INSTALLATION MANUAL

Atlas

AVE-ATL-IM

TABLE OF CONTENTS

Part 0 Document Administration

0.1 Document Approval

This document has been established in accordance with an alternative procedure to DOA approved under EASA AP429.
This installation manual is applicable for following part numbers:

- **ATLAS** - AVE-A15MWSSNH-00A
- **ATLAS with O-bracket** - AVE-A15MWSSOH-00A
- **ATLAS with Q-bracket** - AVE-A15MWSSQH-00A

Compiled by:_____ 12 January 2021
Petr Jaros
Engineer, Aveo Engineering Group, s.r.o.

Approved by:_____ 12 January 2021
Georg Hartl
Head of DO, Aveo Engineering Group, s.r.o.

0.2 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.

The original issue will be identified by **"01"**, and subsequent issues will be numbered sequentially from 02 to 99 in Table 01 - ***Issue No.*** column.

ALL issues of this document will be approved by Head of DO.

Issue No.	Details	Date of issue	Effected Pages
01	Initial Issue	12 Jan. 2021	ALL

Table 01: Record of Document Amendments

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~~

Part 1 Installation data

1.1 ATLAS™

- 3-in-1 System includes Landing, Taxi and WigWag
- Highly optimized optics including Aveo RockyReflector™ System
- Aveo PowerOptimizer™ advanced LED power supply and controller
- 70% lumen maintenance after 60,000 hours

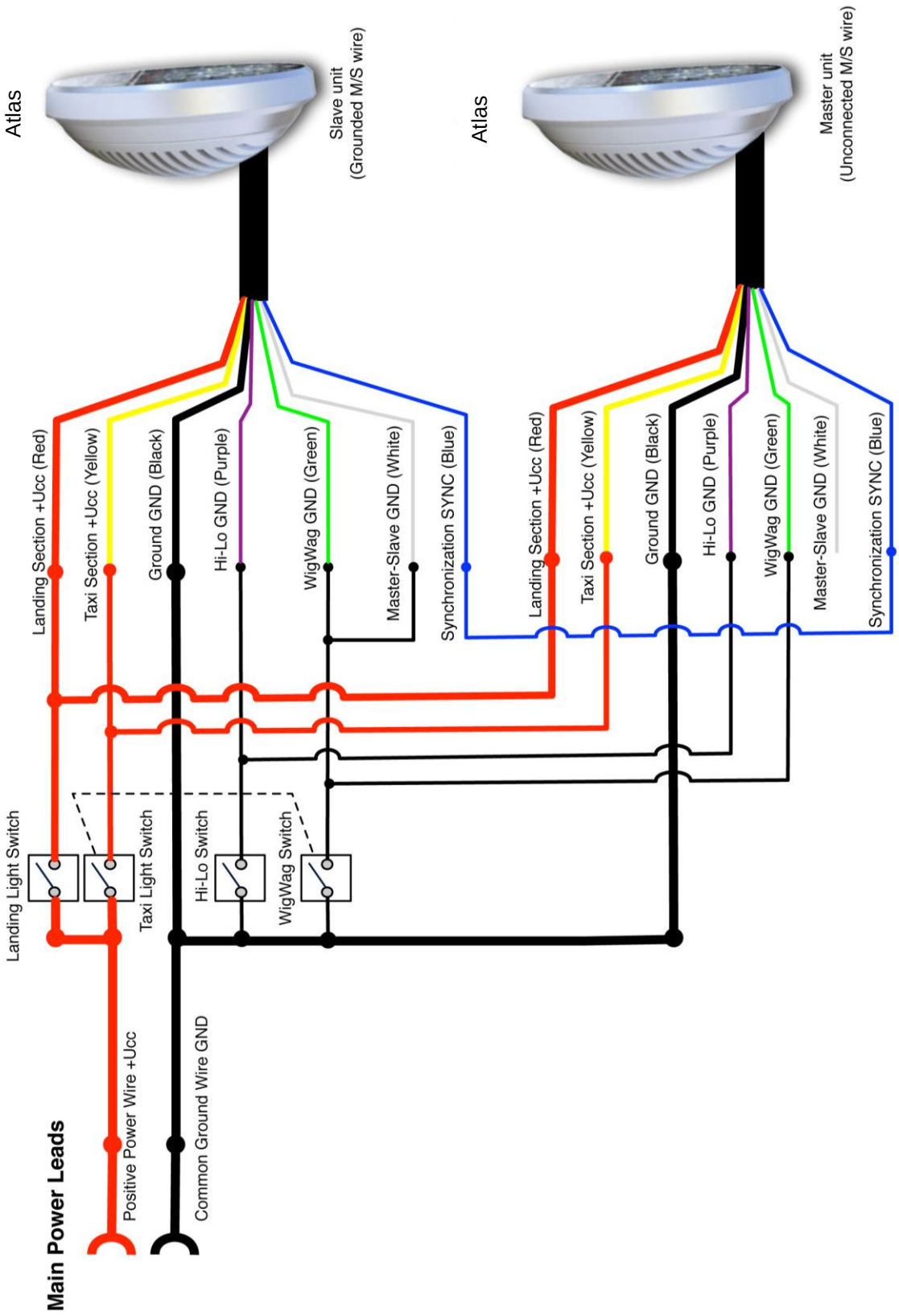
- **ATLAS** - AVE-A15MWSSNH-00A
- **ATLAS with O-bracket** - AVE-A15MWSSOH-00A
- **ATLAS with Q-bracket** - AVE-A15MWSSQH-00A

