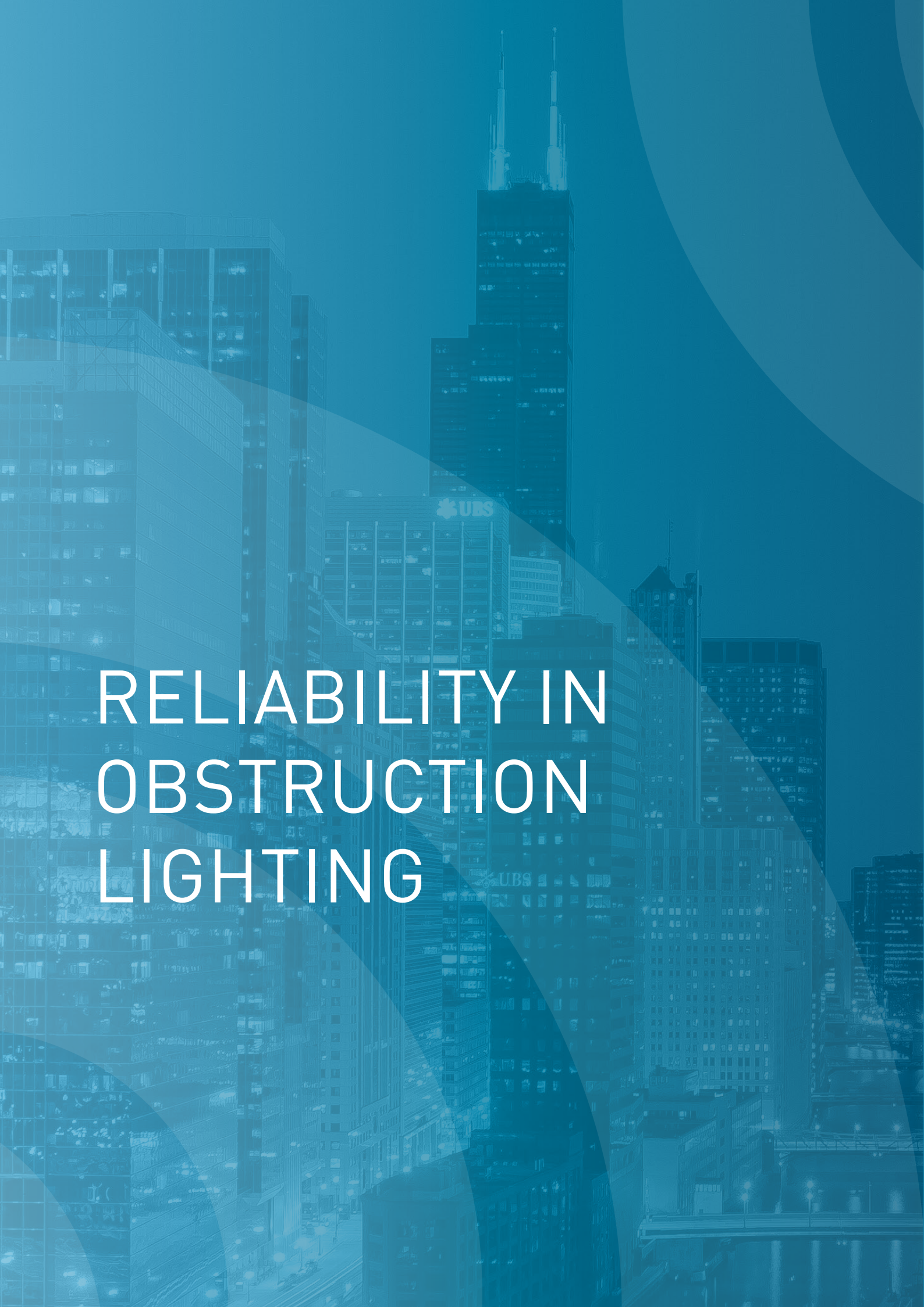
obsta

RELIABILITY
IN OBSTRUCTION
LIGHTING

EDITION 12

POWERLINES
TELECOM
BROADCASTING TOWERS
CHIMNEY
AIRPORT
WINDTURBINES
CONSTRUCTION
CABLE TRANSPORT

www.obsta.com



RELIABILITY IN OBSTRUCTION LIGHTING

SUMMARY

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).
OBSTA has manufacturing facilities in France and has sales offices located in France, Germany, USA, China, Thailand, Dubai and Bogota through Citel.

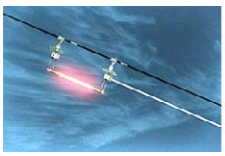
A long history

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.



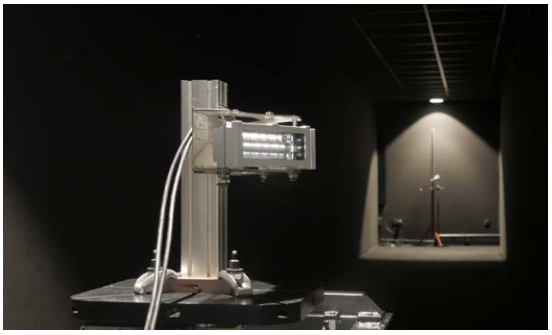
Led NAVILITE® red fixed obstruction lights (low intensity and L-810) since 2003 The NAVILITE series is dedicated to night only obstruction lights especially for telecom mast, buildings close to airports and all kind of obstacle below 45 meters high. Completely molded with 64 leds divided in 16 independent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

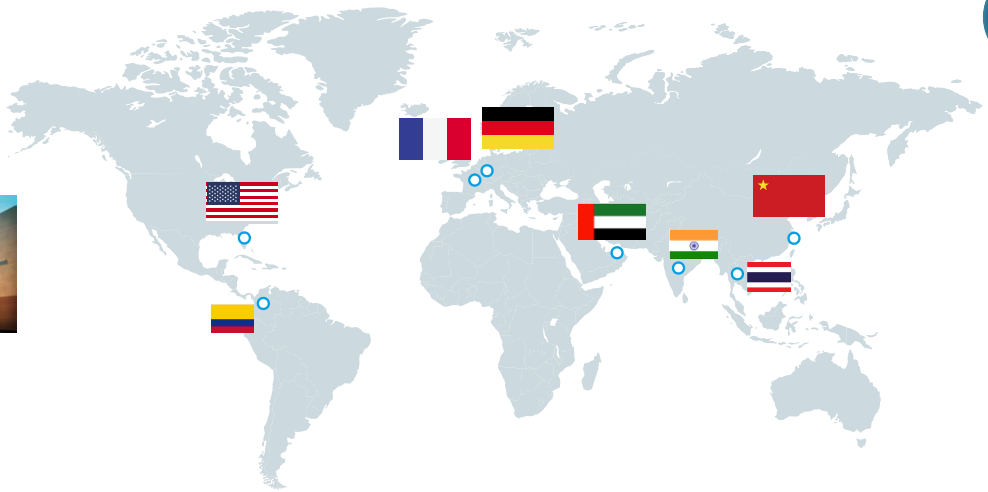


An international company

Obsta is part of CITEL group with international commercial subsidiaries.

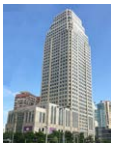
Paris -
Head Office - France and Export Sales Office

Reims -
Production plant and logistics platform

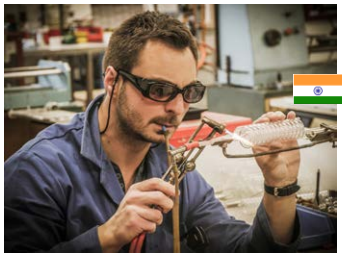
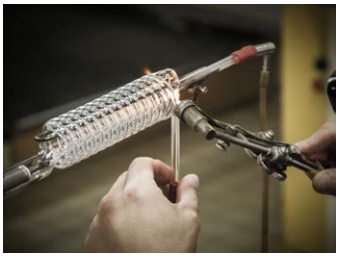









Any object which could represent a hazard for low-flying aircraft must be marked by beacon lights. The ICAO (International Civil Aviation Organization - appendix 14, Chapter 6) and the FAA (Federal Aviation Administration - USA) lay down internationally-applicable rules on the characteristics of the 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	Type		flashes per minute	Night (Cd)	Day (Cd)	Twilight (Cd)
		ICAO	FAA				
LOW	**Red**	B	L-810	Steady or flashing with L-864	≥ 32.5	light OFF	
MEDIUM	**Red**	B	L-864	30 fpm	2,000 ± 25%	light OFF	
	Dual Color	A & B	L-865 / L-864	40 fpm (white) 30 fpm (red)	2,000 ± 25%	20,000 ± 25%*	20,000 ± 25%*
	White	A	L-865	40 fpm	2,000 ± 25%	20,000 ± 25%*	20,000 ± 25%*
HIGH	**White**	A	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

Extract from annex 14 ICAO

Extract from Volume I: Aerodrome Design and Technical Operation - Ninth Edition, July 2022

6.2.1.3 The number and arrangement of low, medium or high intensity obstacle lights to be provided at each marked level shall be such that the object is indicated in all azimuths. When a light is obscured in a certain direction by part of the same object or by an adjacent object, additional lights shall be installed on the adjacent object or the part of the object obscuring the light so as to respect the contour of the object to be marked. Any obscured light that does not serve to clarify the contours of the object may be omitted.

6.2.3.10 In the case of an object to be marked with lights, one or more low, medium or high intensity obstacle lights shall be placed as close as possible to the top of the object.

6.2.3.11 Recommendation. It is recommended that, in the case of a chimney or other similar structure, the upper lights be placed sufficiently below the top to minimise contamination from smoke.

6.2.3.14 Recommendation. When the obstacle limitation surface concerned is sloping and the highest point above that surface is not the highest point of the object, it is recommended that additional obstacle lights be placed on the highest part of the object.

6.2.3.15 Lights used to indicate the general outline of an extended object or a group of closely spaced objects:
a) shall be placed at longitudinal intervals not exceeding 45 m in the case of low-intensity lights;
b) shall be placed at longitudinal intervals not exceeding 900 m in the case of medium-intensity lights.

6.2.3.16 High-intensity Type A obstacle lights and medium-intensity Type A and Type B obstacle lights that are placed on an object shall flash simultaneously.

The recommendations and rules mentioned **are provided based on the ICAO recommendations, and ICAO aerodrome design manual.**
Be sure to consult the specific regulation for each country

Example of specific local regulation for France: Order of 23 April 2018 on the installation of navigation obstacle lighting
4.3. Power supply and maintenatnce
The power supply to the lighting system is backed up by an automatic device within 15 seconds of a failure. The power source providing backup power to the lighting installations has an autonomy of at least 12 hours, unless specific operating procedures allow this minimum autonomy to be reduced.
Appendix II – 3.1 General Wind turbine lighting
The power supply to the lighting is backed up by an automatic device that switches over within 15 seconds. The energy source providing the emergency power supply for lighting installations shall have an autonomy of at least 12 hours, unless specific operating procedures allow this minimum autonomy to be reduced. For offshore wind turbines, this autonomy shall be 96 hours for night lights and 24 hours for day lights

FAA Advisory Circular regarding Specification for Obstruction Lighting Equipment – 11/16/2020

2.4.1. Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light, flashing obstruction light regardless of its position, wind turbine lighting fixture, or wind turbine synchronization should be reported immediately by calling Outage Reporting and Notice to Airmen (NOTAM) at 877-487-6867, or in Alaska 800-478- 3576, so a NOTAM can be issued. For structures that are regulated by the FCC (Federal Communications Commision), the FCC advises that noncompliance with notification procedures could subject the Sponsor to penalties or monetary forfeitures. Voluntarily installed lights (not required by an FAA determination) do not require a NOTAM.
2.5 Notification of Restoration. As soon as normal operation is restored, notify Outage Reporting and NOTAM Offices (see Paragraph 2.4.1). Note: For structures regulated by the FCC, the FCC advises that noncompliance with notification procedures could subject the Sponsor to penalties or monetary forfeitures.

Obstruction light choices

ICAO	OBSTA designation	Compliance statement
Low intensity type A (red steady burning)	NAVILITE-SOL, BALISOR 63KV to 500KV HVLITE	ICAO compliant (7th Edition_July 2018) EASA (European Aviation Safety Agency)
Low intensity type B (red steady burning)	NAVILITE-48V, NAVILITE-24V, NAVILITE-12V, NAVILITE-230; NAVILITE-120-240	
Low intensity type B (red steady burning) + infrared (fixed or flashing)	Combi light NAVILITE-IR-48V, NAVILITE-IR-FAA-120-240V	
Medium intensity type A (white flashing), type B (red flashing), type C (red steady burning) and dual color	Obstaflash medium intensity series OFI, OFP, OFD series	
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	NAVILITE-FAA	113969IR	FAA (150-5345-43J) ETL certified + compliant with ICAO low intensity type B
L-865/L-864	Obstaflash OFI-RW-240-U; OFI120-RW-48/240-U	113725UIA ;113758UA	FAA (150-5345-43J) L-865/L-864 ETL certified + compliant with ICAO medium intensity type A & B
L-864	OFC-RI-240; OFC-RI-048	113790RI-240 ; 113790RI-048	FAA (150-5345-43J) L-864 ETL certifiied + compliant with ICAO medium intensity type B
L-856	Obstaflash OFH-120-WW-240-U	113780U	FAA (150-5345-43J) L-856

Led NVG compatible obstruction lights

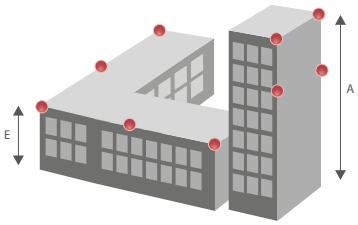
Night Vision Goggles compatible according to FAA & OFAC directive (Switzerland)

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

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.

Indicative information based on ICAO Annex 14 Chapter 6 recommandations

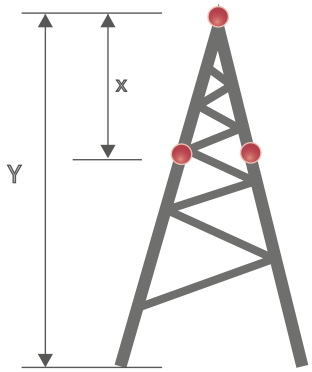
BUILDING (see diagram p 10-11)



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 intermediate 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 105m (350ft) maximum.	

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

POLE / TOWER (see diagram p 12-13)



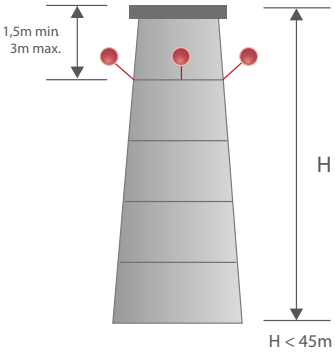
Half-height for Low Intensity if > 50 m

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 - 105m 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.	

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)

Note : In case of wind farm synchronization is mandatory.
Specific beacons for the wind farm takes precedence over single beacon.
In case of sea wind farm, secured power supply must be 96 hours.

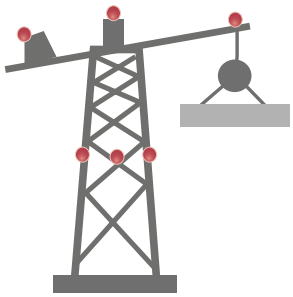


STACK (see diagram p 14-15)

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 (350ft) 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.

