O-MAN-00001-OFI

USER MANUAL

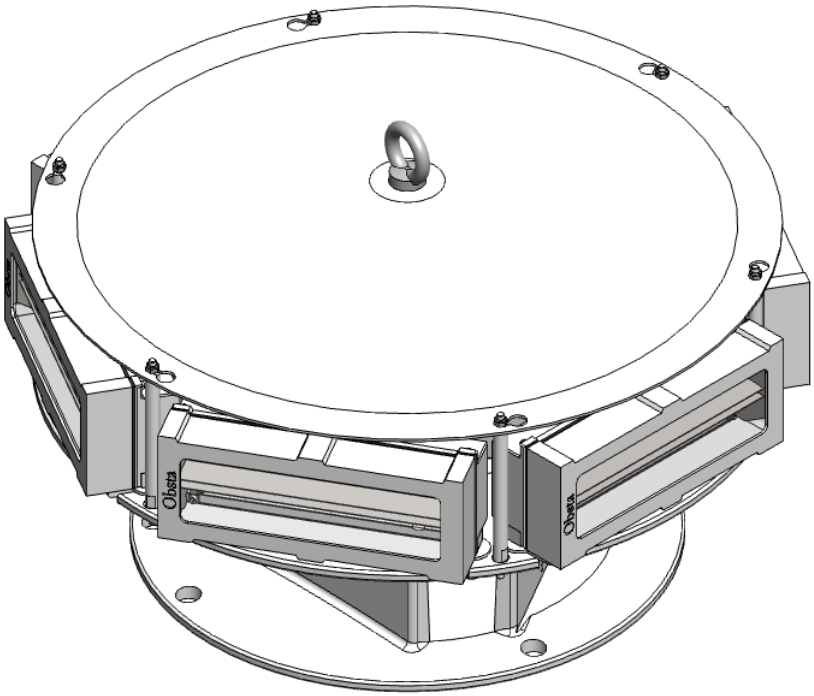
360° medium intensity beacon

OFI360-RW-240 // 113725IA

OFI360-RW-240I // 113792-240-G

OFI360-RW-048// 113792A

OFI360-RW-240-U // 113725UIA



www.obsta.com

1 Product name and part number

Description	Norm	Power supply	Part number (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	48 Vdc ±5%	113792A	
OFI360-RW-240-U (no integrated)	Medium intensity ICAO type A and B FAA L-865/L-864 *ETL cerfified*	110-240 Vac ±10%	113725UIA	

2 Caution

- Do not proceed with any maintenance job when the product is under operation.
- Power supply must be shut down when opening the flash-head or the cabinet.
- Installation must be performed only by an electrically skilled operator and National electrical installation rules must be respected.
- Always wear appropriate Personal Protective Equipment (PPE) when installing, maintaining or servicing the system.
- Any installation or maintenance operation performed at height must be carried out in strict compliance with fall-protection procedures.
- 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 may be affected by ESD, use state of the art precaution before manipulation.
- Unless otherwise specified, all cables must be shielded, and the shielding must be connected to ground.
- All cables connected to PCBs and terminal blocks must be equipped with a cable connector to prevent false contacts when connecting devices.

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 Introduction

4.1 General information

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 Description

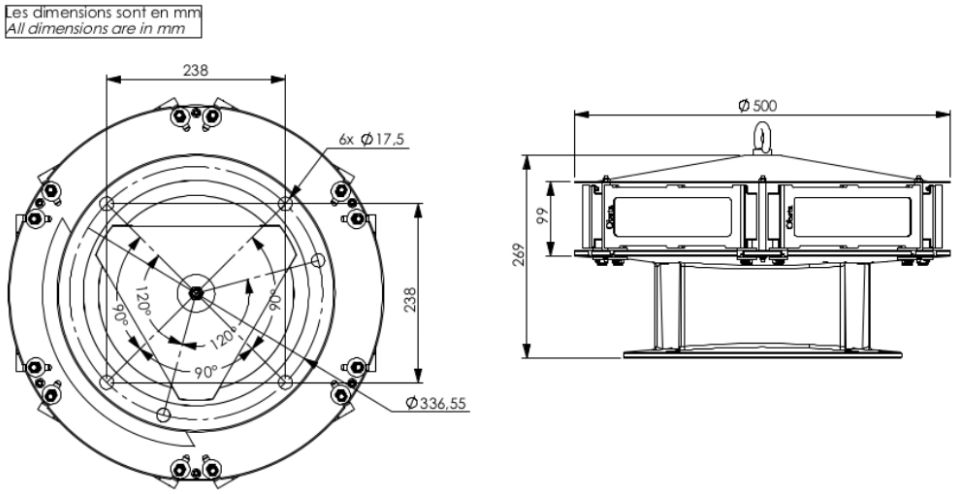
The OBSTAFLASH 360 is a led medium intensity system manufactured to comply with ICAO annex 14 chapter 6 and Federal Aviation Administration Advisory Circular 150/5345-43J.Each system consists of one flash-head and can be associated with power supply with an ambient light sensor (photocell) and the interconnecting 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).

Features:

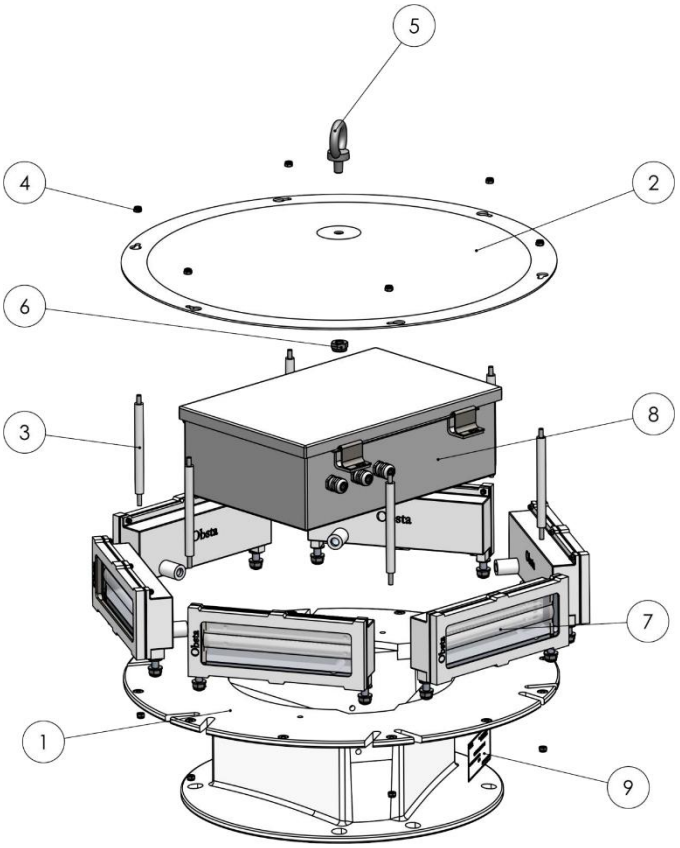
- Synchronization via integrated GPS or external signal.
- Automatic Day/Twilight/Night (DTN) mode via photoresistor.
- Master/slave management for synchronizing multiple beacons.
- Diagnostic interface via status LED and USB port (event log, firmware update).
- Protection against overvoltage and reverse polarity (integrated SPD).
- CAN/Ethernet communication (optional depending on model).

