Samson S45

INSTALLATION MANUAL
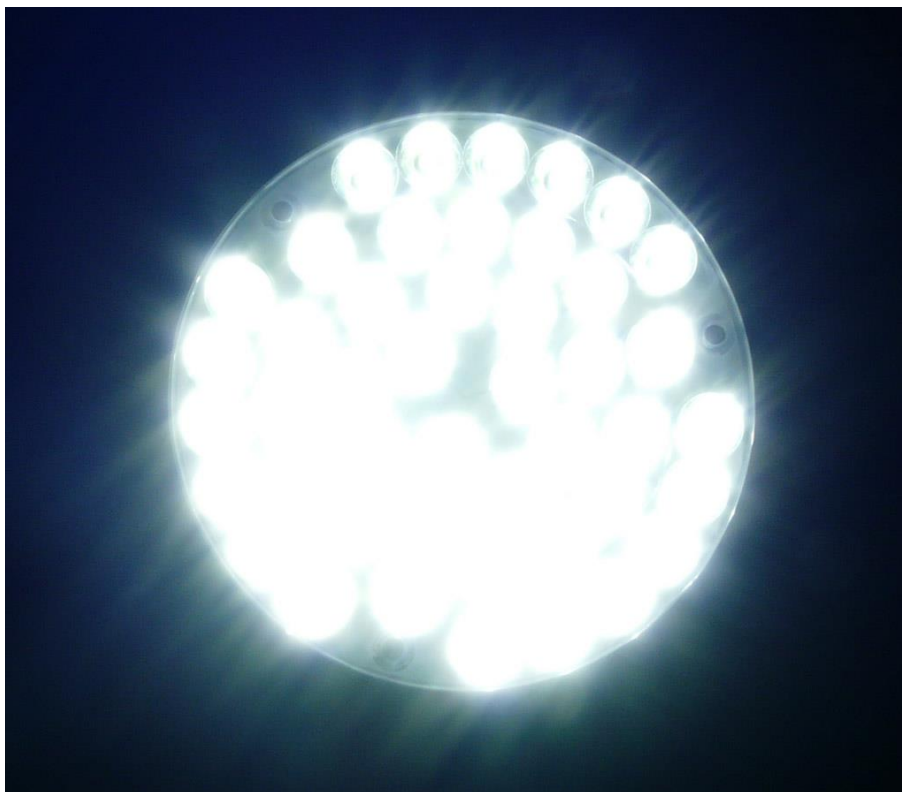
AVE-SE45-IM

1.1.   Samson

Aveo Engineering introduces the exclusive next-generation Samson™ PAR46 Landing Lights**.**

