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OFC-RR-240Vac

INSTALLATION AND OPERATION GUIDE

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List of models

Designation		Type and Color	Input voltage	P/N
OFC-RR-240		Red color medium intensity type B	120-240Vac	113790-RR-240
OFC-CTR-6E-3F-6A-240		Red color medium intensity type B	120-230Vac	113176-240

In option:

This list is not exhaustive and some modifications can be done on the power cabinet for remote alarm and if used combination with red fixed side lights or red flashing intermediate side lights.

BE CAREFUL!

Led projectors in this lighting system produce brilliant flashes of light which can result in temporary or permanent eye damage. **DO NOT LOOK DIRECTLY AT THEM WHILE IT IS IN OPERATION.**

WARRANTY

OBSTA warrants the equipment described in the instruction manual and sold to purchaser to be free from defects in material and workmanship at the time of shipment. OBSTA's liability under this warranty being limited to repairing or replacing, at OBSTA's option, items which are returned to it prepaid within twenty four (24) months from shipment to the original Purchaser, or twelve months from commissioning, and found, to OBSTA's satisfaction, to have been defective. In no event shall OBSTA be liable for consequential damages. NO PRODUCT IS WARRANTED AS BEING FIT FOR A PARTICULAR PURPOSE AND THERE IS NO WARRANTY OF MERCHANTABILITY. This warranty applies only if: (I) the items are used solely under the operating conditions and in the manner recommended in OBSTA's instruction manual, specifications, or other literature; (II) the items have not been misused or abused in any manner or repairs attempted thereon; (III) written notice of the failure within the warranty period is forwarded to OBSTA and the directions received for properly identifying items returned under warranty are followed; and (IV) such return notice authorizes OBSTA to examine and disassemble returned products to the extent OBSTA deems necessary to ascertain the cause of failure. The warranties stated herein are exclusive. THERE ARE NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, BEYOND THOSE SET FORTH HEREIN, and OBSTA does not assume, nor does OBSTA authorize anyone else to assume for it, any other obligation or liability in connection with the sale or use of said products. OBSTA's liability on any claim of any kind, including negligence, for loss or damages arising out of or connected with the manufacture, sale, delivery, repair or use of any equipment or services provided by OBSTA shall in no case exceed the price allocable to the item or service or part thereof which gives rise to the claim.
The integrity and reliability of OBSTA aviation obstruction lighting systems is dependent on the use of OBSTA parts and components. To ensure the optimum performance and reliability of your OBSTA system, it is strongly advised that only components and modules manufactured by OBSTA be used.

Section 1: General information

1.1 Scope

This manual provides information about the installation, operation, and maintenance of the OBSTAFLASH LED Medium Intensity Obstruction Lighting Systems manufactured by OBSTA. The lighting systems described in this manual are Medium intensity type B and FAA type L-864 obstruction lights

1.2 General description

The OBSTAFLASH Lighting System is an LED medium intensity system manufactured to comply with ICAO annex 14 chapter 6 and Federal Aviation Administration Advisory Circular 150/5345-43. Each system consists of one flash-head, and can be associated with power supply with ambient light sensor (photocell) and the interconnecting cable. System components are shown in Figures 1-1 to 1-2

1.2.1 Flash-heads OFC-RR-240

The OFC is an LED medium intensity system manufactured to comply with ICAO annex 14 chapter 6 and Federal Aviation Administration Advisory Circular 150/5345-43J.

The OFC includes :

- A light flash-head with 6 luminous parts.
- A Lamp holder and an interface (Cable gland + terminal connection on the PCB)

The attachment of the flash-head is done with 2 latches. Waterproof is done through an O-ring between the flash-head and the lamp holder.

1.2.2 Power Cabinet

The cabinet consists of a 230VAC stainless power supply that contains:

- 1 surge protection
- terminal blocks for wiring to the flash-head, external photocell, remote alarms, etc…
- “Remote” position, the lights are in normal operation
- “Night” position, the light is forced in night mode.

