



Mounting instruction for Electronic Landing Light (ELL80is)

Dear customer,

the electronic landing light (ELL80is) is a highly innovative product which contributes to saver airspace. A special feature of the LED based Landing light is the integrated Anti Collision Light (ACL). Thus the ELL80is is a landing light and an ACL in forward direction of the flight. This increases the visiblensness of the aircraft in flight considerably.

The ELL80is is part of our energy strategy „Intelligent Synchronisation“. This increases the visibility of aircrafts and improves the energy management at once. Available elements of the Intelligent Synchronisation are: EPL2, EPTA-LSA, ELL50, ELL60, ELL80is, ERBis, ERB-His, ERB-SFi, ERB2, ACL4.

Now the new LED technology allows an incredibly excellent, white light with only approx. 10% of the input power compared with conventional lights. The casting in a high-optical plastic makes the ELL80is absolutely insensitive against water, vibrations and other environmental influence. The efficiency of the output is much higher, than with conventional electric light bulbs. The self-warming of the ELL80is is low and can be determined as safe. To avoid overheating, the heat balance is controlled electronically.

This electronic landing light for aircraft (ELL80is) is designed to be mounted at a suitable position at the nose unit or inside the wing. Please adhere to the following instructions for a professional mounting of the ELL80is.

The illumination angle complies to the regulations for general aviation.

Important: Due to high wattage (45 Watts), it is mandatory to put a cooling system in place (see illustration 1, 2). Warranty is voided if a mandatory cooling system is not in place!

Required materials and tools

- 4 x 1-core twisted cord, according to the length of fuselage (5 - 8 meters)
- coloured silicone
- soldering iron
- tin solder
- shrink hose (enclosed)

Recommendations

Cable

We recommend a four wire, flexible and twisted cable with a cross section of at least 1.5 mm² and a minimum of 0,75 mm² for the synchronisation cable. In case of doubt, you can order the suitable cable from Thiesen Electronics GmbH.

Adhesion

We recommend coloured standard silicone in a tube. It is available in do-it-yourself markets. This adhesion is strong and in case of a dismantling you only need a sharp knife. We strongly advise against using other kinds of adhesion, like polyester or epoxy resin.

Mounting

Use the 3 metal Allen screws (M3 x 50 mm) to fix the ELL. **Use only screws that do not corrode!**

The ELL must be mounted parallel to the longitudinal axis and vertically to the yaw axis of the aircraft. (see illustration 1)

It is important to plan on the mandatory cooling air system!

Mountingposition

Clean and degrease the mounting position (ethyl alcohol). Clearly mark the position of the ELL. The bonding surface must be free of grease and any polish.

Drill 3 holes for the mounting screws (3.5 mm in diameter) and holes for the cable feedthrough (5 mm in diameter).

