Radio Controlled Solar Runway or Approach Airfield Light

AV-426 Series II

Standard

Radio Control

Optional

Pilot Activated Lighting Control

The AV-426 is a robust, completely self-contained LED light designed for a range of aviation applications including permanent approach, runway edge, threshold, helipad and tactical airfield lighting. Fitted with RF radio control, this fully functioning light can be controlled from the tower with no costly cabling or trenching required.

The AV-426 Series II is designed with next generation solar technology including active MPPT (maximum power point tracking - maximising the power extracted from the solar panels) and enhanced optics for improved performance and efficiency.

The AV-426 has non-precision IFR and VFR capability with both visible and near infrared lighting outputs. The airfield lights can be controlled anywhere in the airfield by handheld radio controller or in the air traffic control tower with virtually unlimited range using an encrypted repeating mesh network.

The AV-426 wireless RF light has an extended range through the use of the AvMesh® communication protocol. The proprietary AvMesh® protocol enables each light to transmit and receive commands, allowing the airfield to be expanded or altered at any time.

AvMesh® is self-realizing, meaning once deployed the airfield lights will undertake a period of network mapping, whereby the system automatically determines an efficient path to relay command messages through the airfield. Once the system has mapped an efficient relay of command messages, a secondary sub-network is mapped for added redundancy.

Light intensities can be set to Low, Medium or High and are able to be assigned to a 'light group'. Light groups can be controlled independently using the wireless handheld controller. Sequenced approach can also be easily set up via the serial port and controller.

Tested to MIL-STD's for environmental exposure including shock and vibration, extreme temperature and humidity, the unit is designed to offer years of maintenance-free service and operate in some of the world's harshest environments.

The AV-426 is also available without RF radio control.

Features

- Over 100 hours operating time at maximum intensity (tall model)
- Optional NVG Mode - Illumination invisible to naked eye to support covert operations
- Worldwide 2.4GHz Encrypted RF Radio Control - Secure control of all operational modes from anywhere on the airfield. Worldwide ISM use frequency. Other frequencies are available on request.
- AvMesh® integrated Mesh Network - Each light is a receiver/transmitter to expand communication range
- Radio Transceiver - Internal to light head, no external antenna
- Modes of Operation - Programmable lighting groups, dusk-till-dawn operation, adjustable intensity, sequence flashing

Applications

- Runway Edge Light
- Runway End Light
- Runway Threshold Light
- REIL

Compliance

- FAA AC/150-5345-46E Runway & Taxiway - L-861 & L-861E
- FAA Engineering Brief No.67D
- ICAO Annex 14 Vol 1, July 2016

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Technical Specifications *†

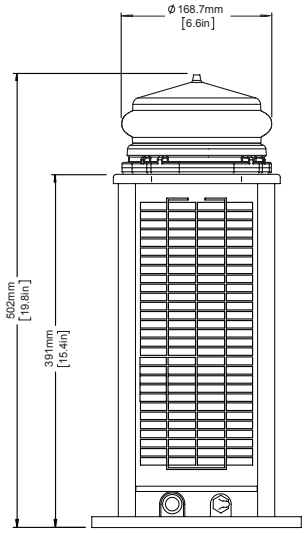
	AV-426 (Tall)	AV-426 (Compact)
Light Characteristics		
Light Source	LED	LED
Available colors	Red, Green, White, Yellow, Blue, Bi-directional Combinations, IR	Red, Green, White, Yellow, Blue, Bi-directional Combinations, IR
Photometrics:		
· **Runway Edge, Threshold & End configurations**	FAA AC150/5345-46E ICAO Annex 14, Vol I, July 2016	FAA AC150/5345-46E ICAO Annex 14, Vol I, July 2016
Uni Approach (steady)	650cd	650cd
· **REIL, Runway End Identification Light**	700cd	700cd
Available Flash Characteristics	>250 including steady-on (user-adjustable) including Morse Code and RF sequenced & synchronised flashing	>250 including steady-on (user-adjustable) including Morse Code and RF sequenced & synchronised flashing
Intensity Adjustments	FAA: Low (10%), Medium (30%), High (100%) ICAO: Low (20%), Medium (40%), High (100%)	FAA: Low (10%), Medium (30%), High (100%) ICAO: Low (20%), Medium (40%), High (100%)
Operating time at maximum intensity*	112 hours	56 hours
LED Life Expectancy (hours)	>100,000	>100,000
Electrical Characteristics		
Circuit Protection	Integrated	Integrated
Operating Voltage (V)	12	12
Temperature Range	-40 to 80°C	-40 to 80°C
Solar Characteristics		
Solar Module Type	Monocrystalline	Monocrystalline
Output (watts)	28 (4 x 7watt)	20 (4 x 5watt)
Charging Regulation	MPPT	MPPT
Power Supply		
Battery Type	SLA (Sealed Lead Acid)	SLA (Sealed Lead Acid)
Battery Capacity (Ah)	24	12
Nominal Voltage (V)	12	12
Radio Controlled		
Frequency	2.4GHz ISM Band	2.4GHz ISM Band
Range	Up to 1.4km relayed	Up to 1.4km relayed
Expandability	AvMesh®	AvMesh®
Compliance	FCC / CE	FCC / CE
Physical Characteristics		
Body Material	Composite Polymer	Composite Polymer
Lens Material	LEXAN® Polycarbonate – UV stabilized	LEXAN® Polycarbonate – UV stabilized
Lens Diameter (mm/inches)	168 / 6¾	168 / 6¾
Lens Design	Multi-LED optic	Multi-LED optic
Mounting	4 hole 200mm bolt pattern	4 hole 200mm bolt pattern
Height (mm/inches)	503 / 20	406 / 16
Width (mm/inches)	234 / 9¼	234 / 9¼
Mass (kg/lbs)	14 / 30¾	9.1 / 20
Product Life Expectancy	Up to 12 years	Up to 12 years
Environmental Factors		
Humidity	0 to 100%, MIL-STD-810F	0 to 100%, MIL-STD-810F
Icing	22kg per square cm / 48.5lbs per square inch	22kg per square cm / 48.5lbs per square inch
Wind Speed	Up to 160kph / 100mph	Up to 160kph / 100mph
Shock	MIL-STD-202G, Test Condition G, Method 213B	MIL-STD-202G, Test Condition G, Method 213B
Vibration	MIL-STD202G, Test Condition B, Method 204	MIL-STD202G, Test Condition B, Method 204
Certifications		
CE	EN61000-6-3:1997. EN61000-6-1:1997	EN61000-6-3:1997. EN61000-6-1:1997
Quality Assurance	ISO9001:2015	ISO9001:2015
Waterproof	IP68	IP68
Intellectual Property		
Patents	Patents pending	Patents pending
Trademarks	AVLITE® is a registered trademark of Avlite Systems	AVLITE® is a registered trademark of Avlite Systems
Warranty *	3 year warranty	3 year warranty
Options Available	· Avlite Pilot Activated Lighting Control · IR LEDs · Solar Booster™ · Without RF Radio Control	· Avlite Pilot Activated Lighting Control · IR LEDs · Solar Booster™ · Without RF Radio Control

