

LX MOP IGC

World's first standalone MOP flight recorder with IGC approved sensor for gliders equipped with jet or electric engines

User manual
(version 1.0)

For standalone use and for use in LX Zeus and LX Eos system configurations

Contents

0	Prologue	3
1	Introduction.....	3
1.1	Hardware specification	4
1.2	Switching on the unit	4
1.3	Switching off the unit	4
2	User interface	5
2.1	User – LX MOP IGC communication.....	5
2.2	Transfer	5
3	Installation	5
4	Flight declaration software	6

0 Prologue

Why LX Navigation?

LX Navigation is one of the oldest glider navigation brands. Our founders started experimenting with glider computers way back in the '70-ies and we have been working on improving your flight performance ever since.

You can find a part of us in almost any aeroclub.

Always groundbraking.

Our moto?

Be the first. Be the best. Be different.

Why LX MOP IGC?

Because LX MOP IGC is a world first. Standalone IGC certified flight recorder with the ability to detect those high-frequency sounds your Jet or Electric engines are making when they are saving you from an outlanding.

There is no other like it.

1 Introduction

The LX MOP IGC is a flight recorder with the capability to sense whether your jet or electric engine is running. This treat is unique and cannot be recorded with a standard ENL sensor.

It has an internal backup battery which will keep it going for up to five hours if your battery dies or a fuse blows. It is a standalone flight recorder which means that it will also work as a 2nd flight recorder for competitions, cross-country flights, badges, records etc.

The LX MOP IGC features a very simple and sleek elegant design. It has a CAN connector which is used for either powering it with 12 V or for communication with other LX Navigation units.

The CAN connector simplifies accessories connections as they do not need to be connected with each other. Instead you create a chain of connections and they all communicate perfectly.

The microSD card port will ease all communication with the device.

The LX MOP IGC will also send its MOP data to other devices connected via CAN bus with secured connection. This means that your LX Era or LX Eos vario – flight recorders will have the same information about the MOP levels.

It is simple to install and use with all the features you need, including task declaration.

1.1 **Hardware specification**

The picture below depicts a LX MOP IGC unit.



Dimensions	59 mm x 27 mm x 43(max 58 at brackets) mm
Weight	79 grams
Input Voltage Range	9.0 – 20.0 VDC
Average Current	40 milliamps @ 12 VDC

1.2 **Switching on the unit**

The unit is switched on automatically when it is connected to a power source via CAN connector.

1.3 **Switching off the unit**

The unit is switched off once it detects that the flight has finished and main power supply is disconnected on the ground.

2 User interface

2.1 User – LX MOP IGC communication

All communication between the user and LX MOP IGC is conducted via multicolour LED light. There are four different colours each indicating a message.

- Red is indicating no valid GPS signal (GPS bad).
- Blue is indicating that internal battery is charging.
- Green is indicating it is in flight mode.
- White is indicating it is working.

Each light blinks for one second during a 4 second period if it wants to display it's status.

For instance, if the Mop is charging and it has no GPS, it means that during a 4 second period the red and blue light will turn on for one second. First the red one and then the blue one. Because it will not be in flight mode, there will be 1 second gaps because the green light won't turn on. White will indicate that unit is working.

2.2 Transfer

All data transfers are conducted either via microSD card or a CAN bus. In the standalone version, a PC program is available to write task and pilot information into the declaration.

Once finished, copy declaration file from PC to the microSD card. Once the card is inserted and the power is on, the LX MOP IGC will automatically read the declaration file from the microSD card and save it for future flights. Flights are automatically saved to microSD card.

If the LX MOP IGC is connected to a LX Navigation system such as LX Eos / LX Era vario Zeus system, task declaration will be automatically sent to all devices once it's declared on the Zeus or LX Eos / LX Era via CAN bus.

To download the flight from LX MOP IGC go to logbook page on your Zeus unit.

For more info please check LX Zeus user manual.

IMPORTANT!

Flights are saved directly to external microSD card. If a microSD card is not inserted LX MOP IGC will not record flight.

In any case it will send MOP information over CAN bus to other connected devices.

3 Installation

The ideal location for the installation of the LX Mop IGC is somewhere on the spar, behind the pilots head, near the engine compartment wall.

It can be fixed either with two screws using the screw bracket on the housing or glued with a double sided tape or by using a Velcro tape.

Connect the GPS antenna via SMA connector and put it somewhere under the canopy so it has view to clear sky.

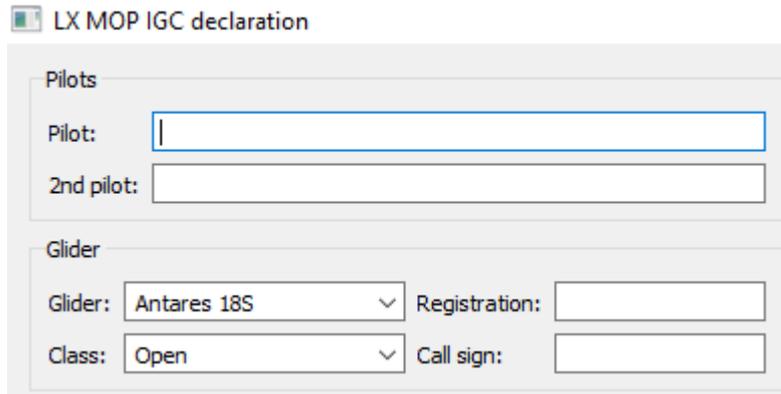
If you have another LX Navigation instrument, connect it to the LX MOP IGC via CAN bus.

4 Flight declaration software

The LX MOP IGC declaration software can be found on either our webpage or on the provided microSD card.

Once you download it you should install it and run the executable.

Fill out the pilot's name and if there is a second pilot, his as well. Next, choose the glider with the correct wingspan, the class it is listed in and the registration and call sign information.



Pilots

Pilot:

2nd pilot:

Glider

Glider: Antares 18S Registration:

Class: Open Call sign:

Fill out the required information in the **Task** window. You can either load a TP file in the .cup or .cupx file format and choose TPs from a dropdown menu, or enter the geographical coordinates of the desired turnpoints by hand.

Task

	Name	Latitude	Longitude	Distance	Bearing	
Takeoff	<input type="text"/>	N00°00.000'	E000°00.000'			
Start	<input type="text"/>	N00°00.000'	E000°00.000'			
Finish	<input type="text"/>	N00°00.000'	E000°00.000'	0.0 km	0°	<input type="button" value="Add TP"/>
Landing	<input type="text"/>	N00°00.000'	E000°00.000'			

You can also select a predefined task from the turnpoint file.

Tasks:

Once you have finished fulfilling the requested information, click on **Save declaration**. This will create LX_MOP.TXT file. Save this file to the root of a microSD card and insert it into you LX MOP IGC flight recorder. Once you turn it on, declaration will be saved to flight recorder.