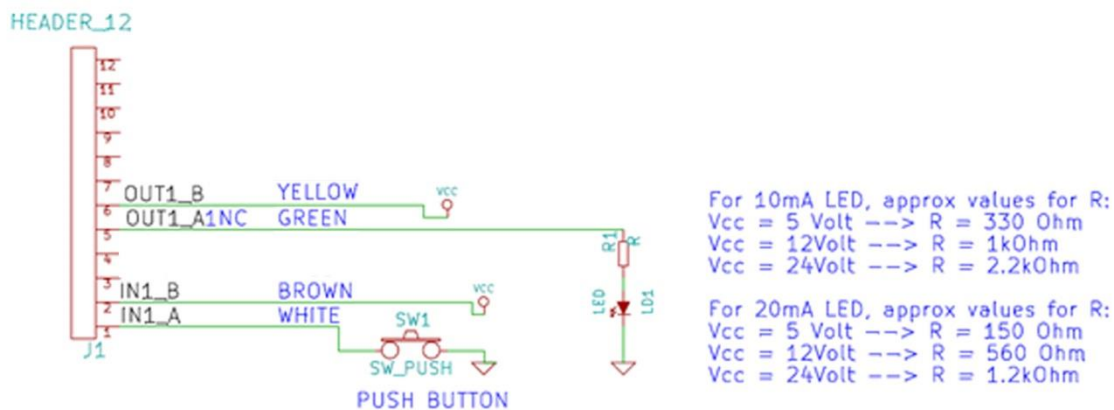
16.2. ELECTRICAL CONNECTIONS

The electrical power is given via the 2 line wire. The connection needs to be powered permanently. The specification is 10 – 30 V DC.

Next to this there are 12 lines to block or unblock the start engine.

- In1 is connected to a push-button. Pressing on it will change the use of the unit from business to private and vice versa.
- Out1 is connected to a led indicator. When the led is on, the unit drives in private mode, when the led is out, the unit is working in business mode.

16.3. COLOR CODE CABLE



b.Alert 1Button – 1Led Setup

Figure 101 connection scheme 1 input 1 output

The colors are given on Figure 101.

In some versions, the output 1 will be green and yellow. **Error! Reference source not found.**

16.4. ELECTRICAL CHARACTERISTICS OF THE CONNECTIONS

The output is meant to connect to a relay. This(automotive) relay is connected to the automotive electronics. This need to be executed by competent specialists. They need to make the correct choice of the (automotive) relays in function of the car/truck/trailer/van/... electronics and the needed functionality.

The characteristics and functionality of the b.Alert output is inputs is given by

- 2 x Input connections : Bidirectional optically isolated inputs : max 30V continuous (both polarities supported) : Input voltage determines the logical value of the input
 - voltage between the 2 pins of the input > 3V = input logical ON state
 - voltage between the 2 pins of the input < 1V = input logical OFF state
- 4 x Output connections : OptoMos Relay : works like a switch
 - specs: max 250mA, max 30V continuous (both polarities supported)
 - nr 1 and 2 are normally closed types,
 - nr 3 and 4 are normally open types.
- **WARNINGS**
- Do not control heavy loads directly, respect the max current limit: Recommended automotive setup : use the OptoMos relay output to control an appropriate automotive relay coil.
- Do not connect GND to one pin and VCC to the other pin of the output : the moment the relay closes you have short circuit.

The connection details are given on Figure 101.

16.5. P/B UTILIZATION

Under normal conditions, every user can see the address where the unit is.

With the P/B setup, a limited user needs to be coupled the unit⁸.

Optionally the limited user can fill in his mobile phone number. At that moment he can couple or decouple from a unit with an SMS command, and he can set the unit in private or business use with an SMS command. The command for private is "P" and the command for business is "B"⁹.

Standard, the user is able to change the use of the unit from business to private and back by pushing the button. As a confirmation, the server will change the LED from off (business use) to on (private use). As it is the server who changes the status of the led, there is a short delay between pushing the button and the change of the led indication.

Remark that the time between 2 changes needs to be at least 5 minutes. When the button is pushed faster, nothing will happen.

When the unit has a low battery or is recovering from a low battery, it is possible that it will not react.

When the unit is in private use, the address will only show up for the user himself. The administrative user and other limited users will see the indication "private" instead of an address.

However, the distances driven are logged correctly.

⁸ Remark that the unit needs to be assigned to the limited user in order to be able to couple to it.

⁹ Remark that only 1 device can be coupled to a user with the same phone number.