1.2 Operating Instructions

When installed on the aircraft, using the aircraft's power (14 or 28 volts), the light will be at its maximum intensity.

Operating Voltage range is +9..+36VDC

1.3 Installation Schematic / Wiring Diagram



1.4 Control & Power Inputs

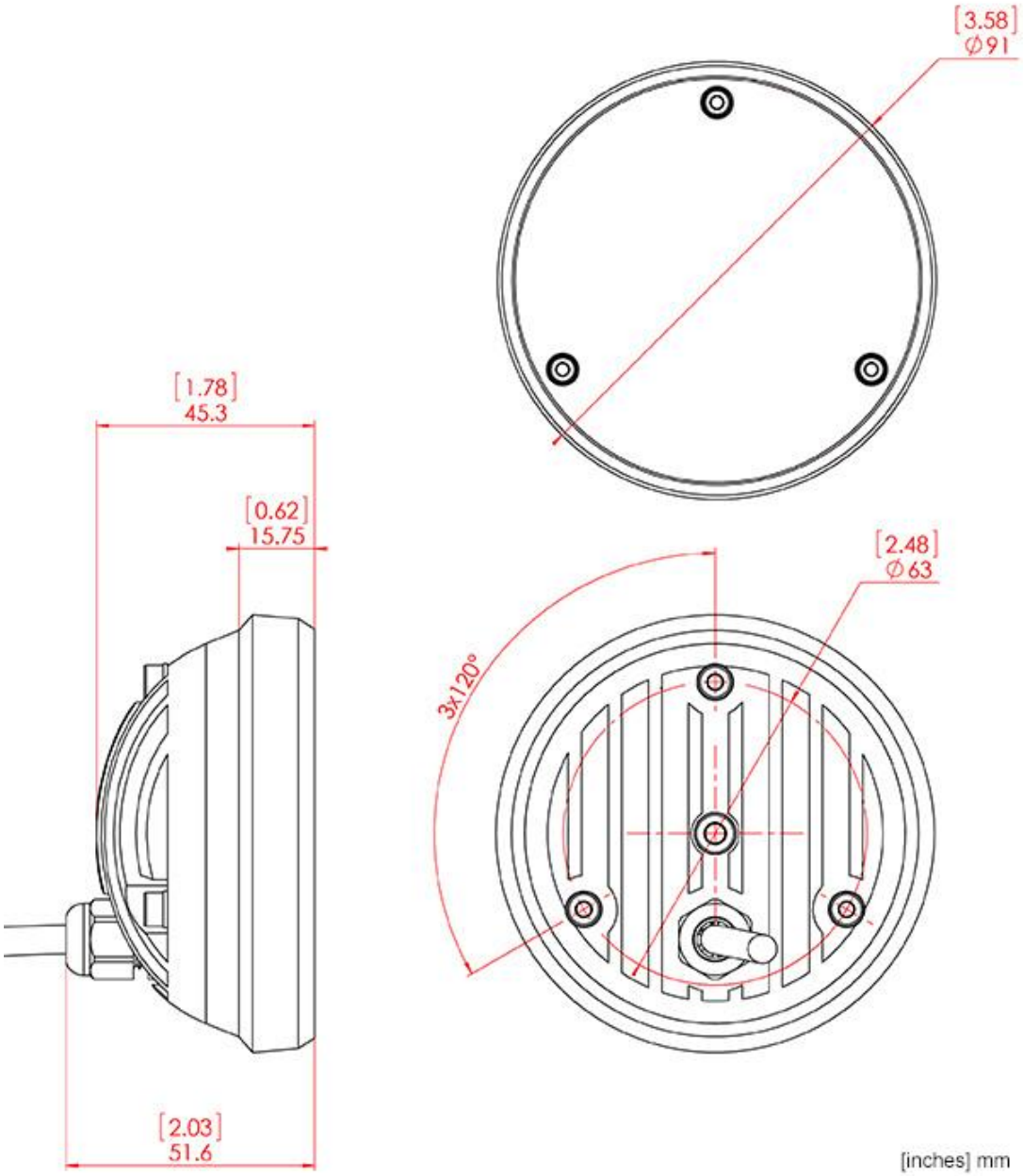
Red	Landing LEDs Power (AWG 16)
Yellow	Taxi LEDs Power (AWG 16)
Black	Ground GND (AWG 16)
Purple	Hi-Lo (AWG 24)
Green	WigWag (AWG 24)
White	Master-Slave (AWG 24)
Blue	Synchronisation (AWG 24)

