LX Traffic Monitor
[57 & 80]

Installation manual

- LX navigation -

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LXNAVIGATION

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Document information

0.1 Abstract

This document represents the installation manual for the LX Traffic Monitor. The user manual, release notes, dataport and additional info can be found on **www.lxnavigation.com**.

0.2 Document status

Document status: PUBLIC

Document status	Explanation
Internal	Intended only for LX navigation staff
Public	Available publicly to all
Personal	Intended for a specific person and/or company, noted on this page
Dealer	Intended for a specific dealer, noted on this page
Manufacturer	Intended for a specific manufacturer, noted on this page

0.3 List of applicable products

Device	Version
LX Traffic Monitor 57	1.6
LX Traffic Monitor 80	1.6

0.4 Revision history

Document Approved name by	Document revision Notes	SW version	Build	Date	Revised by
LX_TMIM	R1	10.2.2023	A.S.	N.S.	initial release

Overview

The LX Traffic Monitor is a FLARM radar and warning displaying unit with a bright, transflective technology display, which offers the pilot multiple navigation pages. It is a final glide calculator and navigation system with airspace support, audio warnings and voice messages.

The unit is capable of providing APT (airport), TP (turnpoint), and RTE (Route) navigation on three dedicated navigational pages. It also has a page showing detailed information regarding nearest objects with additional options. Navigation pages feature Navboxes, and Airspace, airports and turnpoint information is shown graphically.

The LX Traffic Monitor is designed to be installed into a standard 57 mm or 80 mm aviation instrument hole, depending on which size you have.

As an integral part, it has a 3.5” sunshine readable transflective LCD display (80 mm version) and a 2.5” screen (57 mm version) to show all user-defined data during flight.

For accessing all system options, two push-rotary knobs and two push buttons are used. A voice module is also built-in for audio warnings.

It also boasts 16 GB of internal memory, used for storing flights, aircraft info, databases etc.

The unit has the capability to be updated to any later FW version free of charge. (Visit www.lxnavigation.com and look for Software updates)

Mounting

Tools needed:

- flat head screw driver,
- Philips screw driver,
- 8mm spanner.

Installation requires a standard 80/57 mm aviation size cut-outs. Please refer to **Cut-out drawing** to ensure fitting.

Follow the steps below:

1. Unscrew the two regular M4 Phillips head screws from the device.
2. Take the caps off of the push-rotary knobs (see figure 1).
3. Unscrew the flat headed screws from within the push-rotary knob while holding the push/rotary knob still by its black plastic. Pull the black plastic part off of the push-rotary shaft (see figure 2).
4. Unscrew the M5 hex bolts, enclosing the push-rotary shaft (see figure 3).
5. Place the device into its future place in the instrument panel.
6. Check that all of the holes are properly aligned and use M4 Phillips head screws and M5 hex bolts to hold device in place. Use supplied screws only.
7. Attach the rotary knob to the shaft. Make sure there is enough play between the rotary knob and instrument panel. Hold the knob with one hand and tighten the screw. Do not use any other tool to adjust the rotary knob. Put the top cover back. Test if there is enough play for the knob. It should rotate freely and when pressed jump back to its original position. If not, change the position of the knob on the shaft or adjust the size of the hole for the push/rotary shaft screw.

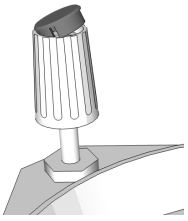

Figure 1. Step 2

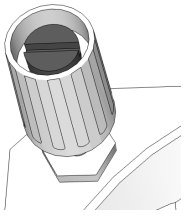

Figure 2. Step 3

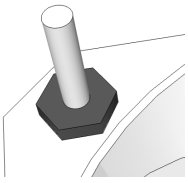

Figure 3. Step 4

Wiring

All needed cables are in the package. Some connections might not be available on your device and are optional upgrades.

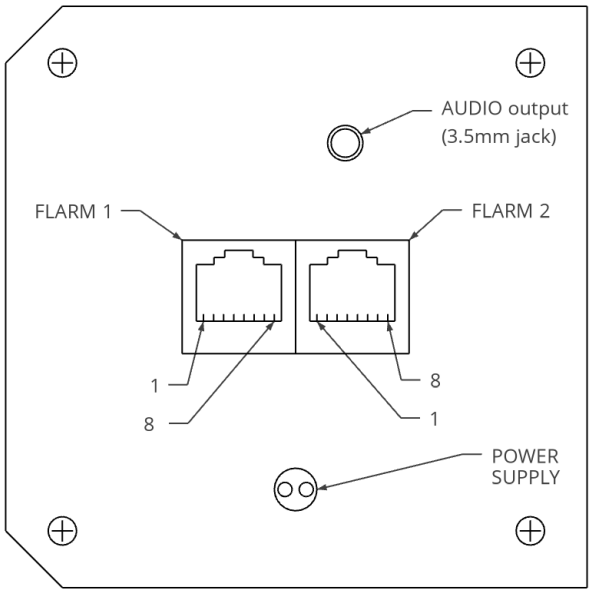

Figure 4. Instrument connections

FLARM 1 port (RJ45)

