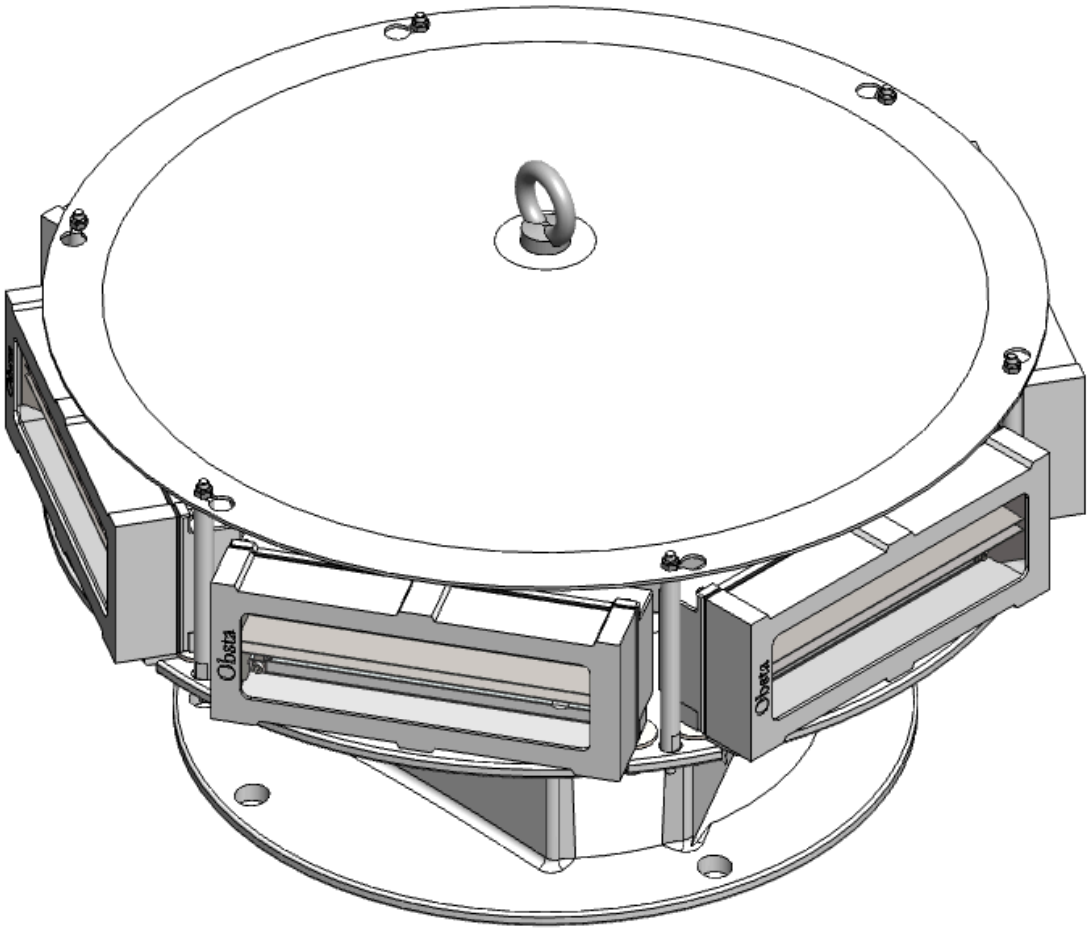
RELIABILITY IN OBSTRUCTION LIGHTING
BALISAGE AÉRIEN

OFI-360 48Vdc and 240Vac



Obsta
3, impasse de la blanchisserie
51052 Reims CEDEX - FRANCE

1. Product name and part number

Description	Norm	Power supply	Article code (P/N)	QR code
OFI360-RW-240 (no integrated)	Medium intensity ICAO type A and B	110-240 Vac ±10%	113725IA	
OFI360-RW-240I (integrated)	Medium intensity ICAO type A and B	110-240 Vac ±10%	113792-240-G	
OFI360-RW-048 (integrated)	Medium intensity ICAO type A and B FAA L-865/L-864 *ETL not listed*	48 Vdc ±5%	113792A	
ETL listed				
OFI360-WW-048-U (integrated)	Medium intensity ICAO type A and B FAA L-865/L-864 *ETL listed*	48 Vdc ±5%	113791U	
OFI360-RW-240-U (no integrated)	Medium intensity ICAO type A and B FAA L-865/L-864 *ETL listed*	110-240 Vac ±10%	113725UI	

OFI360-WW-240-U (no integrated)	Medium intensity ICAO type A and B FAA L-865/L-864 *ETL listed*	110-240 Vac ±10%	113723UI	
OFI360-RW-048-U (integrated)	Medium intensity ICAO type A and B FAA L-865/L-864 *ETL listed*	48 Vdc ±5%	113792U	

2. Be careful

- Do not proceed with any maintenance job when the light is under operation.
- Power supply must be shut down when opening the flash-head.
- Installation must be performed only by an electrically skilled operator and National electrical installation rules must be respected.
- Do not look directly at the projector while it is in operation : Led projectors produce brilliant flashes of lights which can result in temporary or permanent eye damage.
- OBSTA products are affected by ESD damage.

3. Warranty

OBSTA warrants the equipment described in the instruction manual and sold to purchasers 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.

4. General information

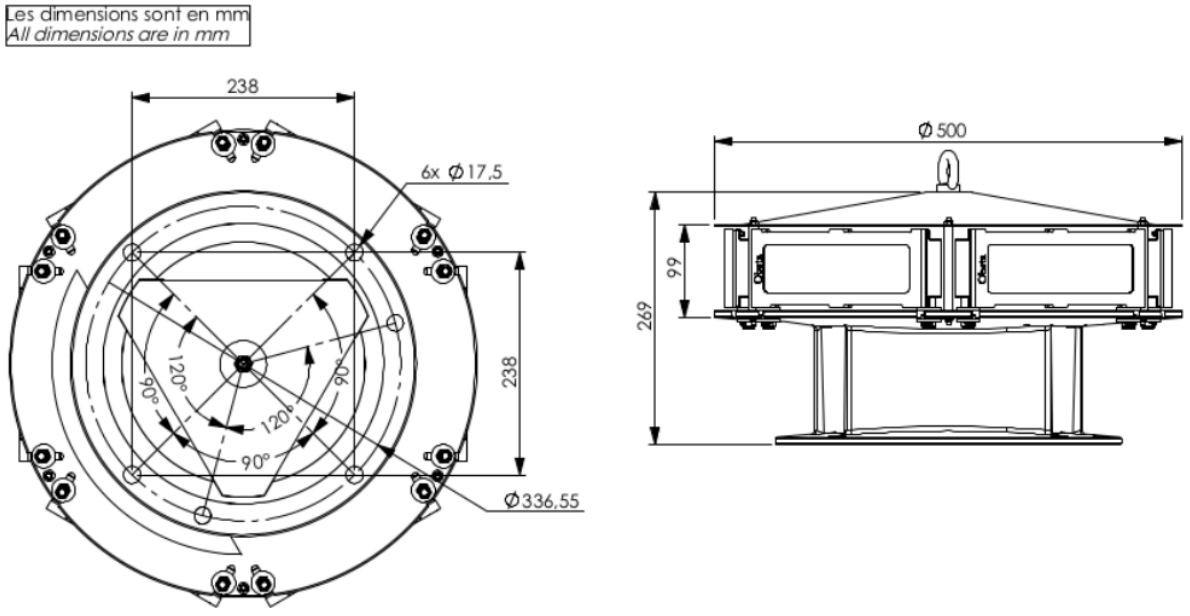
4.1 Scope

This manual provides information about the installation, operation and maintenance of the OBSTAFLASH led medium intensity obstruction lightning systems manufactured by OBSTA. The lightning systems described in this manual are medium intensity type A-B and/or FAA 150-5345-43J type L-865/L-864 obstruction light.

