



## INSTALLATION & MAINTENANCE MANUAL

# PosiStrobe Titania

DOC.NO:AVE-PSPSYW-IM

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## 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 part numbers:

- PosiStrobe Titania **AVE-PSPSYW-T01**



Compiled by: \_\_\_\_\_ 10. – Jan. - 2023

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Approved by: \_\_\_\_\_ 10. – Jan. - 2023

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## 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	Effected Pages
01	Initial Issue	28.Aug.2018	ALL
02	Change Maintenance Section	5.Feb.2018	10
03	Update of document structure	10.Jan.2023	ALL
	Technical Specification Update		6
	Technical Drawing Update		7
	Addition of sections:		
	1.13 Continued Airworthiness Information		12
	1.14 RoHS Compliance Statement		12
	1.15 EU REACH Regulation (EC) No. 1907/2006		13
Table 01: Document Amendment Record Table			

## 0.3 Effected Pages Procedure

ALL pages affected by ANY raise of issue of this document will be listed in Table 01 - **Affected 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:

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

## Part 1 Installation data

### 1.1. Product Info

**PosiStrobe Titania™** is the minimum EMI signature tail position and strobe light for the aviation industry. This light provides performance much above the required position and strobe per TSO standards.

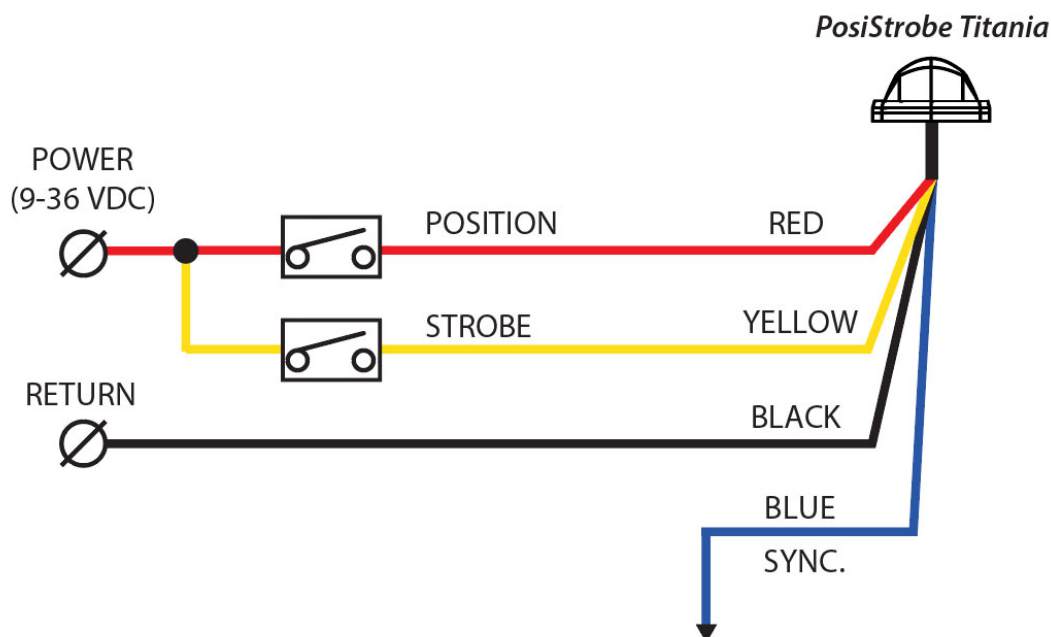
- PosiStrobe Titania **AVE-PSPSYW-T01**

### 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



Wire type: Teflon insulation, 500V  
Wire length: see drawing in section 1.6

## 1.4. Control & Power Inputs

<b>Red</b>	VCCP - AWG 20, Positive power supply line for position
<b>Yellow</b>	VCCS - AWG 20, Positive power supply line for strobe
<b>Black</b>	GND - AWG 20, Common negative power supply line
<b>Blue</b>	SYNC - AWG 20, Synchronization line

## 1.5. Technical Specification

<b>Dimensions:</b>	See drawing in section
<b>Operating Voltage Range:</b>	9 - 36 VDC
<b>Weight:</b>	98 g (+/- 5g) 0.216 lb (+/- 0.18)

