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FAA L-864, L-865, L-885, L-866
Transport Canada CL-864, CL-865, CL-885, CL-866
ICAO Medium Intensity Type A, B and C

Combined Medium Intensity Obstruction Light Installation & Service Manual

Version 1.3

This manual covers the following part numbers:

AV-OL-CMI-XX

AC 150/5345-43H / Transport Canada / ICAO

Version No.	Description	Date	Author	Reviewed	Approved
1.0	Manual launch	June 2016	J. Ohle	Y.Chambers	M.Nicholson
1.1	Update for FAA AC150_5345_43H	May 2017	J. Ohle	Y.Chambers	M.Nicholson
1.2	Added Power Supply Section	November 2017	J. Ohle	W.Evens	M.Nicholson
1.3	Update Part numbering	November 2018	J. Ohle	W.Evens	M.Nicholson

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Introduction

Congratulations! By choosing to purchase an Avlite light, you have become the owner of one of the most advanced LED obstruction lights in the world.

Avlite Systems draws on more than 25 years' experience in the design and manufacture of navigation aids, and particular care has been taken to ensure your light gives years of trouble free service.

As a commitment to producing the highest quality products for our customers, Avlite has been independently certified as complying with the requirements of ISO 9001:2015 quality management system.

By taking a few moments to browse through this booklet, you will become familiar with the versatility of your light, and be able to maximize its operating function.

Please remember to complete the Avlite warranty registration card accompanying your light.

Technology

Avlite Systems is a world-class solar lighting systems manufacturer with a proven reputation for rapid, innovative, and agile technology solutions designed specifically for defense, government, civil and humanitarian aid operations in the most remote, toughest environments.

Electronics

Avlite employs leading in-house electronic engineers in the design and development of software and related circuitry. All individual electronic components are sourced directly by Avlite procurement staff ensuring that only the highest quality components are used in our products.

LED Technology

All Avlite lights use the latest advancements in LED (Light Emitting Diode) technology as a light source.

The major advantage of LED's over traditional light sources is well established in that they typically have an operational life in excess of 100,000 hours, resulting in substantial savings to maintenance and servicing costs.

Precision Construction

Commitment to investing in the design and construction of injection-molded parts including optic lenses, light bases and a range of other components ensures that all Avlite products are of a consistent and superior quality.

Optical Performance

Avlite manufactures a range of aviation LED lenses molded from multi-cavity dies. The company has superior in-house lens manufacturing capabilities to support outstanding optical performance.

Award-winning, Patented Technology

Several United States and Australian patent registrations are held on Avlite's range of innovative designs, with other regional patents pending in Canada, United Kingdom and Europe.

Combined Medium Intensity Obstruction

This Avlite combined medium intensity LED obstruction light is:

Certified:

- *FAA L-864, L-865, L-885 (catenary) and L-866 (catenary) Advisory Circular 150/5345-43H*

Complies:

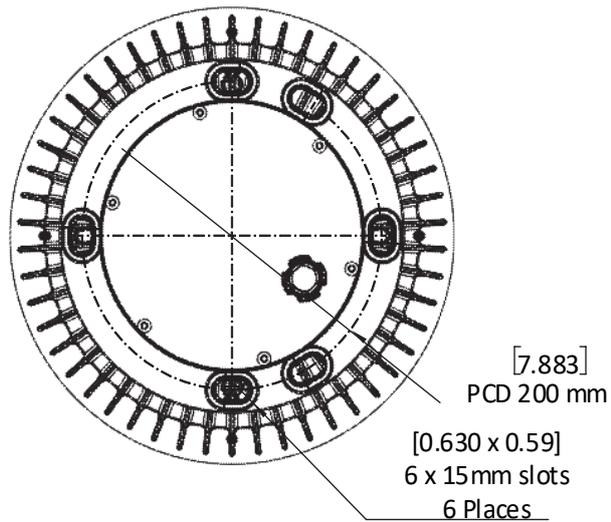
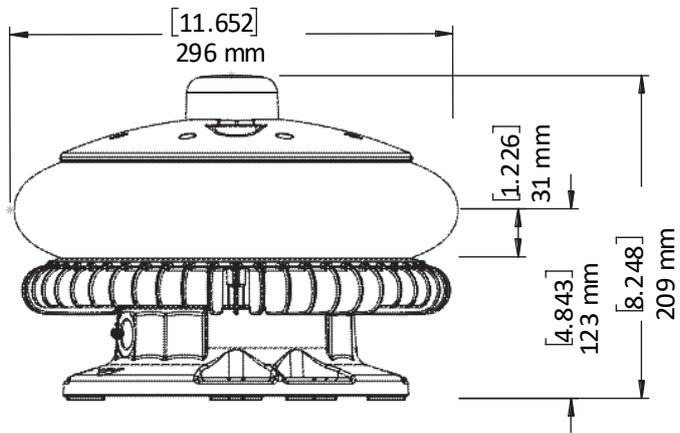
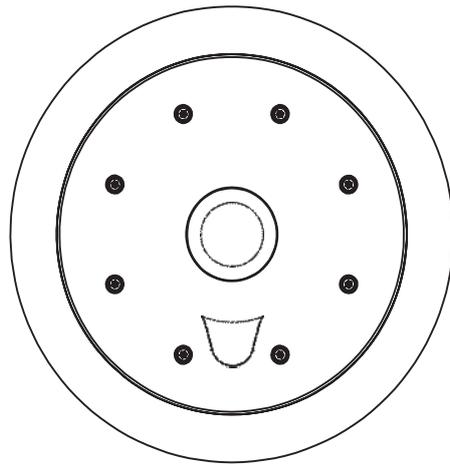
- *Transport Canada CL-864, CL-865, CL-885 (catenary) and CL-866 (catenary) Canadian Aviation Regulations 2015-2*
- *ICAO Medium Intensity Obstruction Lights Type A, Type B and Type C*

