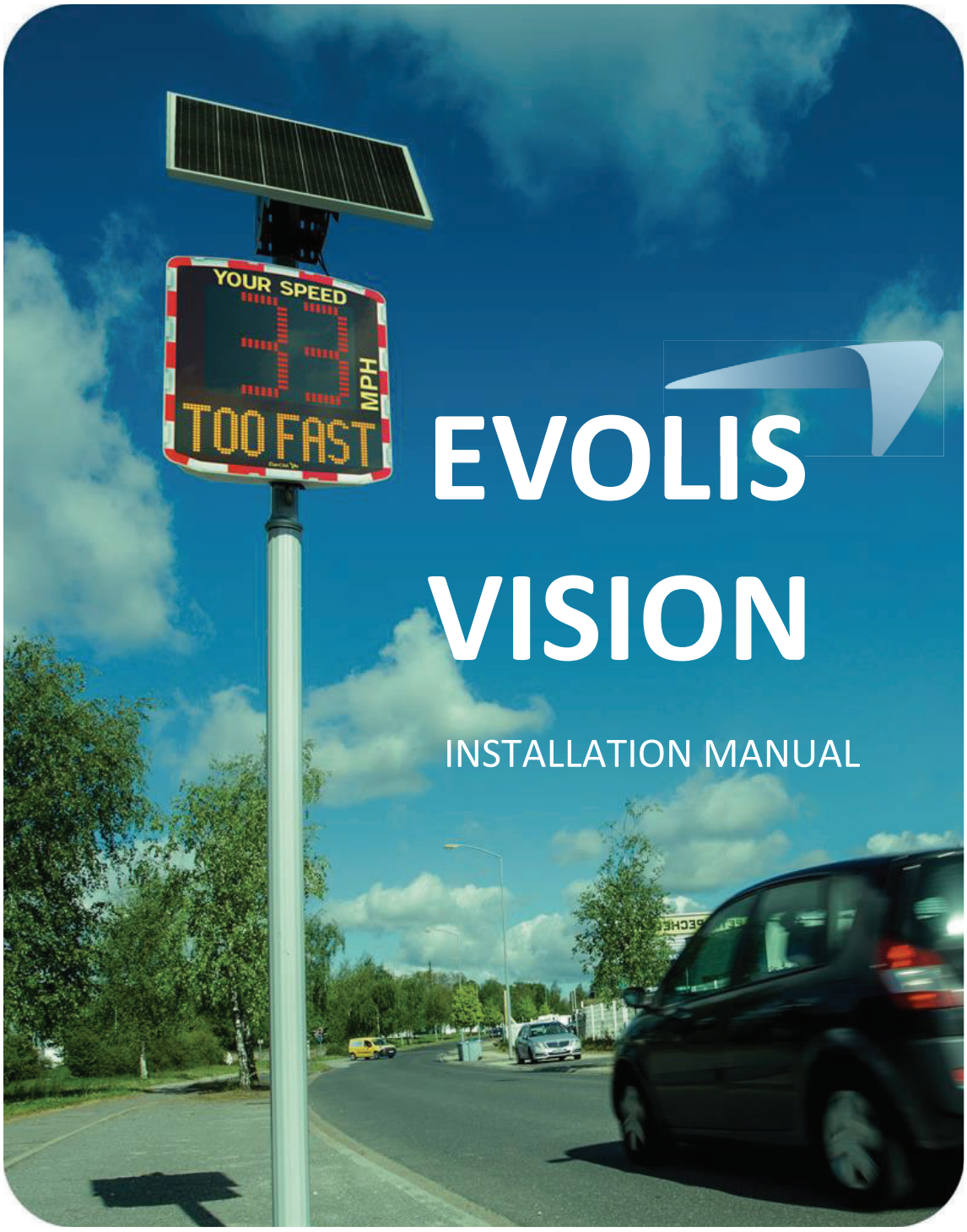
START SAFETY®
01905 794 875
StartSafety.uk
sales@startsafety.uk



EVOLIS VISION

INSTALLATION MANUAL

Thank you for choosing the Evolis Vision radar speed sign. The sign will encourage drivers to slow down by displaying:

- their speed,
- a flashing "danger" symbol for excessive speeds (optional),
- 5 (modifiable) messages according to their speed.

