LX 16-D

Audio -Variometer system for gliders
Pilots` Manual

1 Introduction

The LX 16-D built in sensor is high quality pressure transducer, to guaranty high accuracy of vario signal and its zero . A modern low-power microcontroller drives the LCD vario indicator and supports input controls. All necessary inputs are made by using of one external rotary switch with a push button.
The unit has no **on/off** switch, therefore we recommend that you install an external switch, or just use an avionic master switch. A 1 amp fuse is recomended.

2 Technical data

- 57 mm standard cut out
- 65 x 65 x 98 mm without connector and pressure inlet
- 3 ranges 2.5m/s, 5m/s, 10 m/s, (5kts, 10kts, 20kts,)
- Averager (20s)
- Flight time indicator
- Power consumption is approx. 60 mA/12V, (up to about 90mA depending on audio volume)
- TE compensation: TE tube
- Weight: apr. 260 gr.
- All cables and external button are included in the delivery
- Power supply: 8-16 V DC
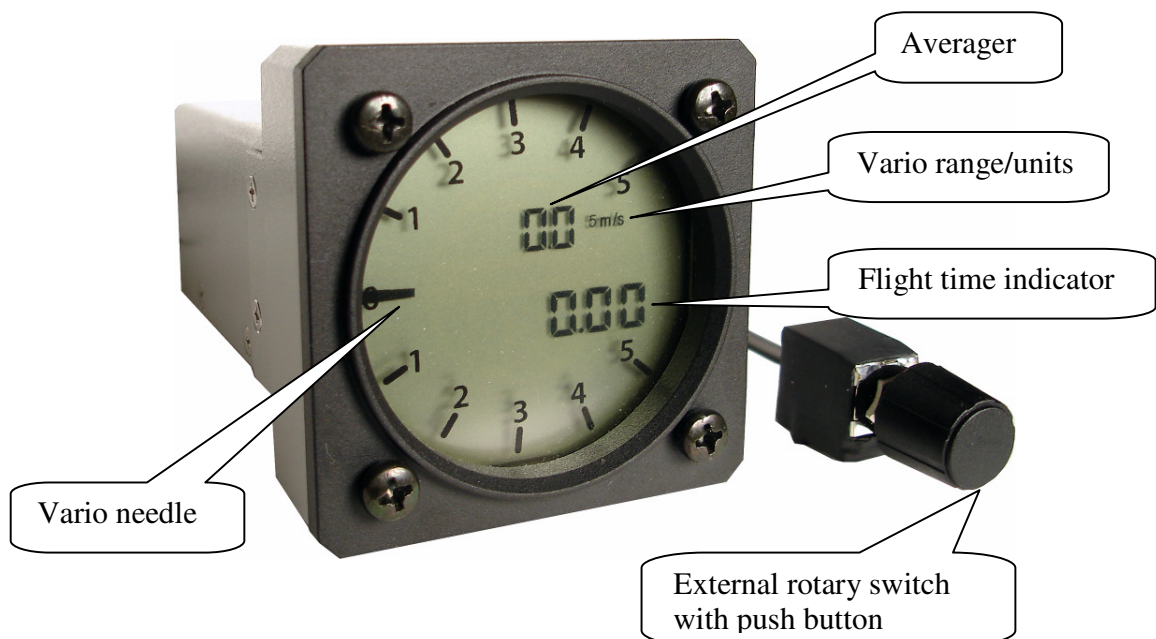
3 How to use the unit

The unit comes with an external rotary switch with push button, and you can access all the options with that button by either pressing it or turning it left/right.

3.1 Setup

The unit is ready for operation immediately after power on and vario needle is back to zero. The following settings can be set up on the ground, and also during flight.

- UNITS (selection of m/s or kts)
- RNG for selection of vario needle range (2.5, 5 and 10 m/s or 5, 10 and 20 knots)
- FIL for selection of vario signal filter in steps from 0.2 to 5 (damping of response time)

To enter into Setup menu **press the button** on the external rotary switch once, and UNIT item will appear. Press the button again to select RNG, once more for FIL, and another press will take you back out of the setup. To change value of the selected option, rotate the switch to the left or to the right. The Setup menu will also close automatically after a couple of seconds without any new command. All settings will **remain** after power off.

Averager

Vario range/units

Flight time indicator

Vario needle

External rotary switch with push button

3.2 Setup Menu

Unit selection:

After press of the button on external rotary switch, the **Unit** selection option becomes active.

You can select between **m/s** and **kts** (number next to it, is vario range)**.**

Range selection:

On the second push of the button, the option for selecting **Vario** range will show up.