Length of wires: 550 mm (21.6”)

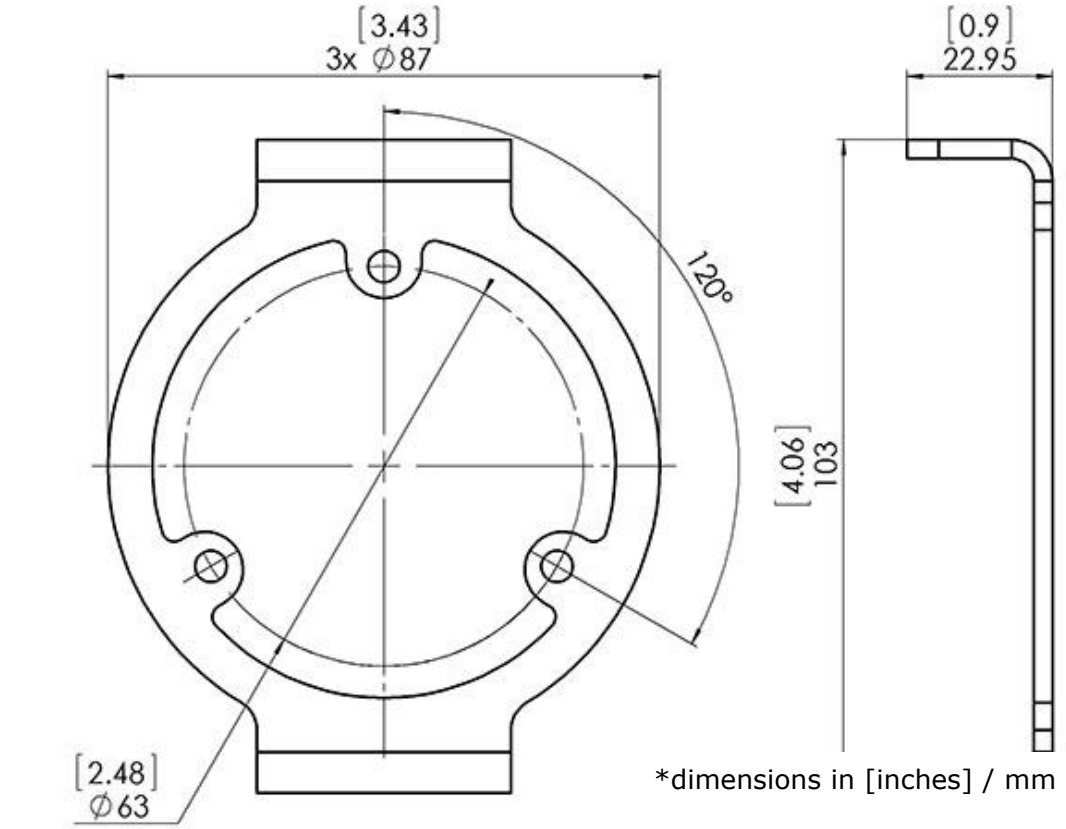
1.5 Technical Specification

Weight (max):	353 g / 12.45 oz
Operating Voltage Range:	9 – 36 V DC
Landing Branch:	Current (Hi/Lo): 5.97 A / 2.76 A (14V) Current (Hi/Lo): 3.03 A / 1.41 A (28V) Power (Hi/Lo): 83.5 W / 38.6 W (14V) Power (Hi/Lo): 84.8 W / 39.4 W (28V)
Taxi Branch:	Current (Hi/Lo): 1.65 A / 0.81 A (14V) Current (Hi/Lo): 0.86 A / 0.41 A (28V) Power (Hi/Lo): 23.1 W / 11.3 W (14V) Power (Hi/Lo): 24.2 W / 11.5 W (28V)
Taxi + Landing Branch:	Current (Hi/Lo): 7.66 A / 3.6 A (14V) Current (Hi/Lo): 3.87 A / 1.82 A (28V) Power (Hi/Lo): 107.3 W / 50.4 W (14V) Power (Hi/Lo): 108.5 W / 50.9 W (28V)
WigWag Branch:	Current (Hi/Lo): 1.64 A / 0.81 A (14V) Current (Hi/Lo): 0.85 A / 0.41 A (28V) Power (Hi/Lo): 23.0 W / 11.3 W (14V) Power (Hi/Lo): 23.9 W / 11.5 W (28V)
Function Descripton:	• 1x4 LEDs - Taxi, steady light • 1x6 LEDs - Landing, steady light • 1x4 + 1x6 - Taxi+Landing • Synchro Master function, active – low • Wig-Wag – Taxi LEDs only • Master/Slave select sequential and simultaneous Wig-Wag mode • High/Low power select for Landing and Taxi.
Beam angle:	12°
Color:	Cool White
Ambient Temperature:	from -55°C to +85°C from -67°F to +185°F
Overheat Protection:	Yes (+85°C / +185°F)
Maximum Transient Voltage:	80 V, both polarities
Under-Voltage Protection:	8.5 V, not more
Over-Voltage Protection:	37 V, not less
Waterproof, Dust-proof, Vibration-proof:	Yes