The system also records traffic statistics (option: average speeds, maximum speeds, number of vehicles, distribution by speed range and percentiles, and data for one direction or both directions of traffic).

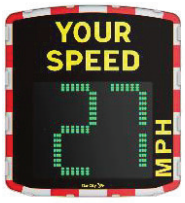
Our Evocom/Evograph software is used to set up the system and download the statistics via USB cable (standard), Bluetooth (standard), Smartphone/tablet (Evomobile app) and via a cellular connection (optional Evoweb system).

This installation manual covers the following models:
Please note that depending on the model, some options may not be available

EVOLIS VISION

Displays speed and messages

EVOLIS MOBILITY



Displays speed but no messages.

EVOLIS XL

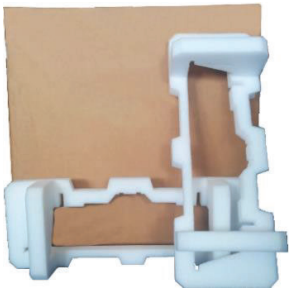
Displays speed in large size numbers but no messages

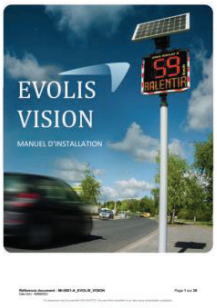
1. PACKAGE CONTENTS

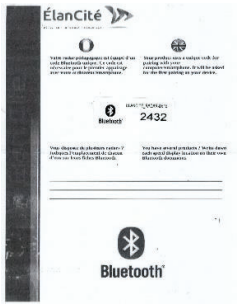
Upon delivery, check the contents of the box against the packing list. You must report any errors or damage incurred during transport to us within 2 working days.

The box should contain six items:

- The Evolis Vision radar speed sign,
- A vertical mounting bar,
- A USB cable (5m),
- This installation manual,
- The Bluetooth code to use on your product,
- A set of keys for the battery compartment.





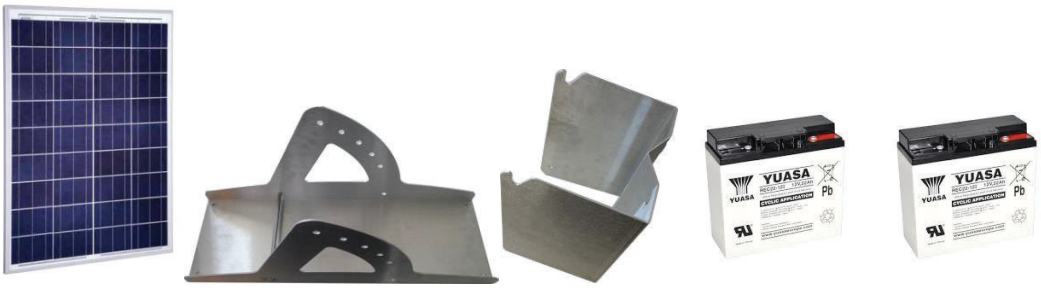
During the 2-year warranty period, keep the original box and packaging materials.

Depending on the model, other accessories may be included:

AC power

- A set of male/female electrical connectors for connection to the electrical grid or street lighting,
- A 12V/22Ah battery.

