



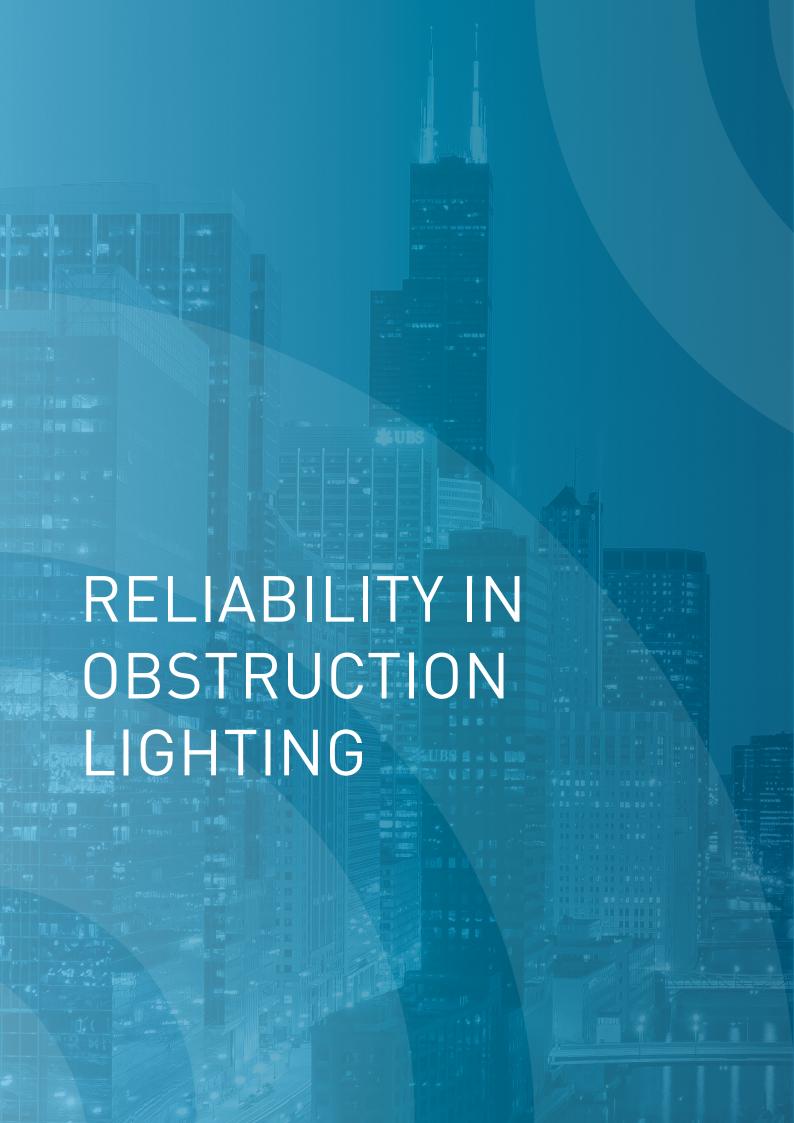






POWERLINES
TELECOM
BROADCASTING TOWERS
CHIMNEY
AIRPORT
WINDTURBINES
CONSTRUCTION





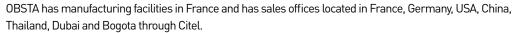
## SUMMARY



Introduction	4
Low Intensity lights	22
Medium Intensity lights	32
High Intensity lights	52
Balisors for transmission lines	56
Warning spheres	60
Bird diverter, Battery	62
Solar kits, Helipad (TLOF)	64

#### **Company history**

OBSTA, a subsidiary of CITEL group (www.citel.fr) 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).





#### A long history

Before joining Citel in the years 90, 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

1992 : Bought by Citel manufacturing gas tube and surge protection

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.

2015: FAA Certification

2023: New LED Conductor Marking Light named HVILTE

2024: New Concept for Aircraft Warning light: IoT controller OBSTALINK

#### 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.

- Cold neon discharge lights,
- pure cold neon discharge 5 and 13 turns OBSTA® HI STI & STI,
- 33 & 49 turns BALISOR® (conductor warning lights) red fixed obstruction lights.









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



- 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

Obsta is part of CITEL group with international commercial subsidiaries.



Paris -Head Office - France and Export Sales Office



Reims -Production plant and logistics platform































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	Ту	pe	flaches nor minute	Night	Day	Twilight			
intensity	Intensity Color ICAO FAA flashes per minute		(Cd)	(Cd)	(Cd)					
LOW	Red	В	L-810	Steady or flashing with L-864	<b>≽</b> 32.5	light OFF				
	Red	В	L-864	30 fpm	2,000 ± 25%	)FF				
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%*			

<sup>\*:</sup> FAA requires a flash duration of 100ms max with Blondel-Rey formula for effective intensity. NVG compatible for L-810 and L-864 lights

#### Extract from annex 14 ICAO

#### Extract from table 6-3. Characteristics of obstacle lights

#### Position of the obstruction lights

**6.3.11** One or more low-, medium- or high intensity obstacle lights shall be located as close as practicable to the top of the object. The top lights shall be so arranged as to at least indicate the points or edges of the object highest in relation to the obstacle limitation surface.

- 6.3.12 Recommendation In the case of chimney or other structure like function, the top lights should be placed sufficiently below the top so as to minimize contamination by smoke etc...
- 6.3.14 In the case of an extensive object or of a group of closely spaced objects, top lights shall be displayed at least on the points or edges of the objects highest in relation to the obstacle limitation surface, so as to indicate the general definition and the extent of the objects. If two or more edges are of the same height, the edge nearest the landing area shall be marked. Where low-intensity lights are used, they shall be spaced at longitudinal intervals not exceeding 45 m (150ft). Where medium-intensity lights are used, these shall be spaced at longitudinal intervals not exceeding 900 m (2950ft)
- **6.3.15 Recommendation** When the obstacle limitation surface concerned is sloping and the highest point above limitation surface is not the highest point of the object, additional obstacle lights should be placed on the highest point of the object.
- 6.3.22 The number and arrangement of low-, medium- or high-intensity obstacle lights at each level to be marked shall be such that the object is indicated from every angle in azimuth. Where a light is shielded in any direction by another part of the object, or by an adjacent object, additional lights shall be provided on that object to be lighted. If the shielded light does not contribute to the definition of the object to be lighted, it may be omitted.

In order to help you choosing the proper light you need, you will find below the most common configurations.

The recommendations and rules mentioned below are only given for information based on the ICAO recommendations, and ICAO aerodrome design manual.

## Night time marking (Red only)

The night time marking is done with red obstruction lights:

- low intensity type A or B (L-810)
- and/or medium intensity type B (L-864)

## Day time marking (White flashing only)

The day time marking is done with white flashing obstruction lights:

- medium intensity type A ( L-865)
- or high intensity type A or B (L-856, L-857) [For obstacle below 150 meters the use of white strobe flashing light during day time eliminate the need to paint the obstacle with red and white stripes).

## Day and night time marking (White flashing or Dual Color)

The day and night time marking can be realized by using either:

- white medium intensity light working day and night
- dual color lights, white flashing during day time and red during night time



#### **Obstruction light choices**

ICAO	OBSTA designation	Compliance statement
Low intensity type A (red steady burning)	NAVILITE-SOL, BALISOR 63KV to 500KV HVLITE	
Low intensity type B (red steady burning)	NAVILITE-48V, NAVILITE-24V, NA- VILITE-12V, NAVILITE-230; NAVI- LITE-120-240	ICAO compliant (7th Edition July 2018)
Low intensity type B (red steady burning) + infrared (fixed or flashing)	Combi light NAVILITE-IR-48V, NAVILITE-IR-FAA-120-240V	EASA (European Aviation Safety Agency)
Medium intensity type A (white flashing), type B (red flashing), type C (red steady burning) and dual color		
High intensity type A and B (white flashing)	OFH-120, HI A and OFH-180 HI B	

FAA & ICAO type		OBSTA designation	OBSTA part number (FAA)	Compliance statement
L-810	10 Low intensity type B NAVILITE-FAA 11		113969IR	FAA (150-5345-43J) ETL certified + compliant with ICAO low intensity type B
L-865	type A		113723UA ; 113723UIA ; 113711UA ; 113757UA ; 113713UA ; 113791UA	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; 0Fi360-R-240; 0Fi120-R-048-U;0- Fi120-R-048/240-U;0FI120-R-240- U;0FI-R-048;0FC-RR-240; 0FC- RR-048	113710UA; 113756UA; 113714UA; 113790; 113790RI-240; 113790RI-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	113725UA ;113725UIA ; 113715UA ; 113758UA ; 113712UA	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

#### Led NVG compatible obstruction lights

All our medium intensity or high intensity (red or dual color mode) are Night Vision Compatible as per FAA AC 150/5345-43J. Only our low intensity and L-810 remains available in 2 options: with or without infrared

Those energy-saving LED lights are providing years of operation and are maintenance-free. They are also NVG friendly: Aviation authorities such as FAA, CAR (Canadian Aviation Regulation), MOD (UK) and OFAC (Switzerland) have issued safety alerts warning that common LED obstruction lights pose a hazard to pilots using Night Vision Goggles (NVGs). This is due to the fact that NVGs typically use filters to block cockpit lighting from saturating the imaging system. This has the unintended effect of making LED obstruction lights invisible to pilots.

In response, Night Vision Goggles based on infrared technology provide pilots using night vision goggles unmatched visibility of airfield perimeters, buildings, wind turbines and towers. Our FAA led obstruction lights ensure that your structure remains visible to all pilots.



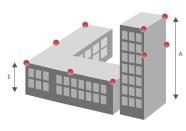
Night Vision Goggles compatible according to FAA & OFAC directive (Switzerland)





Indicative information based on ICAO Annex 14 Chapter 6 recommandations

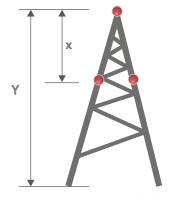
#### BUILDING (see diagram p 10-11)



Height	Night marking (red lights working at night only)	Day and Night marking (white flashing light for day mode and red lights for night mode)				
Below 45m (150ft)	Low intensity lights type A on the perimeter of the building every 45 meters maximum	Low intensity type A on the perimeter of the building every 45 meters max. with medium intensity type A working during day time only				
45m (150ft) and above	Medium intensity type B at the top with eventually intermediate levels of low intensity type B and medium intensity type B if the building is not masked by other construction	Dual color medium intensity type A+B (white during the day and red during the night) at the top with optional low intensity type B at intrmediate levels if the building is not masked by other construction				
In option: 150m (500ft) and above	Alternative: above a height of 150m (500ft) high intensity lights every 1 bove maximum.					

Note: Intermediate levels are recommended only if there are higher than the top fo nearby buildings.

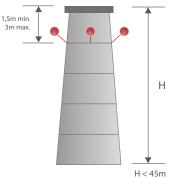
#### POLE / TOWER (see diagram p 12-13)



Half-height for Low Intensity if > 50 m

Height	Night marking (red lights working at night only)	Day and night marking (white flashing light for day mode and red lights for night mode)					
Below 45m (150ft)	1 or 2 low intensity type A or B at the top ( L-810)	1 or 2 white medium intensity type A (L-865) at the top of the pole with low intensity working at night					
45m (150ft) and above no alarm ont the two half- height	1 or 2 medium intensity type B at the top with intermediate levels of medium intensity type B every 105 meters max., with low intensity type B in between each level of medium intensity	1 or 2 dual color medium intensity type A+B at the top with intermediate levels of dual color medium intensity type A+B every 105m max., with low intensity type B in between each level of medium intensity.					
In option: 150m (500ft) and above	High intensity type A at the top with intermediate lights every 105 m maximum working during day time only and red low intensity type B and medium intensity type B working at night only. White flashing lights type A can also work day and night.						

### STACK (see diagram p 14-15)



Height	Night marking (red lights working at night only)	Day and Night marking (white flashing light for day mode and red lights for night mode)					
Below 45m (150ft)	3 low intensity type A below the top of the stack	3 low intensity type A working at night only and medium intensity type A working during daytime only. The lights should be below the top of the stack					
45m (150ft) and above	3 medium intensity type B below the top of the stack with optional intermediate level of low intensity type B every 45 meters high around the stack	3 dual color medium intensity type A+B (white during the day and red during the night) below the top of the stack, with in option 3 or more low intensity type B at intermediate levels at the top of stack					
In option: 150m (500ft) and above	Alternative: above a height of 150m (500ft) high intensity lights every 105m (350f maximum.						

Note: for stack with diameter between 6 and 30 meters, 4 lights per level are required. For stack with diameter between 30 and 60 meters, 6 lights are required per level. And for stack with diameter abobe 60 meters, 8 lights per level are required per level.



