The EVOLIS RADAR SPEED SIGN

User Guide

ELAN CITE
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User Guide
Product: Evolis

1   WARNING

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause interference to radio communications.

If this equipment does cause interference to radio or television reception, (which can be determined by turning the Evolis off and on), the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Emission   Warning: The Evolis contains radio-frequency transceivers and antennas which emit and receive in the 24GHz frequency band. It can interfere with, and its functionality can be impacted by, other nearby equipment operating in the same frequency band.

RF Exposure   Warning: Exposure to Radio Frequency Energy: The radiated power output of the radar module is below the RF exposure limits. This device should be operated with a minimum distance of at least 20 cm between the antenna and a person's body.

Elan Cité Company notices

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Elan Cité shall not be liable for technical or editorial errors or omissions contained in the document.
Please note that the associated software (Evocom & Evograph) is continually being developed and we advise you to update your version on a regular basis via the Customer Zone section of our website http://www.elancite.fr/en.

User Guide
Product: Evolis

Thank you for choosing the EVOLIS Radar Speed Sign!

The EVOLIS Radar Speed Sign is a highly powerful yet budget-friendly traffic-calming tool. Ideal for both rural and urban environments, this pole-mounted radar is visible at 300 yards thanks to its ultra-bright, triple-colour, LED speed digits and its simultaneous display of programmable messages.

Its traffic data collection function will function for both oncoming/outgoing traffic flows & the pack includes the analysis software you'll need.

The Evolis Radar Speed Sign's lightweight design and choice of full power-autonomy or battery-powered options, means that its installation is easily within the scope of 1 person. Constructed from highly durable UV resistant ABS injected Resin, this robust yet aesthetic product can be trusted to operate in the most hostile weather conditions. With over 11,000 units installed worldwide, the Evolis Radar Speed Sign has become a global favorite!

In this user-guide, you'll learn how to install, start-up, communicate with and if desired, re-configure your Evolis radar so as to match your project's specific needs and conditions!

2   DELIVERY

2.1   UNPACKING

⚠️ **RETAIN ALL THE ORIGINAL PACKING MATERIALS!**
Elan Cité radars are covered by a 2 year parts & labour warranty. In the eventuality that your device requires a workshop diagnosis or repair, the ORIGINAL packaging MUST be used for the return transport to Elancite.
Not doing so may invalidate the warranty.
If you have discarded the original packaging will need to purchase replacement packaging from Elan Cité before we can arrange for the factory return. Please review the Warranty for more details.

Upon delivery, please verify that the contents noted on the packing list correspond with those delivered. If you believe that there is some form of anomaly or that the goods have been damaged you MUST make Elan Cité aware within 2 working days from the date of delivery.

2.2   PACK CONTENTS

EVERY Evolis Pack (Mains/Street Light, Solar or Mains Mobile) will contain:

A)   1 x EVOLIS Radar Speed Sign
B)   1 x Vertical mounting bar
C)   1 x USB cable (15ft)
D)   2 x keys for the battery compartment
E)   1 x Bluetooth code
F)   1 x Quick-Start Guide
G)   As well as this user guide

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Over & above the items listed above and *dependent on the type of pack purchased*, you will find a number of additional items:

- **MAINS Pack (Street-lighting or Mains): Additional Items**
  - Waterproof plugs for outdoor use (1 x male, 1 x female)
  - 1 X battery (12V/22AH)

- **SOLAR Pack: Additional Items**
  - 1 x Solar panel
  - 1 x Solar panel mounting bracket
  - 1 x orientation adaptor
  - 2 x batteries (12V/22AH)

- **Mains MOBILE Pack (Battery Operated): Additional Items**
  - External charger (12V)
  - 4 X batteries (12V/22AH)

Please note that the images above may differ slightly from actual the products.
Batteries, solar panel, solar panel mounting bracket, and external chargers are delivered in separate packages to that of the radar sign.
Batteries are delivered with an 80% charge and are ready for use.
Please note that neither the pole/lamp post, nor the fixing straps (jubilee clips) are included in the purchase pack.

3   PRODUCT DESCRIPTION

1	LED speed display: green, red and amber
2	Message / graphic display (amber)
3	Access door to battery compartment, control dial, USB port and fuse
4	Fixing Collar/Jubilee Clips (not included)
5	Battery compartment (can hold up to 2 batteries)
6	Control dial; Waterproof USB port; Fuse for power supply
7	Electric plug for mains (Mains and Mains Mobile packs only)
8	Cables and plugs for solar panel connection (Solar packs only)

4   TEST YOUR DEVICE BEFORE INSTALLATION

We strongly recommend that you conduct an initial start-up & manipulation of your Evolis device **BEFORE** installing it at the final desired location. In the unlikely event of a malfunction, a telephone diagnosis (and also, in the worst case scenario, a factory return) is far simpler if the unit is not already installed onto its post 'in-situ'.

The very first step is to connect the battery.

4.1   AUTO TEST

Once you have connected the battery, turn and set the dial switch to any position OTHER than 'off' (standby).
The Evolis will run a quick **auto-test** (this is perfectly normal and there is no need to intervene but it IS advisable to observe the display):

1	Speed display	'**188**' should be displayed in green and is quite simply the device testing all the LEDs in the display.	
2	Speed display	Then, **Three further numbers** will then be displayed. These equate to the battery voltage. (e.g. : '**147**' = 14.7 Volts). A normal reading will be situated between 11 and 13	
	Text display	'**Init…**' will then be displayed in the lower part of the device	
3	Speed display	'**8**' in red : signifies Bluetooth '**1**' in green : signifies a GPRS connection	

4.2   DATE AND TIME SET-UP

The next step is to download the device software and then make the connection between the software & the Evolis. All of our software programs are available for download through our website.

- Go to: www.elancite.fr/en and in the upper right hand corner click on "Customer Zone"
- You'll be asked for a password. The password required is "**radarevolis**."

PROTECTED: CUSTOMER ZONE
Download your latest software updates here

THE EVOLIS RADAR SPEED SIGNS

User guide : **Download**

Software (radar set up & traffic data analysis) : **Evocom Evograph version 4.13**

- Download the Evocom – Evograph software.
- Install using "Setup.exe".
- Follow the instructions that will appear in the pop up dialogue boxes
- Two shortcuts will appear on your desktop:

- Connect the Evolis radar sign to your computer. (by USB cable or Bluetooth)
- Launch the EVOCOM software and it will propose to select the display unit
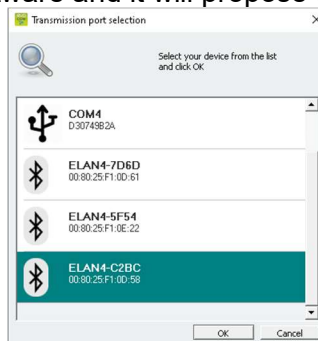
- If this is the first connection with your spped display using Bluetooth, you will be prompted for the Bluetooth pairing code. It can be found on the Bluetooth document joined to the speed display.
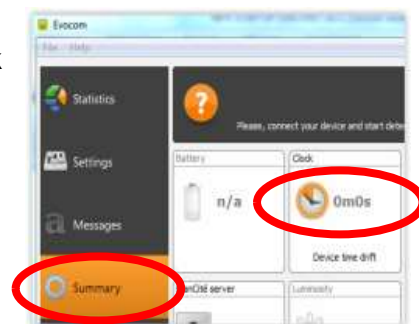
- Go to Summary / Clock: **Update the Evolis internal clock to your local time**. All you need to do is click once on the clock symbol

  (See section 6 for further details on installation and advanced use of the software packages)

4.3 TEST YOUR SETTINGS

At this point (again, before the eventual installation 'in-situ') it is highly recommended to perform a quick test run of your preferred settings.

For quick start-up, the radar's parameters are pre-set with standard speed thresholds (based on commonly used speed limits) and 3 pre-programmed messages ("**THANK YOU**", "**SLOW DOWN**" and "**TOO FAST**").

These thresholds and messages can be re-programmed if desired.

The following thresholds/settings are pre-programmed but can be re-configured if desired:

- **Minimum speed display** : to conserve power, the vehicle's speed is only displayed if it exceeds a certain threshold. This threshold is set at 9mph for all speed limit settings

- **Colour change threshold** : the speed at which the Evolis display switches from **GREEN** to **RED**)

- **Amber activation:** The factory setting uses two colours for the speed display: green and red. You can also add **AMBER** as an 'intermediate' colour if desired.

- **Maximum speed display** : to eliminate any potential 'race effect', the speed display will disappear if the recorded speed exceeds the limit by 12mph or more.

- **Message programming :** You can program your own messages as well as the speed thresholds at which they are activated. See the table below for the factory setting messages as well as their activation thresholds.

- **Flash Threshold :** The speed display is programmed to flash if the recorded speed exceeds the limit by more than 5mph (factory setting ; can be modified)

The dial switch, in the battery compartment, allows you to easily select the speed according to the local speed limit. This will automatically activate the pre-programmed thresholds (Factory Settings). Please see the chart below for an outline view of the factory settings.
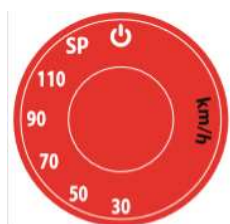
- **Factory Settings**

Dial Switch Position	30 km/h	50 km/h	70km/h	90 km/h	110 km/h
Minimum speed displayed	15 km/h	15 km/h	15 km/h	15 km/h	15 km/h
Color change	31 km/h	51 km/h	71 km/h	91 km/h	111 km/h
Amber Zone *	6 km/h	6 km/h	6 km/h	6 km/h	6 km/h
Flash threshold	35 km/h	55 km/h	75 km/h	95 km/h	115 km/h
Maximum speed displayed	41 km/h	61 km/h	91 km/h	111 km/h	131 km/h
Message n°1 THANK YOU	From 15 to 30 km/h	From 15 to 50 km/h	From 15 to 70 km/h	From 15 to 90 km/h	From 15 to 110 km/h
Message n°2 SLOW DOWN	From 31 to 40 km/h	From 51 to 60 km/h	From 71 to 80 km/h	From 91 to 100 km/h	From 111 to 120 km/h
Message n°3 TOO FAST!	From 41 km/h	From 61 km/h	From 81 km/h	From 101 km/h	From 121 km/h

Before looking at how to re-program your device (change the text messages, modify speed thresholds etc…) later on in this manual, try this fairly simple manipulation that will allow you to see how the Evolis works under the factory settings.

Set the dial to the desired speed limit setting (30, 50, 70, 90, or 110).

Then on the Evocom software, select the green tick symbol to launch a display that will allow you to see your selected settings on the radar screen.
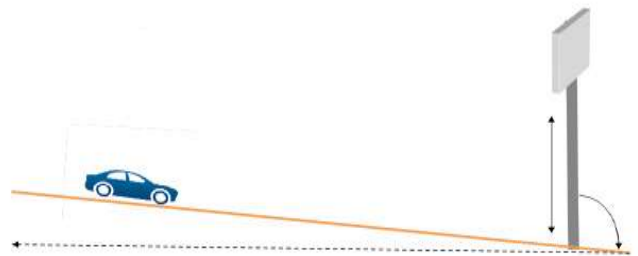
4 INSTALLATION

5.1 HOW BEST TO LOCATE YOUR RADAR SPEED SIGN

For optimal performance, select the radar's location according to the following criteria:

- Choose a straight section road with at least 400ft of unobstructed vision.
  This area and the radar beam should be free of any objects (trees, poles, parked vehicles, other road signs…) as they may disturb the radar's beam.

- Do not install radars at cross-roads, round-abouts or on bridges : vehicles arriving from a sideways direction can have a confusing influence upon the radar sign's display and the traffic data it captures.

- Verify that the radar sign does not block the visibility of existing road signs.

- Ensure that the bottom edge of the radar sign is no lower than 8ft and no higher than 16ft from ground level. (too low and there is a risk of collision with pedestrians)

- To avoid accidental collision, ensure that you leave a gap of at least 3ft between the radar screen and the road. We recommend a gap of between 3ft and 9ft.

- The display screen should be positioned so that it points in a direction that is parallel to the direction of the road. For example, if the screen is at the maximum distance of 9ft from the road, it should be positioned so as to point at an imaginary line that runs parallel to the road at a distance of 9ft.