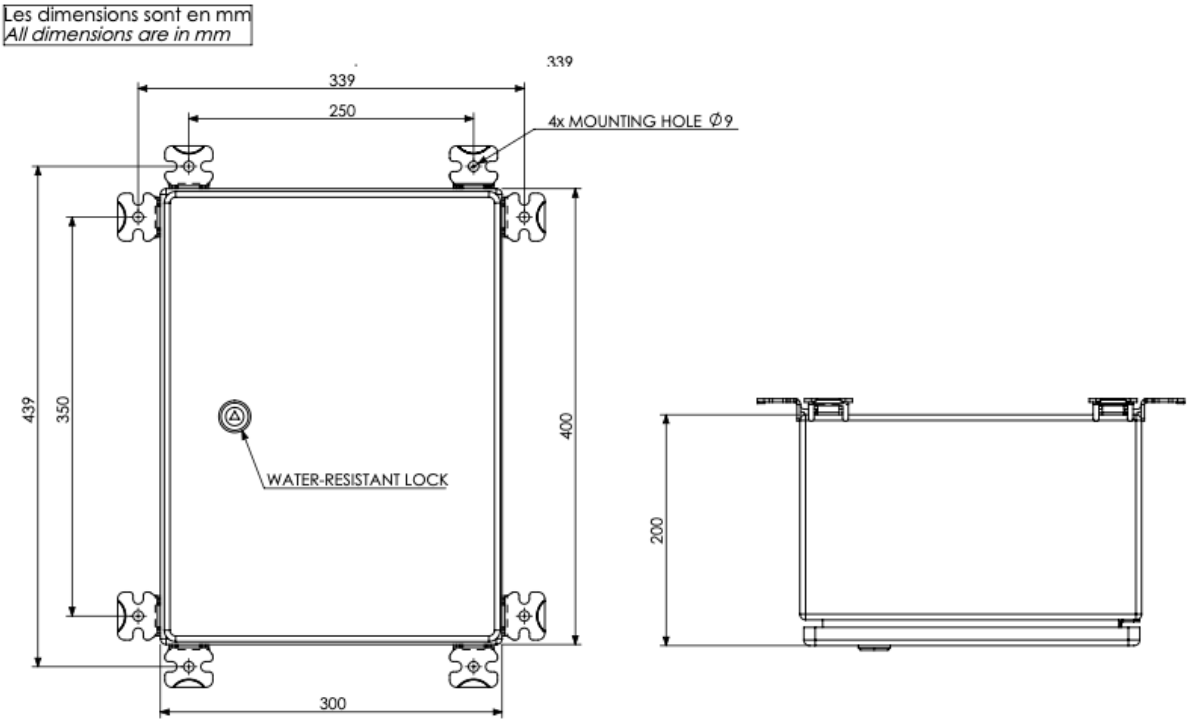
4.2 General description

The OBSTAFLASH 360 is an led medium intensity system manufactured to comply with ICAO annex 14 chapter 6 and Federal Aviation Administration Advisory Circular 150/5345-43J.Each system consists of one flash-head, and can be associated with power supply with an ambient light sensor (photocell) and the interconnecting cable. The OBSTAFLASH lamp contains 6 circuits of 12 white assembled on the same chassis; this lamp can illuminate at 360°. A controller cabinet is fixed inside the OBSTAFLASH-360 and a power supply cabinet is available (only for 240Vac Version (P/N: 113725IA, 113725UI and 113723UI).

4.3 Beacon dimension



4.4 Power supply cabinet (only for 240Vac version)

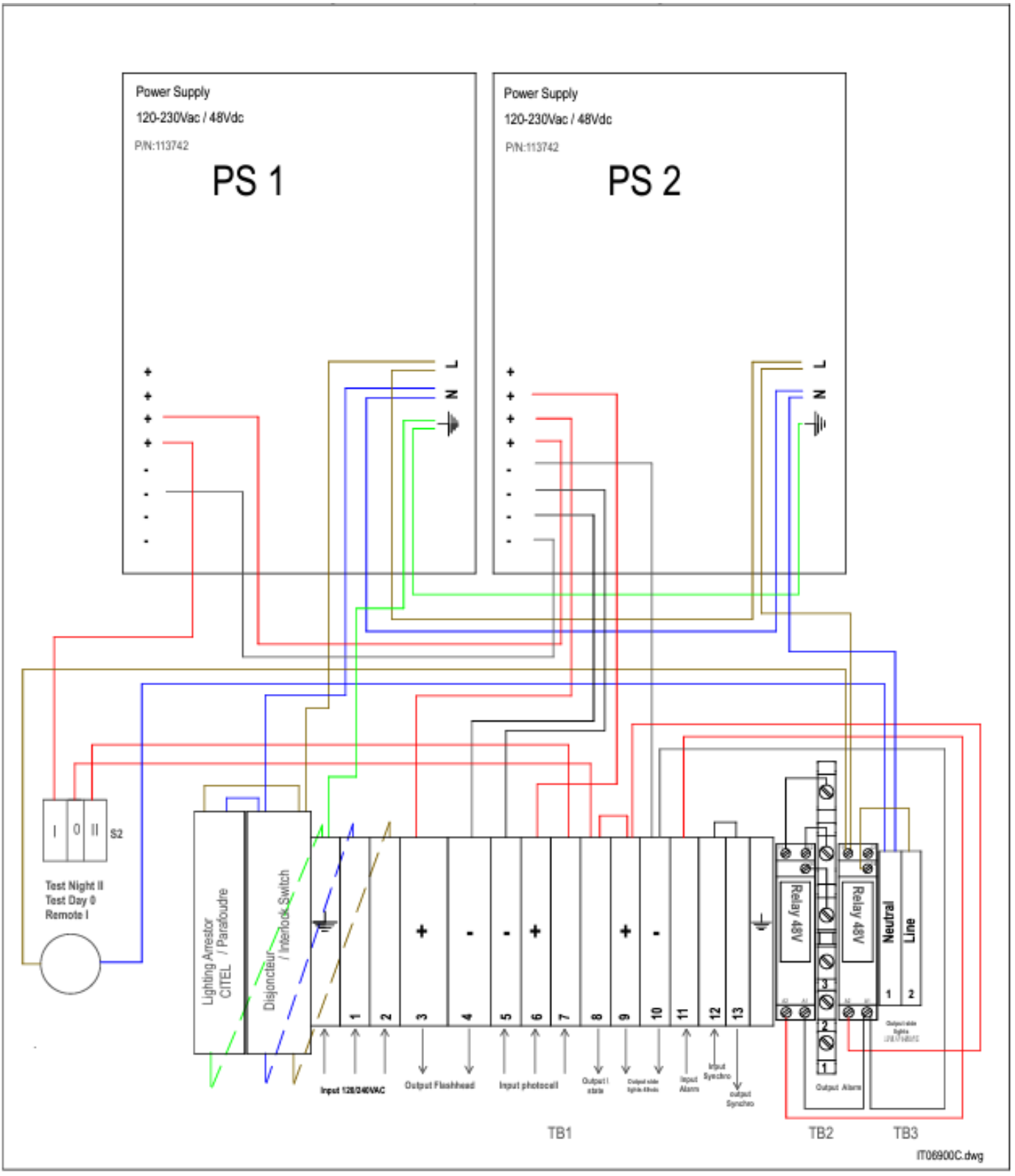


The power supply cabinet (P/N-113797U) is a system available with the OFI-360 not integrated and in 240 Vac version only:

- OFI360-RW-240 (P/N-113725IA)
- OFI360-RW-240-U (P/N-113725UI)
- OFI360-WW-240-U (P/N-113723UI)

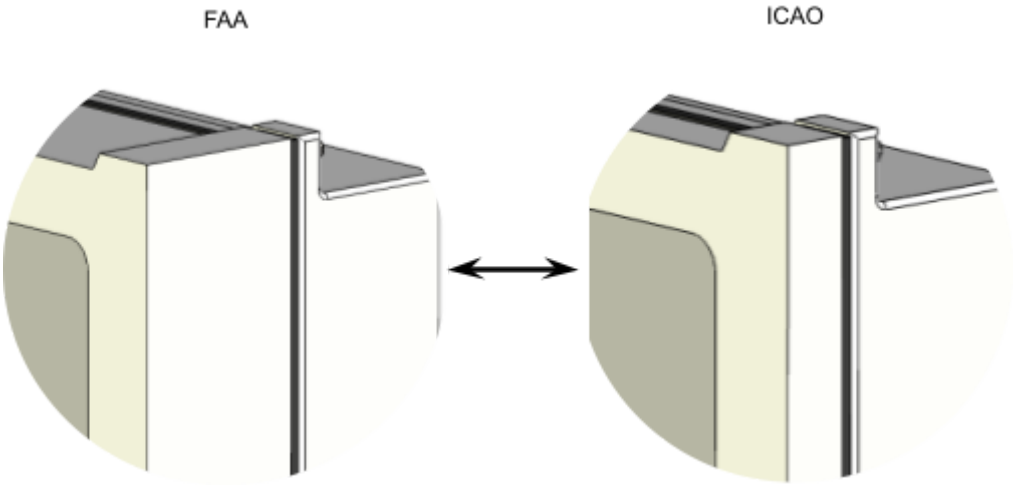
Functionality and features of the cabinet :

- “Weather tight” stainless steel 316L power cabinet enclosure
- Test button for day and night
- Alarm dry contact NC and NO
- Master/slave configuration for multiple lights synchronisation
- Can be used with photocell 48Vdc
- In option low intensity lights NAVILITE 48Vdc or L-810 (F) NAVILITE-IR-FAA-120-240V or night only operation
- Wireless GPS synchronisation (P/N-113746)



4.5 FAA version

The OBSTAFLASH lighting system L-865/L-864 is a medium intensity system manufactured to comply with Federal Aviation Administration advisory circular 150/5345-43J.



4.6 Technical specification

4.6.1 Light output

Name	Parameter	Min	Nominal	Max	Unit
FL_{rate}	Flash Rate	-	40 (white mode) 30 (red mode)	-	FPM
B_{pat}	**Beam pattern**				
BP_h	Horizontally	-	360	-	°
BP_v	Vertically	3	5	6	°
BP_{ri}	Ratio Intensity 0°/ 10°	-	-	3	%
LUM_{day}	Day luminosity +- 25%	-	20 000	-	Cd
LUM_{twi}	Twilight luminosity +-25%	-	20 000	-	Cd
LUM_{night}	Night luminosity +-25%	-	2 000	-	Cd
FD_{day}	Flash duration day	-	100	-	ms
FD_{twi}	Flash duration twilight	-	100	-	ms
FD_{night}	Flash duration night	-	200	-	ms

4.6.2 Electrical input for 48Vdc

Name	Parameter	Min	Nominal	Max	Unit
V	DC power input voltage	45	50	55	Vdc
I_{max}	Max current (white day mode)	-	-	13.8	A
P_{avc}	Average power consumption *(with 40fpm - 100ms day mode)*	-	-	50	W
V_{logic}	Voltage for signal (synchro, night, twilight)	30	48	55	Vdc