Here you can then select vario **Range** between **2.5m/s**, **5m/**s and **10m/s**, or **5kts**, **10kts** and **20kts.**

Filter selection:

On the third push of the button, the option for selecting the vario **Filter** will show up.

The vario filter range is from 0.2 till 5, in steps of 0.1.
The default value is set to 3.

Changing of audio volume

- Turn the external rotary switch clockwise for volume increase, and vice-versa for volume decrease. Note, that this will not work while in the setup menu.

3.3 Flight time indicator

The flight time indicator will show flight hours and minutes of the actual flight. The counter will be activated automatically after climbing will be detected. After landing the flight time indicator will stop automatically. A blinking decimal dot will indicate that the flight time indicator is active.

4 Installation

4.1 Mechanical installation
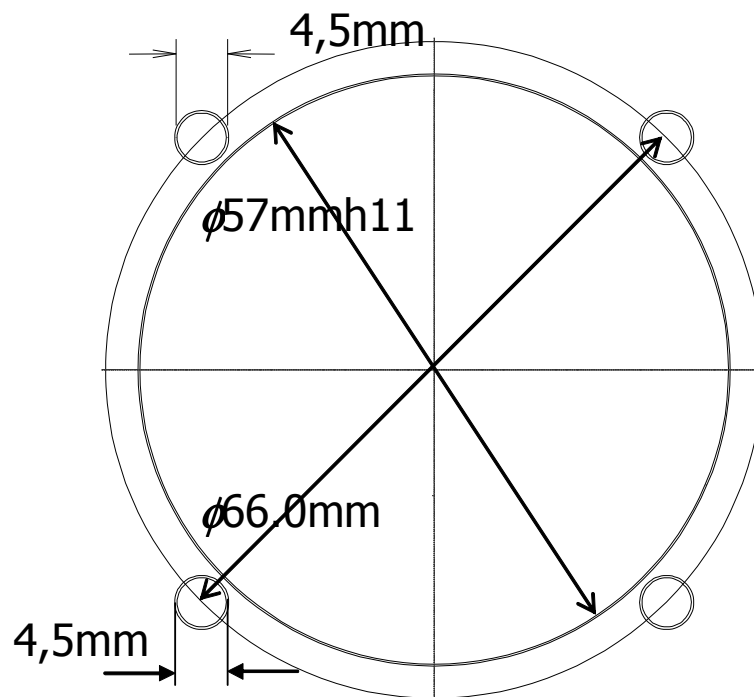
LX16-D unit:

One 57mm diameter circular cut out is required but you need to allow for the overall dimensions of the unit which are as follows:

      65mm   width
      65mm   height
      115mm length with connectors

The unit is attached by four M4 screws; the positioning of these holes is the same as any other instrument of this size.

Installation procedure:

- Remove the four screws.
- Insert LX 16-D into the cut out and fix it using the four screws.

<u>External rotary switch installation</u>:

You will need to drill a 7mm hole into the panel to place the external rotary switch (note that the hole needs to be in reach of the 50cm connection cable).
The switch maximum dimensions are:

       14mm width
       17mm height
       18mm length

Installation procedure:

- Remove the plastic key (by just puling it off) and the nut
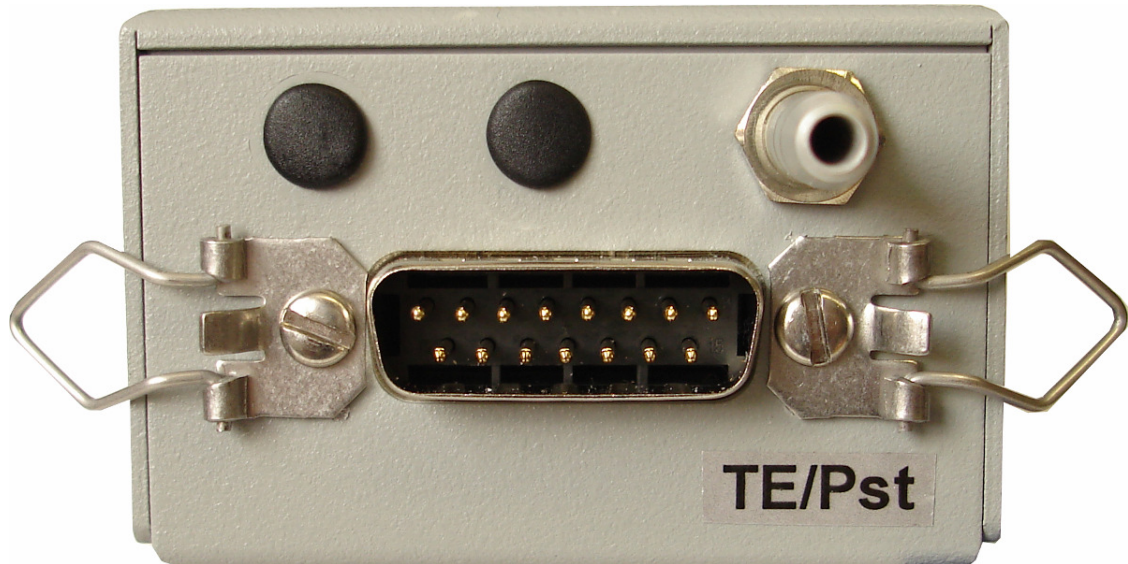- Insert the external rotary switch into the cut out and fix it with the nut, then put the plastic key back up