- The sign must be installed straight (at 90°), unless there is a steep gradient (+/- 5°). In this case, the sign should as far as is possible, be angled so that is matches the gradient (using a wedge).

- If you wish to install your Evolis on a gradient that exceeds 5%, please contact us.

-

4.2 FIX YOUR DEVICE SECURELY

Note: When moving, installing or de-installing the sign, **always remove the batteries first**. This significantly reduces the weight of the device as well as the risk of stress related cracking.
.
For safety reasons, it is highly recommended to install the radar sign using a scissor lift or small scaffolding.

1. Attach the (furnished) mounting-bar to the designated post/pole with the aid of fixing collars/jubilee clips without overtightening them at this stage. Make sure the end that is stamped 'TOP' does indeed get attached at the top.

1) Attach the main body of the radar sign (with batteries removed) by sliding the hooks of the sign onto the mounting-bar.

2) Adjust the radar sign's position/height and then fully tighten the fixing collars.

3) The radar sign can be further secured to the mounting bar with the aid of a padlock (padlock is not furnished but there is an 'eye-hole' built into the structure for this purpose)

4) Install the batteries, and / or connect the sign with mains electricity or street lights.

For solar-powered radar signs, the first step is to install the solar panel to the pole/lamp-post. (using the furnished solar mounting kit). Then procede to the installation of the radar sign. (See the Solar-power user guide)

4.3 ALWAYS MAKE SAFETY A PRIORITY

- CHECK and COMPLY with current regulations concerning working at a height.
- CHECK and COMPLY with local regulations regarding traffic and road sign installation
- VERIFY that the designated pole is stable and has a sufficient diameter.
  (Min. 3inch diameter for AC models, and min. 5inch diameter for Solar models).
  If in doubt, consult our sales or customer service representatives.
- If your installation involves connections to mains electricity either directly or through street lighting, ensure you CHECK and COMPLY with local regulations.

4.4 POWER SUPPLY

- **Power source**

The Evolis is 12V powered and designed to operate with either:

- **Mains**: A connection to a permanent mains network. OR to street lighting network in combination with a battery (12V/22Ah).

- **Solar**: A solar panel and 2 batteries (12V22Ah).

- **Mains Mobile**: Battery operated (12V22Ah). Pack includes 4 batteries in total and an external 12V/4A charger. NOTE: the casing can hold two batteries at one time.

- **Power consumption**

Thanks to its low power consumption, the battery charging cycle guarantees an extended duration of operation. Average consumption and wattage as follows:
- Speed: 0.3 A (3.6 Watts at 12V).
- Speed + Message: 0.8 A (9.6 Watts at 12V).
- Standby: 0.1 A (1.2 Watts at 12V).

- **Power safety / security**

If and when the Evolis radar runs out of power, it has a built-in safeguard that is based on various thresholds of the battery voltage.

- At **11.5V**: The message display wil be de-activated

- At **11.3V**: The speed display will be deactivated. The radar will display a small square to indicate that the speed display is off. NOTE: the radar will still continue to collect traffic data.

- At **11.1V**: The radar will shut down in order to avoid damaging to the battery

- **Electrical fuse**

To protect the device in case of reversed polarity, a 6.3A fuse is located within the casing.

4.4.1 THE MAINS OR STREET LIGHTING MODEL

For power through the permanent mains network or the street lighting system, the Evolis is supplied with:

- A 4Ah transformer
- A 12V / 22Ah battery
- IP66 male plug pre-cabled into the Evolis
- IP66 female plug for connection to the mains electricity supply

Connect the FEMALE plug to the mains electricity supply:
- Wire the neutral wire (commonly blue colour) cable on the "N"
- Wire the live wire (commonly brown colour) on the "1"
- Wire the earth wire (commonly green/yellow) on the CENTRE connection
- The other two prongs in the plugs are not used
- Then, simply plug the Evolis into the mains by plugging the male plug into the female.

The plugs are equipped with a twist mechanism that not only renders them waterproof but also prevents them from being pulled apart. Don't forget to activate this final twist before use.

The only difference between the permanent mains and the mains *street lighting* schema is that the street light system requires the addition of a battery whereas the permanent mains system does not (apart from instances where there is a localised power cut) .
Under the street lighting system,the Evolis will still function without a battery but ONLY during the hours that the street lighting is functioning. With a battery added, it will charge during street lighting hours and then take over as a power source from the street lighting as soon as daylight hours dictate that they are switched off.

⚠ **We strongly recommend adding a 30mA calibre 16A type AC circuit breaker between the mains current & the radar speed sign. ELAN CITÉ cannot be held responsible for damages caused by a poor quality installation. In the absence of a circuit breaker and the subsequent failure of the internal electrical charger, the warranty will be invalidated**.

4.4.2 THE SOLAR POWER MODEL

Ideally, the solar panel should be positioned in a south facing direction and then secured with a padlock attached through the 'eyehole' at the bottom (padlock not included). The solar panel's mounting bracket can be adjusted to the desired vertical angle.

Make sure you have fitted and connected the batteries inside the Evolis BEFORE making the connection between the solar panel and the radar sign.

25°-65°

To connect the Radar Sign to the Solar Panel you simply plug the 2 cables from the radar into the panel.

Mounting: please refer to the solar-panel user guide.

The solar panel's location must have, as far as possible, an unobstructed view of the sky to benefit from maximum charging capacity. Trees and buildings can cast shadows on to the solar panel which can considerably reduce the performance of the solar cells.

4.4.3 THE BATTERY OPERATED – MAINS MOBILE MODEL

- **Battery operated using two batteries**

In the case of mobile use (i.e. where the device is intended to be moved from place to place), the Evolis is designed to function using either one or two sealed, 12V / 22Ah batteries. After opening the back door of the unit, install the charged batteries into the slot between the two retaining hooks.

- Check the polarity orientation and connect to the terminals.
- Turn the dial switch to select your speed.
- Check the auto startup display on the Evolis (auto-test: '188' / battery voltage / '8' in red for Bluetooth version).

Power autonomy – One sole battery will generally provide sufficient power for 3 to 8 days dependent on traffic flow. The radar will indicate low-battery by showing a tri-colored square on the bottom right corner of the speed display. When you see this display (or before), the batteries should be replaced with the two charged batteries.

Elan Cité batteries discharged to 11.1V require approximately 5 hours to charge. The charging time may vary depending on the remaining battery charge and the conditions under which the charge is made. The batteries can be charged at any time (i.e. there is no requirement to wait until it is 'flat'.

Battery charger light RED	Signifies the start of the charge
Battery charger light ORANGE	Signifies that charging is underway
Battery charger light GREEN	Signifies that the battery is fully charged

A charged battery will gradually discharge even when not in use. Remember to charge the battery before use using the provided battery charger.

Remember to remove the batteries before moving, installing or de-installing the radar sign. Removing the batteries significantly reduces the weight of the device as well as the risk of stress related cracking.

Use of batteries, chargers or other accessories not provided by Elan Cité will invalidate the Warranty.

5   MANAGING YOUR EVOLIS RADAR SPEED SIGN

- **Evocom**

The Evocom software allows you to set-up and program your radar sign. Above, in section 4.2 you'll have seen how to install the software and effect your first test. When you open Evocom, the default opening page will display a summary of the available statistics.
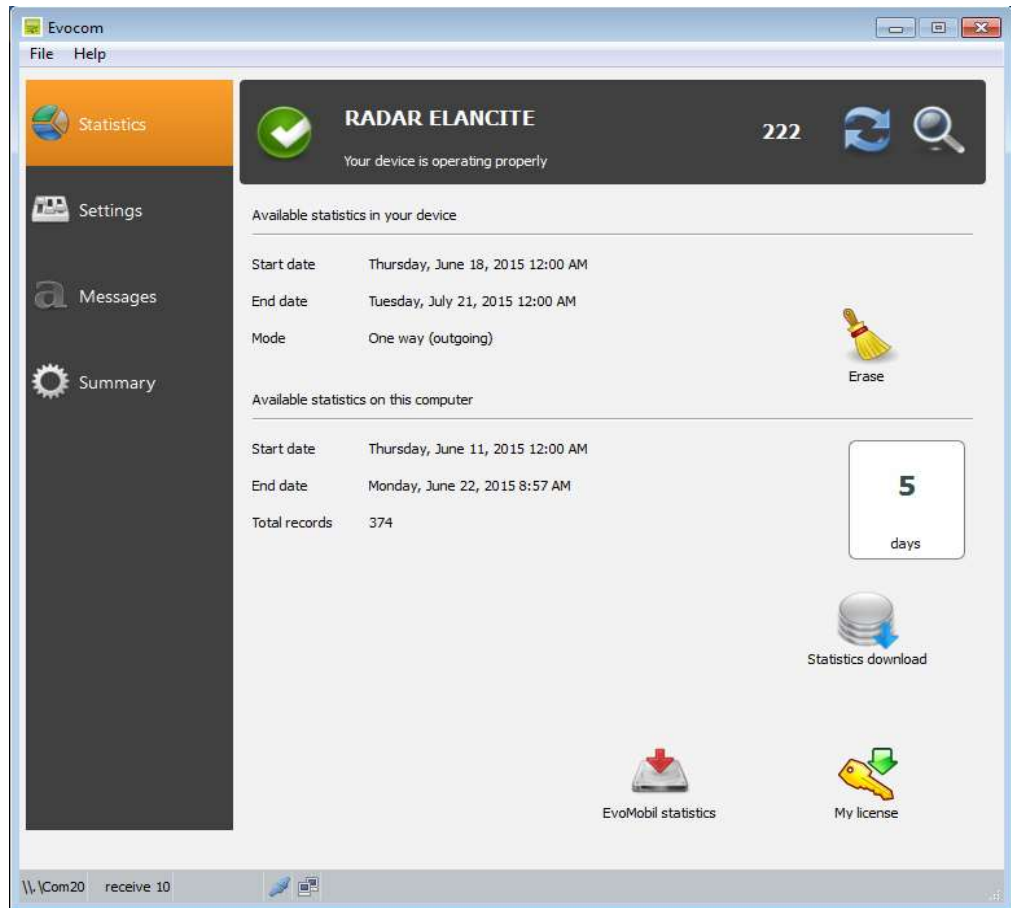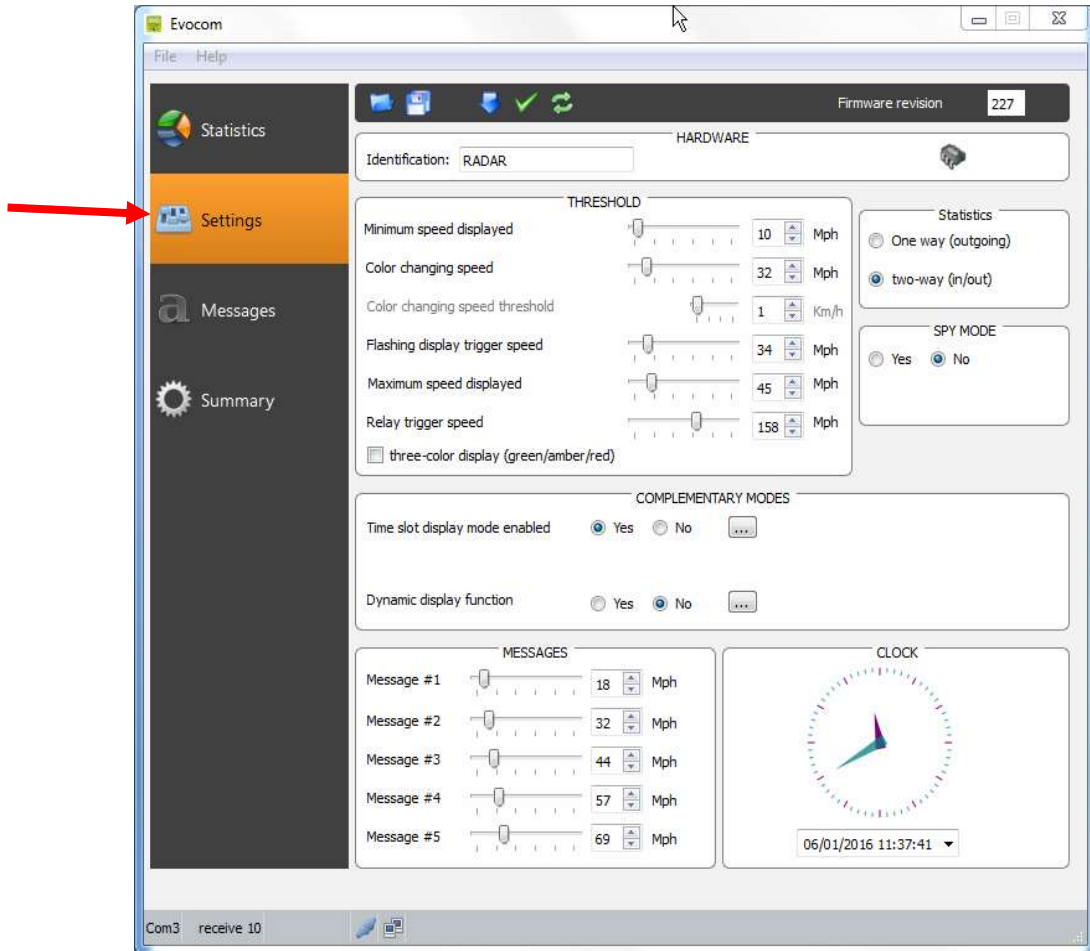
- **Settings Page**

All of the programmable controls and thresholds are displayed on the "SETTINGS" page. The displayed settings are those currently in the Evolis radar's memory. To program or modify these thresholds; select the desired setting(s), and then validate your choice by clicking the blue arrow icon, which will send this information to the Evolis radar's memory.