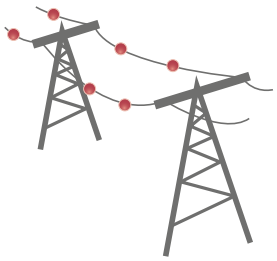
CRANE (see diagram p 16)



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 the crane-top and one low Intensity Type B at each extremity of the jib and counter jib	
105 m and above	1 Low intensity type B at the middle of heigh of the crane (optional)	

Note : In case of several cranes synchronization is mandatory

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 (230ft) near airport and every 105m (350ft) in other cases.		Warning spheres of 600mm diameter (2ft) every 30m (100ft)

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

1 **OBSTAFLASH RED COMPACT**
Medium Intensity Red only

2 **OBSTAFLASH DUAL COLOR**
Medium Intensity White & Red

3 **OBSTAFLASH 120° or 180°**
Medium Intensity White & Red

4 **NAVILITE**
Low Intensity Red

5 **OBSTAFLASH HI**
High Intensity White

>150m

5 TOP LEVEL

5 MID LEVEL

<150m

TOP LEVEL 1 OR 2

INTERMEDIATE LEVEL 4

MID LEVEL 3

INTERMEDIATE LEVEL 4

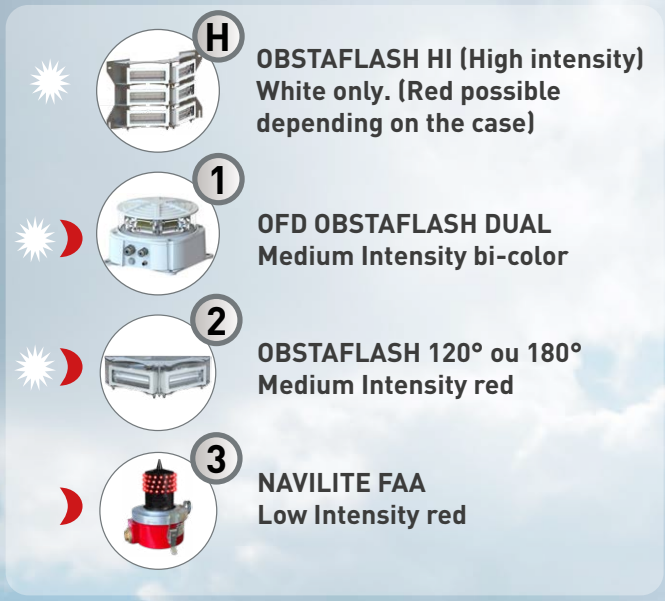
Every 45 meters 4

45m

HELITE-G
Helipad light (TLOF)

OBSTRUCTION LIGHTING FOR TOWERS

Use cases for pylons/towers from 45 m to over 150 m.
Day and night marking. (unpainted pylon).



>150 M

H

HI (High intensity) every 105 meters

105 - 150 M

1 TOP LEVEL

3 INTERMEDIATE LEVEL

H

46-105M

1 TOP LEVEL

3 MID LEVEL

1 OR 2 MID LEVEL

H

3 INTERMEDIATE LEVEL

< 45 M

3 TOP LEVEL

OBSTRUCTION LIGHTING FOR TOWERS

Use cases for towers from 45m to above 105m
Night only operation

1 OBSTAFLASH RED COMPACT
Medium Intensity Red only

2 OBSTAFLASH 120° or 180°
Medium Intensity Red

3 NAVILITE FAA
Low Intensity Red

UP TO 45M

3 MID LEVEL

46-105M

1 TOP LEVEL

3 MID LEVEL

105-150M

1 TOP LEVEL

3 INTERMEDIATE LEVEL

1 OR 2 MID LEVEL

3 INTERMEDIATE LEVEL

OBSTRUCTION LIGHTING FOR STACK

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



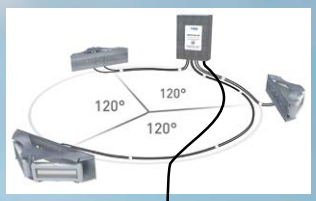


3 LED OBSTAFLASH120 dual color medium intensity ICAO compliant and L-865 / L-864 FAA ETL verified

below the top to avoid the smoke to hide the lights

RED AT NIGHT

WHITE AT DAY



ICAO low intensity type B

Or

FAA L-810 type with NPT pipe

3 NAVILITE at mid level

RED FIXED AT NIGHT

DAY OFF

110-240 VAC power supply and Photocell

at the bottom with or without batteries

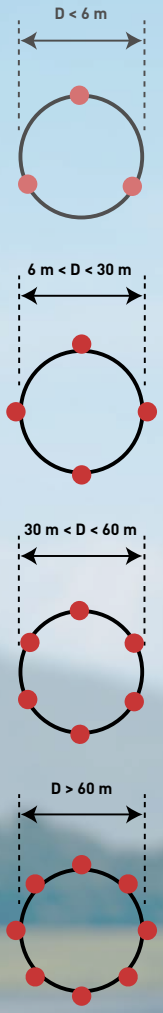
Photocell north oriented

110 to 240 VAC

OBSTRUCTION LIGHTING FOR STACK

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

Number of lights per level depending on the diameter of the chimney



These configurations can be modified if stack are close to each other

3 LED OBSTAFLASH120 red medium intensity
ICAO compliant and L-864 FAA ETL certified
below the top to avoid the smoke to hide the lights

RED AT NIGHT

DAY OFF

3 NAVILITE at mid level

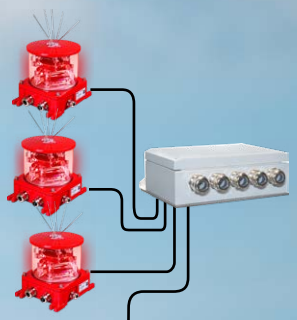
RED FIXED AT NIGHT

DAY OFF

110-240 VAC power supply and Photocell
at the bottom with or without batteries

ETL INTERTEK LISTED US

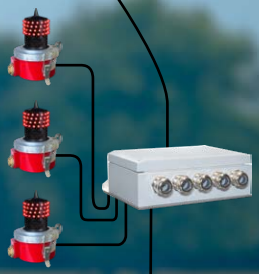
STAC



ICAO low intensity type B

Or

FAA L-810 type with NPT pipe



Photocell north oriented

110 to 240 VAC

OBSTRUCTION LIGHTING FOR CRANE

Use case for crane with or without red and white strips.

if >45m

or

BATTERY CABINET
Battery backup
(>12 hours)

OBSTAFLASH MEDIUM INTENSITY
In absence of red and white strips, one dual color medium intensity L-865/L-864 for the day and night operation at the top of the crane

3 NAVILITE
3 low intensity Navilite type,
on the jib, counter jib and crane-top

BATTERY CABINET
Battery backup
(>12 hours)

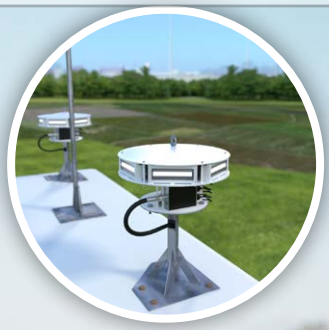
OBSTRUCTION LIGHTING FOR WIND TURBINE

NACELLE

BATTERY CABINET
Battery backup (>12 hours)
Offshore : 96 hours

TOP LEVEL

Dual color medium intensity



OFI/OFD series

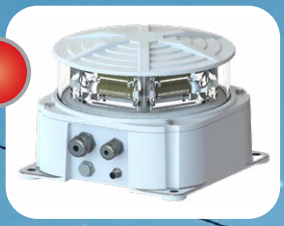
Or

Red compact medium intensity

OFC series

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

1



OFD Medium Intensity
White & Red at top level

White during daytime and red during night

- Type A & B compliant to ICAO, CAA
- Hard Glass and Aluminium. IP66 verified
- Easy installation with only captive parts
- Surge protection included
- Optional GPS interface for synchronisation
- 30cm diameter x 30cm height - Weight: 11 kg

or

1

OFC Medium Intensity
Red Only at top level

- Type B & C compliant to ICAO, CAA and FAA L-864
- Hard glass and aluminium. IP66 verified
- Easy installation with only captive parts
- Very low consumption
- Optional GPS interface for synchronisation
- Dimensions: 20cmx20cmx20cm - Weight: 5 kg

1

3

2

2

> 45M

2

NAVILITE (optional) Low intensity
Red at intermediate level

- Type A & B compliant to ICAO, CAA
- Very compact with one mounting screw
- 64 LED in redundancy, resin molded
- Fully waterproof (IP67)
- No corrosion
- 6cm diameter x 10cm height - Weight: 370g

3

8

SOLAR KIT
Autonomous power supply

- Size calculated from localization and options
- Long life solar gel batteries
- Initial capacity with at least 6 days of autonomy
- Protection of the battery against deep discharges
- Surge protection

Example of configuration

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

- Versions from 11 kV to 550 kV
- ICAO compliant Low Intensity Red steady-burning light
- Only 2 halves of anodized aluminium
- Most effective form factor against vibrations and wind
- 4 captive screws for assembly in few minutes
- Inductive power supply requiring 10 A

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

or

PLASTIC WARNING SPHERE 600MM Every 30M on OPGW or conductor up to 132kV*

- ICAO and CAA compliant
- 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

GROUND CABLE

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 INTENSITY

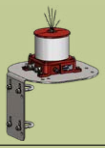
NIGHT LOW INTENSITY BEACONS			NAVILITE							NAVILITE-F			
selection guide for RED FIXED LOW INTENSITY NAVILITE													
			Part Numbers										
			113900	113901	113902	113903	113905	113906	113904	113905IR	113965	113969	113969IR	113965 IR
Voltage	48 Vdc		•				•			•	•			•
	24 Vdc			•				•						•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

113969IR + 113789-NAV-114

113965IR on threaded conduit

113925+113905IR

PACK 113909
(113905 + 113911)

NIGHT MEDIUM INTENSITY BEACONS			OFC					
selection guide for RED MEDIUM INTENSITY								
			Part Numbers					
			113790RI-240	113790RI-048	113790RI-SOL	113790RI-240-R	113790RI-048-R	113790RI-SOL-R
GPS & photo-sensor	GPS (for flashes an/or on/off wireless synchronsation)					•		
	Photo-sensor (for on/off)					•	•	•
Voltage	48 Vdc			•			•	
	24 Vdc				•			•
	12 Vdc				•			•
	110 to 240 Vac		•			•		
alarm	Dry contact for alarm (both normally open & normally close) when lamp failure or power failure					•		
Standard compliance	ICAO medium intensity type B and C depending on dip-switches					•		
	ICAO medium intensity type B and FAA L-864 by dip-switches					•		
Connection	1 meter of cable provided				•			
	Terminal connection with cable entry		•	•		•	•	•
Optional mechanical interface	FAA adaptator P/N113789-OFCC					•		
	Bracket for vertical tube P/N113789-OFC					•		
	Bracket for horizontal angle 113789-OFCB					•		
	Fixation Tube 113789-OFC--XX (XX = diameter in mm of tube)					•		

113790RI-048 + 113789-OFC-114

113790RI-048 + 113789-OFCB

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

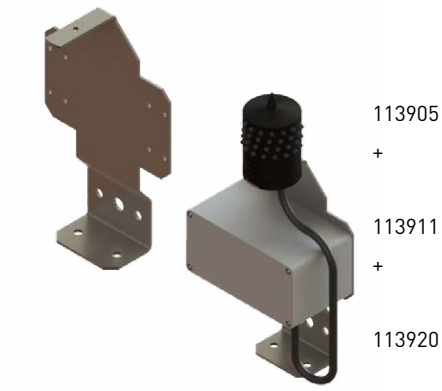
Wiring by pod

Molded cable

ACCESSORIES

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

113920 alone



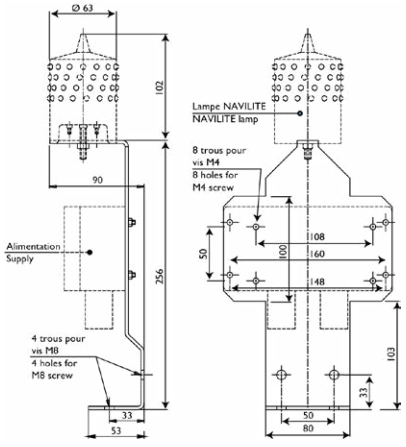
113905

+

113911

+

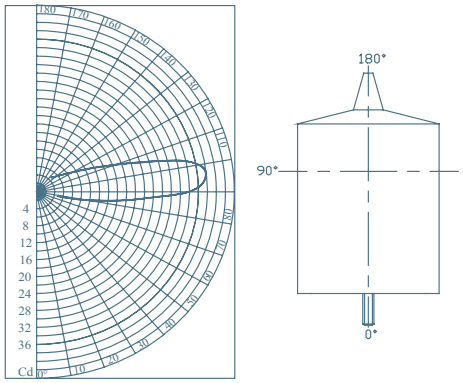
113920



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

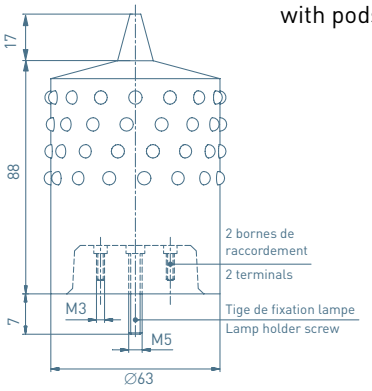


	NAVILITE Type A and B
IP degree	66
Operating temperature	-40° + 55°C
Power supply	12, 24, 48 VDC (+/-10%)
Light weight	370 g
Attachment	M5 screw (provided)
Maintenance	none

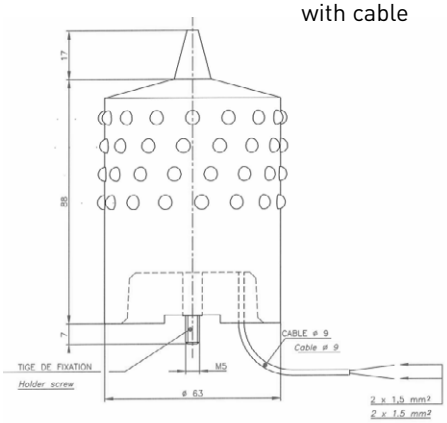
* The weight of the fixing bracket is 0.75kg

DIMENSIONS (IN MM)

with pods



with cable



BEACON MAIN REFERENCE

	Designation	Part number	Power supply	Luminous intensity	IR	Electrical current	Cable	Nominal power	Lifetime
Pod	NAVILITE-48V	113900	48 VDC	> 32 Cd	NA	125 mA	NA	6 W	decade
	NAVILITE-24V	113901	24 VDC	> 32 Cd		250 mA		6 W	
	NAVILITE-12V	113902	12 VDC	> 32 Cd		500 mA		6 W	
	NAVILITE-SOL	113903	12 VDC	> 10 Cd		250 mA		3 W	
Cable	NAVILITE-48-CABLE	113905	48 VDC	> 32 Cd		125 mA	35 cm	6 W	
	NAVILITE-24-CABLE	113906	24 VDC	> 32 Cd		250 mA	35 cm	6 W	
	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 boxes for NAVILITE 48 Vdc

Command Box A

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, day/night threshold 50 Lux
- 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

Command Box B

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 at the power input of the box. They also could make the light blinking as low intensity type E or used for combi-lamp red and 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, day/night threshold 50 Lux
- 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-IR-48V-CABLE
- More power to energize up to 4 NAVILITE-48V

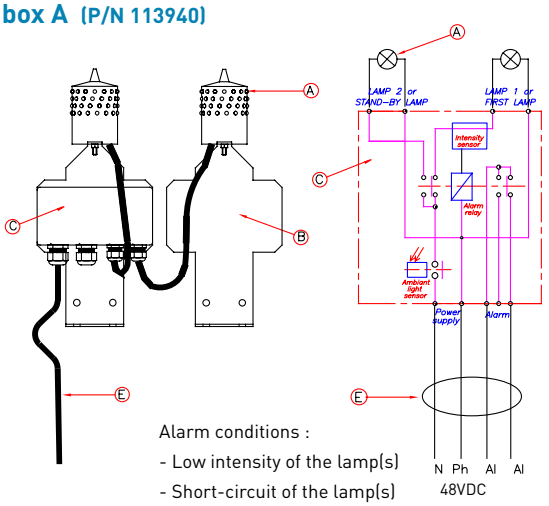
AC-DC Converter

The AC-DC converter P/N 113911 is dedicated to one NAVILITE 48 Vdc.