The light is used to mark obstacles such as telecommunication and utility towers, wind turbines, cranes, buildings and other tall structures as well as catenary support structures.

Avlite's LED obstruction lights offer an ultra-bright, energy efficient and cost effective lighting solution. The light fixture is available in universal DC operating from 36VDC to 48VDC.

The light fixture incorporates internal diagnostic checking and an alarm contact for remote monitoring. The alarm relay is energized in normal operation and is released if there is an LED or power fault.





SPECIFICATIONS*

36 - 48 VDC

Light Characteristics

Available colours	White during day, Red at night as Standard L-865 (day & twilight): 20000cd L-865 (night): 2000cd L-864 (night): 2000cd L-866 (day & twilight): 20000cd
Effective Intensity (cd)	L-866 (night): 2000cd L-885 (night): 2000cd ICAO MIOL Type A (day & twilight): 20000cd ICAO MIOL Type A (night): 2000cd ICAO MIOL Type B (night): 2000cd ICAO MIOL Type C (night): 2000cd
Horizontal Output (degrees)	360
Vertical Divergence (degrees)	3 L-865 (day & twilight): 0.09s ON, 1.41s OFF - 6% duty cycle L-865 (night): 0.2s ON, 1.3s OFF - 13.3% duty cycle L-864 (night): 0.2s ON, 1.8s OFF - 10% duty cycle
Available Flash Characteristics	L-866 (day & twilight): 0.09s ON, 0.91s OFF - 9% duty cycle L-866 (night): 0.2s ON, 0.8s OFF - 20% duty cycle L-885 (night): 0.2s ON, 0.8s OFF - 20% duty cycle ICAO MIOL Type A & B: 0.5s ON, 2.5s OFF - 16.6% duty cycle ICAO MIOL Type C: Steady-On

Electrical Characteristics

Operating Voltage	36 – 48 VDC L-865: 30W (white: day & twilight) L-865: 5W (white: night) L-864: 4W (red: night)
Power (Average Flashing)	L-866: 43W (white: day & twilight) L-866: 7.6W (white: night) L-885: 8W (red: night) ICAO MIOL Type A (day): 40W ICAO MIOL Type A (night): 5W ICAO MIOL Type B (night): 4.5W ICAO MIOL Type C (night): 30W
Power (Peak)	White (L-865,L-866, ICAO MIOL Type A): 480W Red (L-864,L-885, ICAO MIOL Type B & C): 42W
Circuit Protection	Integrated
Operating Temperature	-40 to 55°C
Storage Temperature	-55 to 55°C

Physical Characteristics

Body Material	Premium enamel painted coating
Lens Material	Impact - modified UV stabilized acrylic
Lens Design	Multi LED Optic
Mounting	200mm bolt pattern
Height (mm/inches)	209 / 8¼
Width (mm/inches)	296 / 11¾
Mass (kg/lbs)	9.7 / 21½
Product Life Expectancy	12 years plus

Environmental Factors



• Specifications subject to change or variation without notice
 * Subject to standard terms and conditions