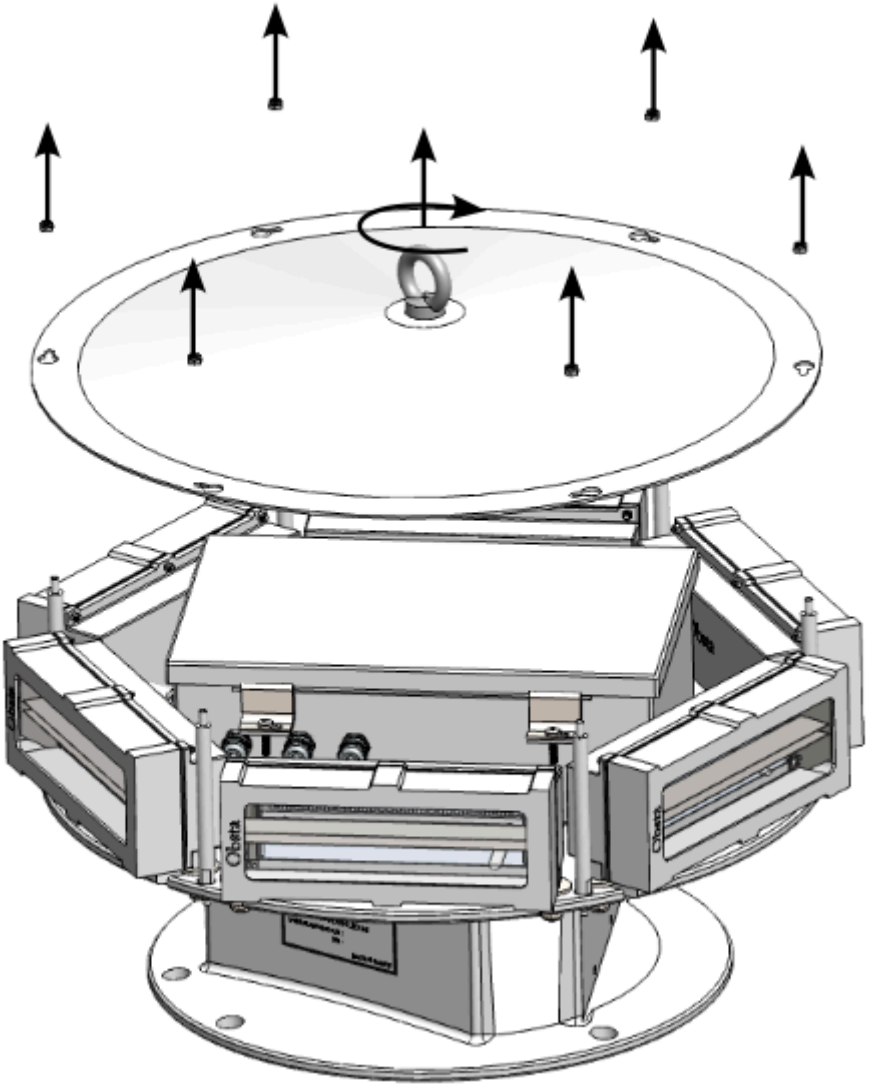
4.6.3 Electrical input for 120/ 240 Vac

Name	Parameter	Min	Nominal	Max	Unit
V	AC power input voltage	110	120 /240	264	*Vac*
F	AC frequency	47	50/60	63	*Hz*
V	DC output voltage for the flash head	-	50	-	*Vdc*
I_{rush}	Cold start inrush current	-	-	70	*A*
P_{avc}	Average power consumption *(with 40fpm - 100ms day mode)*	-	-	50	*W*
V_{logic}	Voltage for signal (synchro, night, twilight)	30	48	55	*Vdc*

4.6.4 Mechanical properties and operating environments

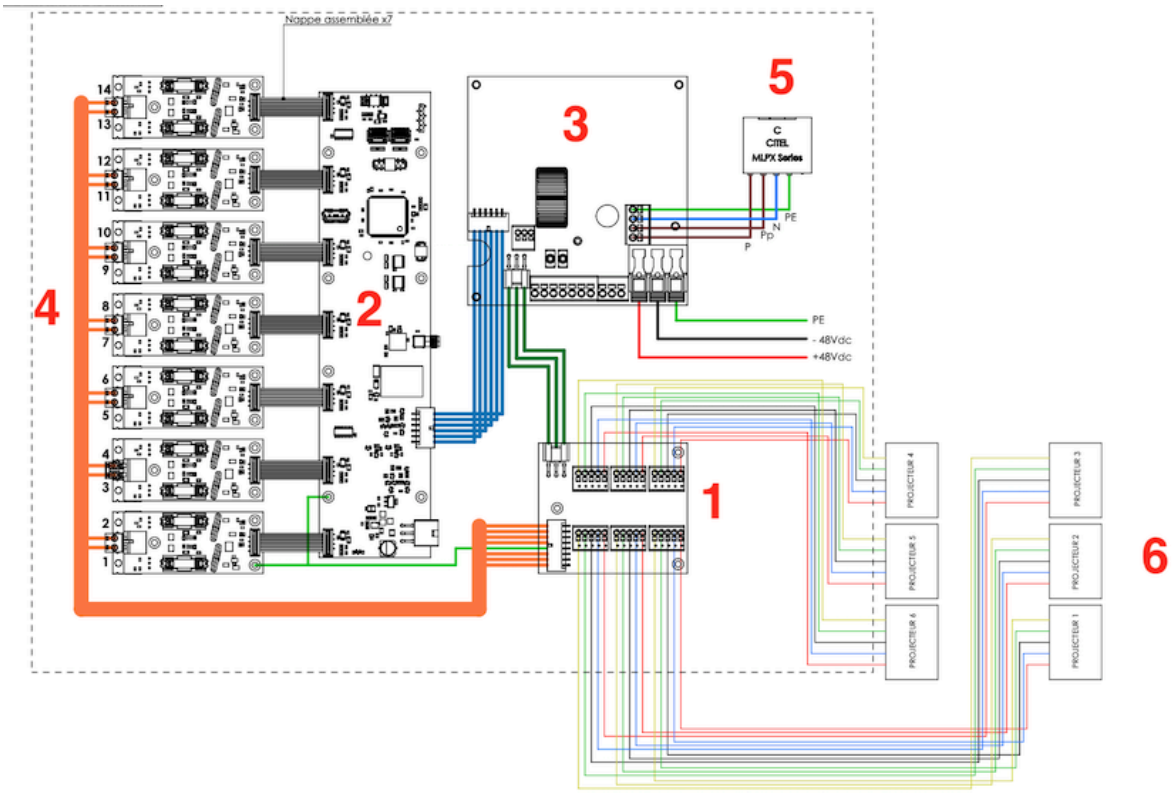
Name	Parameter	Min	Nominal	Max	Unit
M_{psu}	Mass of the Power supply	-	~15.5	-	*kg*
M_{fh}	Mass of the flash head	-	~19	-	*kg*
F_{wind}	Max wind force under 324 km/h (Flash-head)	-	850	-	*N*
DIM_i	**Dimension w/h/d**				
DIM_{cab}	Cabinet	-	480 x 408 x 220	-	*mm*
DIM_{fl}	Flash-head	-	50(diam) x 333	-	*mm*
OP	**Operating environment**				
W_T	Working temperature	-40	20	55	*°C*
HR	Relative humidity	5	-	95	*%*

4.7 Internal cabinet access

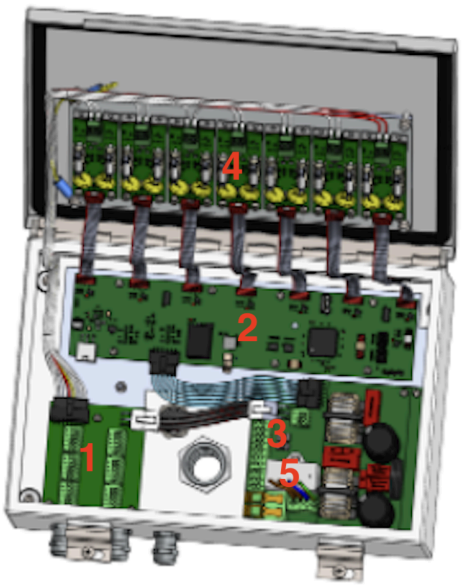


To access the OFI-360 internal cabinet, unscrew the six nuts using an 8 wrench. Rotate and lift the cover. Open the case to access the PCBs.

5. Obstaflash cabinet overview



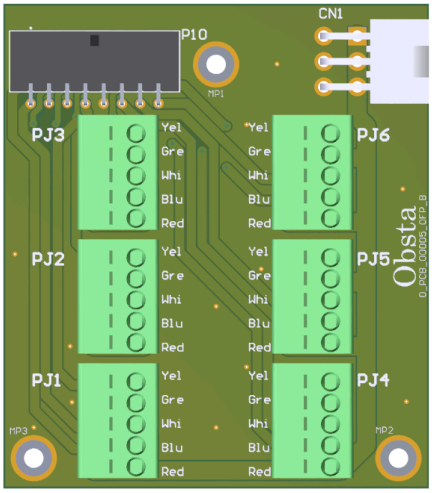
1	Interconnection card for projector
2	Command card
3	Supply card or 48 Vdc power supply and signal wires
4	Power card #1 to #7 (left to right)
5	Surge protection
6	Projectors PJ1 to PJ6 (outside the cabinet)



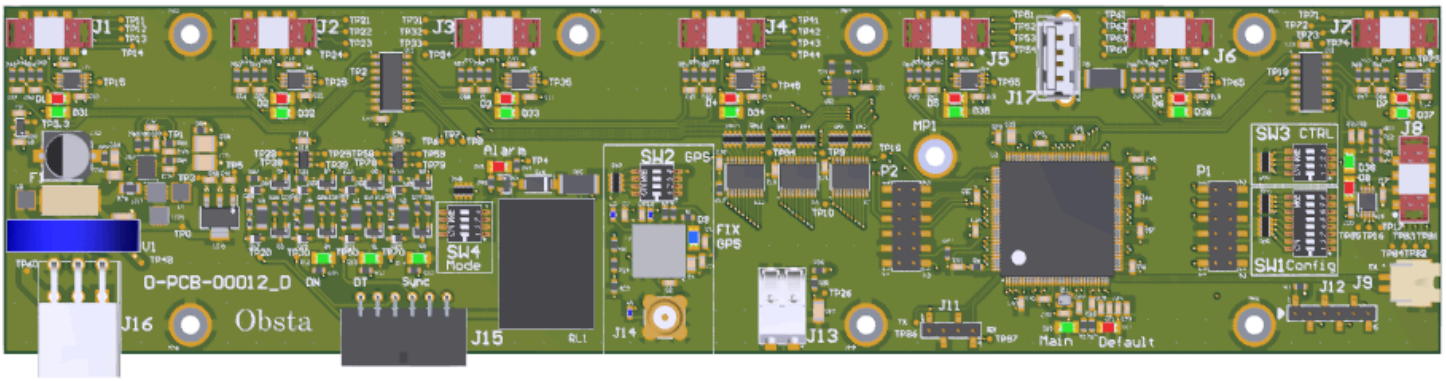
5.1 Cards inside the stainless power cabinet

5.1.1 Interconnection card

- PJ1 to PJ6: Projector connector must be connected according to the cable color or number. Other harnesses are cabled directly from the factory. Do not modify the cabling without Obsta's direct consent.