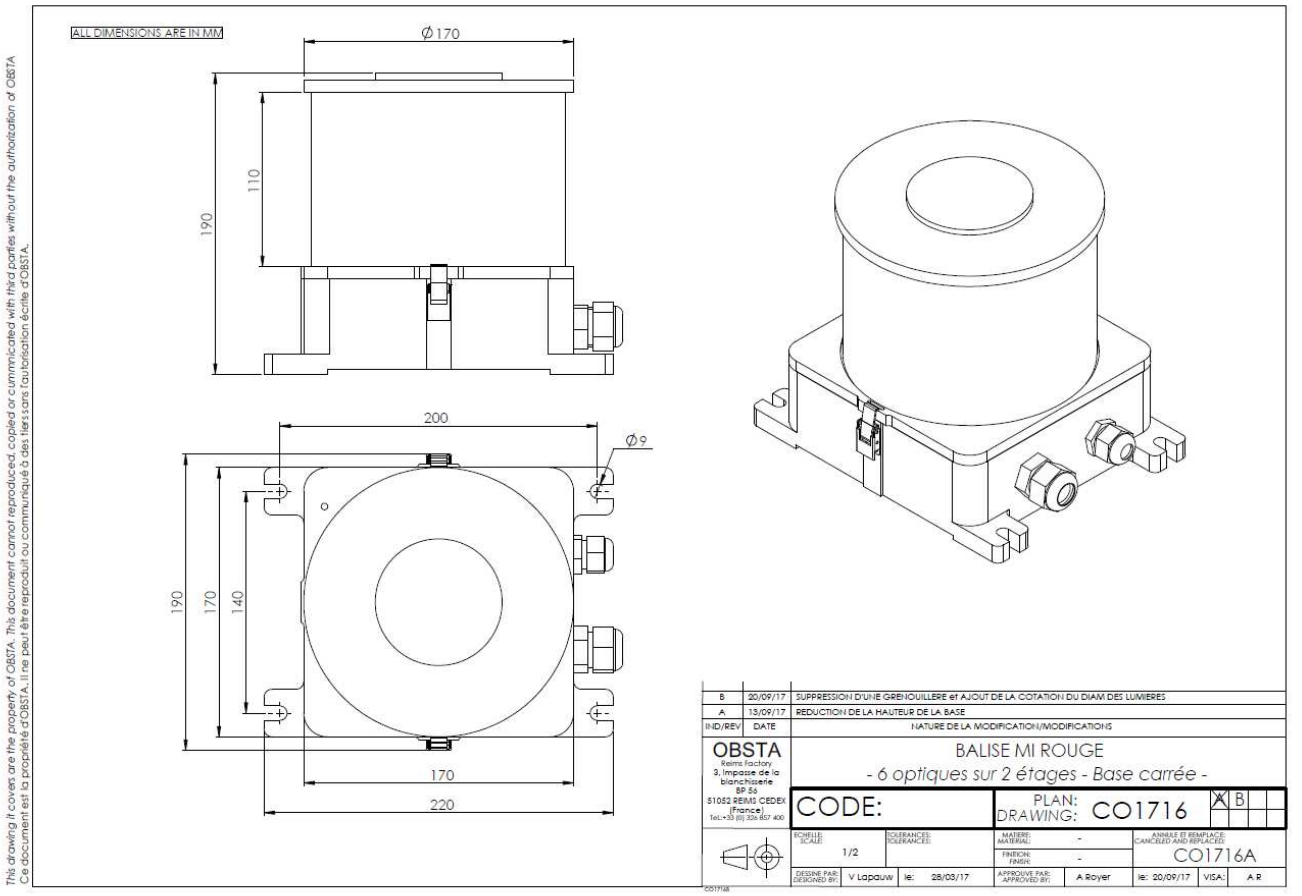


Figure 1-1. SIZE OF FLASHHEAD

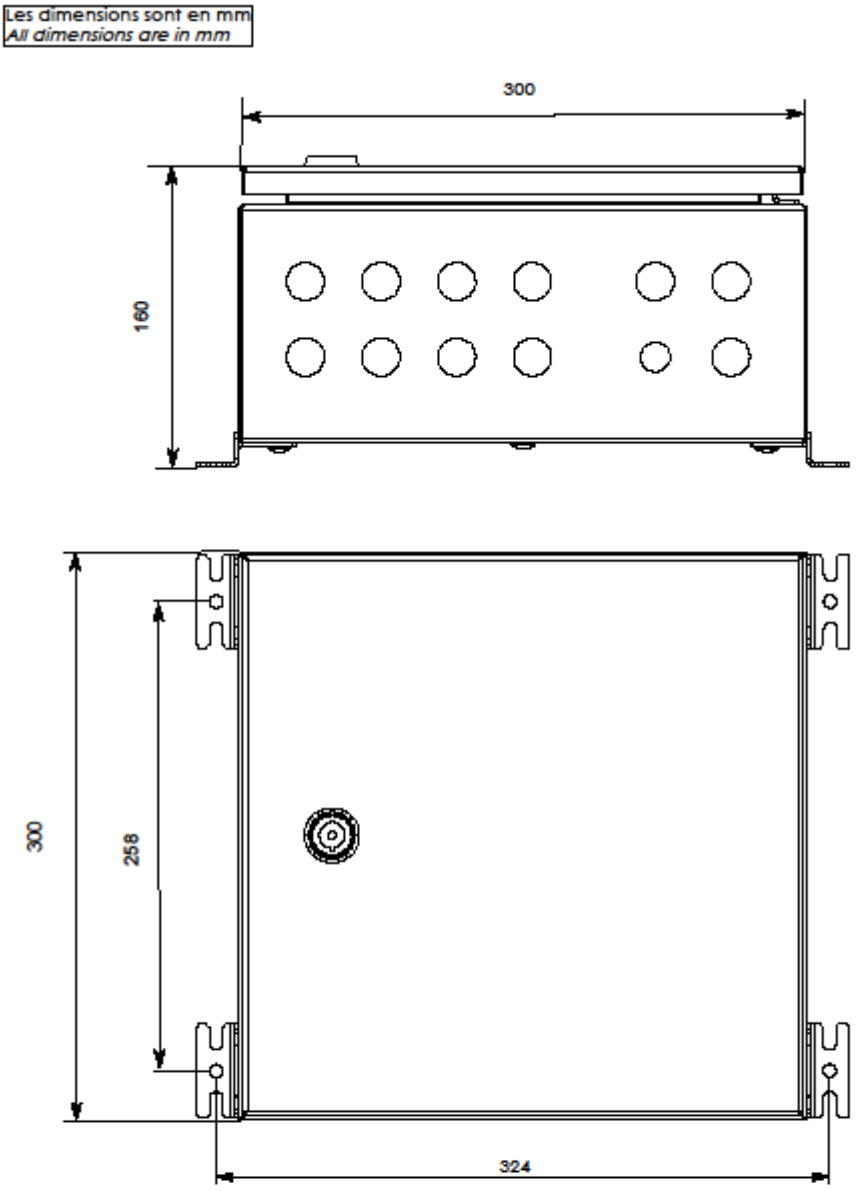


Figure 1-2. SIZE OF POWER SUPPLY

1.3 Specifications

1.3.1 Light output

Red night	2.000 ± 25% candelas effective
Beam Pattern	360° horizontally; 3°min vertically
Flash rate	Type B
Synchronization	Master / slave mode (one master light can synchronized with other slave lights)

1.3.2 Electrical input for 230Vac power supply 113176-240

Input voltage	100-240 V +/-10%
Max current:	2.2A

1.3.3 Mechanical properties

1.3.3.1 flash-head (P/N 113790-RR-240)

Weight	5kg
Size	W = 190 mm x H=190 mm x L=220
Surface area	350cm²
Wind load	10kg at 240km/h

1.3.3.2 Power supply (P/N 113176-240)

Weight	6 kg
Size	W = 300 mm x h = 159 mm x L = 300 mm

1.3.4 Operating environment

Operating temperature	-30°C to +55°C
Humidity	95% relative humidity

Section 2 : Installation

2.1 Unpacking

Carefully unpack each item and remove any internal packing material from the power supply and the OSBTAFLASH. Examine each item for obvious physical damage. Immediately report any claims to the carrier. Installation drawings is included in the power supply carton.