The message "Device configuration done" indicates that the set-up was completed correctly.

To save your new configuration for use at a later date, click the save icon:

'SP' : Remember, in order to modify the settings/thresholds via the 'SETTINGS' page, the control dial inside the case of the device must be set to 'SP'. If the control dial is set to any other setting, 70mph for example, then the settings you see on this page are NOT active.

⚠️ **Only *speed* settings can be saved for use as a future configuration. Re-configured text messages cannot be saved.**

- **Spy Mode**

This option allows the radar to continue collecting traffic data as usual, but the motorist will only see a blank radar screen. This allows you to test the radar's efficiency by comparing the traffic statistics recorded when the radar is ON against those when it is (seemingly) OFF.

- **Statistics**

Allows you to enable/disable the two-way traffic data recording.

5.1 ICONS

SEND the new settings to the Evolis radar.

SAVE the setting for future use (speed settings only)

SEE your new settings displayed on the Evolis radar screen

OPEN a previously saved setting

RELOAD the parameters of a previously recorded setting into the Evolis radar

5.2 THREE COLOUR DISPLAY

The Evolis radar can display up to **3 colours**: (Note : The factory setting uses two colours only for the speed display: green and red.).

GREEN	for speeds **below** the speed limit
AMBER	for speeds **close to** the speed limit
RED	for speeds **above** the speed limit

* Amber activation: To activate additional amber colour follow the directions below:

- Ensure the control dial is set to 'SP'

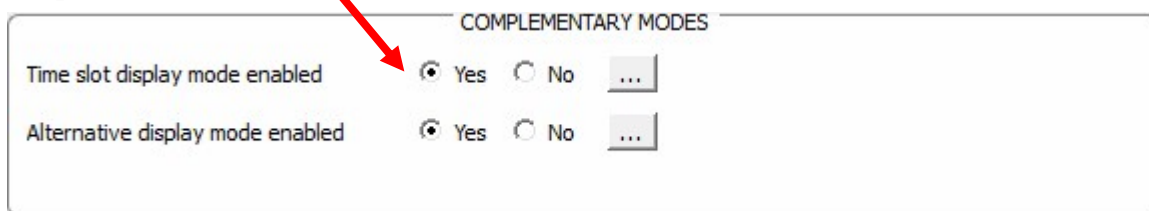- Go to Settings, select the check box "three-color display (green/amber/red)."
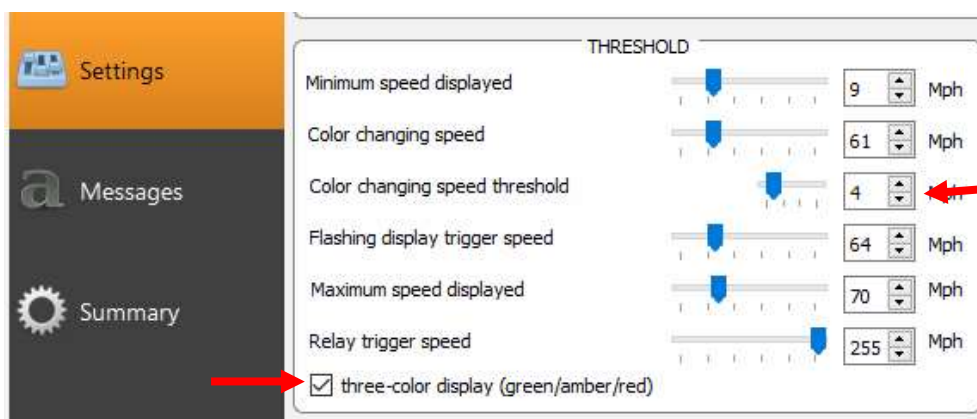
- Then set the margins within which you wish the display in Amber in the 'Colour changing Speed Threshold'. i.e. in the example above, at 4mph before the display will turn to RED.

- Upload the new settings to the device by clicking the blue arrow.

- Select the green tick to launch a display that will preview your selected settings.

5.3   SCHOOL ZONE MODE ('TIME SLOT DISPLAY MODE)

The radar can be configured to switch between two different settings – Ideal for school zones! This can be done through the Evocom software in the section "*time slot display mode*." The radar will automatically switch the speed threshold and messages / graphics at a certain time of day. For example, the radar can be configured to feature a lower speed limit when school is out and children are present, AND display a special message such as: « CAUTION SCHOOL »

- Ensure the control dial is set to 'SP'
- Go to Complementary modes
- Select "yes" for the "time slot display mode enabled"
-

By selecting « Yes », the following window will appear:

- You can then select specific days and hours.
- Click on OK to confirm.
- Send the setting the the radar sign

5.4   WARNING TRIANGLE DISPLAY

This setting allows you to display a 'DANGER' warning triangle

- Intermittently, in combination with the recorded speed at, and beyond, a threshold of your definition.
- Or, as a constant (that replaces the speed display) at, and beyond, a threshold of your definition

The command to activate this function can be found in the same 'Complementary Modes' dialogue box as for the Time-Slot display mode. Select YES for 'Alternative display mode enabled.

Don't forget to send your new settings to the radar sign with the Send button

5.5 MESSAGE DISPLAY

The message display is a 25" X 6" (64 x 16cm) matrix, full-graphic, high-resolution display. The pitch (gap between each LED) is 0.4"

Multiple choices of message forms:

- **Examples**

   - Two lines of text, up to 11 characters of 3 inches
   - And / or 1 line of 6 characters of 6 inches
   - And / or graphics up to 6 inches of height…

Select the "Messages" tab in the menu.

You will have the possibility to program up to 5 messages (text or images) which will automatically display according to set speed threshold

> ⚠ **Messages already saved in the Evolis Radar's memory are not visible in the Evocom interface. To view the messages currently in the radar screen memory, launch the testing procedure by clicking on the green tick.**
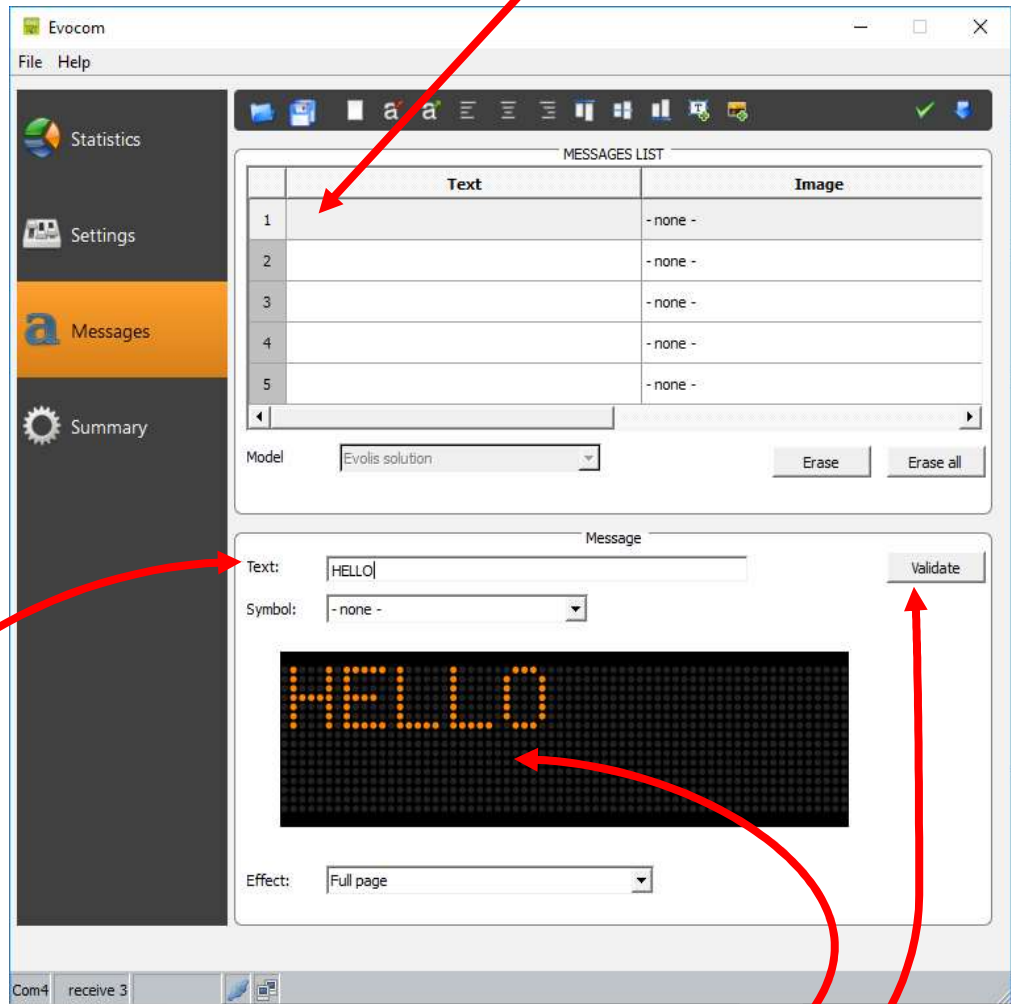
- **Message editing**

Click on the "message n° 1" to write your message:

- In the text field, type the message you want to display:

- The message appears in the matrix.

- If you are happy with it, click on 'Validate'

- The message will then be saved, and appear as Message #1

You can go ahead and add a second, third, fourth & fifth message

- **Other icons for message setting**

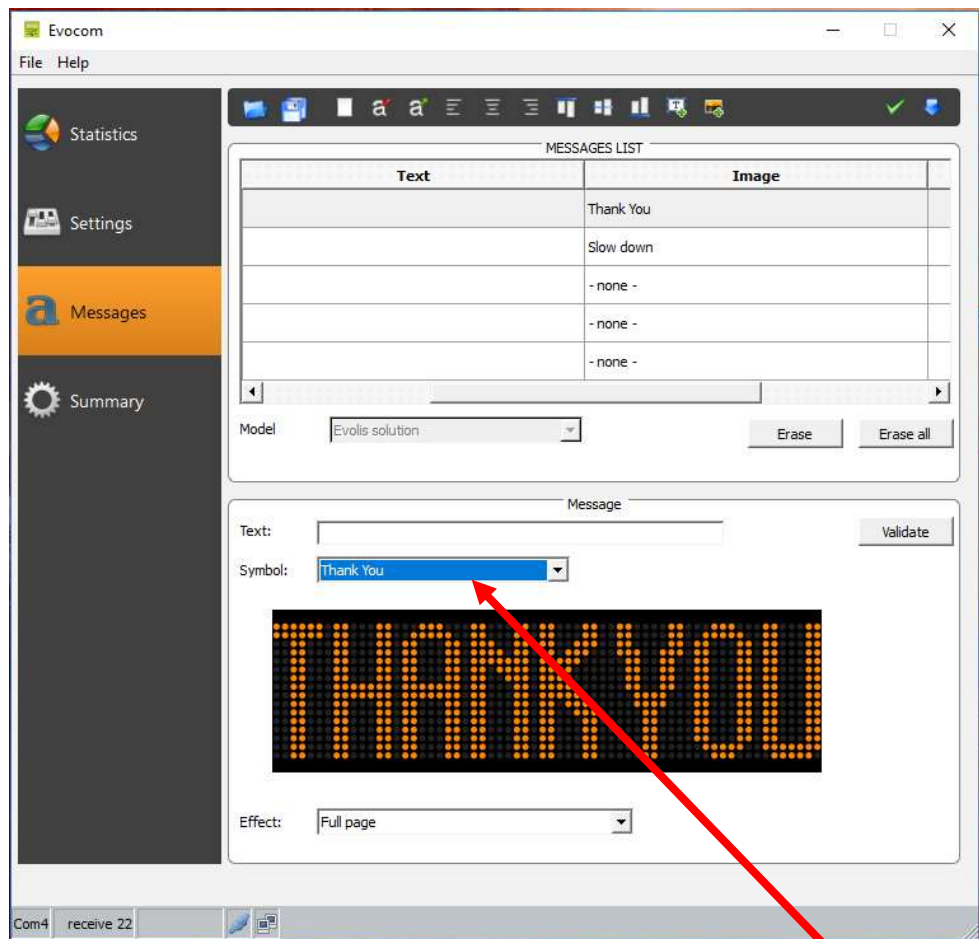|	
a´ a´	Reduces / Extends the size of the letters
☰ ☰ ☰	Centering or align left & right
▯▮ ▮▮ ▮▯	Vertical centering or alignment top / bottom

You can choose to display the messages on 1 or 2 lines by increasing/reducing the size of the characters.