### CRANE (see diagram p 16)



Height	Night marking only	Day marking
Below 45m (150ft)	Low intensity type A or B at the top of the crane-top and at each extremity of the jib and counter jib.	1 medium intensity dual color at the top of the crane-top.
45m (150ft) and above	1 medium intensity type B (L-864) at the top of	<u>'</u>
105 m and above	the crane-top and one low Intensity Type B at each extremity of the jib and counter jib	



#### WIND TURBINE (see diagram p 17)

Night marking only	Day and night marking
1 or 2 Medium Intensity type B ( L-864)	1 or 2 Medium Intensity dual color type A+B (L-865/L-864)

### TRANSMISSION LINES (see diagram p 18)



Height	Night marking only	Day marking only	
Poles	Same configuration than in the first case «pole and tower»	If it is not possible to install a light on the poles, 2 Balisors placed on each side of the pole at 10m (30ft) maximum and placed on the highest cable	Same configuration than in the first case «pole and tower»
High voltage cable	Balisors every 70m (230f 350ft) in other cases.	Warning spheres of 600mm diameter (2ft) every 30m (100ft)	

- 1- In the case of an extended obstacle (wind turbine farm, cranes, etc...) the beacons need to be synchronized.
- 2- Beacons need to be backed up with a 12hour battery life in case of a loss of the main power line.

## Example of configuration



### **OBSTRUCTION LIGHTING FOR AIRPORT**

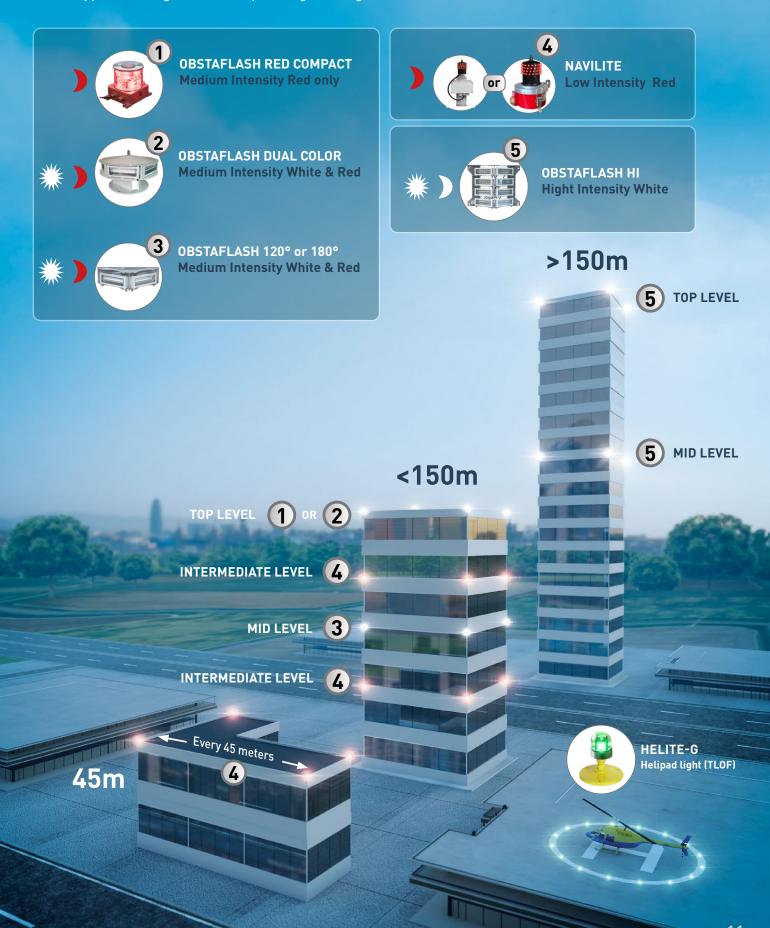
Use case for an airport with building below 45 meters high except control tower higher than 45 meters



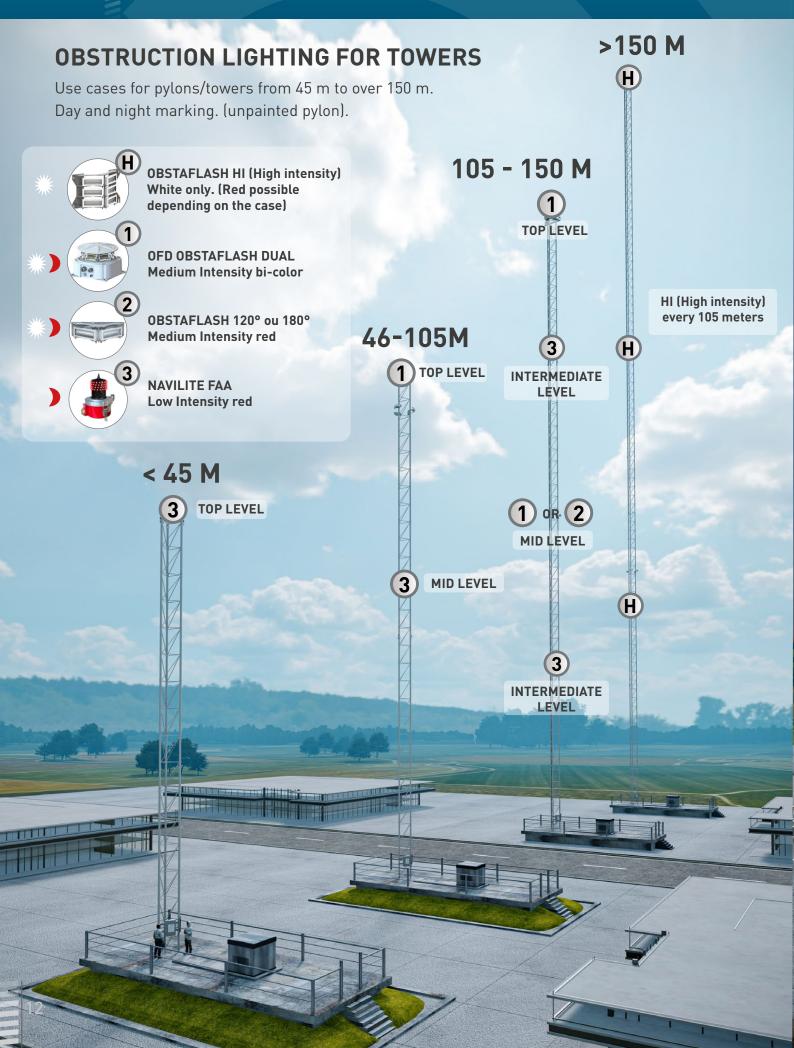


### **OBSTRUCTION LIGHTING FOR BUILDINGS**

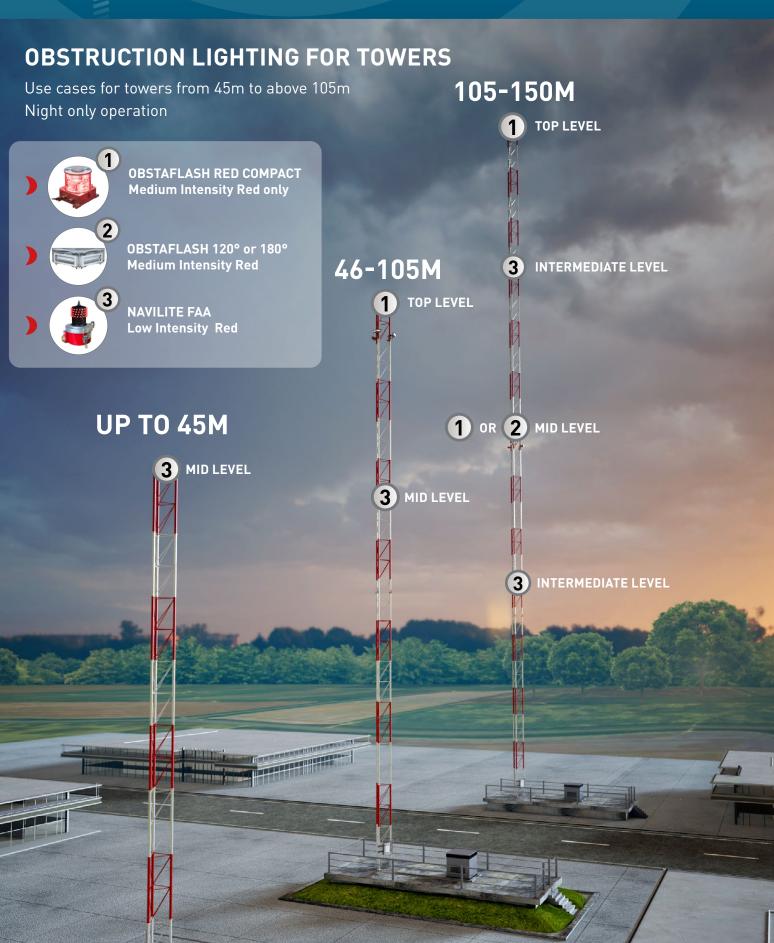
Three typical configurations depending on height















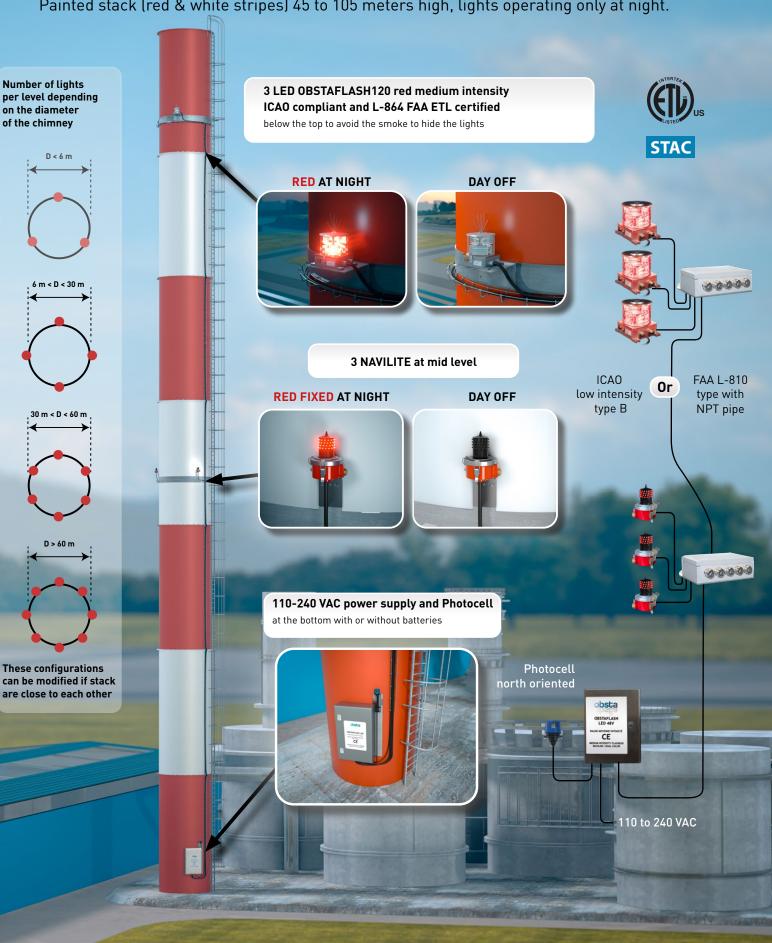


**OBSTRUCTION LIGHTING FOR STACK** Stack whithout red & white stripes 45 to 105 meters high. Lights operating Day and night. 3 LED OBSTAFLASH120 dual color medium intensity ICAO compliant and L-865 / L-864 FAA ETL verified below the top to avoid the smoke to hide the lights **RED AT NIGHT** WHITE AT DAY **ICAO** FAA L-810 0r 3 NAVILITE at mid level low intensity type with type B NPT pipe **RED FIXED AT NIGHT** DAY OFF 110-240 VAC power supply and Photocell at the bottom with or without batteries Photocell north oriented 00000 110 to 240 VAC



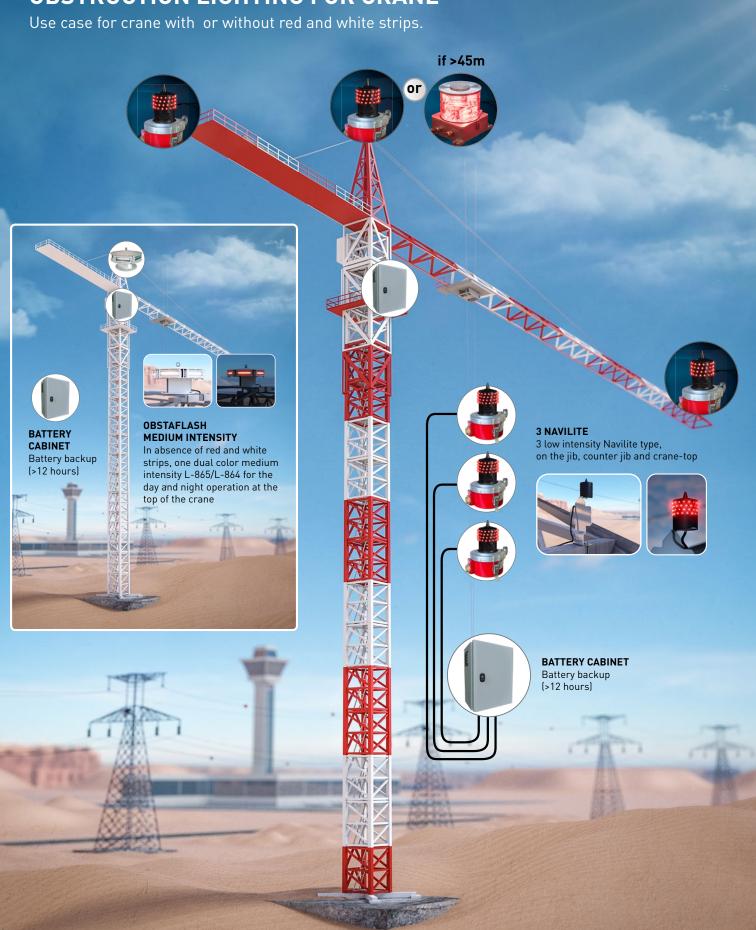
#### **OBSTRUCTION LIGHTING FOR STACK**

Painted stack (red & white stripes) 45 to 105 meters high, lights operating only at night.