2.2 Mounting and preparation

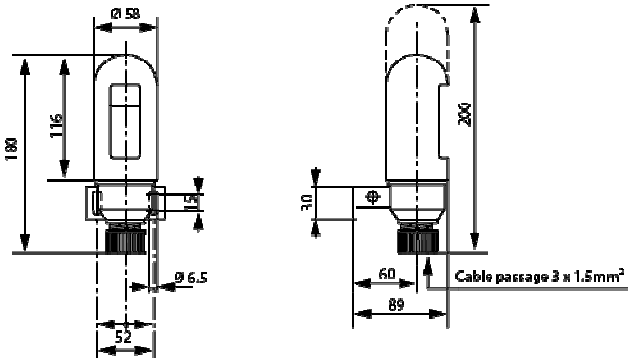
2.2.1 obstaflash beacon

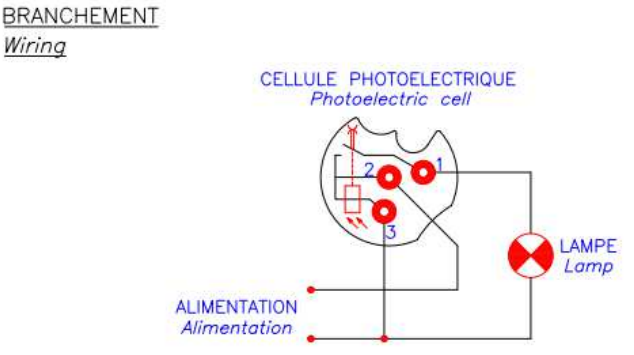
The OBSTAFLASH is usually mounted at the highest point on the structure on a horizontal platform, or as per requirements of the local Aviation Regulation authority in place at the installation location.
We recommend that the metallic base of the flash-head to be connected through a grounding kit to the local grounding of the tower.

2.2.3 Ambient Light Sensor P/N100755 (photocell)

If included, the ambient light sensor should be mounted upright, away from artificial light (such as floodlights), and in a location that will enable its sensor window to have an unobstructed view of the polar sky (eg., pointed north in the northern hemisphere).
The photocell 48Vdc returns 0V during day time and +48Vdc close in darkness

Input voltage	48Vdc +15/-10%
Output voltage	48Vdc +15/-10% (night time), 0V (day time)





2.3 Final check

Before power on, CHECK :	✓ **The input voltage** ✓ **The wiring diagram**
After power on, CHECK :	✓ **Flash rate** ✓ **Synchronisation between the flash-head**

