obsta®

RELIABILITY
IN OBSTRUCTION
LIGHTING

EDITION 10

POWERLINES
TELECOM
BROADCASTING TOWERS
CHIMNEY
AIRPORT
WINDTURBINES
CONSTRUCTION

www.obsta.com

BALISAGE AÉRIEN

SUMMARY

Edition 10 - 08/2023 - This document could be modified without notice

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, and China through Citel.

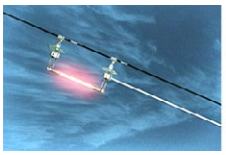
A long history

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.

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.



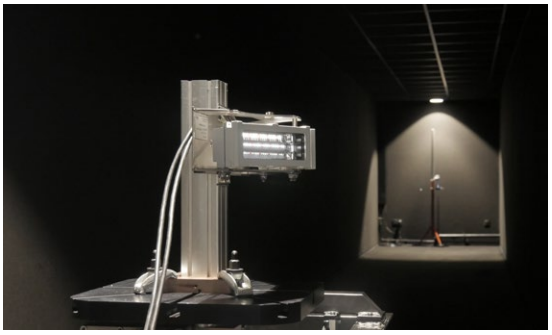
Led NAVILITE® red fixed obstruction lights (low intensity and L-810) since 2003 The NAVILITE series is dedicated to night only obstruction lights especially for telecom mast, buildings close to airports and all kind of obstacle below 45 meters high. Completely molded with 64 leds divided in 16 independent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

- Led and Xenon 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

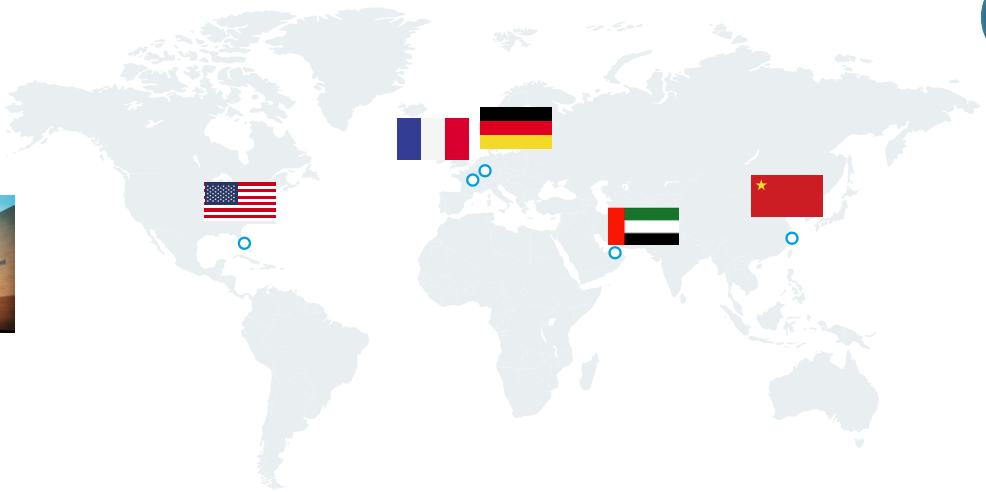
In order to test its products internally for standards compliance and to evolve toward greater reliability OBSTA has several test sites (France, USA) equipped with :

- 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)



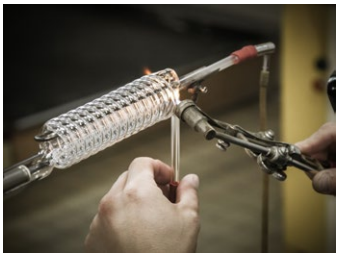
An international company

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 table 6-3. Characteristics of obstacle lights

Position of the obstruction lights

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

6.3.12 Recommendation - In the case of chimney or other structure like function, the top lights should be placed sufficiently below the top so as to minimize contamination by smoke etc...

6.3.14 In the case of an extensive object or of a group of closely spaced objects, top lights shall be displayed at least on the points or edges of the objects highest in relation to the obstacle limitation surface, so as to indicate the general definition and the extent of the objects. If two or more edges are of the same height, the edge nearest the landing area shall be marked. Where low-intensity lights are used, they shall be spaced at longitudinal intervals not exceeding 45 m (150ft). Where medium-intensity lights are used, these shall be spaced at longitudinal intervals not exceeding 900 m (2950ft)

6.3.15 Recommendation - When the obstacle limitation surface concerned is sloping and the highest point above limitation surface is not the highest point of the object, additional obstacle lights should be placed on the highest point of the object.

6.3.22 The number and arrangement of low-, medium- or high-intensity obstacle lights at each level to be marked shall be such that the object is indicated from every angle in azimuth. Where a light is shielded in any direction by another part of the object, or by an adjacent object, additional lights shall be provided on that object to be lighted. If the shielded light does not contribute to the definition of the object to be lighted, it may be omitted.

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

Night time marking (Red only)

The night time marking is done with **red obstruction lights**:
- low intensity type A or B (L-810)
- and/or medium intensity type B (L-864)

Day time marking (White flashing only)

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

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

The day and night time marking can be realized by using either:
- white medium intensity light working day and night
- dual color lights, white flashing during day time and red during night time

Obstruction light choices

ICAO	OBSTA designation	OBSTA part number	Compliance statement
Low intensity type A (red steady burning)	NAVILITE-SOL, BALISOR 63KV to 500KV	all	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-RI-48V, NAVILITE FAA		
Medium intensity type A (white flashing), type B (red flashing), type C (red steady burning) and dual color	Obstaflash medium intensity series		
High intensity type A (white flashing)	OFH-120		

FAA & ICAO type		OBSTA designation	OBSTA part number (FAA)	Compliance statement
L-810	Low intensity type B	NAVILITE-FAA	113969, 113969IR	FAA (150-5345-43J) ETL certified + compliant with ICAO low intensity type B
L-865	Medium intensity type A (white flashing light)	Obstaflash OF360-WW-240-U; OFI360-WW-240-U; OFI120-WW-048-U;OFI120-WW-048/240-U;OFI120-WW-240-U;OFI-WW-048-U	113723UA ; 113723UIA ; 113711UA ; 113757UA ; 113713UA ; 113791UA	FAA (150-5345-43J) L-865 ETL certified + compliant with ICAO medium intensity type A
L-864	Medium intensity type B (red flashing light)	Obstaflash OF360-R-240; OFI360-R-240; OFI120-R-048-U;OFI120-R-048/240-U;OFI120-R-240-U;OFI-R-048;OFC-RR-240; OFC-RR-048	113710UA ; 113756UA ; 113714UA ; 113790 ; 113790RI-240 ; 113790RI-048	FAA (150-5345-43J) L-864 ETL certified + compliant with ICAO medium intensity type B
L-865/L-864	Dual color medium intensity type A and B	Obstaflash OF360-RW-240-U;OFI-RW-240-U;OFI120-RW-240-U;OFI120-RW-48/240-U;OFI120-RW-048-U;OFI360-RW-048-U	113725UA ;113725UIA ; 113715UA ; 113758UA ; 113712UA ; 113792UA	FAA (150-5345-43J) L-865/L-864 ETL certified + compliant with ICAO medium intensity type A & B
L-864 OFC	Medium intensity type B (red)	Combi lights OFC-RI-240; OFC-RI-048	113790RI-240 ; 113790RI-048	FAA (150-5345-43J) L-864 ETL certifified + compliant with ICAO medium intensity type B
L-856	High intensity	Obstaflash OFH-120-WW-240-U	113780U	FAA (150-5345-43J) L-856 pending

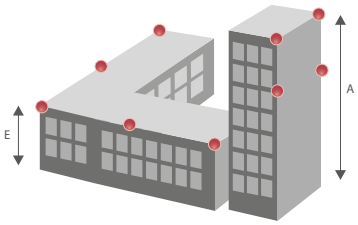
Led NVG compatible obstruction lights

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

Those energy-saving LED lights are providing years of operation and are maintenance-free. They are also NVG friendly :
Aviation authorities such as FAA, CAR (Canadian Aviation Regulation), MOD (UK) and OFAC (Switzerland) have issued safety alerts warning that common LED obstruction lights pose a hazard to pilots using Night Vision Goggles (NVGs). This is due to the fact that NVGs typically use filters to block cockpit lighting from saturating the imaging system. This has the unintended effect of making LED obstruction lights invisible to pilots.
In response, Night Vision Goggles based on infrared technology provide pilots using night vision goggles unmatched visibility of airfield perimeters, buildings, wind turbines and towers. Our FAA led obstruction lights ensure that your structure remains visible to all pilots.

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

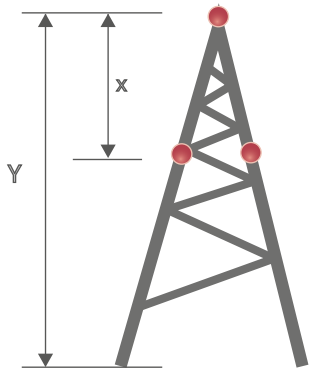
BUILDING (see diagram p 10-11)



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

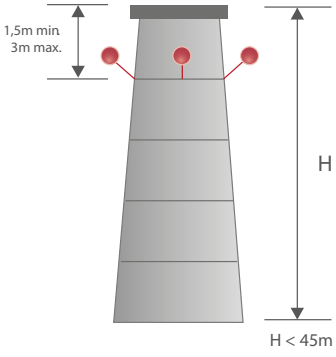


Number of lights = N = $\frac{Y(m)}{45}$

Distance between lights = X = $\frac{Y}{N}$ < 45m

Height	Night marking (red lights working at night only)	Day and night marking (white flashing light for day mode and red lights for night mode)
Below 45m (150ft)	1 or 2 low intensity type A or B at the top (L-810)	1 or 2 white medium intensity type A (L-865) at the top of the pole with low intensity working at night
45m (150ft) and above	1 or 2 medium intensity type B at the top with intermediate levels of medium intensity type B every 105 meters max., with low intensity type B in between each level of medium intensity	1 or 2 dual color medium intensity type A+B at the top with intermediate levels of dual color medium intensity type A+B every 105m max., with low intensity type B in between each level of medium intensity.
In option: 150m (500ft) and above	High intensity type A at the top with intermediate lights every 105 m maximum working during day time only and red low intensity type B and medium intensity type B working at night only. White flashing lights type A can also work day and night.	

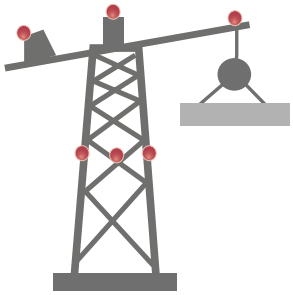
STACK (see diagram p 14-15)



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

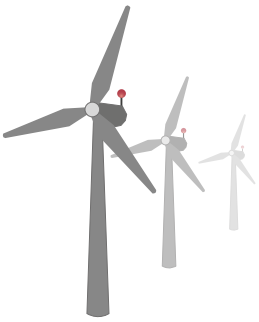
Note : for stack with diameter between 6 and 30 meters, 4 lights per level are required. For stack with diameter between 30 and 60 meters, 6 lights are required per level. And for stack with diameter abobe 60 meters, 8 lights per level are required per level.

CRANE (see diagram p 16)



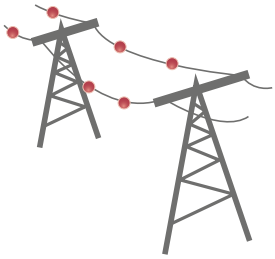
Height	Night marking only	Day marking
Below 45m (150ft)	Low intensity type A at the top of the crane-top and at each extremity of the jib and counter jib.	1 medium intensity dual color at the top of the crane-top.
45m (150ft) and above	1 medium intensity type B (L-864) at the top of the crane-top.	
105 m and above		

WIND TURBINE (see diagram p 17)



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

TRANSMISSION LINES (see diagram p 18)



Height	Night marking only		Day marking only
Poles	Same configuration than in the first case «pole and tower»	If it is not possible to install a light on the poles, 2 Balisors placed on each side of the pole at 10m (30ft) maximum and placed on the highest cable	Same configuration than in the first case «pole and tower»
High voltage cable	Balisors every 70m (230ft) near airport and every 105m (350ft) in other cases.		Warning spheres of 600mm diameter (2ft) every 30m (100ft)

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

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

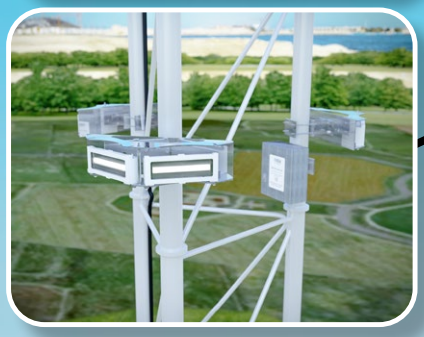
5 **OBSTAFLASH HI**
Hight Intensity White

OBSTRUCTION LIGHTING FOR TOWER

Towers from 105m to 150m

Day and night operation.

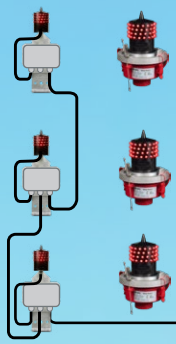
(The use of white flashing light during the day eliminates the need to paint the tower)



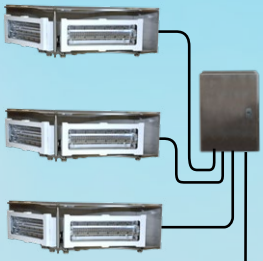
LED OBSTAFLASH 360 dual color medium intensity L-865/L-864 at top level

or **FAA fixture**

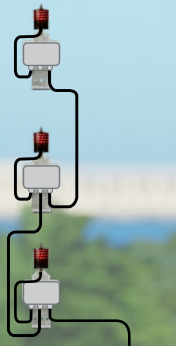
(or red only for tower with red & white painted stripes)



3 NAVILITE low intensity type B between the intermediate level and top level.



3 LED OBSTAFLASH 120 dual color medium intensity L-865/L-864 at intermediate level



3 NAVILITE low intensity type B between the bottom and the intermediate level.

110 to 240 VAC power supply and Photocell at the bottom

110 to 240 VAC

110 to 240 VAC

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

105-150M

1 TOP LEVEL

3 INTERMEDIATE LEVEL

46-105M

1 TOP LEVEL

1 OR 2 MID LEVEL

3 MID LEVEL

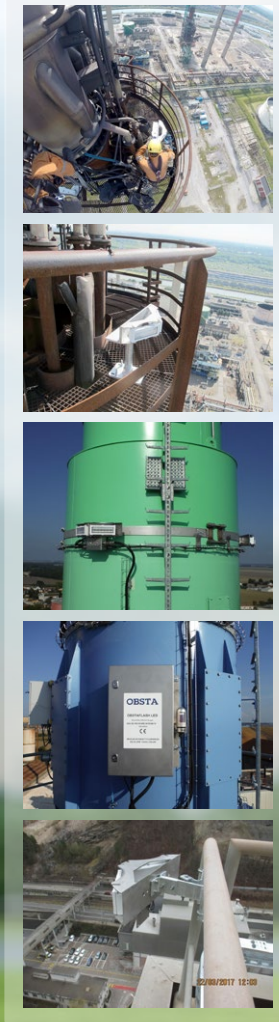
3 INTERMEDIATE LEVEL

UP TO 45M

3 MID LEVEL

OBSTRUCTION LIGHTING FOR STACK

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

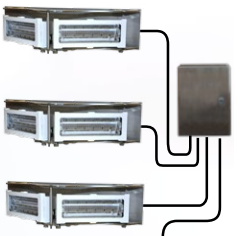


3 LED OBSTAFLASH120 dual color medium intensity ICAO compliant and L-865 / L-864 FAA ETL verified

below the top to avoid the smoke to hide the lights

RED AT NIGHT

WHITE AT DAY



3 NAVILITE at mid level

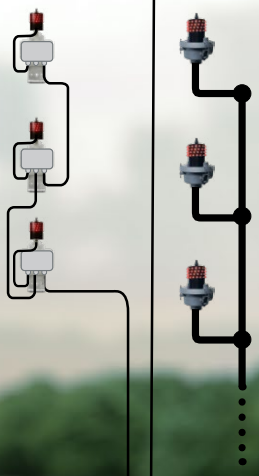
ICAO low intensity type B

Or

FAA L-810 type with NPT pipe

RED FIXED AT NIGHT

DAY OFF



110-240 VAC power supply and Photocell

at the bottom with or without batteries

Photocell north oriented

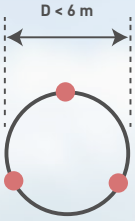
110 to 240 VAC

OBSTRUCTION LIGHTING FOR STACK

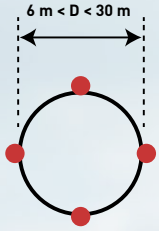
Painted stack (red & white stripes) 45 to 105 meters high, lights operating only at night.