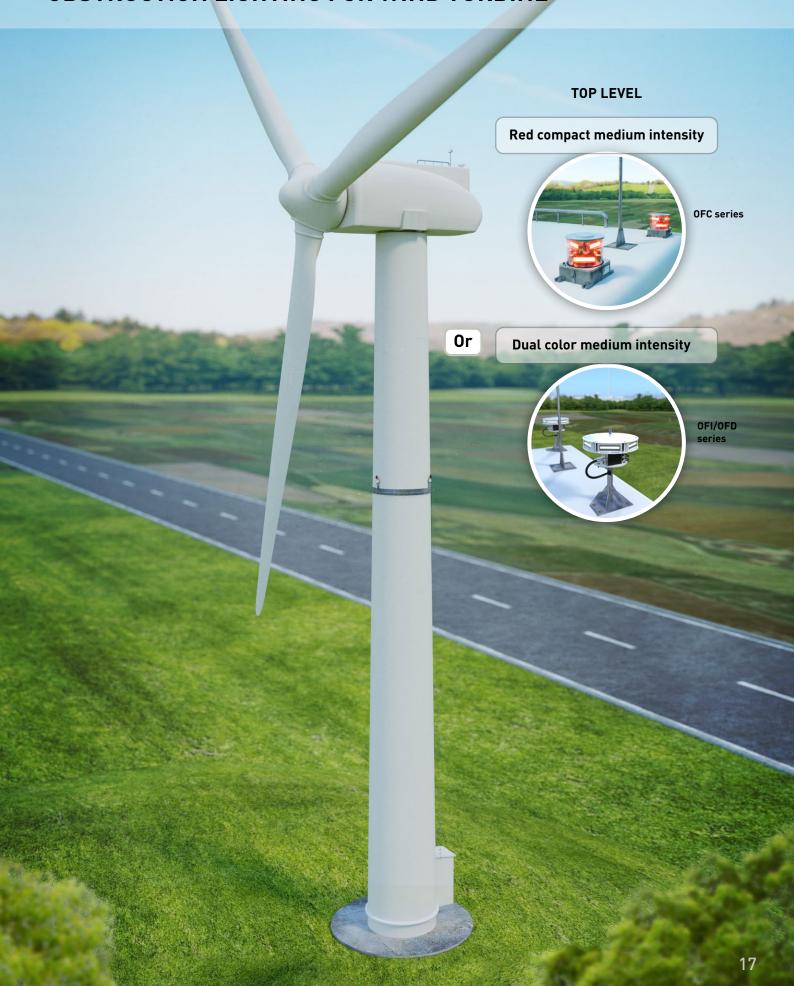






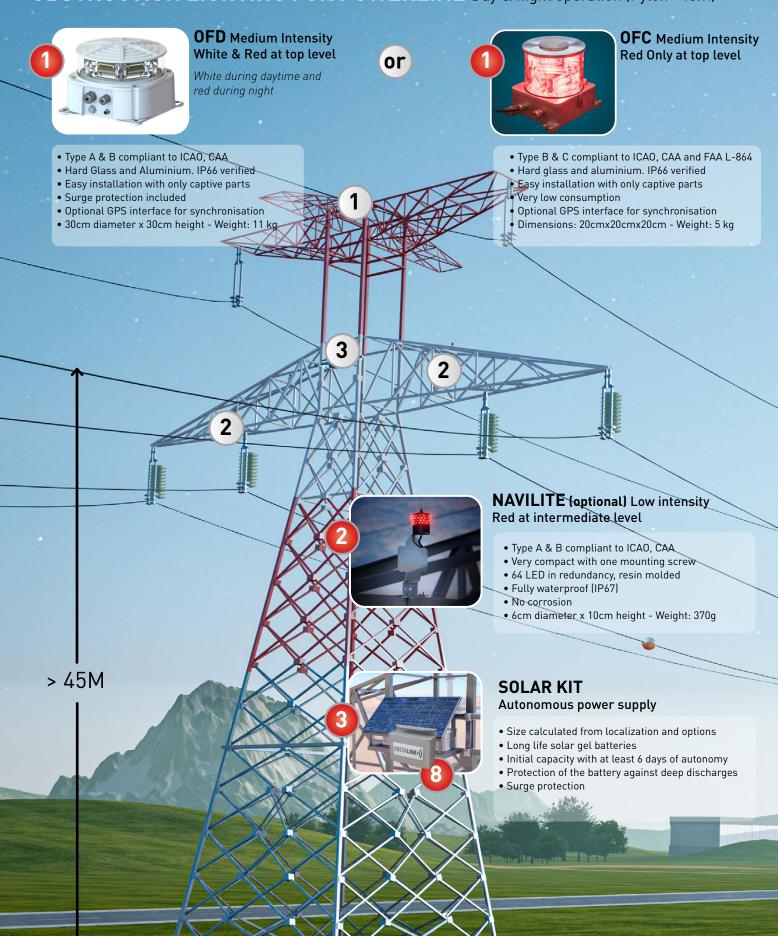


## **OBSTRUCTION LIGHTING FOR WIND TURBINE**





### OBSTRUCTION LIGHTING FOR POWERLINE Day & night operation (Pylon >45m)





## Example of configuration



#### **HVLITE - CONDUCTOR WARNING LIGHT** LED & Induction Type, Night Time every 70m nearby airport, 105m othewise



• ICAO compliant Low Intensity Red steady-burning light

• Most effective form factor against vibrations and wind

• 4 captive screws for assembly in few minutes

or

#### **BALISOR - CONDUCTOR WARNING LIGHT** Neon & Capacitive Type



- Versions from 60 kV to 550 kV
  - ICAO compliant Low Intensity Red steady-burning light
  - Hard glass cold neon discharge tube
  - OBSTA patented and manufactured from 1938
  - No maintenance through decades
  - · Light intensity independant from current



• Versions from 11 kV to 550 kV

• Only 2 halves of anodized aluminium

• Inductive power supply requiring 10 A

#### **PLASTIC WARNING SPHERE 600MM**

Every 30M on OPGW or conductor up to 132kV\*



• ICAO and CAA compliant

5

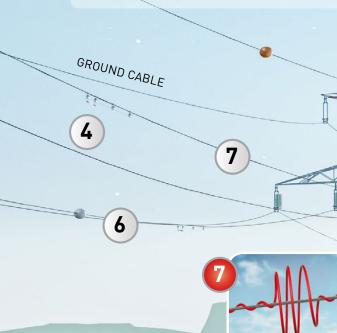
- Polyethylene, fast mounted per half
- EPDM clamps to not damaged the cable
- 8 drainage holes to prevent water accumulation
- Available in red, white and orange aviation
- \* Up to 70°C on conductor



#### **ALUMINIUM WARNING SPHERES 600MM**

Every 30M on power cables up to 400 kV

- ICAO Compliant
- Fast mounting per half with latches
- Only 1 personne required for installation, only captive parts
- 8 drainage holes to prevent water accumulation
- Long durability in all climate conditions
- Available in white and red aviation



**BIRD-FLIGHT Diverter** 

- Made with high impact PVC with UV protection
- Full unit or half available
- Low weight
- · Quick and easy manual installation
- · Positive grip on the conductor
- Available in dark gray, yellow or red.

## **OBSTALINK**

- Monitoring of Lights (status and alarm)
- Preventive maintenance of solar kits (panel, batteries status)
- Wireless control



## Night Selection Guide - NAVILITE SERIES LOW INTENITY



RED	selection guide for RED FIXED LOW INTENSITY NAVILITE			Control of the contro	G (4) (4) (4) (4) (4) (4) (4) (4) (4) (4)		Care of the care o							
	RED FIXED LOW INTENSITY NAVILITE				I				Pa	rt Numbers	ı	1		
			113900	113901	113902	113903	113905	113906	113904	113905IR	113965	113969	113969IR	113965 IR
	48 Vdc		•				•				•			•
	24 Vdc			•				•						•
Voltage	12 Vdc				•	•			•					•
Alarm	110 to 240 Vac											•	•	
Alarm	Alarm Dry contact for alarm (both normally open & normally close) when lamp failure or power failure											•	•	•
Surge	Surge protection										•	•	•	•
	ICAO low intensity type A									•				
	ICAO low intensity type B		•	•	•		•	•	•		•	•	•	•
Surge  Standard compliance	FAA (previous edition without infrared 43F)										•	•	•	•
compliance	FAA with infrared (last edition 43J)												•	•
Standard compliance	OFAC									•				
	Molded cable						•	•	•					
	Crimp below the light		•	•	•	•								
Connection	Terminal connection with cable entry										•	•	•	•
	Capability to mimic with red medium intensity L	-864											•	•
	Stainless bracket P/N 113920 for NAVI- LITE and a box	34	•	•	•	•	•	•	•					
Optional mechanical interface	Stainles bracket + additional cable gland P/N 113928 (in absence of rigid pipe)	34				•								
mechanical	Additional square P/N 113789-NAV-XX [XX : diameter of tube]	34								•				
	113789 STI-FAA-XX (xx = diameter of tube) adaptater for old neon lights											•		
	Stainless bracket for cable P/N 113925-XX (XX : diameter of cable)					•								









113965IR sur tube fileté

NAVILITE 230 VAC 113909 (113905 + 113911)



# Night Selection Guide - OFC SERIES MEDIUM INTENSITY



	selection guide for RED MEDIUM INTENSITY		Part Numbers											
			113790RI-240	113790RI-048	113790RI-SOL	113790RI-240-G	113790RI-048-G	113790RI-SOL-G	113790RI-240-R	113790RI-048-R	113790RI-SOL-R	113970RI-240-RG	113790RI-048-RG	113790RI-SOL-RG
GPS & pho-	GPS (for flashes an/or on/off wireless synchron	nsation)				•	•	•				•	•	•
to-sensor	Photo-sensor (for on/off)								•	•	•	•	•	•
	48 Vdc			•			•			•			•	
Voltago	24 Vdc				•			•			•			•
Voltage	12 Vdc				•			•			•			•
	110 to 240 Vac		•			•			•			•		
alarm	Dry contact for alarm (both normally open & no	ormally close)	close) •											
Standard	ICAO medium intensity type B and C depending	O medium intensity type B and C depending on dip-switches												
compliance	ICAO medium intensity type B and FAA L-864 by dip-switches			•										
Connection	1 meter of cable provided				•			•						•
Connection	Terminal connection with cable entry		•	•		•	•		•	•	•	•	•	
	FAA adaptator P/N113789-OFCC								•					
Optional mechanical interface	Bracket for vertical tube P/N113789-0FC								•					
	Bracket for horizontal angle P/N113789-0F-CB								•					
	Fixation Tube 113789-OFC-TUBE-XX (XX = diameter of tube)								•					



113790RI-048 + 113789-0FC-114



113790RI-048 + 113789-0FCB



## NAVILITE 12 - 24 - 48 VDC & 110-240 VAC

## Low intensity type A and B



#### One-piece molded

- perfectly waterproof
- no corrosion risk
- lifetime 10 times higher than for incandescant lights
- no rise from the ground potential (due to lightning for example)
- bird spike

#### **LED** light

- Total of 64 diodes
- 16 circuits of 4 LEDS
- LED wiring 4 by 4 in active redundancy @ 90°
- molding provides perfect support of the LED inclination angle
- excellent heat dissipation

## 2 variants: Pods or cable

- Continuous current 12, 24 and 48 VDC
- optional power supply through a backup power source for continuity of the marking ( batteries) or through solar generator.
- Available with terminal connection or 35cm cable



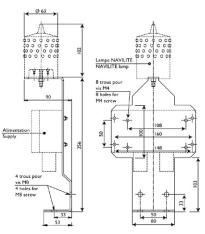


Molded cable

#### **ACCESSORIES**

Stainless steel mounting bracket - P/N 113920 for Navilite & optional box.