Main characteristics

- Polycarbonate box
- 110-240 Vac power supply
- 48 Vdc voltage output for NAVILITE

Typical configuration with 2 Navilite-48V and command box A (P/N 113940)

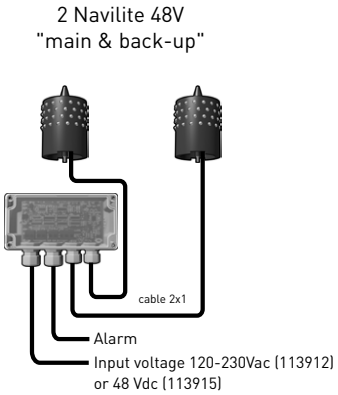


Alarm conditions :
- Low intensity of the lamp(s)
- Short-circuit of the lamp(s)
- Power supply failure

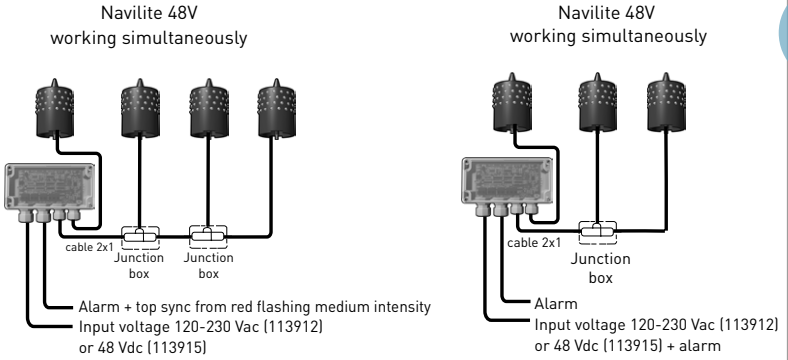
Nomenclature / Bill of materials			
Reference	Quantity	Part number	Designation
A	2	113905, 113900, 113965	Navilite 48VDC
B	2	113920	Navilite bracket
C	1	113940	Command box
E	-	-	4 cores 1.5 mm²

Cable must be shielded when used in electro-magnetic fields

Typical configuration with 2 Navilite-48V and command box B (P/N 113912)

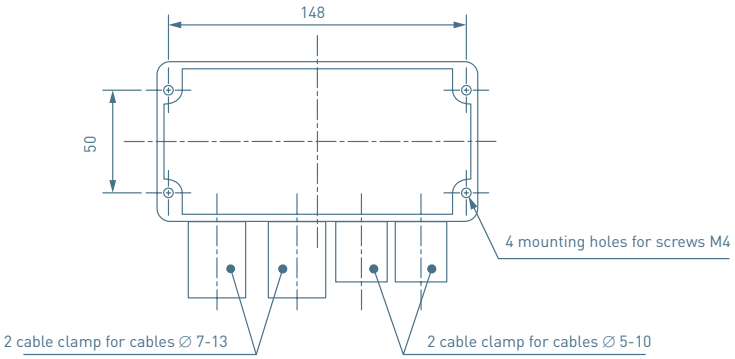


Other configurations



For junction boxes please see page 35

WEIGHT & DIMENSIONS (FOR ALL COMMAND BOXES)



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 mm²
Attachment	4 screws type M4

		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	CEM imunity	Quantity of NAVILITE-48V P/N 113900, 113905	NAVILITE-IR-48V P/N 1139005IR
Command Box A	113940	•			•	•	•			1-2	
Command Box B	113915	•			•	•	•	1		1-4 (add junction box if more than 2 lights)	1
	113915-SOL		•		•	•	•				
	113912			•	•	•	•				
230 VAC to 48 VDC converter	113911			• 230 VAC					•		

NAVILITE F L-810

FAA L-810 compliant with ICAO low intensity type B

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

NAVILITE-F-110-240Vac

One-piece molded

- Light perfectly waterproof
- no corrosion risk
- no losing parts
- bird spike
- 2 x ¾" NPT threaded holes (side + bottom)

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

- Aluminium housing design
- Plug fitted to the side hole
- 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 24)
- Beacon mounting options:

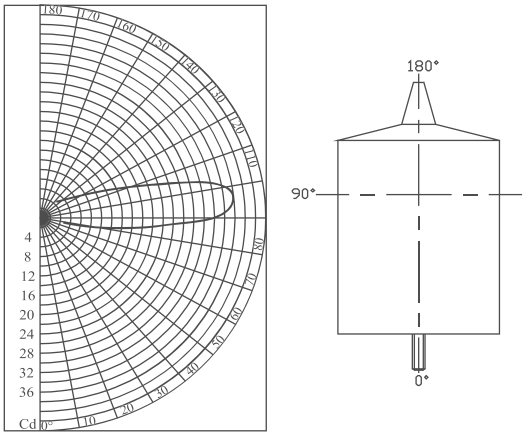
- using a rigid tube in accordance with FAA regulations (not supplied) with a 3/4 NPT hole to be defined,
- using mounting bracket 113928 or 113789-STI-FAA, to be ordered separately.

- Cable entry:

Through 3/4 NPT hole to be defined (cable gland only supplied with the mounting bracket 113928 or 113789-STI-FAA,)

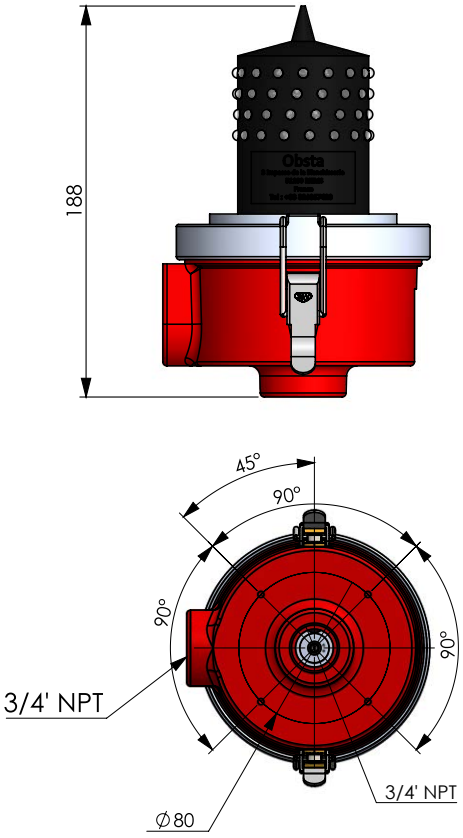
113969-D = 2 x 113969 + 113929

LIGHT INTENSITY DIAGRAM



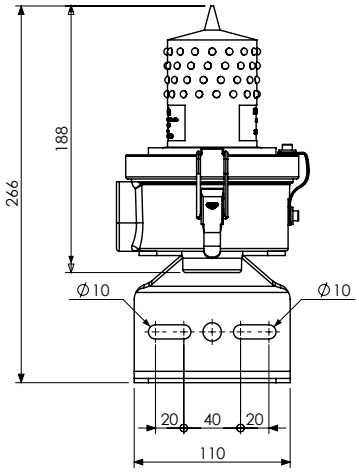
	NAVILITE L-810
IP degree	65 in vertical position
Operating temperature	-40° to + 55°C
Power supply	110 VAC to 240VAC and 48VDC (+/-10%)
Weight (light)	370 g (excluding aluminium base)
Weight (light + base)	1.4 kg (fixed through vertical or horizontal NPT)

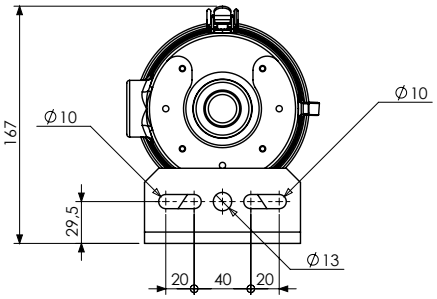
DIMENSIONS (IN MM)



ACCESSORIES

- Support for horizontal or vertical attachment P/N 113928 or 113789-STI-FAA
- Support for dual system P/N 113929





Bracket P/N 113928
(including cable gland)

Bracket P/N 113789-STI-FAA
(including cable gland)

Bracket for 2 lamp (DUAL)
P/N 113929

MAIN REFERENCE

Designation	Part number	Power supply	Luminous intensity	Nominal power	Theorical lifetime
NAVILITE-F-120-240V	**113969**	110 VAC to 240 VAC	As per FAA 150-5343H	6 W	decade
NAVILITE-F-48V	**113965**	48 VDC		6 W	decade
NAVILITE-F-120-240V-DUAL*	**113969-D**	110 VAC to 240 VAC	As per FAA 150-5343H	6 W	decade
NAVILITE-F-48V-DUAL*	**113965-D**	48 VDC		6 W	decade

*option with 2 lights and special double lamp FAA pipe bracket

NAVILITE FAA L-810 IR

FAA L-810 compliant with ICAO low intensity type B

L-810 and L-810 (F) 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 x ¾" NPT threaded holes (side + bottom)

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

- Aluminium housing design
- Plug fitted to the side hole
- 110 VAC to 240 VAC power supply
- Surge protection included
- Alarm relay included
- Mimic with L-864 medium intensity (flashing mode) or fixed mode
- Beacon mounting options:

- using a rigid tube in accordance with FAA regulations (not supplied) with a 3/4 NPT hole to be defined,
- using mounting bracket 113928, to be ordered separately.

- Cable entry:

Through 3/4 NPT hole to be defined (cable gland only supplied with the mounting bracket 113928)

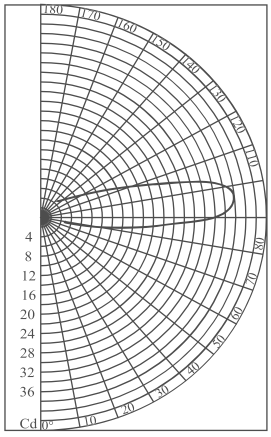
Night Vision Goggles according to FAA 150-5343J

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)	decade
NAVILITE-IR-FAA-048	**113965IR***	10 VDC to 60 VDC	As per FAA 150-5343J	8 W (fixed mode)	decade

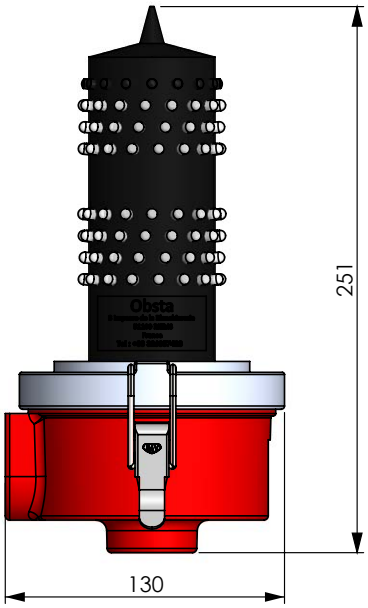
** not ETL listed*

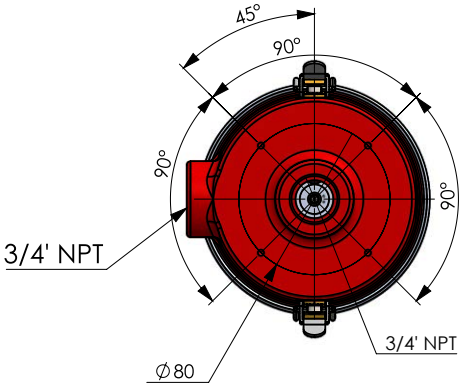
LIGHT INTENSITY DIAGRAM

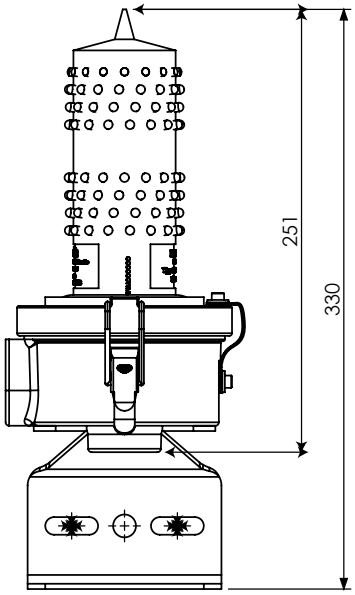


	NAVILITE L-810
IP degree	65 in vertical position
Operating temperature	-40° to + 55°C
Power supply	110 VAC to 240VAC 48Vdc +/- 10%
Weight (light + base)	1.4 kg (fixed through vertical or horizontal NPT)

DIMENSIONS (IN MM)



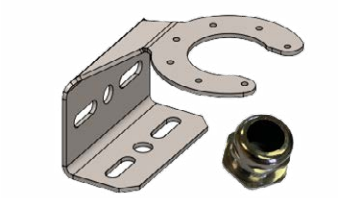




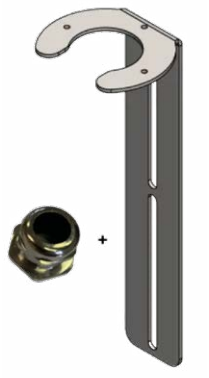
With bracket P/N 113928

ACCESSORIES

- Support for horizontal or vertical attachment P/N 113928 or 113789-STI-FAA
- Support for dual system P/N 113929



Bracket for 1 lamp P/N 113928
(including cable gland)



Bracket P/N 113789-STI-FAA
(including cable gland)

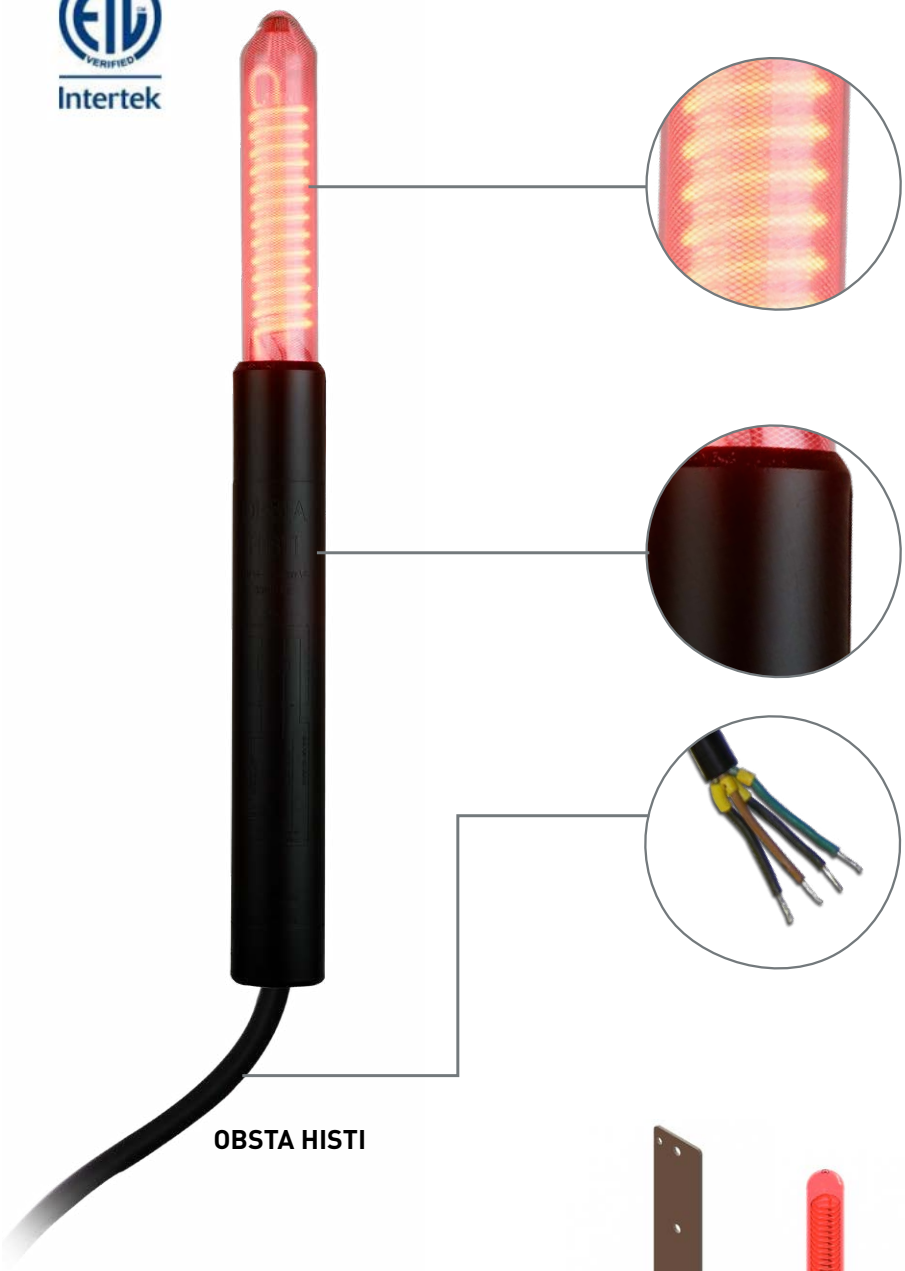
Bracket for 2 lamp (DUAL)
P/N 113929

OBSTA HISTI 240 VAC

FAA L-810 compliant with ICAO low intensity type B

The OBSTA HI STI is devoted to the marking of all kinds of obstacles such as buildings, airports, broadband towers, high voltage power poles.

