ERB2-H



Mounting Instruction for Electronic Rotating Beacon2-H (ERB2-H) with Intelligent Synchronization and FLARM-Interface for Helicopter

Dear customer,
by buing the Electronic Rotating Beacon2-H you choose a highly innovative product which contributes to a saver airspace.
The new LED technology allows an incredibly excellent, red light with only approx. 10% of the input power compared with conventional lights. The efficiency of the output is much higher compared with conventional electric light bulbs. This increases the visibleness of the aircraft in flight considerably.
The casting in a high-optical plastic makes the ERB2-H absolutely insensitive against water, vibrations and other environmental influence.
The self-warming of the ERB2-H is low. To avoid overheating in any case, the heat balance is controlled electronically.

The ERB2-H has additionally a serial FLARM-Interface. With this interface (19.200 Baud, 8 Bit, No Parity, 1 Stop-Bit) a Power-FLARM unit can send the emergency level (0-3) and thus control the action replay of the ERB2-H.

The ERB2-H is part of our energy-saving strategy „Intelligent Synchronisation". This increases the visibility of aircrafts and improves the energy manangement at the same time. Available elements of the Intelligent Synchronisation are: EPL2, EPTA-LSA, ACL3is, ERBis, ERB-H, ACL4, ERB2, ELL50, ELL50L, ELL60, ELL80is, ERB-His, ERB-SF.

The ERB2-H should be mounted to a suitable position e.g. on top of the tail fin.
Please note and proceed to the recommended mounting instructions for proper functioning.
The light radiation angle complies with the rquirements for the general aviation.

Necessary materials and tools:

- 3-core wire, 5-8 meters depending on the fuselage
- 1-core wire with braiding screen
- Silicone glue
- Metal gripper clamp (non-corroding metal)
- Soldering iron
- Electronic solder
- Shrink hose (enclosed)

Our recommendations:

Cable
We recommend a triple core, flexible and twisted cable with a cross section of at least 1.5 mm² and a minimum of 0.5 mm² for the synchronisation cable. In case of doubt, you can order the suitable cable from Thiesen Electronics GmbH.
To twist the cable prevents from interfering voltage caused by radio frequency.
For the connection with the FLARM-output the 1-core wire with a braiding screen.

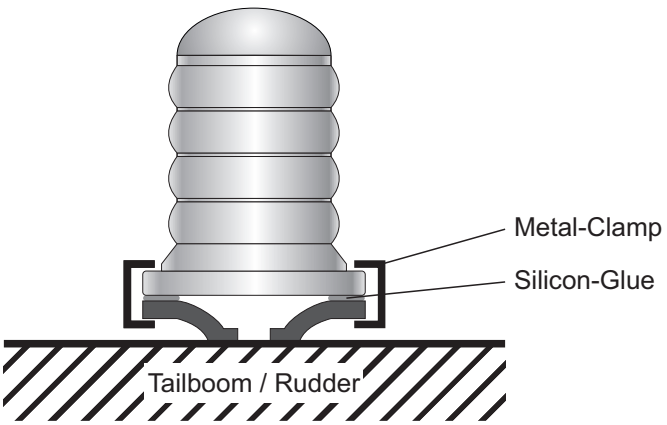
Adhesion
We recommend standard silicone glue in a tube. It is available in do-it-yourself markets. This adhesion is strong and in case of a dismantling you only need a sharp knife. We strongly advise against using other kinds of adhesion, like polyester or epoxy resin.

Mounting
Put some silcone glue on the bottom of the ERB2-H and fix it with the metal gripper clamp on the tail fin.
By the use of silicone, twisting of the ERB2-H is prevented and sealing against dirt and water is guaranteed. Use only clamps that do not corrode!
The ERB2-H must be mounted parallel to the longitudinal axis and vertically to the yaw axis of the aircraft. (**see illustration 1**)

Mountingposition
For the best mounting position also refer to the recommendations of the aircraft manufacturer.

Pasting
Apply only as much silicone as required to paste the ERB plane (**see illustration 1**).
Silicone needs time to cure (vaporization of acetic acid). The best results are achieved at a temperature of 20° Celsius (68°Fahrenheit). Just follow the handling instructions of the silicone. The final firmness (stability) will be reached after a few days.