<u>Speaker installation:</u>

The speaker comes with a 1,5m long connection cable, so you can install it anywhere in the cockpit within the reach of the cable.

4.2 Pneumatic connections

There is one pressure inlet on the rear side of the unit:
• TE/Pst   -   TE tube or Static Pressure inlet

Note!
If there is only static pressure on the inlet, there will be no total energy compensation!

4.3 Electrical connections

The electrical connections are clearly marked (red + 12V, blue GND) and the pre-assembled cables make it very easy to connect all the components. The unit has no **ON/OFF** switch, use avionic master switch or install a separate switch.
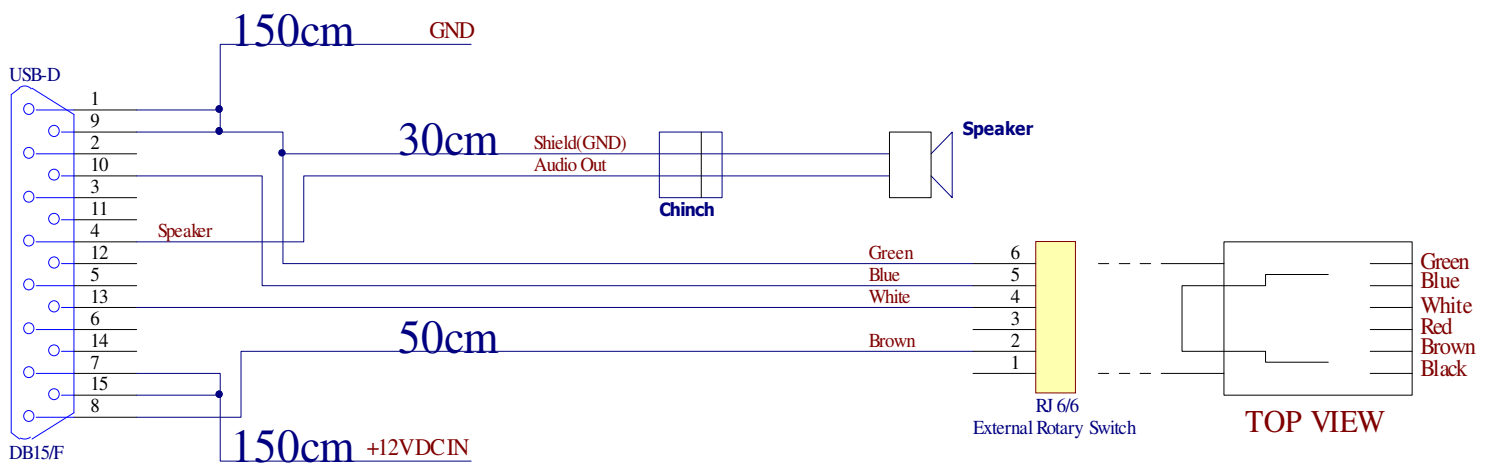

Note!
There is no internal fuse in the LX 16-D and you must install an external fuse with a rating of 1 amp (quick blow).

In the LX 16-D delivery box you will find the following cables and accessories:

▪   main power supply cable
▪   external rotary switch with push button
▪   LX 16-D
▪   the manual
▪   speaker

4.4 Wiring

LX 16-D Wiring

150cm GND

30cm

50cm

150cm +12VDC IN

USB-D

DB15/F

Pin	
1	
9	
2	
10	
3	
11	
4	Speaker
12	
5	
13	
6	
14	
7	
15	
8	

Shield(GND)
Audio Out

Chinch

Speaker

Green 6
Blue 5
White 4
3
Brown 2
1

RJ 6/6
External Rotary Switch

Green
Blue
White
Red
Brown
Black

TOP VIEW

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