4.3 Beacon

4.3.1 Dimensions

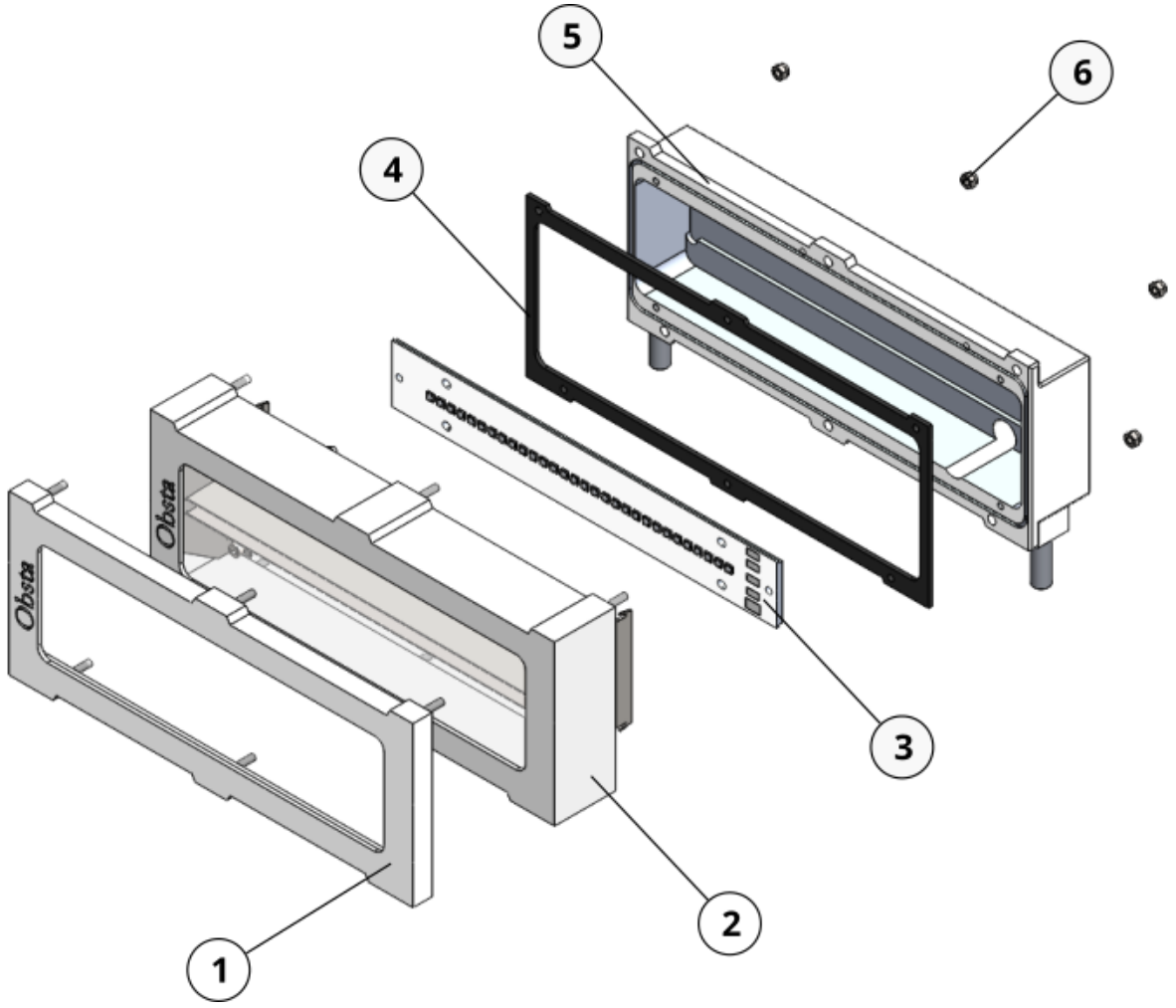


4.3.2 Assembly bill of materials



N°	Designation	Spare part (if available)	Qty
1	MI 360 beacon bracket		1
2	MI beacon cover		1
3	Column L108		6
4	M5 lock nut		12
5	Lifting ring		1
6	M10 lock nut		1
7	Projector MI beacon	113761UIR (FAA) 113761SC (ICAO)	6
8	Integrated power supply cabinet		1
9	Label		1
9.1	Identification label		
9.2	FAA identification label		

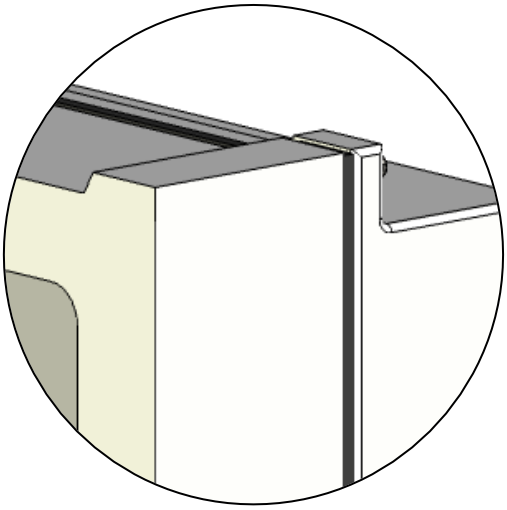
4.4 Projector



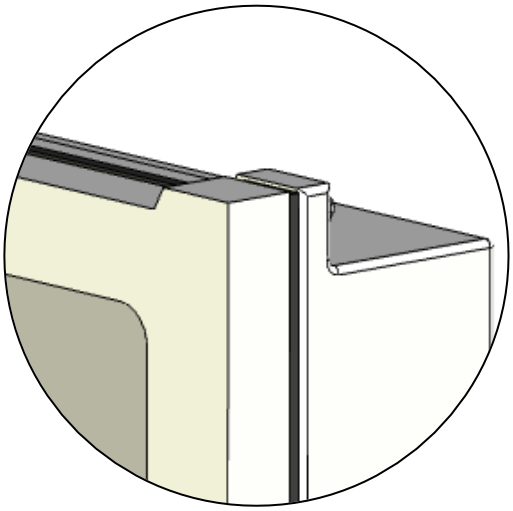
N°	Designation	Qty
1	ICAO short lid	1
2	FAA long lid	1
3	Led PCB	1
4	EPDM gasket	1
5	Bottom box	1
6	M3 lock nuts	6

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.

