









FAA OBSTRUCTION LIGHTS

TFI FCOM

BROADCASTING TOWERS

CHIMNEY

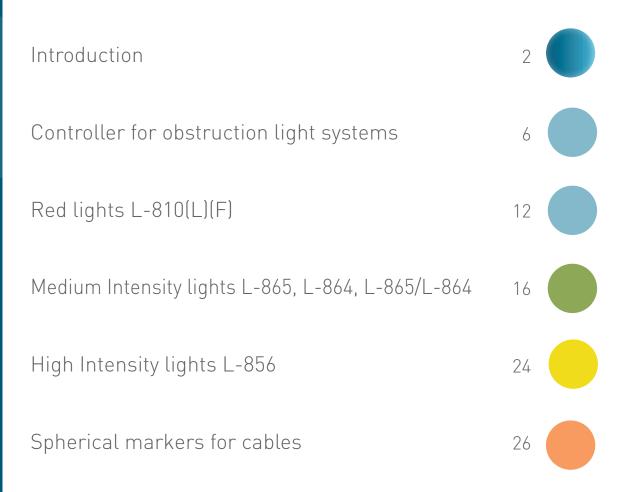
AIRPORT

WINDTURBINES

BUILDINGS













Company history

OBSTA, is part of an industrial group that engineers, manufactures and sells obstruction lights for transmission lines, telecom, broadcasting towers and all kind of obstacle to air navigation since more than 30 years. Our obstruction lights are manufactured by us compliant with ICAO annex 14 chapter 6 (International Civil Aviation Organization) recommendations and the FAA (Federal Aviation Administration).

OBSTA has manufacturing facilities in France and has sales offices located in France, Germany, USA, and China.



A long history

Before Obsta was part of the company Claude that was manufacturing all kind of lamps. This company was created by Georges Claude (September 24th 1870 – May 23th 1960) a French physicist and chemist:



1902: Extraction of rare gas from the air (neon, argon, xenon...) and creation of the company Air liquide

1910: Invention of the first modern patented discharge lamp tube and creation of Claude company manufacturing all kind of discharge and incandescence lights

1960: Invention of the first balisors for transmission lines

2003: New led NAVILITE obstruction lights red fixed

2008: New obstacle light with linear optic for discharge and LED lights.

2012: New medium and high intensity LED lights.

Specialist in obstruction lighting

Over the years, tree large product families (neon xenon and led type) have been developed in the respect of the most severe standards, requested by our customers. OBSTA lights are designed in the respect of the latest international standards that are ICAO and FAA. They constitute a complete range of low intensity or L-810, medium intensity or L-865/L-864 and also high intensity obstruction lights, ideal for broadcasting towers, telecom mast, transmission lines, stacks and wind turbines.









Led NAVILITE® red fixed obstruction lights (low intensity and L-810) since 2003 The NAVILITE series is dedicated to night only obstruction lights especially for telecom mast, buildings close to airports and all kind of obstacle below 45 meters high. Completely molded with 64 leds divided in 16 independent led circuits, they are ideal for all kind of obstacle



- Led OBSTAFLASH: OBSTAFLASH white and red flashing for high structures medium intensity type A and B/C, L-865/L-864, L-865, L-864 and L-810. High intensity type A and B





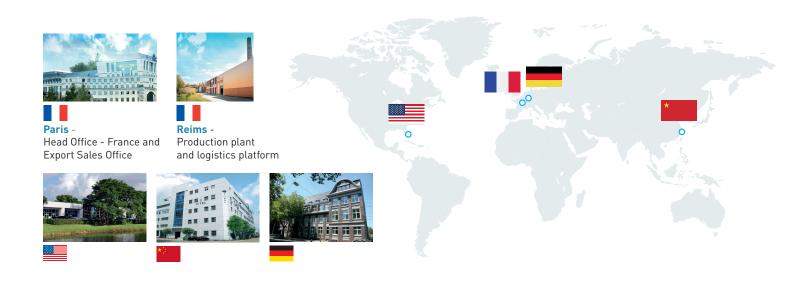
Test facilities

In order to test its products internally for standards compliance and to evolve toward greater reliability OBSTA has several test sites (France, USA) equipped with :

- Photometric band with visible and infrared capability
- 1.2/50-8/20µs hybrid wave generators up to 20 kV/10 kA
- HT digital Oscilloscope fast
- Material for test environment (damp heat, climate, shock)



An international company











Any object which could represent a hazard for low-flying aircraft must be marked by beacon lights. The ICAO (International Civil Aviation Organization - appendix 14, Chapter 6) and the FAA (Federal Aviation Administration - USA) lay down internationally-applicable rules on the characteristics of the beacons and their installation.

Some points of the regulations (depending on the type of obstacles which must be marked), and the corresponding installation rules, are given below.