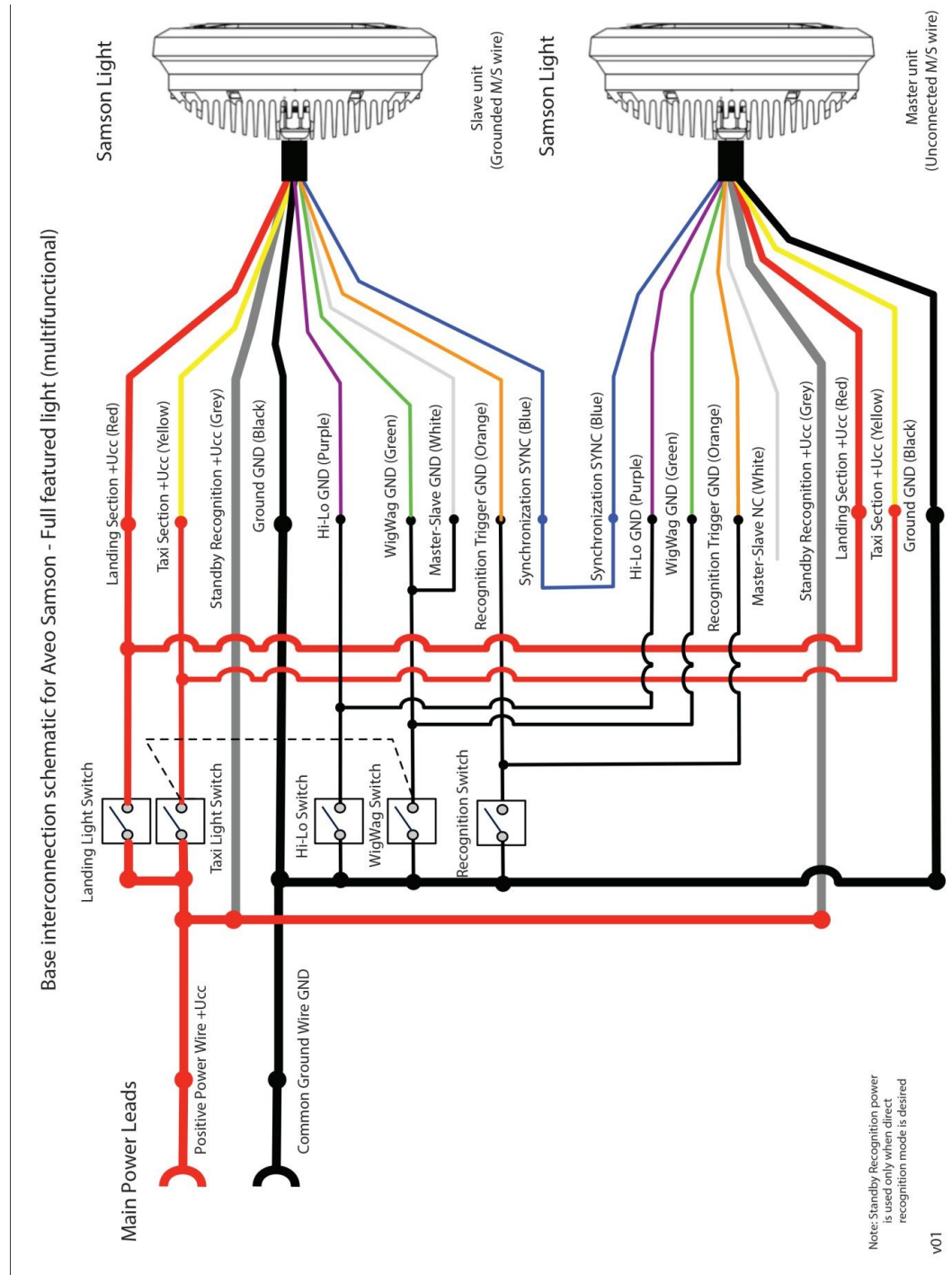|	
Samson Multimode	**AVE-SM45TLFW-ENA**
Samson On/Off	**AVE-S45MATSNA-T0A**

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 18 to 36 V DC.
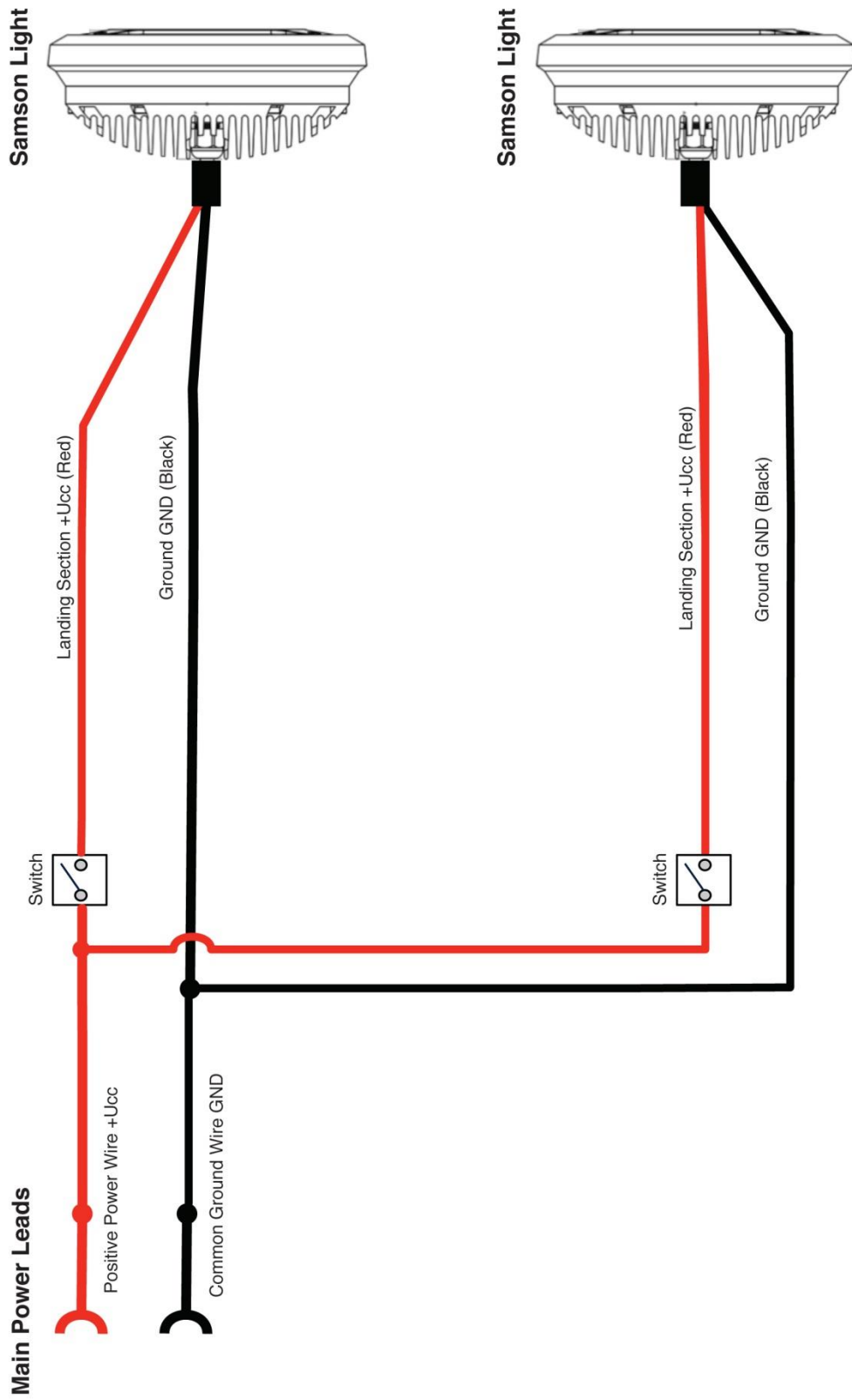
1.3. Installation Schematic / Wiring Diagram