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

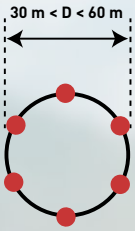
D < 6 m



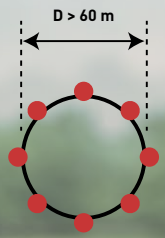
6 m < D < 30 m



30 m < D < 60 m



D > 60 m

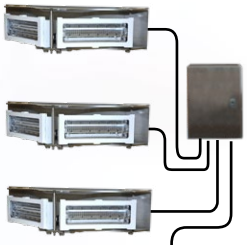


These configurations can be modified if stack are close to each other

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

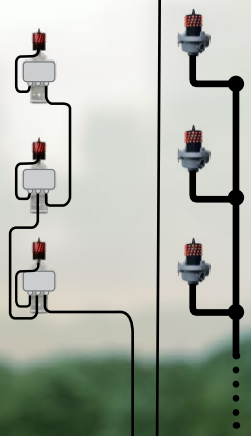
RED FIXED AT NIGHT

DAY OFF

ICAO low intensity type B

Or

FAA L-810 type with NPT pipe



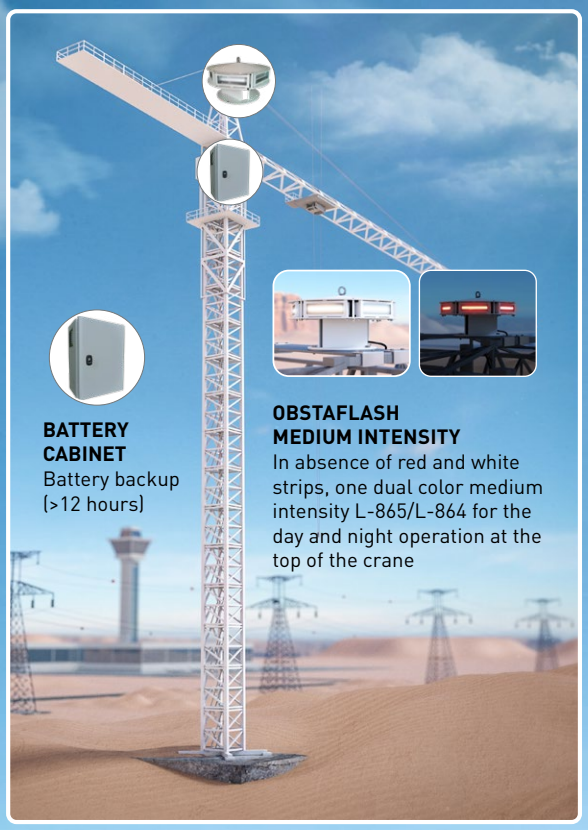
110-240 VAC power supply and Photocell
at the bottom with or without batteries

Photocell north oriented

110 to 240 VAC

OBSTRUCTION LIGHTING FOR CRANE

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



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)

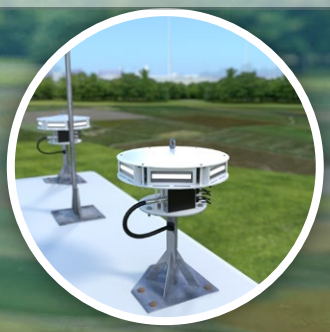
OBSTRUCTION LIGHTING FOR WIND TURBINE

TOP LEVEL

Red compact medium intensity

Or

Dual color medium intensity



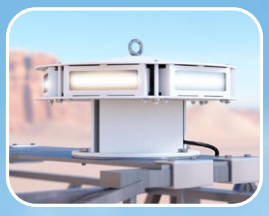
MID LEVEL

In option low intensity type E
3 Navilite

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

1 OFI
Medium Intensity White & Red at top level

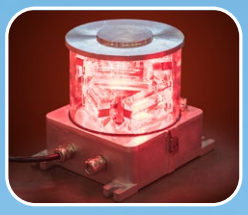
White during daytime and red during night



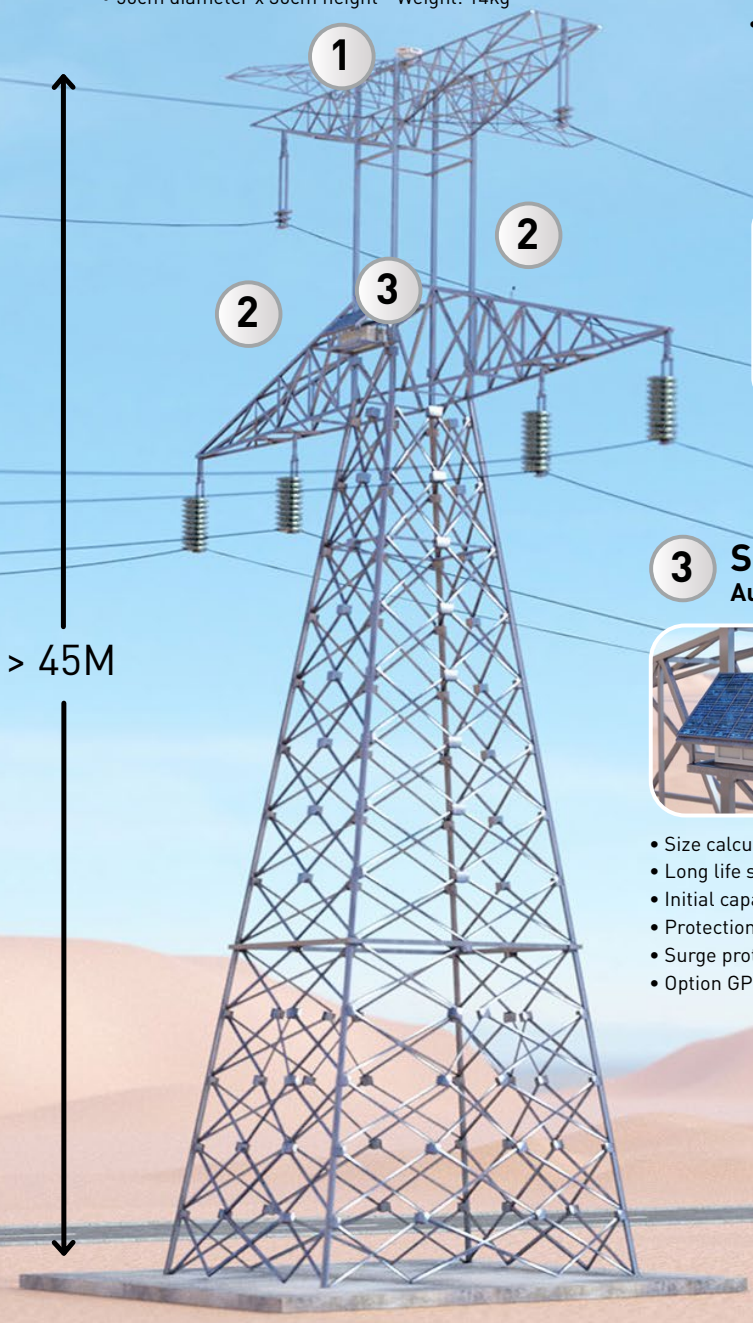

- Type A & B compliant to ICAO, CAA and FAA L-865/ L-864 certified
- IP66 verified
- Easy installation with only captive parts
- 6 LED projectors in hard glass and aluminium
- 2 lights in one with 2 LED circuits in redundancy
- Surge protection included
- Optional GPS interface for synchronisation
- 50cm diameter x 30cm height - Weight: 14kg

or

OFC
Medium Intensity Red Only or Dual color at top level



- Type B & C compliant to ICAO, CAA and FAA L-864
- Self contained and compact solution
- 6 LED Optics in hard glass and aluminium cover (no plastic)
- IP66 verified
- Easy installation with only captive parts
- 2 lights in one with 2 LED circuits in redundancy
- Very low consumption : 3W @ 20 FPM (ICAO setting)
- Surge protection included
- Optional GPS interface for synchronisation
- Available with Infrared
- Dimensions: 20cmx20cmx20cm - Weight: 5 kg

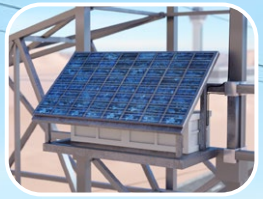


2 NAVILITE (optional)
Low intensity Red at intermediate level

- Type A & B compliant to ICAO, CAA
- Very compact with one mounting screw
- 64 LED in redundancy, resin molded
- Beacon light not grounded (Class II)
- Fully waterproof (IP67)
- No corrosion
- Bird spike
- 6cm diameter x 10cm height - Weight: 370g

3 SOLAR KIT
Autonomous power supply

4



- Size calculated from localization and flash per minute
- Long life solar gel batteries
- Initial capacity with at list 6 days of autonomy
- Protection of the battery against deep discharges
- Surge protection
- Option GPS synchronization & 3G modem communication

5 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
- No need of armor rod unless specified
- 8 drainage holes to prevent water accumulation
- Available in red, white and orange aviation

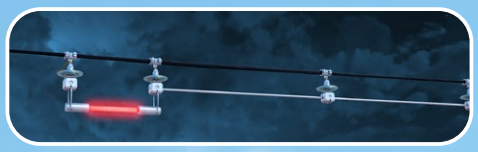
6 ALUMINIUM WARNING SPHERES 600MM

Every 30M on power cables up to 420kv and 250°c

- 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

4 BALISOR - CONDUCTOR WARNING LIGHT

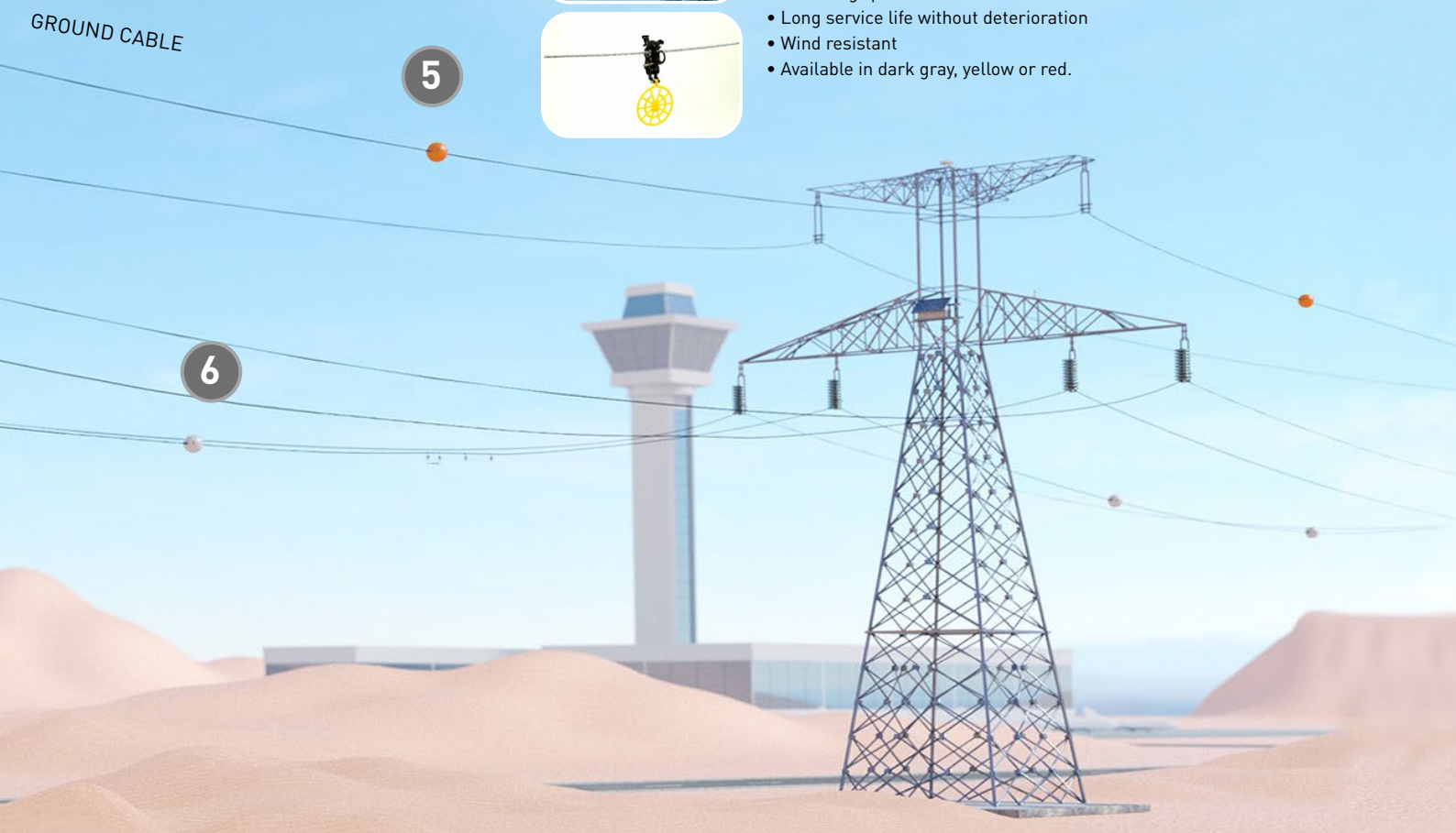
Night Time every 70M nearby airport, 105M otherwise

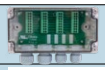


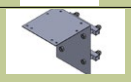
- Versions from 60KV to 550KV
- ICAO compliant Low Intensity Red steady-burning light
- Hard glass cold neon discharge tube
- OBSTA patented and manufactured in-house from 1938
- Self generation of energy in conductor
- No maintenance through decades
- Interference suppression included

7 BIRD-FLIGHT Diverter spiral or disk type

- 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
- Long service life without deterioration
- Wind resistant
- Available in dark gray, yellow or red.

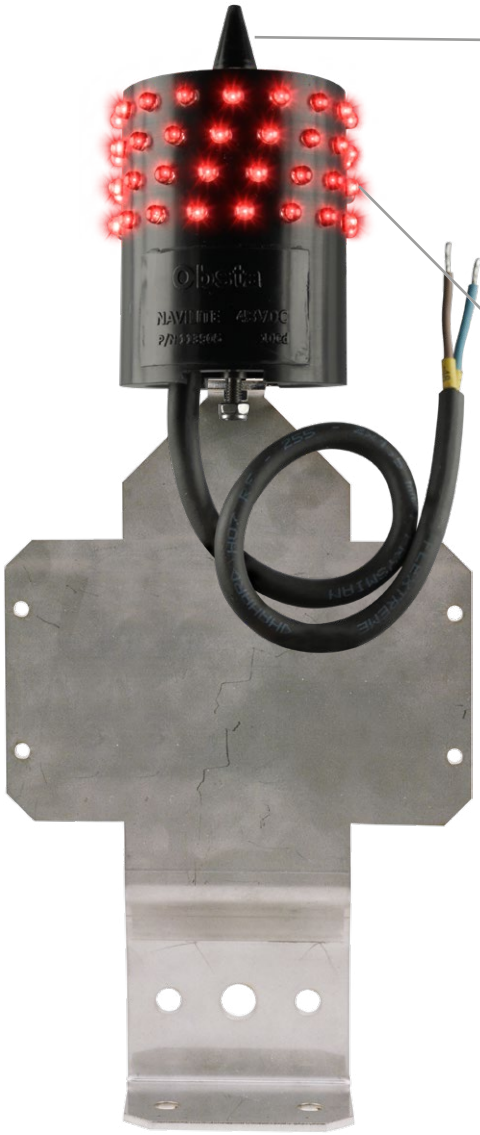


selection guide for RED FIXED LOW INTENSITY NAVILITE													
			Part Numbers										
			113900	113901	113902	113903	113905	113906	113904	113909I	113965	113969	113969IR	113965 IR
Voltage	48 Vdc		•				•				•			•
	24 Vdc			•				•						•
	12 Vdc				•	•			•					•
	110 to 240 Vac									•		•	•	
Alarm	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)										•	•	•	•
	FAA with infrared (last edition)												•	•
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 NAVI-LITE and a box		•	•	•	•	•	•	•	•				
	Stainles bracket + additional cable gland P/N 113928 (in absence of rigid pipe)										•	•	•	•
	Additional square P/N 113789-NAV (U-bolt not included) for tube or angle								•					
Optional control box for NAVILITE-48Vdc (see page 35)	Command box 1-2 NAVILITE 48vdc (input power 48Vdc) P/N 113940		•				•				•			
	Command box 1-4 NAVILITE 48vdc (input power 48Vdc) P/N 113915		•				•				•			
	Command box 1-4 NAVILITE 48vdc (input power 12-24Vdc) P/N 113915-SOL		•				•				•			
	Command box 1-4 NAVILITE 48vdc (input power 110-240Vac) P/N 113912		•				•				•			
Junction box in option	Junction box (polycarbonate)– 4 cables of 8 wires max P/N 113946								•					
	Junction box(galvanized steel) – 5 cables of 8 wires max P/N 113948								•					
Photocell in option	Photocell DC (night only operation) P/N 100757		•	•	•	•	•	•		•	•			•
	Photocell AC (night only operation) P/N 100756											•	•	
Optional power source	48VDC UPS battery cabinet (powered through 110 to 240Vac), see page 63 for more information		•				•				•			•
	12Vdc solar kit, see page 64 for more information					•			•					•
	OBSTALINK see page 41								•					

selection guide for RED MEDIUM INTENSITY			Part Numbers										
			113790RI-240	113790RI-048	113790RI-SOL	113790RI-240-G	113790RI-048-G	113790RI-SOL-G	113790RI-240-R	113790RI-048-R	113790RI-SOL-R	113970RI-240-RG	113790RI-048-RG	113790RI-SOL-RG
GPS & 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 P/N113789-OF-CB								•					
External photocell for night only operation	Photocel DC (direct on/off) P/N100757			•	•		•	•						
	Photocel AC (direct on/off) P/N100756		•			•								
Optional controller for low intensity and OFC of same voltage and with alarm	OFC-CTR-240 (red fixed mode only)		•											
	OFC-CTR-048 (red fixed mode only)			•										
	OFC-CTR-240-G (flash mode)		•											
	OFC-CTR-048-G (flash mode)			•										
Optionnal Junction box	Junction box(galvanized steel) – 5 cables of 8 wires max P/N 113948								•					
Optional power supply	48VDC UPS battery cabinet (powered through 110 to 240Vac), see page 63 for more information			•			•			•			•	
	12Vdc solar kit, see page 64 for more information				•			•			•			•
	OBSTALINK see page 41								•					

