



Installation Manual

DOC.NO: AVE-POSW-54G-IM

PosiStrobeCP

Position / Strobe LED Light WHITE

Part 0 Manual Administration

0.1 Table of Contents

PART 0	MANUAL ADMINISTRATION	2
0.1	TABLE OF CONTENTS	2
0.2	DOCUMENT APPROVAL	3
0.3	AMENDMENT RECORD PROCEDURE	3
0.4	EFFECTED PAGES PROCEDURE	4
0.5	DISTRIBUTION LIST	4
1.	POSISTROBE CP™	5
2.	OPERATING INSTRUCTIONS	6
3.	INSTALLATION SCHEMATIC / WIRING DIAGRAM	6
4.	CONTROL & POWER INPUT'S:	6
5.	TECHNICAL SPECIFICATION	6
6.	TECHNICAL DRAWING	8
7.	WIRING CHART	8
8.	EQUIPMENT LIMITATION	9
9.	TESTING OF THE LIGHT BEFORE INSTALLATION	9
10.	CARE AND CLEANING OF YOUR AVEO ENGINEERING AVIATION LIGHTS	10
11.	NOTES ON INSTALLATION	11
12.	CONTINUED AIRWORTHINESS INFORMATION	11

0.2 Document approval

This document has been established in accordance with an alternative procedure to DOA approved under EASA AP429.

This installation manual is according EASA ETSO authorization EASA.210.10053449 and applicable for part number AVE-POSW-54G.

Compiled by: _____ 10. – Nov. - 2015
Petr Jaroš
Engineer, Aveo Engineering Group, s.r.o.

Approved by: _____ 10. – Nov. - 2015
Georg Hartl
Head of DO, Aveo Engineering Group, s.r.o.

0.3 Amendment Record procedure

The master copy of this document shall be kept electronically as a read only document under the control of Aveo Engineering Group, s.r.o. as Master Copy.

ALL amendments to this manual will initiate a raise of Issue

ALL raises of issue will be given a sequential Alphabetic Issue Ident sequentially from 01 to 99 in Table 01 - **Issue No:** Column– Initial Issue of Document will be **"01"**

ALL Issues of this document will be approved by Head of DO

Issue No.	Details	Date	Effectuated Pages
01	Initial Issue	29.Jun.2015	ALL
02	Addition of FAA required statements	10.Nov.2015	7, 9
Table 01: Document Amendment Record Table			

0.4 Effected Pages Procedure

ALL pages affected by ANY raise of issue of this manual will be listed in Table 01 - *Effected Pages* Column.

The reason(s) for ALL raise of issue and description of change due to raise of issue will be provided for ALL raises of issue in Table 01 - *Details* Column.

Changes from the previous issue are highlighted by **YELLOW HIGHLIGHTING** over new content. AND **YELLOW HIGHLIGHTING** AND **CROSSING OUT** of deleted content.

Example **(CROSSING OUT)**

0.5 Distribution List

As stated in 0.3 above; the master copy of this document shall be kept electronically as a read only document under the control of Aveo Engineering Group, s.r.o. as Master Copy.

All holders of copies of this Document will be recorded by listing in Table 02 – Distribution List.

Copy holders listed will be issued a copy of this document with sequential copy number as shown in Table 02 – Distribution List

Copy No.	Holder
MASTER	Aveo Engineering Group, s.r.o.
Table 02: Distribution List	

1. PosiStrobe CP™

The **PosiStrobe CP** is a new generation rudder white position and strobe light. It fits almost all the standard rudder mounts of aircraft and also features an optional aluminum adapter mount plate pictured in the installation page. An extremely lightweight, aerodynamic and low-profile design makes this the light of choice for any certified aircraft requiring rear coverage light due to wingtip light coverage zone limits. The PosiStrobe series is the most imitated and copied light by our competitors, but there is ONLY one PosiStrobe, don't be fooled by competitive "clones", we were the first and we are the only ones with our exclusive circuitry, advanced optics and reflectors and candela performance.

