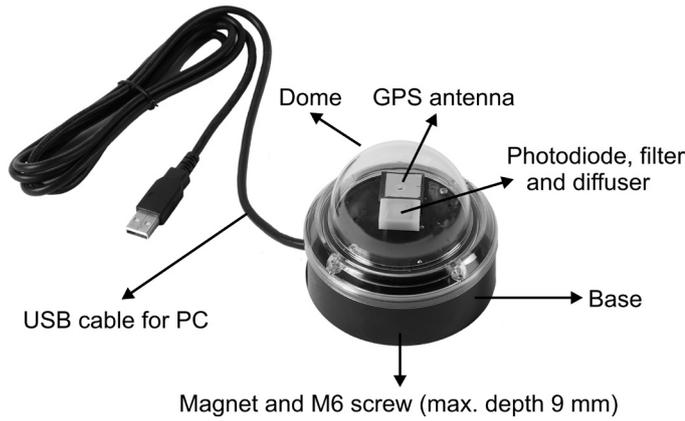


SENSOR LX-GPS



The **LX-GPS** consists of a lux meter sensor (photodiode) with integrated GPS and a USB connection for PC.

It is designed to measure the illuminance of street lighting, with a curve similar to that of the light sensitivity of the human eye, thanks to its exclusive filters and diffuser.

The integration of GPS on the **LX-GPS** sensor itself facilitates precision and synchronous positioning when measuring illuminance, and also makes it simpler to install.

These instructions describe the sensor, its installation and its operation. To find these instructions in electronic format, visit www.afeisa.es.

SAFETY WARNINGS

Should the **LX-GPS** be used in any way other than that specified by the manufacturer, it may compromise the safety of the **LX-GPS** and stop the user from being protected.

Do not operate the **LX-GPS**, or the computer, or any other physical component of the LX-GPS system while driving, as this may pose a serious risk of an accident.

PRECAUTIONS FOR USE

Place the **LX-GPS** in the LX-GPS KIT case while it is being transported to protect it from impacts that may damage the dome or any of its other components.

Handle the **LX-GPS** with care, as it has a powerful magnet in its base to secure it to the vehicle body and it may affect the computer's hard drive or other electronic devices if it gets too close to them.

MAINTENANCE

Only use the specified replacement parts for the maintenance of the **LX-GPS**. The manufacturer is not liable for accidents caused by a repair that was not performed by its Aftersales Service.

It is advised that you store the **LX-GPS** in the case of the LX-GPS KIT and always within specific ambient conditions (in a dry place, protected from light and at a constant temperature) to keep it in its accuracy class.

When it is stored away, do not place any weight on top of the LX-GPS KIT case.

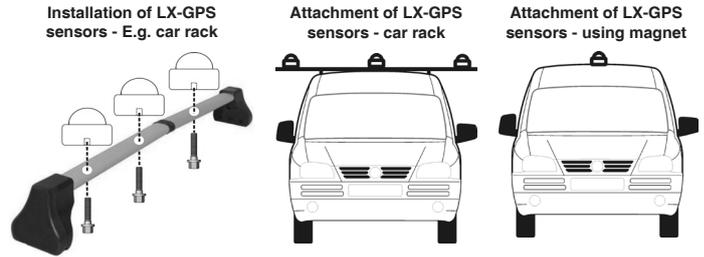
For cleaning, it is sufficient to use a slightly damp cloth (not wet), with water and neutral soap, with a non-abrasive and non-acidic cleaner like alcohol.

TECHNICAL SPECIFICATIONS

- GPS position accuracy 2.5m CEP.
- GPS speed accuracy 0.1m/second.
- Filter which responds similarly to the light sensitivity of the human eye.
- Diffuser to adapt the angular response of the sensor to the cosine curves (α) between -80° and 80° .
- Flat PN silicon photodiode in a hermetically sealed case especially designed for high precision linear applications.
- Measurement range 0-50000 Lux.
- Includes a 12-bit A/D converter to convert the measurement into luxs.
- Automatic scale setting with a resolution of between 0.1 and 13.5 Lux.
- Field of view: 2π sr.
- Spectral range: photopic curve $V(\lambda)$.
- RMSE mean square error relative to $V(\lambda)$: 3,5% max.
- Linearity error: 1% max.
- Temperature coefficient: 0.1% / $^\circ\text{C}$ max.
- Supply voltage 5-15 V d.c. and maximum current 20 mA.
- Transparent and UV-stabilised PC-V0 polycarbonate dome.
- Degree of protection: IP65.
- Storage temperature: -40 to 85°C .
- Room temperature: -10 to 50°C .
- Humidity (non-condensing): 95%.
- CR2032 3V lithium battery to save the last GPS position (minimum life of one and a half years).
- Dimensions $\varnothing 88$ x 75mm and weight 170gr.
- The sensor is attached using a magnet and/or M6 screw (maximum depth 9mm).
- USB cable to connect to the PC.

INSTALLATION

Install the **LX-GPS** on the vehicle (a normal sedan car or small commercial vehicle is recommended), distributing them so that they are aligned and centred on a transverse axis on the roof of the vehicle, in the direction of travel, so that one is on the right side, another is in the centre and another is on the left side (when only using a single **LX-GPS** sensor place it in the centre) and ensure that the **LX-GPS** sensors are as horizontal as possible, trying to cover the greatest width.

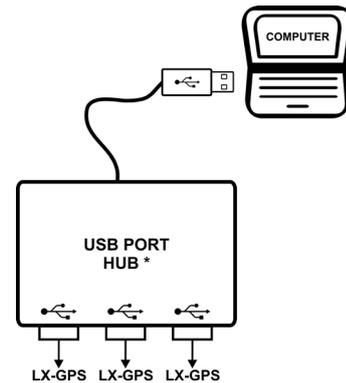


The systems does not require any special adaptations, because **LX-GPS** sensors can be attached to the roof of the vehicle using the magnets they have for their bases or a car rack or any other tool that guarantees their horizontality, especially when using three **LX-GPS** sensors.

The cables are passed through the window or the gasket in the passenger door so that they do not interfere with driving (if there is a sunroof it can also pass through that, if it does not bother the driver).

The USB cables of the **LX-GPS** are connected to a USB port hub (when using 3 **LX-GPS** sensors), which is supplied with the LX-GPS Kit case, and this in turn is connected to the computer's USB port. It is recommended that you install the USB port hub on the luggage rack or on any other suitable tool.

It is not recommended to use a USB port hub other than the one supplied with the LX-GPS KIT case.



* The USB port hub shown in the image in the operating instructions may not be the same as the one which is supplied with the LX-GPS KIT case.

CONFIGURATION

The **LX-GPS** are connected to a PC via a USB interface so that they can be configured and managed using the LX-GPS software, which is supplied by the manufacturer.

This software allows us to assess illuminance levels on roadways by taking automatic measurements while driving the vehicle. It also auto-detects and sorts the **LX-GPS** sensors that are connected to the PC.

For more information, view the user manual for the LX-GPS software, which is on the USB pen drive that is supplied with the LX-GPS KIT case.

METROLOGICAL VERIFICATION

Like all measuring and testing equipment, it needs to be regularly checked. We advise at least one check every two years for this equipment, although every year is recommended. Contact the Aftersales Service for equipment verification and calibration.

SAFETY INSTRUCTIONS

This equipment has been designed in accordance with CE standards. For the product to operate correctly and safely it must be transported, stored, installed and fitted in accordance with the guidelines contained in these operating instructions.

If you have any queries about its operation or a fault, contact:

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