With the icon ⊞ you can choose the type and size of the font.

- **Set up an "IMAGE'' message**

In the drop-down menu "Symbol" select the image desired for "message 1."

Please note that within the image menu, there are also the large format factory setting messages '**Thank You'**, '**Slow Down'** & '**Too Fast'**.

You can also add your own images by clicking on the icon
*(Paint BMP monochrome 64*16 Format)*

Once the message is written, click on "Validate" Do the same for messages 2, 3, 4 and 5.

Then click on "Send messages"

A progress bar will indicate the transfer status and completion.

If you program a message AND an image in the same line, it'll be the IMAGE that is shown.

You can save your messages and the associated configurations by clicking on the "Save message configuration" symbol

5.6 PARAMETERS FOR ADVANCED STATISTICS MANAGEMENT FEATURES

By selecting **Ctrl & M** you will be presented with the 'Statistics Storage' dialogue box that allows you to define the way in which the Evolis will record and store its data.
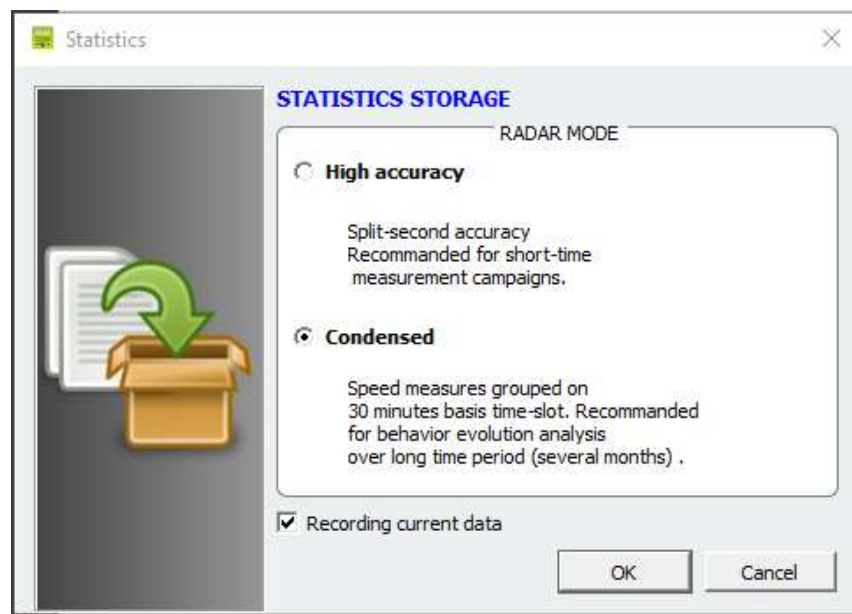
The factory default setting is 'Condensed' which deals with the statistics in packets of 30 minutes (i.e the average speeds will be calculated over a 30 minute period) but you can also opt for 'High Acuracy mode which details the statistics of each single vehicle.

> The Evolis radar is not intended to replace a counting and classifying device such as those used by Government departments.

5.7 DOWNLOADING DATA FROM THE EVOLIS TO A COMPUTER

The Evocom home page allows you to download the latest statistics stored within your radar sign. You will find information that bookmarks the start and end dates of those statistics, as well as the ones already recorded on your computer.

The software will automatically manage the statistics into a ".db" file. There is no need to for you to worry about where to save the file; the software will do this for you.

Select "Statistics download" to initiate the transfer of the statistics from the Evolis radar to your computer. Progress of the transfer will appear in a window on your screen. The transfer may take several minutes.
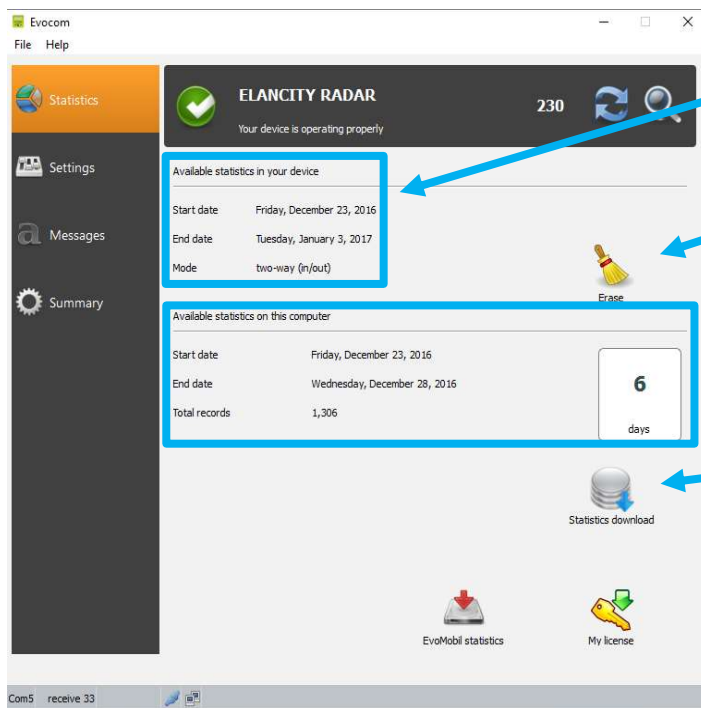
Details of the available statistics stored in the Evolis

Erase the statistics from the Evolis' internal memory. *(Remember to download them first)*

Statistics from this Radar sign **already** downloaded into your computer

Download the available statistics from the Evolis to the computer
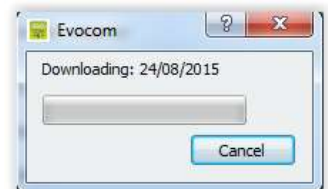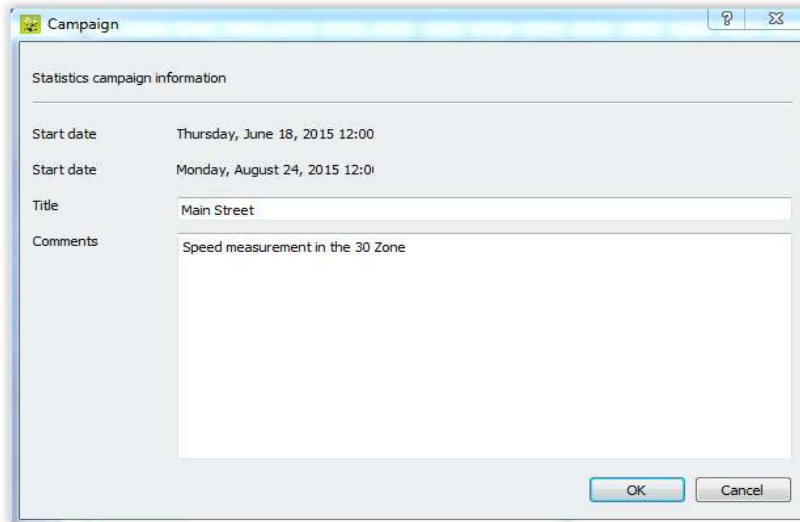
At the end of each download, you can enter a title as well as description.

This information will then be accessible and editable on the **Evograph** software pack (see below).

5.8 SUMMARY PAGE

This page allows you to monitor the main parameters of your radar sign such as the battery level, the date and the time.

User Guide
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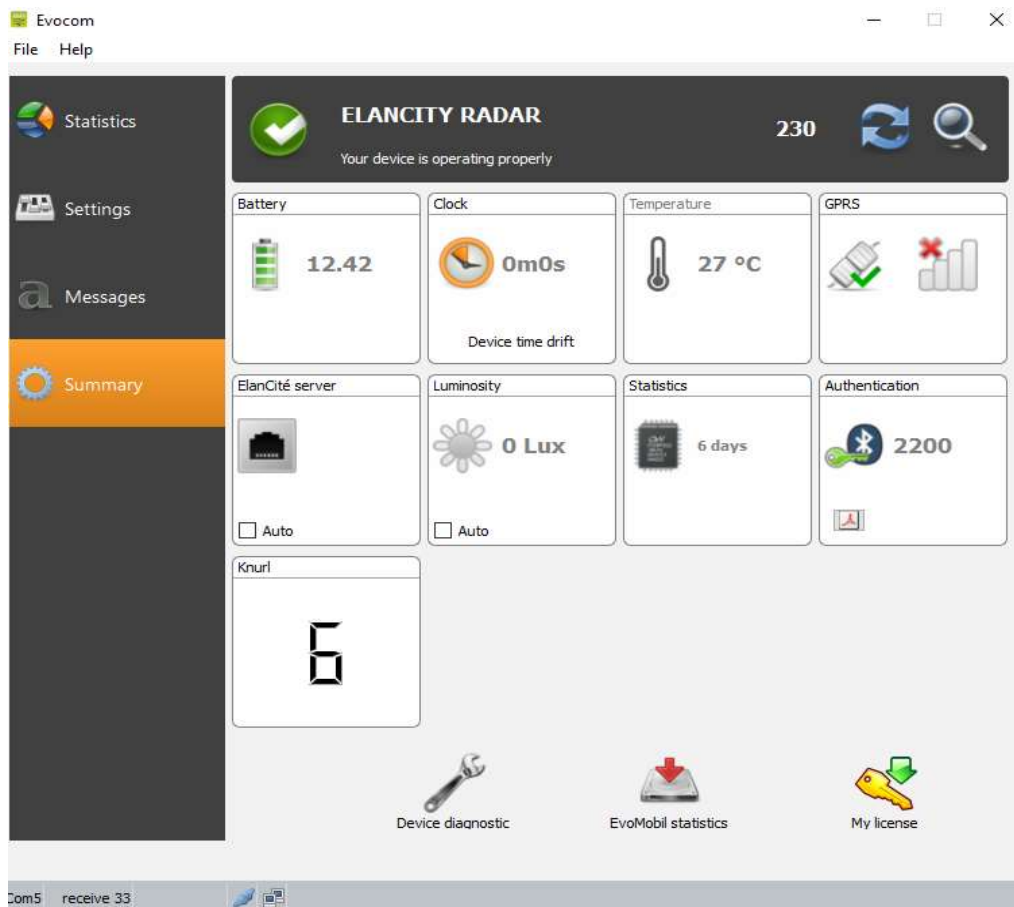|	
Battery 12.42	Battery level indicator: In case of low battery, the color of the icon changes. A fully charged battery is between 12.8V and 13.1V
Clock 0m0s Device time drift	This icon indicates the time difference between the radar and the computer. A simple click on the icon will synchronize both times.
Temperature 23 °C	The radar's internal temperature. (Warning, the temperature indicated is not the ambient temperature).
Statistics 6 days	Number of days of statistics in the radar's memory.
Luminosity 0 Lux ☐ Auto	Ambient luminosity indication. Click on the icon to obtain the measure.
Knurl 6	The position of the control dial inside the Evolis (see below)
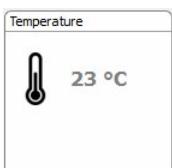
Number	Dial Position
1	20 mph
2	30 mph
3	50 mph
4	60 mph
5	70 mph
6	SP (this is the dial selection that allows you to personalise the settings)

The other icons are only required to assist in cases where a telephone diagnosis is required.