Intensity Color	Color	Туре		flashes per minute	Night	Day Twilight		
intensity	intensity Color		FAA	itasiies per illillute	(Cd)	(Cd)	(Cd)	
LOW	Red	В	L-810	Steady or flashing with L-864	≥ 32.5	light OFF		
	Red	В	L-864	30 fpm	2,000 ± 25%	light C	ht OFF	
MEDIUM	Dual Color	A & B	L-865 / L-864	40 fpm (white) 30 fpm (red)	2,000 ± 25%	20,000 ± 25%*	20,000 ± 25%*	
	White	А	L-865	40 fpm	2,000 ± 25%	20,000 ± 25%*	20,000 ± 25%*	
HIGH	White	А	L-856	40 Fpm 2,000 ± 25%		270,000 ± 25%*	20,000 ± 25%*	

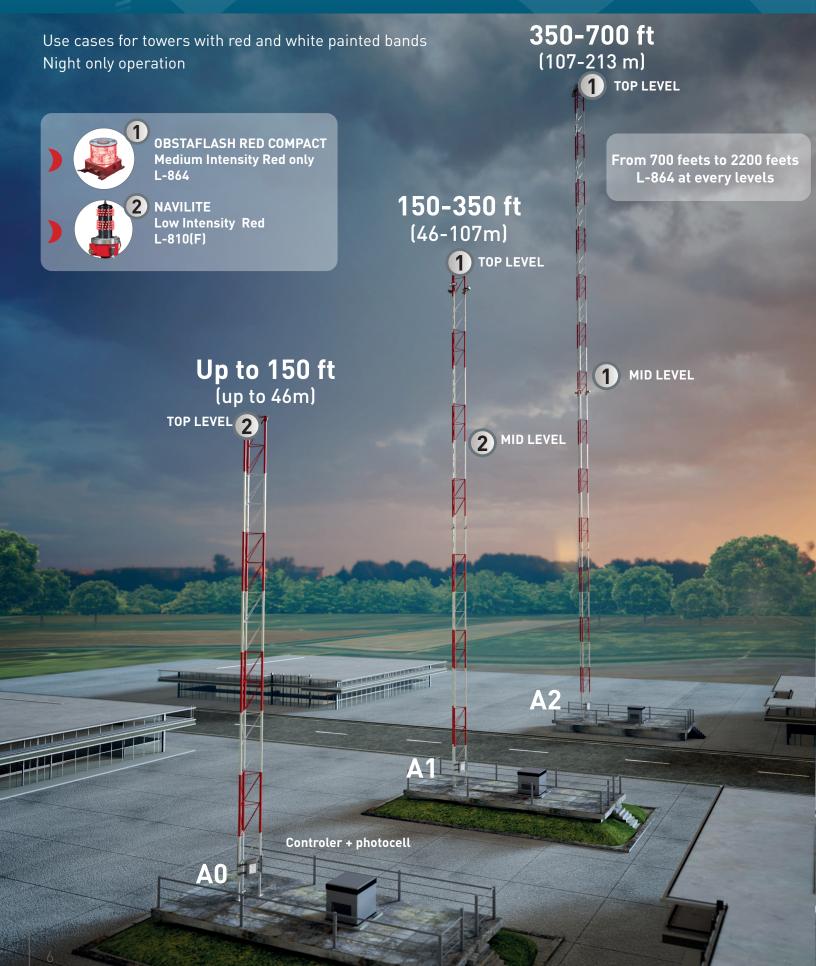
^{*:} FAA requires a flash duration of 100ms max with Blondel-Rey formula for effective intensity. NVG compatible for L-810 and L-864 lights

In order to help you choosing the proper light you need, you will find common configurations. The recommendations and rules mentioned below **are only given for information based on the FAA circular**

Obstruction light classification

FAA & ICAO ty	pe	OBSTA designation	OBSTA part number (FAA)	Compliance statement
L-810	Low intensity type B	NAVILITE-FAA	113969IR	FAA (150-5345-43J) ETL certified + compliant with ICAO low intensity type B
L-865	Medium intensity type A (white flashing light)	Obstaflash 0F360-WW-240-U; 0Fl360-WW-240-U; 0Fl120-WW-048- U;0Fl120-WW-048/240-U;0Fl120- WW-240-U;0Fl-WW-048-U	113723U; 113723UI; 113711U; 113757U; 113713U; 113791U	FAA (150-5345-43J) L-865 ETL certified + compliant with ICAO medium intensity type A
L-864	Medium intensity type B (red flashing light)	Obstaflash 0F360-R-240; 0Fl360-R-240; 0Fl120-R-048-U;0- Fl120-R-048/240-U;0Fl120-R-240- U;0Fl-R-048;0FC-RR-240; 0FC- RR-048	113724; 113724I; 113710U; 113756U; 113714U; 113790; 113790RR-240; 113790RR-048	FAA (150-5345-43J) L-864 ETL certified + compliant with ICAO medium intensity type B
L-865/L-864	Dual color medium intensity type A and B	Obstaflash 0F360-RW-240-U;0FI- RW-240-U;0FI120-RW-240-U;0FI120- RW-48/240-U;0FI120-RW-048-U;0- FI360-RW-048-U	113725U;113725UI; 113715U; 113758U; 113712U; 113792U	FAA (150-5345-43J) L-865/L-864 ETL certified + compliant with ICAO medium intensity type A & B
L-864 OFC	Medium intensity type B (red)	Combi lights OFC-RI-240; OFC-RI-048	113790RI-240; 113790RI-048	FAA (150-5345-43J) L-864 ETL certifified + compliant with ICAO medium intensity type B
L-856	High intensity	Obstaflash OFH-120-WW-240-U	113780U	FAA (150-5345-43J) L-856 pending