L-810 FAA 150-5343G



OBSTA HISTI

Neon light

- 13 turns
- hard glass cover and tube
- «aviation » red color
- very long life expectancy in all climatic environment
- great light efficiency
- luminosity substantially higher than what is recommended by ICAO and FAA
- low power consumption

One-piece molded

- perfectly waterproof
- no grounding issue
- all wiring configuration available
- no rise from the ground potential (due to lightning for example)
- increased reliability

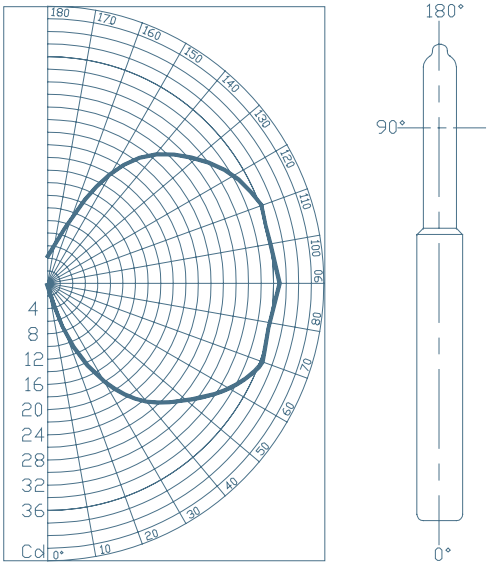
Power cable

- 240 VAC
- protected against transient overvoltages
- alarm relay in case of lamp failure or low power
- 1m cable lenght

Bracket for 1 light
P/N 113121

Bracket for 2 lights
and junction box
P/N 113124

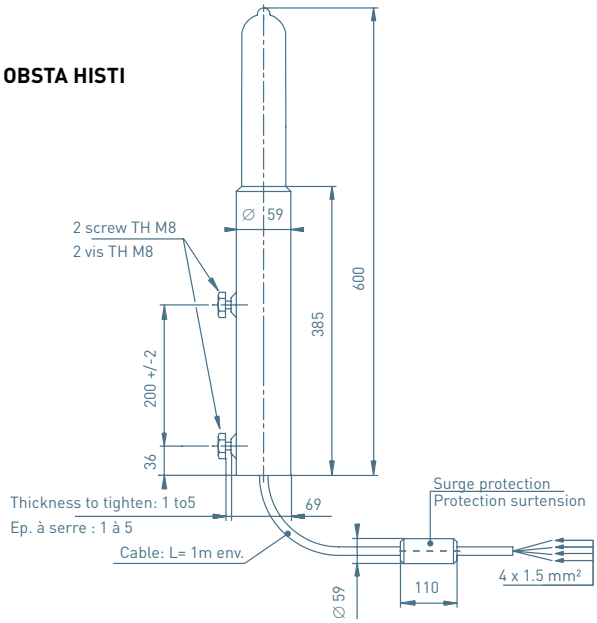
LIGHT INTENSITY DIAGRAM



	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)

OBSTA HISTI



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
- «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	CEM imunity	Theorical life-time (without any light decrease*)
OBSTA HISTI	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 HISTI-APR	113113	from 110 V eff. up to 240 V 50/60 Hz	> 32 Cd	110V - 730 mA 240 V - 370 mA	45 W	yes	10 years

* with power supply stabilized



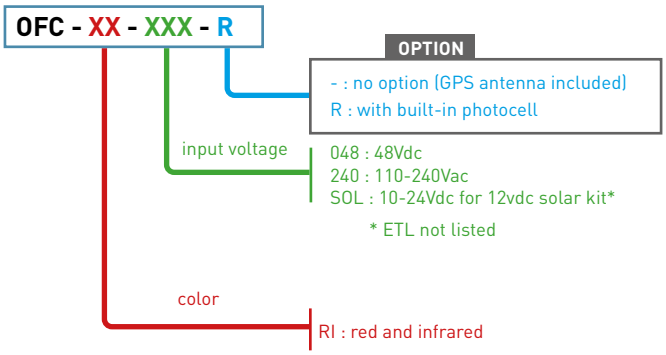

OBSTAFLASH COMPACT OFC

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)

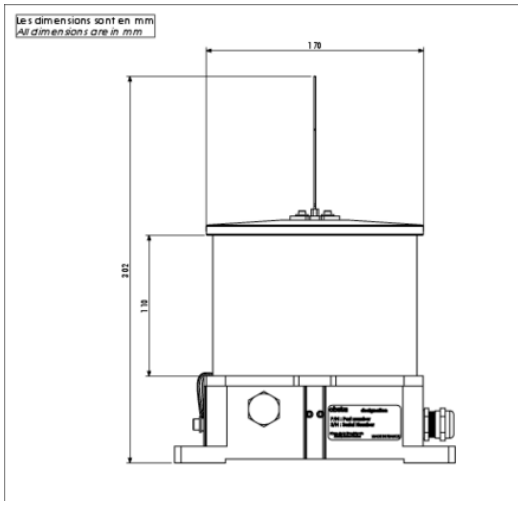
Characteristics

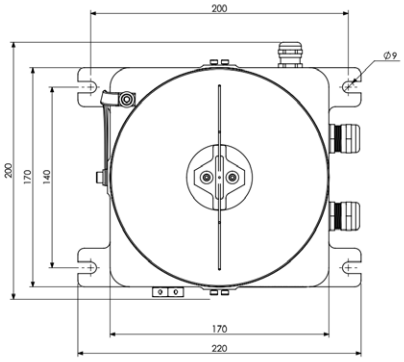
- Hard glass cover (no plastic) and aluminum based
- Easy installation with only captive parts
- 2 LED circuits with red and infrared leds
- Adjustable configuration through dip-switch inside the flash-head as per ICAO MI type B (20 to 60 flashead per minutes) or ICAO MI type C & CAA (fixed mode) or 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 built-it in option
- Anti-condensation valve
- Modular construction
- GPS antenna (if wireless synchronisation is required)

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



WEIGHT & DIMENSIONS (IN MM)





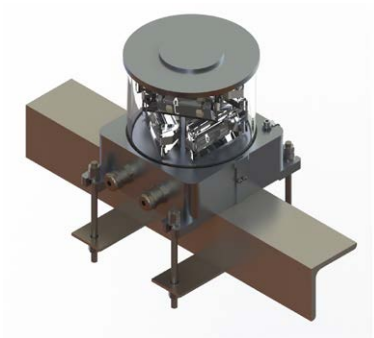
MAIN CHARACTERISTICS

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

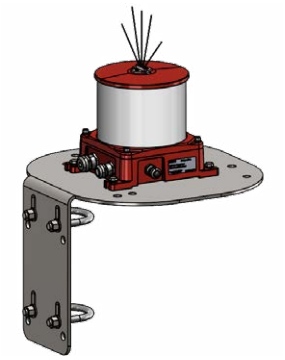
MAIN REFERENCE

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 @ 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			

** option "R" to be added for built-in photosensor for on/off*



Horizontal bracket
P/N 113789-OFCB



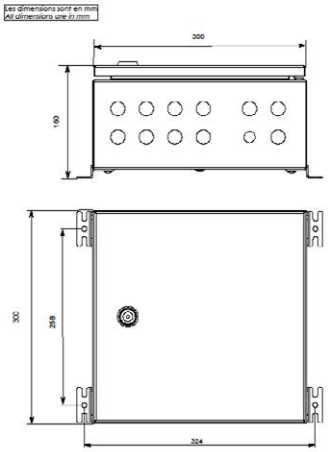
Vertical bracket
P/N 113789-OFC
tube mounting possible (70 to 139 mm)

ANALOG CONTROLLER & CONNECTION BOXES

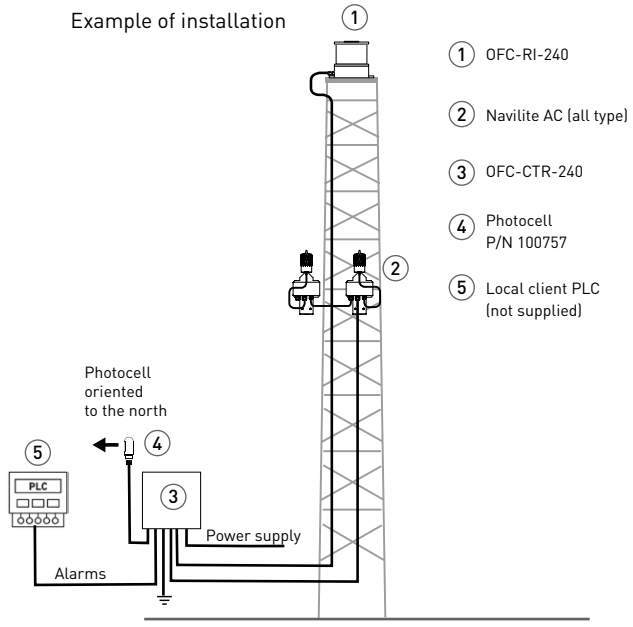
Stainless control box to facilitate the implementation and monitoring of red medium and low intensity OBSTA lights.
These metal boxes are suitable for EMC environments and severe climatic conditions.

CONTROL BOX OFC-CTR

- 8 terminal connections for max 8 medium intensity lights and/or low intensity lights red fixed or mimic with medium intensity red flashing
- relay for each lamp alarm contact
- alarm for the photocell in case of failure on a 24 hours cycle
- alarm in case of power supply loss on main input
- 1 visual indicator per light (or group of light)
- synchronization of medium intensity beacons (via GPS option)
- connection of optional photocell for day/night toggle
- synchronization of day/night toggle (via GPS astronomical clock)
- surge protection
- internal on/off switch and remote/manual to bypass the photocell or GPS
- cable inputs by gland nickel plated brass



Example of installation



1 OFC-RI-240
2 Navilite AC (all type)
3 OFC-CTR-240
4 Photocell P/N 100757
5 Local client PLC (not supplied)

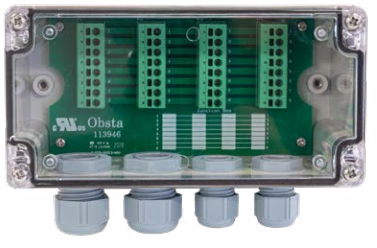
Red medium intensity system
(tower 45 to 105m high)

SUITABLE FOR:

Part number	Voltage	OBSTA lights
113176-240-G	110-240 VAC	OFC and OFD 240 V (medium intensity type A & B, flashing mode) and NAVILITE
113176-048-G	48 VDC	OFC and OFD 48 VDC (medium intensity type A & B, flashing mode) and NAVILITE
113176-240	110-240 VAC	OFC (medium intensity type C setting) and/or NAVILITE 240 VAC
113176-048	48 VDC	OFC (medium intensity type C setting) and/or NAVILITE 48 VDC

⚠ The supply voltages for the controller and the beacons must be the same.

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, 113920
- Suitable for all voltage
- 2 cable entries diameter 5-10mm and 2 for cable diameter 7-13mm
- Terminals connections for the wires 2,5mm² max
- IP65 protection in vertical position

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
- IP66 protection in vertical position
- Additional Type with relays inside driven by night signal :

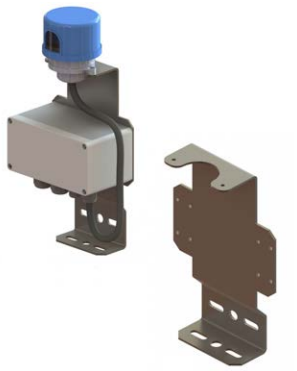
-version 113948-N with relay to switch on up to 4 red lights at night only, and de-activate light-alarm during day time

-version 113948-W with relay to switch on red lights at night only, and 1 white flashing light during the day only and de-activate light-alarm when the lights are off during day and night time accordingly

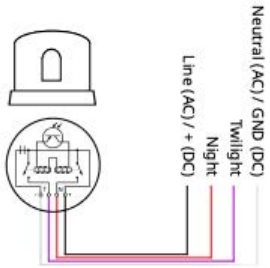
PHOTOCELL FOR NIGHT ONLY OPERATION

Photocell
P/N 100757

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



Bracket 113927



- North-facing installation
- Twilight detection 500 Lux
- Night dectection 50 Lux
- Can be fixed on the bracket of NAVILITE, 113927
- Attached cable 50cm

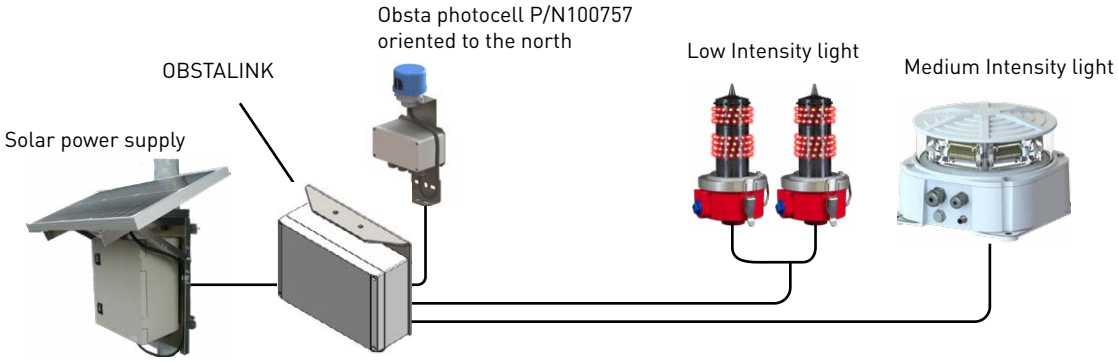
OBSTALINK

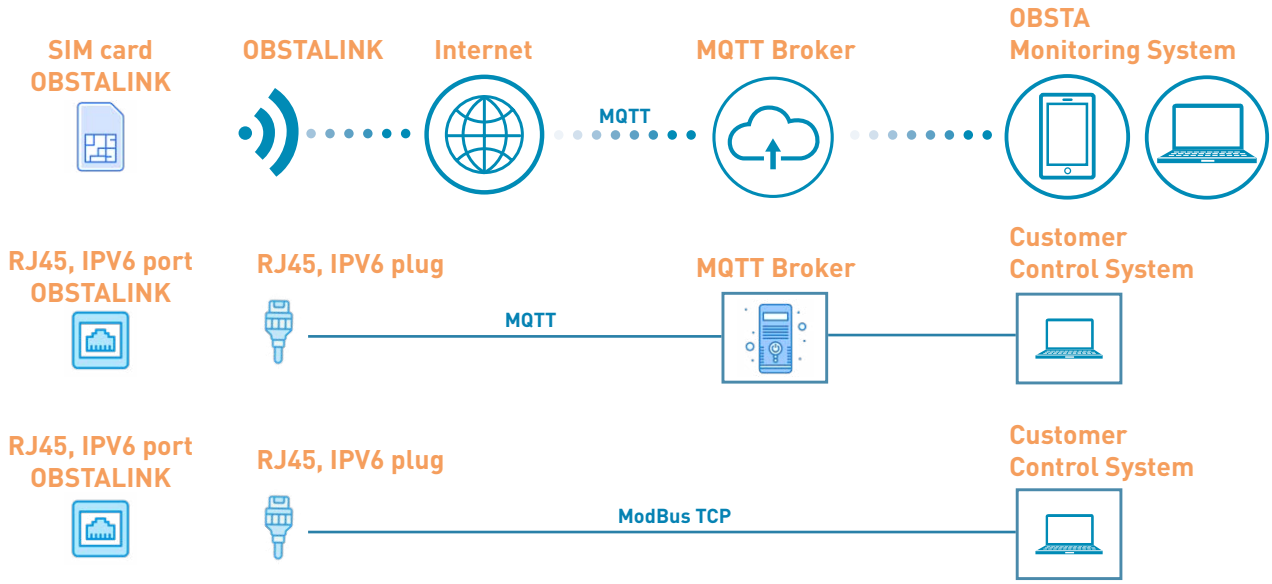
Measurement and monitoring system for three beacons or groups of beacons with local or remote data transmission (internet/MQTT protocol).