Humidity	0 to 100%
Icing	3.41kg per square cm / 48.5lbs per square inch
Wind Speed	Up to 240kph / 150mph
Certifications & Compliance	
CE	EN61000-6-3:2007, EN61000-6-1:2007
Quality Assurance	ISO9001:2015
FAA	FAA L-864, L-865, L-885, L-866 Medium Intensity Obstruction Light, FAA AC 150/5345-43H
Transport Canada	CL-864, CL-865, CL-885, CL-866, Canadian Aviation Regulations 2015-2, Standard 621- Obstruction Marking and Lighting, March 2016 Appendix B
ICAO	Medium Intensity Type A, Type B and Type C Obstruction Light, ICAO Annex 14, Volume 1, Sixth Edition, July 2013, 'Aerodrome Design and Operations'
Waterproof	IP68
Intellectual Property	
Trademarks	AVLITE® is a registered trademark of Avlite Systems
Warranty *	5 year warranty
Options Available	<ul style="list-style-type: none"> • Variety of solar/battery configurations • GSM Cell-Phone Monitoring

Safety Information

Install the light in compliance with the effective local electrical code(s).

- Mains power should always be disconnected when work is being done in close proximity to electrical fittings, and electrical work should only be done by a licensed electrician.
- Operate the light only within the indicated electrical ratings and product usage instructions.
- To ensure that the light and peripheral equipment function safely and correctly, use cable in compliance with the effective local electrical code.
- Do not stare at the LED or shine the LED into your eyes or those of another person.
- Do dispose of the product according to the local laws and regulations for your region, for example, at a recycling center that accepts electronic devices.

Unpacking, Installation, Wiring & Setup

Unpacking

Unpack all hardware and inspect for damage. If there is any damage, please contact your Avlite Office.
Retain original packing material for possible future use in shipping.

Installation & wiring

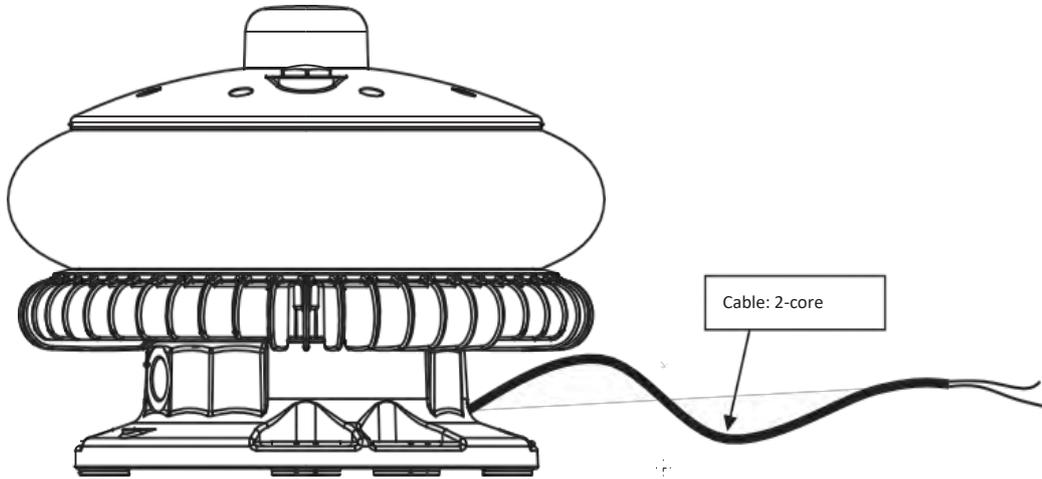
Before proceeding with installation or service, make sure the following conditions are met:

- Ensure the tower or mast is grounded (NO RF HAZARD)
- Check the mast lighting circuit is not faulty
- Ensure power lines are not 'live' (NO ELECTRICAL HAZARD)
- Avoid touching live circuits!
- Avoid touching any component or any part of the circuitry while the unit is operating. Do not change components or make adjustments inside the unit with power on.