AVE-SM45TLFW-ENA

AVE-S45MATSNA-T0A

Base interconnection schematic for Aveo Samson - plane light (single functionality)

1.4.   Control & Power Inputs

Samson Multimode **AVE-SM45TLFW-ENA**

Red	Landing section +Ucc
Yellow	Taxi section +Ucc
Grey	Stand-by Recognition +UCC
Black	Return RTRN
Purple	Hi-Lo GND
Green	WigWag GND
White	Master-Slave GND
Orange	Recognition Trigger GND
Blue	Synchronisation

Samson On/Off **AVE-S45MATSNA-T0A**

Red	Landing section +Ucc
Black	Return RTRN

1.5.   Technical Specification

1. Number of LED: 45
2. Input voltage: +18..+36 VDC
3.1 Output power [Hi/Low]- Full featured light version:
      a. 67W / 43W Taxi,
      b. 101W / 64W Landing,
      c. 168W / 107W Taxi+Landing
      d. 170W Recognition
3.2 Output power - Plane light version: 168W
4.1 Output current [Hi/Low] - Full featured light version:
      a. 1.25A / 0.8A Taxi LED,
      b. 1.25A / 0.8A Landing LED,
      c. 1.25A per LED Recognition mode
4.2 Output current - Plane light version: 1.25A per LED
5. Voltage protection: 2 second +80V
6. Under-voltage lockout: 18V , not more
7. Over-voltage lockout: 36V, not less
8. Operation temperature: -55°C..+85°C (-67°F…+185°F)
9. Color and shade: cool white, 6200K (XMLAWT-00-0000-0000T5050)
10. Device RTCA/DO160F qualified:
a.   chapter 4, Temperature - Altitude, Category B
b.   chapter 5,Temperature Variation, Category A
c.   chapter 6, Humidity, Category B
d.   chapter 7,Operational Shocks and Crash Safety, Category A
e.   chapter 8, Vibration, Category U, curves G
f.   chapter 9, Explosion proofness, Category H
g.   chapter 10,Waterproofness , Category S