5.1.2 Command card



**Detail on next page*

- J1 to J7: Connected to a dedicated power card. Near each connector, a pair of led (Green & Red) is signaling the status of the power card hence the associated projector, see figure 4 below.
- J9: Connected to another command board for internal synchronization (specific).
- J13: Connector for photo resistor application (specific).
- J14: Connector for GPS antenna.
- J16: USB connector used for reprogramming the Card and retrieving event log (don't operate any USB device without Obsta's consent).

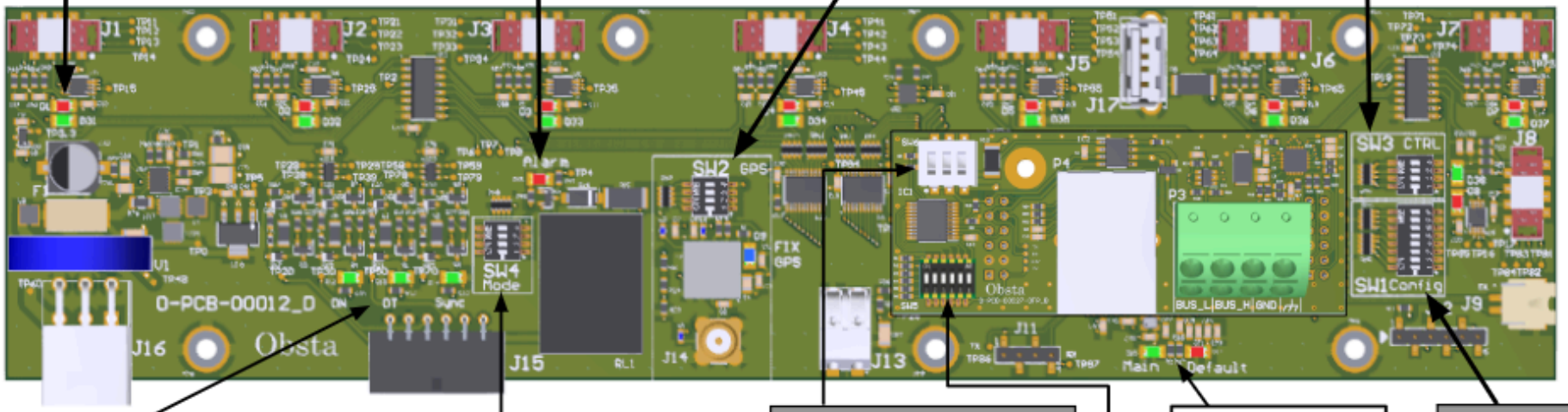
Power card led:
Red led: blinking if default on channel(s)
Green led: On when channel(s) is flashing

*same for J1 to J7

Alarm red: ON if relay is OFF (relay OFF means COM and NO connected)

SW2 - GPS				
	1	2	3	4
ON	GPS ON	GPS Sync bit 0 set	GPS Sync bit 1 set	FAA
OFF	GPS OFF	GPS Sync bit 0 cleared	GPS Sync bit 1 cleared	-

SW3 - GENERAL				
	1	2	3	4
ON	Nominal	Master	Override day	Override night
OFF	Reset	Slave	-	-



Mode led:
DN led: ON if DN input is set
DT led: ON if DT input is set
SYNC led: ON if SYNC input or output is set

SW4 - MODE				
	1	2	3	4
ON	Photores ON	Photocell ON	D/T/N from GPS ON	Relay ON
OFF	-	-	-	-

SW6 - ENABLE			
	1	2	3
ON	CAN bus	Ethernet	CAN terminal resistor
OFF	-	-	-

Operation led:
Default led: plays a sequence if general default condition
Main led: ON during flash

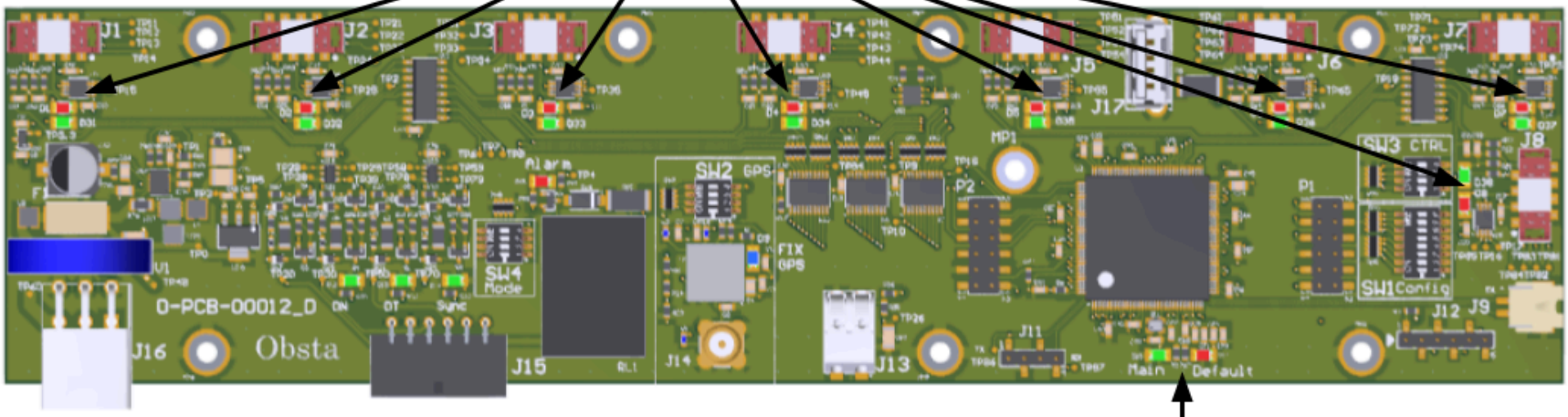
SW1 - Config		
	1 - 8	
ON	Config number	
OFF	-	

SW5 - CAN_ID					
	1	2	3	4	5
ON	Bit 0 set	Bit 1 set	Bit 2 set	Bit 3 set	Bit 4 set
OFF	Bit 0 clean	Bit 1 clean	Bit 2 clean	Bit 3 clean	Bit 4 clean

Errors when starting up the card

The following cases appear when the card is started up, when the configuration is incomplete, and prevent the program from running. All the red leds on the power cards:

- Flash at the same time if the programme is for production and the series number has not been programmed.
- Light up one after the other if Ethernet is enabled but the IP address has not been configured.



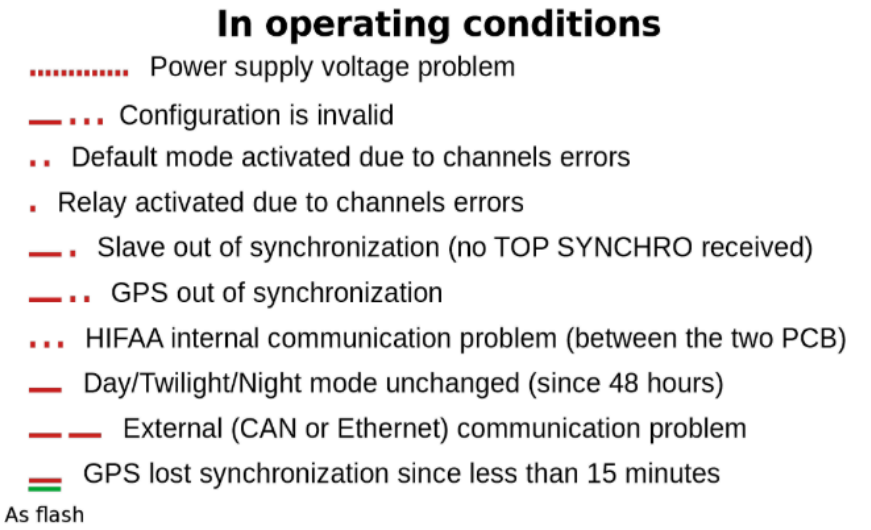
During a firmware update via USB → IP address configuration

- ····· The copy of the logs onto a USB key went well
- ····· The new software was copied to the card successfully
- Alternating · and · (x12) The IP configuration was correctly done

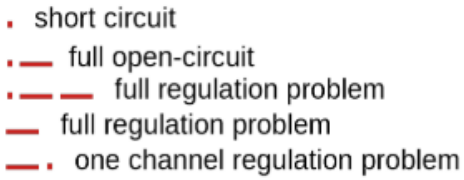
Possible error sequence

- —·— Error mounting the file system
- ——·· Error in the format of the ip.cfg file
- · Empty USB key
- —· Error opening MI.bin file
- —·· Error while waiting for write access to flash memory
- —··· Error during MI.bin file reading (Input/output error or invalid file size)
- ·— Error decrypting the MI.bin file
- ··— Error writing MI.bin file to flash memory
- ···— CRC incorrect (this error may be caused by an incorrect encryption key).
- ·· Error during mi_log.bin file encryption
- ··· Error when writing the mi_log.bin file
- — Error when unmounting the file system (this event is reported AFTER the USB key has been removed, for 10sec)
- —— Error processing USB events: unexpected event

Operation led: 2 leds are present to inform about operation status. See default section for more information.