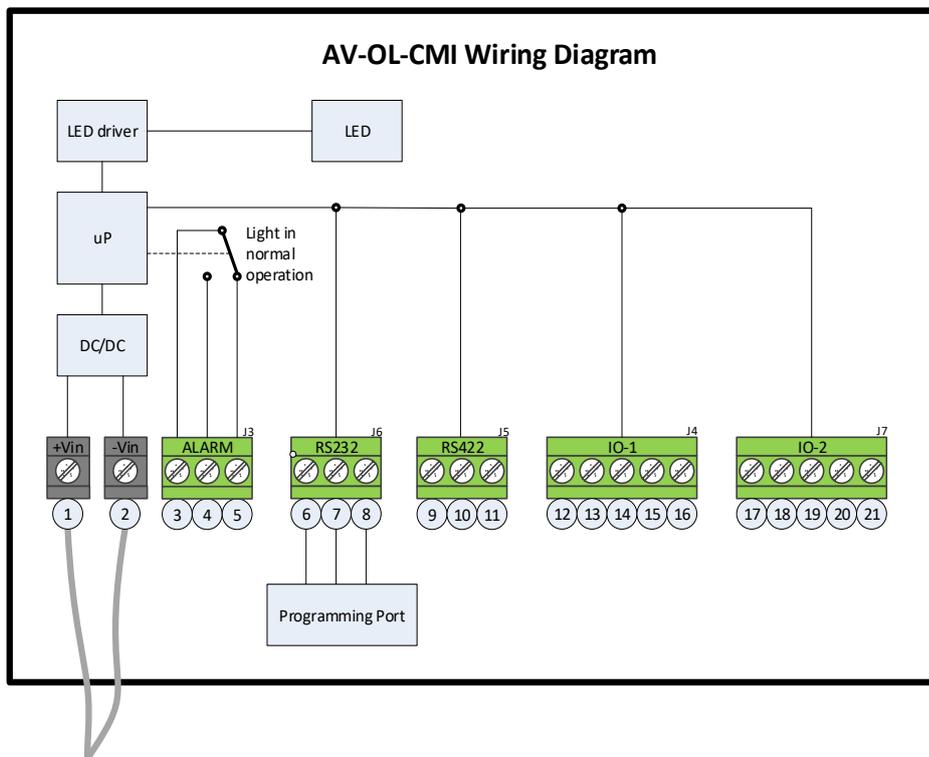
DC WIRING CONFIGURATION

External:

Positive (+VDC)	Red
Negative (-VDC)	Black



Internal:



NO.	CONNECTOR	SIGNAL
1	+VIN	+VDC
2	-VIN	-VDC
3	ALARM	COMM
4	ALARM	NO
5	ALARM	NC
6	RS232	GND_B
7	RS232	RxD
8	RS232	TxD
9	RS422	GND_B
10	RS422	422-
11	RS422	422+
12	IO-1	3V3
13	IO-1	IN-1
14	IO-1	GND_A
15	IO-1	OUT-1A
16	IO-1	OUT-1B
17	IO-1	3V3
18	IO-1	IN-2
19	IO-1	GND_A
20	IO-1	OUT_2A
21	IO-1	OUT_2B

Figure 1 Wiring Diagram

Power Supply Design Considerations

Avlite's combined medium intensity obstruction lights are designed to operate over a wide operational voltage range and thus the average current consumption will vary accordingly. The Lights are only designed for use in applications utilizing a DC input to the light fixture. These include solar, battery and constant DC output power supply systems.

POWER SUPPLY DESIGN CONSIDERATIONS

There is a vast array of power sources that can be utilized for Avlite's medium intensity obstruction lights. However, the majority of customer power supplies comprise of either Photovoltaic Power or AC/DC converters, as such this manual will focus on these types and how they apply to Avlite's Combined Medium Intensity Obstruction Light.

Contact Avlite for advice when designing your power supply.

(1) PV POWER SYSTEMS

These systems generally comprise of a one or more PV panels, a solar regulator and storage battery. Batteries such as SLAs are very tolerant of fast switch high peak currents as they electrically behave like large smoothing capacitors, solar sizing depends on a number of factors. For Avlite obstruction lights, pay particular attention to average power consumption and power cable sizing.

(2) ALTERNATING CURRENT (AC) UTILITY POWER

In their simplest form, these systems comprise of an AC/DC power supply convertor. Unlike PV Power Systems, AC/DC Power Supplies are limited to their internal storage capacity and as such are not able to maintain voltage regulation to fast switch currents.

As such a lantern's peak current must be determined when selecting an AC/DC power supply. For Avlite's Obstruction Lights, the peak current can be determined by using the following equation:

$$\text{Peak current (A)} = \text{Peak Power (W)} / (\text{Supply Voltage (Vdc)})$$

Using this method, the peak current for the Avlite AV-OL-CMI Obstruction Light:

$$\text{Peak Current (A)} = 480 / 36 = 13.3 \text{ A}$$

As an AC/DC power supply has minimal storage capacity the selected power supply must be capable of delivering the lights peak current for all conditions. Other considerations such as de-rating the AC/DC power supply due to environment and usage.