**Input power** (at 25°C and 85% DC-DC efficiency, @28VDC):

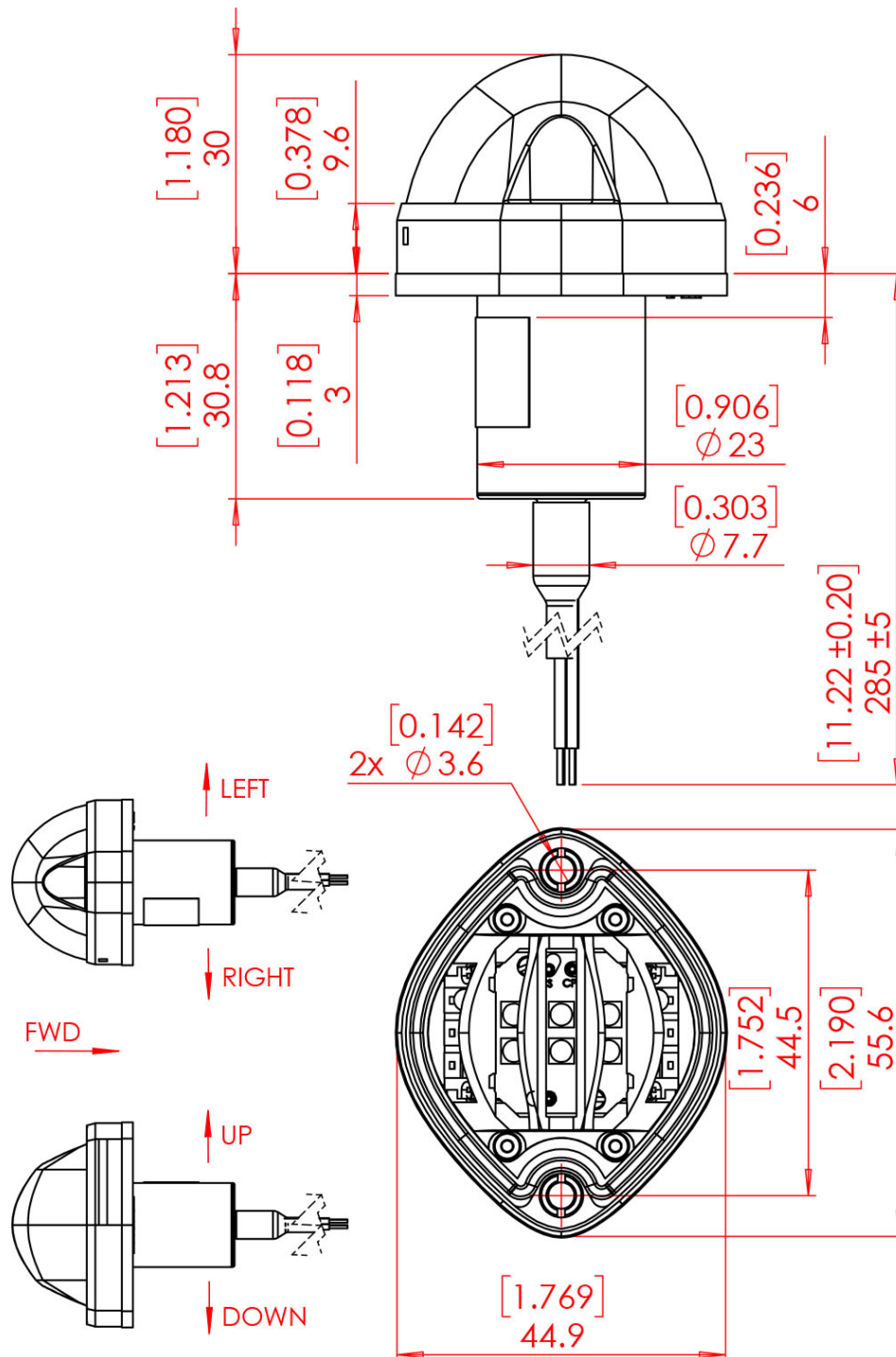
– position	5.5 W @14V / 5.9 W @28V
– strobe:	61.6 W @14V / 51.5 W @28V