- Control of the power consumption of each light or group of lights (3 maxi.)
- Control of the external dry alarm contact (normally close or normally open) of each light (if available on the obstruction lights) or other external contacts (12 maxi.)
- Control of the DC power source (batteries from the solar kit or the battery cabinet)
- Periodic control of the system, every 30 minutes with automatic message (Notan)
- Last sent message in case of power failure (dead-man switch)
- Status of obstruction lights
- Alarm threshold settings on the server
- Stainless cabinet with cable inputs by gland nickel plated brass, IP66
- Connexion of an external photocell (for red only obstruction lights)
- Compatible with other brands of obstruction lights
- 4G LTE modem with 2G and 3G for internet connection (MQTT protocol)
- RJ45, IPV6 port supporting ModBus TCP & MQTT
- Aircraft Detection Lighting System (ADLS) ready for wind farm
- EN 18031-1 certified

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

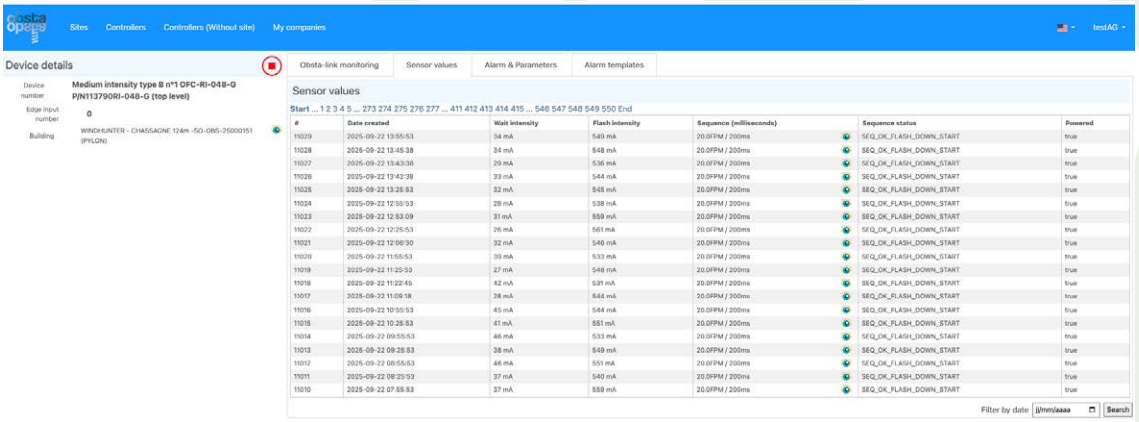
Monitoring web interface for Obsta customers and administrators

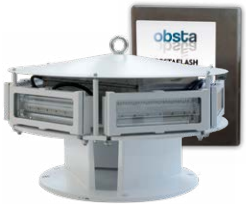
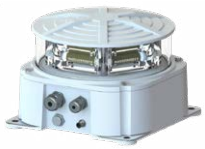
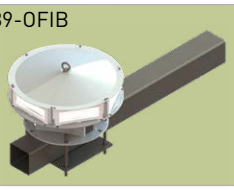
Features:

- Organize your sites, obstacles and lights centrally
- Overview of the status 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
- Secured access

Display example : Monitoring of power supply

Display example : Monitoring of flashes



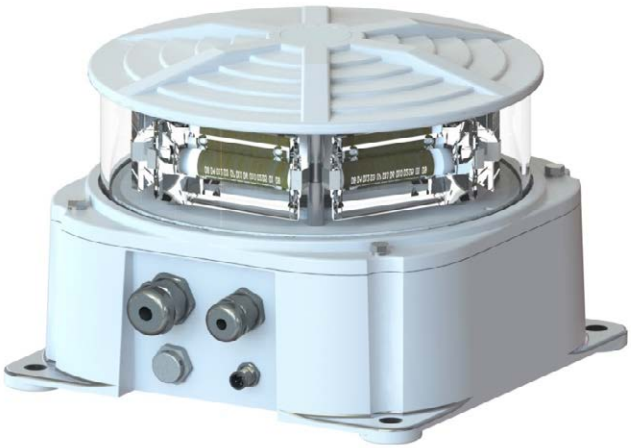
DAY AND NIGHT MEDIUM INTENSITY SYSTEMS		OFI		OFI REMOTE		OFD		
Selection guide for WHITE ONLY OR DUAL COLOR MEDIUM INTENSITY								
		Part numbers						
		113792A	113792UA	113725UIA	113725I	114792-240	114792-048	114792-024
GPS as main (flash + day/night change) or as a back-up mode (in case of failure of the controller/external control signals)				●				
Photosensor "built-in" (for day/twilight/night change)						●		
TCP Modbus				●				
Voltage	48Vdc	●					●	
	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 dip-switchs		●					
Replaceable projectors			●					
Compact version							●	
Photosensor							●	
Optional vertical bracket	113789-OFI 			●				
Optional horizontal bracket	113789-OFIB 			●				

DAY AND NIGHT HIGH INTENSITY SYSTEMS		OFH 120	OFH 180	OFH 120
Selection guide for WHITE ONLY HIGH INTENSITY OR RED AT NIGHT HIGH INTENSITY (in option)				
		Part numbers		
		113780B	113780BB-048*	113780U
GPS as main (flash + day/night change) or as a back-up mode (in case of failure of the controller/external control signals)			●	
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		●	

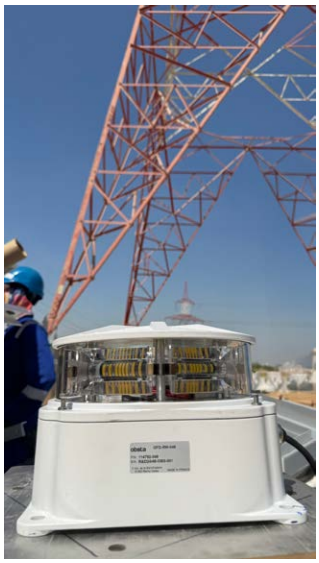
** ICAO Annex 14. «When it has been determined that an overhead line needs to be marked but it is not practicable to install markers on the wire, then high-intensity obstacle lights Type B, should be provided on their supporting towers.»*

OBSTAFLASH OFD

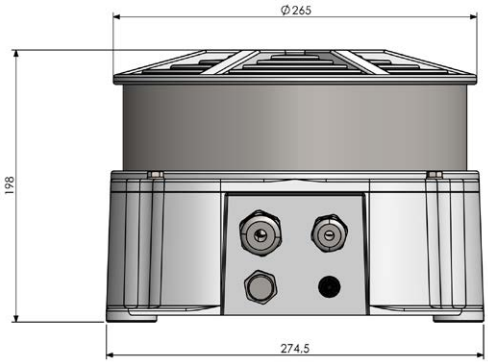
The obstaflash dual color or white only provides a day and night marking solution for all kind of obstacle higher than 45 meters as per ICAO . For obstacle below 150 meters the use of white or dual color flashing light medium intensity type A during day time eliminates the need to paint the obstacle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

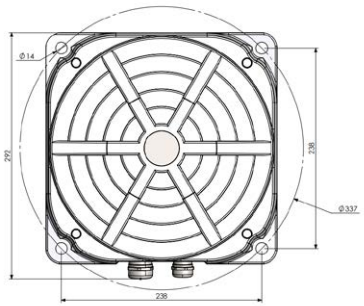


- Hard glass protection
- Robust construction in aluminium
- Hexagon shape with 6 modules each including 3 decoupled white, red and infrared led circuits
- NVG visible as per FAA standard
- Simple installation with no losing parts
- Normally open or normally close relay available in case of lamp or power supply default
- Smart beacon with communication capabilities (controller, TCP Modbus), IPV6 port
- type 2 surge protection with indicator
- Photocensor and GPS built-inside
- Low weight and compact design
- Breather ven



WEIGHT & DIMENSIONS (IN MM)



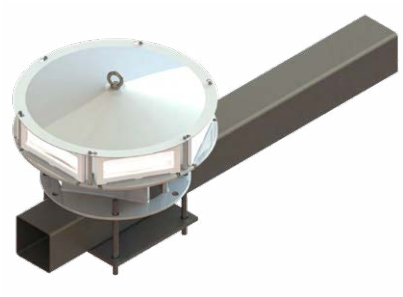


MAIN CHARACTERISTICS

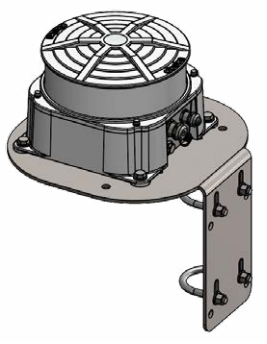
Main characteristics	Effective Luminous output on site at 0°		Color		Infrared		Beam Spread		Flashes per minute
	Day	Night	Dat	Night	Day	Night	Vertical	Horizontal	
Red only (Type B or C)	**Light off**	**2000 Cd**	Off	Red	Possible to keep on	On	> 3°	**360°**	As per ICAO or FAA
White only (Type A)	**20 000 Cd**	**2000 Cd or Off**	White	White or off					
Dual color (Type A during day and Type B or C at night)	**20 000 Cd**	**2000 Cd**	White	Red					

MAIN REFERENCE

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



Horizontal bracket
P/N 113789-0FIB



Vertical bracket
P/N 113789-0FI
tube mounting possible (70 to 139 mm)

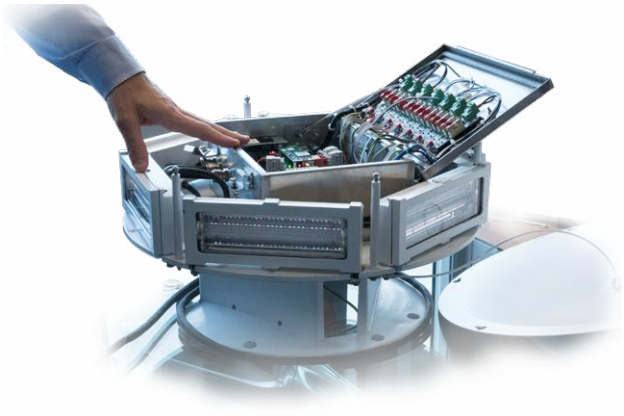
OBSTAFLASH OFI360

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

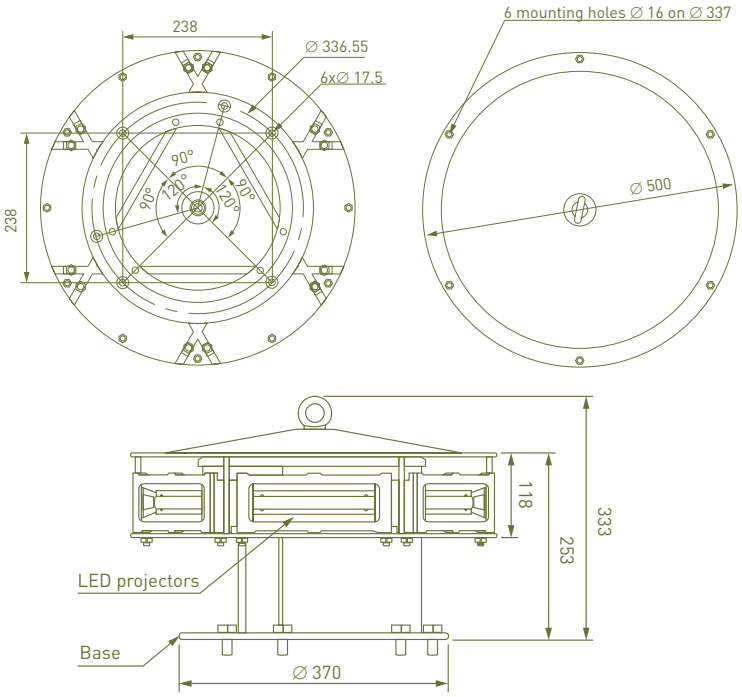
- 6 led replaceable projectors
- Aluminium and glass envelope
- Modular design
- Easy maintenance
- Precise optic , low led current for optimal lifetime
- Integrated 48 VDC power supply inside the flashhead
- Luminous indicator for each led circuits
- Captive parts
- 48 Vdc surge protection included
- Test button and luminous indicators
- GPS as back back up or as master
- Communication capabilities (MODBUS TCP), IPV6 port



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% or 110-240 Vac +/-10%
Cable entry for flashhead, power supply, photocell and alarm	1 nickel plated brass

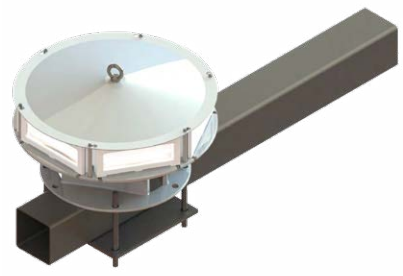
MAIN CHARACTERISTICS

Main characteristics	Effective Luminous output on site at 0°		Color		Beam Spread		Flashes per minute
	Day	Night	Day	Night	Vertical	Horizontal	
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	48Vdc	Medium intensity type A & B (White/Red)	L865/L-864	dual color
OFI360-RW-048	113792A		Medium intensity type A & B or C (White/ Red flashing)	–	dual color
OFI360-RW-240I	113792-240-G	110-240 Vac	Medium intensity type A&B (White/Red)	-	dual color

(: FAA listed with box AC-DC OFI-CAB-1E-RW-240-U part number 113797UA)*



Horizontal bracket
P/N 113789-OFIB

Vertical bracket
P/N 113789-OFI
tube mounting possible (70 to 139 mm)

OBSTAFLASH OFI360 Remote 110-240 Vac

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

Flashhead with integrated 48VDC power supply
OFI360-RW-048-UA part number 113792UA

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), IPV6 port

+

DC power supply box powered by 120-230VAC
OFI-CAB-1E-RW-240-U part number 113797UA

120-230 VAC Power cabinet

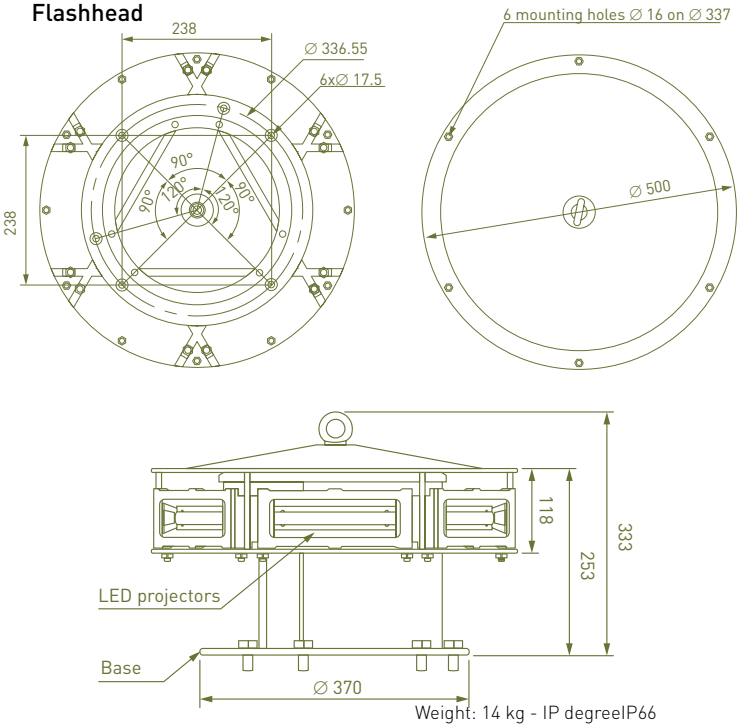
- Available in 120 /230 Vac
- Surge protection
- Automatic day/night switch with photocell
- Test button for day and night
- Modular design
- Two side lights in option, low intensity type
- Alarm contact
- Master/slave configuration for multiple lights synchronization
- The photoelectric cell code 100757-KIT, the cable between the box and the beacon, and, if necessary, low-intensity night-time intermediate lamps connected to the box at the bottom, must be ordered separately.