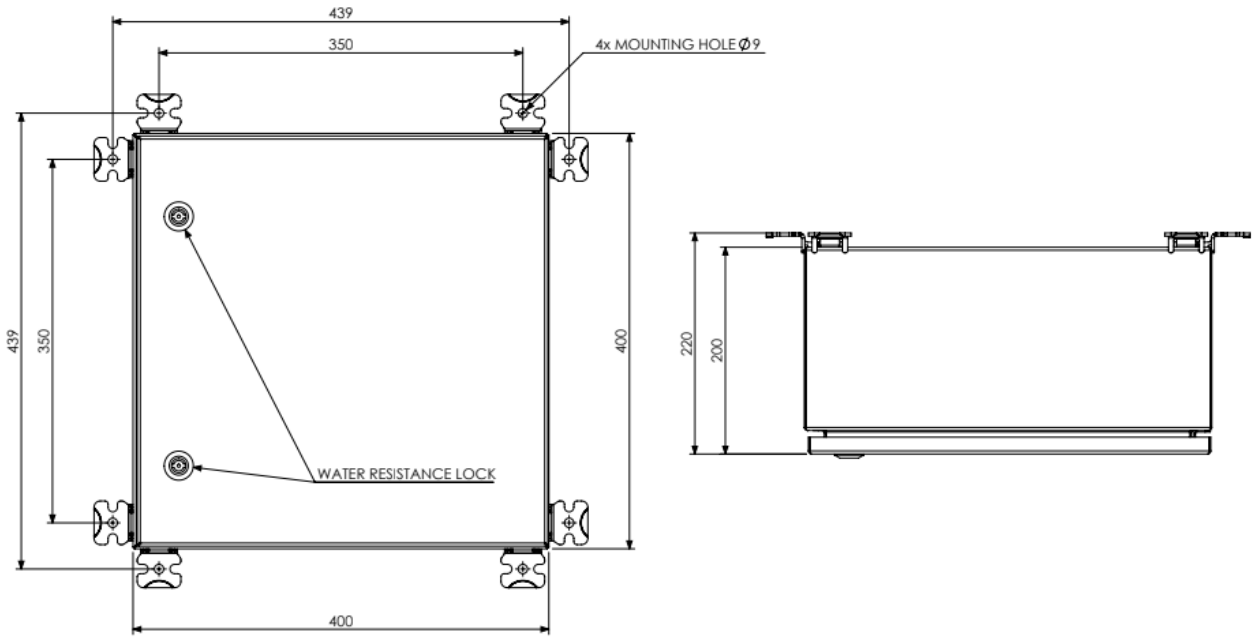
FAA



ICAO



4.5 Power supply cabinet (only for 240Vac version)



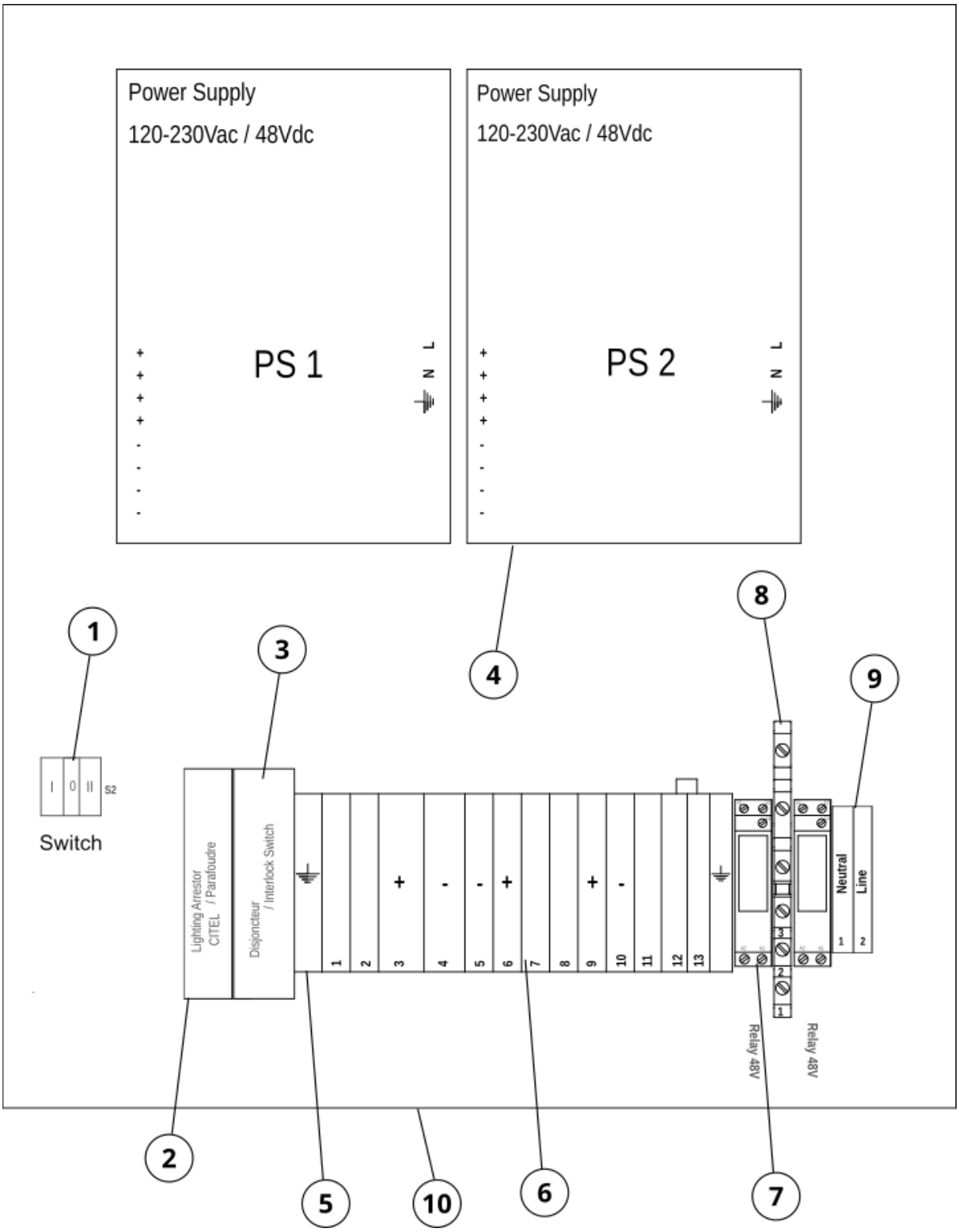
4.5.1 Overview

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)

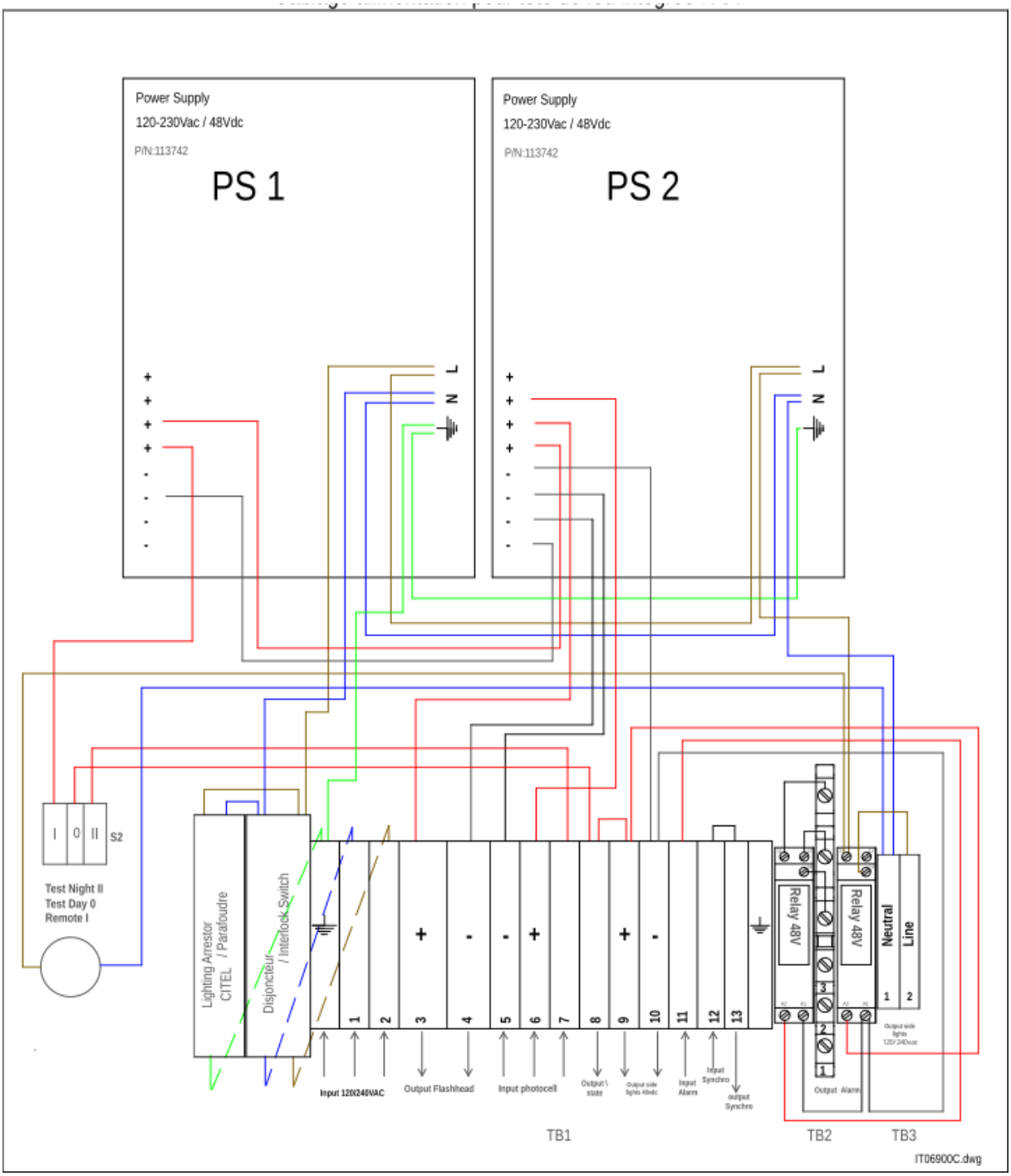
Functionality and features of the cabinet:

- “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 synchronization
- 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 synchronization (P/N-113746)



N°	Designation	Spare part (if available)	Qty
1	Security / Day/ Night test switch	113743	1
2	CITEL DS215-230/G	451721	1
3	16A circuit breaker		1
4	S600 48Vdc 12.5A power supply	113742	2
5	Ground terminal		2
6	Terminal blocks		13
7	48Vdc relay		2
8	Connection blocks UT 2.5-3L		1
9	Connection block 2.5mm^2		2
10	400x400x200 INOX cabinet		1

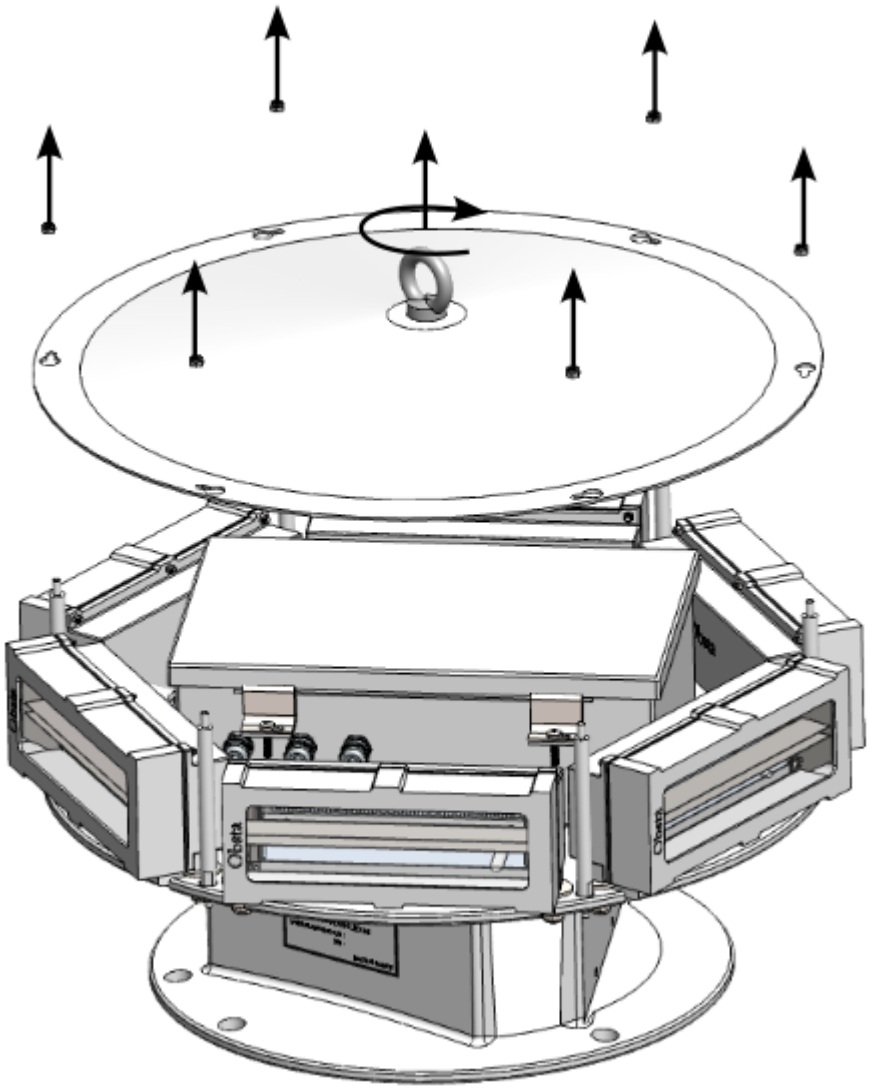
4.5.2 Internal wiring



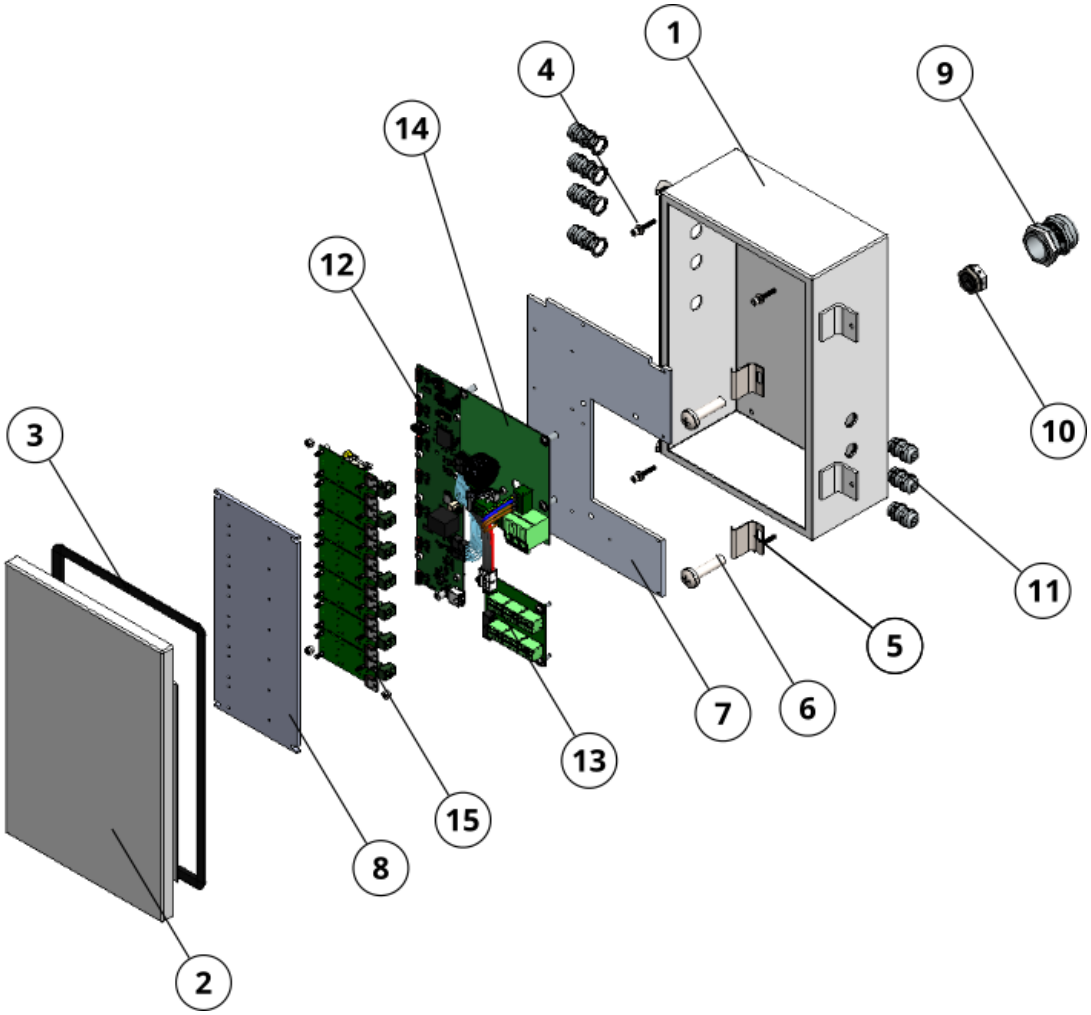
5 Obstaflash integrated cabinet

5.1 Internal cabinet access

To access the OFI360 internal cabinet, unscrew the six nuts using an 8 wrench. Rotate and if the cover. Open the case to access the PCBs.

