



INSTALLATION MANUAL

Maximus PowerMax

AVE-MP-IM

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TABLE OF CONTENTS

PART 0 DOCUMENT ADMINISTRATION 3

0.1 DOCUMENT APPROVAL 3

0.2 AMENDMENT RECORD PROCEDURE 3

0.3 EFFECTED PAGES PROCEDURE 4

0.4 DISTRIBUTION LIST 4

PART 1 INSTALLATION DATA 5

1.1 MAXIMUS POWERMAX™ 5

1.2 OPERATING INSTRUCTIONS 5

1.3 INSTALLATION SCHEMATIC / WIRING DIAGRAM 5

1.4 CONTROL & POWER INPUTS 5

1.5 TECHNICAL SPECIFICATION 6

1.6 TECHNICAL DRAWING 6

1.7 WIRING CHART 7

1.8 OPTIC SIMULATION 8

1.9 EQUIPMENT LIMITATION 8

1.10 CARE AND CLEANING OF LIGHTS 8

1.11 TESTING THE LIGHTS BEFORE INSTALLATION 9

1.12 NOTES ON INSTALLATION 9

1.13 CONTINUED AIRWORTHINESS INFORMATION 10

0.3 *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 **EACH** raise of issue and the description of respective change will be provided in Table 01 - **Details** Column.

Changes from the previous issue are shown as follows:

- a) new text is highlighted with yellow shading: **new**
- b) deleted text is shown with yellow shading and a strike through: ~~deleted~~

0.4 *Distribution List*

As stated in section 0.2 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.

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

Part 1 Installation data

1.1 Maximus PowerMax™

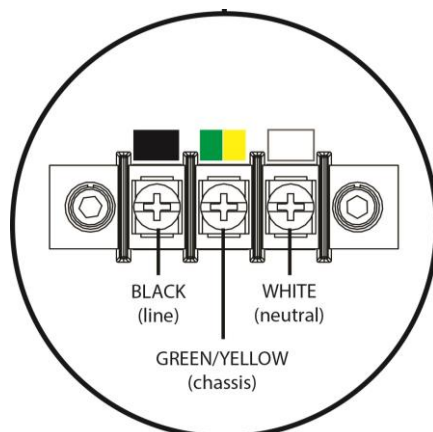
Maximus PowerMax™ is a high powered LED light use in GA and transport category aircraft. It have been designed to be lightweight and with a low power draw to meet the highest requirements of all certified aircraft.

- **Maximus PowerMax 28VAC 400Hz** PN : AVE-MP18LW-T01

1.2 Operating Instructions

When installed on the aircraft, using the aircraft's power (28 volts), the light will be at its maximum intensity. *Operating Voltage range is 27-29VAC @ 400Hz.*

1.3 Installation Schematic / Wiring Diagram



Wire type: multicores 20 AWG and 22 AWG, 600 V insulation, 200°C rating;

Wire length: 11.81" minimum (300 mm minimum)