The PosiStrobe CP™ is also encapsulated in the exclusive AveoDiamidium™ formulation, and is virtually unbreakable. With our exclusive aircraft lifetime warranty there is no risk to the owner that he will ever need to buy another again. Our policy is simple; IF IT FAILS WE REPLACE IT!

Main Features:

- 2-in-1 Position & Strobe light ideal for tail, rudder or rear facing mounts
- Optics designed for FAA/ICAO/EASA requirements
- 9-36 volt input range
- No external power supply or strobe unit, an Aveo world first
- Light synchronization feature
- Minimum drag profile
- Unbreakable Diamidium™ encapsulation
- Exclusive Lifetime Warranty
- Unmatched circuit technology
- Advanced computer and goniophotometer engineered optics

List of the major components (by part number) that make up the equipment complying with the standards prescribed in ETSO.

- **PosiStrobe CP™** PN : AVE-POSW-54G

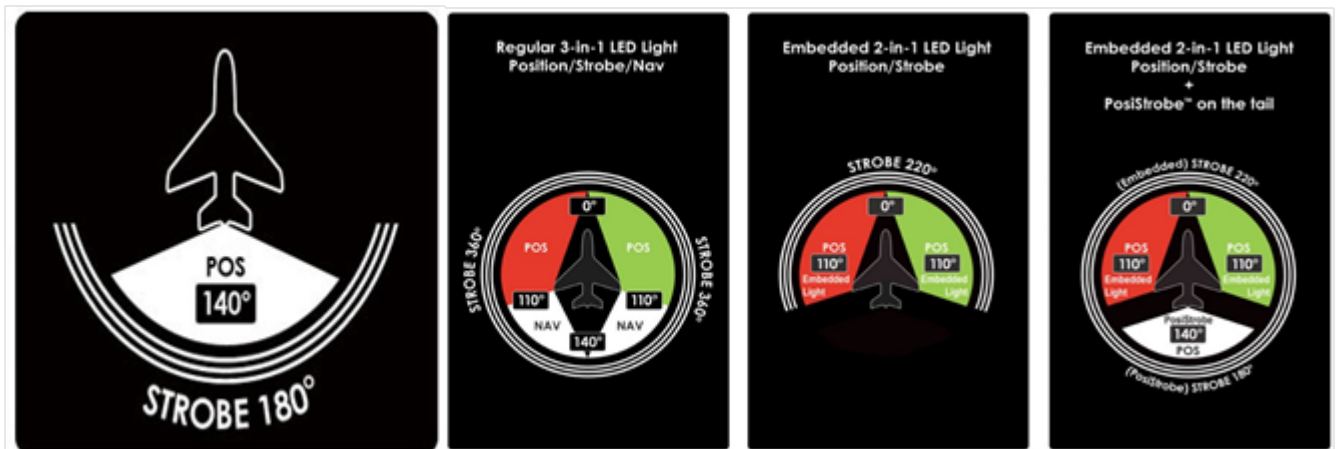
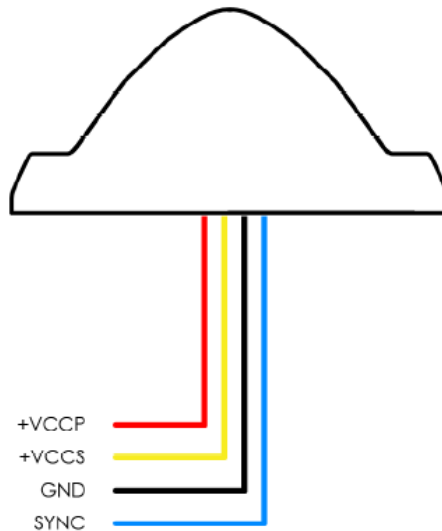


Figure 1: Features of PosiStrobe CP

2. OPERATING INSTRUCTIONS

When installed on the aircraft, using the aircraft's power (14 or 28 volts), the light will be at its maximum intensity. (Meet the requirement of ETSO-C30C, Aircraft Position Light and ETSO- C96A, Anticollision Light Systems)