Illustration 1: Mounting at nose unit

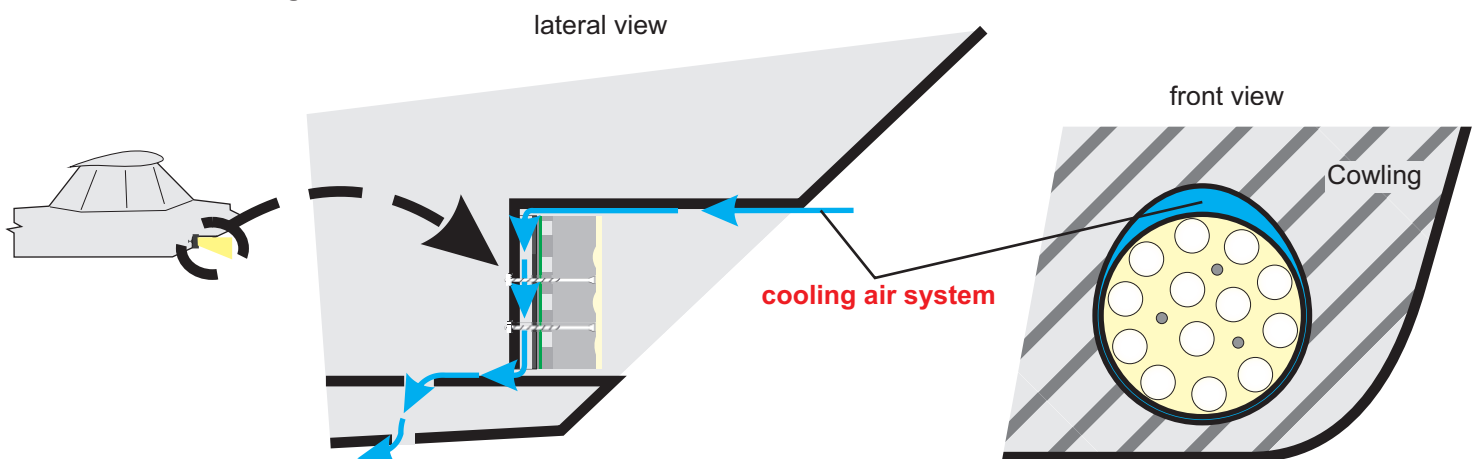


Illustration 2: Mounting inside wing

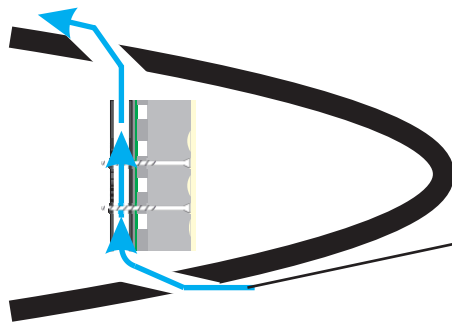
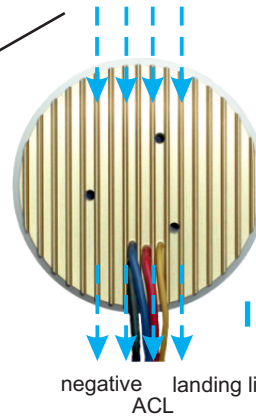


Illustration 3: Bonding surface and cooling air circulation

cooling air system



rear panel of the ELL with cooling fin

▮ = cooling air

negative ACL landing light

Electric power supply / cable connection to the aircraft system (12 Volts)

The best connection is solder with additional shrinking of the soldering joint with a shrink hose (enclosed). Only use solder for electronic soldering - never use cored solder. It contains acids which cause corrosion!

Important notes

Carefully mount the cables inside the wing and/or the fuselage. Connect the cables professionally to the aircraft system (**RED = positive, BLACK = negative, blue = positive landing light, yellow = synchronisation**) and to a 5 Amps fuse protection. Luster terminals are not suitable to connect cables. There is a good selection of suitable crimp connections in various shops.

The ELL80is is provided with overload protection. In case of over voltage the protector switches off the ELL. After reset or voltage drop the ELL80is is again fully functional. The automatic overload protector shall be activated at a voltage above 18 Volts (if the voltage reduces to a value below 18 Volts, the ELL will again be functioning).

Servicing / maintenance

Should the ELL be scratched, use a good polish to refurbish the damages. With slightly deeper scratches use wet sandpaper with very fine granulation (800-1000) carefully polish again. Do not use aggressive chemicals like gasoline or solvent.

For day to day cleaning use soap water!

Some insect removers and detergents forces embrittlement of epoxy based plastics and laminates. Use only aircraft certified products.

If the aircraft can not hangarized, please cover the lamps to prevent surface aging!

Technical data

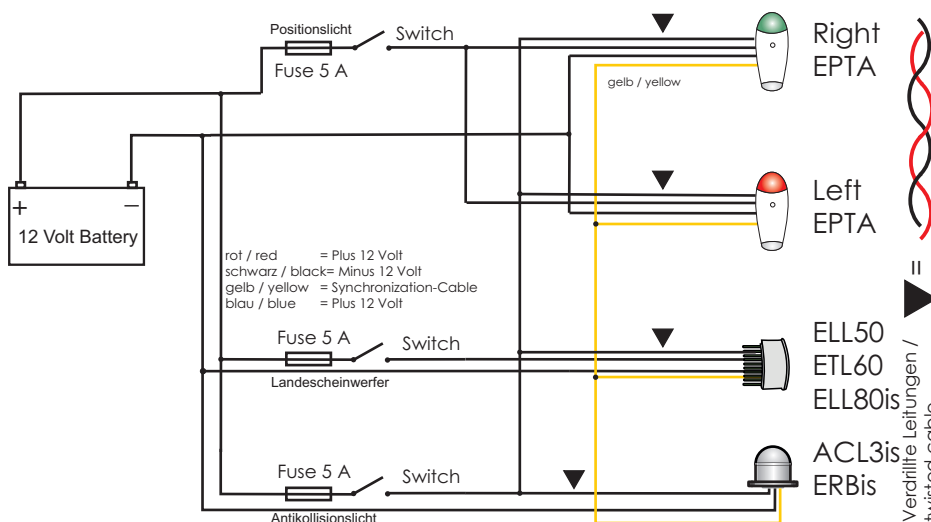
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|--------------------|---|
| Operating voltage | : 10-17 volts (DC), typically 12.8 - 13.4 volts |
| Input | : landing light approx. 45 watts |
| Fuse | : 5 ampere (fusible cut-out or automatic fuse) |
| Diameter | : approx. 80 mm |
| installation depth | : approx. 35 mm |
| Weight | : approx. 230 grams with connecting cables |
| Warranty | : 5,000 operating hours or max. 3 years |



5.000 hours or max. 3 years assured luminous duration

Made in Germany

Wiring diagramm:



Technische Änderungen und Irrtümer vorbehalten

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