Solar power



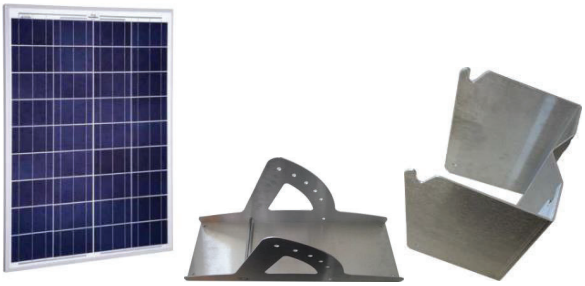
- A solar panel with the mounting kit,
- Two 12V/22Ah batteries.

Battery power

- An external battery charger,
- Two 12V/22Ah batteries.

Dual power

- A set of male/female electrical connectors for connection to the electrical grid or street lighting,
- Two 12V/22Ah batteries.
- Optional when ordering:
    - A solar panel with the mounting kit,



Batteries, solar panels, solar panel mounting kits and external chargers* are delivered separately.

Our batteries come charged and ready to use.

**The external charger is only supplied with the battery-powered version.*

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2. DESCRIPTION

1	Two colour speed display (green/amber) + red
2	Message display (amber)
3	Battery holder
4	Clamps or straps (not included)
5	Battery compartments
6	Pre-programmed speed limit selector, waterproof USB connector
7	Electrical connector and solar connector for connection to the electrical grid or solar panel (for devices equipped with the dual power option)
8	Solar cables for connection to the solar panel (for devices with the solar power option)

3. INSTALLATION

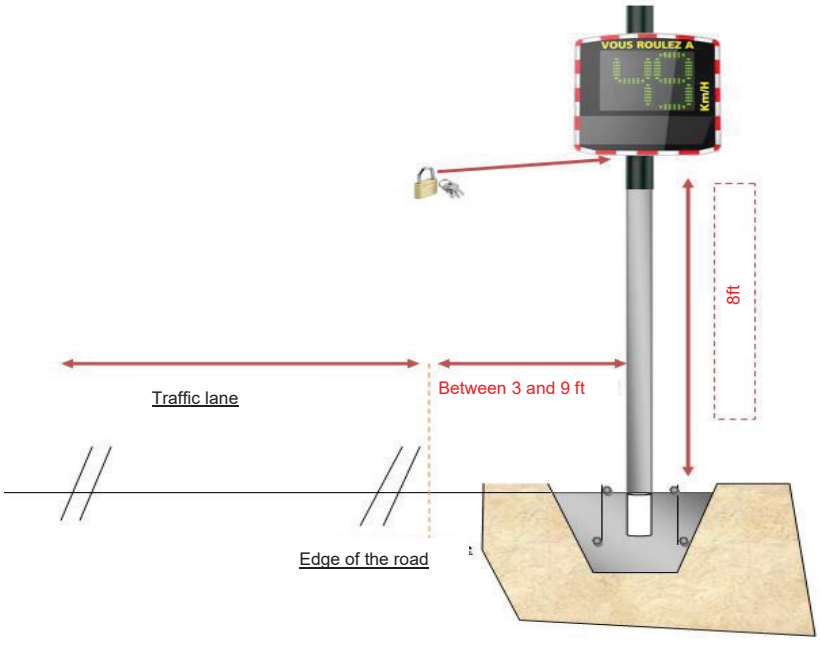
Before installing your radar speed sign:

- Make sure you comply with local laws concerning work at height, and always ensure your own safety and that of those around you.
- Also be sure to comply with local laws on road work signage.
- Mount the radar sign on a sturdy, stable pole of sufficient diameter. If in doubt, please contact our sales department or customer service.
- Work on live electrical equipment requires certifications. Remember to comply with local laws in this matter.

3.1 LOCATION

To get the best range, select the location of the radar based on 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.