Device diagnostic	The 'Device Diagnostic' lists the potential causes in case of malfunction and again, can be useful if a phone diagnosis is ever required.

6   DATA ANALYSIS

- **Evograph software**

The Evograph software analyzes and processes the data collected by the radar sign. The software is simultaneously installed with Evocom (see section 6 of this manual, above).

In just a few clicks, the Evograph can generate reports and charts (PDF or Excel) using the data collected.

6.1   GRAPHIC VISUALIZATION

To open the EvoGraph software click on the symbol:

- **Step 1. Evograph Home page**
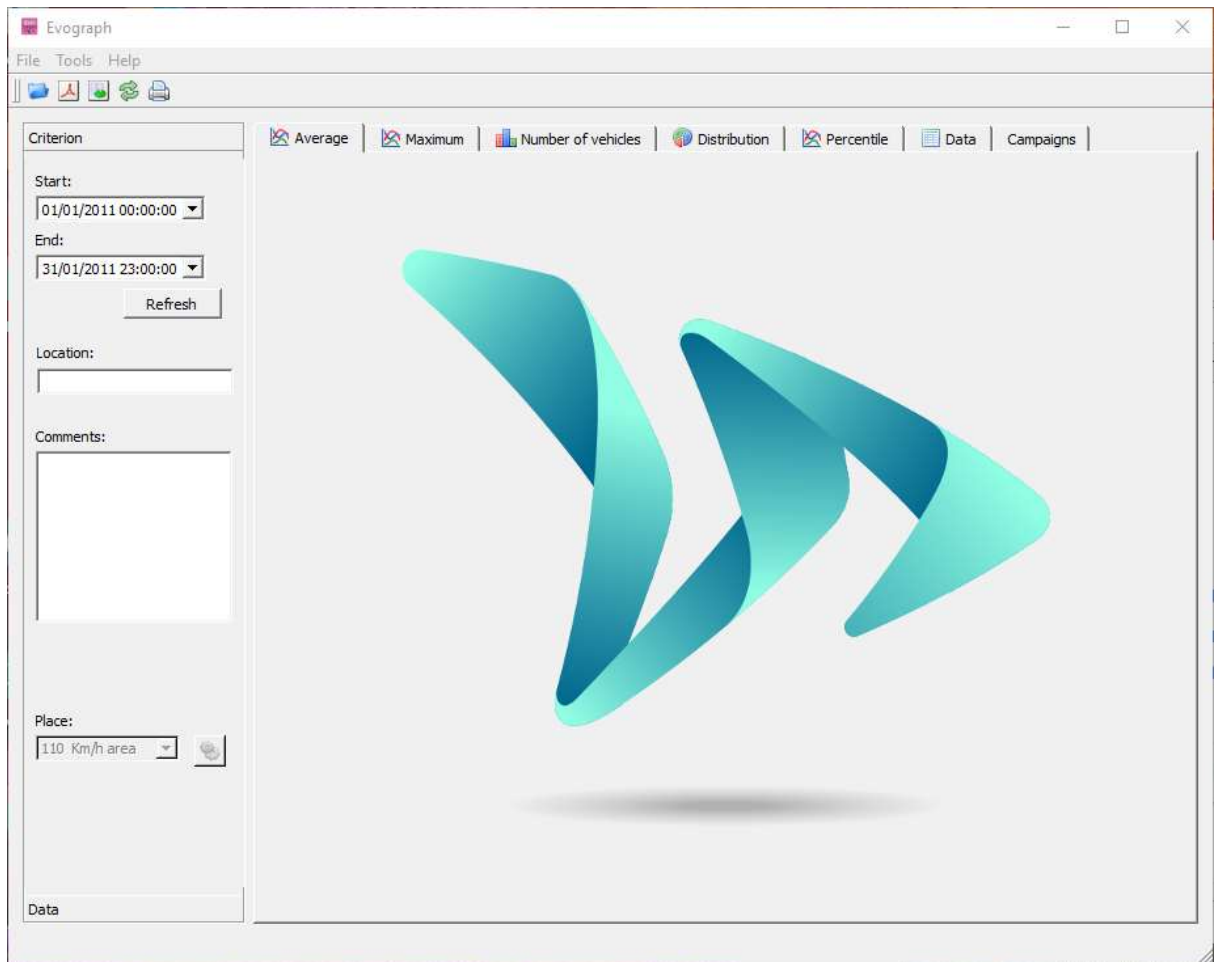
- **Step 2. Selection and loading of the file you wish to view process**

Click on this icon to open the statistics file to process.
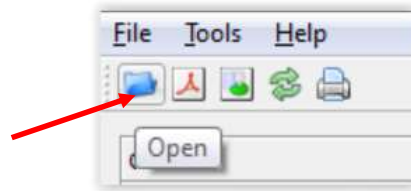
Select the file that you wish to analyse :
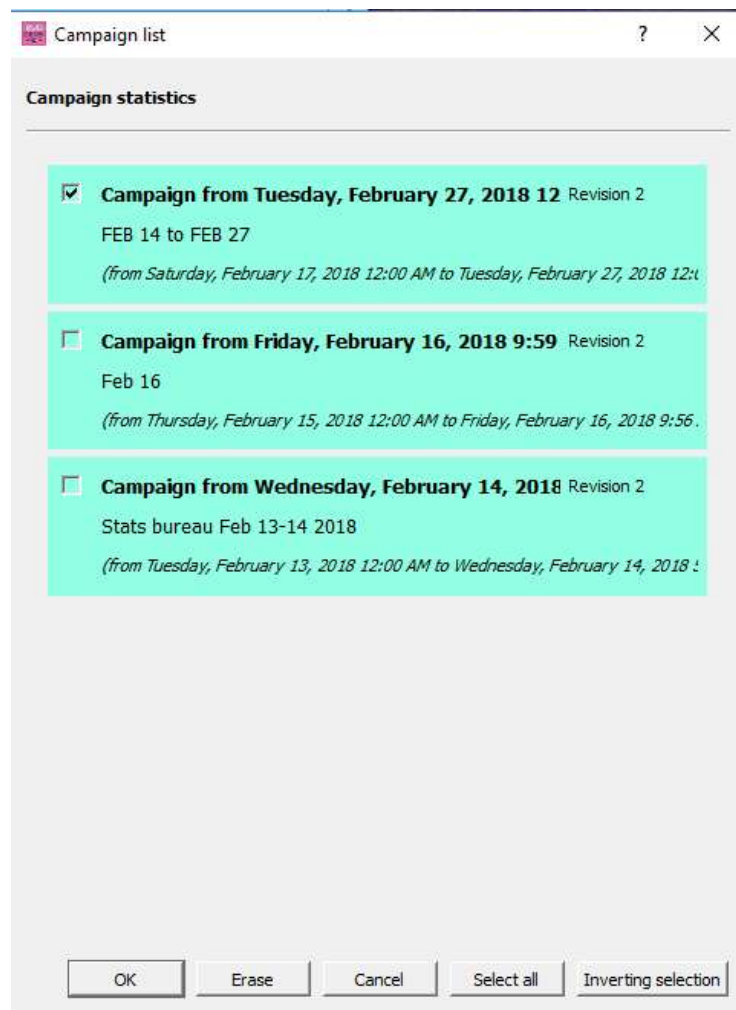
A window will appear, allowing you to visualize all the date periods available in the database.
Evograph enables you to choose one or several periods to analyze.
Select OK to download the file.
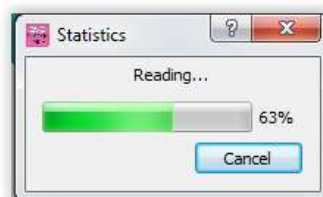
Once the data is downloaded, there are six graphs presented for the desired period:
- Average Speeds
- Maximum Speeds
- Quantity of Vehicles
- Distribution of the Quantity of Vehicles within specified speed ranges
- Percentiles
- A summary of the data

Simply navigate between the tabs to visualize the graphs.

6.2 AVERAGE SPEEDS
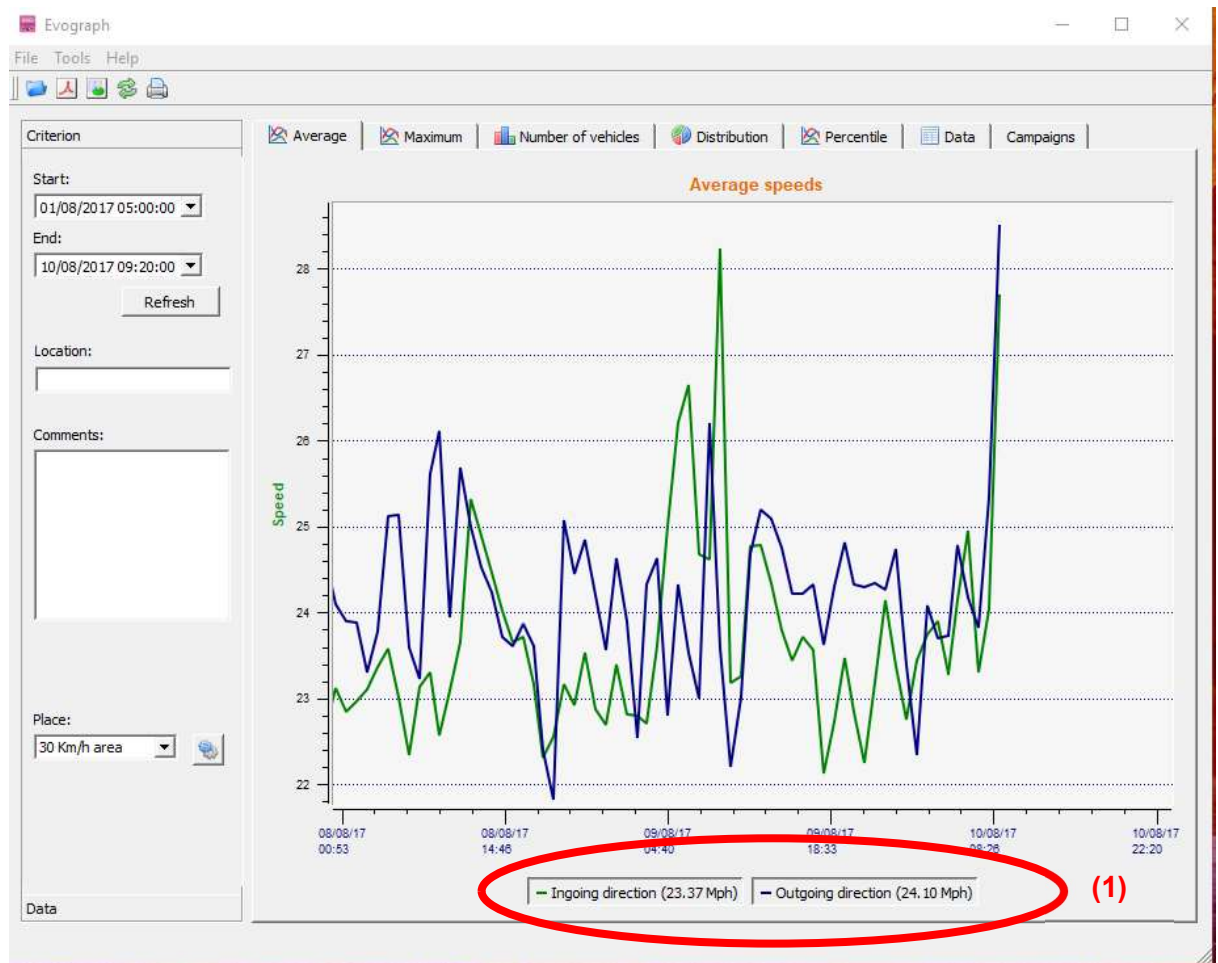
The Average Speeds graph includes two averages:
- An 'average by time period', which is displayed as a curve on the graph. (1 curve per direction: ingoing/outgoing).
- An overall average which is displayed in the lower part of the graph (in number format). (See the image above **(1)**)

The 'average by time period' corresponds to the arithmetic average calculated on the speeds recorded between the start/end dates. They are presented on a default time period of 60 minutes.