Power card led: 7 pairs of 2 led indicators are present to inform about the operation status of each power card (J1 to J7).



Mode led: 3 leds are present to inform about synchronization and “Mode” information
Top sync blink at each lamp flash in master configuration or at each flash request received from the controller.
DT: for twilight mode (depending on switch 4 configuration and model).
DN: for night mode (depending on switch 4 configuration and model).

Switch: They are present to allow multiple kind of operation:

- SW1: Select the topology and the associated configuration (FPM, Flash frequency, etc…)
- SW2: Set the synchronisation with GPS
- SW3: Control (lamp ON/OFF, master slave …)
- SW4: Set switch sensor is used for mode change (Day, Twilight, Night)

For more information about switches see the dedicated section.

USB port: A USB port is available on the PCB (PJ16), allowing to connect a mass storage device and process:

- a firmware update;
- a log retrieval operation
- TCP/IP configuration

The USB device may not be used without Obsta's consent.

USB default code (in the following may order):

Error condition	Default led sequence
Error when mounting USB file system.	—·— 1 long, 1 short and 1 long
Error parsing an "*ip.cfg*" file.	——·· 2 long and 2 short
USB key is empty, no log file, no firmware, no IP configuration detected.	· 1 sort
Error when opening an "*MI.bin*" file.	—· 1 short and 1 long
Error waiting for flash memory write access.	—·· 1 long and 2 short
Error when reading "*MI.bin*" file.	—··· 1 long and 3 short
Error when decrypting "*MI.bin*" file.	·— 1 short and 1 long
Error when writing "*MI.bin*" file to flash memory.	··— 2 short and 1 long
Incorrect CRC result.	···— 3 short and 1 long
Error when encrypting "*mi_log.bin*" file.	·· 2 short
Error when writing "*mi_log.bin*" file.	··· 3 short
Removing the USB key during playback (after a 10sec delay).	— 1 long
Error when processing USB event: unexpected event.	—— 2 long

5.1.3 Supply card

1/. Power input :+/-/Earth (Vdc) or L/N/Earth (Vac)

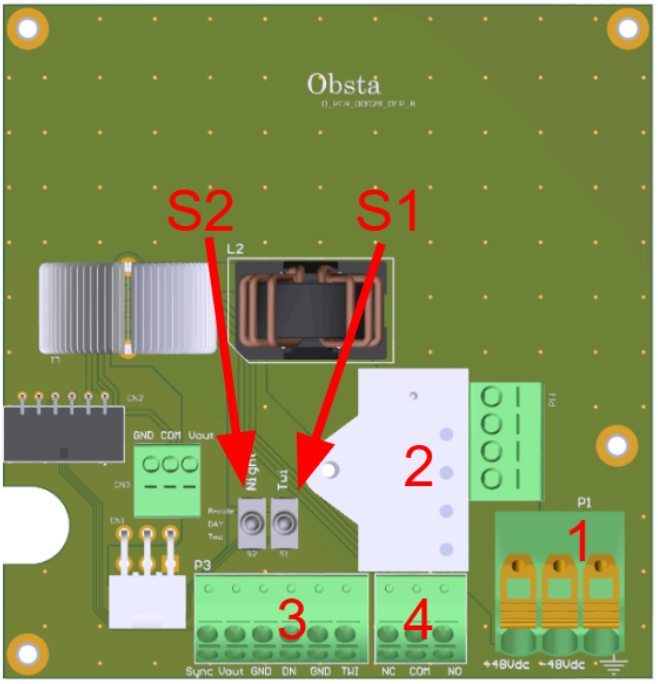
2/. SPD, Surge Protection Device connector

3/. Communication signals for flash and mode (day, night) from photocell signal and top synchro.

4/. Alarm : COM/ NO/ NC

S1/. Test switch for twilight. manual force the signal to twilight (Must be always in remote position for normal operation)

S2/. Test switch for day/night. manual force the signal to day/night (Must be always in remote position for normal operation)



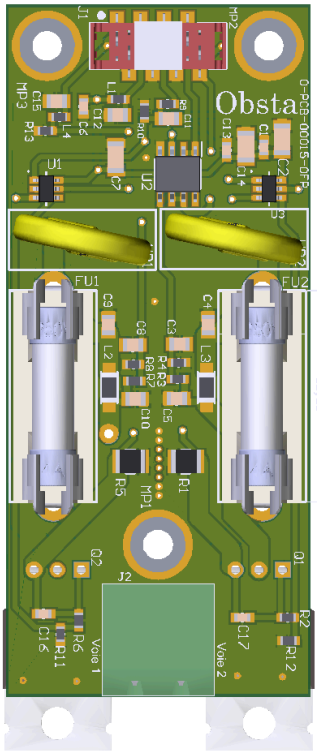
5.1.4 Power card

The power supply unit includes 7 power cards. Those cards regulate the current of the 14 led circuits.

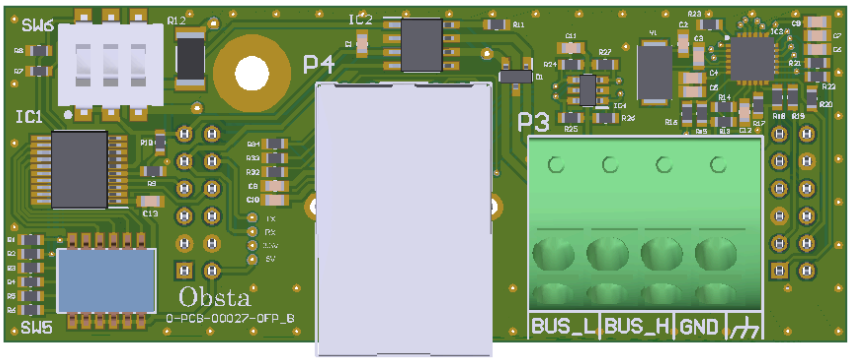
6 power cards drive the 2 white led circuits inside each projector.

1 power drives the 2 red and infrared led circuits inside the 6 projectors.

Each card is affected by the associated projector number on the inter-connexion board. The power cards #1 to #6 are associated to white led circuits inside projectors from left to right (PJ1 → Power card #1, PJ2 → Power card #2 … PJ6 → Power card “6). The Power card #7 is associated with the 2 red and infrared circuits in serial in the three projector #5,#3,#1 and in the three projectors #6, #4 and #2.



5.1.5 CAN Card



If the Ethernet/CAN pcb module is connected, the command card is able to manage CAN communication, with light status reporting, command processing, flash and D/T/N synchronization.

SW6 - Enable			
	1	**2**	**3**
ON	CAN bus	Ethernet	CAN terminal resistor
OFF	-	-	-

Enable condition for slave mode:

- System is in slave mode (SW3 .2 is ON)
- CAN bus is enabled (SW6.1 is ON)

Connection status

CAN is considered as “Connected” if any CAN message has been received less than 30 seconds ago. If no message is received after this delay, CAN is considered as “not connected” state.

5.2 Internal Wiring

All cards are connected by cable harness. There are 4 harnesses in total:

- 1x AC Power harness → From Interconnection to Power Supply card
- 1x DC Power harness → From Interconnection to Power supply card
- 1x Signal Harness → From Interconnection to Command card
- 1x Projector Harness → From Interconnection to Power card (1 to 7)

All harnesses are installed in the OBSTA factory. If any operation is needed, please contact OBSTA before any intervention. Harness must be manipulated with care, do not pull the harness by the wire. Avoid using tools (Screwdriver) for removing connectors from the card, this could damage the harness or the card.

6. Operation

6.1 Overview

The Obstaflash dual color medium intensity series is a full system designed to operate according to two modes: Day, night. Each mode has its own flash duration frequency, luminous power and color.

6.2 Switches configuration

6.2.1 SW1-Configuration

Configuration is set in the factory as the topology of the systems and the type L-865/L-864 or L-865 or L-864 (night only) for the FAA system.

Changing the switches without Obsta approval may cause irreversible damage either to the lamp or the power supply.

Here are some of the most frequently used configuration examples

1	2	3	4	5	6	7	8	Operating mode
FAA main configuration, only for USA version (P/N with "U")								
ON	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	L-865 / L-864
OFF	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	L-865
ON	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	L-864
ICAO main configurations								
OFF	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A and B 20FPM **Configuration by default**
ON	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A (night with change of light output) 20FPM
OFF	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A 20FPM
ON	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A and C 20FPM
OFF	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A and B 40FPMM (day) 20FPM (night)
ON	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A (night

								with change of light output) 40FPM
OFF	**OFF**	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A 40FPM
ON	**OFF**	**ON**	**ON**	**OFF**	**OFF**	**OFF**	**OFF**	Medium intensity type A and C 40FPM
ON	**ON**	**OFF**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	Medium intensity type B 20 FPM (only night)
OFF	**OFF**	**ON**	**OFF**	**ON**	**OFF**	**OFF**	**OFF**	Medium intensity type C Only red at night

6.2.2 SW2-GPS

Configuration of the GPS for flash synchronization (the SW3 must be set to master).