**Input current:**

– position:	0.39 A @14V / 0.21 A @28V
– strobe:	4.40 A @14V / 1.84 A @28V

<b>Repetition Flash Rate of Strobe:</b>	48 cycles per minute
<b>Warm up time:</b>	not more than 20s
<b>Low temperature slope start:</b>	not more than 60s
<b>Ambient temperature:</b>	-55 °C..+85°C / -67 °F..+185°F
<b>Overheat protection:</b>	+85°C / +185°F
<b>Voltage protection:</b>	
a. Transcend voltage:	60V, both polarities
b. Under-voltage lockout:	9V, not more
c. Over-voltage lockout:	36V, not less

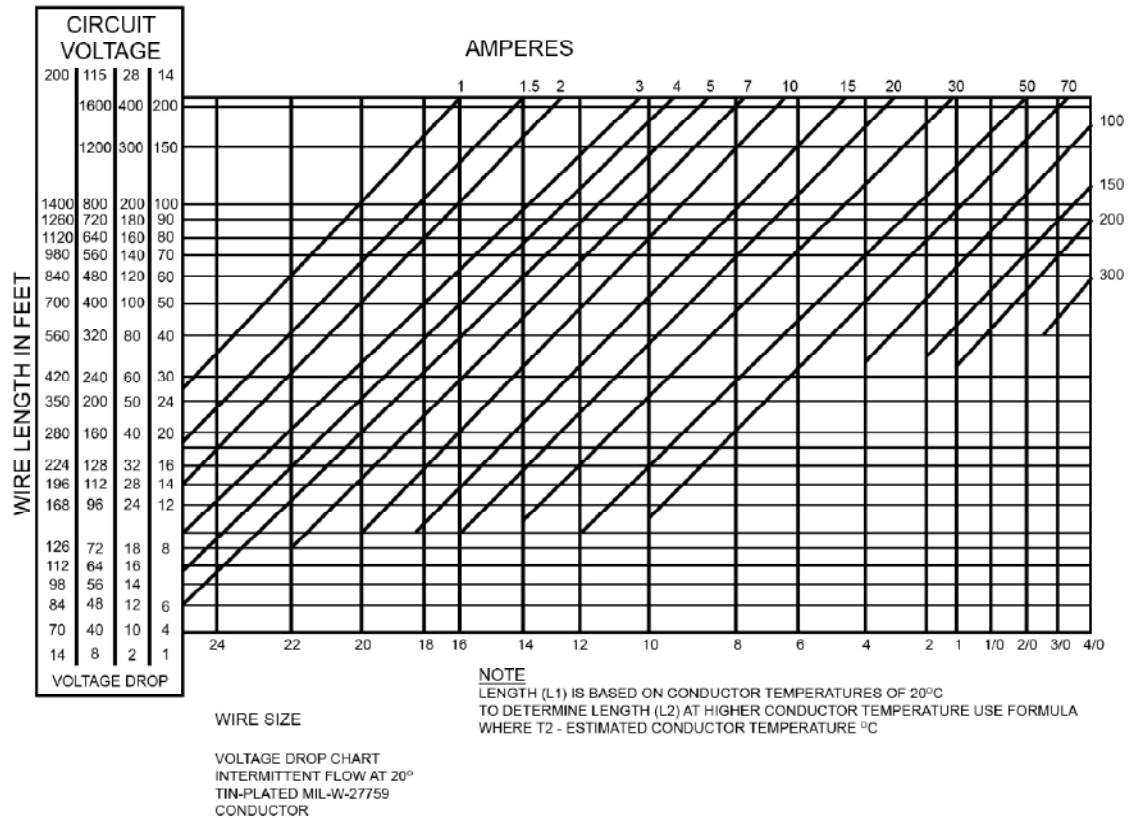
## 1.6. Technical Drawing



\*dimensions in mm [inches]

## 1.7. Wiring Chart

Use diagram below defining the wiring size depending on the current and the wire length. Make sure you add up the current for all connected lights. If current is not given, then divide the power by the voltage.