Recommended wire AWG size: **16**

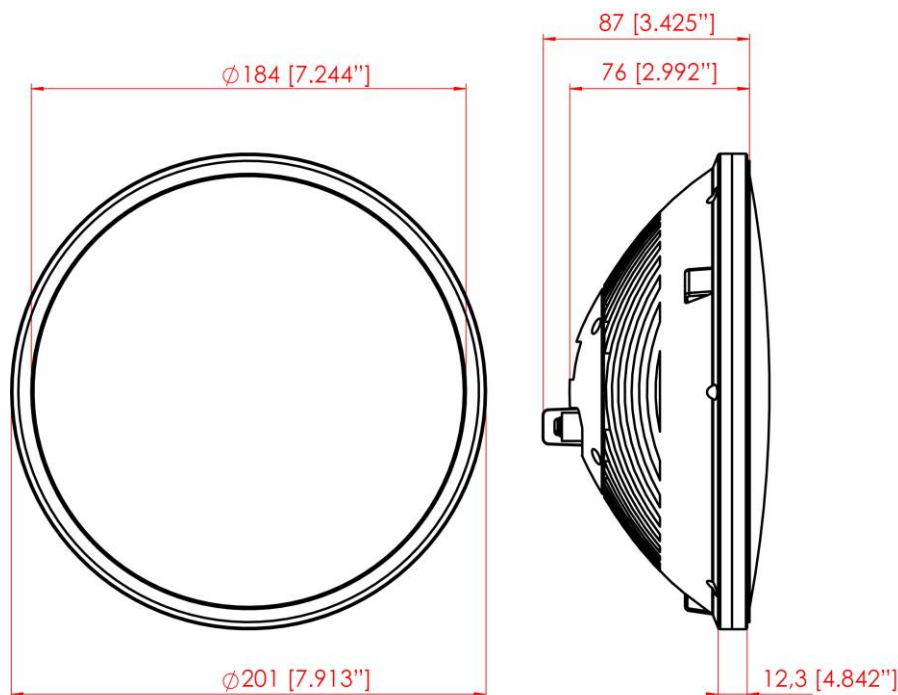
1.4 Control & Power Inputs

BLACK	Line
WHITE	Neutral
GREEN/YELLOW	Chassis

1.5 Technical Specification

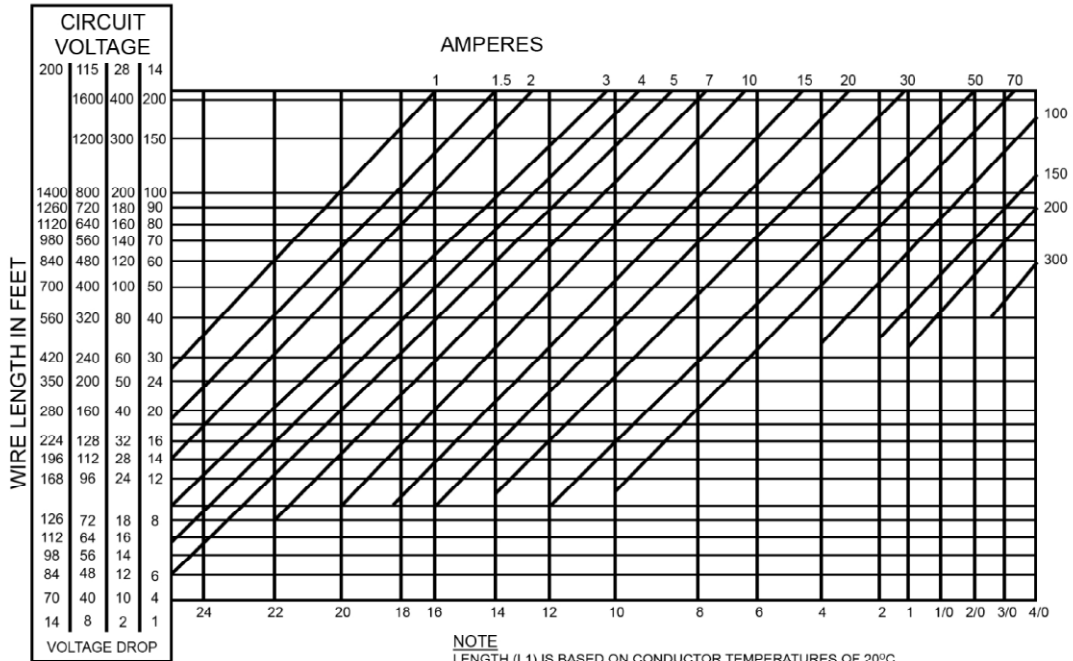
Light characteristics:	Landing Light / PAR64 replacement
Voltage range:	+27..+29 V AC @ 400Hz
Voltage protection:	<ul style="list-style-type: none"> a. Transient voltage: 2 second +40VAC c. Over-voltage lockout: +30VAC, not less.
LED quantity:	18 pcs
Performance:	<ul style="list-style-type: none"> a. Output current: 0.85A per LED b. Output power: 170.5W max c. Input current: 7.5A rms max d. Input power: 200W
Chromaticity:	Cool White, Color shade 1C0
Viewing Angle:	12° Landing (symetrical)
Low temperature slope start:	-55°C / -67°F
Ambient temperature:	-55°C...+85°C / -67°F...+185°F
Overheat protection:	Yes
Wiring:	<ul style="list-style-type: none"> N/A, Terminal Block – 3 contacts Black – line White – neutral Green/Yellow - chassis
Useful life:	not less than 30.000.0 aircraft flight hours.