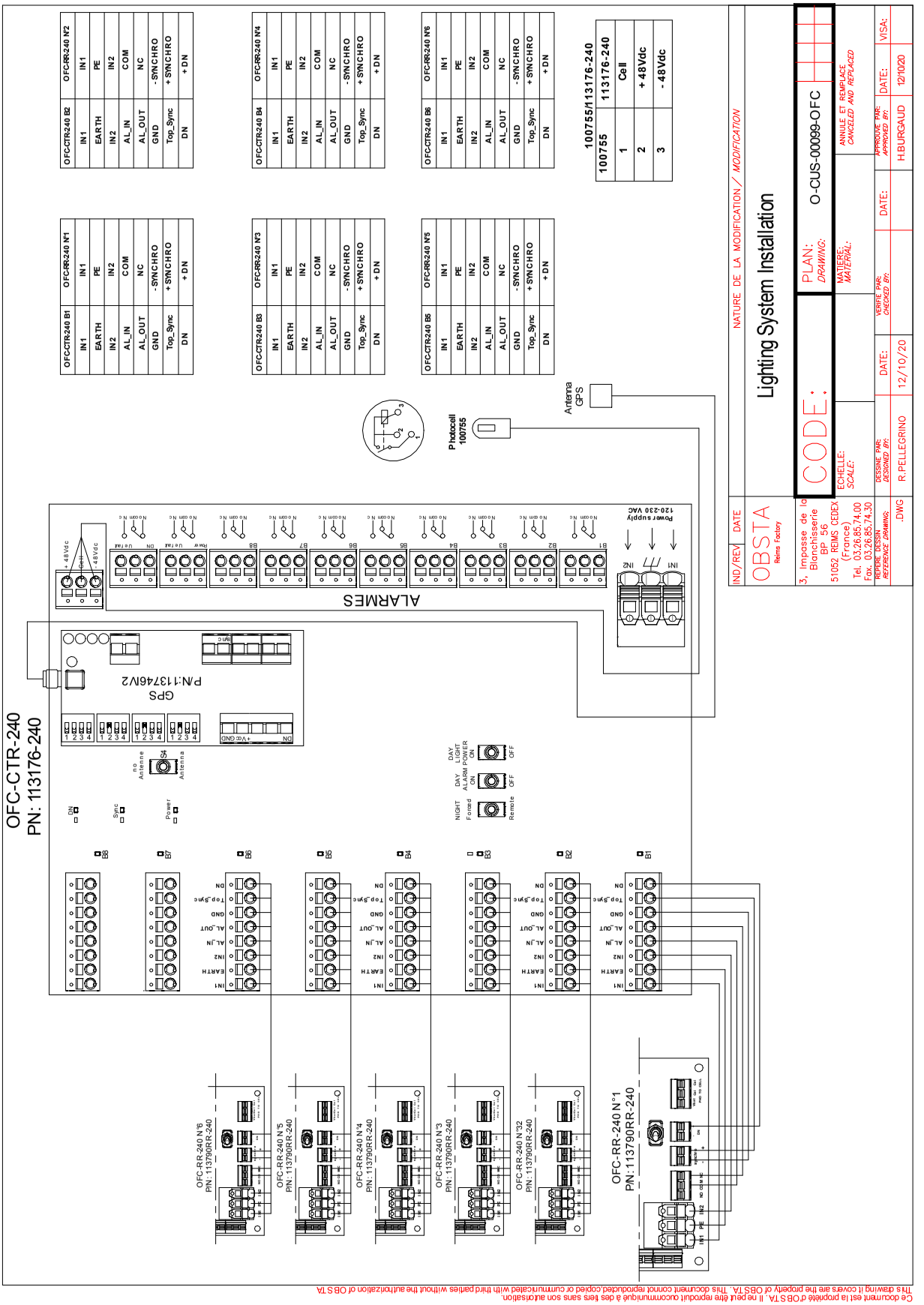


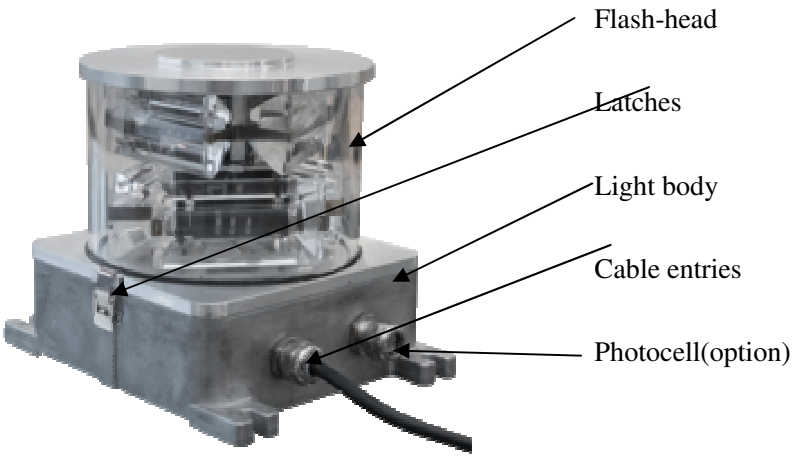
Figure 2-1. WIRING DIAGRAM OF OBSTAFLASH P/N: 119790RR-240/113176-240/113746IV2

Section 3 : Principles of operation

3Principles of operation

3.1 System components

3.1.1 Light



3.1.2 flash-head

The flash-head includes 6 optics and 6 led strips that ensure the light output of the light. Each flash-head do have 2 independent led circuits

3.1.3 Latches

The sealing of the light is ensure but the 2 latches and the O-ring between flash-head and the light body.