The overall average corresponds to the arithmetic average of all the speeds included between the starting/ending dates on the time period selected. The software sums up all of the recorded speeds, then divides the result by the number of vehicles measured. The shortcut " Crtl+X " allows you to export the totality of the measures in a .csv file.

6.3   MAXIMUM SPEEDS
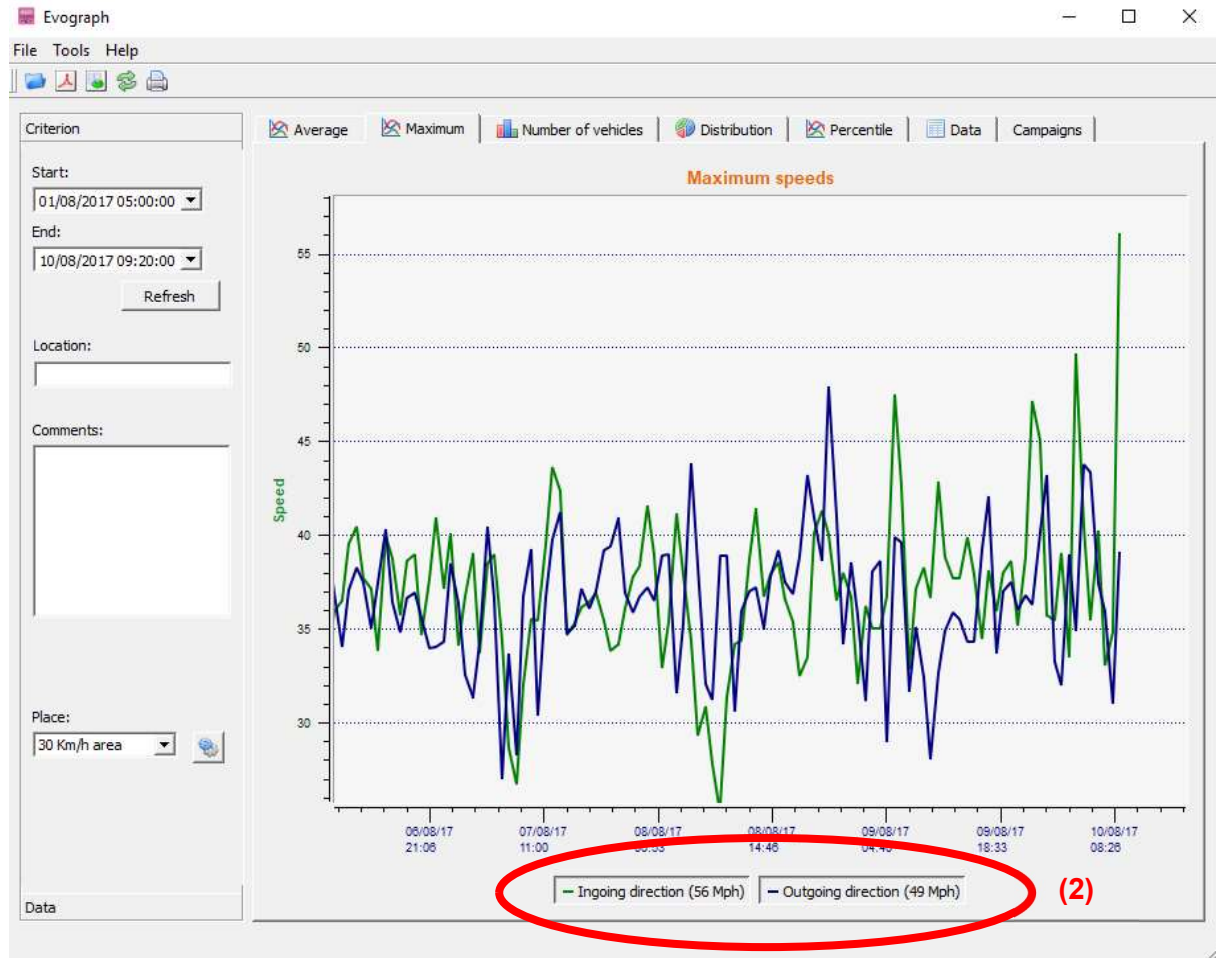
In the same vein, the images relating to maximum speeds are displayed in curve and number format.

-    The maximum speed recorded recorded per time period are displayed in graph form (oncoming and outgoing are reflected in different colours).

-    The maximum speed recorded over the entire time period is shown at the bottom of the screen in number form **(2)**.

6.4   SPEED DISTRIBUTION

In this section, the recorded speeds are represented in pie chart form, and allows you to see the percentage of vehicles which have, or have not, observed the speed limit.

Use the 'Place' drop down **(3)** to select the speed limit that applies to the location from where the data has been captured
The example below is for a 20mph zone :
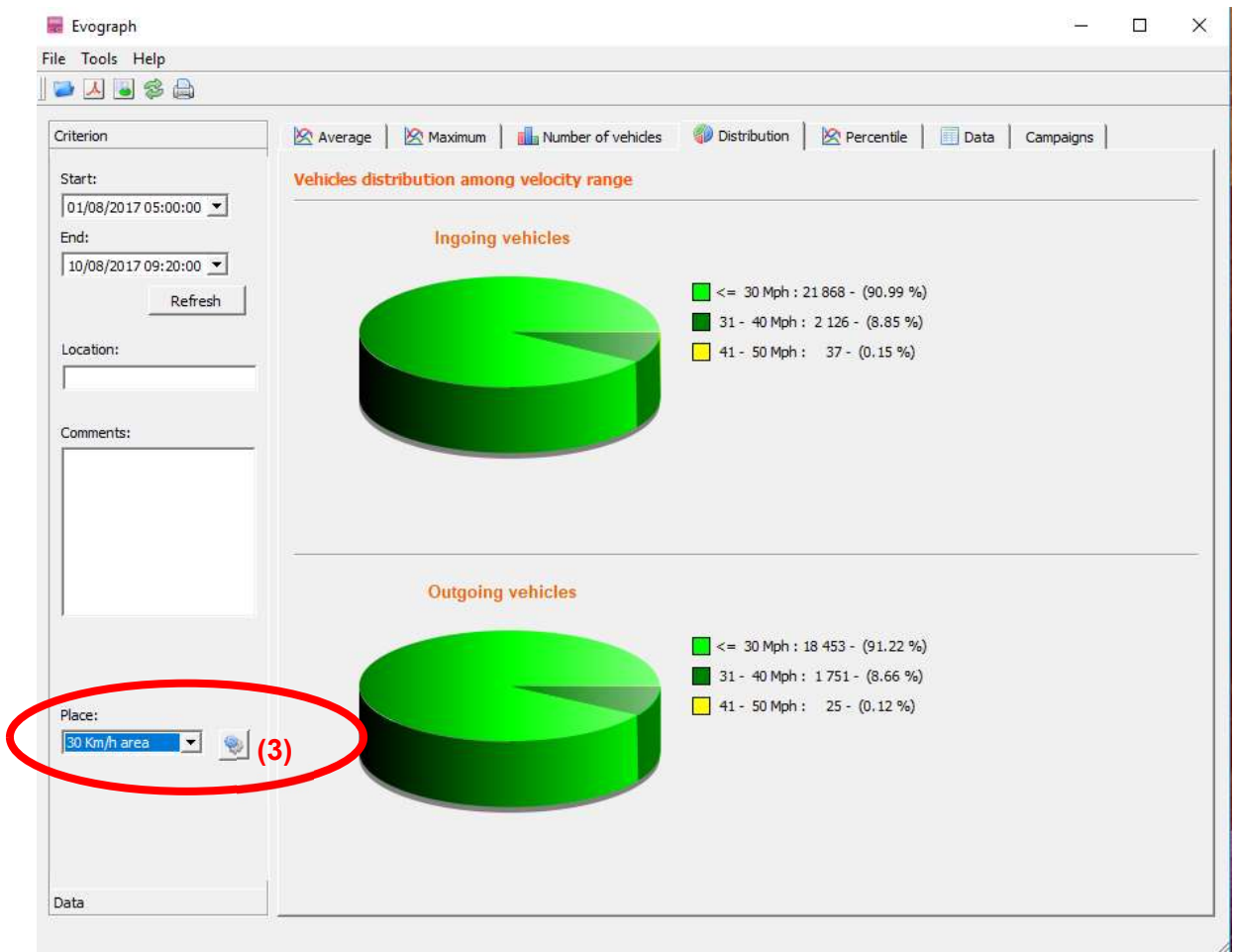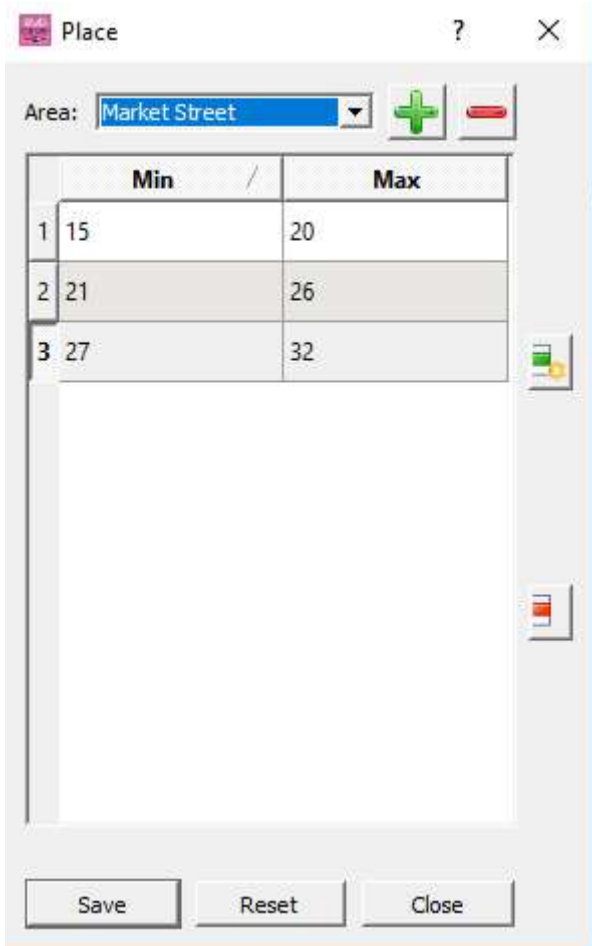
By selecting the icon, you can personnalise the number of different speed slots that will be shown in the pie chart.