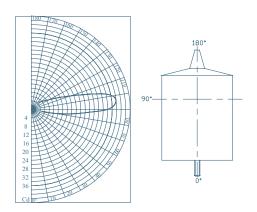


For NAVILITE-48V only

- Command box P/N 113940, 113915 and 113915-SOL and 113912 (see next page)
- 230 VAC to 48 VDC conversion box P/N 113911 (see next page)



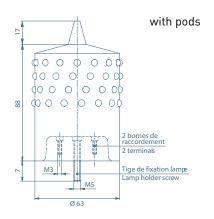
#### **LIGHT INTENSITY DIAGRAM**

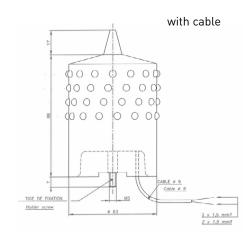


	NAVILITE Type A and B
IP degree	66
Operating temperature	-40° + 55°C
Power supply	12, 24, 48 VDC (+/-10%)
Light weight	370 g
Attachment	M5 screw (provided)
Maintenance	none

<sup>\*</sup> The weight of the fixing bracket is 0.75kg

#### **DIMENSIONS (IN MM)**





#### **MAIN REFERENCE**

	Designation	Part number	Power supply	Luminous intensity	IR	Electrical current	Cable	Nominal power	Lifetime
	NAVILITE-48V	113900	48 VDC	> 32 Cd	NA	125 mA	NA	6 W	
Pod	NAVILITE-24V	113901	24 VDC	> 32 Cd		250 mA		6 W	
٥	NAVILITE-12V	113902	12 VDC	> 32 Cd		500 mA		6 W	
	NAVILITE-SOL	113903	12 VDC	> 10 Cd		250 mA		3 W	
	NAVILITE-48-CABLE	113905	48 VDC	> 32 Cd		125 mA	35 cm	6 W	decades
e	NAVILITE-24-CABLE	113906	24 VDC	> 32 Cd		250 mA	35 cm	6 W	
Cable	NAVILITE-SOL-CABLE	113904	12 VDC	> 10 Cd		250 mA	1 m	3 W	
	NAVILITE-IR-48V- CABLE	113905IR	48 VDC	> 32 Cd	>150mW/sr @ 850nm	2 x 125 mA	35 cm	2 x 6 W	







## Command box A for NAVILITE 48 Vdc

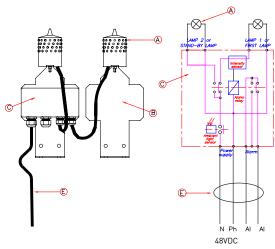
The command box P/N 113940 (input 48Vdc) is dedicated to 1 or 2 NAVILITE-48Vdc operating at night only or continuously, plugged to work simultaneously or in redundancy (a main light and a backup light working only in case the main light is not working) with remote signalization in case of failure of the light or failure of the 48VDC supply



#### **Main characteristics**

- Polycarbonate box with transparent cover
- 48 Vdc power supply
- Redundancy wiring (one main light and one backup light) or simultaneously
- Integrated photocell or 24h/24
- Alarm monitoring in case of light(s) or power supply failure
- Automatic switch from main light to backup one in case of failure
- Configuration done by 2 dip-switches

#### Typical configuration with 2 Navilite-48V and command box P/N 113940



Alarm conditions :

- Low intensity of the lamp(s)
- Short-circuit of the lamp(s)
- Power supply failure

Nomenclature / Bill of materials					
Reference	Quantity	Part number	Designation		
А	2	113905, 113900, 113965	Navilite 48VDC		
В	2	113920	Navilite bracket		
С	1	113940	Command box		
Е	-	-	4 cores 1.5 mm²		

Cable must be shielded when used in electro-magnetic fields

	Input power Function			Quantity of	NAVILITE					
Accessories	P/N	48 Vdc	12-24 Vdc	110-240 Vac	Maina & back-up lights capability	alarm light and power supply	night only operation capability	Blinking mode for infrared P/N 113905IR	Quantity of NAVILITE-48V P/N 113900, 113905	NAVILITE-48VIR P/N 1139005IR
Command Box A	113940	•			•	•	•		1-2	
	113915	•			•	•	•			
Command Box B	113915-SOL		•		•	•	•	1	1-4 (add junction box if more than 2	1
	113912			•	•	•	•			
230 VAC to 48 VDC converter	113911			• 230 VAC					lights)	
Junction Box	113946	•	•	•					3	3

## Command box B for NAVILITE 48 Vdc

The command box P/N 113912 (input 230Vac), 113915 (input 48Vdc) or 113915-SOL (input 12-24Vdc) are dedicated to NAVILITE-48Vdc or NAVILITE-IR-48V, they includes the same function than the command box P/N 113940 above. They could monitor 1 to 4 lamps working simultaneously or 2 in redundancy (a main light and a backup light working only in case the main light is not working), at night only or continuousy with remote signalization in case of failure of the light or failure of the 48VDC supply. They also could make the light blinking as low intensity type E or used for combi-lamp with infrared (NAVILITE-IR-48V-CABLE)

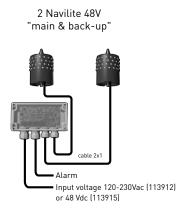


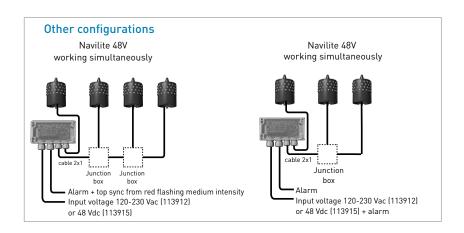
#### Main characteristics

- Polycarbonate box with or without transparent cover
- Redundancy wiring (one main light and one backup light)
- Integrated photocell
- Alarm monitoring in case of lights or power supply failure
- Switch from main light to backup one in case of failure
- Blinking mode (Low intensity type E, L-810(F), Navilite-RI-48V)
- Configuration done by dip-switches

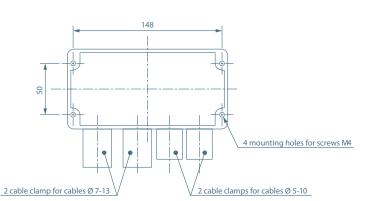
Additionnal features compare to 113940

- Blinking mode (red and Infrared circuits for 1 NAVILITE 1133905IR)
- More power to energize up to 4 NAVILITE RED





#### **WEIGHT & DIMENSIONS (FOR ALL MODEL)**



IP degree (in vertical position)	65
Power Cable diameter	from 7 to 13 mm and 5 to 10mm
Wire cross section	from 1 to 2.5 mm <sup>2</sup>
Attachment	4 screws type M4

## NAVILITE F L810

## FAA L-810 compliant with ICAO low intensity type B

L-810(L) as per FAA 150-5343H



### One-piece molded

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

#### **LED** light

- Total of 64 diodes
- 16 circuits of 4 LEDS
- LED wiring 4 by 4 in active redundancy at 90°
- provide perfect support of the LED inclination angle
- excellent heat dissipation

#### **Power supply**

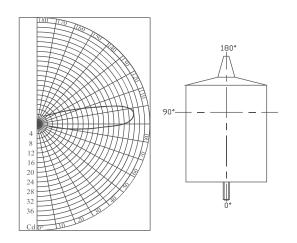
- Modular design with separate power supply in aluminium housing mounted
- 48 VDC or 110 VAC to 240 VAC power supply
- Surge protection included
- Alarm relay in case of lamp failure or power supply failure for the light part number 113969 110 to 240VAC Note: for the light part number 113965 48Vdc, a command box should be added (see page 32)
- 2 x %"NPT threaded holes for mounting (or with stainless bracket P/N113928 and standard cable entry in absence of FAA rigid conduit



113969-D = 2 x 113969 + 113929

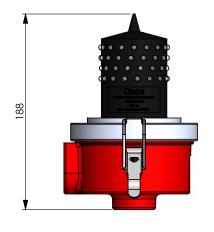


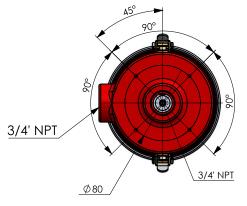
#### **LIGHT INTENSITY DIAGRAM**



	NAVILITE L-810
IP degree	65 in vertical position
Operating temperature	-40° to + 55°C
Power supply	110 VAC to 240VAC and 48VDC (+/-10%)
Weight (light)	370 g (excluding aluminium base)
Weight (light + base)	1.4 kg (fixed through vertical or horizontal NPT)

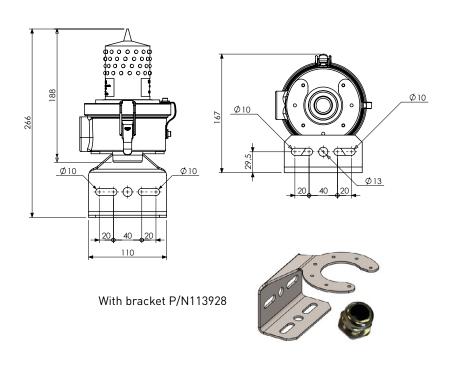
#### **DIMENSIONS (IN MM)**





#### **ACCESSORIES**

- Support for horizontal or vertical attachment P/N 113928
- Support for dual system P/N 113929 (see example page 26)



#### **MAIN REFERENCE**

Designation	Part number	Power supply	Luminous intensity	Nominal power	Theorical lifetime
NAVILITE-F-120-240V	113969	110 VAC to 240 VAC	Λο ποη ΓΛΑ 1E0 E2/2H	6 W	decades
NAVILITE-F-48V	113965	48 VDC	As per FAA 150-5343H	6 W	decades
NAVILITE-F-120-240V-DUAL*	113969-D	110 VAC to 240 VAC	Λο ποη ΓΛΛ 1E0 E2/2U	6 W	decades
NAVILITE-F-48V-DUAL*	113965-D	48 VDC	As per FAA 150-5343H	6 W	decades

## NAVILITE FAA L810 IR

## FAA L-810 compliant with ICAO low intensity type B

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



NAVILITE-IR-FAA-120-240V

#### One-piece molded

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

#### **LED** light

- Total of 128 diodes
- 16 circuits of 4 LEDS with Infrared
- LED wiring 4 by 4 in active redundancy at 90°
- provide perfect support of the LED inclination angle
- excellent heat dissipation

#### **Power supply**

- Modular design with separate power supply in aluminium housing mounted
- 110 VAC to 240 VAC power supply
- Surge protection included
- Alarm relay included
- Mimic with L-864 medium intensity (flashing mode) or fixed mode
- 2 x %"NPT threaded holes for mounting (or with stainless bracket P/N113928 and standard cable entry in absence of FAA rigid conduit)



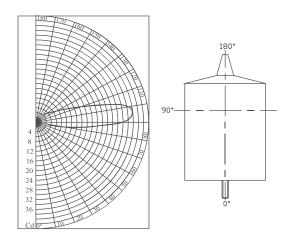
Night Vision Goggles according to FAA 150-5343J

#### **MAIN REFERENCE**

Designation	Part number	Power supply	Luminous intensity	Nominal power	Theorical lifetime
NAVILITE-IR-FAA-100-240V	113969IR	110 VAC to 240 VAC	As per FAA 150-5343J	8 W (fixed mode)	decades
NAVILITE-IR-FAA-048	113965IR*	10 VDC to 60 VDC	As per FAA 150-5343J	8 W (fixed mode)	decades



#### **LIGHT INTENSITY DIAGRAM**

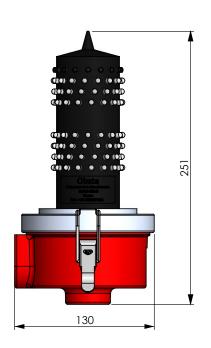


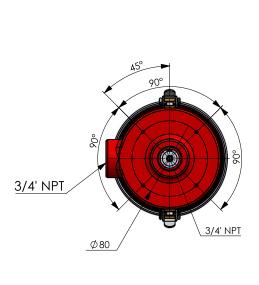
	NAVILITE L-810
IP degree	65 in vertical position
Operating temperature	-40° to + 55°C
Power supply	110 VAC to 240VAC 48Vdc +/- 10%
Weight (light + base)	1.4 kg (fixed through vertical or horizontal NPT)

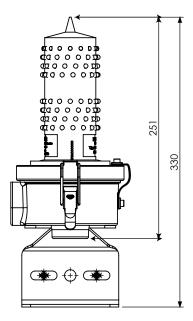
#### **DIMENSIONS (IN MM)**

#### **ACCESSORIES**

- With cable gland
- Support for horizontal or vertical attachment P/N 113928







With bracket P/N 113928



Kit for 1 lamp P/N 113928



Kit for 2 lamp (DUAL) P/N 113929

P/N 113124



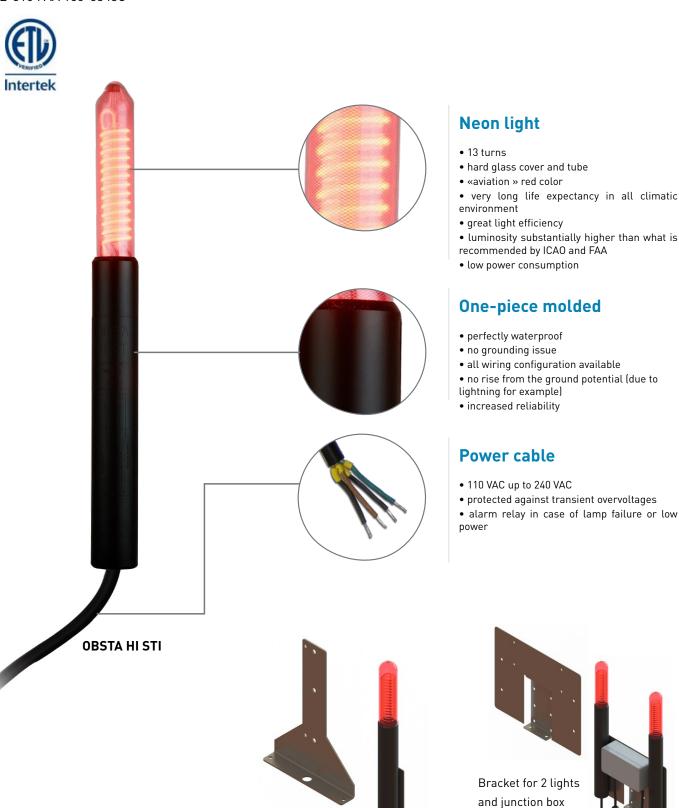
## OBSTA HISTI 110 to 240 VAC

Bracket for 1 light

P/N 113121

The OBSTA HI STI is devoted to the marking of all kinds of obstacles such as buildings, airports, broadband towers, high voltage power poles. One model allow can cover every voltage from 110VAC up to 240VAC.