OFI360 - XX - XXX - U

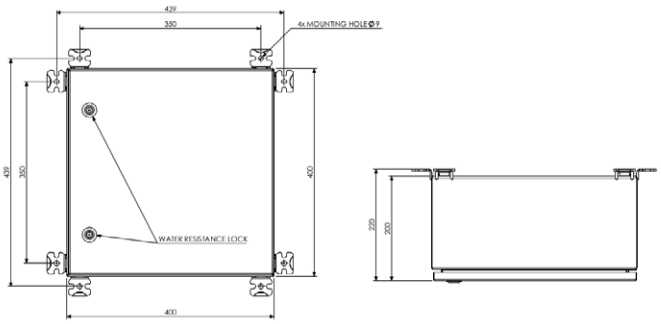
- U : ICAO + FAA L-865/L-864
- input voltage
  - **240 : 110-240Vac with additional cabinet at bottom**
- color
  - **RW : red at night and white during daytime**

WEIGHT &DIMENSIONS (IN MM)

Flashhead



Control cabinet



PACK 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

MAIN CHARACTERISTICS

Designation	part number	input voltage	ICAO category	FAA category	Flashes per minute
OFI360-RW-240-U	113725UIA	110-240Vdc	Medium intensity type A & B	L-865/L-864	40 in white 30 in red

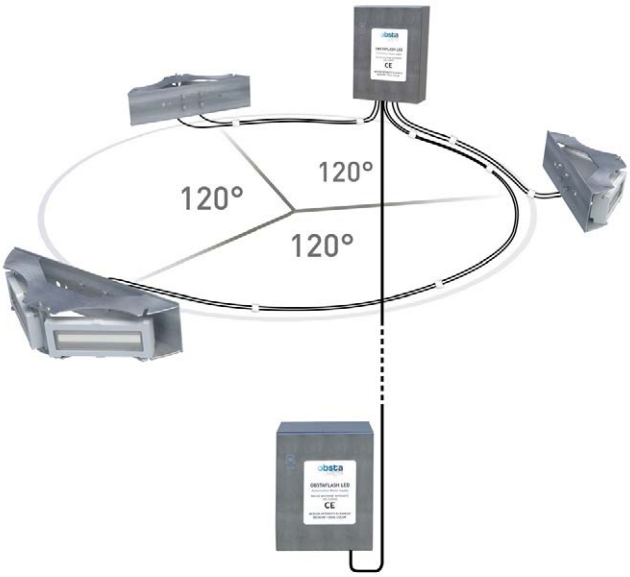
Main characteristics	Effective Luminous output on site at 0°		Color		Beam Spread		Kit content
	Day	Night	Day	Night	Vertical	Horizontal	
Dual color (L-865/L-864)	20 000 Cd	2000 Cd	White	Red	> 3°	360°	OFI360-RW-048 p/n 113792UA + Power supply box OFI-CAB-240U p/n 113797UA

Horizontal bracket
P/N 113789-OFIB

Vertical bracket
P/N 113789-OFI
tube mounting possible (70 to 139 mm)

KIT OBSTAFLASH OFI120

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



Pat. 10,247,386

OFI120 - XX - XXX - U

- U : ICAO + FAA L-865/L-864
- 48/240 : 110-240Vac with second cabinet at bottom of obstacle (input voltage)
- RW : red at night and white during daytime (color)

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), IPV6 port
- Photoelectric cell code 100757-KIT, cable between the two boxes, and, if necessary, NAVILITE intermediate lamps must be ordered separately.

Product range OBSTAFLASH OF120

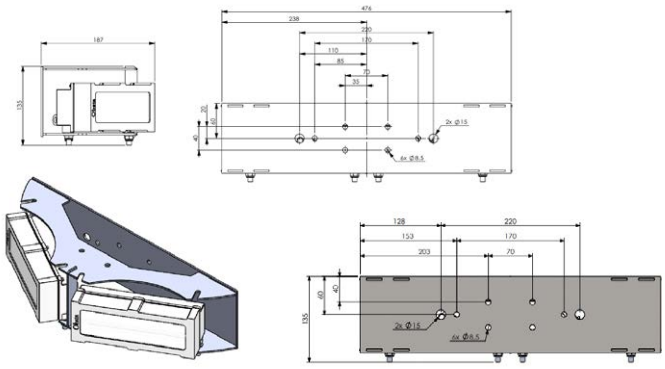
Kit including 3 Obstaflash120 medium intensity flashheads + power supply at same level, ICAO White and Red Medium intensity type A and B





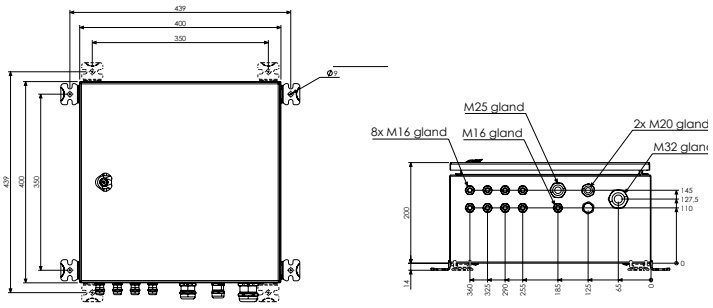
COMPOSITION PER ITEMS

Flash-head **OFP-120**



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 power supply, photocell and alarm	nickel plated brass

Power supply

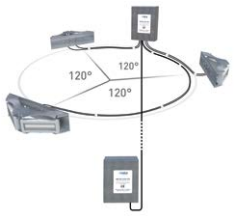


ACCESSORIES

- 48vdc photocell part number 100757
- NAVILITE-FAA-IR-110-240 intermediate lamps, code 113969IR, connected to the lower box
- Cable

MAIN CHARACTERISTICS

Main characteristics	Effective Luminous output on site at 0°		Color		Beam Spread		Flashes per minute
	Day	Night	Day	Night	Vertical	Horizontal	
Dual color (L-865/L-864)	20 000 Cd	2000 Cd	White	Red	> 3°	360°	40 in white 30 in red

	Designation	part number	Power supply	ICAO category	FAA category	Kit content
	OFI120-RW-240-U	113758UA	110-230 VAC	Medium intensity type A and B	L-865/L-864, dual color medium intensity	3 x OFP-120-RW-10-U (p/n 113747-U-10) + 1 x OFP-CAB-1B-RW-048-8M16-S (p/n 114103) In the bottom 1 x power supply box OFI-CAB-1E-RW-240-U (p/n 113797UA)

For more than 4 flasheads, "design your kit", see page 50-51

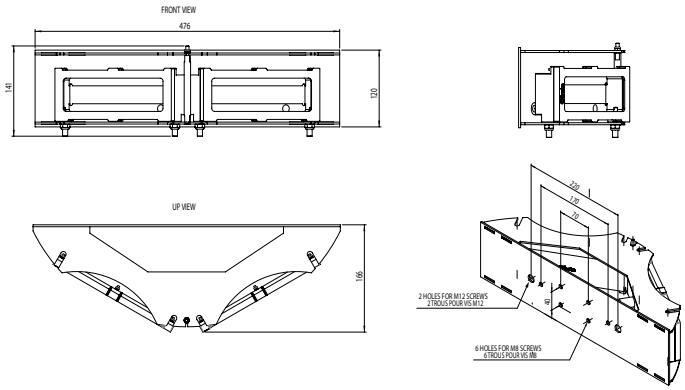
OBSTAFLASH Projector (OFP) with complete remote power supply

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.

OBSTA Projector

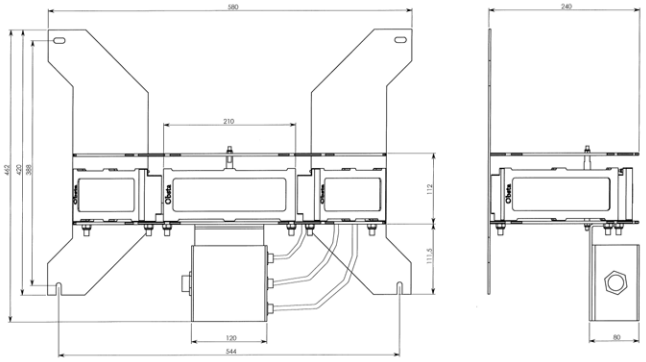
- Full cast Aluminium enveloppe with outdoor rated paint
- Hard glass cover
- Moulded interconnection cable at the back from 1 to 20 meters
- IP66 Certified
- White, red and Infrared LED's circuits
- Precise optic for 60° horizontal beam angle

Obstaflash 120° (OFP-120)

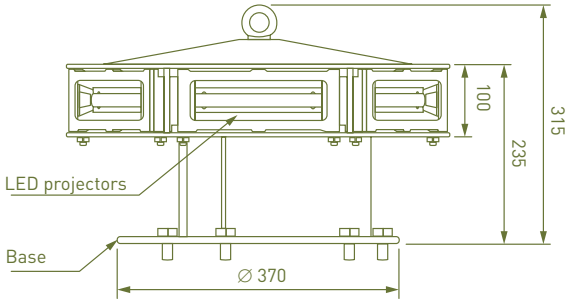


- 2 projectors intergated into a robust stainless steel bracket
- Mounting holes for installation at the back
- Design to assemble with junction box

Obstaflash 180° (OFP-180)



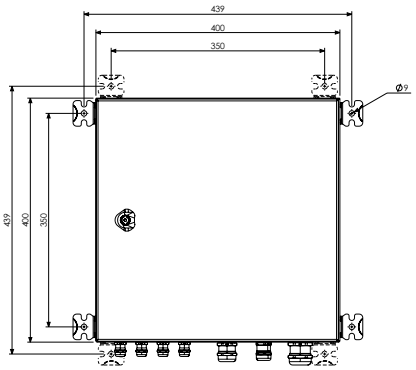
Obstaflash 360° (OFP-360)



Power cabinets for OFP projectors

Compact bloc concept for power and control
1 bloc for up to 6 projectors Dual Color or 8 projectors White only.

- Available in 48 Vdc or 120 /230 Vac
- Housing available in Stainless Steel or Galzanized powder coated
- Surge protection for power supply input and lights output
- Automatic day/night switch with photocell
- Luminous indicator for each led circuits
- Test button for day and night
- Two side lights in option low intensity type
- Global alarm contact (lamp failure or power supply failure)
- Master/slave configuration for multiple cabinet synchronization
- GPS as back up or as master
- Communication capabilities (MODBUS TCP)

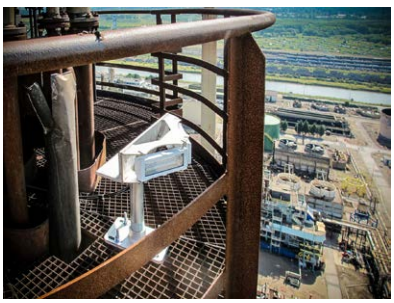


2 to 4 blocs in bigger enclosures for more lights management

Delivered with interconnection cards for swift wiring of each light independantly

OFP-CAB - XB - XX - XXX - XMXX - X

- X : S for Stainless steel, nothing for Galvanized pwoder coated
- X : Number of cable glands to OFP Lights
  XX: Maximum diameter of cable glands
- power
  - 048: 48VDC Power supply input
  - 240: 240VAC Power supply input
- Color
  - RW : Red/dual color projector
- Number of bloc
  - 1B : 1 Bloc
  - 2B : 2 Blocs
  - 3B : 3 Blocs
  - 4B : 4 Blocs

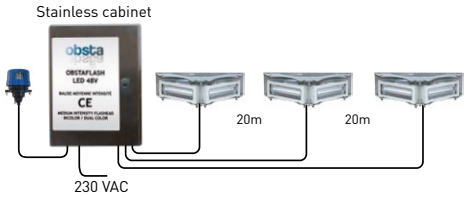


Typical configuration with 120° Lights

System with 3 OFP-120 White only or Dual color direct to cabinet

Ideal for Telecom towers when cabinet can be positioned on top, maximum 20 meter wiring distance from lights

Quantity	Designation	Part number
3	OFP-120-RW-20	113747-20
1	OFP-CAB-1B-RW-240-8M16-S	114112
1	Photocell-48	100757

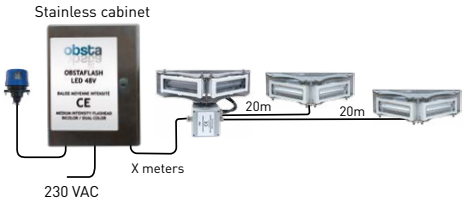


Cabinets also available in galvanized painted steel
Cabinets also available in 48 Vdc power supply

System with 3 OFP-120 White only or Dual color with (1) cable going up to central junction box

Ideal for Telecom towers and Chimneys up to 6 meters diameter to have cabinet at bottom

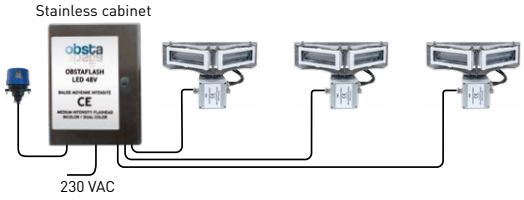
Quantity	Designation	Part number
3	OFP-120-RW-20	113747-20
1	OFP-JB-RW-6M16-M32	113753B-RW-N6
1	OFP-CAB-1B-RW-240-4M32-S	114111
1	Photocell-48	100757
X meters	Shielded cable 18G1,5	127106



System with 3 OFP-120 White only or Dual color with (3) separate

Ideal for buildings in case of adjacent obstacles (ommision of 1 light auhtorized by local Civil Aviation Authority)

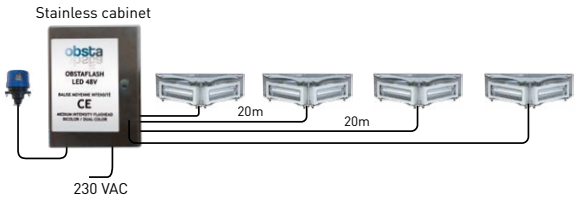
Quantity	Designation	Part number
3	OFP-120-RW-JB	113747JB
1	OFP-CAB-1B-RW-240-4M32-S	114111
1	Photocell-48	100757
X meters	Shielded cable 12G1,5	127114



System with 4 OFP-120 White only direct to cabinet

Ideal for 4-legs Telecom towers and Chimneys between 6 and 30m diameter when cabinet can be positioned on top

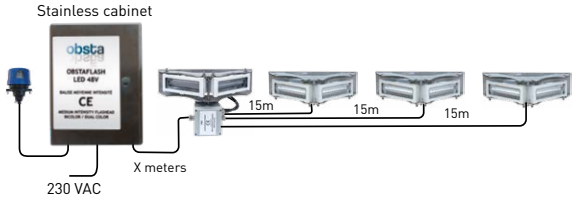
Quantity	Designation	Part number
4	OFP-120-RW-20	113747-20
1	OFP-CAB-1B-RW-240-8M16-S	114112
1	Photocell-48	100757
X meters	Shielded cable 18G1,5	127107



System with 4 OFP-120 White only with (1) cable going up to central junction box

Ideal for 4-legs Telecom towers and Chimneys between 6 and 30m diameter to have cabinet at bottom