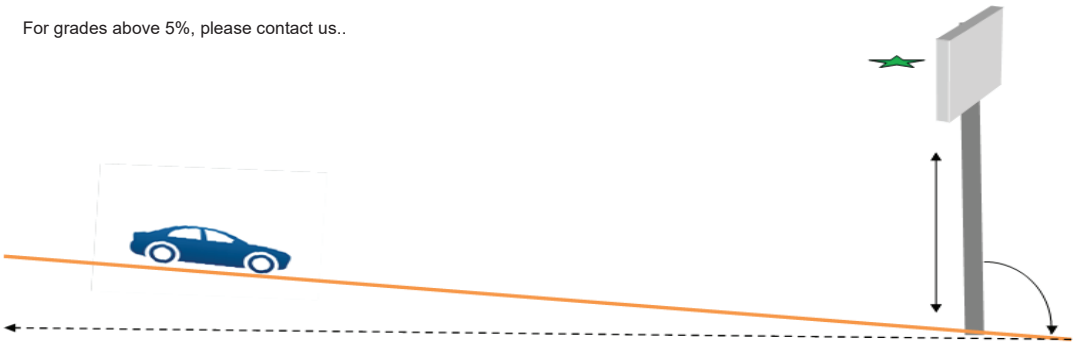


- Do not install your sign at intersections or on bridges. It should be at least 150 meters away from cross traffic, since vehicles arriving from the side may be recorded as oncoming vehicles.
- The sign must be more than 65 meters away from large road signs, as they may interfere with the radar beam.
- 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 230cms (app 8ft) and no higher than 16ft from ground level. (too low : collision risk : pedestrians or cyclists).

- 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.

Horizontal orientation	**The Evolis Vision speed sign must be perpendicular to the road.** Even if the sign is placed at some distance from the road, it should not be tilted in either direction, in order to maintain the maximum range.
Vertical orientation	The sign must be installed straight, unless there is a very steep grade (+/- 5%). In this case, the sign can be tilted up or down to match the angle of the grade by placing a wedge behind the top or bottom of the mounting bar, so the radar beam can "follow" the slope.



3.2 INSTALLATION USING THE MOUNTING BAR

A mounting bar is supplied with the radar sign. Strap the bar to a pole that is at least 90 mm in diameter using clamps or straps (not included), in the correct orientation.
Insert the hooks on the back of the sign into the bar mounted on the pole. There is an eyehole where you can install a padlock to further secure the sign. (Padlock not included).
For safety reasons, we strongly recommend using an aerial lift when installing the sign.

Installation recommendations

For solar powered signs, install the solar panel on the pole first before installing the radar sign.
(See solar panel manual supplied with the item)

1. Secure the mounting bar to the pole with the straps. (Caution: do not tighten completely so that the sign position can still be adjusted)
2. Install the sign (without the batteries) on the mounting bar.
3. Adjust the position of the sign and fully tighten the pole straps.
4. Install the batteries, and/or connect the sign to the AC power supply.

Verification

Once the sign is installed, the range should be between 100 and 250 meters. The range can be obstructed if the sign is not installed perpendicularly, or if there are obstacles, fog, etc.

3.3 POWER SUPPLY AND CONNECTIONS

Power supply

The Evolis Vision radar speed sign is powered by 12 volts and is designed to operate either:

- by connection to the electrical grid or the street lighting grid coupled with a 12V/22Ah rechargeable battery,
- by solar panel with two rechargeable 12V/22Ah batteries,
- by two rechargeable batteries with external 12V/4A charger.

Power consumption

The Evolis Vision sign is protected against deep discharge of the batteries. Average power consumption in watts of the Evolis Vision:

- Speed: 0.3A (3.6 watts at 12V),
- Speed + Message: 0.8A (9.6 watts at 12V),
- Standby: 0.1A (1.2 watts at 12V).

Safety system

The Evolis Vision has an intelligent protection process based on battery voltage:

- Critical limit 1: at 11.5V: The message display will shut off and the number display will switch to lower brightness.
- Critical threshold 2: at 11.3V: The number display will shut off (two-coloured square displayed).
- Critical limit 3: at 11.1V: Sign switches to standby.

