

# INSTALLATION INSTRUCTIONS for PULSAR NS-Series Nav/Position or Nav/Position/Strobe Lights

AeroLEDs Document Number 0008-0005



## PARTS INCLUDED IN KIT:

Item # Description Qu	uantity
1. PULSAR-NS Series LED Product (1	1 pair)
2. 'Y' Mounting Bracket (2	2 each)
3. Molex 5-pin female connector (2	2 each)
4. Molex 5-pin male connector (2	2 each)
5. Female connector crimp pins (1	10 each)
6. Male connector crimp pins (1	10 each)
7.8-32 hex-head, set screws(2)	2 each)

## PULSAR NS-Series LED (Nav/Position or Nav/Position/Strobe) LIGHT INSTALLATION:

The PULSAR NS-Series LED nav/position/strobe light is intended for non-certified aircraft use and should be installed by NS-Series experienced personnel. The recommended installation location is the outside edge of a wingtip. Ensure the location provides for function as intended and does not interfere with the pilot's safe operation of the aircraft.

The following steps are further detailed with photo examples, below, during the installation process for a Kitfox Series 7 (this is a retrofit as the aircraft previously had a legacy filament nav/position and xenon strobe setup).

- Use the 'Y' Mounting Bracket (Item # 2) as a template to mark the mounting surface and drill three holes for installing the 'Y' Mount Bracket. Three each 6-32, 100°-head countersunk screws (not provided) or rivets can be used to attach the 1) bracket.
- bracket. Install the 'Y' Mounting Bracket to the wing tip surface. Route 20 AWG wires in a protected fashion, to the PULSAR NS-Series light mounting location. It is recommended to install a 1 amp breaker in-line for wire run protection per pair of nav/position and a 7.5-to-10 amp breaker to the strobe power for both NS-Series units. Consult the wiring interface section, below, for wiring details. If desired, utilize the included Molex connectors to allow for quick connect/disconnect of the electrical interface. If unfamiliar with terminating these connectors, please see the Molex Connector Termination PDF document on our website at: http://www.aendes.com/Pottals/3/PDFs/Manuals/Crimping%20Molex%20Connector%20Pins.pdf 3ý
- 4)
- 5)
- 6) 7)
- Connect the wiring per the Wiring Interface detail in the following section. Apply power to the nav/position light (RED lead) and verify that they both illuminate (when position LED's installed). Apply power to the strobe input (YEL) and verify that the unit blinks on and off; the sync lead (GRN lead) will synchronize both strobes (and optional SunTail nav/strobe), if desired.

#### WIRING INTERFACE:

- 1) The red (RED) wire (pin 1) is the nav/position power input. Applying power to this input turns on the nav/position lights.
- 2) The black (BLK) wire (pin 2) is the ground wire, and is connected to the electrical system ground.
- 3) The yellow (YEL) wire (pin 5) is the strobe power input. Applying power to this input turns on the strobe (flashing) light.
- 4) The green (GRN) wire (pin 3) is the sync lead. In the left/right NS-Series installation, this lead synchronizes both wingtip strobes. Not connecting the GRN leads of each NS-Series to each other will allow the strobes to flash independently.

#### **AIRCRAFT WIRING NOTE:**

Prior to NS-Series installation, it is critical that the aircraft wiring be continuity-tested to ensure that the aircraft leads connecting to the product's RED and YEL leads not be shorted to ground, as this may cause internal damage to the NS-Series as well as blow the aircraft, or inline, fuse/breaker.

## **NS-to-Aircraft Mounting Notes:**

- 1) Print out the installation template (the last page of this document), however be sure to set up the printer driver to NOT use Page Scaling so the printer will replicate the template to the proper 1:1 scale, otherwise the template will be too small. The proper scaling can be verified by placing the included 'Y' Mounting Bracket over the printout to ensure a 1:1 fit.
- 2) By design, the 'Y' Mounting Bracket locks into the NS product body. The following photo shows the 'Y' Mounting Bracket



fully installed (locked) in NS product body:



bracket position and the final (locked ) position:

3) Print the template as described above and confirm a 1:1 scaling of the printout. Cut a slot in the template as shown:



for the product wires during final installation.

This allows clearance

Note the gap between the mark of the initial

4) Attach the template to the wingtip (mounting) position:



- 6) Wire the NS product and install 'Y' bracket:
- 7) Secure the NS product by tightening the set screw (Item #7) located at the rear of the product:



**Right Wingtip** 

Left Wingtip

## PULSAR NS-Series LED Nav/Position or Nav/Position/Strobe LIGHT SPECIFICATIONS:

## **1.0 Introduction**

The AeroLEDs PULSAR NS-Series (NS-Series) is an LED navigation/position/strobe light. The NS-Series is packaged in a sealed durable aluminum base with clear anodizing, integral polycarbonate lens with UV-cured epoxy impact-protectant applied, vibration-resistant power supply/control circuitry, and eighteen high power white LED's. The NS-Series is designed for 14 and 28 Volt Systems without modifications or adjustment. The NS-Series is 1.85" wide, 1.5" high and 4.0" deep.

## 2.0 Physical Specifications:

- 2.1 Electronics: Solid-state hard mounted PCB assembly.
- 2.2 <u>Base</u>: Aluminum, clear anodized. NOTE: Dot Not Paint; this base is the NS product heatsink.
- 2.3 Lens: Polycarbonate lenses permanently adhered to base.
- 2.4 Weight: 8 oz./pair
- 2.5 <u>Size</u>: 1.85"x1.5"x4.0"

## **3.0 Electrical Specifications:**

- 3.1 <u>Input Voltage</u>: 14 & 28 Volt Systems (9.0 VDC to 36VDC)
- 3.2 <u>Input Current</u>: 0.80A average to 2.25A peak typical per NS assembly at 14 VDC; the nav light is less than 0.5A at 14VDC (1/2 values at 28VDC).
- 3.3 Spike Protection: +40 to -40 Volts (40V transorb)
- 3.4 Lightening Protection: All pins
- 3.5 <u>Polarity protected</u>

#### 4.0 Additional Specifications:

- 4.1 <u>Warranty</u>: Ten (10) year limited warranty
- 4.2 <u>Operating Temp Range</u>: -55°C to +70°C, unit will automatically enter a self-protect dimming mode if case > +90°C.
- 4.3 <u>Cleaning</u>: Units may be exposed to spray wash.

#### AeroLEDs LIMITED WARRANTY AND LIMITATION OF LIABILITY

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This Limited Warranty does not apply to parts or products that are misused; abused; modified; damaged by accident, fire or other hazard; improperly installed or operated; or not maintained in accordance with the maintenance procedures set forth in AeroLEDs' Installation and Operating Instructions.

To obtain warranty service, you must call AeroLEDs Customer Service at 208-867-1319, or FAX your request to 208-246-0552. Customer Service will issue warranty authorization and further instructions.

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NOTE: Make sure to print with the printer's properties set to 'No Page Scaling'