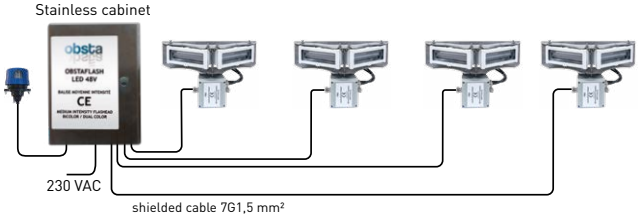
Quantity	Designation	Part number
3	OFP-120-RW-20	113747-20
1	OFP-JB-8P-RW	113753RW-N8
1	OFP-CAB-1B-RW-240-4M40	114111
1	Photocell-48	100757
X meters	Shielded cable 18G1,5	127106



System with 4 OFP-120 White only with (4) separate cable

Ideal for Buildings at each corner or facade

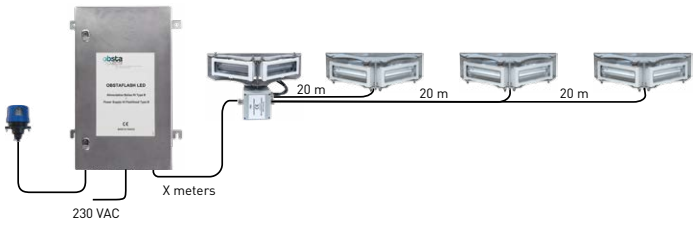
Quantity	Designation	Part number
4	OFP-120-RW-JB	113747JB
1	OFP-CAB-1B-RW-240-4M32-S	114114
1	Photocell-48	100757
X meters	Shielded cable 7G1,5	127113



System with 4 OFP-120 Dual color with (1) cable going up to central junction box

Ideal for 4-legs Telecom towers and Chimneys between 6 and 30m diameter to have cabinet at bottom

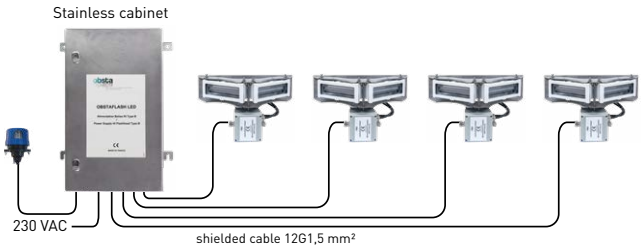
Quantity	Designation	Part number
4	OFP-120-RW-20	113747-20
1	OFP-JB-8P-RW	113753RW-N8
1	OFP-CAB-2B-RW-240-4M40	114210
1	Photocell-48	100757
X meters	Shielded cable 25G1,5	127107



System with 4 OFP-120 Dual color with (4) separate cables

Ideal for Buildings at each corner or facade

Quantity	Designation	Part number
4	OFP-120-RW-JB	113747JB
1	OFP-CAB-2B-RW-240-6M34	114211
1	Photocell-48	100757
X meters	shielded cable 12G1,5	127114

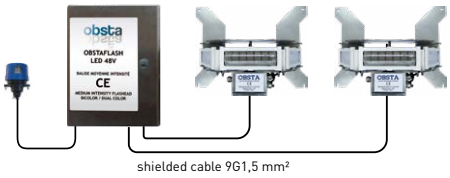


Typical configuration for 180° Lights

System with 2 dual color OFP-180 + junction box & power cabinet

Ideal for a slim obstacle when 360° are not practical (mast, telecom tower, antenna)

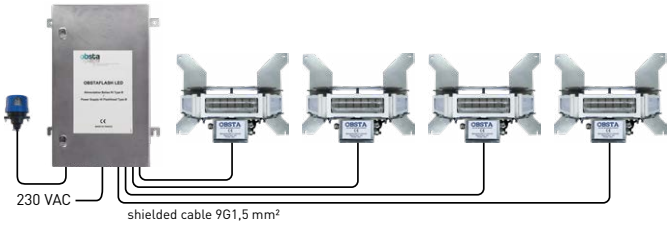
Quantity	Designation	Part number
2	OFP-180-RW-JB	113738
1	OFP-CAB-1B-RW-240-4M32-S	114111
1	Photocell-48	100757
X meters	shielded cable 9G1,5	127114



System 4 dual color OFP-180 + junction box & power cabinet

Ideal for extended buildings at each corner or facade, or for a large chimneys to optimize

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



Typical configuration for 360° Lights

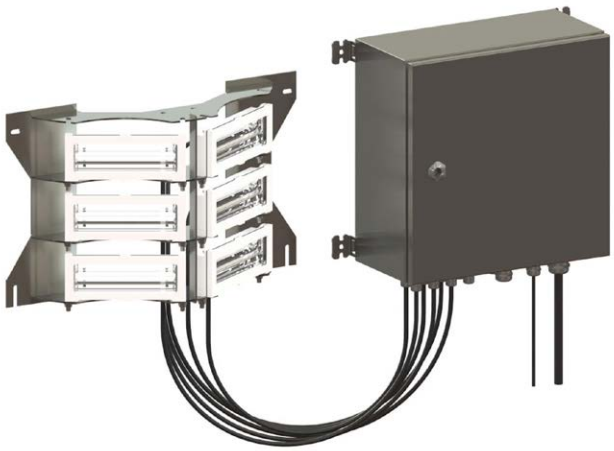
System with 1 OFP-360 & power cabinet

Ideal in case of CEM field on top of telecom tower and/or full electronic access on bottom of obstacle for maintenance

Quantity	Designation	Part number
1	OFP-360-RW-JB	113731JB
1	OFP-CAB-1B-RW-240-4M32-S	114111
1	Photocell-48	100757
X meters	shielded cable 18G1,5	127106

LED OBSTAFLASH OFH-120 remote 110-240 Vac

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),
- Cable lenght to define (standard: 2m)
- 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

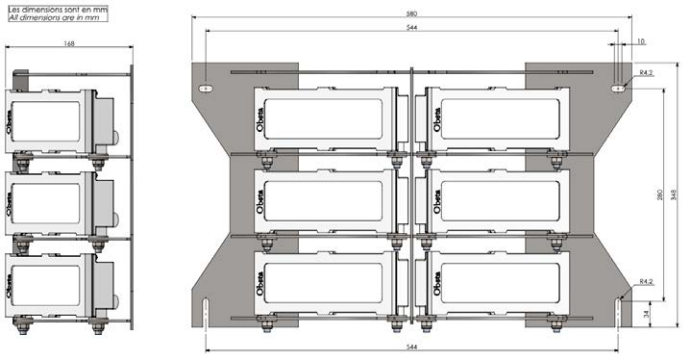
Product range OBSTAFLASH OFH
ICAO High Intensity type A / CAA

OFH-120 - XX - XXX

- input voltage
  - **240 : 110-240Vac**
- color
  - RW : red at night and white during daytime & twilight

WEIGHT AND DIMENSIONS (IN MM)

Flashhead



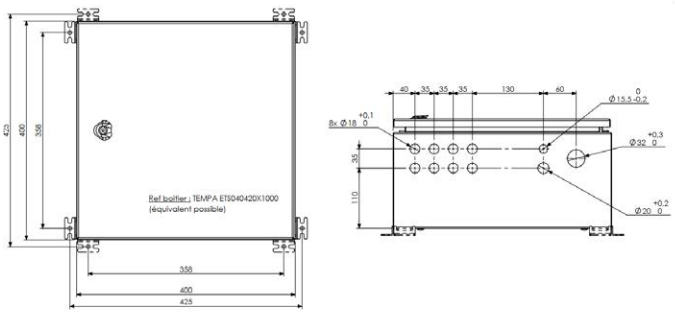
OTHER CHARACTERISTICS

- 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.

ACCESSORIES

- 48vdc photocell part number 100757
- Hi controller part number 114803

POWER CABINET



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

MAIN REFERENCE

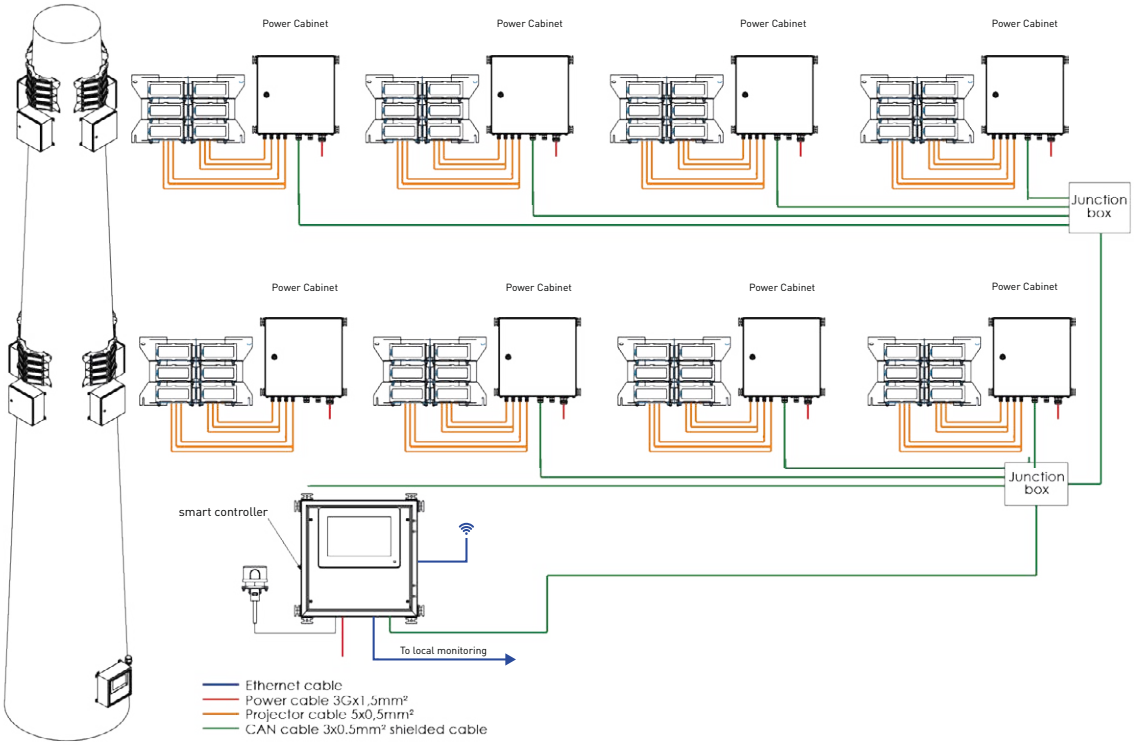
Designation	part number	Luminous Intensity			Beam spread		Flashes/ minute
		Day	Twilight	Night	Vertical	Horizontal	
OFH-120-RW-240	**113780B**	200 000 Cd	20 000 Cd	2000 Cd	> 3°	120°	40

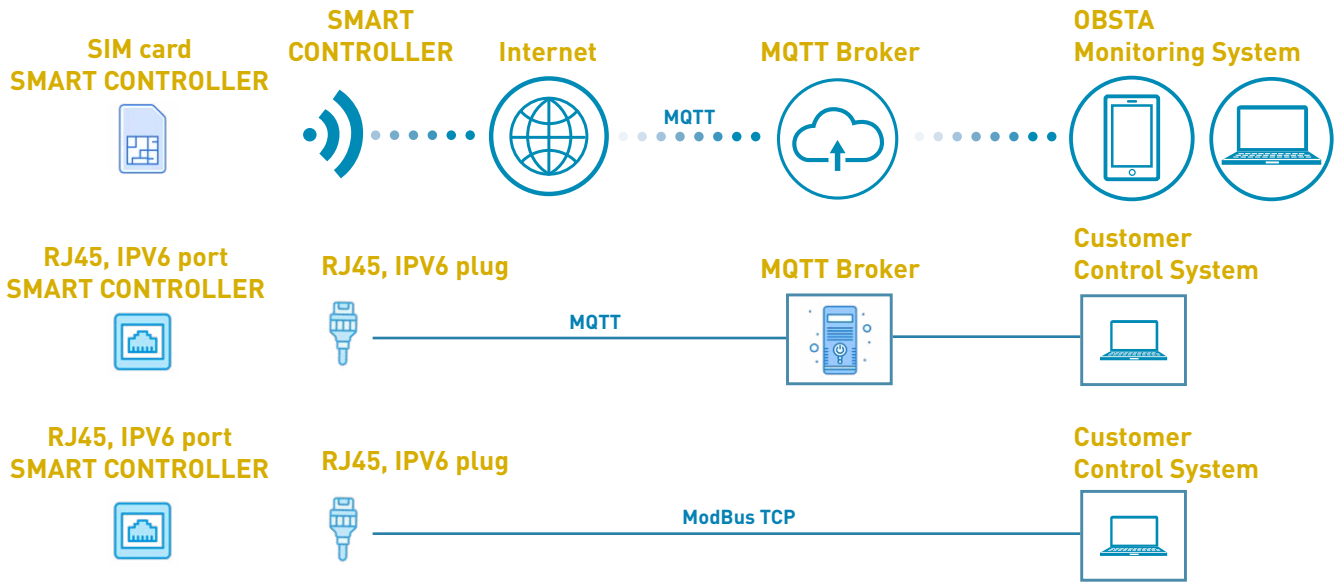
SMART CONTROLLER

- allows the maintenance, the configuration, the installation and the administration up to 64 medium OFI/OFP 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

Part number	Voltage	Max number of lights monitored
114803	110 to 240 VAC	64

TYPICAL WIRING DIAGRAM HIGH INTENSITY + SMART CONTROLLER





Obsta Monitoring website and/or Display smart controller

Monitoring web interface for Obsta customers and administrators

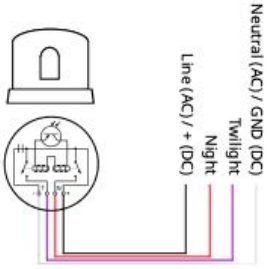
Features:

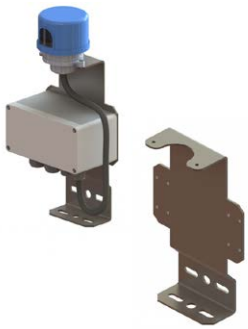
1/ Status of the lights and their power supply
- Status of the led projectors and their associeted power supply
- Status of the synchronisation coming from the GPS or other interface
- Status of the day/night mode
- Temperature inside the power supply
- Configuration of the flashheads

2/ Telemetric curves of each light
- Voltage of each led circuits
- Voltage of the power supply or batteries
- Temperature
- Humidity

PHOTOCELL FOR NIGHT ONLY OPERATION

- North-facing installation
- Twilight detection 500 Lux
- Night dectection 50 Lux
- Can be fixed on the bracket of NAVILITE, 113927
- Attached cable 50cm





Bracket 113927

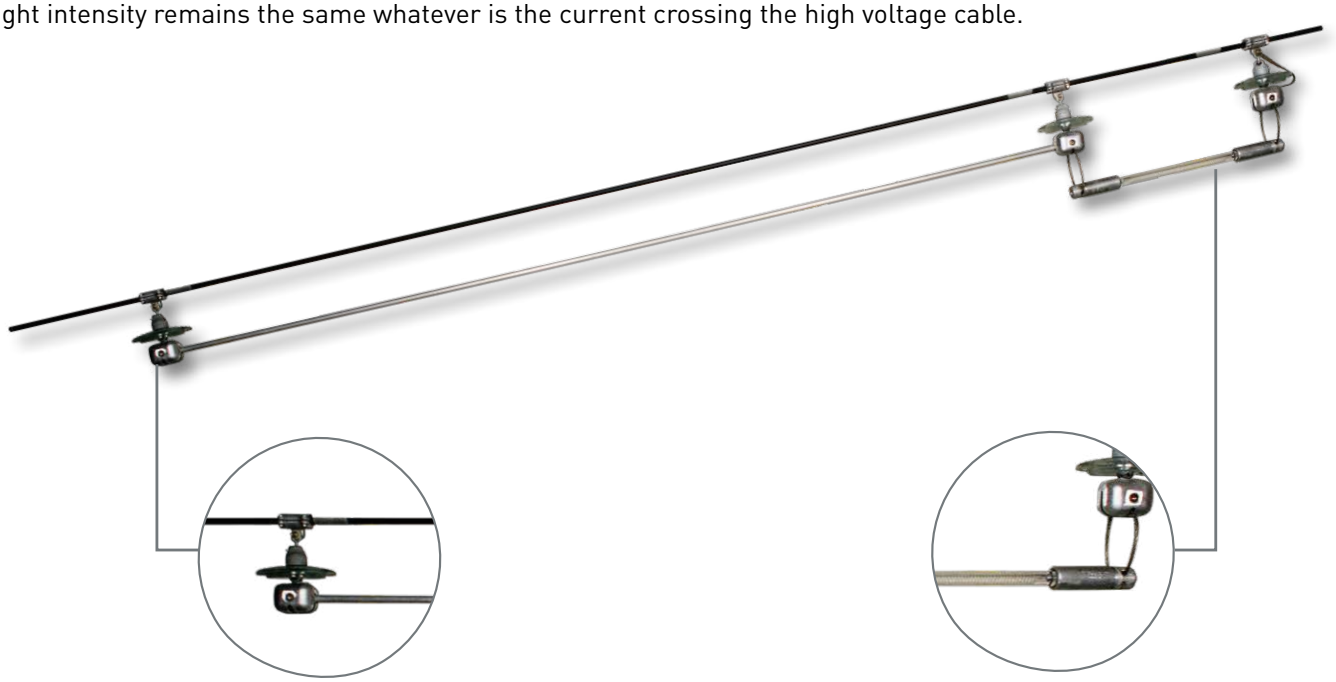
PHOTOCELL	Power supply	Max amps
100756	110 to 240 VAC	2 A (night circuit)
100757	12, 24 or 48 VDC	

BALISOR

Cold neon discharge based on capacity effect.
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.
To be positioned every 70 metres

The neon discharge offers :
- inherent generation of «aviation» red light,
- a very long life, essential to continuous operation of highvoltage lines.
- light intensity remains the same whatever is the current crossing the high voltage cable.