Pin number	Description
1	power input
2	power input
3	not used
4	GND
5	RS232 data in
6	RS232 data out
7	GND
8	GND

FLARM 2 port (RJ45)

Pin number	Description
1	power input
2	power input
3	not used
4	GND
5	RS232 data out
6	RS232 data in
7	GND
8	GND

NOTE
Mind reversed RS232 data in and data out pins on FLARM 1 and 2 ports.

3.1 Power supply

LX Traffic Monitor requires DC power input in a range between 9 and 29 V DC. It is compatible with 12V and 24V aircraft systems. Use external fuse, as there is no fuse inside the unit. To provide the power to the system use supplied power connector. Blue wire is negative (GND) potential and red wire positive (9 - 29 V DC).
Prior to connecting the power to the device make sure that cables are tight and there is no short-circuits between wires. Plug the connector to the device. The device will turn on as soon as the main power supply is available. Recommended wire is 0.75 mm2 AWG 18 or greater.

NOTE
Some units require pushing or holding the left push-rotary for device to turn on.

3.2 FLARM

Connect FLARM device to FLARM 1 port. FLARM 1 port use 8 pin RJ45 socket it is compatible with standard FLARM 6-pin cable connector.
Refer to the figure **Instrument connections** for the connector pinout.

3.3 Audio

Connect the unit to aircraft intercom/audio panel using the 3.5mm jack connector Audio output.

NOTE
LX Traffic Monitor does NOT features active audio amplifier and is therefore not capable of driving passive speakers directly.

NOTE
After finishing the installation, check that the device is completely working, prior to closing the instrument panel cover.

NOTE
If you run into any issues, contact us at info@lxnavigation.com for assistance.

Cut-out drawing

LX navigation uses standard aviation dimensions - 57 mm (2.25 inch) and 80 mm (3.125 in). Print this page on a regular or transparent paper to transfer the cut-out to the instrument panel.

Before cutting make sure, the dimensions are correct according to given dimensions indicated below. All dimensions are in milimeters.

Note that all units are in landscape orientation, meaning the push-rotary knobs are in the bottom two M5 holes.