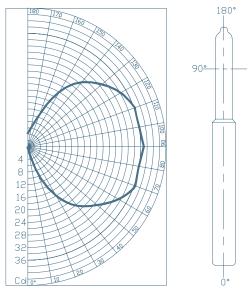
L-810 FAA 150-5343G





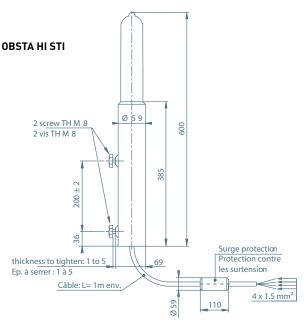


#### **LIGHT INTENSITY DIAGRAM**



	HISTI
IP degree	66
Operating temperature	-30° + 60°C
Power supply voltage	from 110 up to 240V (+/-10%) 50/60 Hz
Weight	2.3 kg
Attachment	2 screws type M8 (provided) Thikness to screw into : 1 up to 5 mm
Wiring	On stripped wires (2 power wires, 2 alarm wires)

#### **DIMENSIONS (IN MM)**



#### **SPECIAL PRECAUTIONS**

For chimney installation, install the light under the top (1.5 to 3m, 5 to 10ft), as per ICAO and FAA recommendations.

For installation in intense electromagnetic fields, the use of shielded wire is highly recommended.

#### **OTHER FUNCTIONS**

- Failure remote signalization by relay (see diagram)
- «Active redundancy» configuration allows the automatic turn on of a backup light and/or of an alarm in case of failure of the main light (see diagram)
- Photocell controlled
- Light shielded as per standard EN 55011, class B
- Stainless steel mounting bracket (ref. 113121 for one light and 113124 for two lights)
- Connection accessories (see page 34)

#### **MAIN REFERENCE**

Designation	OBSTA part number	Power supply	Luminous intensity	Current consumption	Nominal power	Theorical lifetime (without any light decrease*)
OBSTA HI STI	113110	from 110 V eff. up to 240 V 50/60 Hz	> 32 Cd	110V - 730 mA 240 V - 370 mA	45 W	10 years
OBSTA HI STI-APR	113113	from 110 V eff. up to 240 V 50/60 Hz	> 32 Cd	110V - 730 mA 240 V - 370 mA	45 W	10 years

<sup>\*</sup> with power supply stabilized









## **OBSTAFLASH COMPACT OFC**

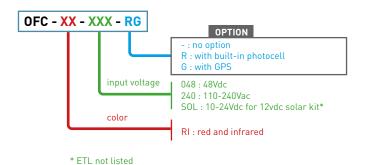
L-864 FAA (AC 150/5345-43J) certified with IR compatible with night vision goggles (NVG) ICAO Red Medium intensity type B & C / CAA compliant (fixed mode)



#### **Characteristics**

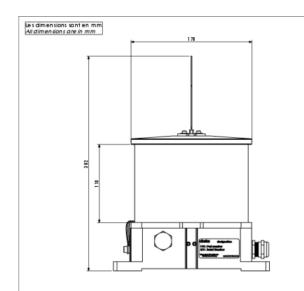
- Hard glass cover (no plastic) and aluminum based
- Easy installation with only captive parts
- 2 LED circuits with red and infrared leds
- Adjustable configuration through dip-switch inside the flash-head as per ICAO MI type B (20 to 60 flashead per minutes) or ICAO MI type C & CAA (fixed mode) or FAA L-864 (30 flashes per minutes)
- Alarm in case of light or power failure (normally open and normally close relay both available)
- Low consumption
- Surge protection included
- "Night Vision compatible"
- Photocell and GPS built-in in option
- Condensationless valve
- Modular construction

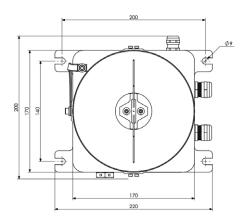
## Product range OBSTAFLASH COMPACT OFC ICAO Red Medium intensity type B & C / L-864 / CAA / STAC





#### **WEIGHT & DIMENSIONS (IN MM)**





Mechanical characteristics	OFC
IP degree	66
Operating temperature	-40°C to +55°C
Cable entries	2 nickel-plated brass
Weight	5kg

#### **ACCESSORIES**

- Built in GPS for wireless synchronisation
- $\bullet$  Built in Photocell for night only operation

External accessories

- junction box part number 113946
- monitoring box for OFC & Navilite part numbers 113176-240 (AC) and 113176-048 (DC)
- Photocell part number 100756 (AC) or 100757 (DC)

#### **MAIN REFERENCE**

designation	part number	Voltage	Color	Infrared intensity and wavelength	Red Luminous intensity	Average power consumption
OFC-RI-048	113790RI-048*	48 Vdc	red	600mW/sr (d 800-900nm	2000cd RMS	3 to 30 W depending on the configuration (10W for L-864)
OFC-RI-240	113790RI-240*	100-240 Vac	red			
OFC-RI-SOL	113790-RI-SOL*	12-24 Vdc	red			

<sup>\*</sup> option "G" to be added for built-in GPS for day/night and/or flash synchronisation

<sup>\*</sup> option "R" to be added for built-in photocensor

<sup>\*</sup> option "RG" to be added for built-in GPS for flash synchronisation and built-in photocell

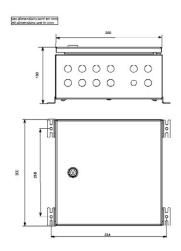


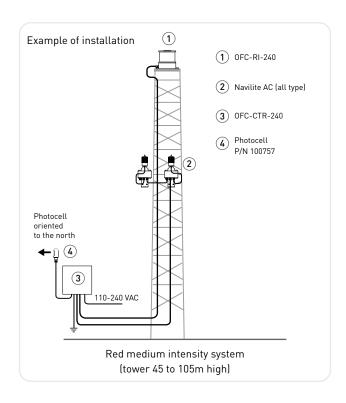
## **CONTROLLER & CONNECTION BOXES**

Stainless control box to facilitate the implementation and monitoring of red medium and low intensity OBSTA lights. These metal boxes are suitable for EMC environments and severe climatic conditions.



- cable inputs by gland nickel plated brass
- 8 terminal connections for max 8 medium intensity lights and/or low intensity lights red fixed or mimic with medium intensity red flashing
- 1 visual indicator per light (or group of light)
- surge protection
- connection of optional photocell
- alarm relay per lamp, for the photocell and for the power supply
- on/off switch and remote/manual switch to bypass the photocell or GPS





#### **MAIN CHARACTERISTICS**

Part number	Voltage	Number of OBSTA lights
113176-240-G	110-240 VAC	OFC and NAVILITE 240 V (medium intensity type B or L-864 setting)
113176-048-G	48 VDC	OFC and NAVILITE 48 VDC (medium intensity type B or L-864 setting)
113176-240	110-240 VAC	8 OFC (medium intensity type C setting) and/or NAVILITE 240 VAC
113176-048	48 VDC	8 OFC (medium intensity type C setting) and/or NAVILITE 48 VDC

Monitoring and control boxes offered with the NAVILITE are designed for an easy use and installation follow up on the complete obstruction lights system.

#### **JUNCTION BOX FOR NAV-JB (P/N 113946)**



#### Main characteristics

- Polycarbonate box for wiring in parallel 4 cables of 8 wires max
- Can be fixed on the bracket of NAVILITE
- Suitable for all voltage
- 2 cable entries diameter 5-10mm and 2 for cable diameter 7-13mm
- Terminals connections for the wires 2,5mm<sup>2</sup> max

#### **JUNCTION BOX FOR NAV-JB (P/N 113948)**



#### Main characteristics

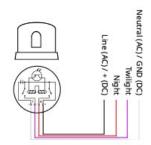
- Aluminium painted box for wiring in parallel 5 cables of 8 wires max
- Equipped with bracket, U-bolt in option
- Suitable for all voltage
- 5 cable entries for shielded cable diameter 10-16mm
- Terminals connections for the wires 2.5mm² max

#### PHOTOCELL FOR NIGHT ONLY OPERATION



P/N 100757 to be ordered separately

PHOTOCELL	Power supply	Max amps	
100756	110 to 240 VAC	2 A	
100757 12, 24 or 48 VD		(night circuit)	





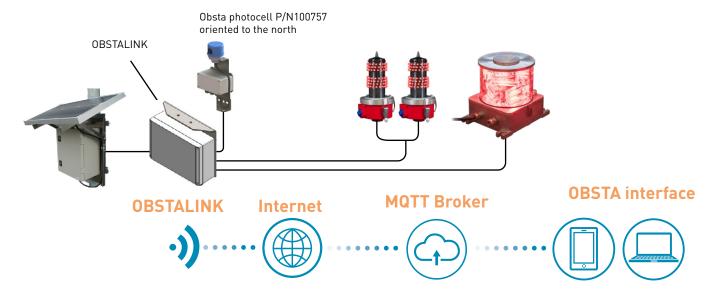
## **OBSTALINK**



- Periodic control of the system, every 30 minutes
- Control of the power consumption of each light
- Control of the dry alarm contact (normally close or normally open) of each light (if available on the obstruction lights)
- Control of the DC power source (batteries from the solar kit or the battery cabinet)
- Status of obstruction lights
- Alarm threshold settings on the server
- Stainless cabinet with cable inputs by gland nickel plated brass
- Connexion of an external photocell (for red only obstruction lights)
- 4G LTE modem with 2G and 3G for internet connection
- Compatible with other brands of obstruction lights

Part number	Voltage	Number of lights to monitor
114800	10 to 60 Vdc	Up to 10 lights (steady or flashing)

#### **EXAMPLE OF INSTALLATION**



#### **Obsta Monitoring website**

Monitoring web interface for Obsta customers and administrators

#### Features:

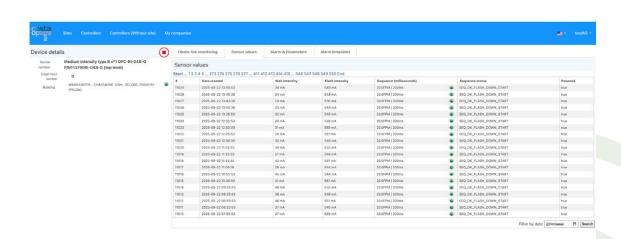
- Organize your sites, obstacles and lights centrally
- Overview of the states of lamps
- Display detailed information of the lamp and its power supply (monitoring view with graphs)
- OBSTALINK can define the threshold of the alarm and the notications to send in case of events.
- Storage of received telemetry data history
- And more

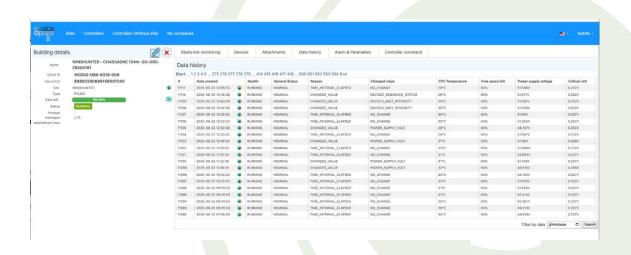


# Medium intensity











# Selection Guide DUAL COLOR MEDIUM INTENSITY



	DAY AND NIGHT MEI	OIUM II	NTENSITY	SYSTEM	ИS							
Selection guide for WHITE ONLY OR DUAL COLOR MEDIUM INTENSITY					Partin	umbers		obsta			000	
		113792A	113791A	113792UA	113791UA	113725UIA	113723UIA	1137251	1137231	114792-240	114792-048	114792-024
GPS as main (flash + d up mode (in case of fai control signals)	ay/night change) or as a back- ilure of the controller/external	-	-	-	-	-	•	-		-	-	-
	ide (for day/twilight/night										•	
change) TCP Modbus							•					
Voltage	48Vdc									•		
Š	24Vdc											
	110 to 240Vac											
Alarm	Dry contact for alarm (both normally open & normally close) when lamp failure or power failure						•					
Compliance standard	ICAO medium intensity type A and B (or C) depending on the position of the dip-switchs  ICAO medium intensity type A and B + FAA L-865/L-864 depending of the position of the				•		•					
Optional mechanical interface	dip-switchs  Tower bracket						•					
Option external photocell for day/ night change (if not present, GPS as back-up)	Photocel DC P/N100757					•						•
Optional controller	OFH-CTR-CAN for high intensity and/or medium intensity P/N 114803	E						•				
Optional UPS	48VDC UPS (powered through 110 to 240Vac), see page 63 for more information			•								•
Optional Solar Kit	SOLAR KIT consult us			•								•
Optional IoT controller	OBSTALINK						•					