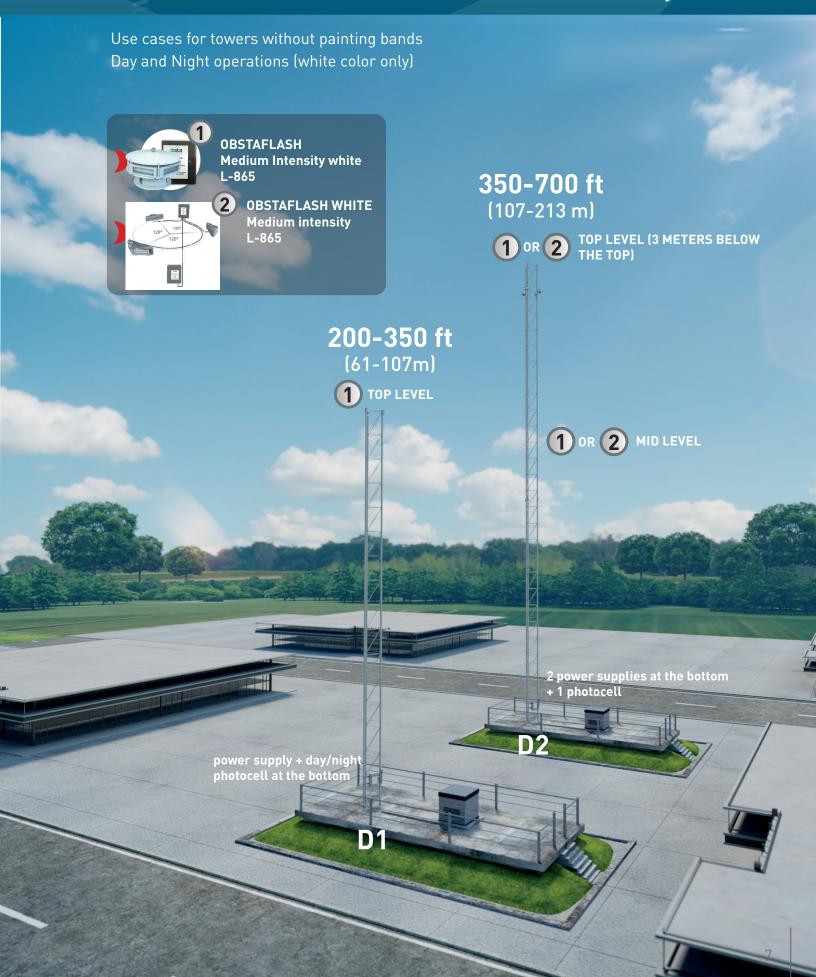






Medium Intensity white obstruction light standards (FAA Style D)

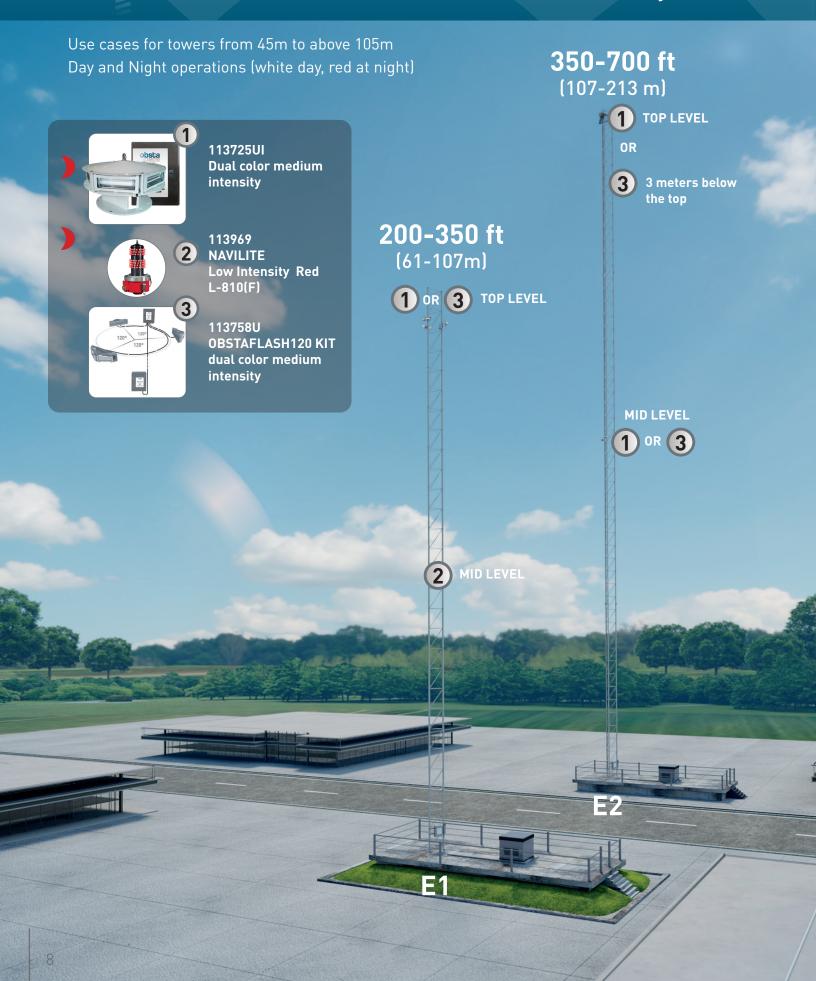






Medium Intensity obstruction light standards (FAA Style E)