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

Low intensity type A and B



NAVILITE-48V-cable + stainless bracket

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

Wiring by pod

2 options : Pods or cable

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

Molded cable

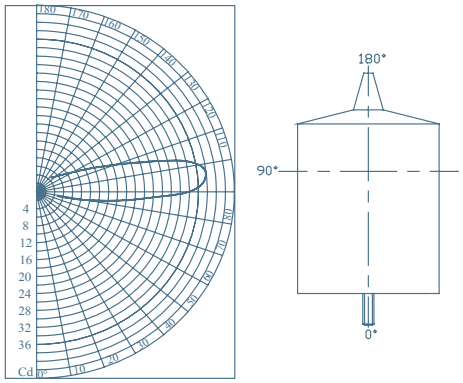
NAVILITE - XX - XXX - cable

cable : provided with 35cm of molded cable (only for 12Vdc 24Vdc and 48Vdc)
- : connection by 2 pods below light (only for voltage 12Vdc, 24Vdc and 48Vdc)

input voltage
12V : 12Vdc
24V : 24Vdc
48V : 48Vdc
SOL : only for 12Vdc solar kit
230V : 230Vac with transformer power supply
120-240 : 120Vac-240Vac with converter power supply

color
- : red only
IR : red and infrared
HI : Red with high redundancy levels of leds

LIGHT INTENSITY DIAGRAM

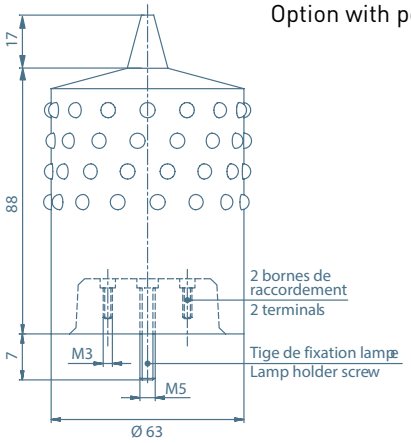


	NAVILITE Type A and B
IP degree	66
Operating temperature	-40° + 55°C
Power supply	12, 24, 48 VDC (+/-10%)
Light weight	370 g
Attachment	M5 screw (provided)
Maintenance	none

* The weight of the fixing bracket is 0.75kg

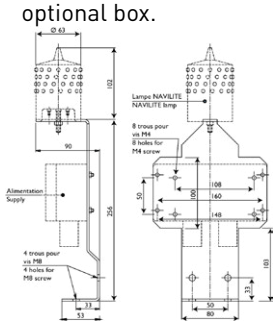
DIMENSIONS (IN MM)

Option with pods



ACCESSORIES (see page 34)

- Junction Box P/N 113946
- Stainless steel mounting bracket - P/N 113920 for Navilite & optional box.



For NAVILITE-48V only
- Command box P/N 113940, 113915-SOL and 113912
- Battery Cabinet with 12 hours power backup

MAIN REFERENCE

	Designation	Part number	Power supply	Luminous intensity	Electrical current	Nominal power	Lifetime
Pod	**NAVILITE-48V**	**113900**	48 VDC	> 32 Cd	125 mA	6 W	decades
Pod	**NAVILITE-24V**	**113901**	24 VDC	> 32 Cd	250 mA	6 W	
Pod	**NAVILITE-12V**	**113902**	12 VDC	> 32 Cd	500 mA	6 W	
Cable	**NAVILITE-48-CABLE**	**113905**	48 VDC	> 32 Cd	125 mA	6 W	
Cable	**NAVILITE-24-CABLE**	**113906**	24 VDC	> 32 Cd	250 mA	6 W	
Cable	**NAVILITE-240I**	**113909I**	110-240 VAC	> 32 Cd	70 mA	6 W	




NAVILITE-SOL-CABLE with Solar Kit

Low intensity type A

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
- Wiring 1 meter of molded cable

LED light

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

OBSTA Solar kit

- Continuous current 12 VDC with regulation
- optional Obsta solar generator.
- Size depending on latitude and longitude.

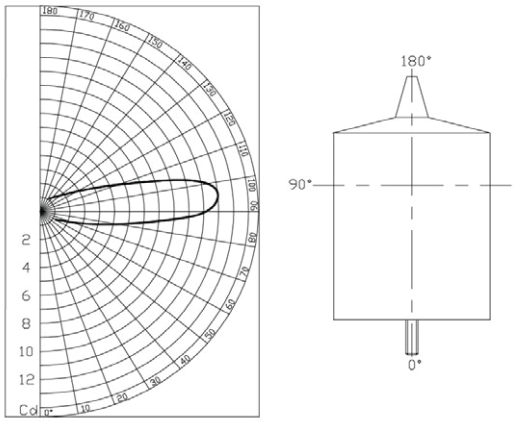
NAVILITE - XX - XXX - cable

cable : provided with molded cable (only for 12Vdc 24Vdc and 48Vdc)
- : connection by 2 pods below light (only for voltage 12Vdc, 24Vdc and 48Vdc)

input voltage
24V : 24Vdc
48V : 48Vdc
SOL : only for 12Vdc solar kit
230V : 230Vac with transformer power supply
120-240 : 120Vac-240Vac with converter power supply

color
- : red only
IR : red and infrared
HI : Red with high redundancy levels of leds

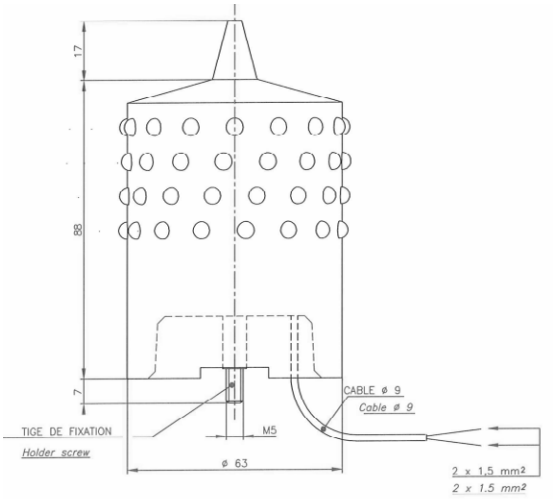
LIGHT INTENSITY DIAGRAM



	NAVILITE Type A
IP degree	66
Operating temperature	-40° + 55°C
Power supply	>12 VDC from Obsta Solar Kit
Light weight	370 g
Attachment	M5 screw (provided)
Maintenance	none

* The weight of the fixing bracket is 0.75kg

DIMENSIONS (IN MM)

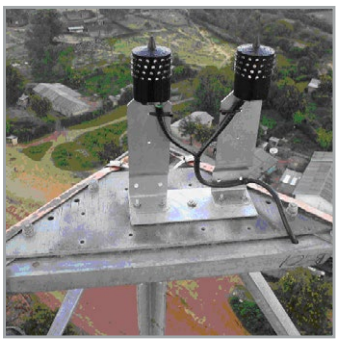


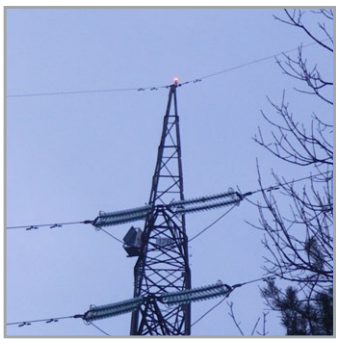
ACCESSORIES

- Stainless steel mounting bracket - ref. 113920
- "Main and back-up" command box P/N 113942 for 2 NAVILITE-SOL
- Solar kit (see page 64)

MAIN REFERENCE

Designation	Part number	Power supply	Luminous intensity	Electrical current	Nominal power	Lifetime
NAVILITE-SOL-CABLE	**113904**	12 VDC	> 10 Cd	250 mA	< 3 W	Decades





NAVILITE 110-240 VAC

Low intensity type A and B

NAVILITE-240i
P/N 113909i
+ stainless bracket P/N 113920

- for navilite-240i

• same light than Navilite-48V but with AC/DC converter and surge protection built inside

NAVILITE-230V
P/N 113909 (113905+113911)
+ stainless bracket P/N 113920

- for navilite-230V

• 230VAC power transformer providing galvanic isolation with the light (see page 31 for more information for the power supply 113911)

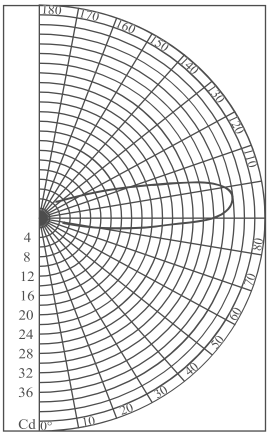
NAVILITE - XX - XXX - cable

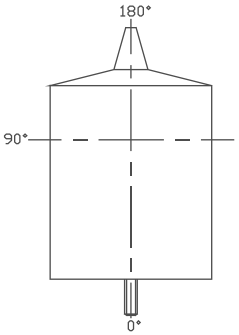
cable : provided with 35cm of molded cable (only for 12Vdc 24Vdc and 48Vdc)
- : connection by 2 pods below light (only for voltage 12Vdc, 24Vdc and 48Vdc)

input voltage
24V : 24Vdc
48V : 48Vdc
SOL : only for 12Vdc solar kit
230V : 230Vac with external transformer power supply
240I : 120Vac-240Vac with converter power supply built inside

color
- : red only
IR : red and infrared

LIGHT INTENSITY DIAGRAM

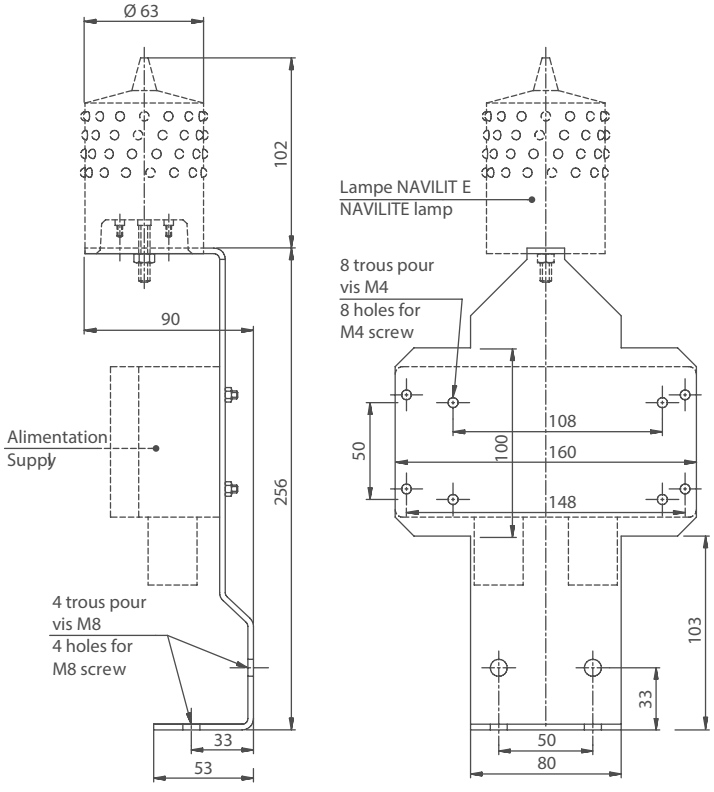


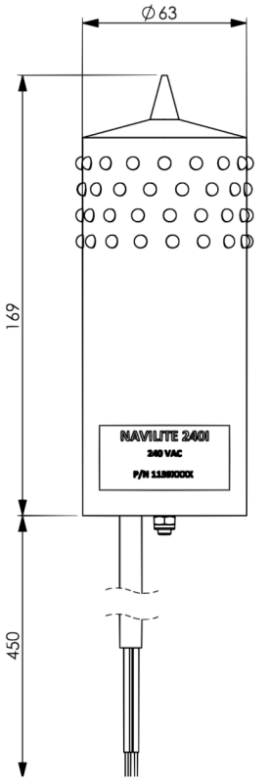


	NAVILITE Type A and B
IP degree	66
Operating temperature	-40° to + 55°C
Power supply	230 VCA (+/-10 %) = 113909 110 à 240 V (+/-10%) = 113909I
Weight (light) (excluding fixing bracket*)	370 g = 113909 950 g = 113909I
Attachment	by screw M5 (provided)
Maintenance	none

* The weight of the fixing bracket is 0.75kg

DIMENSIONS (IN MM)





ACCESSORIES

- Stainless steel mounting bracket P/N 113920
- 230 VAC photocell P/N 100756 for night only operation

MAIN REFERENCE

Designation	Part number	Power supply	Luminous intensity	Electrical current	Nominal power	Lifetime
NAVILITE-230V	**113909**	230 VAC	> 32 Cd	70 mA	6 W	decades
NAVILITE-240I	**113909I**	120-240 VAC	> 32 Cd	70 mA	6 W	

NAVILITE IR compliant with OFAC (Switzerland)
Led low intensity type A and B + infrared

Night Vision Goggles compatible according to OFAC directive (Switzerland)

NAVILITE-48V-cable

One-piece molded

- perfectly waterproof
- no corrosion risk
- no rise from the ground potential (due to lightning for example)
- bird spike

LED light

- Total 64 red diodes + 64 infrared diodes
- 2x 16 circuits of 4 LEDS
- LED wiring 4 by 4 in active redundancy @ 90°
- molding provides perfect support of the LED inclination angle
- 2 independent circuits for red and infrared

Power supply

- Continuous current 12, 24 and 48 VDC
- optional 230VAC command box for infared leds blinking mode.