3.1.4 Light body

The light body contains the PCB that control the light output. It is very important to ensure the O-ring is placed correctly while closing the flash-head

3.1.5 Command card (PCB inside the light body)

The command card inside the light ensures:

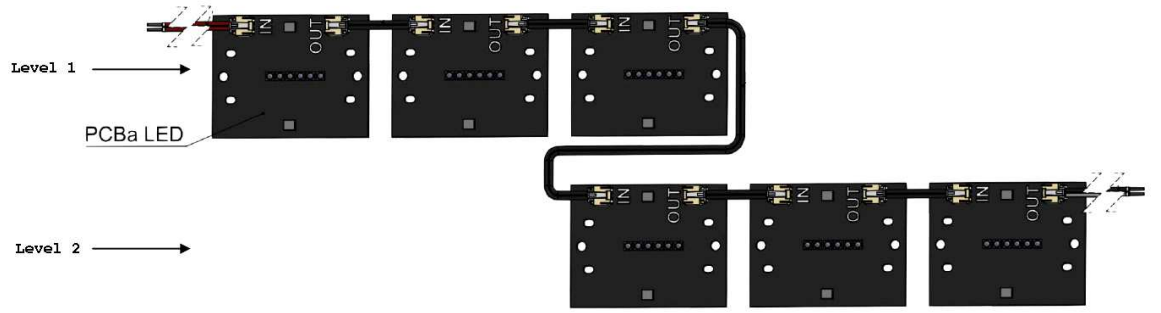
- The conversion of the power supply input
- The control of the current of the 2 led circuits inside the flash-head
- Setting of the light (master or slave)
- Synchronization of the flashes
- Alarm

3.1.6 Shunt braid

The flash-head is attached to the light body through a shunt braid :

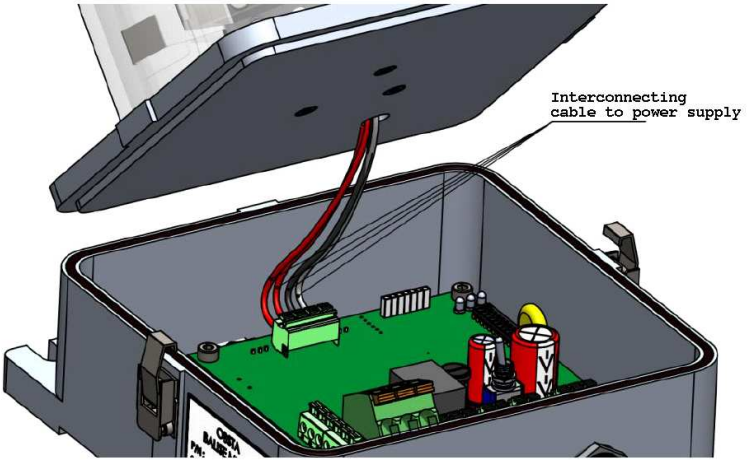
- Assure the grounding of the light
- prevent loosing the flash-head during installation

PCBa LED inside the flashhead



side the flashhead, each level contains 3 PCBa LED. Each PCBa LED contains two circuit with 3 red leds.