Illustration 1



Electric power supply / cable connection to the aircraft system (12 Volts DC)
The best connection is solder with additional shrinking of the soldering joint with a shrink hose (enclosed). Only use electronic solder. Never use cored solder. It contains acids which cause corrosion!

Synchronization

The ERB2-H has an additional yellow synchronisation cable to synchronize with EPL2 or EPTA. Therefore connect the yellow cable of the EPTA (or EPL2) with the yellow cable of the ERB2-H (additionally with ELL50 if required). The intelligent synchronisation scales the light pulse (and thereby the current pulse). This will prevent the battery respectively the generator by constant current consumption. **If you do not use the synchronisation, connect the yellow cable with +12V (red cable).**

Important notes:
Carefully install the cables inside the rudder and / or the fuselage. Connect the cables professionally to the aircraft system (RED = positive, BLACK = negative, yellow = synchronisation, green = FLARM interface). Important: connect the braiding screen of the FLARM-cable only at the ground of the Power-FLARM to avoid ground loops and therefore interferences.
The twisted wires should be fixed. Protect the circuit with a 5 Amps fuse. Do not use luster terminals. Suitable connectors are available at pilot's shops.

Servicing / maintenance

Should the ERB2-H 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!

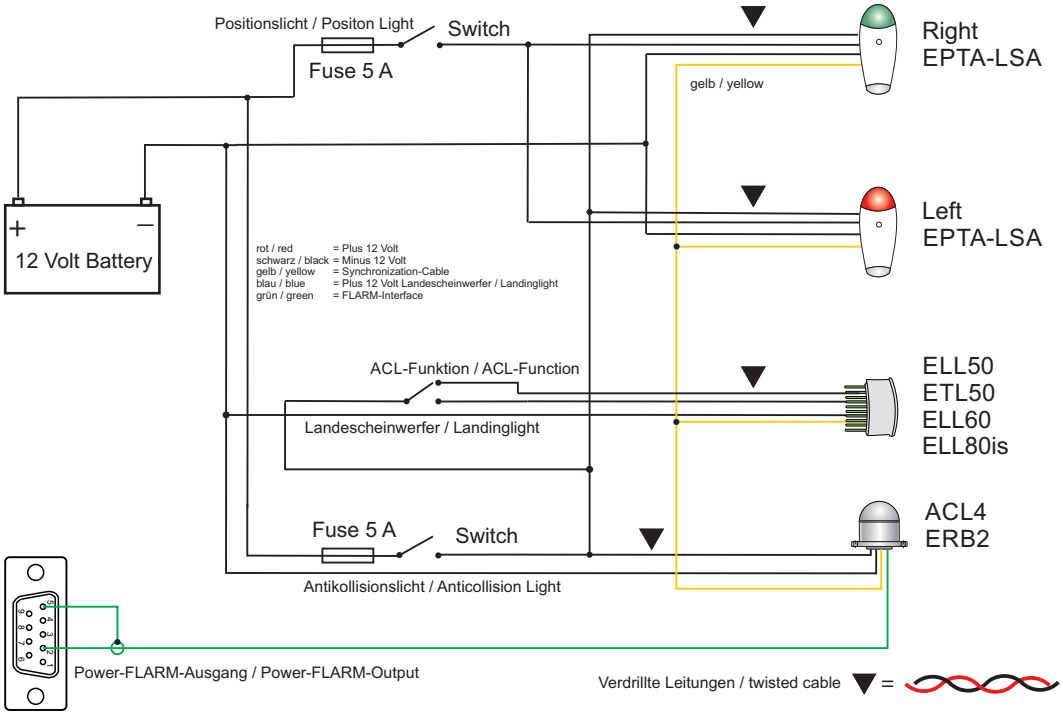
Some insect removers and detergents forces embrittlement of epoxy based plastics and laminates.

Use only aircraft certified products. If the aircraft can not hangarized, please cover the lamps to prevent surface aging!

Technical Data:

Operating voltage	:	10-17 volts (DC), typically 12.8 - 13.4 volts
Input	:	approx. 16 watts
Fuse	:	5 ampere (fusible cut-out or automatic fuse)
Dimensions	:	47 (63,5) x 77 mm (D x H)
Weight	:	approx. 125 grams with connecting cables
Warranty	:	5,000 operating hours or max. 3 years

Wiring Diagramm:





5.000 hours or max. 3 years assured luminous duration

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