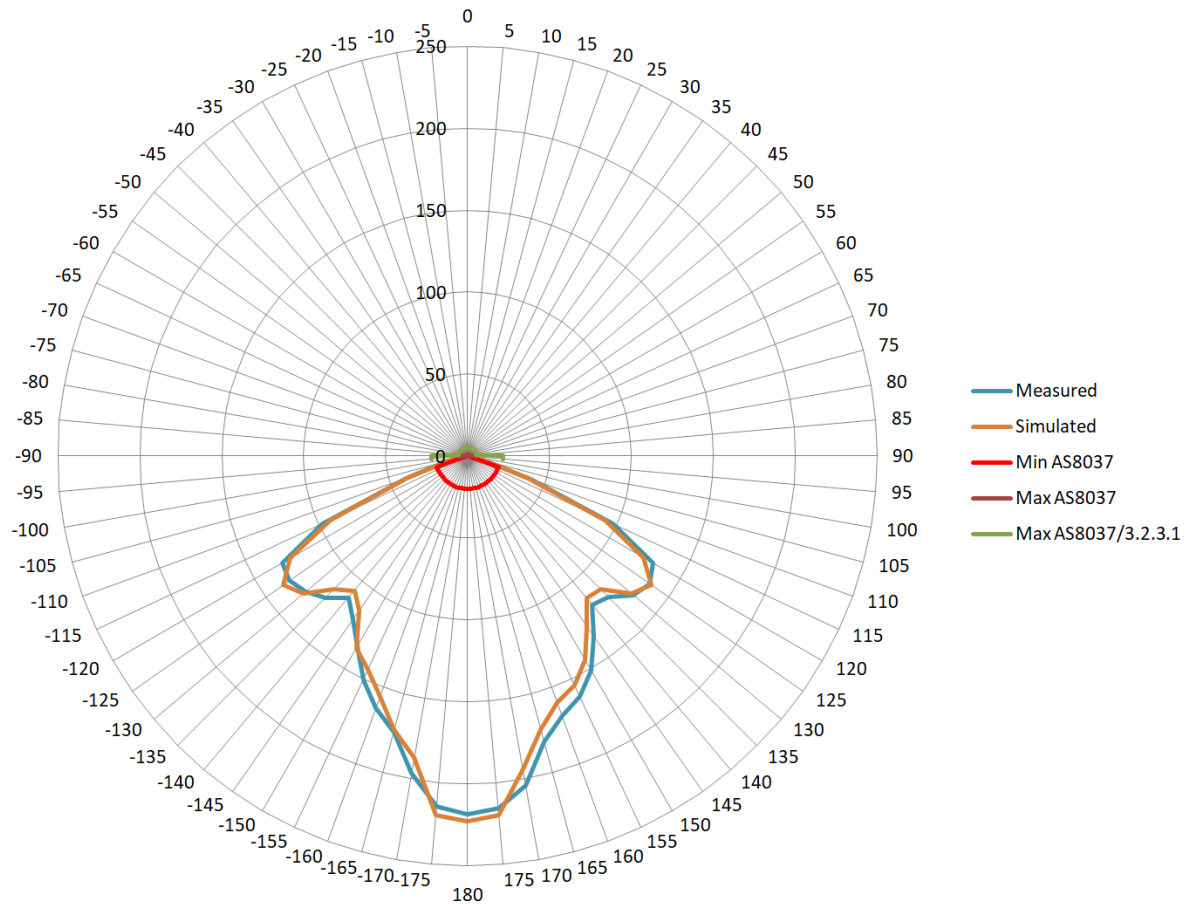




## 1.8. Optical Performance

### Position Light

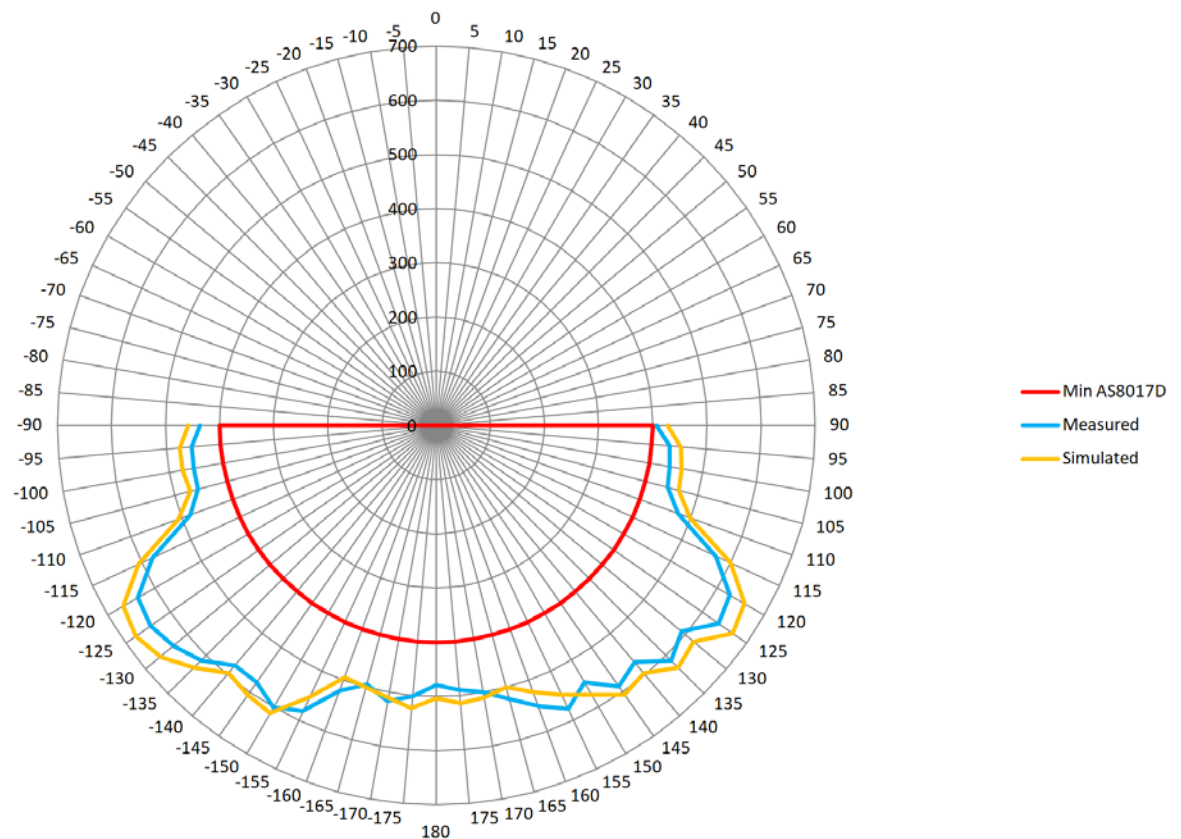
Test performed at 28V. Polar coordinates, 0° is forward direction.



Position H/V0. Full range 0-250cd

### Strobe Light

Test performed at 28V. Vertical plane at 180° horizontal point (rear). Effective candelas.



Anti-collision H/V0. Full range 0-700cd

## 1.9. Equipment Limitation

**PosiStrobe Titania** should only be powered by 9-36VDC.

## 1.10. Maintenance

### GENERAL

The PosiStrobe Titania does not require maintenance except cleaning as necessary. The cleaning procedure is described below. The light is permanently assembled and cannot be opened without destroying. Hence in case of damage or failure the complete light unit must be replaced as no repair is possible.

## 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.

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

### 1.11. *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 **PosiStrobe Titania** 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.

<b>Red</b>	+14V / +28V, Nav/Pos
<b>Yellow</b>	+14V / +28V, Anti-collision
<b>Black</b>	Common 28 return VRTN
<b>Blue</b>	Synchronization

3. Testing of the function of the light can be done with a regular 28V/5A dc power supply (not a battery charger).

#### **Pos/strobe:**

Connect the black wire to the ground (negative) leads of a power supply, then connect the yellow or red wire to the positive (+) leads on the power supply. The light should start flashing (yellow wire = anti-collision light) or lighting (red wire = white steady). Connecting the blue wires from each Aveo 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.

#### **IMPORTANT NOTES:**

Under no circumstances should any power supply other than a 9-36 VDC, 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 9 and 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](http://www.aveoengineering.com)

## **1.12. Notes on Installation**

Please use screw M3 (DIN912) or SHCS #6-32 or equivalent mounting screw for the installation. 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**

### ***Circuit/Wiring Protection***

Each PosiStrobe Titania 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.

### ***Periodic Inspection Procedure for PosiStrobe Titania***

The **PosiStrobe Titania** 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 hours inspection. In addition refer to section 1.10 of installation manual for detailed cleaning instructions.

## **1.14. 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.

## ***1.15. EU REACH Regulation (EC) No. 1907/2006***

Aveo Engineering declares that no chemicals are produced and that none of the chemicals used during the production process or needed for the product maintenance or service, is listed on the current European Chemicals Agency's Candidate list of Substances of Very High Concern for Authorization.