For the conformity with OFAC (infrared blinking), the NAVILITE IR should be powered through a command box with IR setting:
- part number 113912 (input power supply 110 to 240Vac)
- part number 113915 (input power supply 48Vdc)
- part number 113915-SOL (input power supply 12 to 24Vdc)

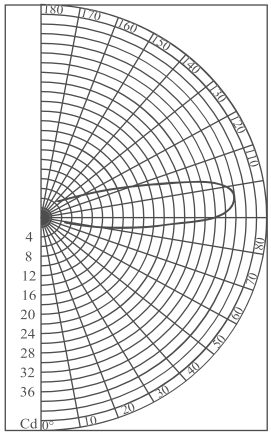
NAVILITE - XX - XXX - cable

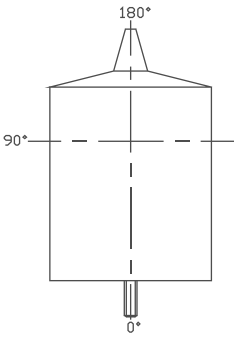
cable : provided with 35cm of molded cable (only for 12Vdc 24Vdc and 48Vdc)
- : connection by 2 pods below light (only for voltage 12Vdc, 24Vdc and 48Vdc)

input voltage
- 12V : 12Vdc
- 24V : 24Vdc
- **48V : 48Vdc**
- SOL : only for 12Vdc solar kit
- 230V : 230Vac with transformer power supply
- 120-240 : 120Vac-240Vac with converter power supply

color
- - : red only
- **IR : red and infrared**
- HI : Red with high redundancy levels of leds

LIGHT INTENSITY DIAGRAM

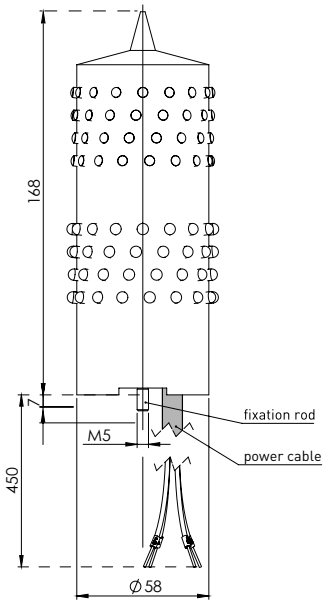




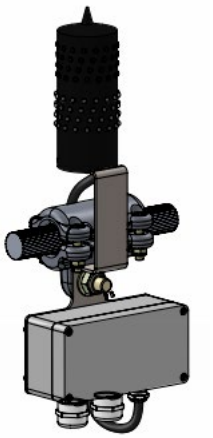
	NAVILITE Type A and B
IP degree	66
Operating temperature	-40° + 55°C
Power supply	12, 24, 48 VDC (+/-10%)
Light weight	0.92kg (excluding fixing bracket*)
Attachment	by screw M5 (provided)
Maintenance	none

* The weight of the fixing bracket is 0.75kg

DIMENSIONS (IN MM)



113905IR+113925+113943-AL



ACCESSORIES

- Stainless bracket part number 113920
- Stainless bracket for ground cable part number 113925
- Optional accessories
- junction box part number 113943-AL
- 100-240Vac command box part number 113912 for infrared blinking mode
- 48Vdc command box part number 113915 for infrared blinking mode

MAIN REFERENCE

	Designation	part number	Power supply	Luminous intensity	IR intensity and wavelength	Nominal power	Lifetime
cable	**NAVILITE-IR-48V-cable**	**113905IR**	48 VDC	> 32 Cd	150mW/sr @ 850nm	< 12 W	decades

NAVILITE F L810

FAA L-810 compliant with ICAO low intensity type B

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

NAVILITE-FAA-100-240Vac

One-piece molded

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

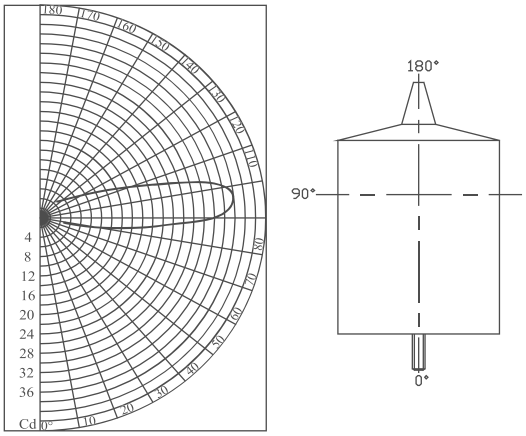
LED light

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

Power supply

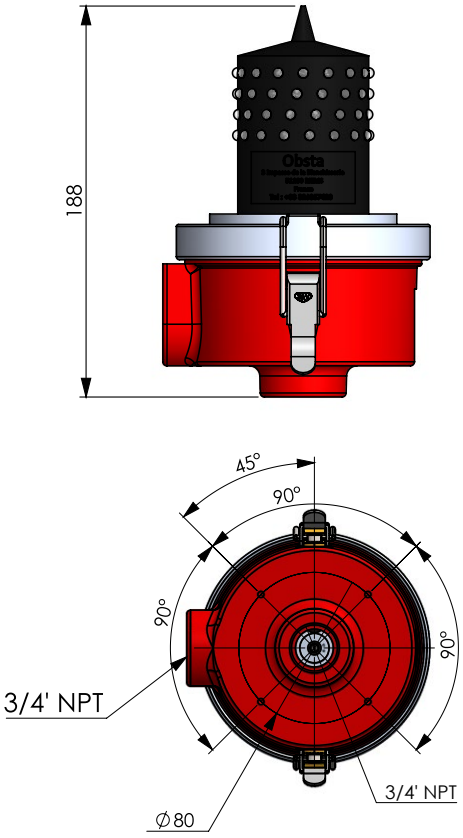
- Modular design with separate power supply in aluminium housing mounted
- 48 VDC or 110 VAC to 240 VAC power supply
- Surge protection included
- Alarm relay in case of lamp failure or power supply failure for the light part number 113969 110 to 240VAC Note: for the light part number 113965 48Vdc, a command box should be added (see page 32)
- 2 x ¾"NPT threaded holes for mounting (or with stainless bracket P/N113928 and standard cable entry in absence of FAA rigid conduit

LIGHT INTENSITY DIAGRAM



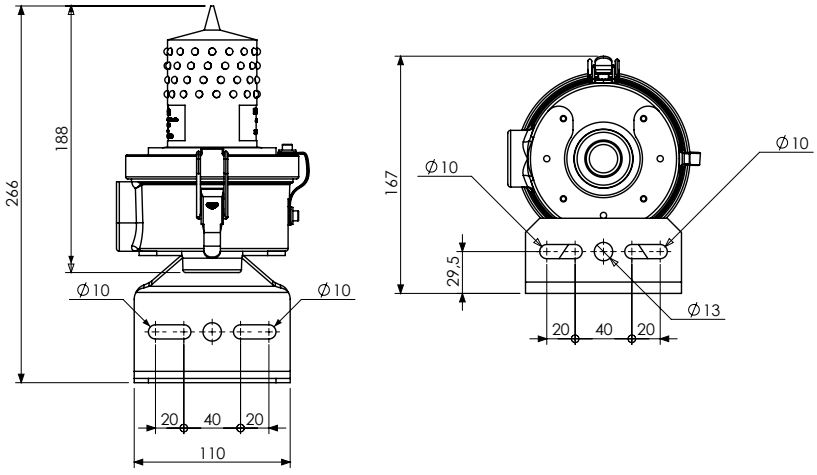
	NAVILITE L-810
IP degree	65 in vertical position
Operating temperature	-40° to + 55°C
Power supply	110 VAC to 240VAC and 48VDC (+/-10%)
Weight (light)	370 g (excluding aluminium base)
Weight (light + base)	1.4 kg (fixed through vertical or horizontal NPT)

DIMENSIONS (IN MM)



ACCESSORIES

- Support for horizontal or vertical attachment P/N 113928
- Command box part number 113940, 113915 or 113912 for NAVILITE 48Vdc P/N 113965.



With bracket P/N113928

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	decades
NAVILITE-F-48V	**113965**	48 VDC		6 W	decades

NAVILITE FAA L810 IR

FAA L-810 compliant with ICAO low intensity type B

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

NAVILITE-IR-FAA-120-240V

One-piece molded

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

LED light

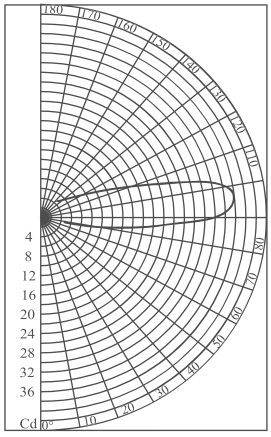
- Total of 128 diodes
- 16 circuits of 4 LEDS with Infrared
- LED wiring 4 by 4 in active redundancy at 90°
- provide perfect support of the LED inclination angle
- excellent heat dissipation

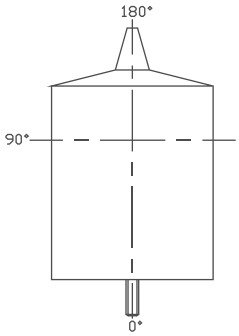
Power supply

- Modular design with separate power supply in aluminium housing mounted
- 110 VAC to 240 VAC power supply
- Surge protection included
- Alarm relay included
- Mimic with L-864 medium intensity (flashing mode) or fixed mode
- 2 x ¾"NPT threaded holes for mounting (or with stainless bracket P/N113928 and standard cable entry in absence of FAA rigid conduit)

Night Vision Goggles according to FAA 150-5343J

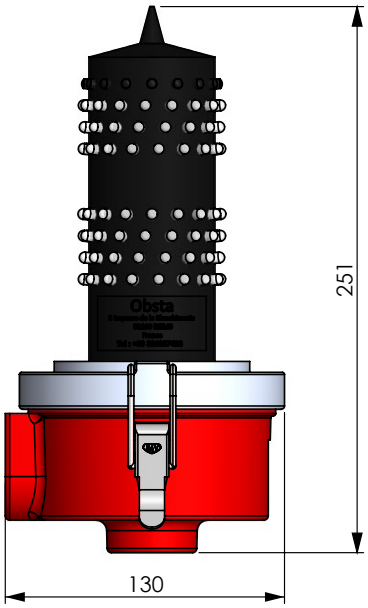
LIGHT INTENSITY DIAGRAM

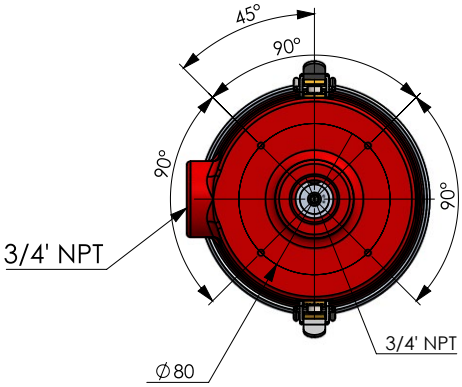




	NAVILITE L-810
IP degree	65 in vertical position
Operating temperature	-40° to + 55°C
Power supply	110 VAC to 240VAC 48Vdc +/- 10%
Weight (light + base)	1.4 kg (fixed through vertical or horizontal NPT)

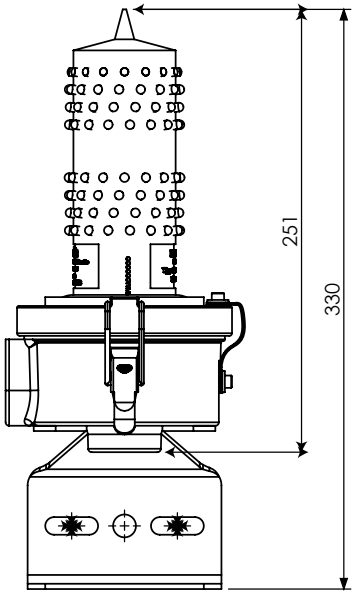
DIMENSIONS (IN MM)





ACCESSORIES

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



With bracket P/N 113928

MAIN REFERENCE

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

** not ETL listed*

ACCESSORIES for NAVILITE

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

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

Main characteristics

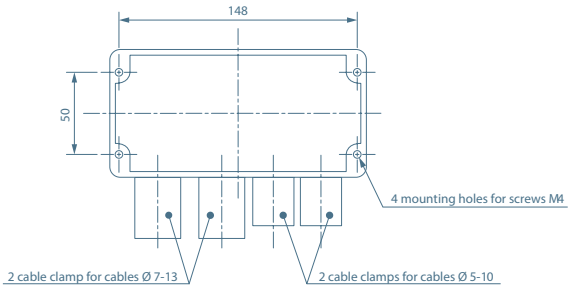
- Polycarbonate box for wiring in parallel 4 cables of 8 wires max
- Can be fixed on the bracket of NAVILITE
- Suitable for all voltage
- 2 cable entries diameter 5-10mm and 2 for cable diameter 7-13mm
- Terminals connections for the wires 2,5mm² max

COMMAND BOX FOR NAVILITE 48 VDC AND NAVILITE-SOL (see table next page)

Main characteristics

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

WEIGHT & DIMENSIONS (FOR ALL MODEL)

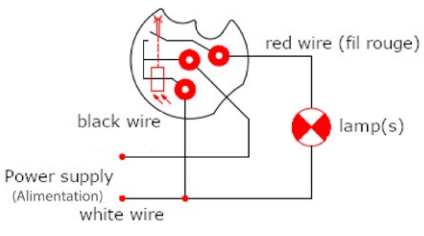


IP degree (in vertical position)	65
Power Cable diameter	from 7 to 13 mm and 5 to 10mm
Wire cross section	from 1 to 2.5 mm²
Attachment	4 screws type M4

PHOTOCELL FOR NIGHT ONLY OPERATION

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

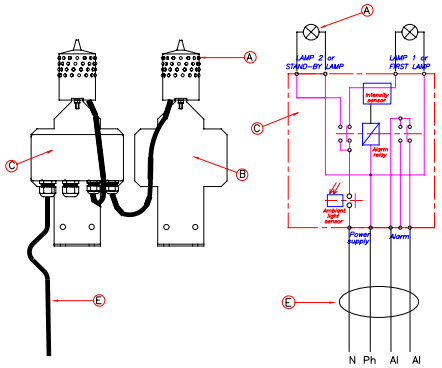
Wiring of PHOTOCELL
Raccordement Photocell



Command Box for NAVILITE 48 Vdc P/N 113900, 113905 and 113965		PART NUMBER			
		113940	113915	113912	113915-SOL
Power Supply	48 Vdc power supply	•	•		
	100-240 Vac power supply			•	
	12-24 Vdc power supply				•
On/off	Buit-in sensor (night only operation) or 24h/24 operation	•			
Electrical main features	2 lights « main and back-up » (main lamp normally on and second lamp normally off and switch on in case of failure of the main lamp)	•			
	1 or 2 lights operating simulteanously (both on and off)	•			
	1, 2, 3 or 4 lights all operating simulteanously (both on and off)		•		
	mimic mode with medium intensit type B (low intensity type E flashing on the same pulse than L-864 or medium intensity type B))		•		
	Surge protector included		•		
	remote alarm (relay normally open and normally close both available) in case of lamp(s) failure (current controlled depending on number of lights) or power supply failure	•			
	dip-switches to set up the configuration of the command box (24H/24 operation or night only, « main and back-up » or simultaneously, number of lights)	•			

Command Box for NAVILITE-SOL		PART NUMBER
		113942
Power Supply	12 Vdc solar kit	•
Electrical main feature	2 lights « main and back-up » (main lamp normally on and second lamp normally off and switch on in case of failure of the main lamp)	•

Typical configuration with 2 Navilite-48V

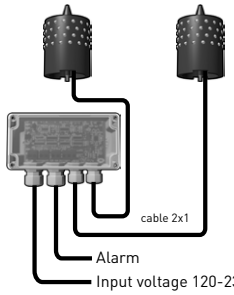


Alarm conditions :
- Low intensity of the lamp(s)
- Short-circuit of the lamp(s)
- Power supply failure

Nomenclature / Bill of materials			
Reference	Quantity	Part number	Designation
A	2	113905, 113900, 113965	Navilite 48VDC
B	2	113920	Navilite bracket
C	1	113940 or 113912 or 113915	Command box
E	-	113160	5G1.5 flexible cable

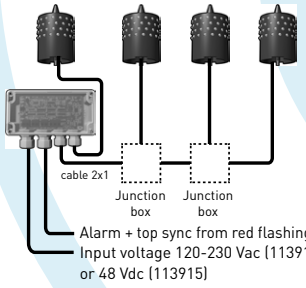
Cable must be shielded when used in electro-magnetic fields