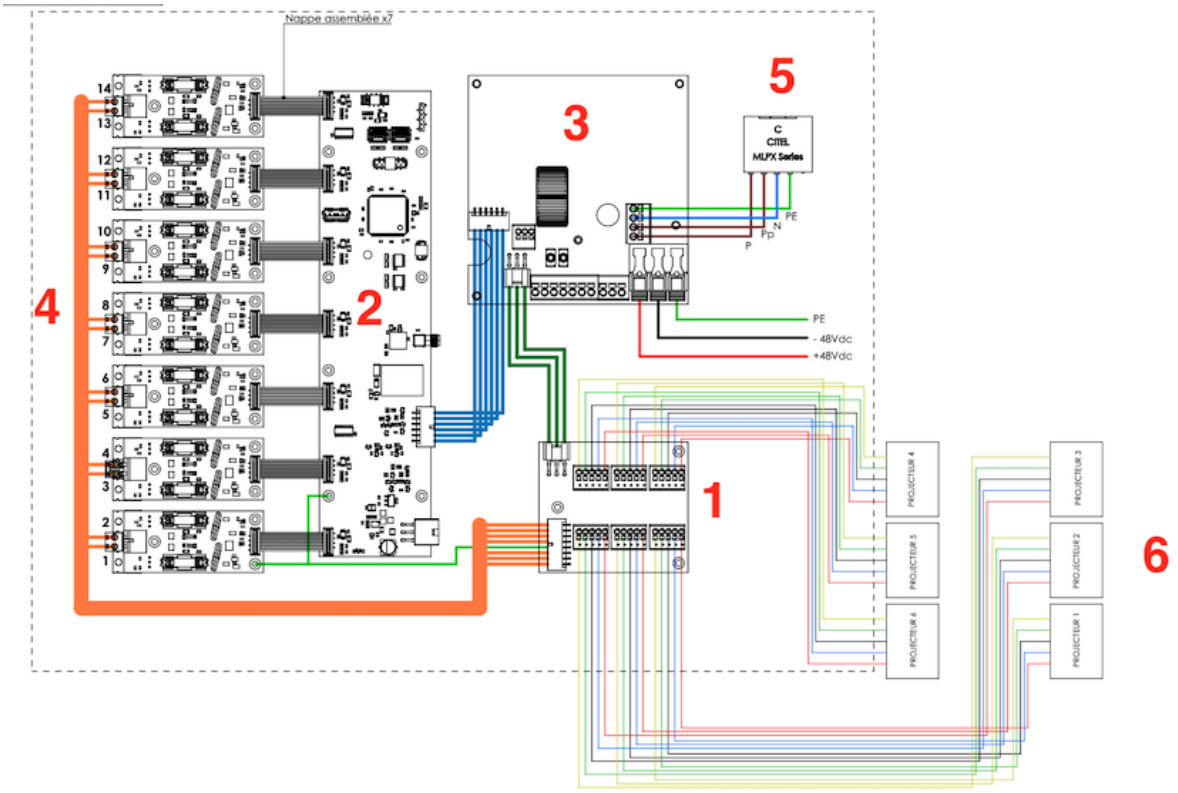


5.2 Internal cabinet bill of material

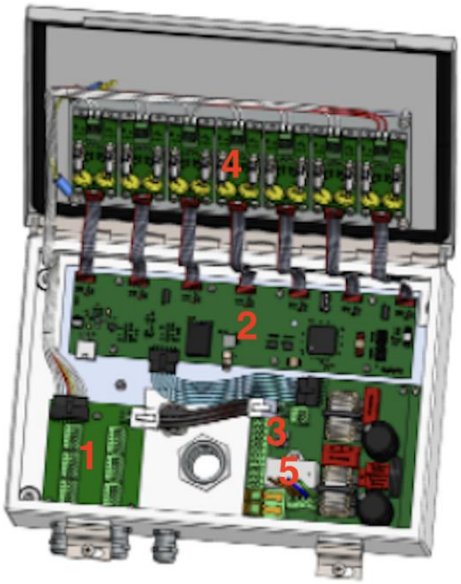


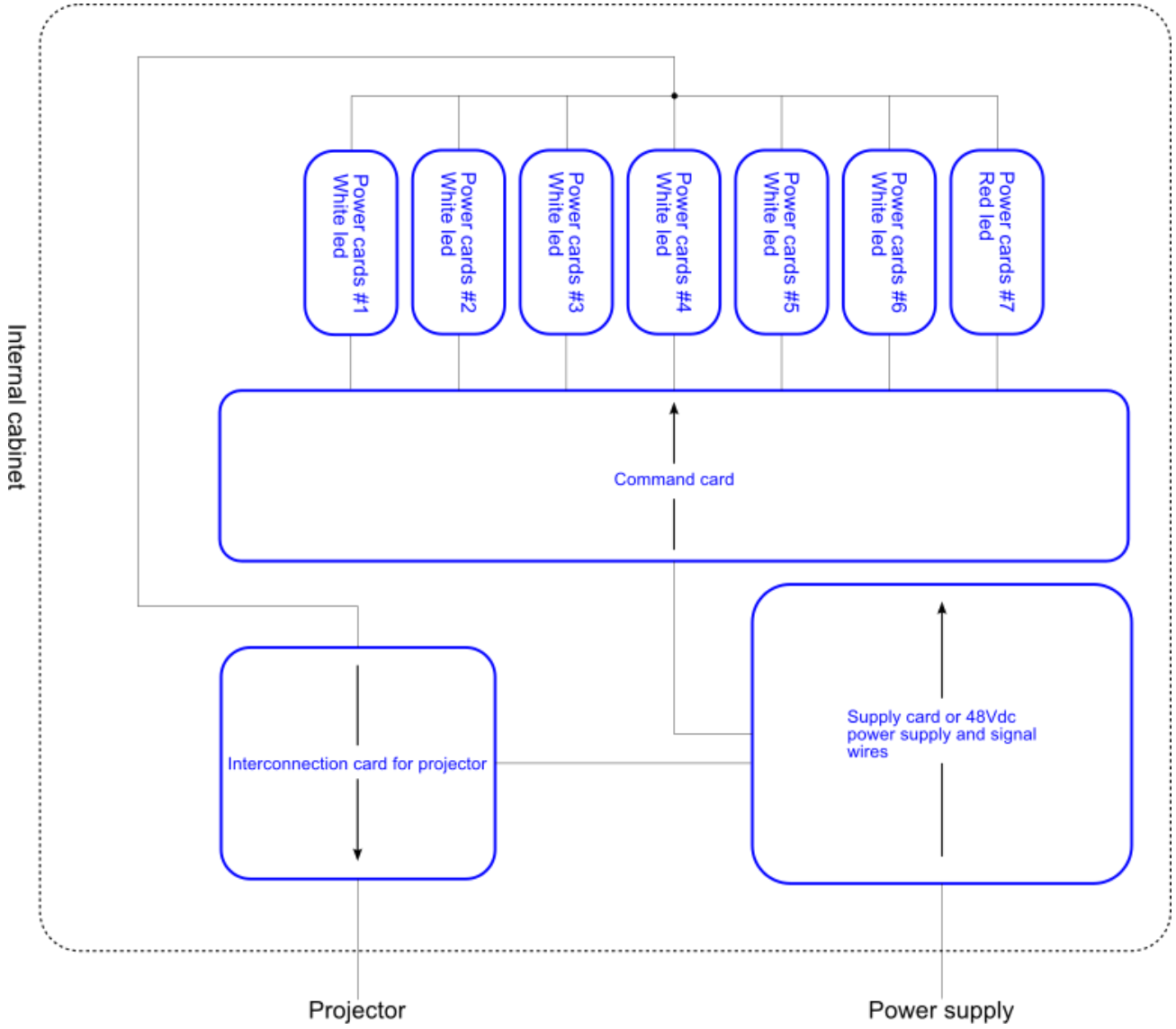
N°	Designation	Spare part (if available)	Qty
1	Bottom of the cabinet		1
2	Cabinet cover		1
3	EPDM gasket		1
4	Cabinet mounting screw		4
5	Closing strike plate		2
6	M10x40 locking screw		2
7	PCB mounting plate		1
8	PCB mounting plate		1
9	M32 cable gland		1
10	M20 ventilated cable gland		1
11	PG09 cable gland		7
12	Command card		1
13	Interconnection card for projector	113744B	1
14	Supply card or 48Vdc power supply and signal wires	113742B	1
15	Power card	113741B	7