h.   chapter 11, Fluids Susceptibility, Category F
i.   chapter 12, Sand and Dust, Category S
j.   chapter 13, Fungus resistance, Category F
k.   chapter 14, Salt spray, Category T
l.   chapter 15, Magnetic effects, Category Z
m.   chapter 16, Power Input, Category B
n.   chapter 17, Voltage Spike, Category B
o.   chapter 18, Audio Frequency Conducted Susceptibility, Category B
p.   chapter 19, Induced Signal Susceptibility, Category Z
q.   chapter 20, Radio Frequency Susceptibility, Category T
r.   chapter 21, Emission of Radio Frequency Energy, Category H
s.   chapter 22, Lightning induced transient susceptibility test, Category A2E2X
t.   chapter 23, Lightning Direct Effects, Category 2A2A
u.   chapter 24, Icing, Category A
v.   chapter 25, Electrostatic Discharge (ESD), Category A
w.   chapter 26, Fire, Flammability, Category C
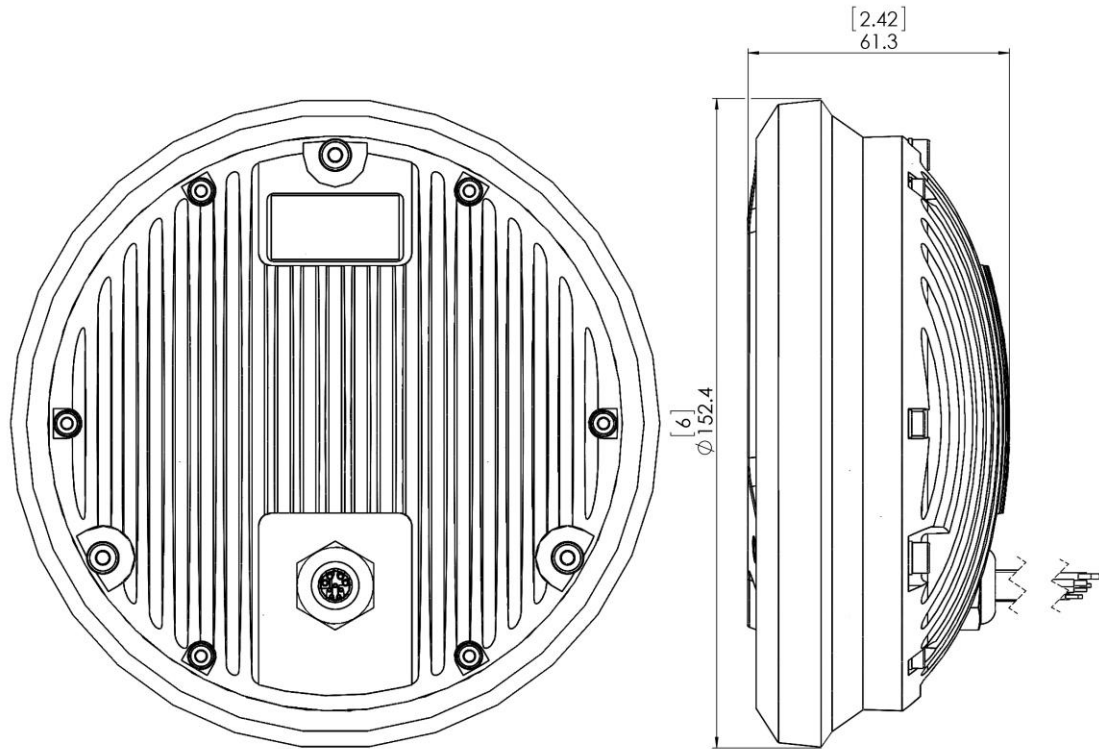
Programmable Soft-Start, less than 50mS
Overheat protection, temperature dependent decrement intensity
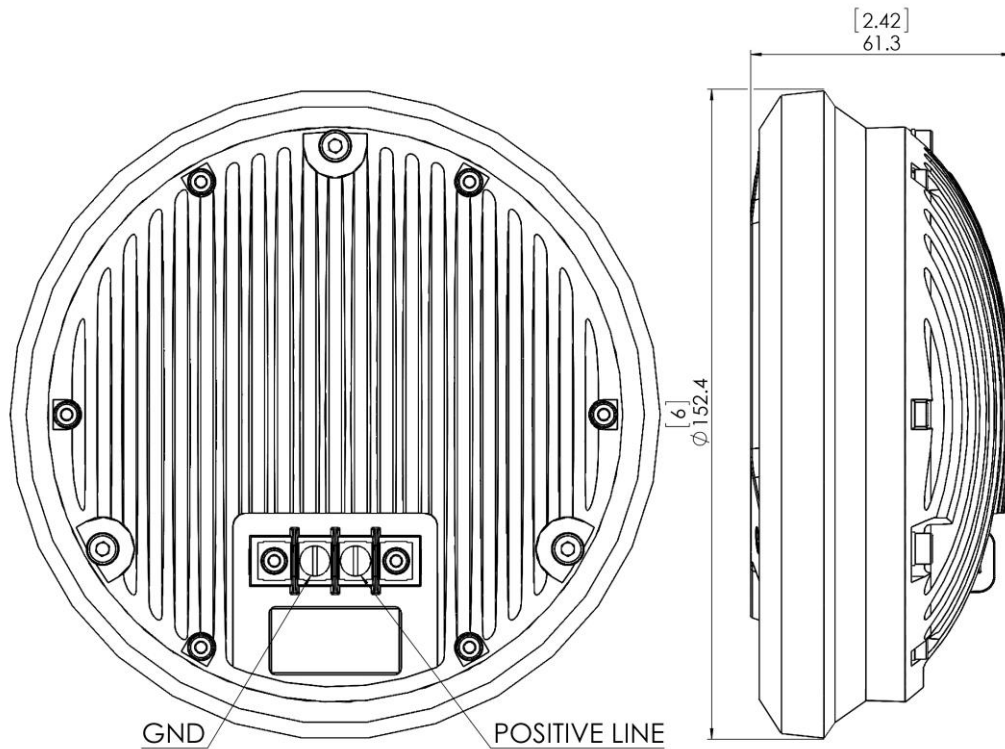**11. Weight:** less than 800 g
12. Useful life: not less than 30.000,0 aircraft flight hours.