N°	1	2*	3*	4
ON	GPS used	Sync 0.0	Sync 1.0	ORD → Override the mode and force it into Day mode
OFF	GPS not used	Sync 0.1	Sync 1.1	ORN → Override the mode and force it into Night mode

*2 (Sync 0)	*3 (Sync 1)	Comment
OFF	**OFF**	Flash sequence start at the second “0” of watch minute
OFF	**ON**	Flash sequence delayed by 1/13th of period from second 0
ON	**OFF**	Flash sequence delayed by 3/13th of period from second 0
ON	**ON**	Flash sequence start at the second “1” of each minute

If the system is using external signals for synchronization, in case of defect of signal, the GPS is automatically used for the flash and day/twilight/night mode:

- Flash synchronization is done as per dip-switches 3 and 4 on SW2
- Day/Twilight/Night mode is done as per astronomical twilight (the sun is -6° below the horizon)

6.2.3 SW3 - Control

The L865 / L864 is in master configuration when used standalone:

N°	1	2	3*	4*
ON	Operation	Master	ORN - 0.0	ORD - 1.0
OFF	Reset	Slave	ORN - 0.1	ORD - 1.1

- ORD → Override the mode and force it into Day mode
- ORN → Override the mode and force it i,nto Night mode
- ORT (ORN + ORD) → Override the mode and force it into Twilight mode

*3(ORN)	*4 (ORT)	Comment
OFF	**OFF**	-
OFF	**ON**	ORD
ON	**OFF**	ORN
ON	**ON**	ORT

6.2.4 SW4 - Mode

This switch selects which sensor is used on the product:

N°	1	2	3*	4*
ON	Photores (detected if D/T/N)	External	GPS	Alarm used
OFF	-	-	-	Alarm not used

6.3 Default

6.3.1 Operation led

	Default	Condition	Red led signal	Lamp signal
D0	Power supply voltage	Detected if there is a power supply issue (Over-voltage or under-voltage)	..... short and continuous blinking	OFF
D1	Invalid configuration	Means inconsistency in dip-switches, for any of the following reasons: • GPS is disable an Sync 1 + Sync 0 are set • Several sensor for switching mode are set • The selected configuration number does not exist	—... 1 long and 3 short	OFF
D2	Power card default error	Default from either Power card or projector causing insufficient light	.. 2 short	-
D3	Light channels relay error	Default from either power card or projector causing insufficient light	. 1 short	-
D4	GPS out of synchronization	GPS is in used and no signal accurate is received	—.. 1 long and 2 short	15 FPM
D5	Slave out of synchronization	Card in slave mode and no synchronization signal during 10sec	—. 1 long and 1 short	15 FPM
D6	D/T/N mode unchanged	The mode did not change since the last 48 h	— 1 long	-
D7	External communication problem	Communication though Ethernet or CAZN date link has failures	—— 2 long	-
D8	GPS default	If GPS is out of synchronization but has been synchronized since last 15 minutes: working on internal clock	Same as Lamp flash	-

The “lamp signal" column indicates if the activation of a given default modifies the current sequence of currently activated mode (When “OFF” is specified, it means that no flash shall occur).

This sequence shall last until corresponding default is cleared, and if several defaults are present, only the sequence of highest priority default shall be applied.

6.3.2 Power card led

Power card error	Error condition	Persisted	Power card default led sequence
Short circuit	Some or all led are not working	NO	· 1 short
Open circuit 1	Both led circuit piloted by the power card are in open circuit	NO	·— 1 short and 1 long
Current regulation issue 1	Power card cannot set the according current on both circuit led	YES	·—— 1 short and 2 long
Open circuit 2	One of the two led circuit piloted by the power card is in open circuit	NO	— — Same as lamp flash
Current regulation issue 2	Power card cannot set the according current on one circuit led	YES	— —· Same as lamp flash and follow by 1 short

6.3.3 Alarm

Alarm will be set when some conditions are met, depending on the configuration and switches. (Only activate if switch 3.4 is set).
Alarm errors are described in 6.3.1.

7. Installation

7.1 Unpacking

Carefully unpack each item and remove any internal packing material from the power supply and the Lamp. Examine each item for obvious physical damage. Report any claims to the carrier immediately.

7.2 Mounting and preparation

Any manual intervention must be performed on a NON-POWERED product. Human and material issues could occur inducing injury or permanent damage to the product.

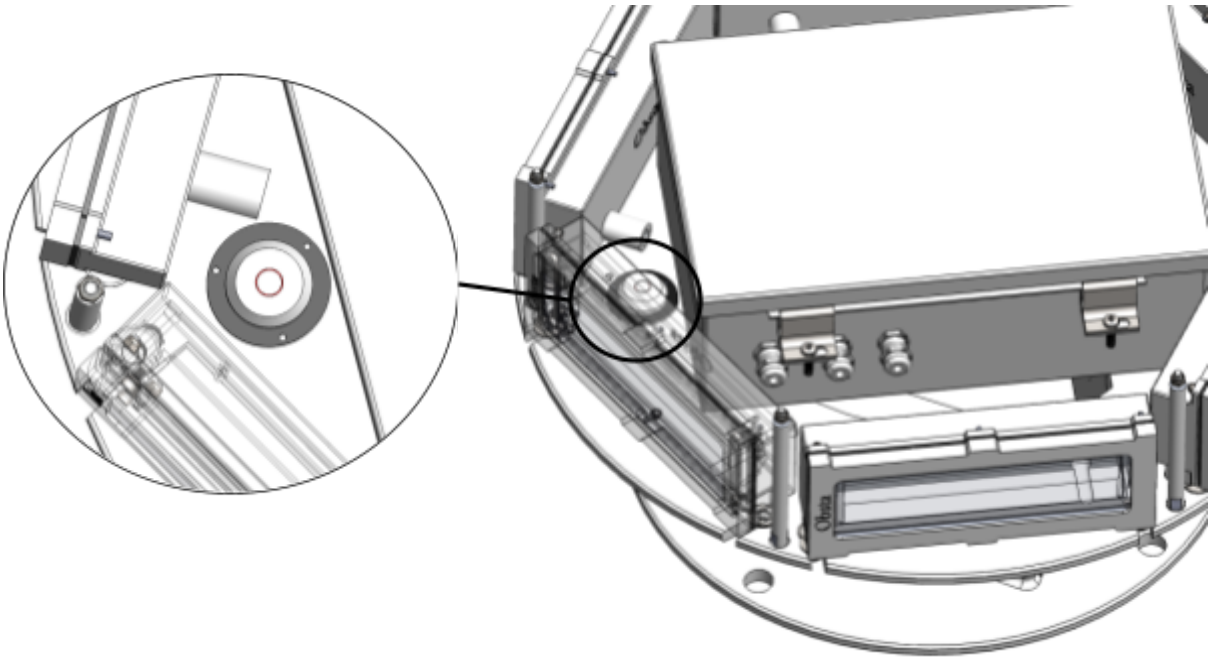
Depending on the application multiple flash units may be required. Obsta recommends that each unit has its own support (One supports the kit : Flash-head + Cabinet). Cabinet or Flash-head must be installed in a fixed position. Obsta also recommends that the cabinet shall be in an easy access position/orientation for maintenance purposes. Each part of the kit must be correctly fixed to the structures.

The flash must be levelled using a spirit level.

Cabinet shall be placed in upright position (cable glands face to the ground)

Cable shall be installed with cable clamp to avoid any oscillation movement due to wind pressure.

Leveling of the flash-head:



1. Verify that the mounting surface is free of debris.

2. Align the five mounting holes in the base of the flash-head with the holes in the structure mounting plate.

3. Secure losing the flash-head on its support. Do not tighten up screws yet.

4. Ensure that the flash-head is installed horizontally by using the level provided (air bubble shall be centered).

5. If the flash-head is not leveled, add stainless steel shim material or washers (stainless steel or galvanized) as necessary to level the flash-head.

6. Once leveled, firmly secure the hardware once the flash-head, using the same torque on each screw. Verify that the flash-head is level when the hardware is fully tightened. If not leveled, then loosen the mounting hardware and repeat Step 5 until the beacon is firmly secured horizontally.

In some specific cases with high electromagnetic fields an additional shield is required to ensure proper operating. Obsta may provide or suggest additional equipment to improve stability and durability of the kit. Please contact Obsta if the product may be exposed to this kind of perturbation.

- Open the cover and the stainless power supply of the flash-head
- Insert the cable through the cable entry below the flash-head; Once the cable is firmly attached, connect the 48VDC wires and the control wires to the terminal inside the 48Vdc cabinet at the top and the AC power cabinet at the bottom and the grounding and/or shield on the yellow terminal of TB1 as per the wiring diagram page.