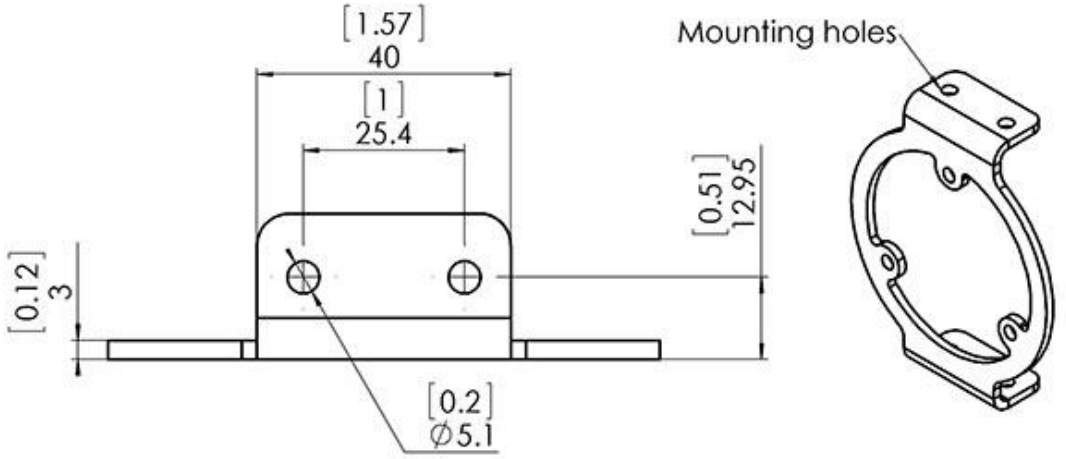
1.6 Technical Drawing



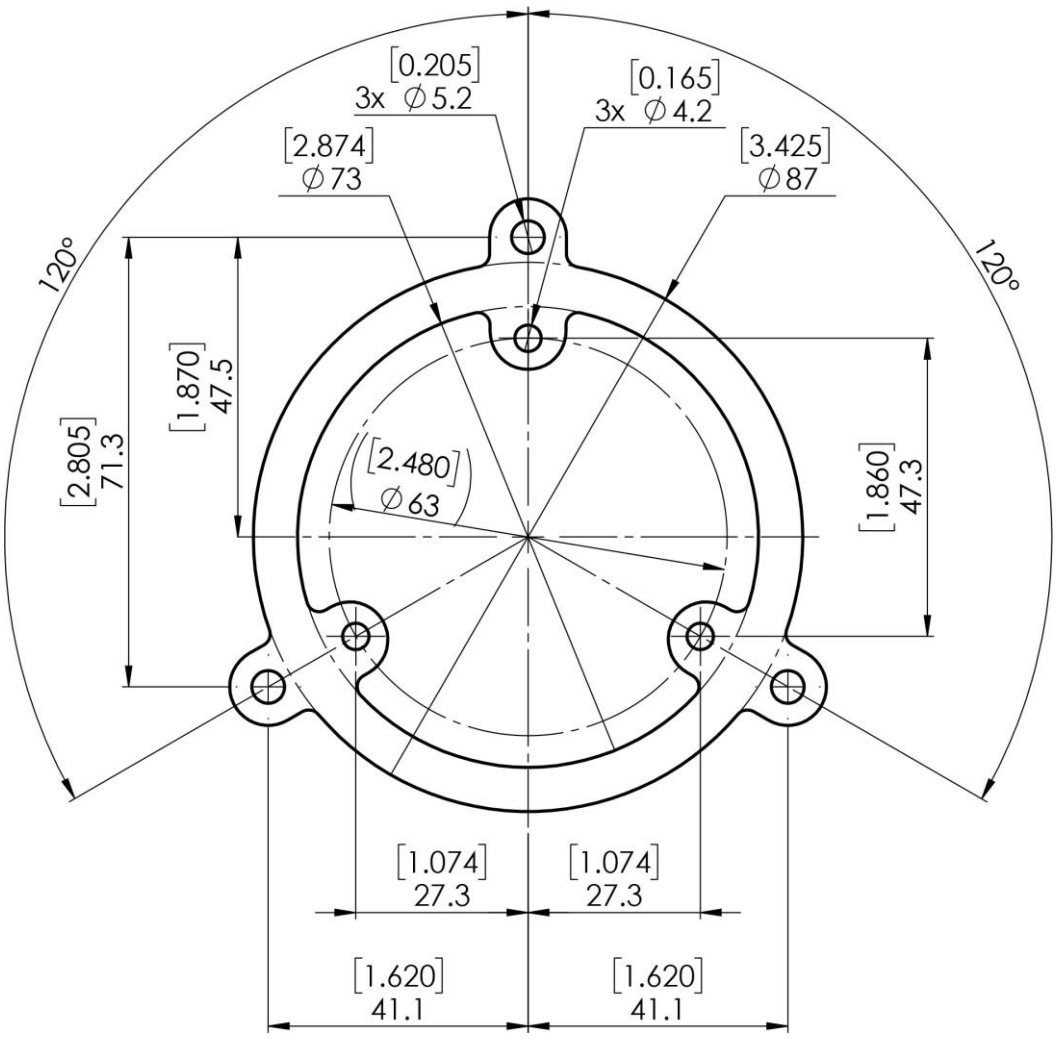
O - BRACKET



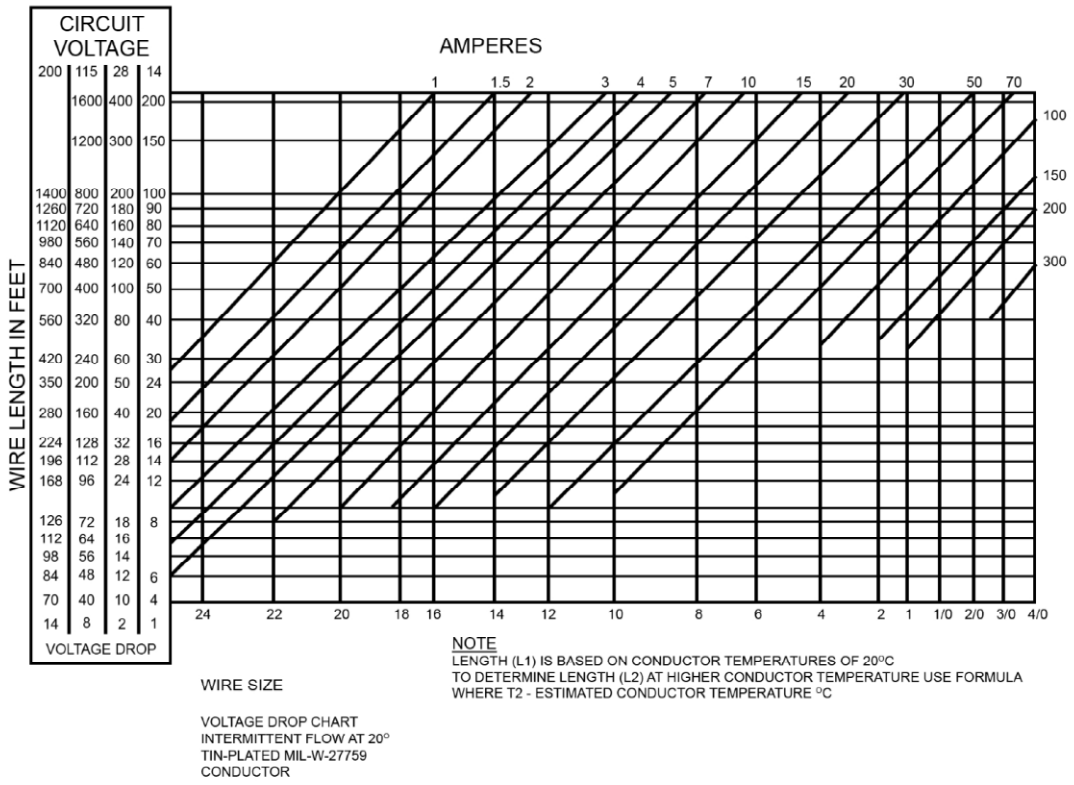
*dimensions in [inches] / mm



Q - BRACKET


[0.205]
3x ∅5.2
[0.165]
3x ∅4.2
[2.874]
∅73
[3.425]
∅87
120°
120°
[1.870]
47.5
[2.805]
71.3
[2.480]
∅63
[1.860]
47.3
[1.074]
27.3
[1.074]
27.3
[1.620]
41.1
[1.620]
41.1

1.7 Wiring Chart



1.8 Optic Simulation

Landing Hi – 85,000 cd
Landing Lo – 48,000 cd
Taxi Hi – 25,000 cd
Taxi Lo – 14,000 cd
Landing + Taxi Hi – 110,400 cd
Landing + Taxi Lo – 62,000 cd

1.9 Equipment Limitation

Atlas should only be powered by +9..+36 V DC

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 ***Atlas*** 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 are 7 wires:

Red	Landing LEDs Power (AWG 16)
Yellow	Taxi LEDs Power (AWG 16)
Black	Ground GND (AWG 16)
Purple	Hi-Lo (AWG 24)
Green	WigWag (AWG 24)
White	Master-Slave (AWG 24)
Blue	Synchronisation (AWG 24)