Create a new Place Name

Remove a Place Name

Create a new/supplementary Speed Slot

Delete a Speed Slot

Once you have completed you new settings, click on 'Save' and these settings will become available

The 'Reset' button allows you to go back to the initial configuration (20,30,50,60 and 70mph)

6.5 PERCENTILES

The 85% percentile is an indicator that helps indicate the behaviour of the *majority* of drivers. It reflects the speed respected by 85% of motorists and is obtained by stripping out the bottom and top & bottom 7.5% of speeds recorded (i.e. strips out the extremely fast and extremely slow vehicles)
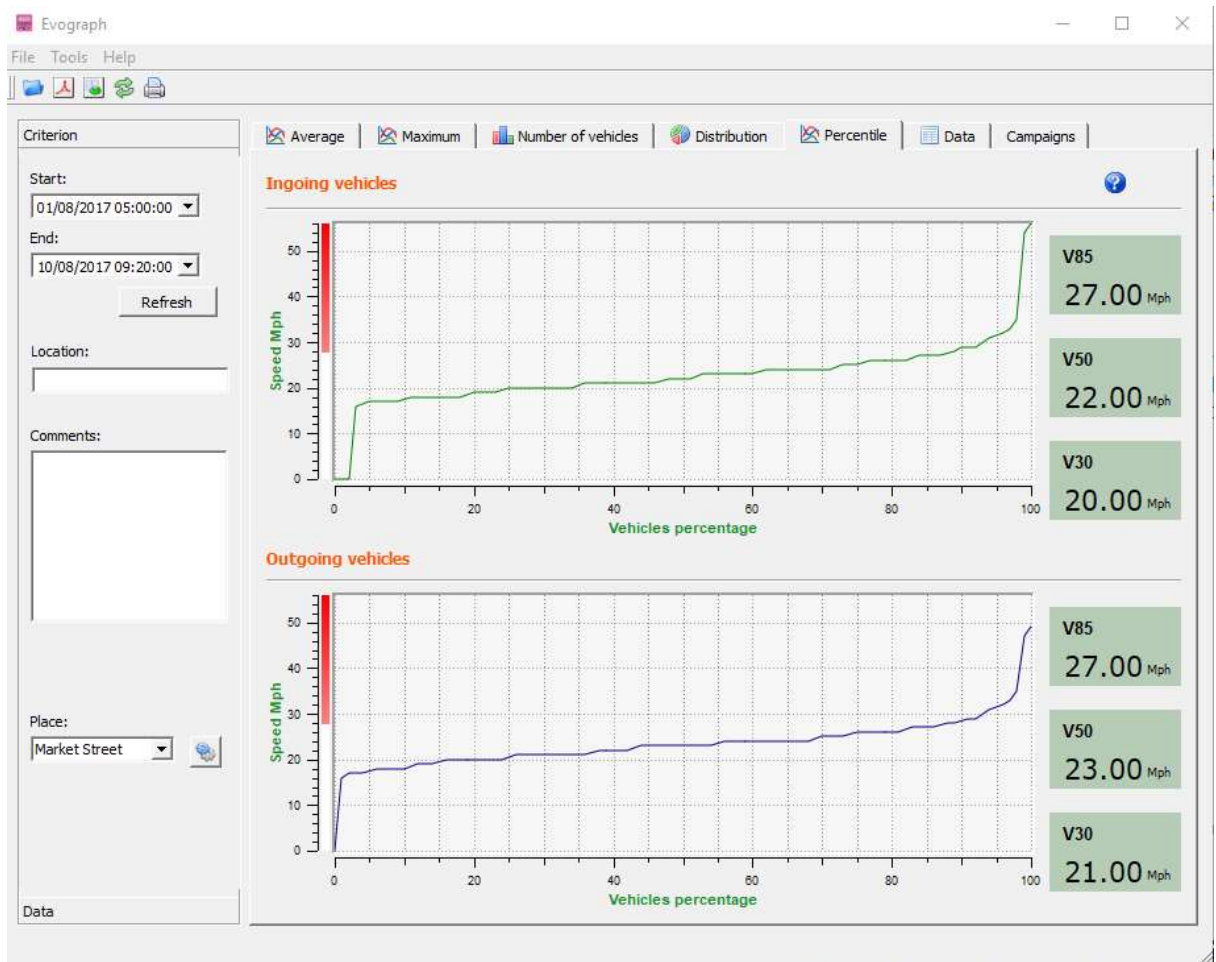
If the 85% threshold is is close to the average speed recorded, this indicates that the speeds observed on a road are consistent. If it is *not* close to the average speed, this means that a significant proportion of drivers are above the average recorded speed.

6.6 OTHER EVOGRAPH FEATURES

- **Printing to PDF file**

This icon allows you to export the graphs to a PDF format for storage or printing. You'll be asked if you want to print all the graphs or simply the one that is displayed on the screen.
If you complete the fields "Location" and "Comments" then this information will appear as a footer (PDF or paper).

- **Export to Excel**

This icon allows you to export your data to an Excel document for example to make personalized graphs or to compile data over specific recording periods.

- **Dates selection**

The graphs initially focus on the entire recording period.
In order to generate specific statistics on a given period, select the function "selection by calendar."
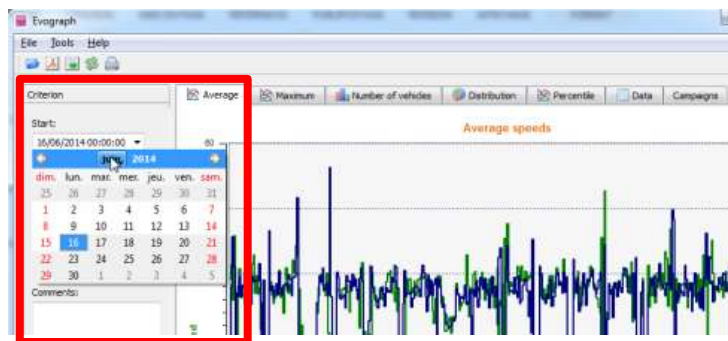
You can also "zoom" on the graph and this allows you also to view & analyze the statistics on specific and if required, short, periods of time.

- **Timescale graphs**
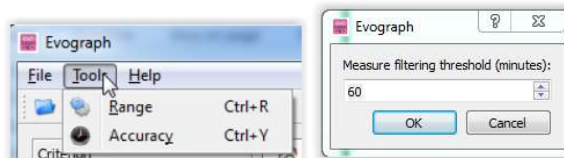
You can select a scale of half an hour or an hour.

- **Change the information of a campaign**

The title and the details can be changed under the tab "Campaigns" as well as the starting/ending dates of the campaign.
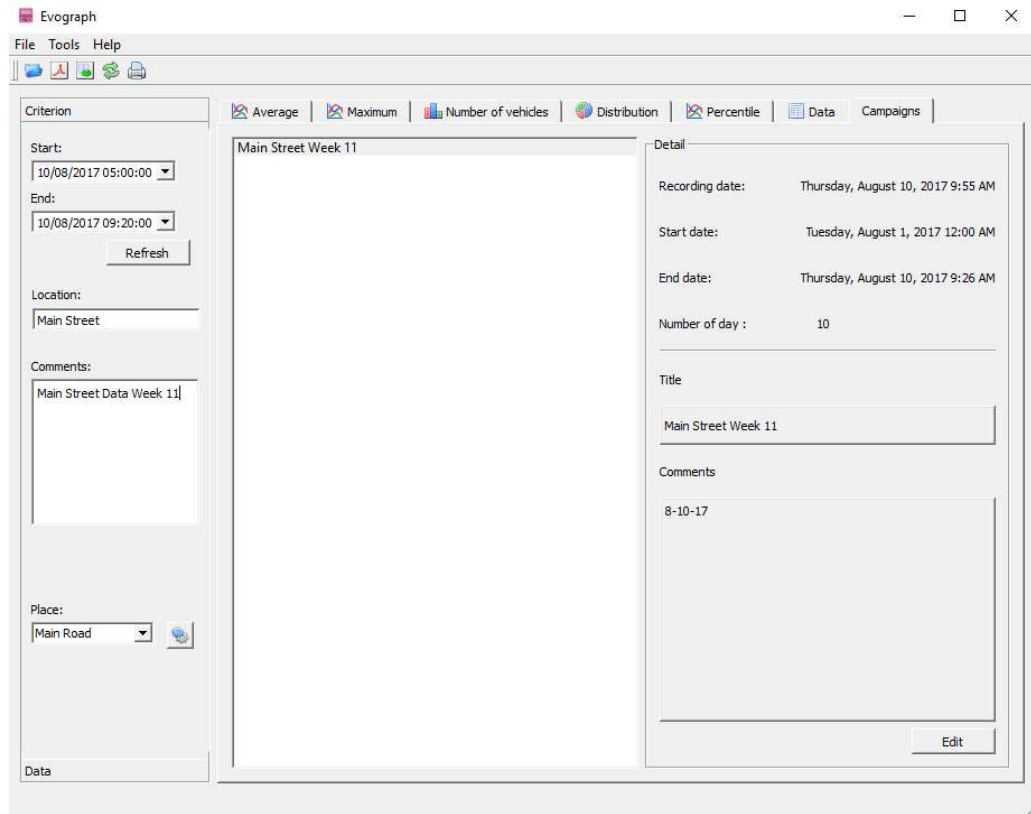
6.7 CONNECTING YOUR COMPUTER TO THE EVOLIS VIA BLUETOOTH

The Evolis radar communicates via Bluetooth directly with your computer (if equipped with Bluetooth) or via a Bluetooth dongle (available in option for non-equipped computer). This will function best at around 5 yards but can extend to up to 10 yards. Please note that a vehicle windscreen or inclement weather can have an adverse impact upon this range.

- **Step 1**

On your desktop, select Bluetooth and click on the icon to make sure the Bluetooth is activated.

- **Step 2**

Ensure the Evolis is on and functioning.

Initiate a research of peripheral device via the menu "Add a Device"; your computer will automatically detect all devices within its range.
Make the connection with by clicking on "ELANCITE_RADAR_XXXX", "ELANCITE_RADAR_V4-XXXX" or "ELAN4-XXXX"

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- **Step 3**

When you select the Evolis, simply click on "Pair without using a code"
(The Bluetooth pairing code will be required by Evocom at first connection, then the product will be recognized automatically)

For older products, a pairing code may be needed at this step. Enter the 4 digit code printed on the Bluetooth document delivered with the radar sign.
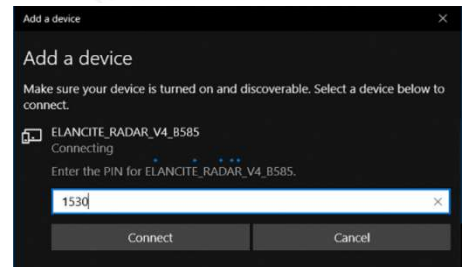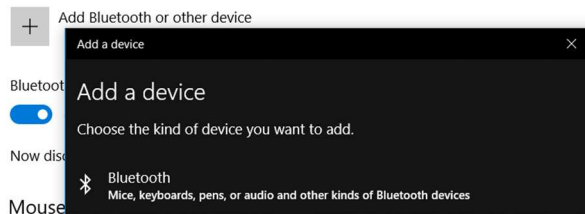
- **Step 4**

Confirm, or click on next.
A message will confirm the successful connection between the 2 devices.
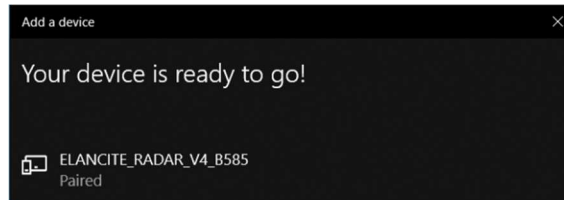
If your computer does not have Bluetooth, make sure you have a Bluetooth® dongle and connect it to a USB port.

A similar message must appear:
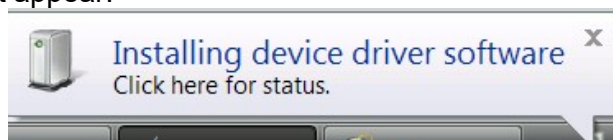
Your computer will automatically process the installation of the pilot.

Once the installation is completed, a message must appear to confirm the installation of the pilot:

If it does not, make sure your USB port is "active" or try to connect your Bluetooth key on another USB port.

Once the procedure is completed, go to "Control Panel", then "Devices and Printers."

Click on "Add a device".
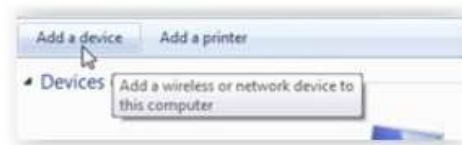
At this point, you can follow the connection procedure above (from Step n°2).

NOTE: it is not uncommon that the Bluetooth connection fails at the first attempt. If this occurs, please try again.

Once the connection between your computer and the Evolis radar is active, the radar will automatically be recognized by Evocom through the automatic detection procedure.

7   MISCELLANEOUS

Verify that the solar panel is clear of dust, snow or leaves which could prevent the transmission of sunlight. The solar panel surface may require wiping clean from time to time.

The radar should not be positioned in a shaded area such as: under trees, next to high buildings, etc.
Regularly check the battery's condition with a digital multimeter or by connecting to Evocom/ Summary.

Electrical connection components such as: plugs, outlets, battery cables, etc. can be easily be replaced by a qualified electrician. In case of any issues, contact the Tech Team at support@elancite.com

- **Vandalism**

The Evolis radar speed sign is designed to withstand vandalism just like traffic signs. In the case of serious damage, a repair or a replacement may be necessary. Before any repairs, please call our Technical Service for an expert assessment.
All damage on external parts (casing, front face, battery door, and fixing bar) must be repaired by a qualified professional.