16.6. P/B SETUP

the setup is done under the directory “Devices”.

On the bottom of the menu, a list of possible devices is given

No device is coupled to user demo

0333 universal demo unit

No device is coupled to user demo

0333 universal demo unit

- 0333 universal demo unit
- 1222
- 1228 car HS
- 1376 demo klein basic
- 1400 demo basic plus
- 1578 ingepot met draadstang
- 1641 demo basic long potted
- 1665 fuel
- 1667 TPMS car HS
- 1671 demo TPMS
- 1792 fuel all
- 1904 test g meting

Figure 102 coupling a Device to a user

When a unit is chosen, it needs to be coupled by pushing the button ‘couple device’. Then the device is coupled to this user. Only for devices where a user is coupled, it is possible to change the use from private to business and vice versa.

16.7. P/B REPORTS

Yearly a report for the distances driven privately and the distances driven for business can be created.

Remark that the distance driven counted by the GPS system and the distance driven indicated in the vehicle will not be the same. The latter is indeed defined by the diameter of the tires, which is changing due to the wear.

For this reason, before the report is printed, a menu appears to enter the distances indicated on the dashboard¹⁰;

\$

¹⁰ For fiscal administrations, this is the only correct value.

20. ACTIVE TAG APPLICATIONS

21. INTEGRATION

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REGULATIONS



All hardware complies with CE, EMC and low voltage directives of the EU. It needs to be correctly installed on a compatible host system.

The modules have been assessed in order to satisfy the essential requirements of the R&TTE Directive 1999/05/EC (Radio Equipment & Telecommunications Terminal Equipments) to demonstrate the conformity against the harmonized standards with the final involvement of a Notified Body.

The modules are in compliance with the essential requirements and other relevant provisions of the directives 2006/95/EC (LVD), 2011/65/EU (RoHS) and 2004/104/EC (EMC).

BATTERY DISPOSAL

Risk of explosion if the battery is replaced with an incorrect type. Batteries should be recycled where possible. Disposal of used batteries must be in accordance with local environmental regulations.

HIGH RISK MATERIALS

Components, units, or third-party products used in the product described herein are NOT fault-tolerant and are NOT designed, manufactured, or intended for use as on-line control equipment in the following non limited list of hazardous environments requiring fail-safe controls: the operation of Nuclear Facilities, Aircraft Navigation or Aircraft Communication Systems, Air Traffic Control, Life Support, or Weapons Systems (High Risk Activities”). B.Alert and its supplier(s) specifically disclaim any expressed or implied warranty of fitness for such High Risk Activities.

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European Directive 2002/96/EC requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more

detailed information about the disposal of your old equipment, please contact your local authorities, waste disposal service, or the shop where you purchased the product.



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B.ALERT warrants that the products described below under normal use are free from material defects in materials and workmanship during the Limited Product Warranty Period set forth below ("Limited Product Warranty Period"), if the product is used and serviced in accordance with the user manual and other documentation provided to the purchaser at the time of purchase (or as amended from time to time).

B.ALERT does not warrant that the products will operate uninterrupted or error-free or that all deficiencies, errors, defects or non-conformities will be corrected.

This warranty shall not apply to problems resulting from: (a) unauthorized alterations or attachments; (b) negligence, abuse or misuse, including failure to operate the product in accordance with specifications or interface requirements; (c) improper handling; (d) failure of goods or services not obtained from B.ALERT or not subject to a then-effective B.ALERT warranty or maintenance agreement, (e) improper use or

storage, (f) opening or removing Covers or (g) fire, water, acts of God or other catastrophic events. This warranty shall also not apply to any particular product where the B.ALERT serial number has been removed or defaced in any way b.Alert is not responsible for damage that occurs as a result of your failure to follow the instructions for b.Alert

LIMITED PRODUCT WARRANTY PERIOD

The Limited Product Warranty Period starts on the date of purchase from B.ALERT. Your dated sales or delivery receipt, showing the date of purchase of the product, is your proof of the purchase date. You may be required to provide proof of purchase as a condition of receiving warranty service. You are entitled to warranty service according to the terms and conditions of this document if a repair to your B.ALERT branded hardware is required within the Limited Product Warranty Period.

This Limited Product Warranty extends only to the original end user purchaser of this B.ALERT Product and is not transferable to anyone who obtains ownership of the B.ALERT Hardware Product from the original end-user purchaser.

Warranty Period: Two (2) years.