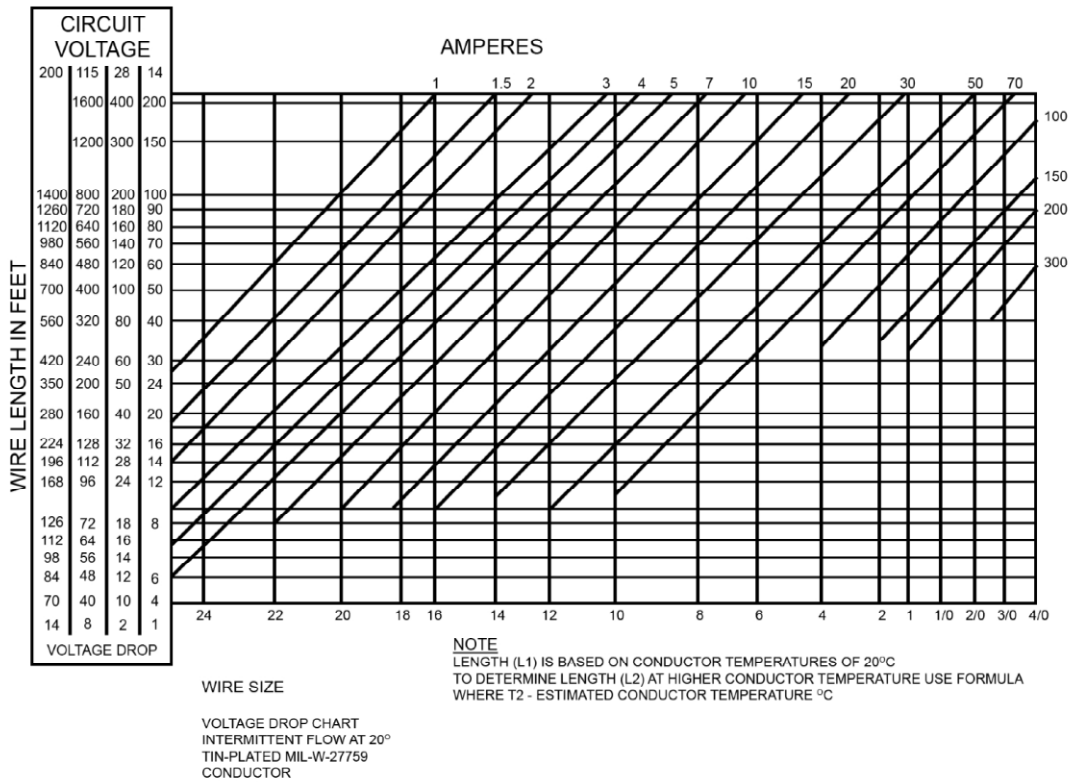## 1.6. Technical Drawing

Samson Multimode **AVE-SM45TLFW-ENA**

Samson On/Off **AVE-S45MATSNA-T0A**

GND   POSITIVE LINE

*dimensions in mm [inches]

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 20ºC
TO DETERMINE LENGTH (L2) AT HIGHER CONDUCTOR TEMPERATURE USE FORMULA
WHERE T2 - ESTIMATED CONDUCTOR TEMPERATURE ºC

1.8.   Equipment Limitation

Samson should only be powered by 18-36 V DC.

1.9.   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.