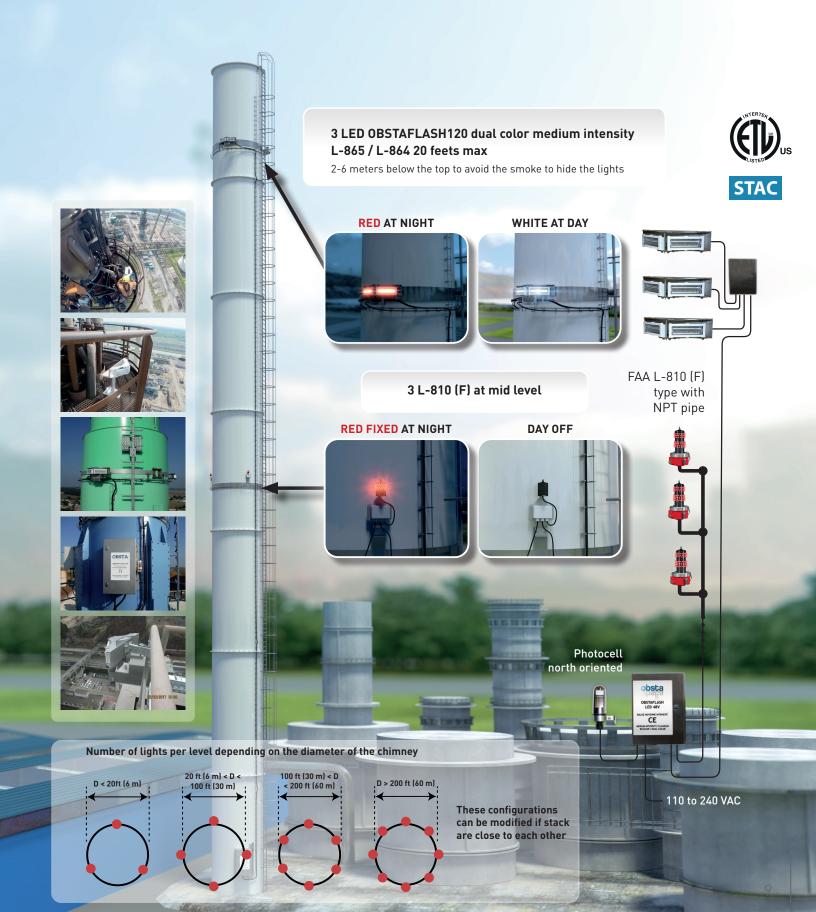




Obstruction lighting for Stack



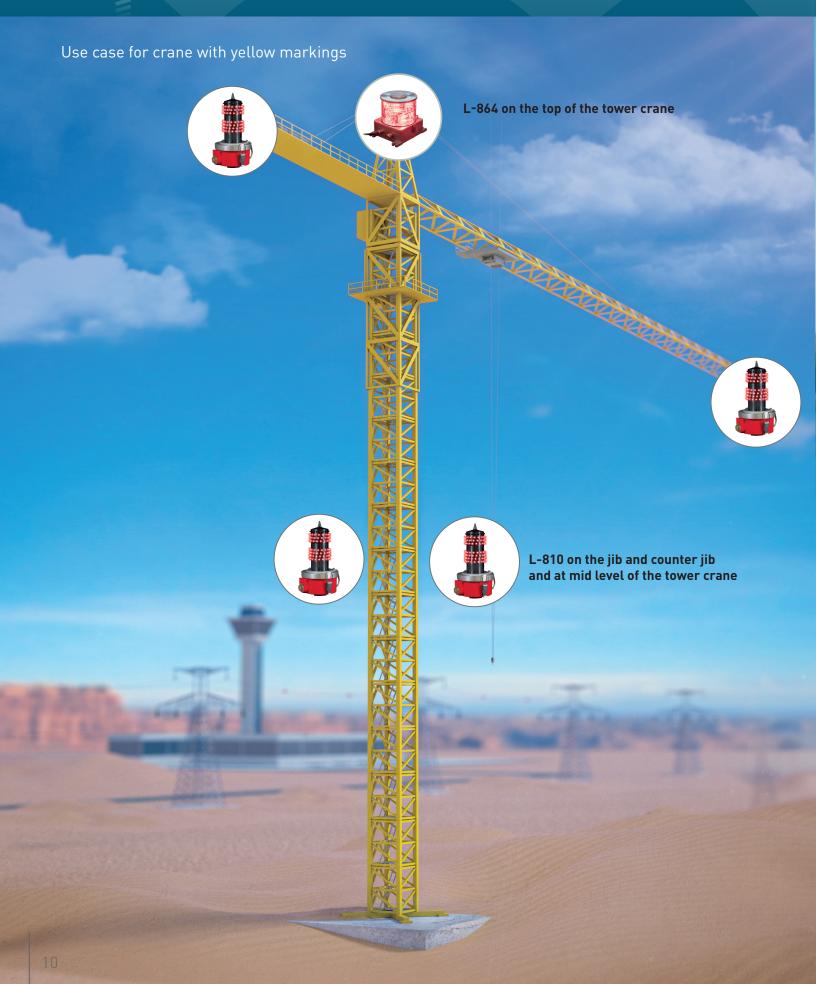
Stack whithout red & white stripes 45 to 105 meters high. Lights operating Day and night.





Obstruction lighting for Crane







Wind Turbine Lighting







Red compact medium intensity L-864

NIGHT OPERATION

Two medium intensity light mounted on opposite rear sides of the nacelle



One medium intensity on the top of the nacelle



3 or more FAA L-810(F) spaced around the mast configured to flash in sync with red medium



For FAA, 1 or 2 L-864 flashing red light at the top of the nacelle depending on the height of the windturbine :

- 1 single FAA type L-864 if windturbine ≤ 499ft (152m)
- 2 FAA type L-864 if **499ft** (**152m**) ≤ windturbine ≤ **699ft** (**213m**)
- 3 or more FAA type L-810(F) spaced around mast at mid level for turbine > 699ft (213m).