NOTE:

Peak Power is the maximum power rating of a light. In an instant of time, this is the maximum power the light will consume. It is determined when all a light's features are on and the LEDs intensity is at 100%.

Operation & Setup

When powered up, the light will constantly check day/night status using its internal ambient light sensor. The ambient light sensor averages its measurement for 30 seconds.

FAA: By default, the lights change into night mode when the ambient light decreases to not less than 35 foot-candles (367.7 lux) and into day mode when the ambient light increases to not more than 60 foot-candles (645.8 lux).

ICAO: By default, the lights change into night mode when the ambient light decreases to not less than 100 lux and into day mode when the ambient light increases to not more than 150 lux. These limits can be factory adjusted, if required.

INTENSITY SETTING

The fixture will be supplied with a FAA, Transport Canada & ICAO. compliant optic
The obstruction light will be factory pre-set to the intensity setting required to produce a FAA, Transport Canada or ICAO compliant photometric profile. The photometric configuration is pre-set in the factory and does not need to be set by the user.

ALARM RELAY OUTPUT

In normal operation, the relay is energized

- Terminal contacts COMM and NC of the relay are electrically closed
- Terminal contacts COMM and NO of the relay are electrically open

Whenever the LED is not lit due to a power failure and/or a LED failure the relay will not be energized.

- Terminal contacts COMM and NO of the relay are electrically closed
- Terminal contacts COMM and NC of the relay are electrically open

The alarm relay comes configured as follows:

- Relay normal operation (default, as described above)

The following alarm relay configurations are available as a special order. These must be specified at the time of order:

- Relay inverse operation (inverse functionality of the normal operation, used to conserve power)
- Relay disable (in case the relay is not required, used to conserve power)

**NOTE: The alarm relay is intended for low voltage (SELV) connection only.
NOT FOR MAINS CONNECTION**

LED FAULT

In the event of a singular LED fault, either open circuit or closed circuit across the LED, the light unit will turn off all LED's and actuate the Fault Relay.

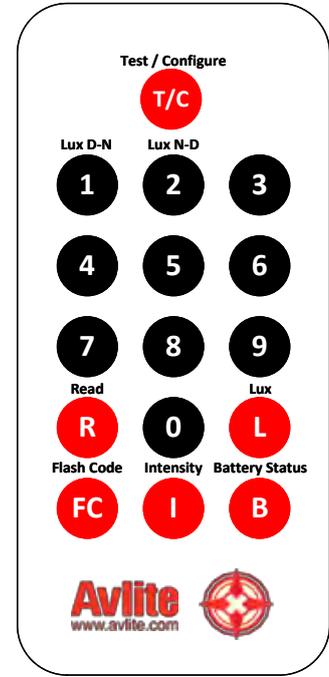
Optional IR Remote Control

The IR remote is used to communicate with Avlite lighting products that have an IR sensor fitted. The remote control is used for the following functions:

- Operational Mode: dusk-to-dawn, standby or always-on.
- Ambient Light Thresholds: read the current light thresholds.
- Perform a voltage health check.

On receiving a valid key signal from the IR Remote, the light will flash once. The user should wait until the light responds to each keypress before pressing another key. If there is no response to the keypress after 3 seconds, it has not been detected by the light and the key can be pressed again.

If an invalid key is detected, the light will flash quickly 5 times. In this case, the command will have to be restarted.



Avlite IR Controller / Universal Remote Compatibility

If you lose your Avlite IR Controller, the following Universal Remote Controller has been tested for compatibility: RCA Type RCR312WR programmed for Phillips TV Type Code 10054

Avlite Key	Universal Remote Key
T	Power
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
0	0
R	Channel+
L	Mute
FC	Volume+
I	Volume-
B	Channel-

IR Controller Functions

TEST MODE / CONFIGURE



Pressing the T/C button for up to 5 seconds places the light in Test Mode. The light will flash once in response to the T/C button being pressed and then turn off.

NORMAL OPERATION

The light will return to normal operation once it has not detected a valid key press for 30 seconds. The light will flash once to indicate it is returning to normal operation.

READ

Pressing the Read followed by one of the configuration keys shall cause the light to flash the configured value.

Example Key Sequences:



The light flashes the current battery status.