If the flash head 48 Vdc is powered with an Obsta power cabinet, the cross section of the power cable must be:

	For dual color or white only Obstaflash systems			
Cable length	1-60 ms (1-200 ft)	61-105 m (201-350 ft)	106-160 m (300-510 ft)	161-215 m (511-700 ft)
Cable diameter	2.5 mm² (12 awg)	6 mm² (10 awg)	7.5mm² (8 awg)	10mm² (7 awg)

Otherwise the cross section of the power cable as per the maximum current of 14A during the day time

8. Maintenance

8.1 Annual visit

Test	Frequency	Action	Sanction	Solution
Cable	Annual	• Tighten power card connector screw • Tighten projector connector plugged on the PSU		
Waterproof	Annual	Visual	No water inside	Search the water leak
Corrosion	Annual	Visual	No excessive corrosion	Replace defective part
Power supply	Annual	Visual	Led status indicator	Replace the defect part if necessary
Led projector	Annual	Clear, with humid cloth the glass of watch projector		

8.2 Spare part

COMMAND-CARD-48VDC-6P-RW	**113744B**
POWER CARD 48VDC	**113741B**
PROJECTOR-GM-RW-0.75 (Specific for FAA version)	**113761USC**
PROJECTOR-RW-0.75 (Specific for ICAO version)	**113761SC**
MLPX 48	
MPLX 240	

With external power cabinet - 113797U

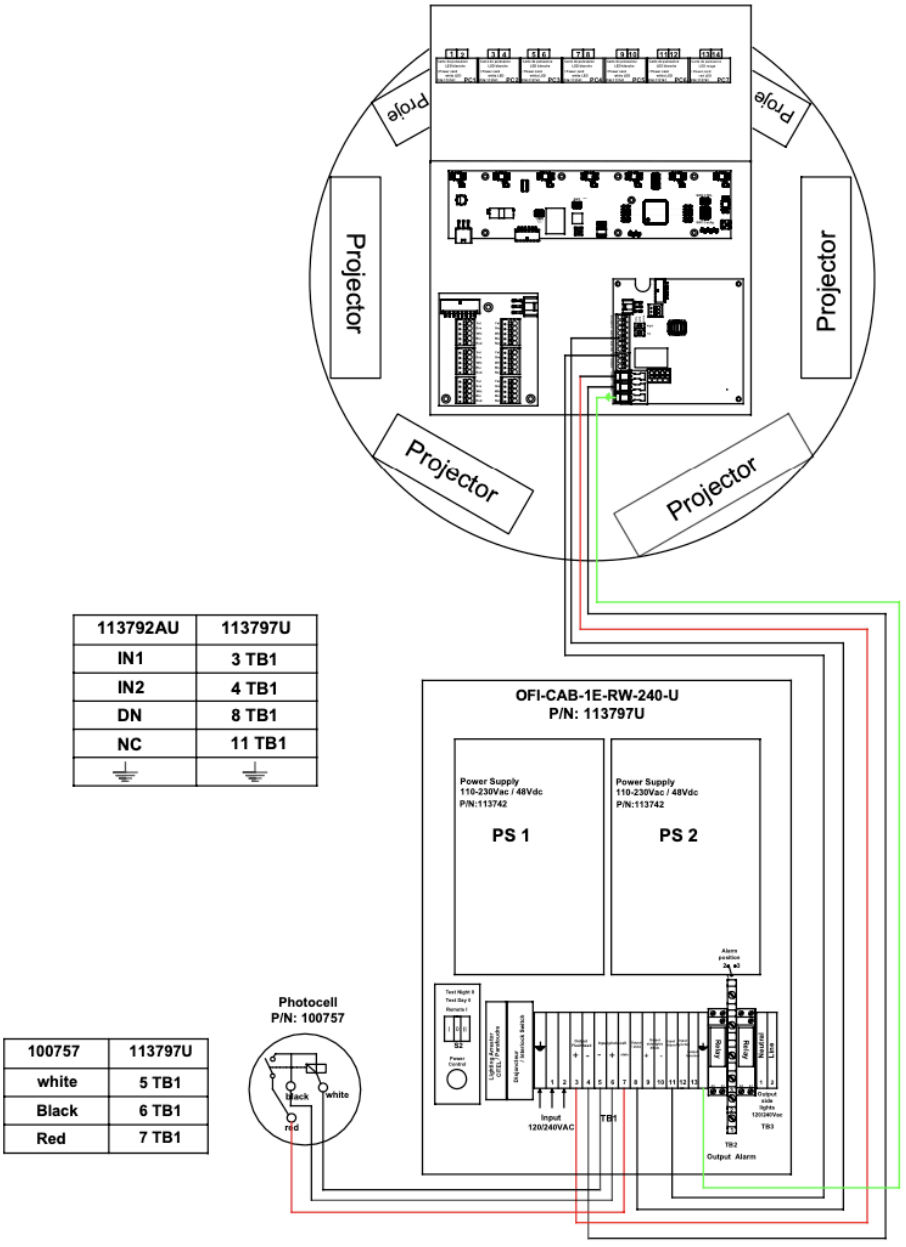
Security switch and test button	**113743**
Surge protection DS215-120/G 120VAC	**311721**
Surge protection DS215-230/G 240VAC	**451721**
Power Supply (AC/DC Converter)	**113742**

Accessories

Photocell	**100757**
NAVILITE L-810(F)	**113969IR**

9. Drawing

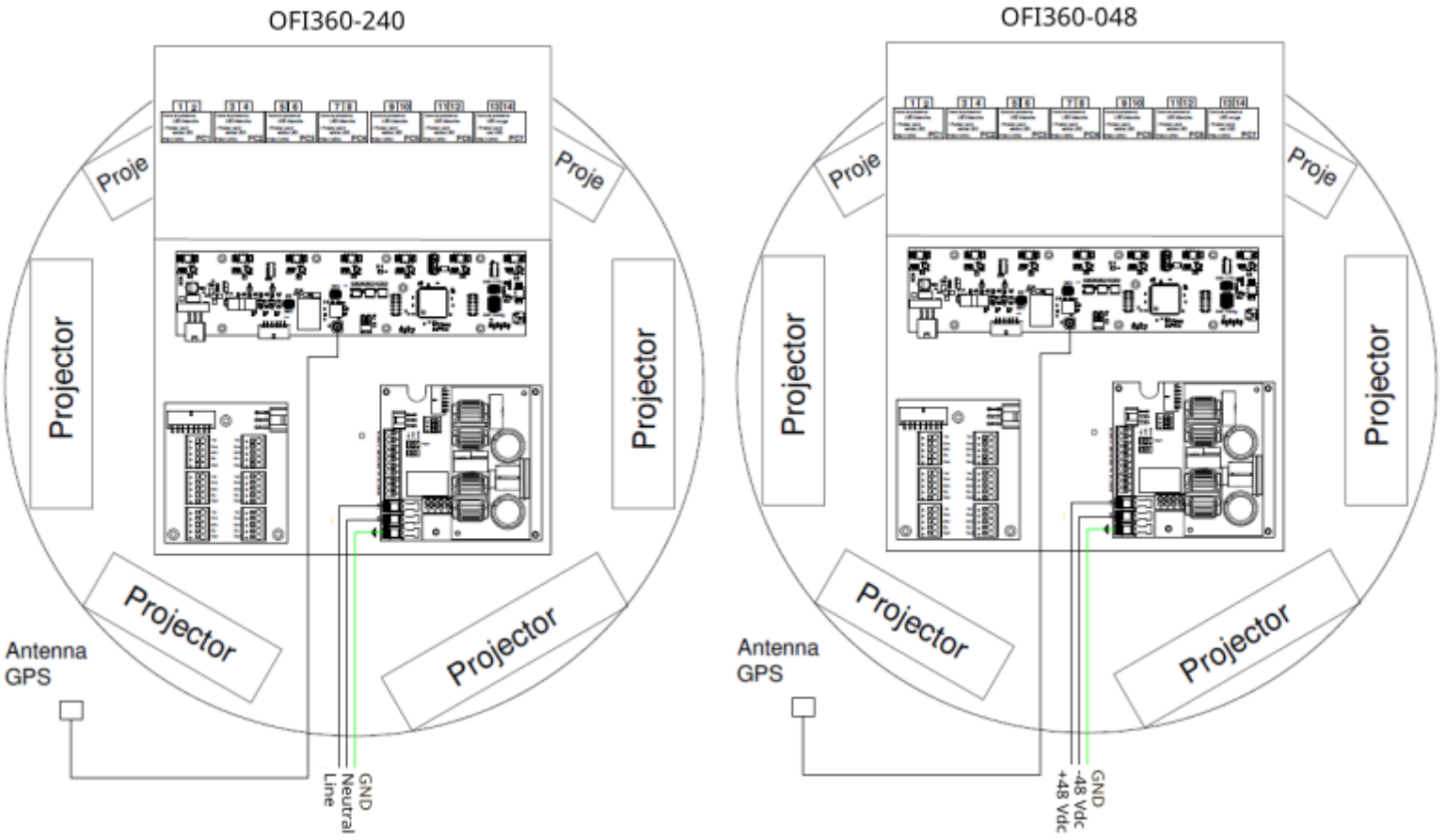
9.1 Wiring diagram with power cabinet (240Vac version)



113792AU	113797U
IN1	3 TB1
IN2	4 TB1
DN	8 TB1
NC	11 TB1
⏚	⏚

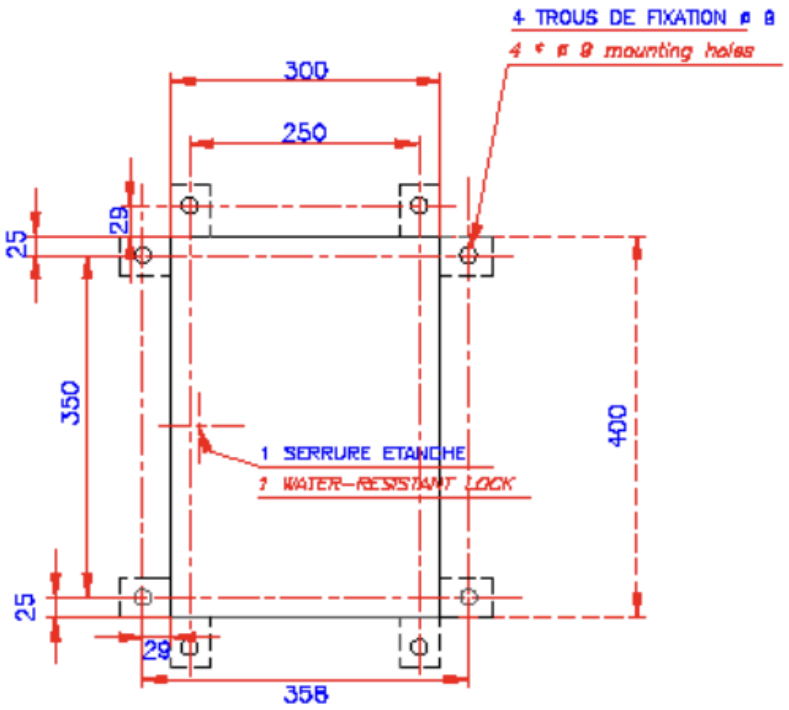
100757	113797U
white	5 TB1
Black	6 TB1
Red	7 TB1