MID LEVEL







In option Navilite low intensity L-810(F)



NAVILITE-IR-FAA-120-240V

L-810(L)(F) as per FAA 150-5343J ETL certified



Night Vision Goggles compatible according to FAA

One-piece molded

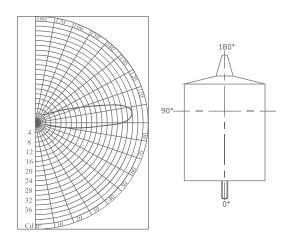
- Light perfectly waterproof
- ullet no corrosion risk
- no losing parts
- bird spike
- 2 x1" NPT threaded holes

Key points

- •L-810(L)(F) type
- Light part completely molded with 4 levels of leds
- Redundant circuits for LED's: 28 circuits of 4 red leds an 4 circuits of 4 infrared leds
- Surge protection and alarm included
- 3/4' NPT threaded holes for mounting or stainless bracket
- No losing part during installation
- Flashing mode (F) activated with red only L-864 medium intensity P/N113790RI-240, P/N113756U & P/N113714U and dual color L-865/L-864 medium intensity P/N113725UI, P/N113751U & P/N113758U



LIGHT INTENSITY DIAGRAM

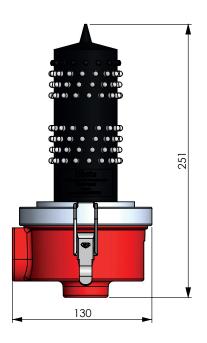


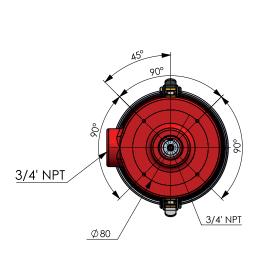
	NAVILITE L-810
IP degree	65 in vertical position
Operating temperature	-40° to + 55°C
Power supply	110 VAC to 240VAC
Weight (light + base)	1.4 kg (fixed through vertical or horizontal NPT)

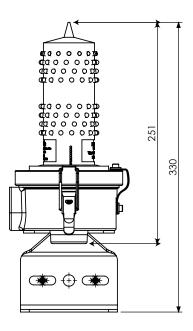
DIMENSIONS (IN MM)

ACCESSORIES

• Support for horizontal or vertical attachment







MAIN REFERENCE

Designation	Part number	Power supply	Luminous intensity + infrared	Average Wattage
NAVILITE-IR-FAA-100-240V	113969IR	110 VAC to 240 VAC	As per FAA (150-5345-43J)	8 W (fixed mode)





OBSTAFLASH COMPACT OFC

L-864 FAA (AC 150/5345-43J) ETL certified ICAO Red Medium intensity type B & C / CAA compliant (fixed mode)



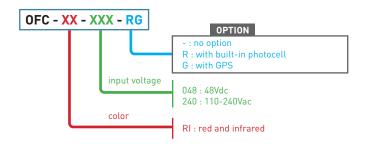
Characteristics

- Hard glass cover (no plastic) and aluminum based
- Easy installation with only captive parts
- 2 LED circuits
- Alarm in case of light or power failure
- Low consumption
- Surge protection included
- "Night Vision compatible" as per Swiss directive and FAA regulation 150/5345-43J
- Photocell and GPS built-in in option



Night Vision Goggles compatible according to FAA

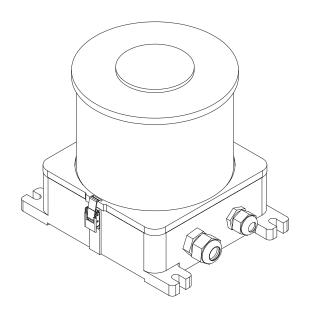
Product range OBSTAFLASH COMPACT OFC ICAO Red Medium intensity type B & C / L-864 / CAA







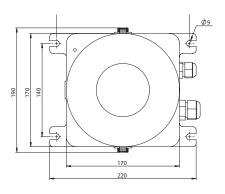
WEIGHT & DIMENSIONS (IN MM)

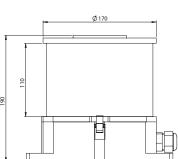


	OFC
IP degree	66
Operating temperature	-40°C to +55°C
Cable entries	2 nickel-plated brass
NVG compatible for OFC-RI	
IR intensity and wavelength	600mW/sr @ 800-900nm
Weight	5kg

ACCESSORIES

- Built in GPS for wireless synchronisation
- Built in Photocell for night only operation
- Optional wiring accessories
- junction box part number 113943-AL
- monitoring box for OFC & Navilite





MAIN REFERENCE FOR OFC-RI-XXX / FAA L-864

designation	part number	Voltage	Color	IR intensity and wavelength	Luminous intensity	Flashes per minute	Average power consumption
OFC-RI-048	113790RI-048	48Vdc	red	600mW/sr @		As per FAA	< 10 W
OFC-RI-240	113790RI-240	100-240Vac	red	800-900nm	2000cd RMS		< 10 W





OBSTAFLASH OFI360

L-865/864 FAA (AC 150/5345-43J) ETL certified ICAO white & red Medium intensity type A+B