2 Navilite 48V
"main & back-up"

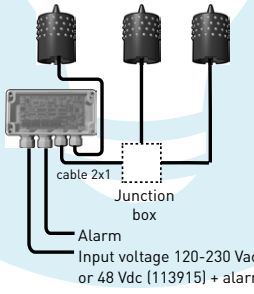


Other configurations

Navilite 48V
working simultaneously



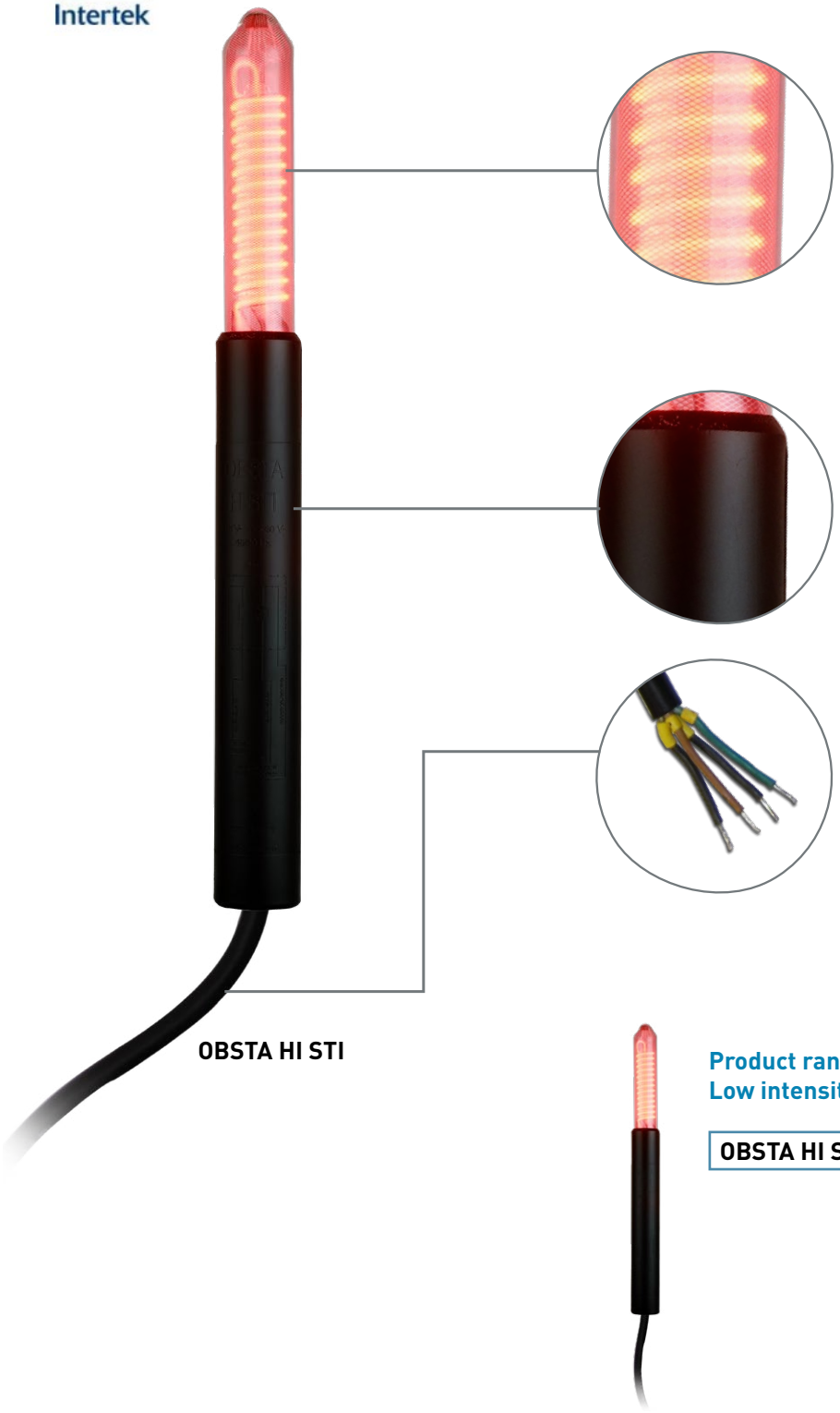
Navilite 48V
working simultaneously



OBSTA HISTI 110 to 240 VAC

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

L-810 FAA 150-5343G



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

- 110 VAC up to 240 VAC
- protected against transient overvoltages
- alarm relay in case of lamp failure or low power

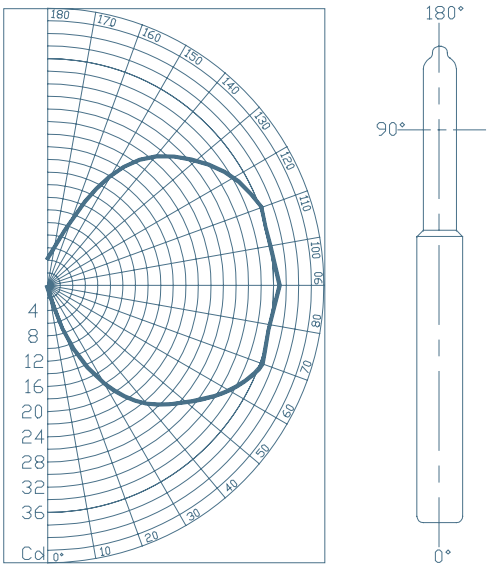
Product range HI STI
Low intensity cold neon discharge 32CD

OBSTA HI STI - F - APR

- : class II
APR : class I (only 110 up to 240VAC)

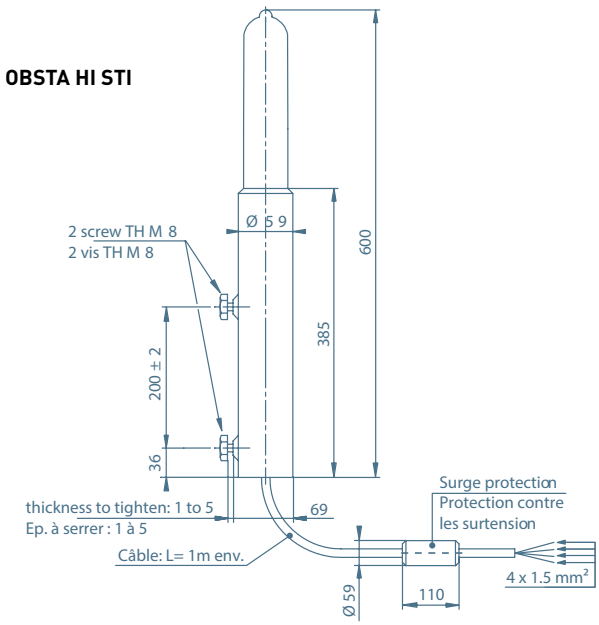
240V : 110 up to 240VAC
F 24V: 24Vdc

LIGHT INTENSITY DIAGRAM



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

DIMENSIONS (IN MM)



SPECIAL PRECAUTIONS

For chimney installation, install the light under the top (1.5 to 3m, 5 to 10ft), as per ICAO and FAA recommendations.
For installation in intense electromagnetic fields, the use of shielded wire is highly recommended.

OTHER FUNCTIONS

- Failure remote signalization by relay (see diagram)

- «Active redundancy» configuration allows the automatic turn on of a backup light and/or of an alarm in case of failure of the main light (see diagram)
- Photocell controlled
- Light shielded as per standard EN 55011, class B

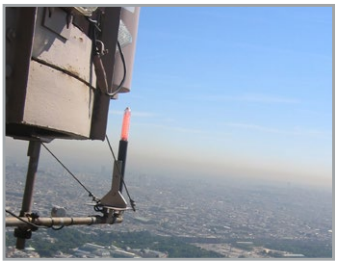
- **Stainless steel mounting bracket** (ref. 113121 for one light and 113124 for two lights)

- **Connection accessories** (see page 34)

MAIN REFERENCE

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

* with power supply stabilized




OBSTAFLASH COMPACT OFC

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

Characteristics

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

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

OFC - XX - XXX - RG

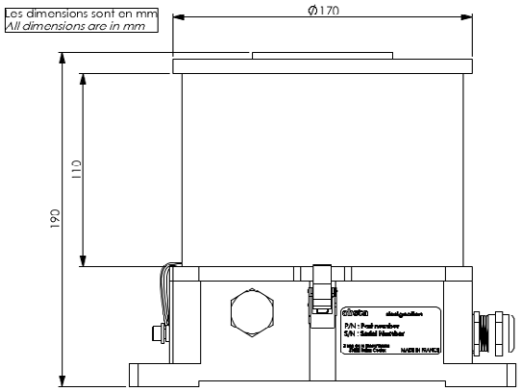
OPTION
- : no option
R : with built-in photocell
G : with GPS

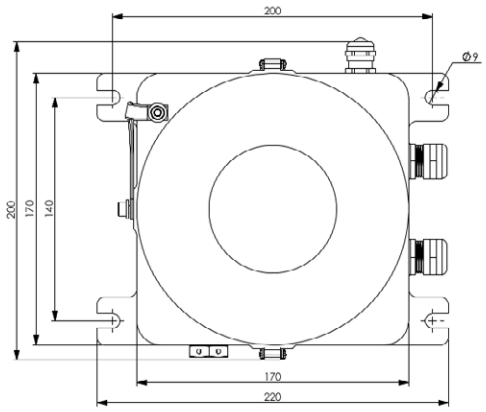
input voltage
048 : 48Vdc
240 : 110-240Vac
SOL : 10-24Vdc for 12vdc solar kit*

color
RI : red and infrared

* ETL not listed

WEIGHT & DIMENSIONS (IN MM)





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

ACCESSORIES

- Built in GPS for wireless synchronisation
- Built in Photocell for night only operation

External accessories

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

MAIN REFERENCE

designation	part number	Voltage	Color	Infrared intensity and wavelength	Red Luminous intensity	Average power consumption
OFC-RI-048	**113790RI-048***	**48 Vdc**	red	600mW/sr @ 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 "G" to be added for built-in GPS for day/night and/or flash synchronisation*

** option "R" to be added for built-in photocensor*

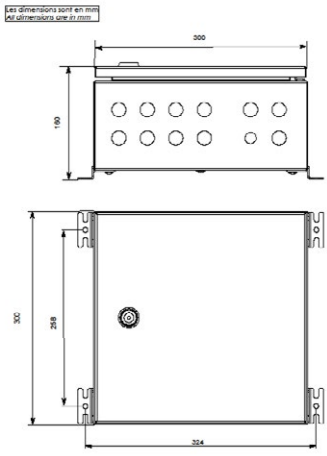
** option "RG" to be added for built-in GPS for flash synchronisation and built-in photocell*

CONTROLLER FOR RED LIGHTS

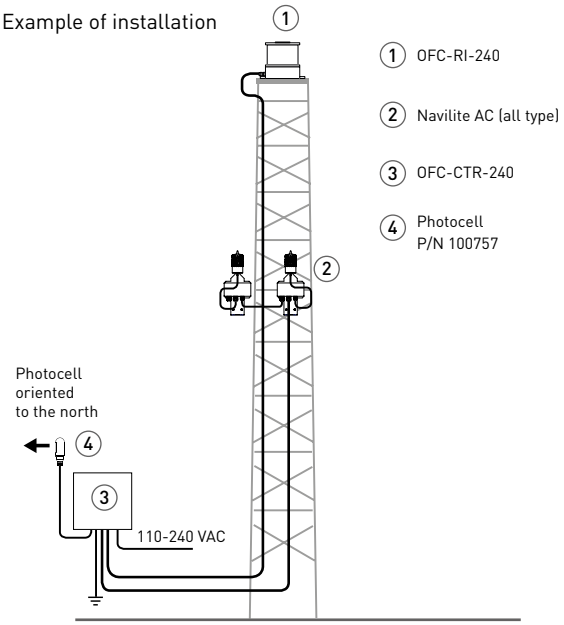
Stainless control box to facilitate the implementation and monitoring of red medium and low intensity OBSTA lights. These metal boxes are suitable for EMC environments and severe climatic conditions.

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

Photocell
P/N 100757
to be ordered separately



Example of installation



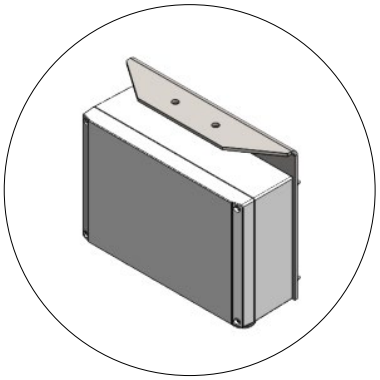
1 OFC-RI-240
2 Navilite AC (all type)
3 OFC-CTR-240
4 Photocell P/N 100757

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

MAIN CHARACTERISTICS

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

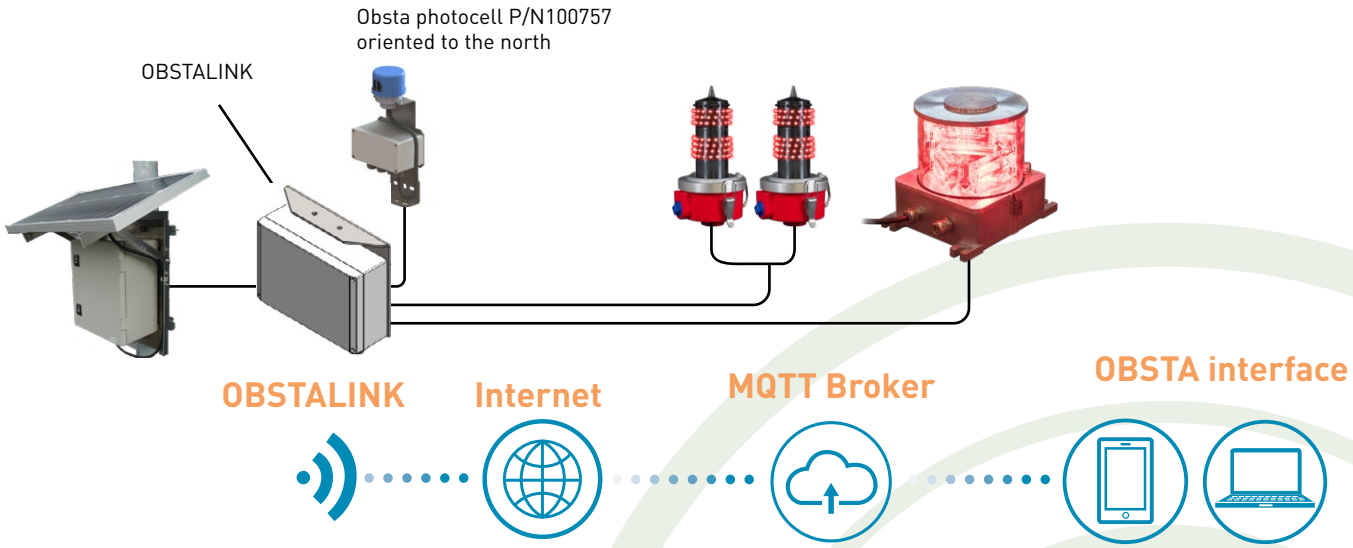
OBSTALINK

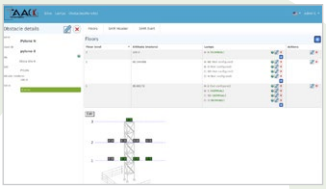


- Periodic control of the system, every 30 minutes
- Control of the power consumption of each light
- Control of the dry alarm contact (normally close or normally open) of each light (if available on the obstruction lights)
- Control of the DC power source (batteries from the solar kit or the battery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

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

EXAMPLE OF INSTALLATION





Obsta Monitoring website

Monitoring web interface for Obsta customers and administrators

Features:

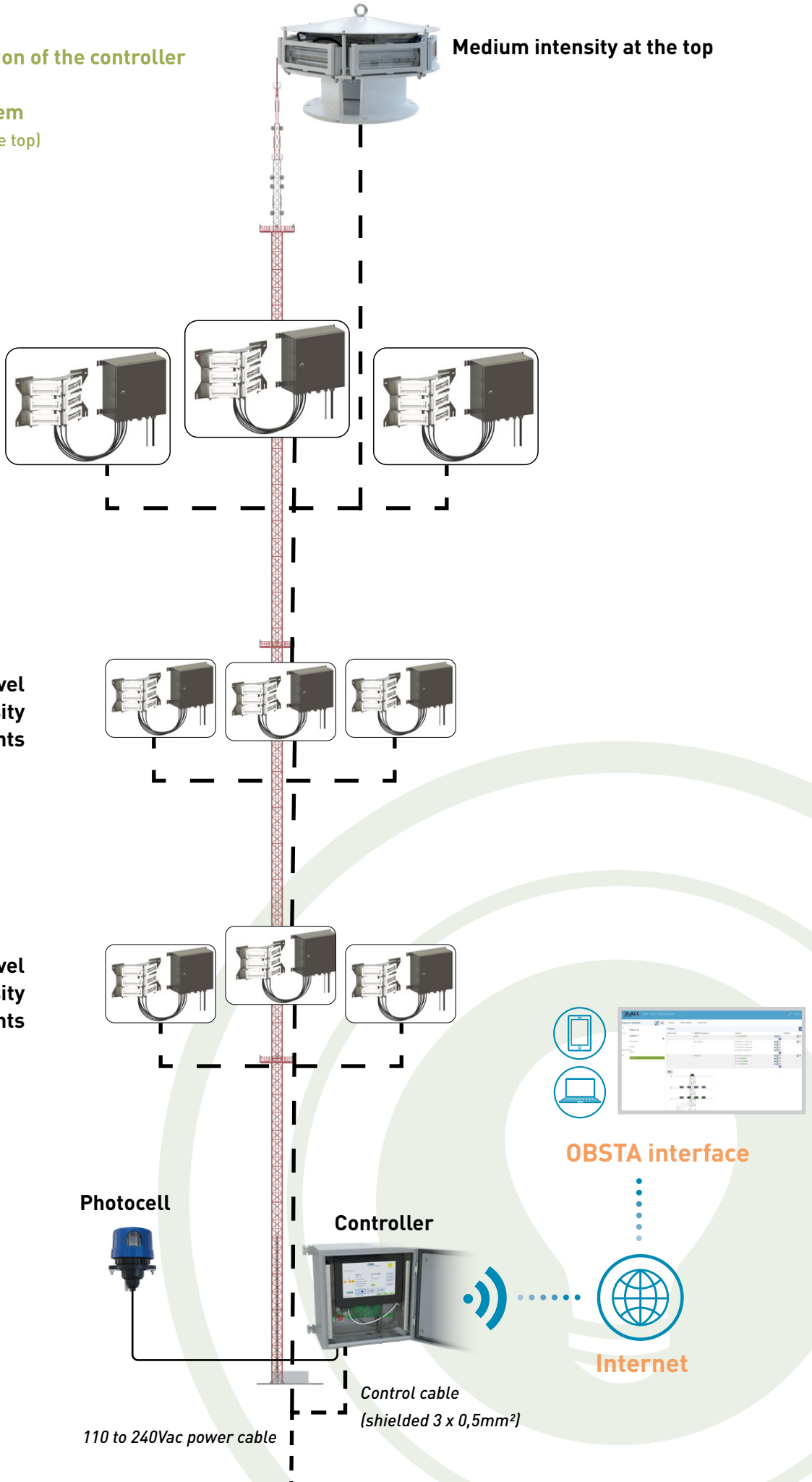
- Organize your sites, obstacles and lights centrally
- Overview of the states of lamps
- Display detailed information of the lamp and its power supply (monitoring view with graphs)
- OBSTALINK can define the threshold of the alarm and the notications to send in case of events.
- Storage of received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

DAY AND NIGHT MEDIUM INTENSITY AND HIGH INTENSITY SYSTEMS

Selection guide for WHITE OR DUAL COLOR MEDIUM INTENSITY								
		Part numbers						
		113792A	113791A	113792UA	113791UA	113725UIA	113723UIA	113725I	113723I
GPS as main or as a bach-up mode (in case of failure of the controller or 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 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			●				
Optional mechanical interface	Tower bracket 				●			
Option external photocell for day/ night change (if not present, GPS as back-up)	Photocel DC P/N100757 				●			
Optional controller	OFH-CTR-CAN for high intensity and/or medium intensity P/N 113625LA 				●			
Optional UPS	48VDC UPS (powered through 110 to 240Vac), see page 63 for more information		●					
	48Vdc solar kit, see page 64 for more information		●					
	OBSTALINK				●			

Exemple of implemention of the controller with medium intenisty and high intensity system

(height 330m with light at the top)



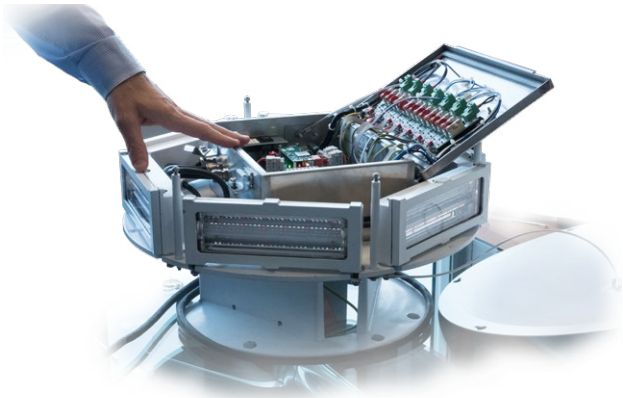
OBSTAFLASH OFI360

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

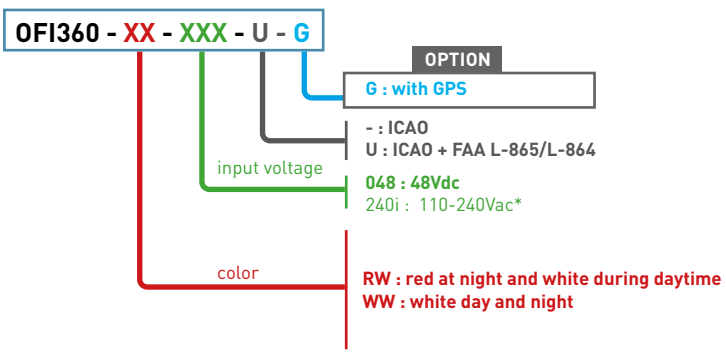
Flashhead with integrated 48VDC power supply
Patent : EP 1966535B1 & US 7816843

Dual color Flashhead

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

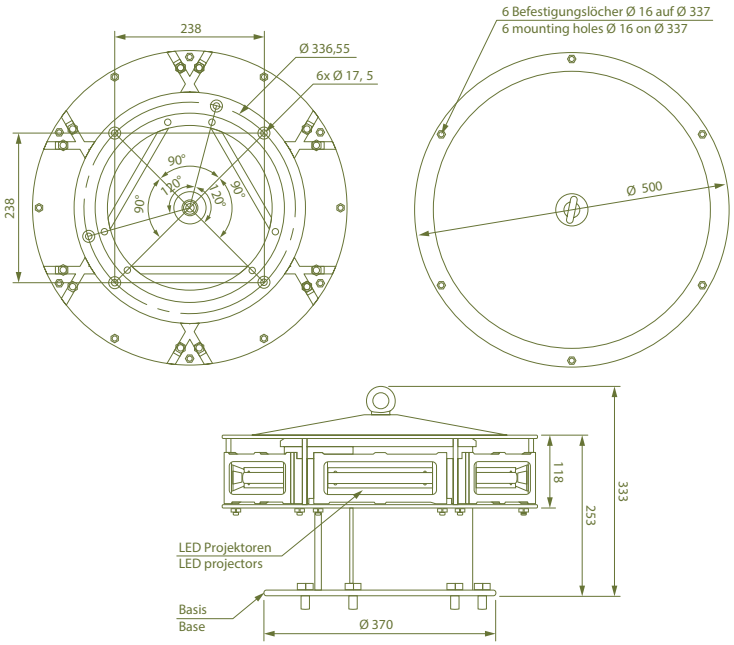


Product range OBSTAFLASH OFI360
Obstaflash Medium intensity with 48Vdc integrated power supply
ICAO White and Red Medium Intensity type A and B & C / CAA /STAC



WEIGHT &DIMENSIONS (IN MM)

Flashhead



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

ACCESSORIES

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

MAIN CHARACTERISTICS

Main characteristics	Effective Luminous output on site at 0°		Color		Beam Spread		Flashes per minute
	Day	Night	Day	Night	Vertical	Horizontal	
Red only (L864)	light off	2000 Cd	light off	Red	> 3°	360°	As per ICAO or FAA
White only (L865)	20 000 Cd	2000 Cd or off	White	White or off			
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	L-865/L-864	dual color
OFI360-WW-048-U	113791UA		Medium intensity type A	L-865	white
OFI360-RW-048	113792A		Medium intensity type A & B or C	-	dual color
OFI360-WW-048	113791A		Medium intensity type A	-	white

KIT OBSTAFLASH OFI360 110-240 Vac

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

Flashhead with integrated 48VDC power supply

Patent : EP 1966535B1 & US 7816843

Flashhead

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

+

120-230 VAC Power cabinet

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

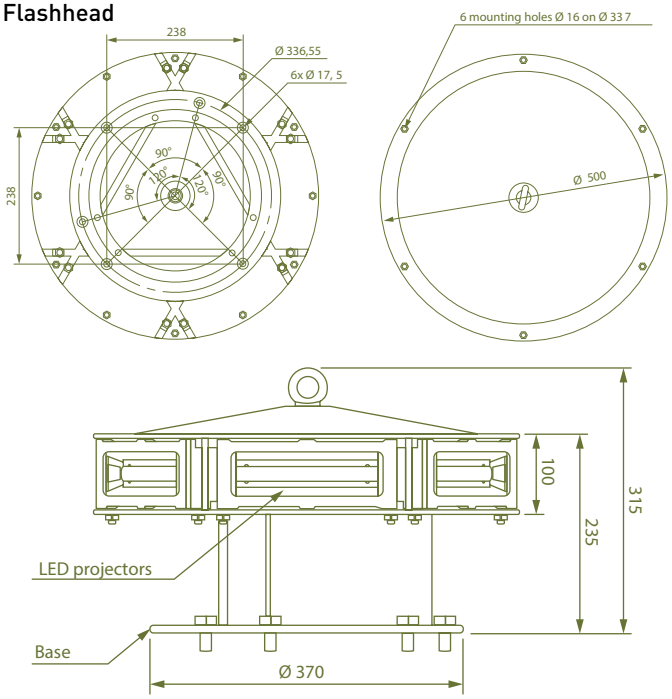
Product range OBSTAFLASH OFI360
Obstaflash Medium intensity with 48Vdc integrated power supply
ICAO White and Red Medium Intensity type A and B & C / CAA /STAC

OFI360 - XX - XXX - U

- U : `- : ICAO` / `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`** / **`WW : white day and night`** / `W : white during day time only, off at night*` / `* : not FAA`

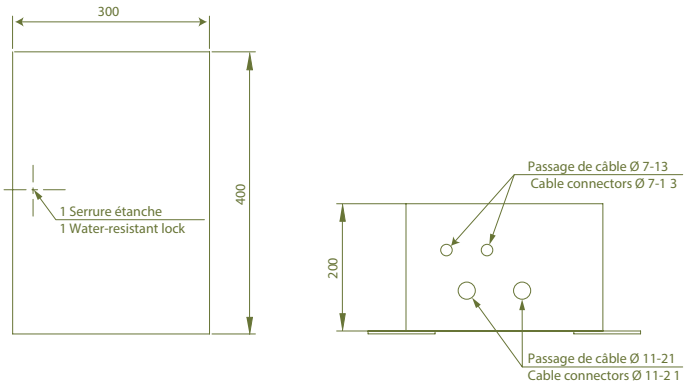
WEIGHT &DIMENSIONS (IN MM)

Flashhead



Weight: 14 kg - IP degreeIP66

Control cabinet



SETS COMPOSTION

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

ACCESSORIES

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

MAIN CHARACTERISTICS

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

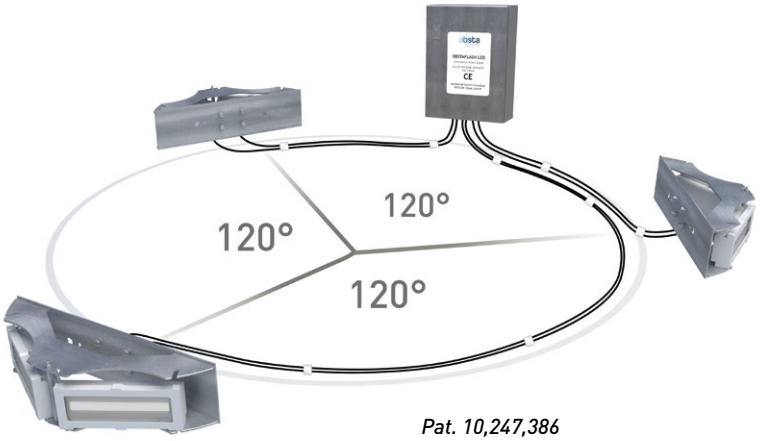
MAIN REFERENCE

Designation	part number	input voltage	ICAO category	FAA category	Color
OFI360-RW-240-U	113725UIA	110-240Vdc	Medium intensity type A & B	L-865/L-864	dual color
OFI360-WW-240-U	113723UIA		Medium intensity type A	L-865	white
OFI360-RW-240	113725IA		Medium intensity type A & B or C	-	dual color
OFI360-WW-240	113723IA		Medium intensity type A	-	white

"U" for FAA + ICAO

KIT OBSTAFLASH OFI120

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



Pat. 10,247,386

Kit including 3 Obstaflash120

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

+

Power cabinet

- Stainless enclosure
- Surge protection
- Test button for day and night, 1 luminous indicator per white led projector,
- Modular design,
- Alarm contact
- Master/slave configuration for multiple cabinet
- Connection terminal for L-810 or low intensity at intermediale level working at night only
- GPS as back back up or as master
- Communication capabilities (MODBUS TCP)

Product range OBSTAFLASH OF120
Kit including 3 Obstaflash120 medium intensity flashheads + power supply at same level, ICAO White and Red Medium intensity type A and B & C / CAA / STAC

OFI120 - XX - XXX - U - LX

- **- : 10 meters cable per projector**
  X : X meters cable per projector (X=5, 15, 20)
- **- : ICAO**
  U : ICAO + FAA L-865/L-864

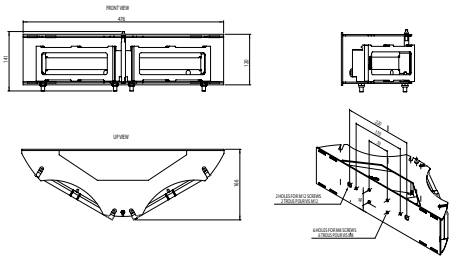
input voltage
- **240 : 110-240Vac**
- **048 : 48Vdc**
- **48/240 : 110-240Vac with second cabinet at bottom of obstacle**

color
- **RW : red at night and white during daytime**
- **WW : white day and night**
- **R : red at night**

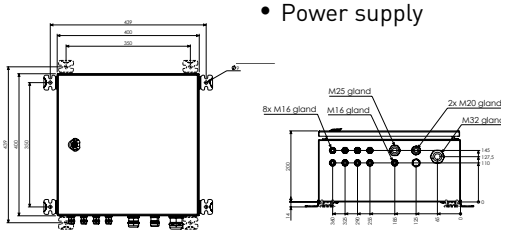
COMPOSITION PER ITEMS

OFP-120

- Flash-head



- Power supply



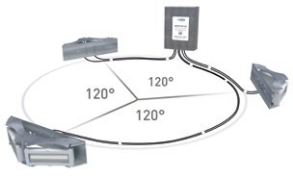
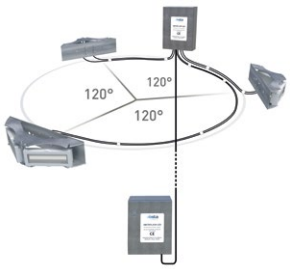
IP degree for power cabinet	65 in vertical position
Operating temperature	-30° to +55°C
Input voltage	110 VAC to 240 VAC 50 to 60 Hz or 48VDC +/-10%
Cable entry for flashhead, power supply, photocell and alarm	4 nickel plated brass

ACCESSORIES

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

MAIN CHARACTERISTICS

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

	Designation	part number	Power supply	ICAO category	FAA category	System components
	OFI120-RW-48/240-U	113758UA	110-230 VAC	Medium intensity type A and B	L-865/L-864, dual color medium intensity	3 x OFP-120-RW-10L-U + OFP-CAB-6P-L-RW-048 + OFI-CAB-1E-RW-240-U
	OFI120-WW-48/240-U	113757UA		Medium intensity type A	L-865 white me-dium intensity	
	OFI120-R-048/240	113756UA		Medium intensity type B	L-864 red medium intensity	3 x OFP-120-R-10 + OFP-JB-6P-R + OFP-CAB-6P-1E-R-240
	OFI120-RW-048-U	113712UA	48VDC	Medium intensity type A and B	L-865/L-864, dual color medium intensity	3 x OFP-120-RW-10L-U + OFP-CAB-6P-L-RW-048
	OFI120-WW-048-U	113711UA		Medium intensity type A	L-865 white me-dium intensity	
	OFI120-R-048	113710UA		Medium intensity type B	L-864 red medium intensity	3 x OFP-120-R-10 + OFP-JB-6P-R + OFP-CAB-6P-6E-R-048
	OFI120-RW-240-U	113715UA	110-230 VAC	Medium intensity type A and B	L-865/L-864, dual color medium intensity	3 x OFP-120-RW-10L-U + OFP-CAB-6P-L-RW-240-U
	OFI120-WW-240-U	113713UA		Medium intensity type A	L-865 white medium intensity	
	OFI120-R-240	113714UA		Medium intensity type B	L-864 red medium intensity	3 x OFP-120-R-10 + OFP-JB-6P-R+ OFP-CAB-6P-6E-R-240