LIMITED PRODUCT WARRANTY PERIOD

If a product defect occurs, B.ALERT 's sole obligation shall be to repair or replace any defective B.Alert Product free of charge provided it is returned to an Authorized B.ALERT Service Centre during the Limited Warranty Period. Such repair or replacement will be rendered by B.ALERT at an Authorized B.ALERT Service Centre. All component parts or hardware products that are replaced under this Limited Product Warranty become the property of B.ALERT. The replacement part or product takes on the remaining Limited Warranty Period of the replaced part or product. The replacement product need not be new or of an identical make, model or part; B.ALERT may in its discretion replace the defective product (or any part thereof) with any reconditioned equivalent (or superior) product in all material respects to the defective product.

WARRANTOR

Kassandra NV.

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Belgium



SAFETY INSTRUCTIONS

Please adhere to the following safety guidelines to help ensure your own personal safety and protect your system from potential damage. Any acts taken that are inconsistent with ordinary use of the product, including improper testing, etc, and those not expressly approved by B.Alert may result in the loss of product warranty.

Unless expressly approved by an authorized representative of B.Alert in writing, you may not and may not permit others to,

- Disassemble or reverse engineer the device or attempt to derive source code (underlying ideas, algorithms, or structure) from the device or from any other information provided by b.Alert. except to the extent that this restriction is expressly prohibited by local law.
- Modify or alter the device.
- Remove from the device any product identification or other notices, including copyright notices and patent markings, if any.

To reduce the risk of bodily injury, electrical shock, fire, and damage to the device and other equipment, observe the following precautions:

POWER SOURCES

- Observe and follow service markings.
- Do not push any objects into the openings of your device unless consistent with the authorized operation of the device. Doing so can cause a fire or an electrical shock by shorting out interior components.
- The powering of this device must adhere to the power specifications indicated for this product.
- Do not overload extension cords as this will increase the risk of fire or electrical shock.
- Do not rest anything on the power cord or on the device (unless the device is made and expressly approved as suitable for stacking).
- Position system cables and power cables carefully; route cables so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables
- Operate the device only from the type of external power source indicated on the electrical ratings label.
- Use only approved power cable(s). If you have not been provided a power cable for your device or for any AC-powered option intended for your device, purchase a power cable that is approved for use in your country and is suitable for use with your device. The power cable must be rated for the device and for the voltage and current marked on the device's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the device.
- When connecting or disconnecting power to pluggable power supplies, if offered with your device, observe the following guidelines

- Install the power supply before connecting the power cable to the power supply.
- Unplug the power Cable before removing the power supply,
- If the system has multiple sources of power, disconnect power from the device by unplugging all power cables from the power supplies.

BATTERY

This product uses a LiPo battery. Please charge the battery fully before first use. Refer to operational temperature ranges in the specification appendix. Operation in low (below -20°C) or high (over 45°C) temperatures will affect power supply efficiency and the ability to charge the battery. All Lithium-Ion batteries will experience power supply efficiency deterioration over time, even if not used, and have a limited life expectancy. Do not pierce, open or disassemble the battery Do not swallow the battery. If the battery leaks and you come into contact with the leaked fluids, rinse thoroughly with water and seek medical attention immediately.

Do not put, store or leave your product in or near a heat source; in a high temperature location; in strong direct sunlight; in a microwave oven; in a pressurized container, and do not expose it to temperatures over 80°C. Failure to follow these guidelines may cause the Lithium-Ion battery to leak acid; become hot explode; or ignite and cause injury and/or damage.

The lithium-ion battery contained in the product must be recycled or disposed of properly. Use only with supplied charger(s) and supplied ac adaptor for battery charging.

SERVICING AND DISASSEMBLING

- Do not service any product except as expressly set forth in your system documentation.
- Opening or removing Covers that are marked with the triangular symbol with a lightning bolt may expose you to an electrical shock. Only a trained service technician should service components inside these compartments.
- To reduce the risk of electrical shock, never disassemble this device. None of its internal parts are user-replaceable; therefore, there is no reason to access the interior.
- Do not spill food or liquids on your system components, and never operate the device in a wet environment. If the device gets wet, see the appropriate section in your troubleshooting guide or contact your trained service provider.
- Use the device only with approved equipment

ENVIRONMENT

- Do not immerse the product under water

- Keep your device away from radiators and heat sources. Also, do not block cooling vents.

CLEANING

- Do not use liquid or aerosol cleaners of any kind. Use only compressed air that is recommended for electronic devices.