Flashhead with integrated 48VDC power supply Patent: EP 1966535B1 & US 7816843

Dual Color Flashhead

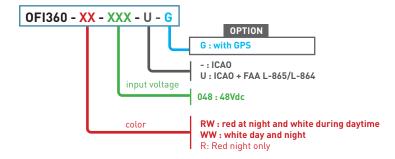
- 6 led replaceable projectors
- Aluminium and glass envelope
- Modular design
- Easy maintenance
- Precise optic , low led current for optimal lifetime
- Integrated 48 VDC power supply inside the flashhead
- Luminous indicator for each led circuits
- Captive parts
- 48 Vdc surge protection included
- Test button and luminous indicators



Night Vision Goggles compatible according to FAA



Product range OBSTAFLASH OFI360
Obstaflash Medium intensity with 48Vdc integrated power supply ICAO White and Red Medium Intensity type A and B



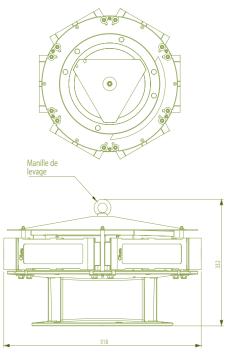


L-865/L-864 Medium intensity



WEIGHT & DIMENSIONS (IN MM)

Flashhead



IP degree for power cabinet	65 in vertical position
Operating temperature	-30° to +55°C
Input voltage	48 Vdc +/-15%/ -5%
Cable entry for flashhead, power supply, photocell and alarm	1 nickel plated brass

ACCESSORIES

- Option with GPS inside the light P/N 113752U-G for wireless synchronization
- 48vdc photocell part number 100755
- \bullet 48Vdc battery cabinet (input voltage 100-240VAC) for 12 hours back-up part number 113956

MAIN CHARACTERISTICS

Main shawatawistica	Effective Luminous	Color		Beam Spread		Flacksonssissed	
Main characteristics	Day	Night	Day	Night	Vertical	Horizontal	Flashes per minute
Red only (L864)	light off	2000 Cd	light off	Red			
White only (L865)	20 000 Cd	2000 Cd or off	White	White or off	> 3°	360°	As per ICAO or FAA
Dual color (L865/L864)	20 000 Cd	2000 Cd	White	Red			

MAIN REFERENCE

Designation	part number	input voltage	ICAO category	FAA category	Color
OFI360-RW-048-U	113792U		Medium intensity type A & B	L-865/L-864	dual color
0FI360-WW-048-U-G	113792U-G	48Vdc	Medium intensity type A	L-865	white
OFI360-R-048-U	113790		Medium intensity type B (or C, CAA)	L-864	red











KIT OBSTAFLASH OFI360 110-240 Vac

L-865/864 FAA (AC 150/5345-43J) ETL certified ICAO white & red Medium intensity type A+B



Flashhead with integrated 48VDC power supply Patent: EP 1966535B1 & US 7816843





Flashhead

- 6 led replaceable projectors
- Aluminium and glass envelope
- Modular design
- Easy maintenance
- Precise optic, low led current for optimal lifetime
- Integrated 48 VDC power supply inside the flashhead
- Luminous indicator for each led circuits
- Captive parts
- 48 Vdc surge protection included
- Test button and luminous indicators

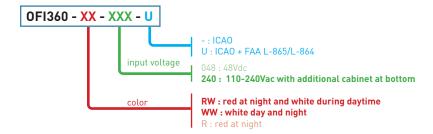


Night Vision Goggles compatible according to FAA

120-230 VAC Power cabinet

- Available in 120 /230 Vac
- Surge protection
- Automatic day/night switch with photocell
- Test button for day and night
- Modular design
- side lights in option
- Alarm contact
- Master/slave configuration for multiple lights synchronization

Product range OBSTAFLASH OFI360
Obstaflash Medium intensity with 48Vdc integrated power supply ICAO White and Red Medium Intensity type A and B



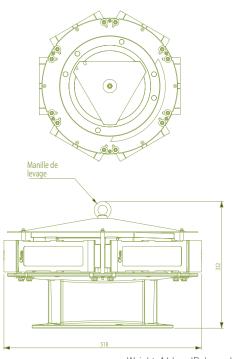






WEIGHT & DIMENSIONS (IN MM)

Flashhead



Weight: 14 kg - IP degreeIP66

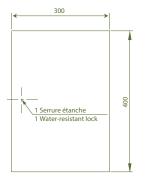
SETS COMPOSTION

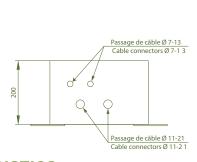
IP degree for power cabinet	65 in vertical position
Operating temperature	-30° to +55°C
Input voltage	110 VAC to 240 VAC +/-10% 50 to 60 Hz
Cable entry for flashhead, power supply, photocell and alarm	4 nickel plated brass

ACCESSORIES

- GPS module for wireless synchronization in case it is not possible to connect the lights by wires.
- Photocell part number 100755.