3. INSTALLATION SCHEMATIC / WIRING DIAGRAM



4. CONTROL & POWER INPUT'S:

+VCCP	positive position/nav power supply line
+VCCS	positive strobe power supply line
GND	negative common power supply line (ground)
SYNC	strobe synchronization line
	(Mutually interconnect on all installed AveoFlash lights)

5. TECHNICAL SPECIFICATION

Dimensions (mm):	56 x 44.9 x 26
Dimensions (inches):	2.19" x 1.76" x 1.02"
Weight (g):	50g
Weight: (oz):	1.76
Nominal Operating Voltage (Vdc):	9 – 36 Vdc
Power – position (peak Watts):	4.2W
Power – strobe (peak Watts):	6.5W (32.5W peak)
Current – position (@12V):	0.35A
Current – strobe (@12V):	0.54A (2.7A peak)
Repetition Rate of Strobe:	50 cycles per minute

Exceed requirements of:

- TSO C30c C96a
- SAE AS 8037 and AS8017a
- DO-160F

Recommended size of mounting screw: M3

Summary of Environmental Tests

Test title	Specification	Section	Category
Temperature / Altitude	DO-160F	4	F2
Temperature Variation	DO-160F	5	A
Humidity	DO-160F	6	C
Operational Shock	DO-160F	7	B
Vibration	DO-160F	8	S
Explosive Atmosphere	DO-160F	9	H
Waterproofness	DO-160F	10	T
Fluid Susceptibility	DO-160F	11	F
Sand and dust	DO-160F	12	S
Fungus	DO-160F	13	F
Salt Spray	DO-160F	14	T
Magnetic Effects	DO-160F	15	Z
Power Input	DO-160F	16	B
Voltage Spike	DO-160F	17	B
Audio Freq. Conducted Susceptibility	DO-160F	18	B
Induced Signal Susceptibility	DO-160F	19	AC
Radiated and conducted Susceptibility	DO-160F	20	T
Radiated and conducted Emissions	DO-160F	21	H
Lightening Induced Transient Susceptibility	DO-160F	22	A3J3X
Icing	DO-160F	24	A
Electrostatic Discharge	DO-160F	25	A