- For more than 4 flasheads, "design your kit", see page 48-49

OFP-120 with complete remote power supply

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

3 or more Flashhead around obstacle

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

Power cabinet

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

OFP - 120 - XX - XXX

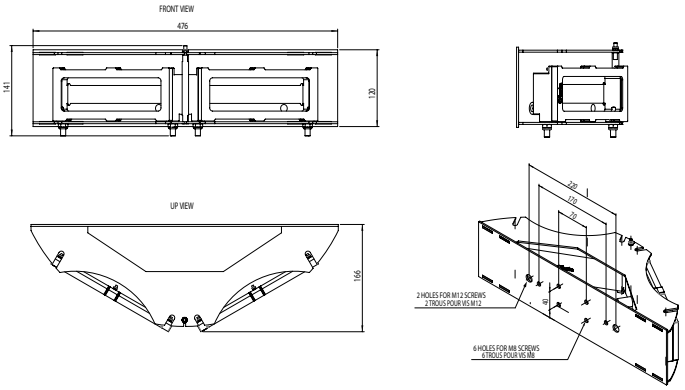
connexion
X : projectors with X meter cable (1, 2, 5, 10m)
JB : with junction box including 1 cable entry per projector and 1 cable entry to power supply

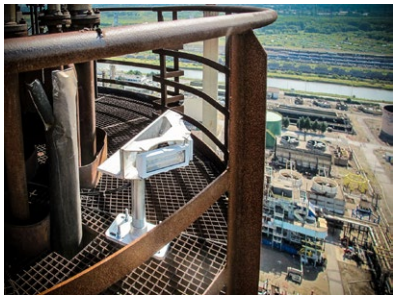
Color
R : red projector
RW : dual color projector

120 : 2 projectors
180 : 3 projectors
360 : 6 projectors

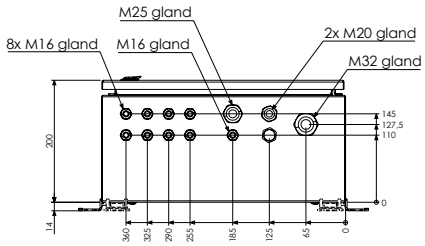
WEIGHT &DIMENSIONS (IN MM)

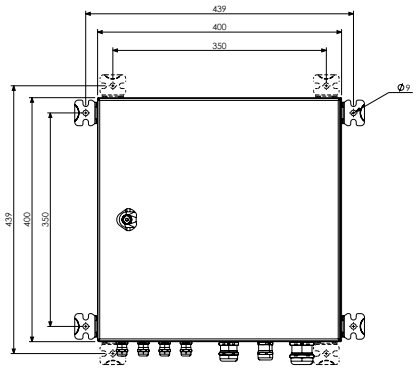
OFP-120





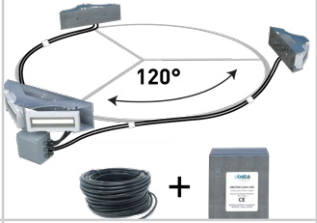
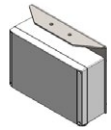
Power cabinet for 3 flashheads OFP-120-RW





MAIN CHARACTERISTICS

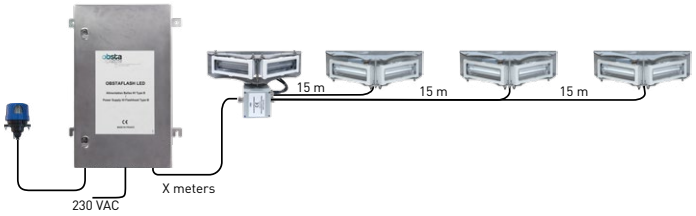
Main characteristics	Effective Luminous output on site at 0°		Color		Beam Spread		Flashes per minute
	Day	Night	Day	Night	Vertical	Horizontal	
Red only	light off	2000 Cd	light off	Red	> 3°	360° with 3 flashheads minimum	As per ICAO
White only	20 000 Cd	2000 Cd or off	White	White or off			
Dual color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

CATEGORY OF LIGHT			WHITE OR DUAL COLOR MEDIUM INTENSITY				
Color			WHITE ONLY (MEDIUM INTENSITY TYPE A & L-865)		WHITE ONLY (MEDIUM INTENSITY TYPE A & L-865) OR DUAL COLOR (MEDIUM INTENSITY TYPE A/B & L-865/L-864)		
VIEW OF THE KIT							
DETAILS OF THE KIT	FLASH-HEAD(s) ONLY	P/N Designation	4 x [113747JB] OFP-120-RW-JB 	4 x [113747-15] OFP-120-RW-15 	3 x [113747-15] OFP-120-RW-15 	3 x [113747JB] OFP-120-RW-JB 	3 x [113747-15] OFP-120-RW-15 
	JUNCTION BOX(S) TO ADD	P/N Designation					1 x [113753RW-N8] OFP-JB-8P-RW 
	CABLE TO POWER CABINET TO ADD	P/N Designation	[127113] CABLE-7G1.5-SO-D14.2 			[127114] CABLE-12G1.5-SO-D21,6 ou white/ white only [127113] CABLE-7G1.5-SO-D14.2 	[127106] CABLE-18G1.5-SO-D21.3 
	48VDC POWER CABINET	P/N Designation	[114104] OFP-CAB-1B-WW-048-4M32	[114102] OFP-CAB-1B-RW-048-8M16	[114102] OFP-CAB-1B-RW-048-8M16	[114100] OFP-CAB-1B-RW-048-4M32	[114100] OFP-CAB-1B-RW-048-4M32
		P/N Designation (stainless steel option)	[114105] OFP-CAB-1B-WW-048-4M32-S	[114103] OFP-CAB-1B-RW-048-8M16-S	[114103] OFP-CAB-1B-RW-048-8M16-S	[114101] OFP-CAB-1B-RW-048-4M32-S	[114101] OFP-CAB-1B-RW-048-4M32-S
	110-220VAC POWER CABINET	P/N Designation	[114114] OFP-CAB-1B-WW-240-4M32	[114116] OFP-CAB-1B-WW-240-8M16	[114112] OFP-CAB-1B-RW-240-8M16	[114110] OFP-CAB-1B-RW-240-4M32	[114110] OFP-CAB-1B-RW-240-4M32
		P/N Designation (stainless steel option)	[114115] OFP-CAB-1B-WW-240-4M32-S	[114117] OFP-CAB-1B-WW-240-8M16-S	[114113] OFP-CAB-1B-RW-240-8M16-S	[114111] OFP-CAB-1B-RW-240-4M32-S	[114111] OFP-CAB-1B-RW-240-4M32-S

Typical configuration

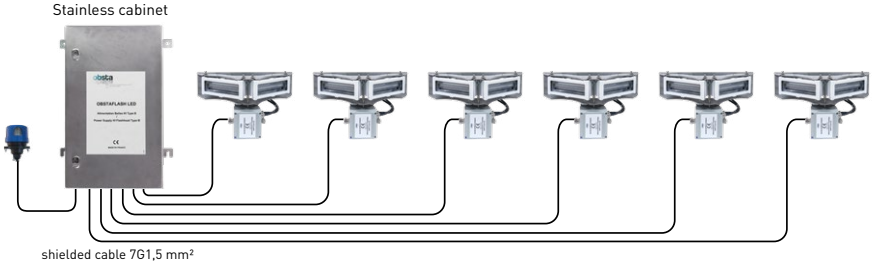
4 dual color obstaflash 120 + 15 meters molded cable + junction box + power cabinet

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



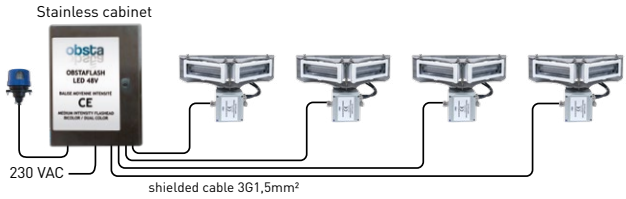
6 dual color obstaflash120 with junction box, interconnecting cable & power cabinet

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



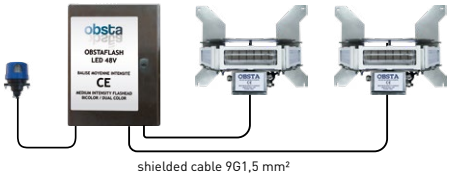
4 red obstaflash 120 with junction box & power cabinet

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



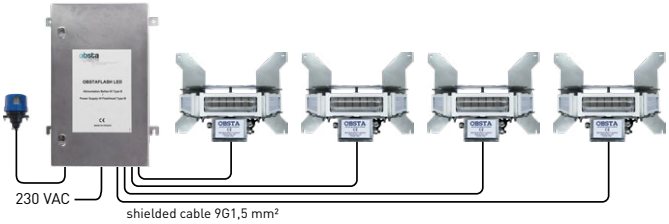
2 dual color obstaflash 180 + junction box & power cabinet

Quantity	Designation	Part number
2	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



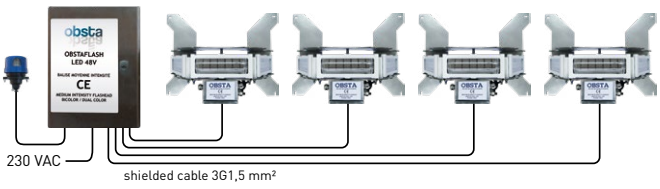
4 dual color obstaflash 180 + junction box & power cabinet

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



4 red obstaflash 180 + junction box & power cabinet

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



CONTROLLER FOR HIGH AND MEDIUM INTENSITY

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

MAIN CHARACTERISTICS

CONTROLLER	Power supply	Max number of lights monitored
113625LA	110 to 240 VAC	64

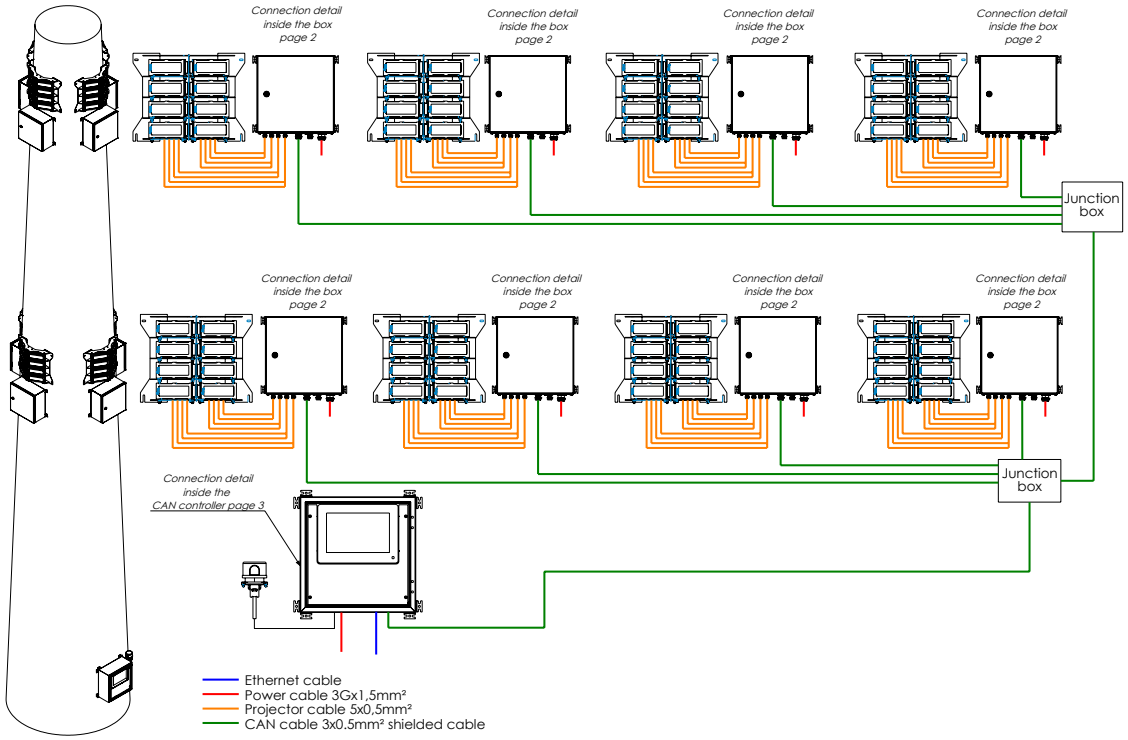
Photocell for night only operation or dual color light

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

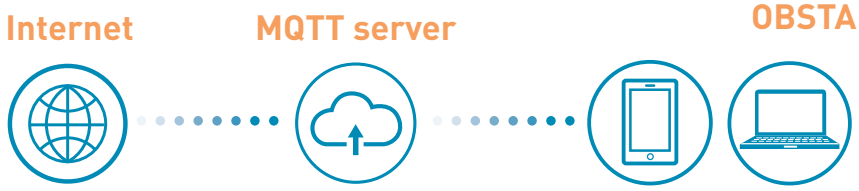
MAIN CHARACTERISTICS

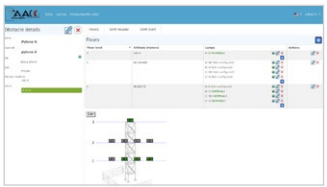
PHOTOCELL	Switching threshold of the cell
100757	50 lux (night mode) and 500 lux (twilight mode)

TYPICAL WIRING DIAGRAM HIGH INTENSITY + CONTROLLER



OBSTALINK + CONTROLLER





Controller

Features of the controller

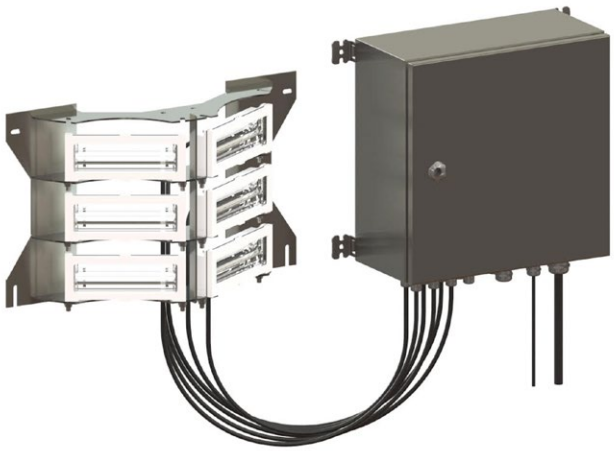
Recording the status of the lights at preset interval and display through a touch screen:

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

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

LED OBSTAFLASH HI type A

The led OBSTAFLASH high intensity is a white color flashing obstruction light.
The OBSTAFLASH is compliant with ICAO high intensity type A, and in option medium intensity type B or C at night.