1.6 Technical Drawing



*dimensions in [inches] / mm

1.7 Wiring Chart



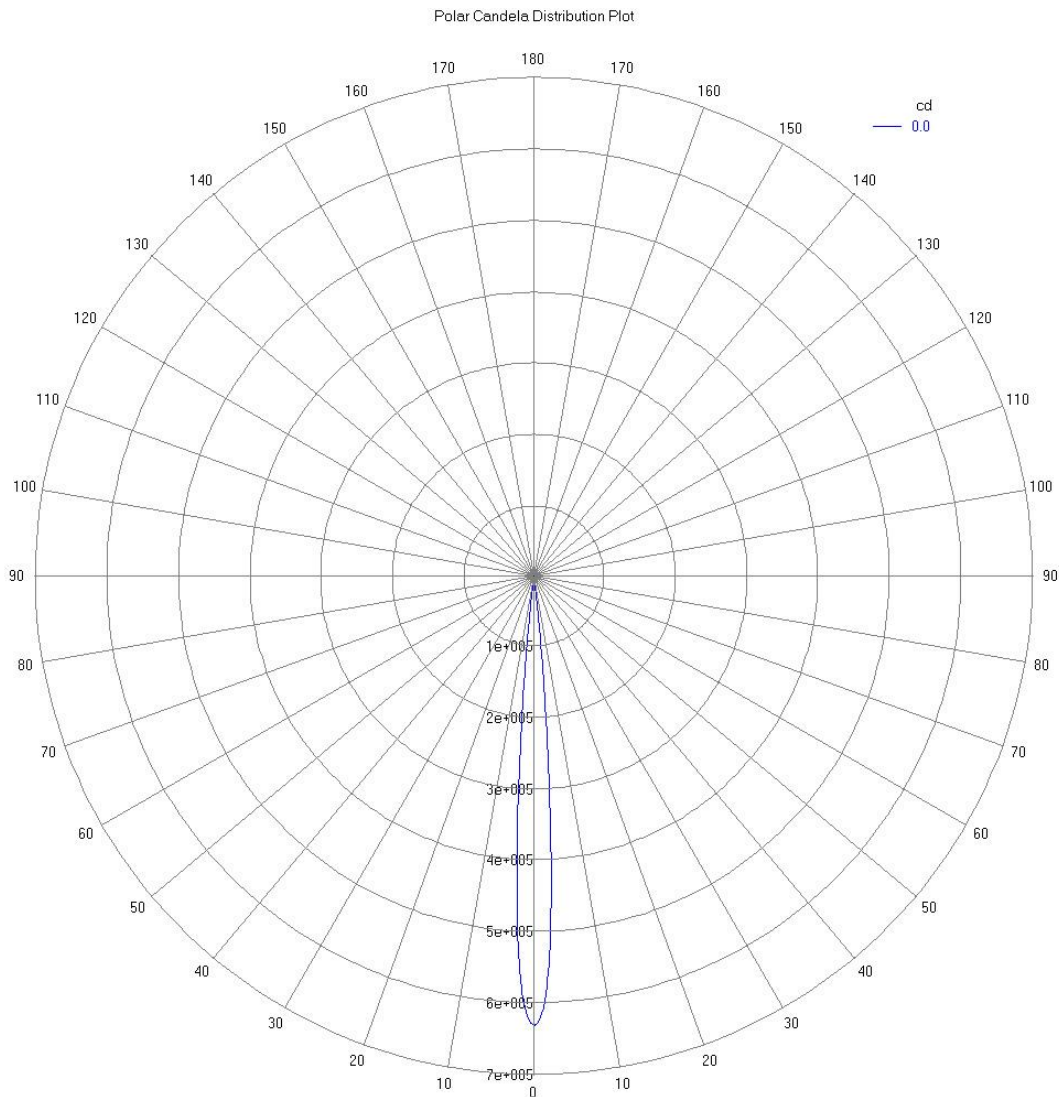
WIRE SIZE

VOLTAGE DROP CHART
INTERMITTENT FLOW AT 20°
TIN-PLATED MIL-W-27759
CONDUCTOR

NOTE

LENGTH (L1) IS BASED ON CONDUCTOR TEMPERATURES OF 20°C
TO DETERMINE LENGTH (L2) AT HIGHER CONDUCTOR TEMPERATURE USE FORMULA
WHERE T2 - ESTIMATED CONDUCTOR TEMPERATURE °C

1.8 Optic Simulation



1.9 Equipment Limitation

Maximus PowerMax™ 28VAC should only be powered by 27-29VAC @400Hz.

1.10 Care and Cleaning of Lights

Aveo Engineering Aviation Lights are factory polished and delivered as ready to install on the aircraft.

If the lights need a deeper cleaning, they should be polished with a quality lamb's wool sheet that is suitable also for deeper polishing. Under no circumstances should any petroleum based product be used to clean the lights.

1.11 Testing the Lights 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 **Maximus PowerMax™ 28VAC** light, and wish to test the function of the light prior to installation on your aircraft, please note the following:

1. 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.

2. Remove the light from the package. Note that there is connector with 3 colors:

Black – Line

White – Neutral

Green/Yellow – Chassis

3. Testing of the function of the light can be done with a regular 28VAC power supply (not a battery charger). Connect the line wire to black pole, neutral wire to the white pole, and then connect the chassis to the green/yellow pole. The Maximus PowerMax light should start lighting. When installed on the aircraft, using the aircraft's power (28 VAC@400Hz), the light will be at its maximum intensity.

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

IMPORTANT NOTES:

Under no circumstances should any power supply other than a 27-29 VAC @400Hz, or a 28 volt battery be used to test the light. Do not use: Battery chargers, battery back-up power devices, or other bench avionics testing methods to test the aviation light. The light is functional between 27 and 29 volts. Use of a battery charger or other power unit to test the light will void the warranty and may damage the light.

If you have any questions about the installation of the lights, please refer to our web site: www.aveoengineering.com

1.12 Notes on Installation

I Spread the tightening forces evenly around the mounting hole. Stainless steel screw is recommended. Length depends upon placement location on aircraft.

1.13 Continued Airworthiness Information

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.

b. Periodic Inspection Procedure for Galactica Series

The Maximus PowerMax™ lights 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 to the steady mode 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 Warranty Program.