6. TECHNICAL DRAWING

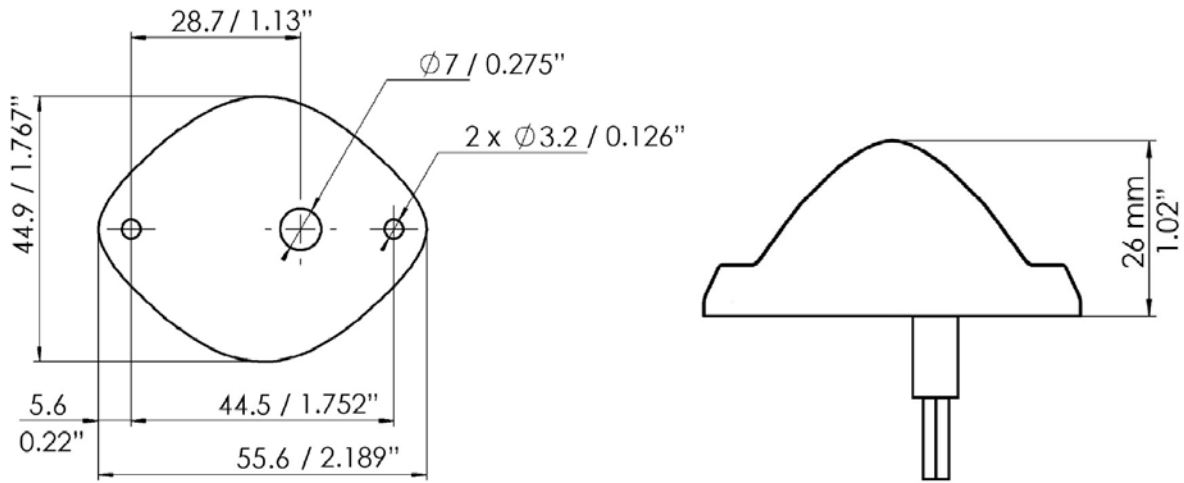
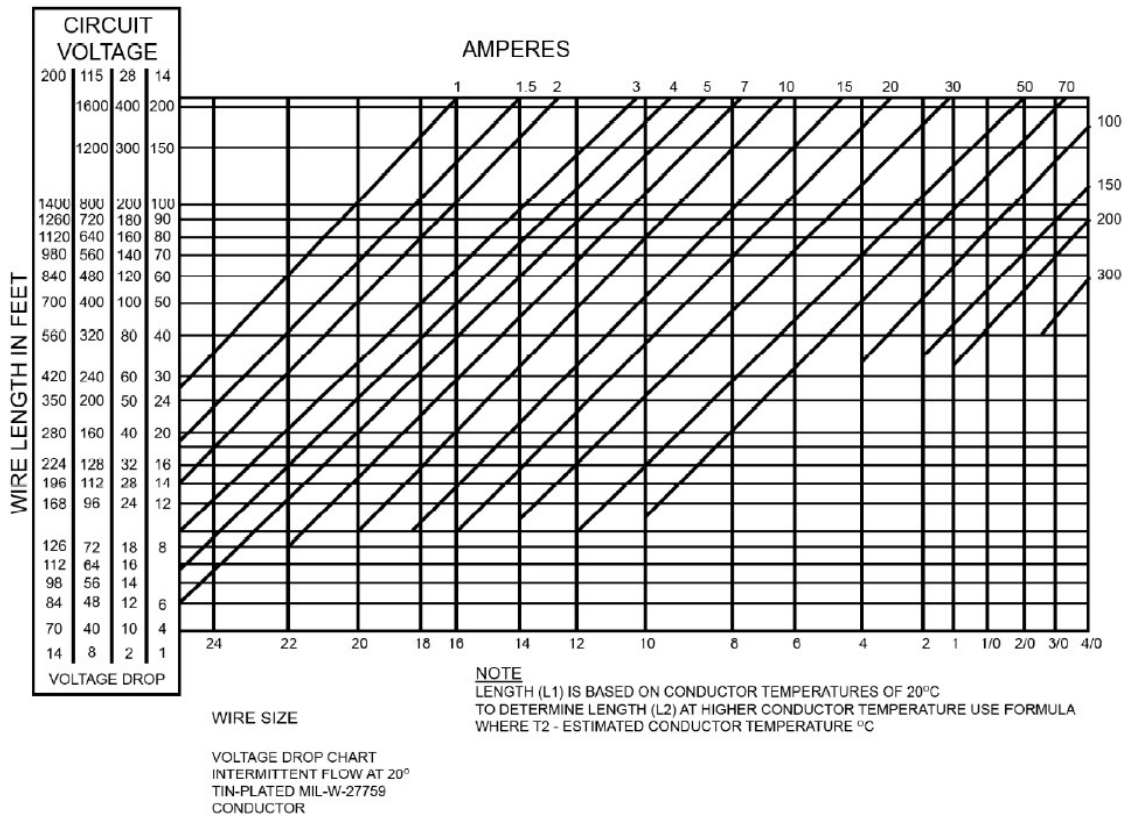


Figure 2: Dimensions are in millimeters / inches

7. WIRING CHART



8. EQUIPMENT LIMITATION

PosiStrobe CP™ should only be powered by 9-36 Vdc, typically a 12 or 24 volt aircraft battery.

This article meets the minimum performance and quality control standards required by the technical standard order ETSO C30c and ETSO C96a. Installation of this article requires separate approval.

Deviations

This article deviates from the ETSO C30c and ETSO C96a by the usage of newer revisions of the following standards:

- SAE AS 8017 rev. B used instead SAE AS 8017 rev. A
- SAE AS 8037 rev. A used instead SAE AS 8037 initial release

9. TESTING OF THE LIGHT BEFORE INSTALLATION

All Aveo Aviation lights undergo rigorous testing prior to being released from our engineering manufacturing department. This testing involves a burn-in time as well as other function testing. No light is released for sale without undergoing this extensive operational testing.