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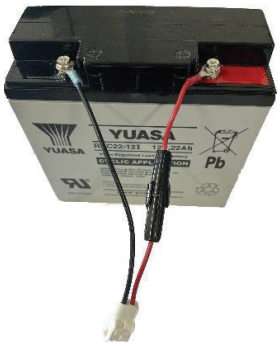
Electrical protection




An 8x32 8A time-delayed fuse is positioned at the battery output to protect the unit if the power supply polarity is reversed. A second fuse located inside the box also protects the unit.

Please note that the EVOLIS VISION can only be used with a battery with a fuse-protected connecting cable.

3.3.1 AC powered version

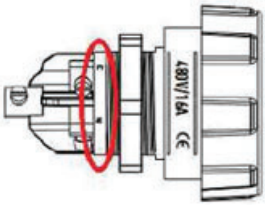
For recharging on the street lighting grid, the Evolis Vision is equipped with:

- An internal 8Ah charger,
- A 12V/22Ah lead battery,
- A set of IP68 male-female electrical connectors for connection to the grid.

When connecting the female connector, follow these instructions:

- Connect the neutral wire to the terminal marked "N"
- Connect the phase wire to the terminal marked "1"
- Connect the ground to the central terminal

Phase	1
Neutral	N
Ground	centre

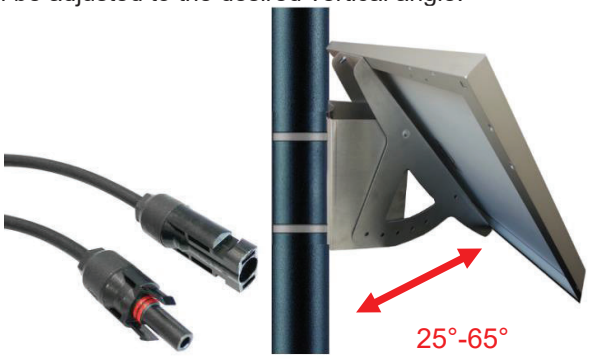


We strongly recommend adding a 30mA calibre 16A type AC circuit breaker between the mains current & the radar speed sign. ÉlanCité cannot be held liable for damage caused by improper installation. If there is no circuit breaker, the warranty will not apply if the internal electrical charger fails.

3.3.2 Solar version

For optimal performance of your solar panel, ideally orient it towards the South. We recommend an inclination of 25 degrees, effective for year-round use, both in summer and winter.
Choose a location with a clear view of the sky to maximize the charging capacity of the panel.
Be vigilant: nearby trees or buildings can cast shadows on the panel, significantly reducing the efficiency of solar cells and, consequently, the charging of your batteries.

Before connecting the solar panel to the sign, the battery must first be installed and connected to the sign. The solar panel can be adjusted to the desired vertical angle.



Connect the solar panel cables to the sign cables.

Installation: Refer to the installation instructions provided with the solar panel.

The location must have a clear view of the sky for maximum charging capacity. Trees and buildings can cast shadows on the solar panels, significantly reducing the performance of the solar cells.

3.3.3 Battery version

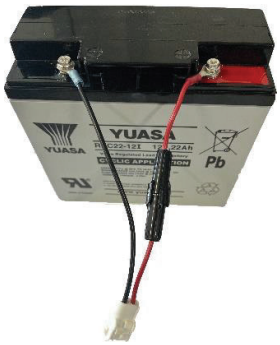
Mobile operation

For mobile use, the Evolis Vision is designed to operate with one or two batteries on a tripod for occasional use or on a mast for semi-permanent use.

A single battery (without recharging) will power the sign for 3 to 8 days. For safety reasons, do not move your Evolis Vision with the batteries inside, due to the total weight of the unit.

When the two-coloured square appears on the Evolis Vision display (low battery warning), replace the two batteries with charged ones.

A charged battery will gradually discharge even when not in use. To make sure you are installing a fully-charged battery, remember to charge the battery before using it: connect the battery terminals to the external charger we supplied and plug the power cable into the 220V wall socket.