8 TECHNICAL SPECIFICATIONS

SPEED DISPLAY	
SPEED DIGITS	Height: 13 inches, Display: 7 segment
"YOUR SPEED" legend	1.26' Highway-Gothic font
LEDs	Ultra-bright, 3-row thick, triple-color: Amber, Green and Red
LED ANGLE	30° cone angle, auto-dimming
LEGIBILITY	200 yards
POWER CONSUMPTION	Ultra-low power consumption. Average <5W
TEXT DISPLAY	
LEDs	Ultra-bright, Amber
MESSAGES	Pre-programmed or entirely personalized
SIZE-FONT / GRAPHICS	Choice of size and font, 1 or 2 lines text, and graphics available (school zone use)
DETECTION	
DOPPLER RADAR	Dual direction, K-Band, 24.125 GHz
ACCURACY	+/- 1 Mph, 99% accuracy
BEAM WIDTH	33° Horizontal – 33° Vertical (-3dB)
SPEED DETECTION	10 – 120 Mph
DETECTION RANGE	500ft to 1,000ft (configurable)
CASING	
MATERIEL	Robust, anti-corrosive ABS / PC injected resin; Curved polycarbonate front face
SIZE / WEIGHT	Dimensions: 70x70x15cm :Weight: 22lbs. (not inc. batteries)
WATERPROOF RATING	NEMA 4R / IP 65
COLOR	UV treated light grey (other colors available)
TEMPERATURE RESISTANCE	-40° F to +140° F (operational in extreme weather conditions)
ELECTRICAL SAFETY FEATURES	Two fuses (internal and external), internal pressure safety valve
BATTERY ENCLOSURE	Capacity to hold up to 2 batteries; manual dial for speed threshold programs
CONFIGURATION	
EVOCOM Software	Software for radar configuration + FREE updates
COMMUNICATION	USB, Bluetooth, EVOMOBILE smart phone application and GPRS (Optional),
THRESHOLDS	Speed (min, limit, max), anti-racing, flashing, color change (if activated)
TIMER MODE (school zone mode)	Alternative speed threshold: up to 2 settings / 4 time slots per day
SPY MODE	Continued traffic data collection with radar appearing to be off – blank display
TRAFFIC DATA ANALYSIS	
EVOGRAPH Software	Software for traffic data analysis + FREE updates
SPEED	Average and maximum speed, 85th percentile, distribution per speed group
COUNT	Estimated vehicle count
TYPE	Time-stamped data for both directions of the road

MEMORY STORAGE	Up to 1 million vehicles
FORMAT	Charts and graphs in Excel and/or Pdf form, for easy report printing
POWER OPTIONS	
"SOLAR" (solar-powered)	Internal solar regulator, solar panel, 2 batteries
"AC" (mains or street light)	230V AC with internal charger, 1 battery (capacity for 2)
"AC MOBILE" (battery operated)	4 batteries (2 inside casing) + external charger and 230V AC with internal charger
ACCESSORIES	
MOUNTING KITS	Curved, ABS-injected resin, universal mounting-bar; aluminum bracket (for solar)
SOLAR PANEL	32" X 27", 80 watt solar panel
BATTERIES	12V/22AH batteries included: 1(AC pack), 2(Solar pack), 4(AC Mobile pack)
EXTERNAL CHARGER	12V external charger (included in AC Mobile pack)

9   IF THE EVOLIS DOESN'T WORK

Before making contact with Elan Cité after sales service please refer to the following chart of symptoms / solutions. If this doesn't provide the solution and you are still experiencing problems please contact our Tech Team for assistance: support@elancite.com
Tools / equippment required:

Symptoms	Potential causes	Parts concerned
No display	Power supply	Batteries / Plugs / Solar panel
Solutions :		
1. Turn the dial switch to 'Off' then to 'SP' and check the auto test of both displays: speed and messages. (for an auto test – click on the green tick)		
2. Try a connection on Evocom either via USB or Bluetooth.		
3. Check if the spy mode is activated on Evocom. If yes, disactivate it on the Evocom settings page		
4. Control the power supply to the Evolis by checking the voltage at the battery terminals, at the solar panel and at the mains supply 220V.		
5. Check the primary fuse located in the battery compartment. It is situated just to the left of the control dial inside the radar casing.		
6. Check the condition of the external plugs.		

Symptoms	Potential causes	Parts concerned
Speed is displayed but after an extended delay	Installation / Utilization	Topography / Configuration / Setup
Solutions :		
1. Check the installation/position of the radar (see page 11-12).		
2. Check the setup of the device on Evocom (see configuration table : page 10).		
3. Move the device to another location if the current one is not suited for radar use.		

Symptoms	Potential causes	Parts concerned
Display of a tricolored square	Battery level	Batteries / Plugs / Solar panel
Solutions :		
1. Check the battery terminals voltage (if less than 11,1V replace the battery).		
2. Faulty connections of the battery cables, plugs or solar panel.		
3. Check the external mobile plugs condition (PNC16 or plugs male/female).		
4. High traffic volume ; combine use of a second battery with the first.		
5. Low solar panel power, check that the panel is in full sunlight and not coated with dust, snow etc…		
6. Try a connection on Evocom either via USB or Bluetooth to reduce the power consumption of the display screen.		

Symptoms	Potential causes	Parts concerned
Problem with the data recording	Installation / Utilization	Setup / Functions management
Solutions :		
1. Vehicles not detected due to wrong use / installation.		
2. Check in the parameters if the option "Save statistics" is activated.		
3. Check the location and the device's mounting.		

Symptoms	Potential causes	Parts concerned
Failure to connect with Evocom	Installation / Software utilization	Software download
Solutions :		
1. Check the software and USB pilot installation (default content in Program files/Evocom /Outils/ Drivers/Ftdi) on your computer (page 17 of the manual).		
2. Check if the power is on (battery voltage superior to 11,3V).		
3. Check if the switch dial is not on the Stand By position.		
4. Make sure that the USB port on your computer is active. Try with another USB port or another computer.		

10 CUSTOMER SERVICE – TERMS AND CONDITIONS GUARANTEE

Customer Service regarding devices under warranty or not, spare parts management, software and installation / utilization manuals, etc., is managed by our Tech Team. Please refer to contact information below:

<div align="center">

ÉlanCité

DÉTECTER • INFORMER • SÉCURISER

Customer Care & Tech Department:
support@elancite.com

</div>

10.1 WARRANTY

The terms and conditions as cited in this document, apply to any and all sales of radar speed signs supplied by Elan Cité. Accessories, such as batteries, are covered by a separate and different warranty labeled "battery warranty", included below.

Delivery of goods

Upon delivery of all goods, the client is required to verify the external condition of each package. The client must refuse the <u>entire</u> delivery if the package(s) are not in good condition. In such a case the client must contact Elan Cité immediately. The client is required to verify that the quantities noted on the packing list are in accordance with those delivered. If packages are in good condition but the quantity is incomplete as compared to the packing list, the client must indicate this anomaly on the transporter's copy of the delivery-note and must immediately inform Elan Cité. The liability of potential damage to delivered goods and / or missing packages cannot be attributed to the carrier nor to Elan Cité after delivery if the client does not follow the above guidelines.

The quantity & condition of the contents of the package(s) must be verified within 5 days of delivery. The device must also be tested within 5 days of delivery to establish its correct functionality. Beyond this 5 days delay, payment cannot be contested by the buyer if the device and its accessories are subsequently found to be malfunctioning and / or missing. Full payment of the complete order must be fulfilled by the buyer, within the time frame previously established on the signed contract (the quotation).

Retention of Ownership

Delivered goods shall fully remain the property of Elan Cité until all goods received have been fully paid for by the buyer. Payment must be made within 30 days of receiving the invoice as indicated on the signed contract (quotation). In the event of late payment, a certified notice for account delinquency will be sent to the buyer, which will then allow the buyer 8 days to make full payment. Beyond this time frame, Elan Cité retains the right to remove the materiel from the buyer.

Warranty

Delivered goods (the device and its components) are fully covered by the warranty, including the labour and transport costs associated with its repair and / or replacement. This is conditional upon a diagnosis of malfunctionment either by, or approved by, Elan Cité. The warranty is valid for 24 months from the date of delivery, with the exception of batteries which are not covered by this warranty. (see "Battery Warranty")

In the case of a perceived device malfunction, Elan Cité will carry out remote diagnostic checks with the client in order to identify any defective components (power supply, software, etc.) prior to proceeding with eventual factory repairs.

Warranty Disclaimer: The Warranty does not apply to any damage caused by :

- Vandalism, fire or impact damage
- Abuse or mishandling
- Unauthorized modifications and / or unauthorized use of additional / replacement accessories or products
- Damage caused during transportation (see clause "Delivery of Goods")
- Malfunctions due to improper electrical connection or battery cable polarity inversion
- Malfunctions imputable to improper installation non-compliant to our recommendations
- Malfunctions/damage attributable to worn parts and / or accessories including, but not necessarily limited to: batteries over 6 months old, broken / worn pole straps, broken / worn pole, etc.
The above list is not necessarily exhaustive

A Device that is not or no longer covered by the warranty, can still be returned to our after-sales service for repair. In such a case it will automatically undergo a refurbishment / repair quote, which will be subsequently be submitted to the customer for acceptance. In case of rejection, the client will be liable for delivery costs and diagnostic testing costs incurred by Elan Cité.

Returns Procedure: The client must inform the Customer Service department and describe in detail the problem encountered. An Elan Cité technician will assist the client and attempt to identify the problem by performing a remote telephone diagnosis. If remote testing concludes that the device or its components are defective, Elan Cité will then attribute a Claim Number to the customer, authorizing the product return to the After Sales Service Department. This Claim number will be transmitted to the client by email, along with a document outlining the After Sales Service Return Policy. This document must be signed and dated by the client, and returned to the Elan Cité logistics department who will then process the return request. A transportation request will then be sent by email to the customer and the removal of the package will be organized through an Elan Cité authorised carrier.

In the case of customer refusal of the initial remote diagnostic testing, resulting in an independent and unauthorised sending of the product(s), any product(s) found not to be defective will not be covered by the warranty. In such a case the customer will be invoiced for the in-shop diagnostic tests as well as the delivery and retrieval costs ; the subsequent re-delivery of the goods will not be effected until the invoice is settled in full.

Important : Transportation/Return of Goods to Elancite: Our terms of transportation are detailed below ; failure to comply with these will invalidate the return procedure and the package will be returned to sender.

- Batteries should under no circumstance be transported or returned to Elan Cité
- The device must be sent back in its original packaging. This implies preparing the device in the original foam packaging and the original box.
- Protective foam must protect all four corners of the device, as per the packaging when initially received.
- The package must be sealed with security tape at both ends.
- If the original packaging was has not been retained or has been lost, a quote for replacement packaging will be sent to the client.
- If the package is being transported by pallet, the package must be placed upright and film-wrapped before shipment.

Battery Warranty

Batteries are under warranty by Elan Cité for 6 months. The same conditions of "delivery of goods" and "retention of title" are true for the batteries as for the device. Replacement batteries must be purchased from Elan Cité. Use of non Elan Cité batteries and / or accessories, can annul the warranty(s), including the device's warranty. (See clause "warranty disclaimer"). Battery wires cannot be sold separately and must be purchased as a battery pack.

Terms & Conditions of Returns and Reimbursement

All sales are final: no returns, exchanges and / or reimbursements. Elan Cité is not liable and will not reimburse or exchange goods under the following circumstances: This list is not necessarily exhaustive

- Product's non-accordance with current and / or future local laws and / or regulations regarding the following but not exclusive to: radar speed sign specifications, road / zone placement, installation / mounting
- Product's non-accordance with Department of Transportation's regulation or choice of approval / authorization.
- Customer's dissatisfaction with product and / or customer service, company policies, etc.
- Change of personnel.
- Purchase made by unauthorized personnel.

The Warranty is activated upon delivery of goods.

10.2 SPARE PARTS

Spare parts and accessories can be ordered by contacting export@elancite.fr

10.3 USER MANUALS / SOFTWARE

All of the user manuals, software, and software updates for the Evolis are available for download on our website https://www.elancite.fr/en in the section " Customer Area" located in the upper right hand corner of the home page. Go to "Downloads", select the item you need and enter the password "**radarevolis**."

10.4 CE CERTIFICATE

ELANCITE confirms that our EVOLIS radio-electric products (SOLUTION, MOBILITY, XL, SMILEY) are in conformity with Directive 2014/53/UE. The full text of the EU Declaration of Conformity is available at the following internet address https://www.elancite.fr/en/ce