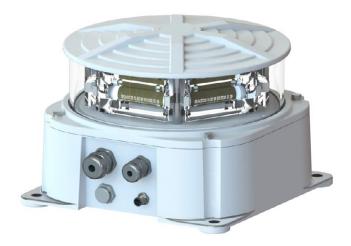


	DAY	AND NIGHT HIGH INTENSITY S	YSTEMS	
Selection guide for HIGH INTENSITY			obsta	
			Part numbers	
		113780B	113780BB- 048*	113780U
GPS as main (flash + d up mode (in case of fai control signals)	ay/night change) or as a back- lure of the controller/external		•	
TCP Modbus			•	
Voltage	48Vdc		•	
	110 to 240Vac	•		•
Alarm	Dry contact for alarm (both normally open & normally close) when lamp failure or power failure		•	
Compliance standard	ICAO high intensity type A (flash duration 200ms)	•		
	ICAO high intensity type B (flash duration 200ms)		•	
	FAA high intensity L-856 (flash duration 100ms)			•
Optional mechanical interface	Tilt bracket 0° to 10°		•	
Option external photocell for day/ night change (if not present, GPS as back-up)	Photocel DC P/N100757		•	
Optional controller	OFH-CTR-CAN for high intensity and/or medium intensity P/N 114803		•	
Optional Solar kit	48VDC solar kit,consult us		•	

<sup>\*</sup> ICAO Annex 14. «When it has been determined that an overhead line needs to be marked but it is not practicable to install markers on the wire, then high-intensity obstacle lights Type B, should be provided on their supporting towers.»

# **OBSTAFLASH OFD**

The obstaflash dual color or white only provides a day and night marking solution for all kind of obstacle higher than 45 meters as per ICAO . For obstacle below 150 meters the use of white or dual color flashing light medium intensity type A during day time eliminates the need to paint the obstacle with red and white stripes



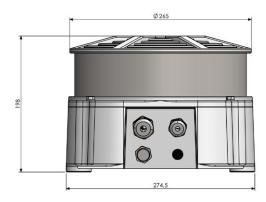
- Hard glass protection
- Robust construction in aluminium
- Hexagon shape with 6 modules each including 3 decoupled white, red and infrared led circuits
- NVG visible as per FAA standard
- Simple installation with no losing parts
- Normally open or normally close relay available in case of lamp or power supply default
- Smart beacon with communication capabilities (controller, TCP Modbus)
- type 2 surge protection with indicator
- Photocensor and GPS built-inside
- Low weight and compact design
- Breather ven

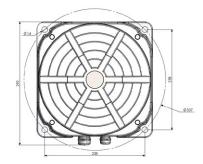






# **WEIGHT & DIMENSIONS (IN MM)**





### **MAIN CHARACTERISTICS**

Main characteristics	Effective Lumin site a	.   (:0		Color		Infrared		Beam Spread	
	Day	Night	Dat	Night	Day	Night	Vertical	Horizontal	per minute
Red only (Type B or C)	Light off	2000 Cd	Off	Red					
White only (Type A)	20 000 Cd	2000 Cd or Off	<b>OO Cd or Off</b> White White Possible to keep on On > 3°	360)	As per ICAO or FAA				
Dual color (L865/L864)	20 000 Cd	2000 Cd	White	Red					IAA

### **MAIN REFERENCE**

designation	part number	Input Voltage	ICAO category	Color
OFD-RW-024	114792-024	24 VDC (-10%/+15%)		
OFD-RW-048	114792-048	48 VDC (-10%/+15%)	Medium intensity type A & B or C (White/Red flashing)	dual color
0FD-RW-240	114792-240	110 AC to 240 VAC		



# **OBSTAFLASH OFI360**

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





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
- GPS as back back up or as master
- Communication capabilities (MODBUS TCP)

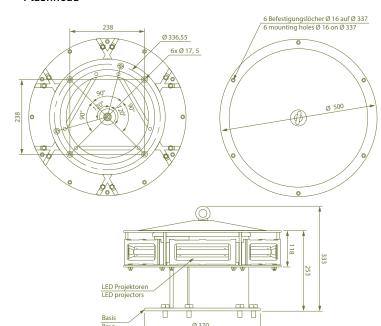


Product range OBSTAFLASH OFI360
Obstaflash Medium intensity with 48Vdc integrated power supply ICAO White and Red Medium Intensity type A and B & C / CAA /STAC



# **WEIGHT & DIMENSIONS (IN MM)**

#### Flashhead



IP degree for power cabinet	65 in vertical position
Operating temperature	-30° to +55°C
Input voltage	48 Vdc +/-10%
Cable entry for flashhead, power supply, photocell and alarm	1 nickel plated brass

### **ACCESSORIES**

- 48vdc photocell part number 100757
- 48Vdc battery cabinet (input voltage 100-240VAC) for 12 hours back-up part number 113956 (see page 63)

### **MAIN CHARACTERISTICS**

Main characteristics	Effective Luminous output on site at 0°		Col	olor Be		Spread	Flashes per minute	
Main characteristics	Day	Night	Day	Night	Vertical	Horizontal	rtasnes 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	113792UA		Medium intensity type A & B (White/Red)	L-865/L-864	dual color
0FI360-WW-048-U	113791UA		Medium intensity type A (White)	L-865	white
OFI360-RW-048	113792A	48Vdc	Medium intensity type A & B or C (White/ Red flashing)	-	dual color
OFI360-WW-048	113791A		Medium intensity type A (White flashing)	-	white









# KIT OBSTAFLASH OFI360 110-240 Vac

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





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
- GPS as back back up or as master
- Communication capabilities (MODBUS TCP)



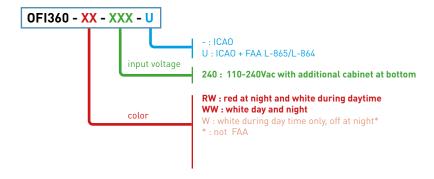


#### 120-230 VAC Power cabinet

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

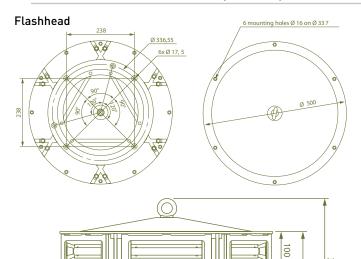
Product range OBSTAFLASH OFI360

Obstaflash Medium intensity with 48Vdc integrated power supply ICAO White and Red Medium Intensity type A and B & C / CAA /STAC





### **WEIGHT & DIMENSIONS (IN MM)**



Ø 370



### **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

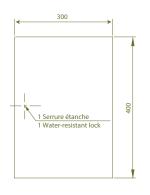
### **ACCESSORIES**

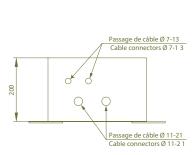
- Photocell part number 100757, see page 51
- Side lights low intensity type B or L-810 at mid level in option

#### Control cabinet

LED projectors

Base









### **MAIN CHARACTERISTICS**

Main characteristics	Effective Luminous output on site at 0°		Col	Color		Spread	Flashes per minute	
Main Character Istics	Day	Night	Day	Night	Vertical	Horizontal	rtasiles per lillilute	
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
0FI360-RW-240-U	113725UIA		Medium intensity type A & B	L-865/L-864	dual color
0FI360-WW-240-U	113723UIA	110-240Vdc	Medium intensity type A	L-865	white
0FI360-RW-240	113725IA	110-240vac	Medium intensity type A & B or C	-	dual color
0FI360-WW-240	113723IA		Medium intensity type A	-	white





# OFP-120 with complete remote power supply

The led OBSTAFLASH medium intensity is a white, red or dual color flashing obstruction light with complete power supply in the cabinet. The OBSTAFLASH is compliant with ICAO medium intensity type A and B/C.

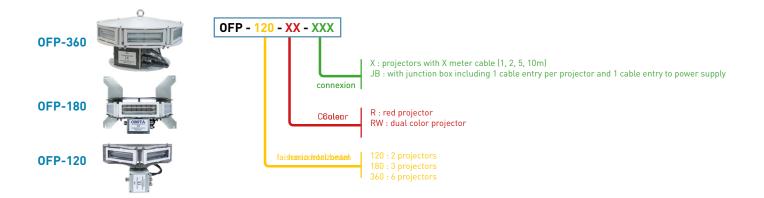


#### 3 or more Flashhead around obstacle

- Aluminium and glass envelope
- Modular design
- Easy maintenance
- Precise optic
- All electronic in stainless cabinet

### **Power cabinet**

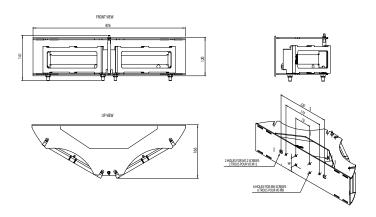
- Available in 48 Vdc or 120 /230 Vac
- Surge protection
- Automatic day/night switch with photocell
- Luminous indicator for each led circuits
- Test button for day and night
- Modular design
- Two side lights in option low intensity type
- Alarm contact
- Master/slave configuration for multiple lights synchronization
- GPS as back back up or as master
- Communication capabilities (MODBUS TCP)



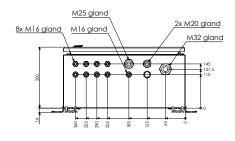


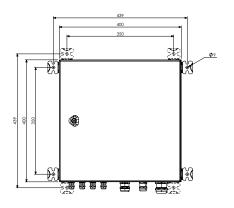
# **WEIGHT & DIMENSIONS (IN MM)**

# **OFP-120**



#### Power cabinet for 3 flashheads OFP-120-RW





Main about at a sisting	Effective Luminous output on site at 0°		Col	Color		Spread	Flacksonssissed	
Main characteristics	Day	Night	Day	Night	Vertical	Horizontal	Flashes per minute	
Red only	light off	2000 Cd	light off	Red		360° with 3		
White only	20 000 Cd	2000 Cd or off	White	White or off	> 3° flashheads	flashheads minimum	ls As per ICAO	
Dual color	20 000 Cd	2000 Cd	White	Red		mum		



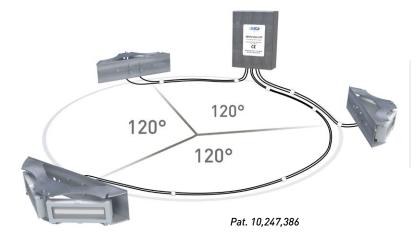




# KIT OBSTAFLASH OFI120

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





### 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



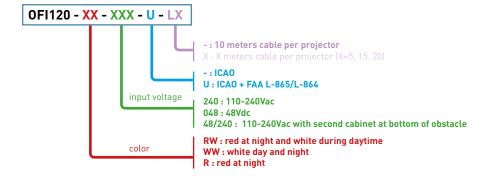
#### Power cabinet

- 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 L-810 or low intensity at intermediale level working at night only
- GPS as back back up or as master
- Communication capabilities (MODBUS TCP)



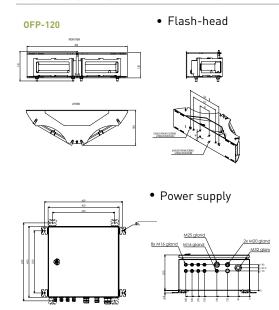
#### Product range OBSTAFLASH 0F120

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





### **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 +/-10%
Cable entry for flashhead, power supply, photocell and alarm	4 nickel plated brass

### **ACCESSORIES**

- 48vdc photocell part number 100757
- 48Vdc battery cabinet (input voltage 100-240VAC) for 12 hours back-up part number 113956 (see page 63)

Main characteristics	Effective Luminous	s output on site at 0°	Col	lor	Beam Spread		Flashes per minute								
Main characteristics	Day	Night	Day	Night	Vertical	Horizontal	rtasnes per minute								
Red only (L864)	light off	2000 Cd	light off	Red	> 3° 360°										
White only (L865)	20 000 Cd	2000 Cd or off	White	White or off		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
	0FI120-RW-48/240-U	113758UA		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 +
120° 120°	OFI120-WW-48/240-U 113757UA VAC type A	Medium intensity type A	L-865 white me- dium intensity	OFI-CAB-1E-RW-240-U		
	OFI120-R-048/240	113756UA		Medium intensity type B	L-864 red medium intensity	3 x 0FP-120-R-10 + 0FP-JB-6P-R + 0FP-CAB-6P-1E-R-240
	0FI120-RW-048-U	113712UA		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
	0FI120-WW-048-U	113711UA	48VDC	Medium intensity type A	L-865 white me- dium intensity	011 -CAD-01 -L-IVW-040
120° 120°	OFI120-R-048 113710UA		Medium intensity type B	L-864 red medium intensity	3 x 0FP-120-R-10 + 0FP-JB-6P-R + 0FP-CAB-6P-6E-R-048	
	0FI120-RW-240-U	113715UA		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-240-U
	0FI120-WW-240-U	113713UA	110-230 VAC	Medium intensity type A	L-865 white medium intensity	UFF-CAB-6F-L-RW-Z4U-U
	OFI120-R-240	113714UA		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