Charge indicator

Solid red light	Charging is starting
Solid orange light	Charging in progress
Solid green light	Charging complete

It takes approximately 5 hours to fully charge the battery. The charging time may vary depending on the remaining charge of the battery and the conditions under which the charging is performed. The battery can be charged even when it is not completely discharged. The charging time indicated above corresponds to the charging of a battery (supplied by us) discharged to 11.1V.

3.4 CONNECT OPTION

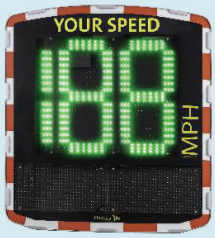
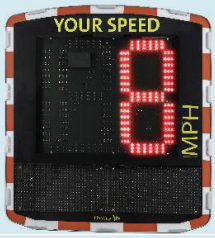
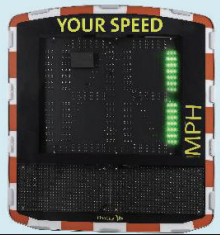
To activate the cellular Connect option on your sign you must first insert the Sim card into the Connect module. Then open the back door of the sign and insert the module into the connector.

4. OPERATING YOUR SIGN

Before turning on your Evolis Vision radar speed sign, please read paragraph **9.8** concerning the regulations in force in your country.

4.1 STARTING UP

As soon as it is powered on, the Evolis Vision performs a quick self-check:

1	Number display	**188** in green and red Number display LED test	
2	Number display	**# # #** in green Battery voltage test (Example: 132 = 13.2 Volts)	
	Text display	INIT... in amber Message test	
3	Number display	**8** in red Bluetooth test	
4	Number display	**1** in green Cellular and Bluetooth test **only appears if you have installed the Connect option.*	

4.2 SPEED LIMIT SELECTOR

For quick start-up, the common speed limits are already pre-programmed in the sign.

Use the selector in the battery box to select the speed limit at the sign location.

Press the  key to display the status of the product:

- "ON" indicates that the product is active.
- "OFF" signals that the product is deactivated.
- "Lb" means the product is in low battery mode.
- "SL" indicates that the product is in deep sleep mode.

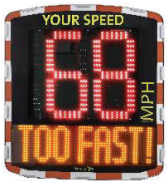
Press and hold the  key to turn the sign on or off

Press the  key while the sign is on to show the current setting

A long press of the  button when the radar is turned on selects the speed setting recorded on the radar.

The preset speeds will appear on the screen one by one, once the desired speed appears on the screen release the button so that the speed is selected and taken into account by the radar.

Evolis Vision pre-programmed settings

Speed limit selector	Description	Minimum speed triggering the display	Speed triggering a colour change	Speed triggering flashing numbers	Speed triggering danger warning symbol
	Visual				
20 mph		9 mph	21 mph	26 mph	31 mph
25 mph		9 mph	26 mph	31 mph	36 mph
30 mph		9 mph	31 mph	36 mph	41 mph
40 mph		9 mph	41 mph	46 mph	51 mph
50 mph		9 mph	51 mph	56 mph	61 mph
60 mph		9 mph	61 mph	66 mph	81 mph
70 mph		9 mph	71 mph	76 mph	91 mph
80 mph		9 mph	81 mph	86 mph	101 mph
90 mph		9 mph	91 mph	96 mph	111 mph
SP / 100 mph		9 mph	101 mph	106 mph	121 mph

*** Text display not available on Mobility and Vision XL models**

To change these settings, please refer to the Evocom software user manual.

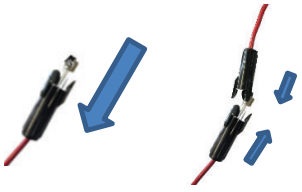
5. MAINTENANCE

Batteries and solar panel

Make sure that the solar panel is not located in a shady area (under trees, near tall buildings, etc.), or covered with snow or dust. Regularly clean the surface exposed to the sun and check the condition of the batteries with a multimeter.