9.2 Wiring diagram without external cabinet

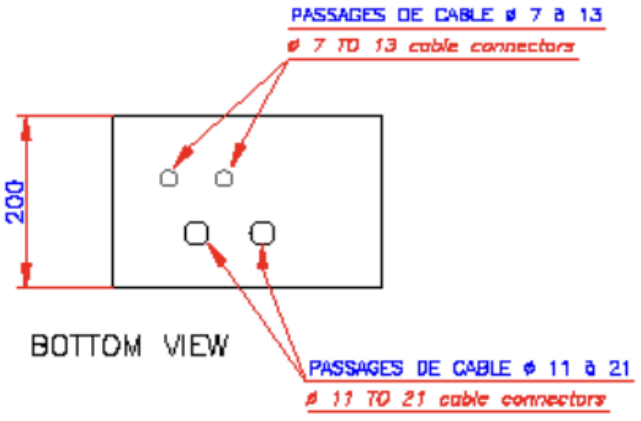


9.3 Stainless AC power cabinet dimensions (P/N-113797U)

All dimensions are in mm



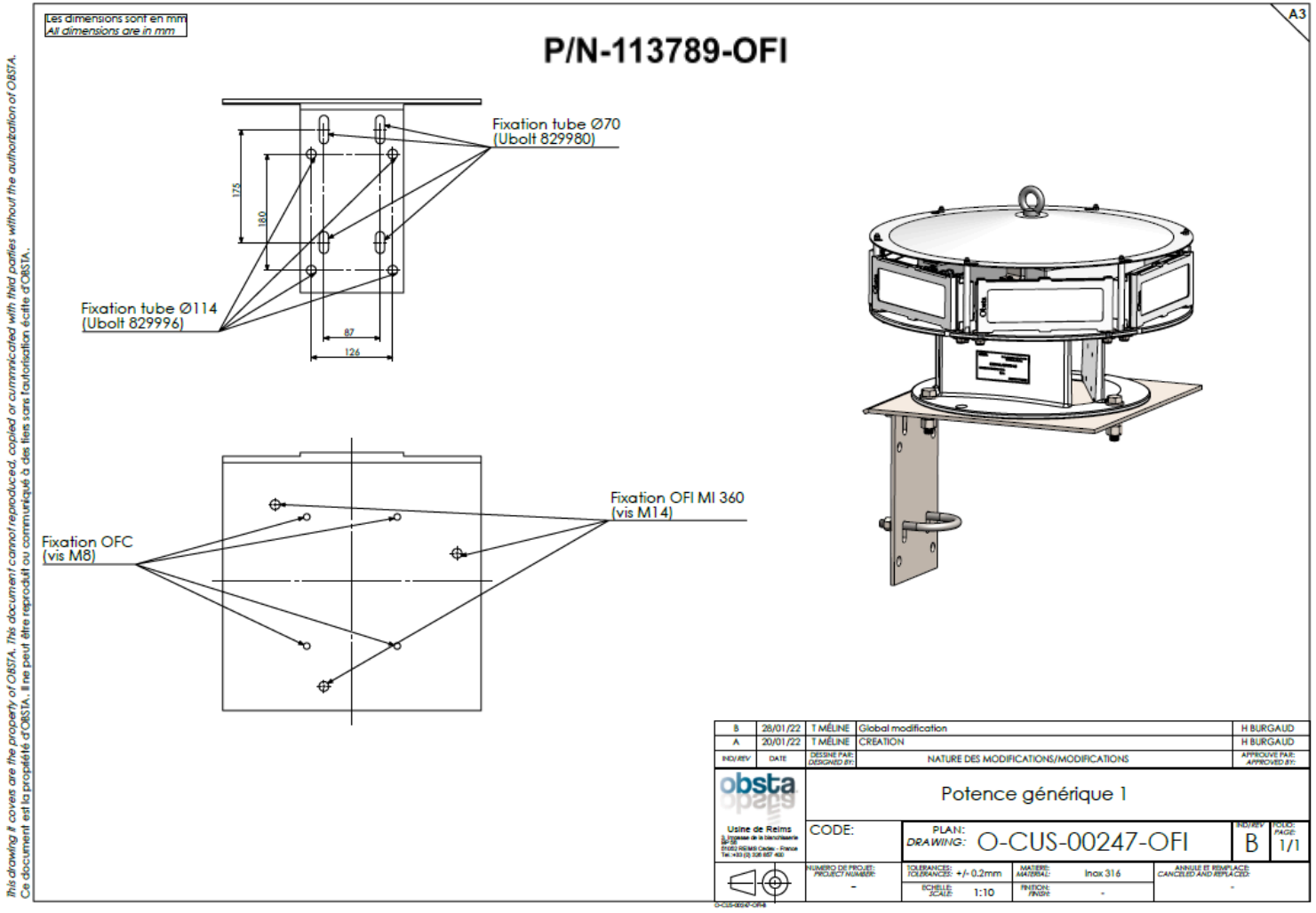
FRONT VIEW



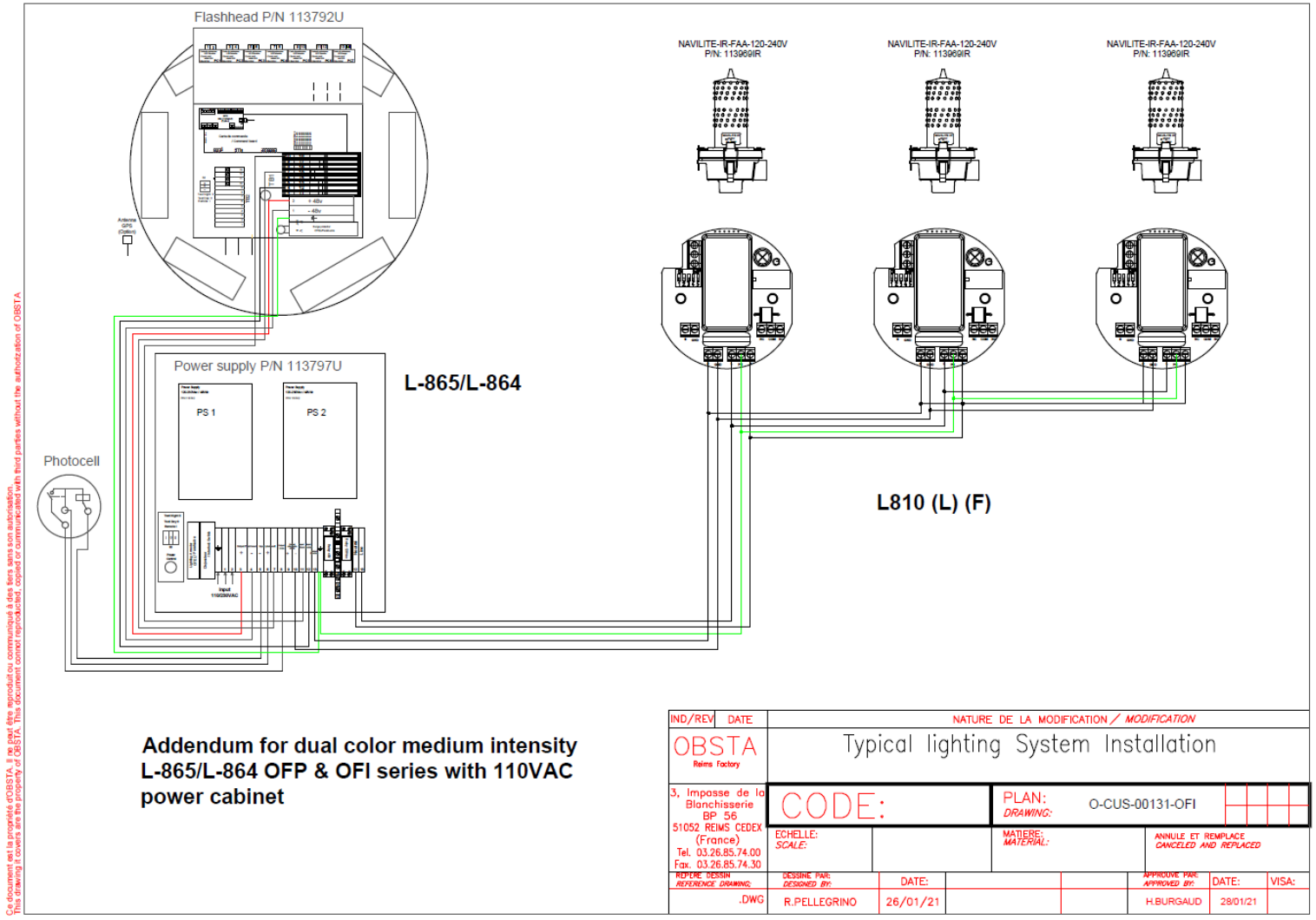
BOTTOM VIEW

Matériel : Inox 316L ep. min. 2mm
Material : Stainless steel thickness min. 2mm

9.4 Bracket (option)



9.5 Wiring diagram with power external cabinet (P/N):113725UIA and Navilite (P/N): 113969IR (x3)



9.6 Wiring diagram with battery cabinet (P/N):113956