3. Testing of the function of the light can be done with a regular 14VDC or 28VDC power supply (not a battery charger).

   Connect the ground wire to black wire and then connect the power wire to the red wire. The landing light section should start lighting. Disconnect the power wire. Connect the power wire to the yellow wire. The taxi light section should start lighting. When installed on the aircraft, using the aircraft's power (28VDC), 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 *+9..+36 V DC*, or a *14 / 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 9-36 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 Continued Airworthiness Information

Circuit/Wiring Protection

Each Thor 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.

1.13 RoHS Compliance Statement

Scope

This statement clarifies Aveo Engineering's compliance with European Union Directive 2015/863/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS") that took effect on June 4, 2015. The RoHS Directive restricts the sale of electronic equipment containing certain hazardous substances in the European Union including:

Cadmium(Cd): 0.01%
Mercury: 0.1%
Lead(Pb): 0.1%
Hexavalent chromium (Cr6+): 0.1%
Polybrominated biphenyls (PBB): 0.1 %;
Polybrominated diphenyl ethers (PBDE): 0.1 %
Bis(2-Ethylhexyl) phthalate (DEHP): 0.1% (added in 2015);
Benzyl butyl phthalate (BBP): 0.1% (added in 2015);
Dibutyl phthalate (DBP): 0.1% (added in 2015);
Diisobutyl phthalate (DIBP): 0.1% (added in 2015)

Compliance

Aveo Engineering certifies that all products sourced from manufacturing facilities comply with the environmental standards set forth by the Directive 2015/863/EU, recast amendment of RoHS Directive 2011/65/EU Article (4), and do not contain any of the above-mentioned, 10 hazardous substances above the specified limits. All products manufactured by Aveo Engineering are RoHS-compliant. With regards to RoHS-2 CE marking, product packaging is labeled attesting conformity if required.

References

Directive 2015/863/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.