The light flashes the Operational Mode. Modes are as follows:

1 flash = Always-On

2 flashes = Standby

3 flashes = Dusk-to-Dawn

OPERATIONAL MODE

The light has three modes of operation: *Always on*, *Standby Mode* and *Dusk-to-Dawn* mode. These modes can be selected either via the IR remote control or via the GSM module (if fitted).

In Always On mode, the daylight sensor is disabled and the light will remain ON.

In Standby mode, the light is turned off and the daylight sensor is disabled. This mode does not affect the operation of the GSM module.

In Dusk-to-Dawn, the daylight sensor is enabled.

In Day-and-Night Mode, the Light is Operating in White 2000cd in Day and Red 2000cd at Night. This is the default Mode.



Always on mode



Standby mode



Dusk-to-Dawn mode



Day-and-Night mode

VOLTAGE STATUS



This function reads the battery status. The response from the light is:

4 flashes = High Voltage

3 flashes = Good Voltage

2 flashes = Low Voltage

1 flashes = Cutoff Voltage or below

Example Key sequence:



ERROR/ACKNOWLEDGE INDICATION

If the key sequence is invalid, or an out of bounds value is attempted to be set, the light flashes 5 times

for 1 second. (The command then needs to be sent from the start.)

Example key sequence: (Set the intensity level to 5 – undefined.)



The light flashes 5 times for 1 second.

When a key sequence has been entered successfully the light will respond acknowledgement with a 1 second flash.

GPS Synchronization

Avlite has utilized the latest advancements in GPS technology to develop an internal synchronization system that can be incorporated into the lights. Using overhead satellites, multiple obstruction lights set to the same flash pattern will flash in unison.

No additional power supplies, aerials or control systems are required, and with its microprocessor-based system, the GPS option is specifically designed to provide maximum reliability and performance over a wide range of environmental conditions.

OPERATING PRINCIPLE

Each light operates independently and requires no operator intervention. A minimum of 4 satellites need to be in view for the built-in GPS receiver to collect time data. At dusk, the light sensor will turn the light on. If time data is available, the light will come on synchronized to every other light with the same selected flash code.

Synchronization is achieved using an internal algorithm based on the highly accurate time base and time data received from the satellites. The satellite data is provided from a number of earth stations using atomic clocks as the time base. Continuous self-checking ensures that the light will continue to run in synchronization.

LIGHT ACTIVATION

At power-up the microprocessor checks that the internal GPS module is programmed correctly and is able to provide valid time base and time data.

Once outside with a clear view of the sky, valid data should become available within 20 minutes.

DAYLIGHT OPERATION

During daylight hours, the microprocessor is in idle mode to reduce power consumption. Time data continues to be updated once per second. The microprocessor will automatically exit the idle mode as soon as dark conditions are detected.

DARK OPERATION

When dark conditions are detected the light:

- Checks for valid time data and is turned on after a delay based on the current time and the length of the selected flash code;
- If valid time data is not detected the light will turn on after approximately 10 seconds. This light will not be synchronized.
- If the light turns on unsynchronized it will continually check for valid time data. Once valid data is found the light will automatically synchronize.

Note: Lights will not synchronize if different flash codes are selected.

Optional GSM Monitoring & Control

The Avlite obstruction light is available with GSM Cell-Phone Monitoring, enabling operators to remotely monitor the status of their installation. The system can also be configured to send out SMS text messages or e-mail alerts to designated operators should alarm conditions be triggered, such as low voltage or light failure.

Please contact Avlite for operational information for GSM Monitoring & Control

Failsafe Mode

The light continuously checks the status of the LEDs. If any LED fails, the output alarm relay will de-energize, notifying of LED Failure and if in Day Mode the unit will deactivate all LED's as per FAA EB76D requirement. Secondly, if in Night-time operation, and the microprocessor detects a red LED failure, the unit will switch to white night mode (2000cd) if it is part of the light configuration. It will also de-energize the relay to notify user of an alarm.

Maintenance & Servicing

Designed to be maintenance free the Obstruction Lights requires minimal attention, though the following maintenance and servicing information is provided to help ensure the life of your Avlite product.

- Occasional cleaning of the dome lens may be required using a cloth and warm soapy water.

Troubleshooting

Problem	Remedy
Light will not activate.	<ul style="list-style-type: none">• Ensure proper connectivity with power supply• Ensure that the power supply has the right polarity and voltage range

Lantern Status

The lanterns are fitted with two status LEDs and provide the operator with an indication of the lantern status.