* Refer to solar calculator for sustainable runtime at installation location

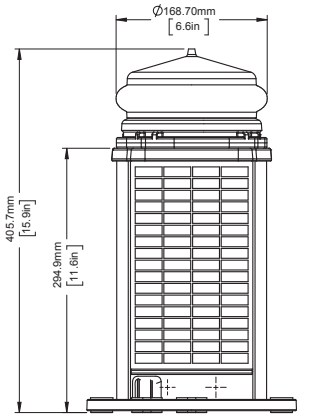
· Specifications subject to change or variation without notice * Subject to standard terms and conditions † Intensity setting subject to solar availability

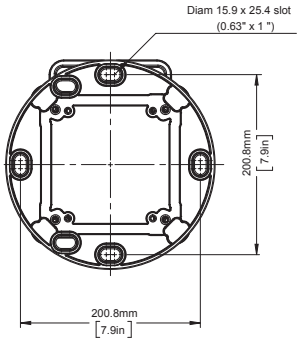
Technical Illustrations

AV-426 Tall Model

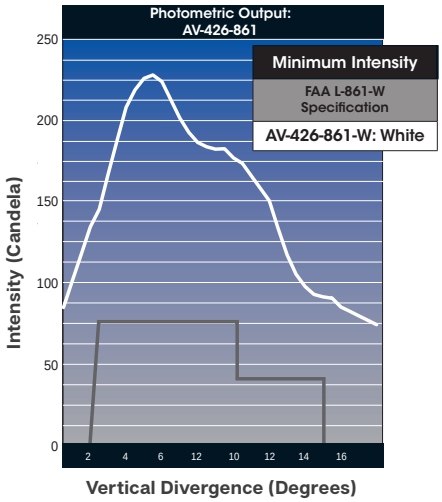


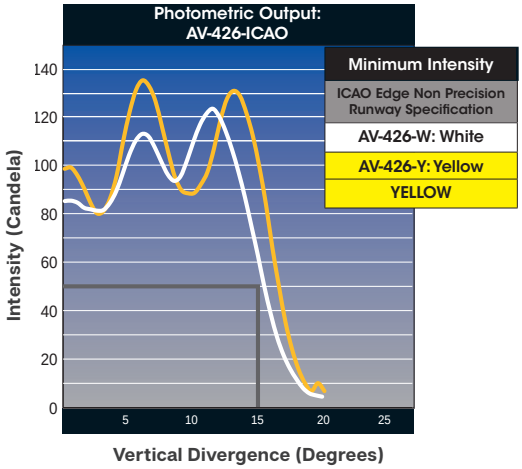
AV-426 Compact Model





Photometric Output





How to Order AV-426 Series II

AV-426-[????] -[????]-[??]-[??]

Product No.:

Standard:
ICAO
861
861E

Chassis Configuration:
S2C0 (Compact)
S2C1 (Tall)

Option Configuration:

W	YR
Y	GY
G	RG
R	GX
WY	RX
WR	RL
	OA
	UA
	SQ

Option Configuration:

00	05
01	06
02	07
03	
04	

Note: Please contact your Avlite representative for optional power supply solutions

Chassis Configuration	
Description	
S2C0	20W Output 12Ah battery
S2C1	28W Output 24Ah battery

Option Configuration			
	GPS	IR	RF
00	-	-	-
01	-	-	✔
02	-	✔	-
03	-	✔	✔
04	✔	-	-
05	✔	-	✔
06	✔	✔	-
07	✔	✔	✔

Option Configuration	
Description	
G	Omni-directional Green
GX	Uni-directional Green
GY	Bi-directional Green & Yellow
OA	Omni-directional Approach, White
R	Omni-directional Red
RG	Bi-directional Red & Green
RL	REIL - 90° Uni-directional, White
RX	Uni-directional Red
SQ	Sequenced Approach, White
UA	Uni-directional Approach, White
W	Omni-directional White
WR	Bi-directional White & Red
WY	Bi-directional White & Yellow
Y	Omni-directional Yellow
YR	Bi-directional Yellow & Red

Solar Approach Lighting & Accessories Range

LED PAPI

LED REIL

ERGL

AV-70

LED MALSR

Markers

Wind Direction Indicator

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