Electrical connection components, such as plugs, connectors, battery cables, etc. can be replaced by a qualified electrician.

Fusible replacement

Fusible Replacement	Open the battery compartment door of the radar.	
	Disconnect the battery or batteries present in the compartment.	
	Press and turn the fuse holder a quarter turn to access the fuse	
	Remove the fuse.	
	Insert and lock the new fuse.	

	Reconnect the battery.	
	Close and lock the battery compartment door	

Vandalism

The Evolis Vision is designed to withstand minor vandalism just like road signs. For more significant damage requiring repair or replacement, contact our customer service department for an appraisal before repair.
Any damage to the external parts (such as the box, front panel, battery holder, mounting bar) must also be repaired by qualified technicians.

6. TECHNICAL DATA

TECHNICAL DATA		
POWER SUPPLY	Battery (Type, Voltage, Capacity)	Lead; 12V; 22 Ah
	Electric regulator	15 VDC; 8 A; 120 W
	Solar panel	100 W
	Dual power	AC + Solar
UNIT & LOCK	Material (box)	ABS / PC
	Dimensions	766 x 708.5 x 161 mm
	Weight	4.34 kg
	Material (front face)	UV resistant polycarbonate
	Dimensions	760 x 702 x 2 mm
	Packaging size	850 x 790 x 250 mm
	Weight	9.2kg (solar) 9.6kg (hybrid)
	Lock	Padlock on lower hook
DISPLAY	**NUMBER DISPLAY**	
	Dimension	Dim.: 490 x 399 mm
	Colour	Red - Green
	Quantity	Green: 318 LEDs / Red: 402 LEDs
	TEXT DISPLAY	
	Dimension	Dim.: 160 x 320 mm
	Colour	Amber
	Quantity	512 LEDs
COMMUNICATION & CONNECTIVITY	Interface	Lexan Digital
	Bluetooth	Bluetooth 5 Low Energy
	PC	EvoCom software
	PC Operating system	Windows 7 / 8 / 10 / 11
	Smartphone	EvoMobile mobile app
	Phone OS	iOS / Android

DETECTION	Antenna	Doppler IPS-937-F
	Type of modulation	CW Doppler
	Frequency	24.125 GHz
	Maximum range	250 m (cars)
	Speed tolerance	± 1 km/h

OPTION	Connect option	3G or 4G cellular connection
	Relay option (dry contact and controlled power supply)	External device (dry contact) Flash lamp (controlled power supply)
	GPS option	Geolocation of the unit.

STANDARDS	**EUROPE**	
	Electromagnetic Compatibility (EMC)	Directive 2014/53/EU
	Exposure to electromagnetic fields (EMF)	Directive 1999/519/EC
	Radio Equipment (RED)	Directive 2014/53/EU
	Treatment and recycling of electronic products (WEEE)	Directive 2012/19/EU
	Hazardous Substances in Electronic Products (ROHS)	Directive 2011/65/EU

SOFTWARE & APPLICATION	**CONFIGURATION**	
		Default settings
		Custom settings
		Message management
		Display management
		Calendar management
	STATISTICS	
		Count (number of vehicles)
		Speeds (maximum, average, etc.)
		Data charts (percentiles, distribution, etc.)
		Statistics reports
	STORAGE	
		16 MB
	SUPERVISION	
		Hardware status
		Health status
		Memory available

7. TROUBLESHOOTING

Should you experience problems with your Evolis Vision, you can often find the solution in our troubleshooting guide. Otherwise, please contact our customer service department.