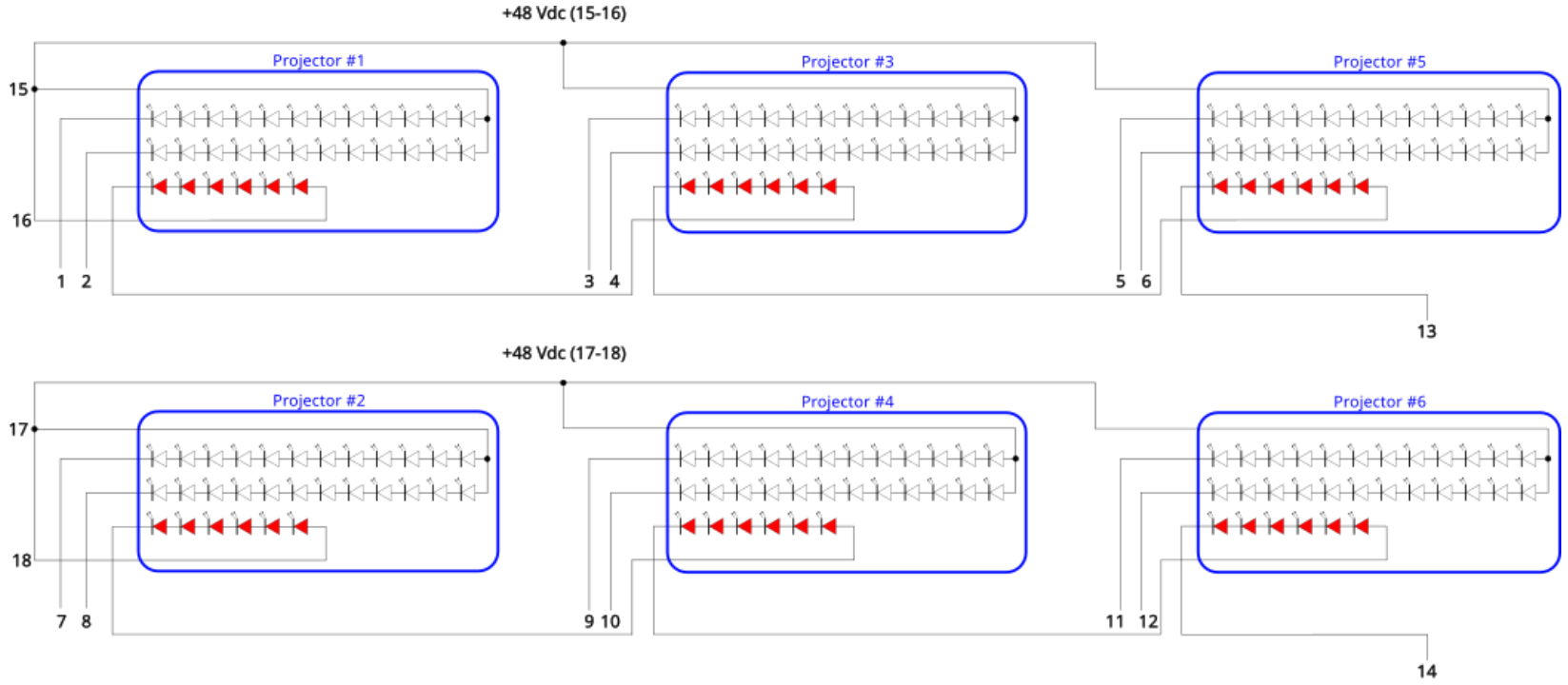
5.3 Overview



1	Interconnection card for projector
2	Command card
3	Supply card or 48Vdc 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)



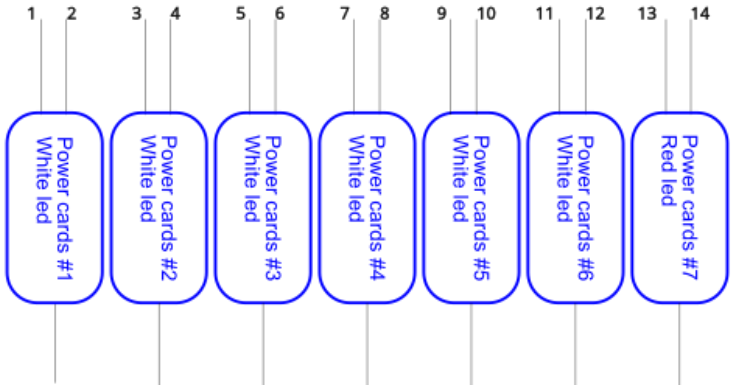




Per projector:

For R circuit (13-14):
1/3 led channel consisting of 6 led

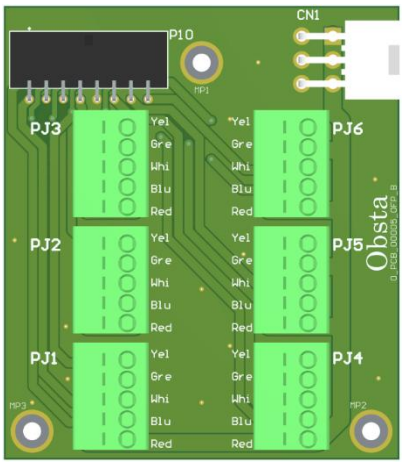
For W led circduit:
2 led channel, each consisting of 12 led.



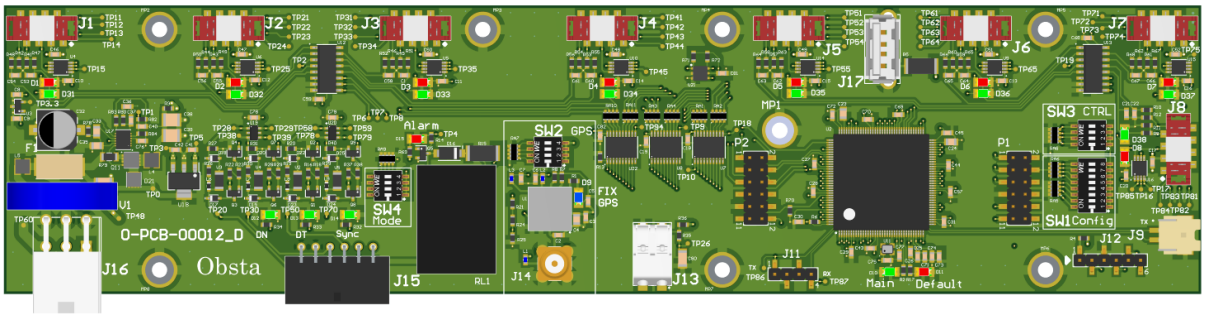
5.4 Cards inside the stainless power cabinet

5.4.1 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.



5.4.2 Command card



**Detail on next page*

- **J1 to J7**: Connected to a dedicated power card. Near each connector, a pair of led (Green & Red) signals 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).