# Design your medium intensity KIT



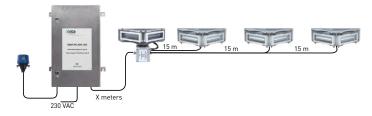
CATEGORY	CATEGORY OF LIGHT			3	WHITE OR DUAL COLOR MEDIUM INTENSITY	ENSITY	
Color			WHITE ONLY (MEDIUM INTENSITY TYPE A & L-865)		WHITE ONLY (MEDIUM INTENSITY '	WHITE ONLY (MEDIUM INTENSITY TYPE A & L-865) OR DUAL COLOR (MEDIUM INTENSITY TYPE A/B & L-865/L-864)	EDIUM INTENSITY TYPE A/B &
VIEW OF THE KIT	HE KIT		+ + + + + + + + + + + + + + + + + + + +		120° 120° 120°	1200	120° + +
	FLASH-HEAD(s) ONLY	P/N Designation	4 x [113747.JB] OFP-120-RW-JB	4 x [113747-15] 0FP-120-RW-15	3 x [113747-15] 0FP-120-RW-15	3 x [113747JB] OFP-120-RW-JB	3 x [113747-15] 0FP-120-RW-15
	JUNCTION BOX(S) TO ADD	P/N Designation					1 x [113753RW-N8] 0FP-JB-8P-RW
DETAILS OF THE KIT	CABLE TO POWER CABINET TO ADD	P/N Designation	[127113] CABLE-761.5-S0-D14.2			[127114] CABLE-12G1.5-S0-D21,6 ou white/ white only [127113] CABLE-7G1.5- S0-D14.2	[127106] CABLE-1861.5-S0-D21.3
	48VDC POWER CABINET	P/N Designation P/N Designation (stainless	[114104] OFP-CAB-1B-WW-048-4M32 [114105] OFP-CAB-1B-WW-048-4M32-S	[114102] OFP-CAB-1B-RW-048-8M16 [114103] OFP-CAB-1B-RW-048-8M16-S	[114102] OFP-CAB-1B-RW-048-8M16 [114103] OFP-CAB-1B-RW-048-8M16-S	[114100] OFP-CAB-1B-RW-048-4M32 [114101] OFP-CAB-1B-RW-048-4M32-S	[114100] OFP-CAB-1B-RW-048-4M32 [114101] OFP-CAB-1B-RW-048-4M32-S
	110-220VAC POWER CABINET	P/N Designation P/N Designation (stainless steel option)	[114114] OFP-CAB-1B-WW-240-4M32 [114115] OFP-CAB-1B-WW-240-4M32-S	[114116] OFP-CAB-1B-WW-240-8M16 [114117] OFP-CAB-1B-WW-240-8M16-S	[114112] OFP-CAB-1B-RW-240-8M16 [114113] OFP-CAB-1B-RW-240-8M16-S	[114110] OFP-CAB-1B-RW-240-4M32 [114111] OFP-CAB-1B-RW-240-4M32-S	[114110] OFP-CAB-1B-RW-240-4M32 [114111] OFP-CAB-1B-RW-240-4M32-S



# **Typical configuration**

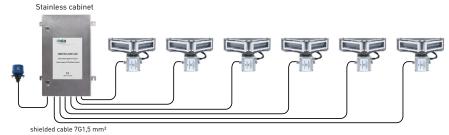
### 4 dual color obstaflash 120 + 15 meters molded cable + junction box + power cabinet

Quantity	Designation	Part number
4	OFP-120-RW-15	113747-15
1	OFP-JB-8P-RW	113753RW-N8
1	OFP-CAB-2B-RW-240-4M40	114210
1	Photocell-48	100757
X meters	Shielded cable 25G1,5	127107



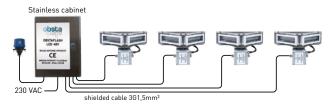
### 6 dual color obstaflash120 with junction box, interconnecting cable & power cabinet

Quantity	Designation	Part number
6	0FP-120-RW-JB	113747JB
1	OFP-CAB-2B-RW-240-6M34	114211
1	Photocell-48	100757
X meters	shielded cable 7G1,5	127113



### 4 red obstaflash 120 with junction box & power cabinet

Quantity	Designation	Part number
4	OFP-120-R-JB	113752-JB
1	OFP-CAB-1B-RW-240-4M32-S	114111
1	Photocell-48	100757
X meters	shielded cable 3G1,5	



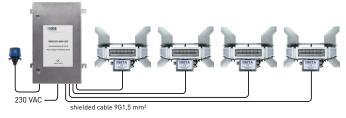
#### 2 dual color obstaflash 180 + junction box & power cabinet

Quantity	Designation	Part number
2	0FP-180-RW-JB	113738
1	OFP-CAB-1B-RW-240-4M32-S	114111
1	Photocell-48	100757
X meters	shielded cable 9G1,5	127114



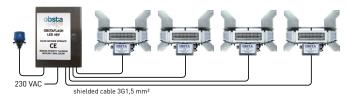
#### 4 dual color obstaflash 180 + junction box & power cabinet

Quantity	Designation	Part number
4	0FP-180-RW-JB	113738
1	OFP-CAB-2B-RW-240-4M40	114210
1	Photocell-48	100757
X meters	shielded cable 9G1,5	127114



#### 4 red obstaflash 180 + junction box & power cabinet

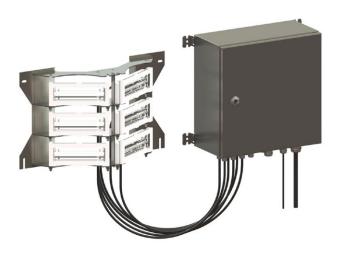
Quantity	Designation	Part number
4	OFP-180-R-JB	113745
1	OFP-CAB-1B-WW-240-4M32-S	114115
1	Photocell-48	100757
X meters	shielded cable 3G1,5	



# LED OBSTAFLASH HI type A

The led OBSTAFLASH high intensity is a white color flashing obstruction light.

The OBSTAFLASH is compliant with ICAO high intensity type A, and in option medium intensity type B or C at night.



Patent: EP 1966535B1 & US 7816843

#### **Flashhead**

- 6 led dual color projectors
- Aluminium and glass envelope
- Modular design
- Easy maintenance
- Precise optic, low power consumption

### **Description**

- 200 000 candelas during day time in white
- 20 000 candelas during twilight in white,
- 2000 candelas during the night white (or red medium intensity type B or C),
- 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
- GPS as back back up or as master
- Communication capabilities

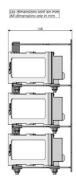
# Product range OBSTAFLASH OFH ICAO High Intensity type A / CAA

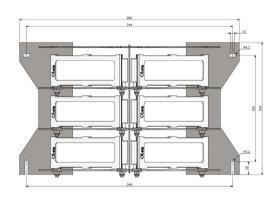




# **WEIGHT AND DIMENSIONS (IN MM)**

#### Flashhead





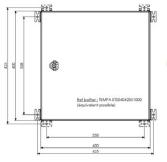
# **COMPOSITION**

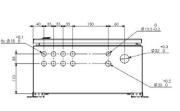
Obstruction lighting system 230 V - 50Hz	Part Number
Flashead + power cabinet	113780B
Photocell day/twilight/night	100757
HI controller	114803

### **OTHER CHARACTERISTICS**

- IP degree: 66 for the projectors and 65 for the stainless cabinet in vertical position,
- Weight per cabinet: 15kg,
- Weight per flashhead: 12kg (1kg per projector and 6kg for the stainless bracket),
- Temperature -30°C to +55°C.

### **POWER CABINET**









Main supply	Frequency	Average wattage during day time
110V up to 240 V	50/60 Hz	130 W

## **MAIN REFERENCE**

Designation	part number		Luminous Intensit	у	Beam	Flashes/	
		Day	Twilight	Night	Vertical	Horizontal	minute
0FH-120-RW-240	113780B	200 000 Cd	20 000 Cd	2000 Cd	> 3°	120°	40





# CONTROLLER FOR HIGH AND MEDIUM INTENSITY



- allows the maintenance, the configuration, the installation and the administration up to 64 medium or high intensity OFH series obstruction lights
- large touch screen
- status and telemetric, humidity and temperature of each flashing lights allowing precise diagnostic from the ground
- alarm threshold settings
- stainless cabinet with cable inputs by gland nickel plated brass
- surge protection
- connexion of an external photocell
- remote/manual switch to bypass the photocell and force day/ twilight/night mode
- automatic notification by email or through the MQTT

### **MAIN CHARACTERISTICS**

CONTROLLER	Power supply	Max number of lights monitored
114803	110 to 240 VAC	64



# Photocell for night only operation or dual color light

- plug-in modular construction with plated contact surfaces
- automatic control of the obstruction lighting according to ambient light
- timer to prevent the functioning of the cell at inopportunes times (eg lightning)
- energy savings
- increased operational autonomy (power per power cabinet)
- 2 sensors for twilight and night mode

PHOTOCELL	Switching threshold of the cell	
100757	50 lux (night mode)	
100737	and 500 lux (twilight mode)	





# **OBSTALINK + CONTROLLER**



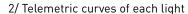


Features of the controller

Recording the status of the lights at preset interval and display through a touch screen:

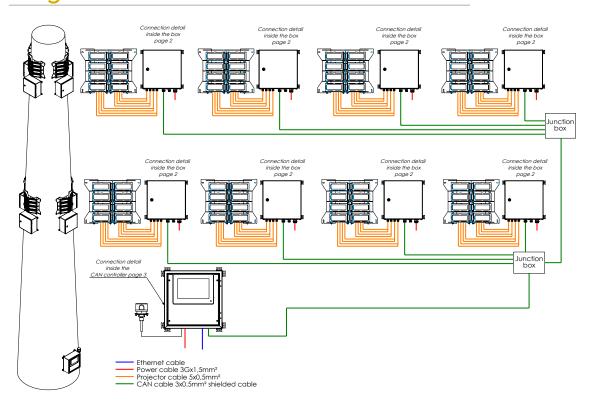
1/ Status of the lights and their power supply

- Status of the led projectors and their associeted power supply
- Status of the synchronisation coming from the GPS or other interface
- Status of the day/night mode
- Temperature inside the power supply
- Configuration of the flashheads



- Voltage of each led circuits
- Voltage of the power supply or batteries
- Temperature
- Humidity

# Typical wiring diagram High intensitY + controller





# **BALISOR**

High-voltage lines are major hazards for low-fl ying aircraft. Placing beacons on pylons is not sufficient to ensure safety due to the very long spans of cable (extract of Aerodrom Design Manual chapter 14.7 annex 4).

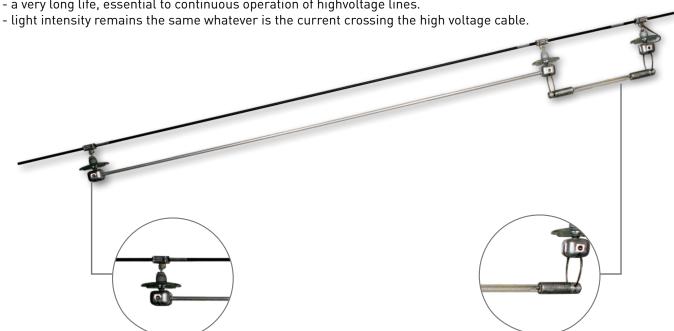
The BALISOR® system (created by OBSTA in the 60's) is a beacon for high voltage lines. Its conductors take the power required directly from the line.

The system is , therefore, completely self-contained.

Our standard model of BALISOR® fall into the ICAO low intensity category.

#### The neon discharge offers:

- inherent generation of «aviation» red light,
- a very long life, essential to continuous operation of highvoltage lines.



# Fixing accessories

- fixing accessory and capacitive elements in aluminium
- flexible mounting no rigid fixation
- clamp adapted to the diameter of the cable
- exists with cable antenna

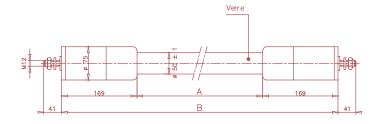
# Cold neon discharge light

- hard glass envelope and tube
- "aviation" red light
- very long lifetime,
- excellent luminous efficiency
- low power consumption

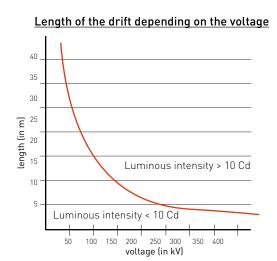
Designation	Part number	Luminous intensity	Voltage of the line	Interference suppression	Typical lifetime
BALISOR-lamp-B49	100618	> 10 Cd	60 kV to 550 kV	yes	> 100 000 h.
BALISOR-lamp-B33 (for balisor with cable antenna)	100616	> 10 Cd	60 kV to 400 kV	yes	> 100 000 h.