Control cabinet









MAIN CHARACTERISTICS

Main abaysatayistisa	Effective Luminous output on site at 0°		Color		Beam Spread		Flocker new minute	
Main characteristics	Day	Night	Day	Night	Vertical	Horizontal	Flashes per minute	
Red only (L864)	light off	2000 Cd	light off	Red				
White only (L865)	20 000 Cd	2000 Cd or off	White	White or off	> 3°	360°	As per FAA	
Dual color (L865/L864)	20 000 Cd	2000 Cd	White	Red				

MAIN REFERENCE

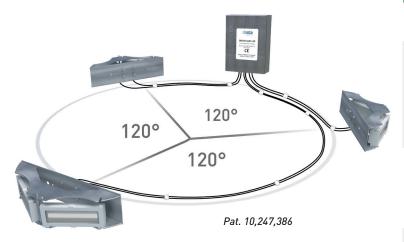
Designation	part number	input voltage	ICAO category	FAA category	Color
OFI360-RW-240-U	113725UI		Medium intensity type A & B	L-865/L-864	dual color
0FI360-WW-240-U	113723UI	110-240Vdc	Medium intensity type A	L-865	white
0FI360-R-240-U	1137241		Medium intensity type B (or C, CAA)	L-864	red





KIT OBSTAFLASH OFI120

L-865/864 FAA (AC 150/5345-43J) Certified ICAO white & red Medium intensity type A+B









Night Vision Goggles compatible according to FAA

Kit including 3 Obstaflash120

- 2 led projectors with 10 meters cable
- Aluminium and glass enveloppe
- Connection with connectors for dual color and gland for red only
- Precise optic for optimal power consumption,
- Electronic deported in external cabinet

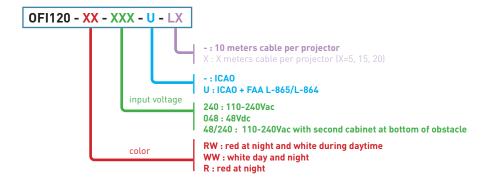


Power cabinet

- Stainless enclosure
- Surge protection
- Test button for day and night, 1 luminous indicator per white led projector,
- Modular design,
- Alarm contact
- Master/slave configuration for multiple cabinet
- Connection terminal for 48V low intensity at intermediale level working at night only
- Available with or without back-up power supply

Product range OBSTAFLASH 0F120

Kit including 3 Obstaflash120 medium intensity flashheads + power supply at same level, ICAO White and Red Medium intensity type A and B & C / CAA / STAC

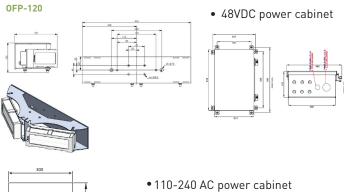




L-865/L-864 Medium intensity



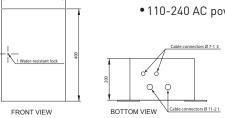
COMPOSITION PER ITEMS



IP degree for power cabinet	65 in vertical position
Operating temperature	-30° to +55°C
Input voltage	110 VAC to 240 VAC 50 to 60 Hz or 48VDC +/-15% / -5%
Cable entry for flashhead, power supply, photocell and alarm	4 nickel plated brass

ACCESSORIES

- GPS part number 113746 for wireless synchronization
- 48vdc photocell part number 100755
- 48Vdc battery cabinet (input voltage 100-240VAC) for 12 hours back-up part number 11395.



MAIN CHARACTERISTICS

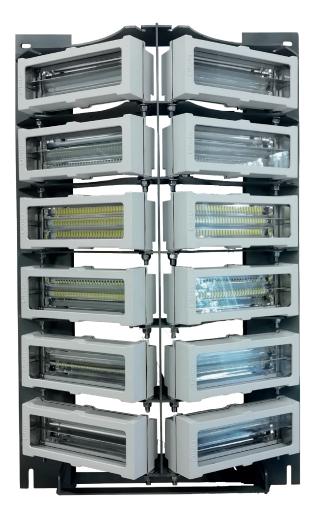
Main characteristics	Effective Luminous output on site at 0°		Color		Beam Spread		Florbonominuto			
Main characteristics	Day	Night	Day	Night	Vertical	Horizontal	Flashes per minute			
Red only (L864)	light off	2000 Cd	light off	Red						
White only (L865)	20 000 Cd	2000 Cd or off	White	White or off	> 3°	> 3°	> 3°	> 3° 360°	360°	As per ICAO or FAA
Dual color (L865/L864)	20 000 Cd	2000 Cd	White	Red						

	Designation	part number	Power supply	ICAO category	FAA category	System components	
120° 120° 120°	OFI120-RW-48/240-U	113758U		Medium intensity type A and B	L-865/L-864, dual color medium intensity	3 x 0FP-120-RW-10L-U + 0FP-CAB-6P-L-RW-048 +	
	OFI120-WW-48/240-U	113757U		Medium intensity type A	L-865 white medium intensity	OFI-CAB-1E-RW-240-U	
	OFI120-R-048/240	113756U	VAC	Medium intensity type B	L-864 red medium intensity	3 x OFP-120-R-10 + OFP-JB-6P-R + OFP-CAB-6P-1E-R-240	
120° 120°	OFI120-RW-048-U	113712U	48VDC	Medium intensity type A and B	L-865/L-864, dual color medium intensity	3 x 0FP-120-RW-10L-U +	
	0FI120-WW-048-U	113711U		Medium intensity type A	L-865 white medium intensity	OFP-CAB-6P-L-RW-048	
	0FI120-R-048	113710U		Medium intensity type B	L-864 red medium intensity	3 x OFP-120-R-10 + OFP-JB-6P-R + OFP-CAB-6P-6E-R-048	
	OFI120-RW-240-U	113715U		Medium intensity type A and B	L-865/L-864, dual color medium intensity	3 x 0FP-120-RW-10L-U +	
	OFI120-WW-240-U	113713U			Medium intensity type A	L-865 white medium intensity	OFP-CAB-6P-L-RW-240-U
	OFI120-R-240	113714U	VAC	Medium intensity type B	L-864 red medium intensity	3 x 0FP-120-R-10 + 0FP-JB-6P-R+ 0FP-CAB-6P-6E-R-240	