Tools required

Symptom	Potential causes	Parts involved
No display at all	Power supply	Batteries / Electrical connectors / Solar panel
Solutions:		
1. Turn the sign OFF and back ON and check the display self-test.		
2. Try to connect to Evocom via USB or Bluetooth.		
3. Check if the spy mode is enabled on Evocom. If it is enabled, disable it in the Settings tab.		
4. Check the power supply to the unit by measuring the voltage at the battery, the solar panel, or the 220V street lighting power supply.		
5. Check the fuse on the battery.		
6. Check the condition of the external mobile connectors (PNC16 or male/female Maréchal connectors).		

Symptom	Potential causes	Parts involved
Detects vehicles late	Installation / Use	Topography / Configuration / Settings
Solutions:		
1. Check the installation of the unit.		
2. Check the settings of the unit on Evocom		
3. Move the unit if the location does not fully comply with our recommendations.		

Symptom	Potential causes	Parts involved
Display shows a three-colour square	Battery charge	Batteries / Electrical connectors / Solar panel
Solutions:		
1. Check the voltage at the battery terminals (if < 11.3V replace battery).		
2. Incorrect connection of battery cables, electrical connectors or solar panel.		
3. Check the condition of the external mobile connectors (PNC16 or male/female Maréchal connectors).		
4. Very high traffic volume. Use a second battery.		
5. Low solar panel power. Check the orientation and location to make sure it is not in the shade.		

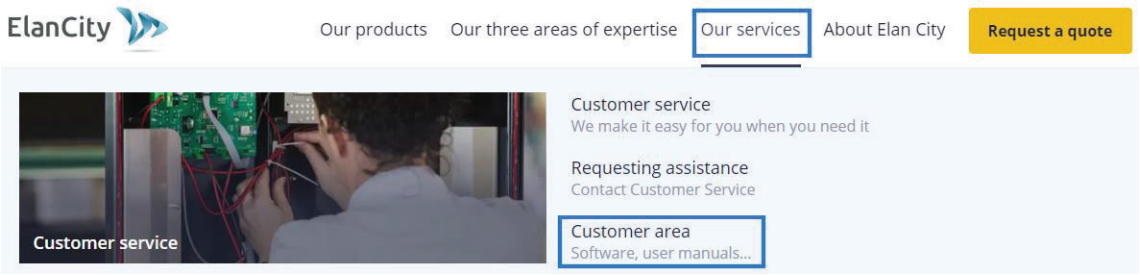
Symptom	Potential causes	Parts involved
Statistics not recording	Installation / Use	Settings / Management of functions
Solutions:		
1. Vehicles not detected due to improper use / installation.		
2. Check the installation location and alignment (see profile drawing).		

Symptom	Potential causes	Parts involved
Faulty Evocom USB connection	Software Installation / Use	Software download
Solutions:		
1. Check that the software and the USB Setup driver (contained by default in Program files/Evocom/tools/ftdi/driver/windows) are installed on your PC		
2. Check that the unit is powered on (battery voltage greater than 11.3 volts).		
3. Check that the sign is not set to OFF position.		
4. Make sure the USB port on your computer is working. Try a different USB port or another computer.		

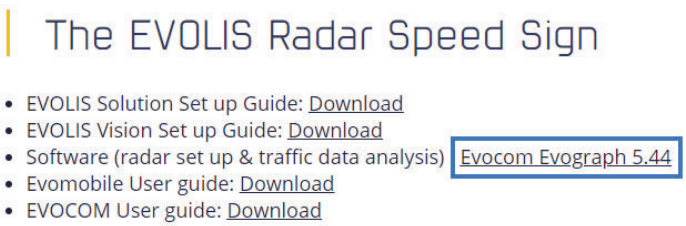
8. SOFTWARE AND USER MANUALS

8.1 EVOCOM/EVOGRAPH

Our software and user manuals are available on www.elancity.co.uk in the "Customer service" tab



Click on the Evocom Evograph link



8.2 EVOMOBILE

The app is available from the Google Play Store and the App Store. Search for "EvoMobile" and install the app.

EVOMOBILE - App on Google Play

Evomobile in the App Store (apple.com)