Patent : EP 1966535B1 & US 7816843

Flashhead

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

Description

- 200 000 candelas during day time in white
- 20 000 candelas during twilight in white,
- 2000 candelas during the night white (or red medium intensity type B or C),
- Rugged design
- Easy installation

Power cabinet per flashead

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

Product range OBSTAFLASH OFH ICAO High Intensity type A / CAA

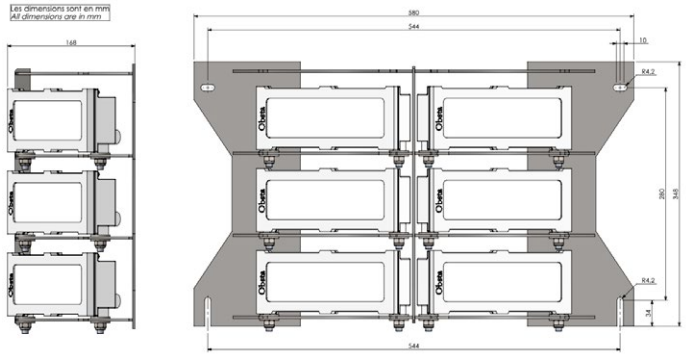
OFH-120 - XX - XXX

input voltage
240 : 110-240Vac

color
WW : white day tiwilight and night
RW : red at night and white during daytime & twilight

WEIGHT AND DIMENSIONS (IN MM)

Flashhead



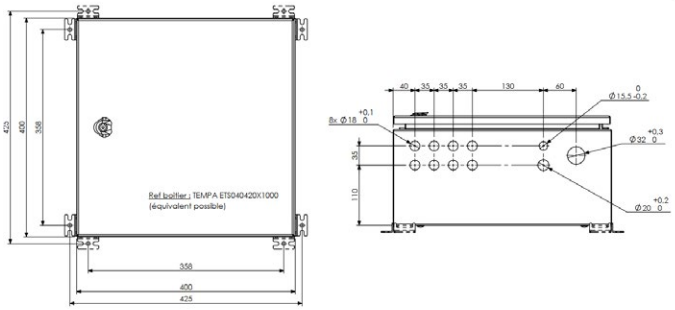
COMPOSITION

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

OTHER CHARACTERISTICS

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

POWER CABINET



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

MAIN REFERENCE

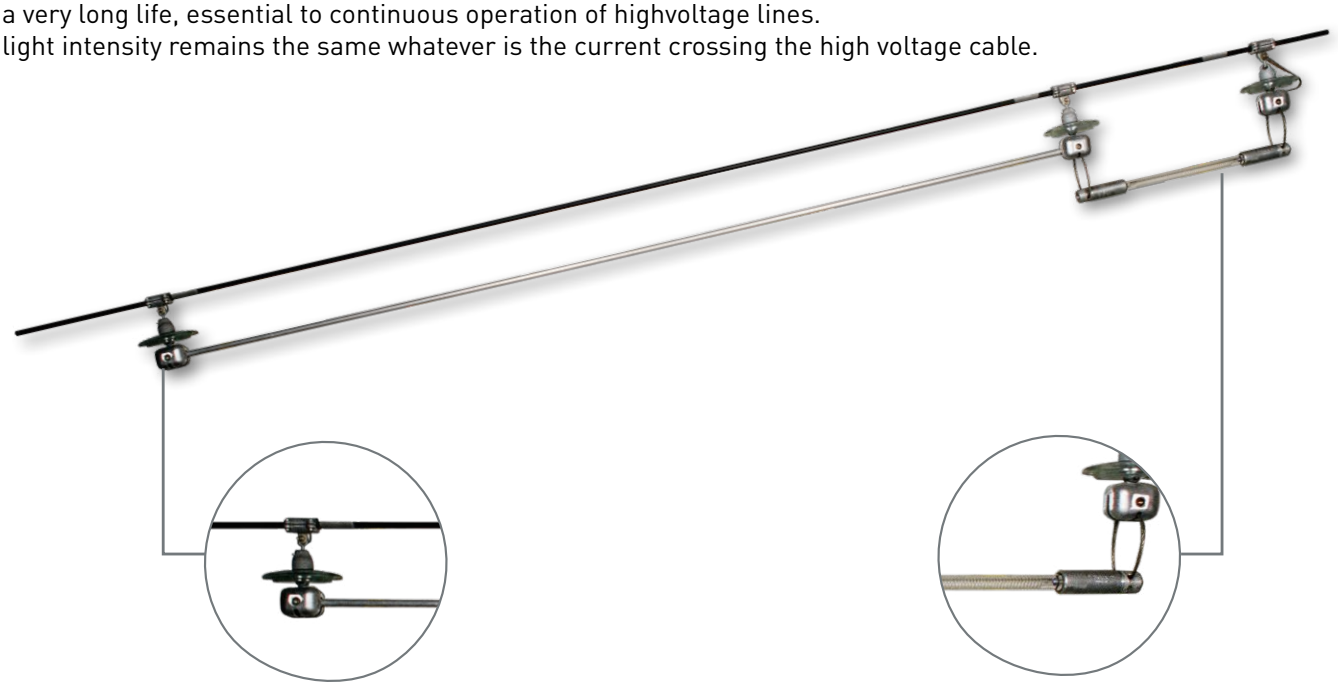
Designation	part number	Luminous Intensity			Beam spread		Flashes/minute
		Day	Twilight	Night	Vertical	Horizontal	
OFH-120-WW-240	113780B	200 000 Cd	20 000 Cd	2000 Cd	> 3°	120°	40

BALISOR

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

The BALISOR® system (created by OBSTA in the 60's) is a beacon for high voltage lines. Its conductors take the power required directly from the line.
The system is , therefore, completely self-contained.
Our standard model of BALISOR® fall into the ICAO low intensity category.

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

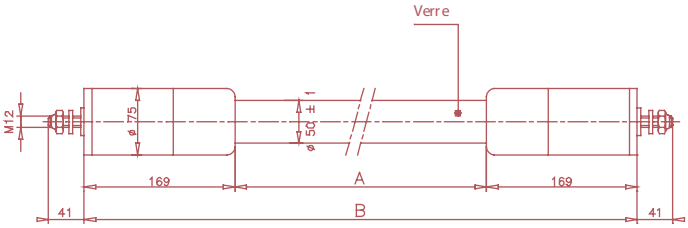
Cold neon discharge light

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

MAIN CHARACTERISTICS

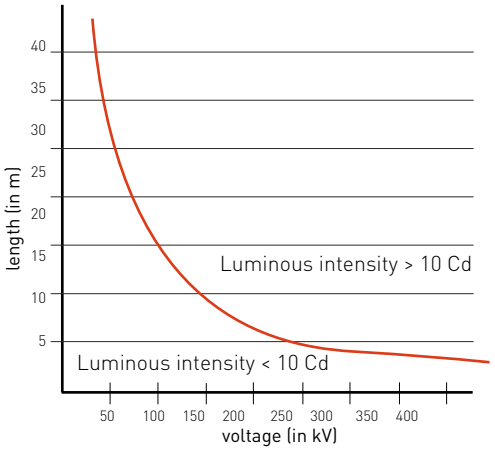
Designation	Part number	Luminous intensity	Voltage of the line	Interference suppression	Typical lifetime
BALISOR-lamp-B49	**100618**	> 10 Cd	60 kV to 550 kV	yes	> 100 000 h.
BALISOR-lamp-B33 (for balisor with cable antenna)	**100616**	> 10 Cd	60 kV to 400 kV	yes	> 100 000 h.

WEIGHT AND DIMENSIONS (IN MM)

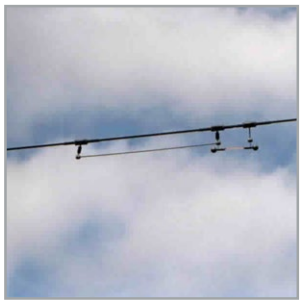
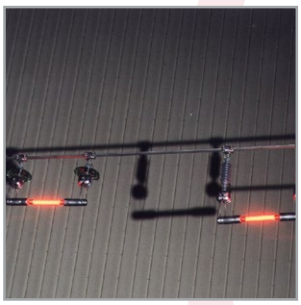


Type	A	B	Weight
Lamp type B49	563 +/- 5	901 +/-5	4.7 kg
Lamp type B33	376 +/- 5	714 +/-5	4 kg

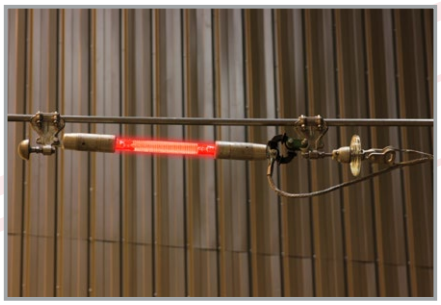
Length of the drift depending on the voltage



			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

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

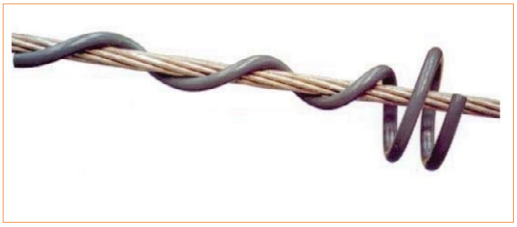
* to be specified at time order

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

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



DESCRIPTION

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

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

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 (for

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

* : 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

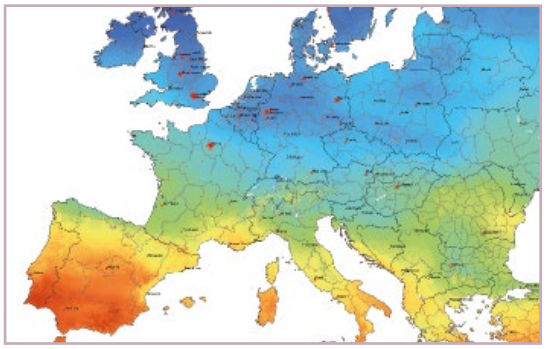
This kit consists of one or two lamps in redundancy, 12V to 48 VDC, low and/or medium intensity, that must be installed on top of the obstacle.

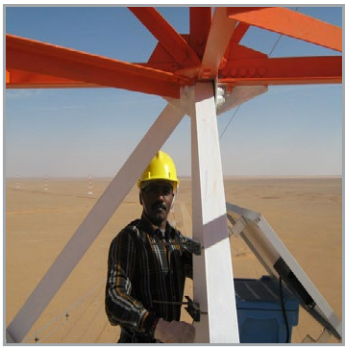
These solar kits are designed for long life (size of the batteries includes more than 5 days fo autonomy) and easy access for the maintenance fo the batteries

OR

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

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





HELITE-G-24 and GRASILIGHT

HELITE-G-24

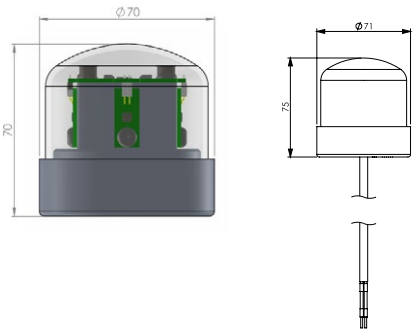
GRASILIGHT

Key points

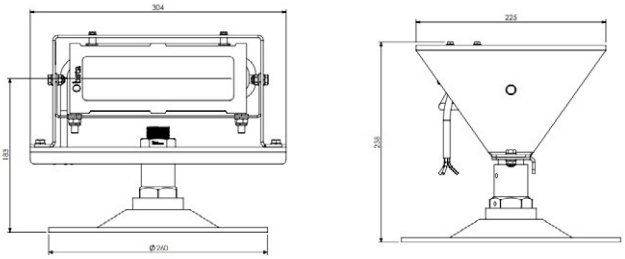
- hard glass
- compact
- low power consumption
- compliant with ICAO Annex 14 Volume II
- DC power supply with battery cabinet in option
- LED technology (no maintenance)
- frangible support in option
- light weight
- feet in option

dimensions (in mm)

HELITE-G-24



GRASILIGHT



In option

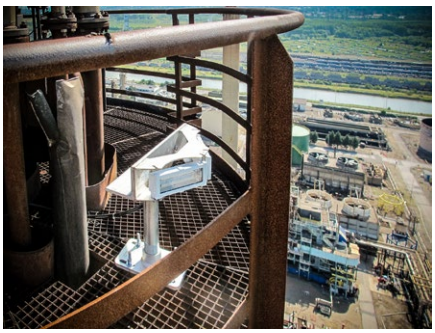
- 24 VDC power cabinet for 12 hours back-up (powered through 110 to 240 VAC)
- L-854 FM radio receiver/decoder is 100 % frequency and squelch field tunable within the 118-136 MHz air-band to switch on the lights with a series of 3, 5 or 7 microphones clicks.
- An integrated selectable timer shuts airfield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

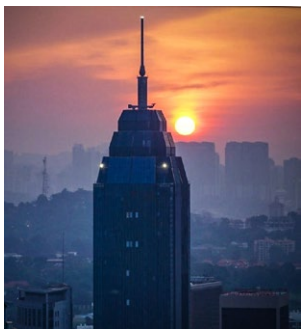
Some OBSTA references on all continents and conditions

FRANCE, Oil and Gas Chimney



SPAIN, Barcelona Tower

MALAYSIA, Kuala Lumpur

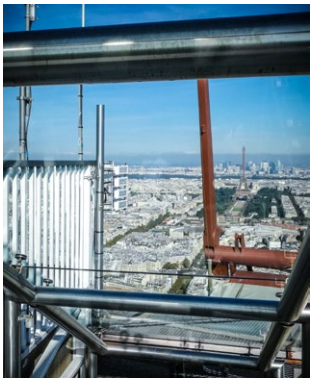


PARIS, Eiffel Tower

FRANCE, Millau

CHINA, Hong Kong

PARIS, Montparnasse Tower



USA, Texas

BRUXELLES, Diegem

ABU DHABI, Four Seasons Hotel

BEIRUT, Damac Vercase Tower

ST PETERSBURG, Gazprom tower

JAPAN

NIGERIA, Lagos, Eko Towers

BELGIUM, Bruxelles airport

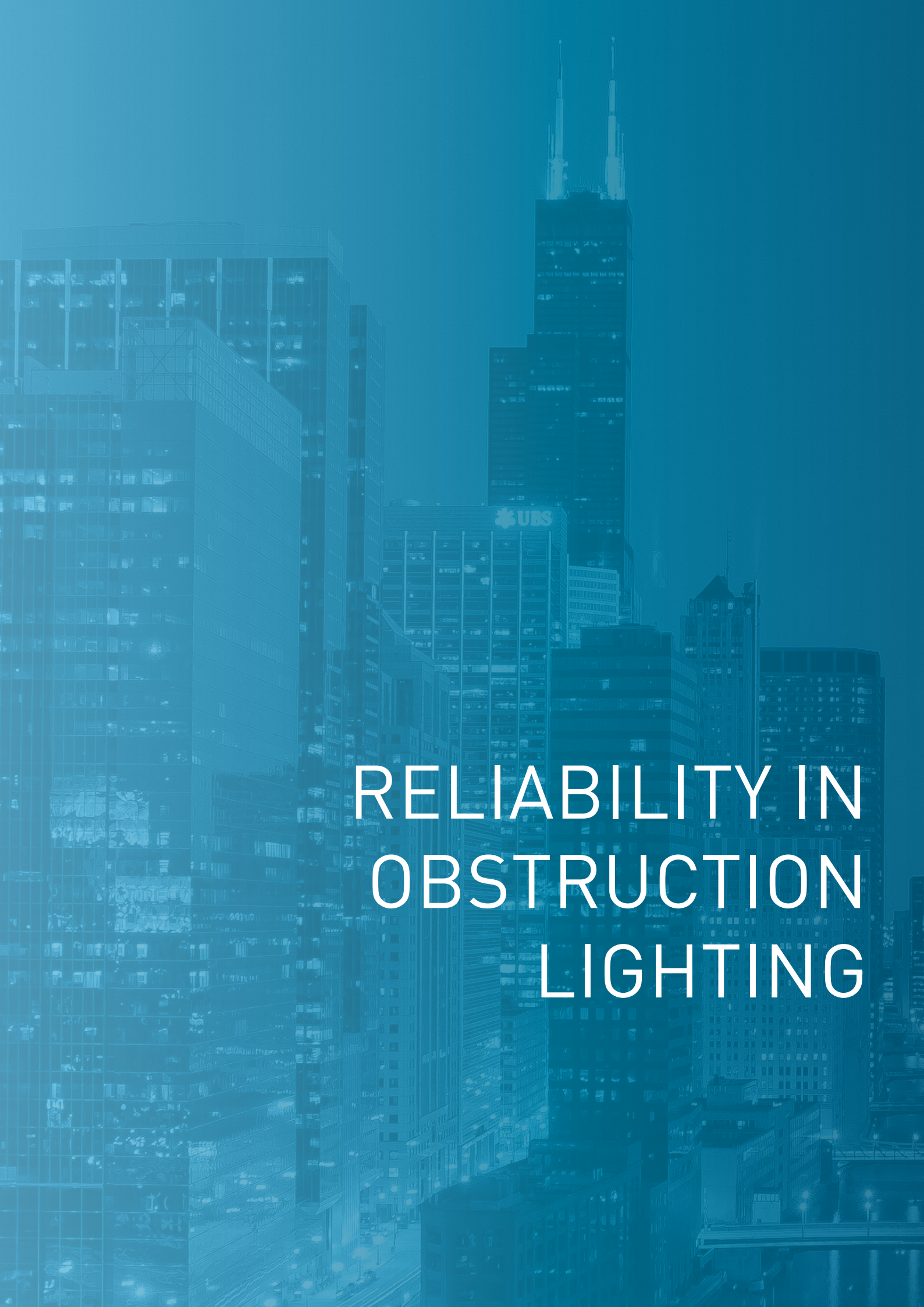
SWEDEN

RUSSIA, Moscow

EGYPT, Ain Sokhna

ABU DHABI, UAE

Paris Airport, FRANCE. Working since 1973!



RELIABILITY IN OBSTRUCTION LIGHTING

RELIABILITY
IN OBSTRUCTION
LIGHTING

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