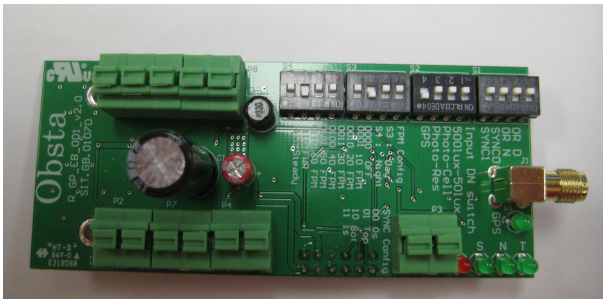
Connection of the PCBa LED inside the flashhead to the power supply

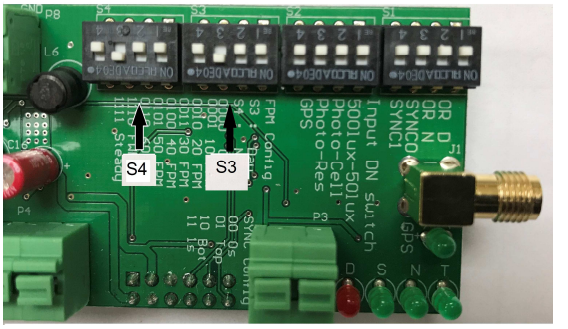


3.2 GPS OBSTAFLAH SYNCHRONISEUR P/N : 113746IV2

Option for OFC-CTR-6E-3F-6A-240

113746IV2





The GPS is a PCB powered in 48V and provide 2 output signals to the command card:

- one top sync (and one day/night used without photocell)

Operation :

• The green led (GPS) blinks : the GPS receive the signal

• The red led (D) and the green led (S) blinks : The GPS is not synchronized and sends a top sync to the command card at 15 flashes per minute

• The green led (S) blinks: The GPS is synchronized in day mode and sends a top sync to the command card at 40 flashes per minute (as per the S3 configuration)

• The green led (S) blinks and the leds (N) & (T) are on: The GPS is synchronized in night mode and send a top sync at 30 flashes per minute (as per the S4 configuration)

If used a day/night info (0V@day/48V@night) is sent to the command card

Section 4 : Maintenance - troubleshoot

4.1 Maintenance

Test	Frequency	Preventive action	Risk
Cable	Annual	It is recommended to check once a year the torque for each screw terminal to avoid loose wire and the cable glands to avoid loose of waterproof.	short-circuit insulating failure destruction
Waterproof	Annual	Visual : -No water inside - O ring position and appearance	short-circuit insulating failure destruction
Corrosion	Annual	Visual	Water inside
flash-head	Annual	Clean the glass of flash-head	Bad light output

4.2 Troubleshoot - Malfunction

4.2.1Led indicators

Some indicators (Leds) located on the top on the right of the command card in the event of alarm give a status of the light, they are identified in white :

D4 : red in case of alarm

D5 : green for led circuit 1 inside the flash-head

D6 : green for led circuit 2 inside the flash-head

D5 and D6 blinks at the same pulse than the circuit 1 and circuit 2 inside the flash-head. D4 normally blinks also at the same pulse

On the surge protection, a luminous indicator indicates the status of it ; in case this indicator is off (while input power is present), the surge protection is to be replaced

4.2.2Quick trouble shooting synoptic

Default		Action
Normal operation	Green LED D5 blinks with led circuit 1 Green LED D6 blinks with led circuit 2	Ok
Power supply	Red LED D4 blinks quickly	Check the input power supply feeding the light
Synchronization	Red LED D4, sequence 1 long flash + 1 short flash flash-head at 15 flash per minute	Check the connection of synchronization wires on the command cards (both master and slave units)
GPS	Red LED D4, sequence 1 long flash + 2 short flash flash-head at 15 flash per minute	Check the status GPS (Led blinking 1 per second) and the position of its antenna
Led circuit 1 and 2	Red LED D4 + green LED of the circuit	Replace flash-head

Section 5 : SPARE PARTS

flash-head P/N113790-RR-240

P/N	DESIGNATION
561702	MSB10-230/OBSTA

external power supply P/N113176-240

P/N	DESIGNATION
113746IV2	GPS synchronizer: **for wireless flash synchronization between the chimneys**