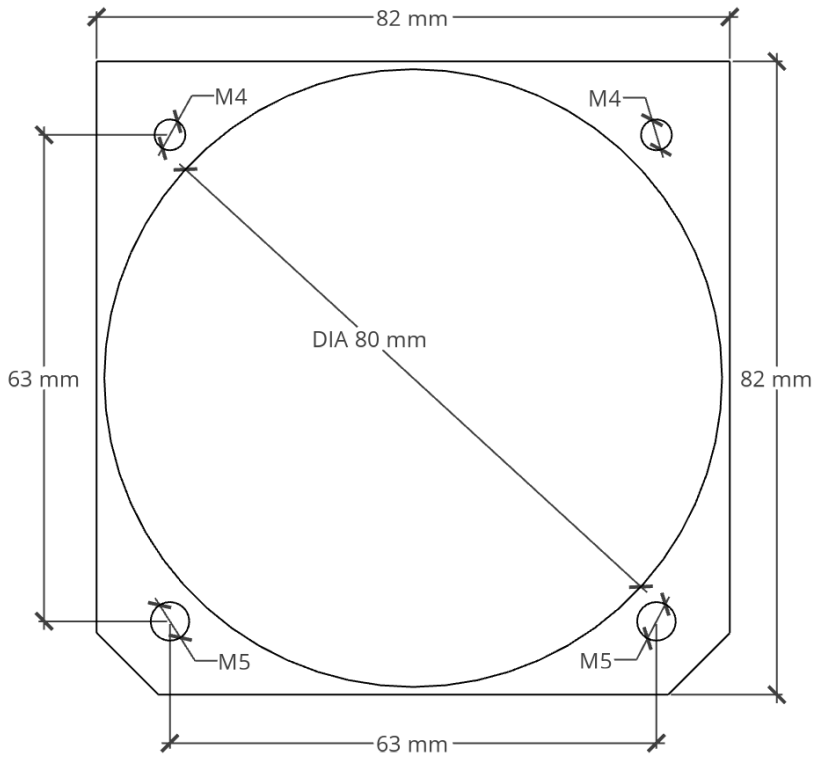

Figure 5. 80 mm cut-out template

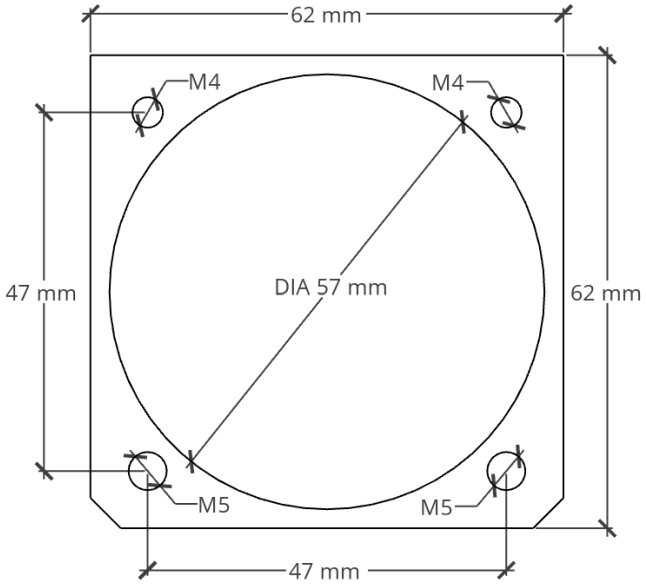

Figure 6. 57 mm cut-out template

Technical specification

Description	Unit	Traffic Monitor 57	Traffic Monitor 80
Dimensions	[mm]	62.2 x 62.2 x 66.2	82.3 x 82.3 x 69.0
Power supply	[V DC]	9.0 - 29.0	
Nominal Voltage	[V DC]	13.8	
Average Power Consumption	[W]	1.52	
Mass	[g]	185	255
Mounting Panel Cutout	[mm]	57.0	80.0
Depth Behind Panel without Connectors	[mm]	45.5	49.0
Depth In Front of Panel	[mm]	20.7	19.0
Ground Survival Temperature	[°C]	-55 - +85	
Operating Temperature	[°C]	-20 - +55	
Relative Humidity	[%]	0 - 98	
Max. Operational Altitude	[ft]	45,000	
Operational Shock		6 g	
Crash Safety Shock		20 g	
Vibration		DO-160D U F/F1	

Environmental data

Description	Section	Category	Conditions
Temperature / Altitude	4.0	D1	
Low Ground Survival Temperature	4.5.1	D1	-55°C
Low Operating Temperature	4.5.1	D1	-40°C
High Ground Survival Temperature	4.5.2	D1	+85°C
High Short Time Operating Temperature	4.5.2	D1	+70°C
High Operating Temperature	4.5.3	D1	+55°C
In Flight Loss of Cooling	4.5.4	Z	No auxiliary cooling required
Altitude	4.6.1	D1	45,000 ft
Temperature Variation	5.0	B	
Humidity	6.0	A	
Shock	7.0	B	
Vibration	8.0	U/U2	Vibration curve F/F1 (robust vibration, helicopter)
Explosion Proofness	9.0	X	not tested
Water Proofness	10.0	X	not tested
Fluids Susceptibilities	11.0	X	not tested
Sand and Dust	12.0	X	not tested
Fungus Resistance	13.0	X	not tested
Salt Spray	14.0	X	not tested
Magnetic Effect	15.0	Z	less than 0.3m
Power Input (DC)	16.0	B	
Voltage Spike Conducted	17.0	B	
Audio Frequency Conducted Susceptibility	18.0	B	
Induced Signal Susceptibility	19.0	X	not tested
Radio Frequency Susceptibility	20.0	T	Radiated Susceptibility T
Conducted Susceptibility Emission of RF	21.0	M	
Lightning Induced Transient Susceptibility	22.0	A2XXX	
Lightning Direct Effects	23.0	X	not tested
Icing	24.0	X	not tested
Electrostatic Discharge (ESD)	25.0	A	
Fire, Flammability	26.0	X	enclosure made of aluminum (Al) sheet

Environmental tests are performed in accordance with RTCA DO-160.

Conformity

Declaration of CE Conformity

Identification of product
Traffic Monitor (all variants)

Manufacturer
LX navigation d.o.o.
Tkalska ulica 10
SI-3000 Celje
Slovenia

Related standards
EMC directive 2004/108/EC

This product is designed to comply with standards/regulations and technical specifications stated above. This certificate is granted subject to the LX navigation quality rules on product certification.

Remark
The product is designed to comply with LX navigation standards and standards harmonized with directive 2004/108/EC: EN 55022:1998+A1:2000+A2:2003, class A; EN 55024:1998+A1:2001+A2:2003; EN 61000-3-2:2000+A2:2005; EN61000-3-3:1995+A1:2001+A2:2005

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