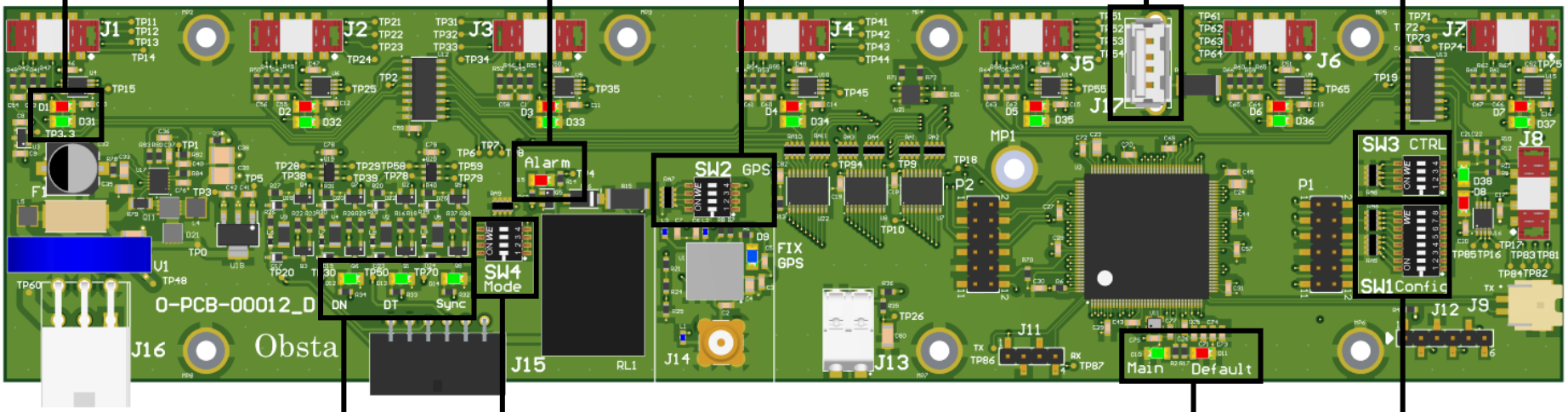
Power card led:
Red led: blinking if default on channel(s)
Green led: ON when channel(s) is flashing
(same for J1 to J7)

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

SW2: GPS configuration

USB port: to connect a mass storage device and process to connect a mass storage device and process

SW3: Beacon control



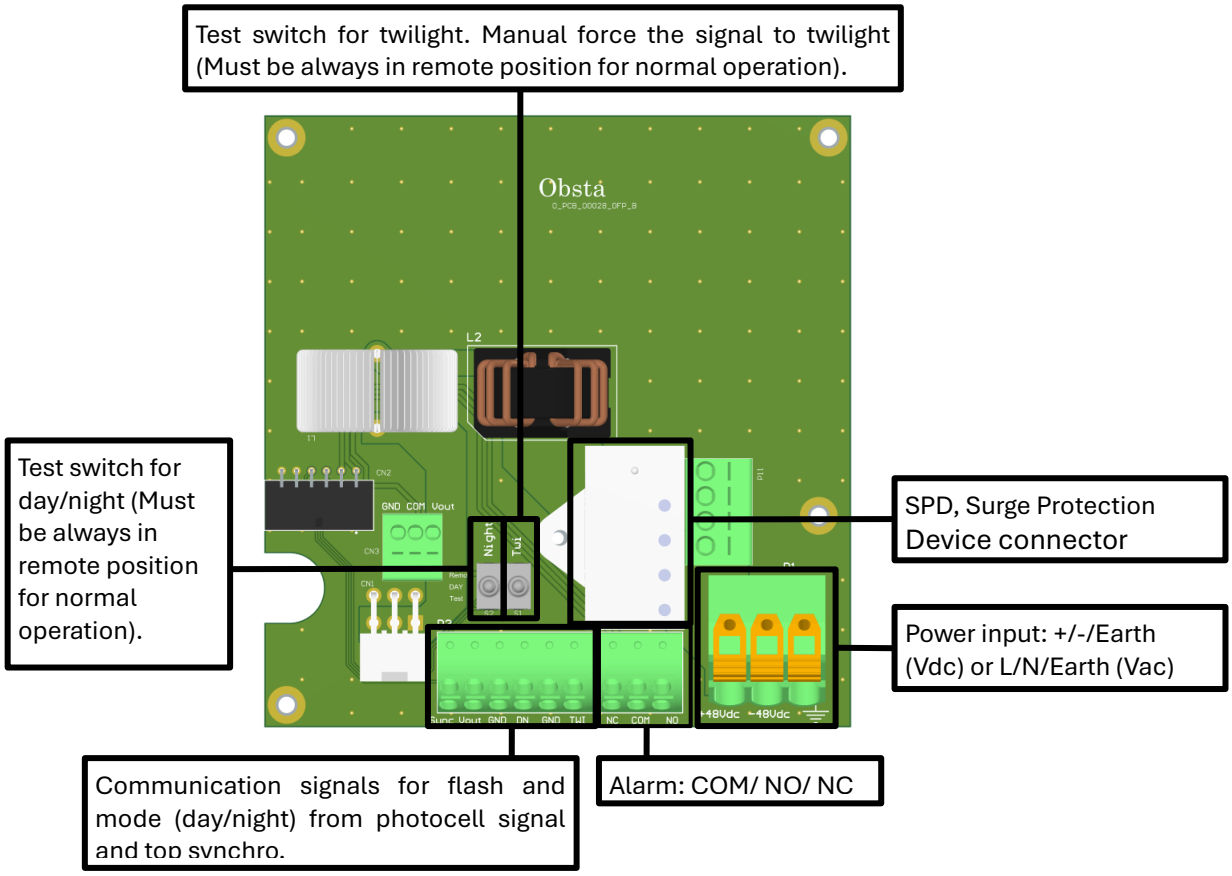
Mode led:
DN led: ON if DN input is set
DT led: ON if DT input is set
SYNC led: ON if SYNC input or output is set

SW4: Day/Twilight/Night (DTN) detection mode

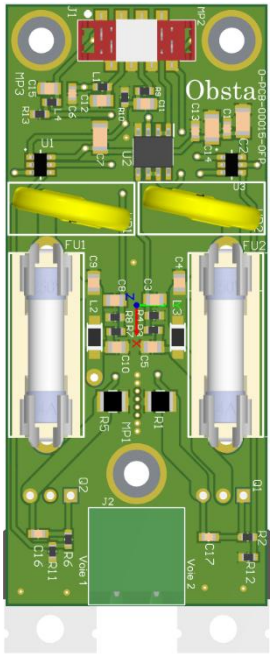
Operation led:
Default led: plays a sequence if general default condition
Main led: ON during flash

SW1: FAA or ICAO configuration

5.4.3 Supply card



5.4.4 Power card

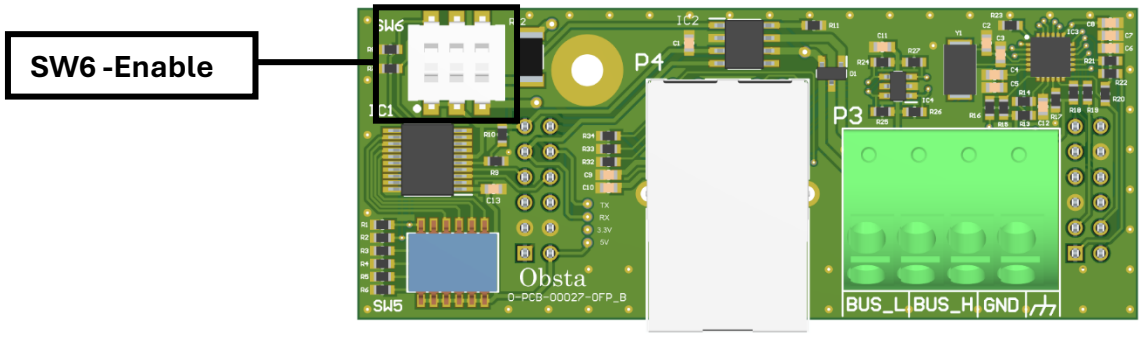


The power supply unit includes 7 power cards. Those cards regulate the current of the 14 led circuits.

- 6 power cards drive the 2 white led circuits inside each projector.
- 1 power card drives the 2 red and infrared led circuits inside the 6 projectors.

Each card is affected by the associated projector number on the inter-connection 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 projectors #5, #3, #1 and in the three projectors #6, #4 and #2.

5.4.5 CAN card



If the Ethernet/CAN PCB module is connected, the command card can manage CAN communication, with light status reporting, command processing, flash and DTN 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” status.