# **WEIGHT AND DIMENSIONS (IN MM)**



Туре	Α	В	Weight	
Lamp type B49	563 +/- 5	901 +/-5	4.7 kg	
Lamp type B33	376 +/- 5	714 +/-5	4 kg	



			Number	of elements de	pending on vol	tage line
Unit weight	Code	Désignation	115 kV	132 kV	220 kV	380 kV and more
0.85 kg	100637	Clamp	7	6	4	3
3.50 kg	100621*	Insulator	7	6	4	3
0.10 kg	100636*	Shunt braid	1	1	1	1
0.50 kg	100628	Simplified auxiliary holder	7	6	-	-
2.00 kg	100631	Lampe holder	-	-	2	2
1.35 kg	100632	Auxiliary tubing holder	-	-	2	1
1.90 kg	100623	Auxiliary tubing	5	4	2	1
0.50 kg	100606	Flexible connector	2	2	-	-
0.50 kg	100624	Lamp end suspender	2	2	-	-
4.70 kg	100618	BALISOR B lamp	1	1	1	1
4.00 kg	100616	BALISOR B33	-	-	-	-









Balisor with rigid capacitive element

Balisor with cable antenna RTE France



# **HVLITE - CONDUCTOR WARNING LIGHT**

LED & Induction Type, Night Time every 70m nearby airport, 105m othewise



#### Main characteristics

- fFull body casing in 2 only halves of anodized and cast aluminum.

  Corrosion-proof for use in marine and damp tropical climate conditions
- Simplest but most effective form factor with axial symmetry centered on the conductor. No rotation or mounting questions.
- No other shapes or appurtenance that could generate corona effect, imbalance or vibrations on lines
- Aluminium clamp as internal part of the design
- Very low weight and minimized wind pressure
- 6 captive screws only for tightening around the conductor in less than 1 minute.
- Optics in hard glass. No risk of UV fading or sand erosion.
- Inductive power supply operating in active redundancy. 4 circuits
- All internal electronics molded in high temperature withstand silicon resin. Waterproof by concept.
- Protection against electromagnetic fields
- Smooth surface for self-cleaning and anti-bird shape
- Diameter 15 to 37 mm

Designation	Part number	Luminous intensity	Voltage of the line	Interference suppression	Max. Intensity
HVLITE	114600	> 10 Cd @ 30 A	up to 800 kV 50/60 Hz	yes	1500 A







# **WEIGHT AND DIMENSIONS (IN MM)**



Weight: 5.2 kg









# 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 mm
- material: 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)

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

<sup>\*</sup> 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
- $\bullet$  clamps depending on the diameter of the cable

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

<sup>\*</sup> to be specified at time order





# **BIRD DIVERTER**

This bird diverter is designed to increase the visibility of overhead lines and reduce the incidence of bird collisions with overhead cables. Extensive field studies have shown that when installed properly diverters significantly decrease bird strikes.



#### **DESCRIPTION**

- 6 Obsta optical units in hard glass casing with aluminum base
- Power supply integrated into beacon
- •Amber LED programmable in fixed or flashing mode
- •2 independent redundant circuits
- Surge protection included
- Alarm dry contact in the event of lamp or power supply failure
- Easy installation with captive elements during installation



### **DESCRIPTION**

- Made in PVC shockproof with UV protection
- Low weight
- Quick installation with no losing part
- Good grip in the cable
- Long lifetime
- Wind resistant

Part number to be confim on time order depending on the color and cable diameter.

# **(2)**

# BATTFRY

The obstacles which require permanent back-up must be fed by a battery cabinet (48VDC UPS) that can supply 12 hours of autonomy in case of power failure. This power cabinet draws its power from the AC main supply and outputs a DC voltage to feed 48VDC lights



- metal enclosure
- •110 Vac to 240 Vac input, 48 Vdc output
- •12 hours back up
- Protection against transient overvoltage on AC and DC side
- Protection against deep discharge batteries
- •Operating temperature : -20/+45°C
- •Suitable for Navilite 48 V series, Obstaflash series OFC-RI-048 and combination of both
- 24 hours operation with the possibility to add a 48Vdc photocell for night only operation (for

	Part Number	Amps per hour	Power supply	Output voltage	night only operation using 48Vdc photocell** signal	day only operation using the 48Vdc photocell signal	typical application with 12 hours back-up in day and/or night mode
	113950	2,1Ah			yes	no	1 NAVILITE-48Vdc (or 2 « main and back-up » with command box P/N113940 operating at night only with its photosensor activated), or 1 red medium intensity type B ICAO configuration OFC-RI-048-R with its photosensor activated
	113951	4,5Ah			yes	no	2 or 3 NAVILITE-48Vdc (with command box P/N113915 operating at night only with its photosensor activated), or 1 red medium intensity type B L-764 configuration OFC-RI-048-R with its photosensor activated
48Vdc battery cabinet without relays to deactivate the alarms from lights when they are de-energized during the night*	113953	12Ah	90 to 240Vac	48 Vdc	yes	no	up to 8 NAVILTE-48Vdc operating 24h/24 or at night only with photocell wired on the battery cabinet (no alarm) or 1-2 command box P/N113915 at night only and with photocell wired on the battery cabinet, or 1 red medium intensity type C configuration OFC-RI-048-R with its photosensor activated
	113956	18Ah			yes	no	1 dual color medium intensity 0F1360-RW-048 or 1 power unit 0FP-CAB-1B-RW-048 with itheir won photocell, or 2 red medium intensity type C configuration 0FC-RI-048-R with their photosensor activated
	113956-RW	18Ah			yes (red lights output)	no	1 dual color medium intensity OFI360-RW-048 operation day and night with up to 10 red lights NAVILITE-48V operating at night only, photocell must be wired on the battery cabinet
48Vdc battery cabinet with relays to deactivate the alarms	113953-R3	12Ah			yes	no	Up to 8 NAVILTE-48Vdc for 1 OFC-RI-048 red steady mode (ICAO medium intensity type C configuration), photocell must be wired on the battery cabinet
from lights when they are de-energized during the night or the day *	113956-W2	18Ah			yes (red lights output)	yes (white light output)	1 dual color medium intensity OFI360-RW-048 operatin day only with up to 12 red lights NAVILITE-48V operating at night only, photocell must be wired on the battery cabinet

<sup>\*:</sup> With photocell wired on the battery cabinet, the alarms of the NAVILITE 48VDC part number 113965IR or 113905/113965 with command boxes 113940/113915, or OFC-RI-048, or OFI-RW-048 will be activated during the day when lights are off

<sup>\*\* :</sup> the 48Vdc photocell P/N 100757 must be orderd separately if needed

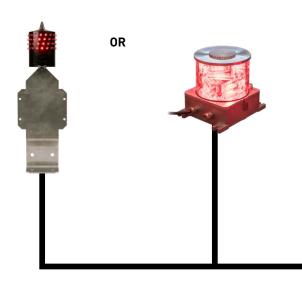




# SOLAR POWER SYSTEM

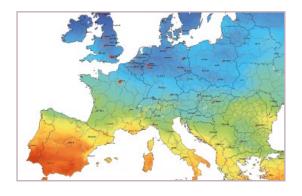
This kit consists of one or two lamps in redundancy, 12V to 48 VDC, low and/or medium intensity, that must be installed on top of the obstacle.

These solar kits are designed for long life (size of the batteries includes more than 5 days fo autonomy) and easy access for the maintenance fo the batteries



- one or more photovoltaic panel(s)
- a charge controller
- long lifetime gel battery
- an aluminium frame with angle or vertical mounting bracket and battery box
- nominal battery capacity : 5 to 10 days depending on latitude
- easy access for maintenance of the battery
- in option OBSTALINK for remote control of the obstruction light system and the solar kit

The size of the solar panel and of the battery depends on the location of the installation. Please contact us for more information.











# HELITE-G-24 and GRASILIGHT



HELITE-G-24



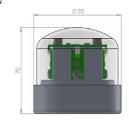
**GRASILIGHT** 

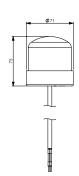
# **Key points**

- hard glass
- compact
- low power consumption
- compliant with ICAO Annex 14 Volume II
- DC power supply with battery cabinet in option
- LED technology (no maintenance)
- frangible support in option
- light weight
- feet in option

### dimensions (in mm)

HELITE-G-24

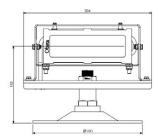


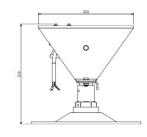


# In option

- $\bullet$  24 VDC power cabinet for 12 hours back-up (powered through 110 to 240 VAC)
- L-854 FM radio receiver/decoder is 100 % frequency and squelch field tunable within the 118-136 MHz air-band to switch on the lights with a series of 3, 5 or 7 microphones clicks.
- An integrated selectable timer shuts airfield lights off after 15, 30 or 60 minutes.

#### GRASILIGHT





Designation	Part number	Operating temperature	Color	IP degree	Attachment	Luminous intensity	Power supply
HELITE-G-24	113975	-30/+60°C	green	IP66	1 NPT threaded holes or 3 M4 0.7	>32cd	3w 10-36Vdc
GRASILIGHT	113975-P-240	-40/+55°C	white	IP66		≽10,000LM	90 ~ 305VAC 127 ~ 431VDC







# Some OBSTA references on all continents and conditions

FRANCE, Oil and Gas Chimney



SPAIN, Barcelona Tower



MALAYSIA, Kuala Lumpur



PARIS, Eiffel Tower



FRANCE, Millau



PARIS, Montparnasse Tower



USA, Texas BRUXELLES, Diegem







ABU DHABI, Four Seasons Hotel

NIGERIA, Lagos, Eko Towers



BEIRUT, Damac Vercase Tower



JAPAN



BELGIUM, Bruxelles airport



**SWEDEN** 







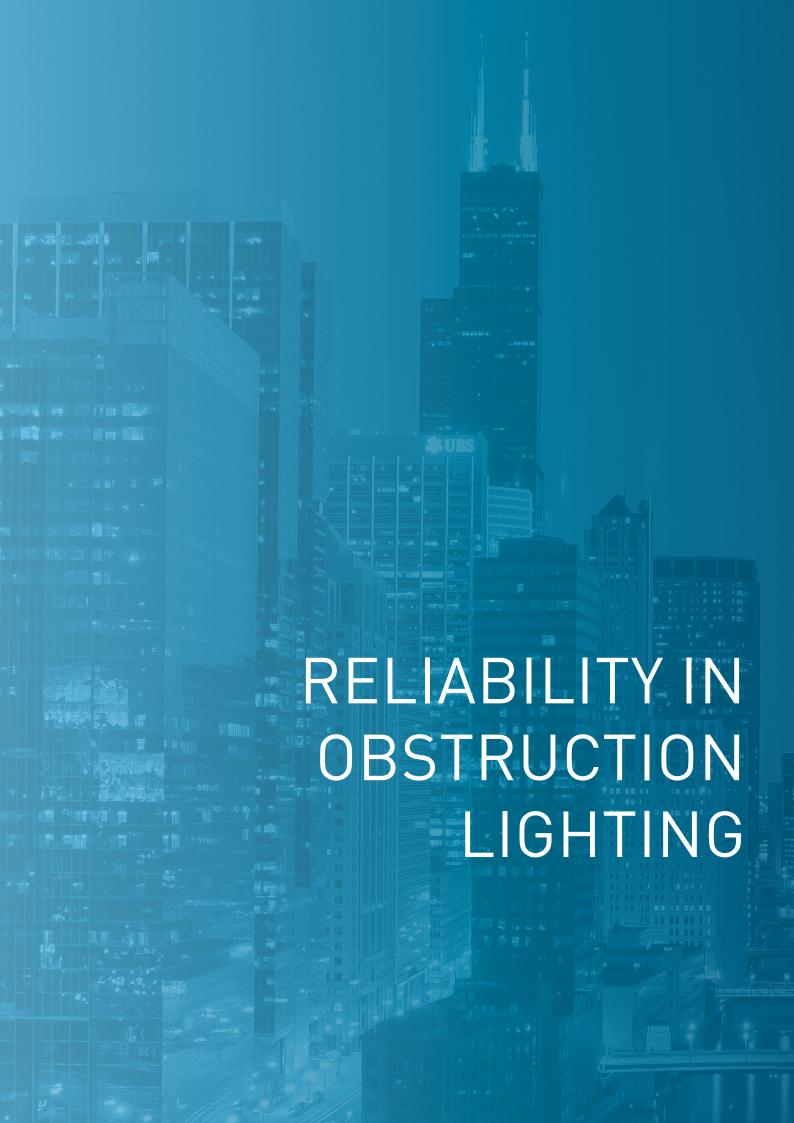


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