There is one red and one yellow status LED. The red status LED is used to indicate the health of the Lantern's power system. The yellow status LED is used to indicate the operational status of the lantern. These indicator LED's can be viewed at the base of the lens.

Since the unit can be configured and preset at the factory to operate either at 36VDC or 48VDC the Red LED status will behave as follows:

36VDC system (DEFAULT)

Red Status LED	Lantern Status	Lantern	Condition
Steady	Flat Battery cut off is in effect	OFF	Battery voltage is less than 32.0V
Slow	High Voltage	ON	Battery voltage is above 40.5V
Off	Optimal Voltage	ON	Battery Voltage is between 35.5V – 37.5V
1 Quick	OK Voltage	ON	Battery Voltage is between 36.0V – 37.5V
2 Quick	Low Voltage	ON	Battery Voltage is between 35.0V – 36.0V
3 Quick	Poor Voltage	ON	Battery Voltage is between 32.0V – 35.0V
4 Quick	Flat Voltage	ON	Battery voltage is less than 32.0V

48VDC system

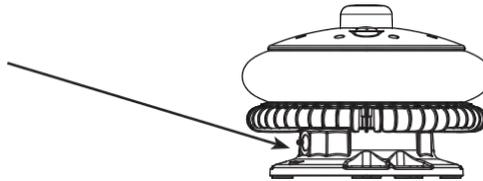
Red Status LED	Lantern Status	Lantern	Condition
Steady	Flat Battery cut off is in effect	OFF	Battery voltage is less than 43.0V
Slow	High Voltage	ON	Battery voltage is above 54.0V
Off	Optimal Voltage	ON	Battery Voltage is between 50.0V – 54.0V
1 Quick	OK Voltage	ON	Battery Voltage is between 48.0V – 50.0V
2 Quick	Low Voltage	ON	Battery Voltage is between 47.0V – 48.0V
3 Quick	Poor Voltage	ON	Battery Voltage is between 43.0V – 47.0V
4 Quick	Flat Voltage	ON	Battery voltage is less than 43.0V

Once the Flat Battery cutoff condition is in effect, the lantern will not turn back on until it sees day light and the battery voltage is above the "OK" threshold for at least one minute.

Yellow Status LED	Lantern Status	Lantern	Condition
Off	Standby	OFF	Lantern is in Standby Mode
Quick Flashing 0.15s on, 0.15s off	Day To Night Transitioning (Dusk Till Dawn Mode)	OFF	Light is activating and will turn on after detecting 30 seconds of continuous darkness
2 Quick Flashes every 2s	Operational, Not Synchronized	ON	Lantern is in Normal operating condition. It is not connected to any GPS synchronization
1 Quick Flashes every 2s	Operational, Sync in Progress	ON	Lantern is 're-syncing' with GPS. The lantern re-sync's with the GPS every 15 minutes.
Slow Flashing 1.5s on, 1.5s off	Operational, Synchronized	ON	Normal operating condition. Lantern is synchronized to GPS- enabled lanterns
2 Quick flashes every 11s	Operational, Synchronized as Slave	ON	Lantern is a Hard Wire Synchronization Slave.

If the lantern is not fitted with GPS Synchronization Option, then the following conditions are not possible: 1 Quick Flash, and Slow Flashing.

The LEDs are located on the side of the lantern.



Certification

Certified to: FAA AC NO: 150/5345-43H L-864
FAA AC NO: 150/5345-43H L-865
FAA AC NO: 150/5345-43H L-885
FAA AC NO: 150/5345-43H L-866
FAA Engineering Brief No. 67

Complies to: ICAO Medium Intensity Obstruction Light Type A, Type B, Type C
Transport Canada, Canadian Aviation Regulations 2015-2, Standard 621- Obstruction
Marking and Lighting, March 2016 Appendix B - CL-864 & CL-865, CL-885 & CL-866
FAA Engineering Brief EB67D

Notes

Notes

Avlite Light Warranty V1.2

Activating the Warranty

Upon purchase, the Avlite Systems warranty must be activated for recognition of future claims. To do this you need to register on-line. Please complete the Online Registration Form at:
www.avlite.com

Avlite Systems will repair or replace your lantern in the event of electronic failure for a period of up to three years from the date of purchase.

Avlite Systems will repair or replace any ancillary or accessory products in the event of failure for a period of up to one year from the date of purchase, as per the terms & conditions below.

The unit must be returned to Avlite freight prepaid.