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

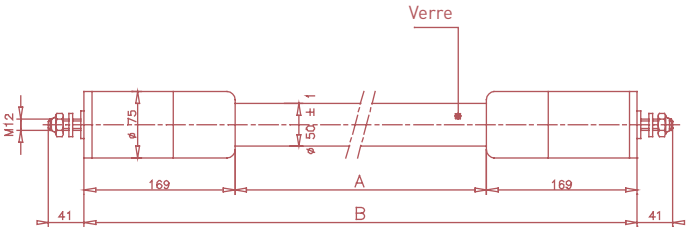
Cold neon discharge light

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

MAIN CHARACTERISTICS

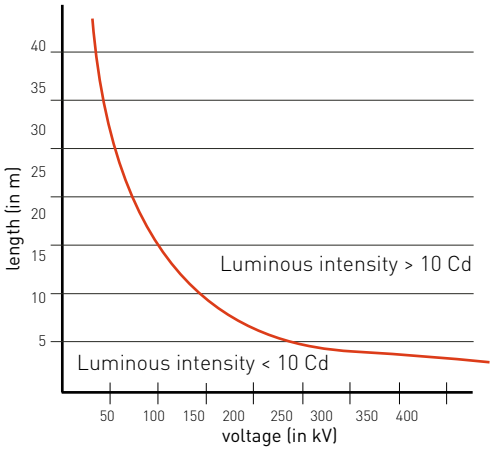
Designation	Part number	Luminous intensity	Voltage of the line	Interference suppression	Typical lifetime
BALISOR-lamp-B49	**100618**	> 10 Cd	60 kV to 550 kV	yes	> 100 000 h.
BALISOR-lamp-B33 (for balisor with cable antenna)	**100616**	> 10 Cd	60 kV to 400 kV	yes	> 100 000 h.

WEIGHT AND DIMENSIONS (IN MM)



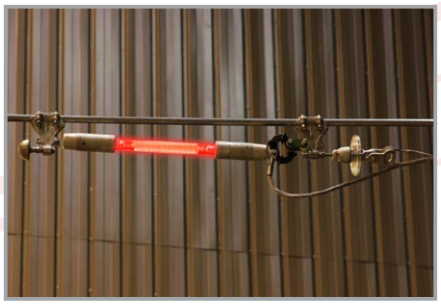
Type	A	B	Weight
Lamp type B49	563 +/- 5	901 +/-5	4.7 kg
Lamp type B33	376 +/- 5	714 +/-5	4 kg

Length of the drift depending on the voltage



			Number of elements depending on voltage 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

LED & Induction Type

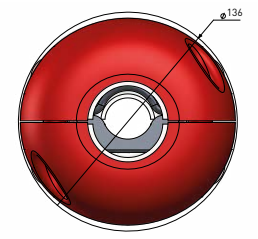
Description

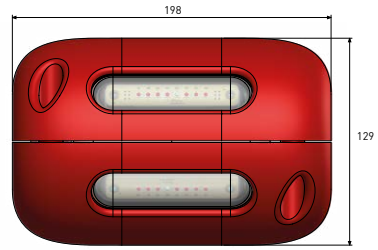
- Full body casing in 2 only halves of anodized and cast aluminum. Corrosion-proof for use in marine and damp tropical climate conditions
- Simplest but most effective form factor with axial symmetry centered on the conductor. No rotation or mounting questions.
- No other shapes or appurtenance that 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
- To be positioned every 70 metres (nearby airport, 105 m otherwise

MAIN CHARACTERISTICS

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)

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

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

Designation	Part number	Voltage	Weight	Luminous Intensity	Color
OFC-RA-048RG	**113790RA-048-RG**	48 Vcc	6 kg	2 000 Cd	Amber
OFC-RA-240RG	**113790RA-240-RG**	240 Vac	6 kg	2 000 Cd	Amber

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

Designation	Part number	Cable diameter	Color
BDS-W/R/O/Y-∅9,5/32,10	**113652**	9,5 up to 32,10 mm	White, Red, Orange, Yellow

Description

- Easy "bump and snap" installation on the cable
- No special tools required
- Simple, cost-effective design
- Lightweight (total weight : 180 g)
- Manufactured for UV-stabilized polycarbonate and polyethylene materials
- All metal hardware is corrosion-resistant stainless steel

Part number	Operating temperature*	Weight	Cable diameter	Color
100951	100°C max	180 g	up to 40 mm	Yellow

BATTERY

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

	Part Number	Batteries capacity	Output power	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
48Vdc battery cabinet without relays to deactivate the alarms from lights when they are de-energized during the night*	113952B	7,2 Ah	150 W	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
	113956B	18 Ah	336 W			yes	no	- 1 dual color medium intensity OFI360-RW-048 or 1 power unit OFP-CAB-1B-RW-048 - 1 to 2 dual color medium intensity OFD-RW-048 - 2 medium intensity type C configuration OFC-RI-048-R with their photosensor activated
	113958	54 Ah	600 W					Same as above with triple capacity for up to 3 days (72 hours) autonomy for critical systems
48Vdc battery cabinet with relays to deactivate the alarms from lights when they are de-energized during the night or the day *	113953-R3	12 Ah	150 W			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
	113956-W2	18 Ah	150 W			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

* : 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

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

SOLAR POWER SYSTEM

Solar kits are required in various situations: construction site lighting, permanent or temporary lighting supply.
They are determined based on the number of lights and the geographical location..
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 for the batteries.

114500 series

- 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

1003SOL series

1004SOL series

1005SOL series

MAIN CHARACTERISTICS

Range	Batteries capacity range	Panel power range	Output voltage	Typical application*
114500	6 Ah	10 Wp	12Vdc	Temporary applications with low intensity beacons Mounting and dismounting windturbine. Equiped with low intensity light Type E (flashing).
114501	18 Ah	20 Wp	12 Vdc	Low intensity, Type B (continuous) or flashing depending on latitude
1003SOL	27 to 32 Ah	20 to 50 Wp	12 Vdc	Low intensity or medium intensity red at Night Type B flashing between 30°North and 30°South latitude (approx.)
1004SOL	41 to 100 Ah	30 to 100 Wp	12 Vdc	Low intensity or medium intensity red at Night Type B flashing between 45°North and 45°South latitude (approx.)
1005SOL	41 to 130 Ah	220 to 830 W	48 Vdc	For 1 Medium intensity Dual Color between 300 and 60° North

**Typical applications are given for general example from our experience. That is why we give ranges of adequate solar panels and batteries.*
For new projects, please ask us advice as we calculate best panels and battery capacities according to the most precise location (latitude, longitude, seasons, sun irradiance, etc.)

HELITE-G-24 and GRASILIGHT

HELITE-G-24

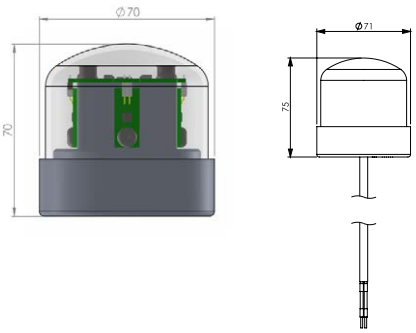
GRASILIGHT

Key points

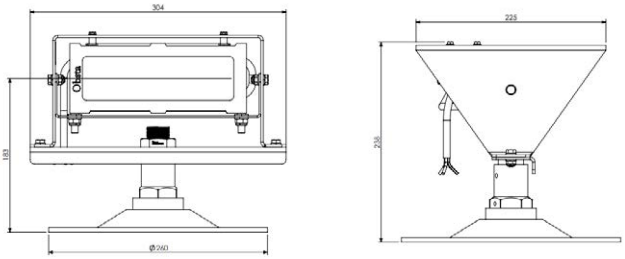
- hard glass
- compact
- low power consumption
- compliant with ICAO Annex 14 Volume II
- DC power supply with battery cabinet in option
- LED technology (no maintenance)
- frangible support in option
- light weight
- feet in option

dimensions (in mm)

HELITE-G-24



GRASILIGHT



In option

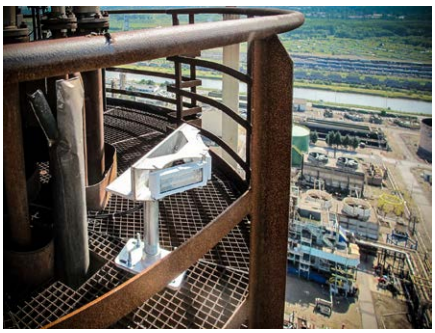
- 24 VDC power cabinet for 12 hours back-up (powered through 110 to 240 VAC)
- L-854 FM radio receiver/decoder is 100 % frequency and squelch field tunable within the 118-136 MHz air-band to switch on the lights with a series of 3, 5 or 7 microphones clicks.
- An integrated selectable timer shuts airfield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

MAIN CHARACTERISTICS

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

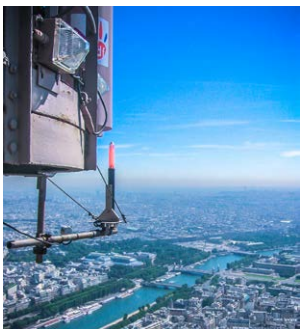
FRANCE, Oil and Gas Chimney



SPAIN, Barcelona Tower

MALAYSIA, Kuala Lumpur

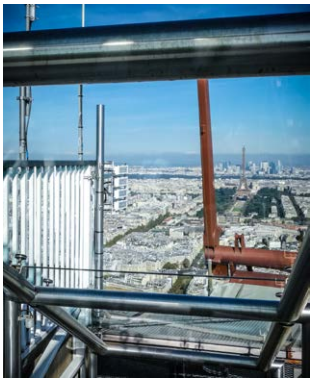
PARIS, Eiffel Tower



FRANCE, Millau

CHINA, Hong Kong

PARIS, Montparnasse Tower



USA, Texas

BRUXELLES, Diegem

ABU DHABI, Four Seasons Hotel

BEIRUT, Damac Vercase Tower

RUSSIA, Gazprom tower

JAPAN

NIGERIA, Lagos, Eko Towers

BELGIUM, Bruxelles airport

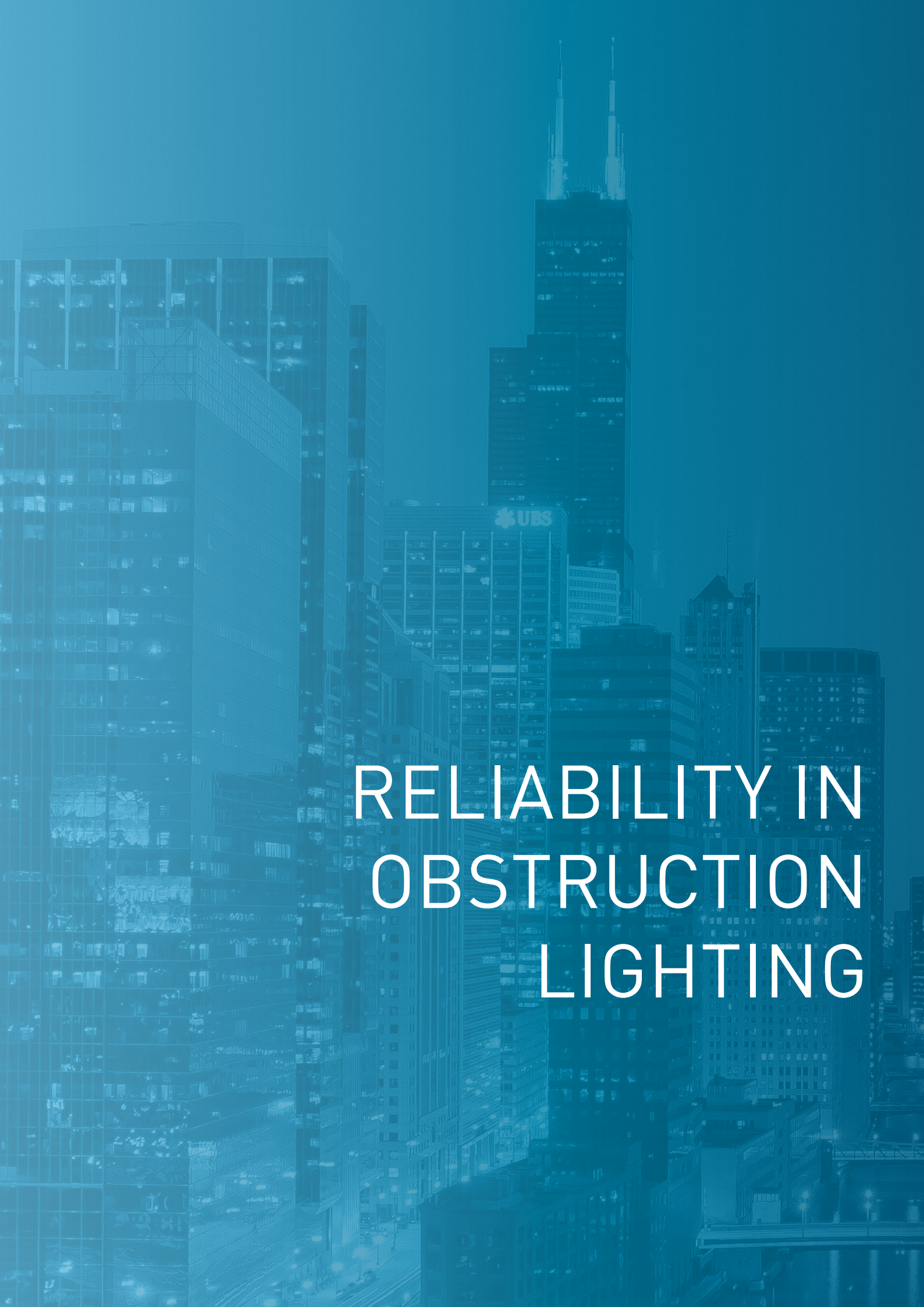
SWEDEN

RUSSIA, Moscow

EGYPT, Ain Sokhna

ABU DHABI, UAE

FRANCE, Greater Paris. Working since 1973!



RELIABILITY IN OBSTRUCTION LIGHTING

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