LED OBSTAFLASH HI L-856

The OFH270K high intensity is a white color flashing obstruction light L-856. FAA certification pending



Patent: EP 1966535B1 & US 7816843

Flashhead

- 12 led projectors
- Aluminium and glass envelope
- Modular design
- Precise optic, low power consumption

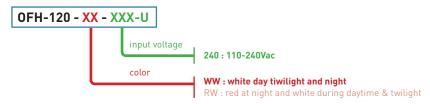
Description

- 270 000 candelas during day time in white
- 20 000 candelas during twilight in white,
- 2000 candelas during the night white
- Rugged design
- Easy installation

Power cabinet per flashead

- Weathertight stainless steel enclosures (in vertical position),
- Surge protection
- Alarm monitoring
- Automatic day/twilight/night switch by photocell
- Luminous indicator for each projector
- Test button for day, twilight and night mode
- Modular design
- Low power consumption

Product range OBSTAFLASH OFH ICAO High Intensity type A / FAA





COMPOSITION

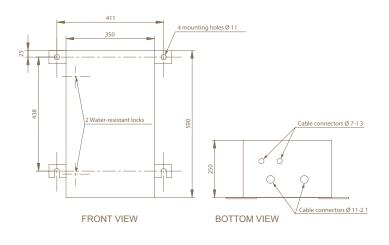
Obstruction lighting system 230 V - 50Hz	Part Number
Flashead + power cabinet	113780U
Photocell day/twilight/night	100757
HI controller	113625LA

OTHER CHARACTERISTICS

- IP degree: 66 for the projectors and 65 for the stainless cabinet in vertical position,
- Weight per cabinet: 15kg,
- Weight per flashhead: 18kg (1kg per projector and 10kg for the stainless bracket),
- Temperature -30°C to +55°C,
- day/twilighy/night automatic switch by external photocell
- Autonomous synchronisation (master/slave configuration) or with external controller
- GSM modem with optical network for remote diagnostic.



POWER CABINET





Main supply	Frequency	Wattage during day time
110V up to 240 V	50/60 Hz	300 W

MAIN REFERENCE

Designation	part number	Luminous Intensity			Bean	Flashes/mi-	
		Day	Twilight	Night	Vertical	Horizontal	nute
OFH-120-WW-240	113780U	270 000 Cd	20 000 Cd	2000 Cd	> 3°	120°	40

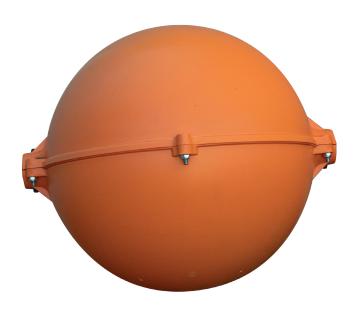


WARNING SPHERES

Those spherical markers are compliant with International Civil Aviation Organization (ICAO) recommendations annex 14 chapter 6 :

Paragraph 6.2.8: A marker displayed on a overhead wire, cable etc. should be spherical and not have a diameter of not less than 600mm

Paragraph 6.2.10: A marker should be of one color. When installed, white and red, or white and orange markers should be displayed alternately. The color selected should contrast with the background against it will be seen.



Warning spheres

- quick installation: easy and quick assembly with 6 nuts (no losing bolts)
- diameter: 610 mmmaterial: polyethylene
- weight:4 kg
- colors : orange aviation or white
- clamps: adapted to the diameter of the cable
- optional armor rods for cable and OPGW (consult us)

MAIN CHARACTERISTICS

OBSTA part number	Color *	Clamp diameter *	Armor rod *
113655	Red aviation, orange aviation, white	From 9.3 mm to 42.5 mm	Optional

^{*} to be defined when ordering





ALUMINIUM WARNING SPHERES

The spherical markers are compliant with International Civil Aviation Organization (ICAO) recommendations annex 14 chapter 6 :

Paragraph 6.2.5.4: A marker displayed on an overhead wire, cable, etc., should be spherical and have a diameter of not less than 60 cm.

Paragraph 6.2.5.5: The spacing between two consecutive markers or between a marker and a supporting tower should be appropriate to the diameter of the marker, but in no case should the spacing exceed 30 meters where the marker diameter is 60 cm. Where multiple wires, cables, etc., are involved, a marker should be located not lower than the level of the highest wire at the point marked.



Warning spheres

- Designed for high voltage cable up to 420KV
- No losing parts during installation with only 2 screws and 4 draw latches
- overall diameter 600mm
- material: aluminum
- weight: 6.5kg
- color: white, red or aviation orange
- clamps depending on the diameter of the cable

MAIN CHARACTERISTICS

OBSTA part number	Color *	Diameter of clamps *
113655AL	Red, orange or white	from 9 mm up to 67 mm

^{*} to be specified at time order









USA, Texas



BEIRUT, Damac Vercase Tower



FRANCE, Millau

CRANE IN MONACO





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ABU DHABI, Four Seasons Hotel







BRUXELLES, Diegem









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