Warranty Terms

1. Avlite Systems warrants that any Avlite aviation products fitted with telemetry equipment including but not limited to AIS, GSM, GPS or RF ("Telemetry Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
2. Avlite Systems warrants that any rotationally-molded products ("Rotomolded Products") and accessory products ("Accessory Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
3. Avlite Systems warrants that any Avlite aviation products other than the Telemetry Products, Rotomolded Products and Accessory Products ("Avlite Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of four (4) years from the date of purchase by the original purchaser.
4. Avlite Systems will repair or replace, at Avlite's sole discretion, any Telemetry Products, Rotomolded Products, Accessory Products or Avlite Products found to be defective in material and workmanship in the relevant warranty period so long as the Warranty Conditions (set out below) are satisfied.
5. If any Telemetry Products or Avlite Products are fitted with a rechargeable battery, Avlite Systems warrants the battery will be free from defect for a period of one (1) year when used within original manufacturer's specifications and instructions.

Warranty Conditions

This Warranty is subject to the following conditions and limitations;

1. The warranty is applicable to lanterns manufactured from 1/1/2009.
2. The warranty is void and inapplicable if:
 - a. the product has been used or handled other than in accordance with the instructions in the owner's manual and any other information or instructions provided to the customer by Avlite;
 - b. the product has been deliberately abused, or misused, damaged by accident or neglect or in being transported; or
 - c. the defect is due to the product being repaired or tampered with by anyone other than Avlite or authorized Avlite repair personnel.
3. The customer must give Avlite Systems notice of any defect with the product within 30 days of the customer becoming aware of the defect.
4. Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Typical battery replacement period is 3-4 years. Long term exposure to high temperatures will shorten the battery life. Batteries used or stored in a manner inconsistent with the manufacturer's specifications and instructions shall not be covered by this warranty.

5. No modifications to the original specifications determined by Avlite shall be made without written approval of Avlite Systems.
6. Avlite lights can be fitted with 3rd party power supplies and accessories but are covered by the 3rd party warranty terms and conditions.
7. The product must be packed and returned to Avlite Systems by the customer at his or her sole expense. Avlite Systems will pay return freight of its choice. A returned product must be accompanied by a written description of the defect and a photocopy of the original purchase receipt. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorized dealer and the price paid by the purchaser. On receipt of the product, Avlite Systems will assess the product and advise the customer as to whether the claimed defect is covered by this warranty.
8. Avlite Systems reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.
9. Input voltage shall not exceed those recommended for the product.
10. Warranty does not cover damage caused by the incorrect replacement of battery in solar lantern models.
11. This warranty does not cover any damage or defect caused to any product as a result of water flooding or any other acts of nature.
12. There are no representations or warranties of any kind by Avlite or any other person who is an agent, employee, or other representative or affiliate of Avlite, express or implied, with respect to condition of performance of any product, their merchantability, or fitness for a particular purpose, or with respect to any other matter relating to any products.

Limitation of Liability

To the extent permitted by acts and regulations applicable in the country of manufacture, the liability of Avlite Systems under this Warranty will be, at the option of Avlite Systems, limited to either the replacement or repair of any defective product covered by this Warranty. Avlite Systems will not be liable to Buyer for consequential damages resulting from any defect or deficiencies in accepted items.

Limited to Original Purchaser

This Warranty is for the sole benefit of the original purchaser of the covered product and shall not extend to any subsequent purchaser of the product.

Miscellaneous

Apart from the specific warranties provided under this warranty, all other express or implied warranties relating to the above product is hereby excluded to the fullest extent allowable under law. The warranty does not extend to any lost profits, loss of good will or any indirect, incidental or consequential costs or damages or losses incurred by the purchaser as a result of any defect with the covered product.

Warrantor

Avlite Systems has authorized distribution in many countries of the world. In each country, the authorized importing distributor has accepted the responsibility for warranty of products sold by distributor. Warranty service should normally be obtained from the importing distributor from whom you purchased your product. In the event of service required beyond the capability of the importer, Avlite Systems will fulfil the conditions of the warranty. Such product must be returned at the owner's expense to the Avlite Systems factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.

Other Avlite Products Available



Solar Aviation Lighting



Helipad Lighting



Obstruction Lighting



Airfield Accessories & Markers

Typical Applications

- Temporary & permanent airfield lighting
- Remote, emergency & defense airfield lighting
- Barricade, hazard & perimeter lighting
- Helipad lighting
- Obstruction lighting



Portable Airfield Lighting System

For a complete list of product compliances including ICAO & FAA, please contact Avlite today



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