When you receive the **Ultra Galactica** light, and wish to test the function of the light prior to installation on your aircraft, please note the following: Please review the written information that is enclosed in the packaging. Warranty information as well as a cautionary note about power supply removal is enclosed with each package.

1. Remove the lights from the package. Note that there are four (4) wires coming from each light. These wires are:
 - a. Black wire Ground wire (negative lead)
 - b. Red wire Position/Navigation light function wire (positive lead)
 - c. Yellow wire Strobe light function wire (positive lead)
 - d. Blue wire used if the synchronization of the Aveo lights is selected

2. Testing of the function of each light can be done with a regular 12V/5A dc power supply (not a battery charger). Connect the black wire to the ground (negative) leads of a power supply, then connect the red wire to the positive (+) leads on the power supply. The position light should light up. While the red wire is still in contact with the positive side of the power supply, connect the yellow wire to the positive lead. Both the position and the strobe function should work. For the Galactica Series of lights, the strobe function is separate from the nav function and can be tested separately. To test the strobe function separately, just connect the yellow wire only to the positive terminal of the power supply while the black wire is

connected the ground side of the power supply. Connecting the blue wires from each light together (and not to the ground or positive terminals on the battery) should show that the lights are flashing together and indicates the synchronization feature is working properly. When installed on the aircraft, using the aircraft's power (14 or 28 volts), the lights will be at their maximum intensity.

After testing, the light can be installed on the aircraft.

IMPORTANT NOTES:

1. Under no circumstances should any power supply other than a 9-32V dc, or a 12/24 volt battery be used to test the lights. Do not use: Battery chargers, battery back-up power devices, or other bench avionics testing methods to test the aviation lights. The lights are functional between 9 and 32 volts. Use of a battery charger or other power unit to test the lights will void the warranty and may damage the lights.
2. All power supplies for existing strobe lights, flasher beacons, etc. are required to be removed from the aircraft prior to the installation of the Aveo light.

If you have any questions about the installation of the lights, please refer to our web site: www.aveoengineering.com, and check FAQ and other links on our aviation lights web page.

10. CARE AND CLEANING OF YOUR AVEO ENGINEERING AVIATION LIGHTS

When you receive your Aveo Engineering Aviation Lights, they will have been factory polished and ready to install on the aircraft. Upon installation, just give the lights a good coat or two of a quality automotive polish. This should protect the lights from dirt and other environmental factors. Once or twice a month, just refresh the polish and hand buff to bring back the lights to factory like new condition.

If the lights need a deeper cleaning, they can be polished with a good automotive cleaner wax and/or a liquid polishing compound. The liquid polishing compounds can normally be found at automotive parts stores or an automotive paint store. After using a polishing compound, just give the lights another coat of an automotive polish and you will again protect the lights against dirt, etc. An electric buffing machine, with a lamb's wool cover, can also be used for deeper cleaning and polishing. Under no circumstances should any petroleum based product be used to clean the lights.

For continued UV protection Aveo Engineering offers Nonocloak™ UV Protectant Spray and Cleaner, available at any Aveo Engineering Authorized installation Center.

11. NOTES ON INSTALLATION

Please use tapered headed screws for installation. Spread the tightening forces evenly around the mounting hole. Screw size is a M3, stainless steel recommended. Length depends upon placement location on aircraft tail/rudder.

12. CONTINUED AIRWORTHINESS INFORMATION

This product is delivered with EASA Form1 which is for the operator to report any occurrences to Aveo Engineering as the ETSO holder. The form contains the Aveo Engineering telephone number and the occurrence e-mail address (occurrence@aveoengineering.com). **The operator must report immediately** as the ETSO holder must report occurrences having a potential for an unsafe condition within 72 hours.

a. *Circuit/Wiring Protection*

Each Galactica series light features a **Negative Temperature Coefficient** (NTC) circuit that limits internal temperatures by attenuating operating current (with a corresponding reduction of brightness) when internal temperatures reach a certain threshold. This proprietary circuitry serves to protect the light itself, and associated aircraft wiring, against a thermal runaway condition. It's recommended that the operation of strobes without airflow be limited to avoid heat buildup and this NTC circuitry feature is designed to more than triple the life of the LEDs and electronic components thereby providing an even great margin of safety for continued airworthiness due to the dramatic enhancement of electronics reliability.

b. *Periodic Inspection Procedure for Galactica Series*

The **PosiStrobe CP™** light should always be checked for proper operation during preflight. This procedural information is already provided in all general aviation aircraft flight manuals.

The lights should be visually inspected for general condition, proper operation, and correct installation at each annual and/or 100 hour inspection. Any debris or atmospheric deposits accumulated on the surface of the lights should be removed using a UV Wax such as Farecia Profile UV Wax to ensure ongoing optical clarity. In addition refer to section 10 of installation manual for detailed cleaning instructions.

Turn the lights on and do the following:

1. Put on polarized sunglasses or welder goggles to prevent eye damage when looking into the lights.
2. Examine the individual LEDs as per the diagram below. If any of the conditions as indicated on the diagram are exceeded, the light shall be

removed and sent to Aveo Engineering for replacement under the Aveo Lifetime Warranty Program.

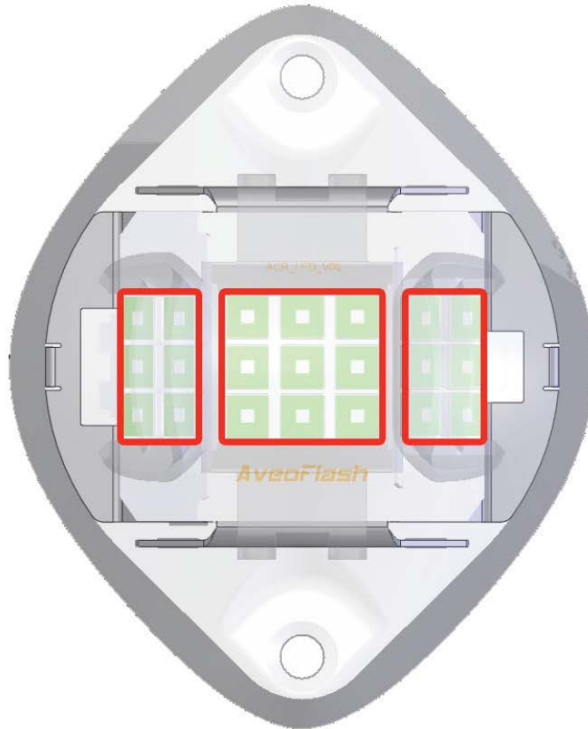


Figure 3: Strobe LEDs

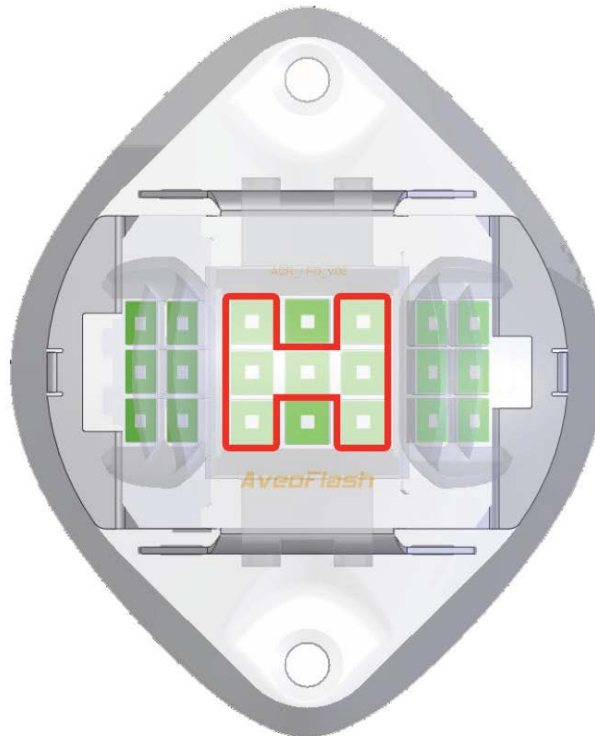


Figure 4: Position Light LEDs