5.5 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 Installation

6.1 Unpacking

Carefully unpack the product and remove any internal packing material. Examine each item for obvious physical damage. Immediately report any claims to the carrier.

It's strongly recommended to supply the product and verify that it's working properly at ground level before final installation.

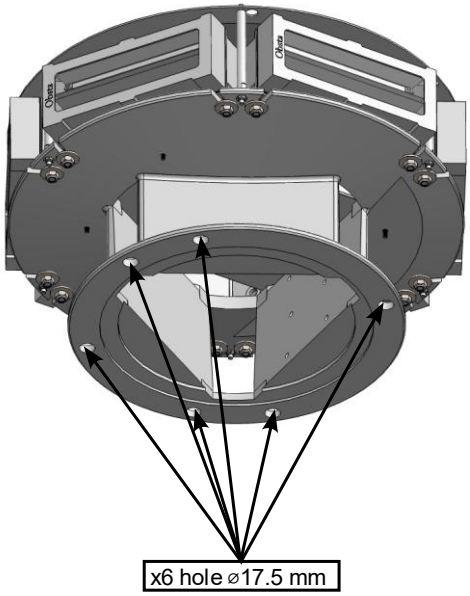
6.2 Mounting

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 should be in an easy access position/orientation for maintenance purposes. Each part of the kit must be correctly fixed to the structures.

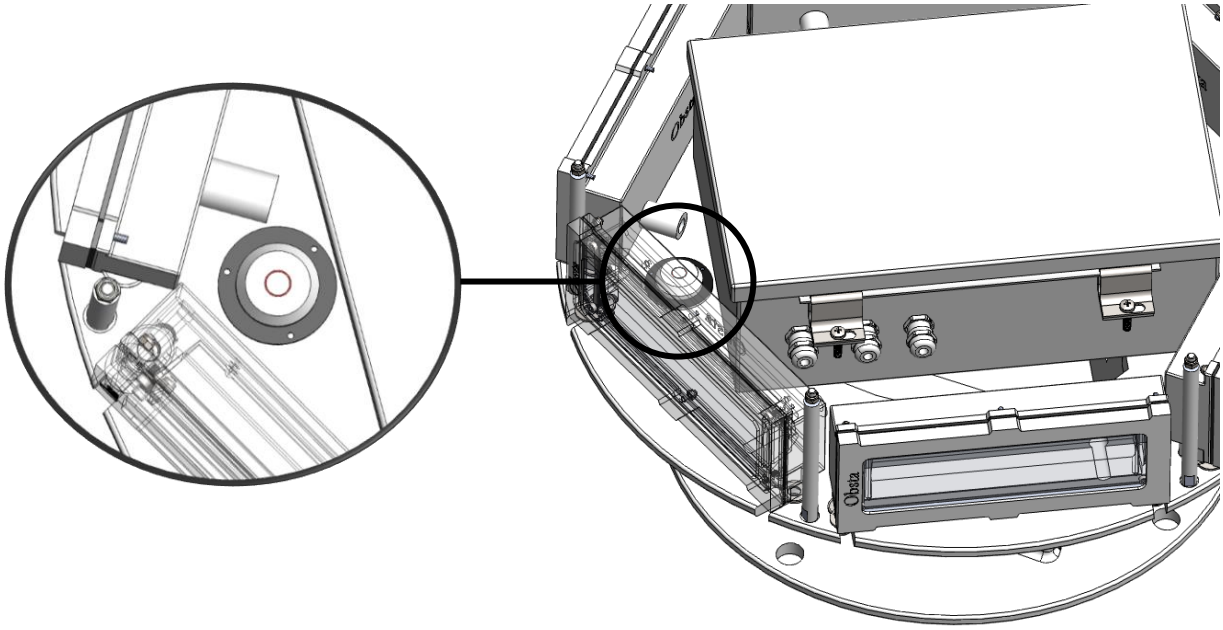
- ***The flash must be levelled using a spirit level.***
- ***Cabinet shall be placed in upright position (cable glands face to the ground)***
- ***Cables should be installed with cable clamps to avoid any oscillation movement due to wind pressure.***

The OFI-360 is mounted through the six 17.5 diameter holes on the beacon base.



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.

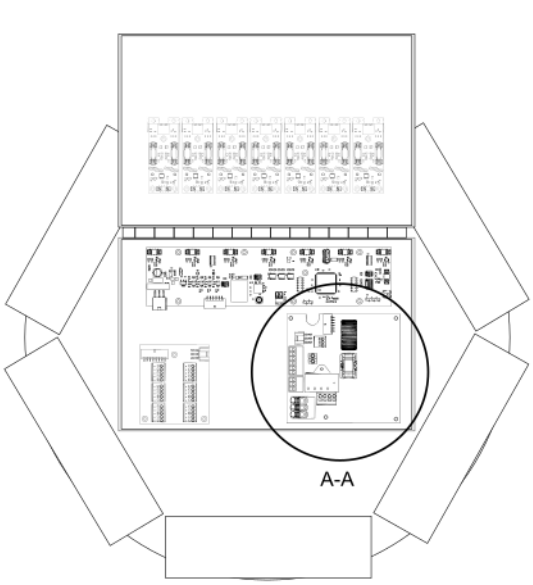


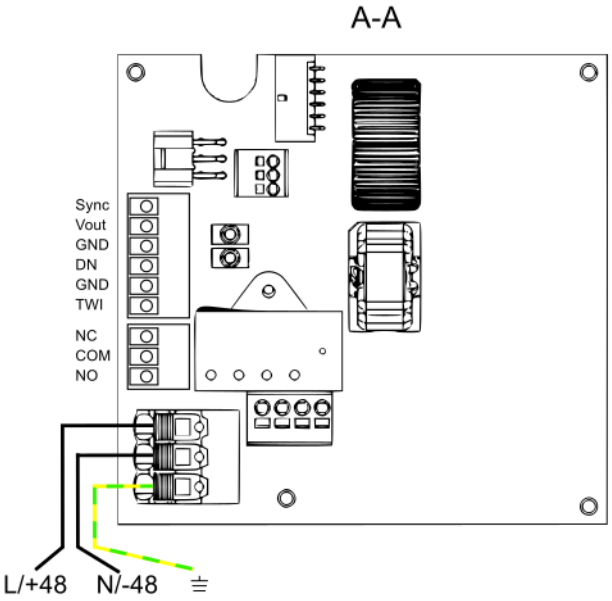
7 Wiring

7.1 Caution before wiring

- **Power OFF**: Always ensure the main power supply is completely turned off before starting any wiring work.
- **Verify voltage**: Confirm the voltage level of the circuit. Be aware of high-voltage hazards.
- **Use proper PPE**: Wear personal protective equipment (insulated gloves, safety glasses and safety shoes).
- **Secure the work area**: Ensure the aera below is cordoned off to prevent injury from falling tools or components.
- **Chek equipment ratings**: Confirm the product's voltage and current ratings match the installation circuit.
- **Inspect components**: Examine all parts (wires, connectors, terminals) for damage before wiring.
- **Proper tools**: Use insulated tools appropriate for electrical work.
- **Follow wiring diagram**: Refer to the OBSAT's schematic to ensure correct connections.
- **Grounding**: verify proper grounding/earthing for all metal parts and enclosures.
- **Secure wiring**: Fasten cable properly to prevent strain, chafing, or accidental disconnection.
- **Verify before powering**: Double check all connections before restoring power.
- **Shielded cable**: Cables must be shielded when used in electromagnetic fields.
- **Position**: The lamps shall be installed as close as possible from the command box from it using a 2x1.5mm^2 cable.
- **Number of lamps**: If more than 1 lamp is connected on "1st" or "2nd", all lamps must be wire in parallel.
- **Polarities**: The polarities must be correctly positioned on the DC power. If reversed, the printed circuit board may be seriously damaged.
- **Configuration:** Do not forget to set the dipswitches as required by the warning lights: Unless specified, dipswitch settings configurations are factory.

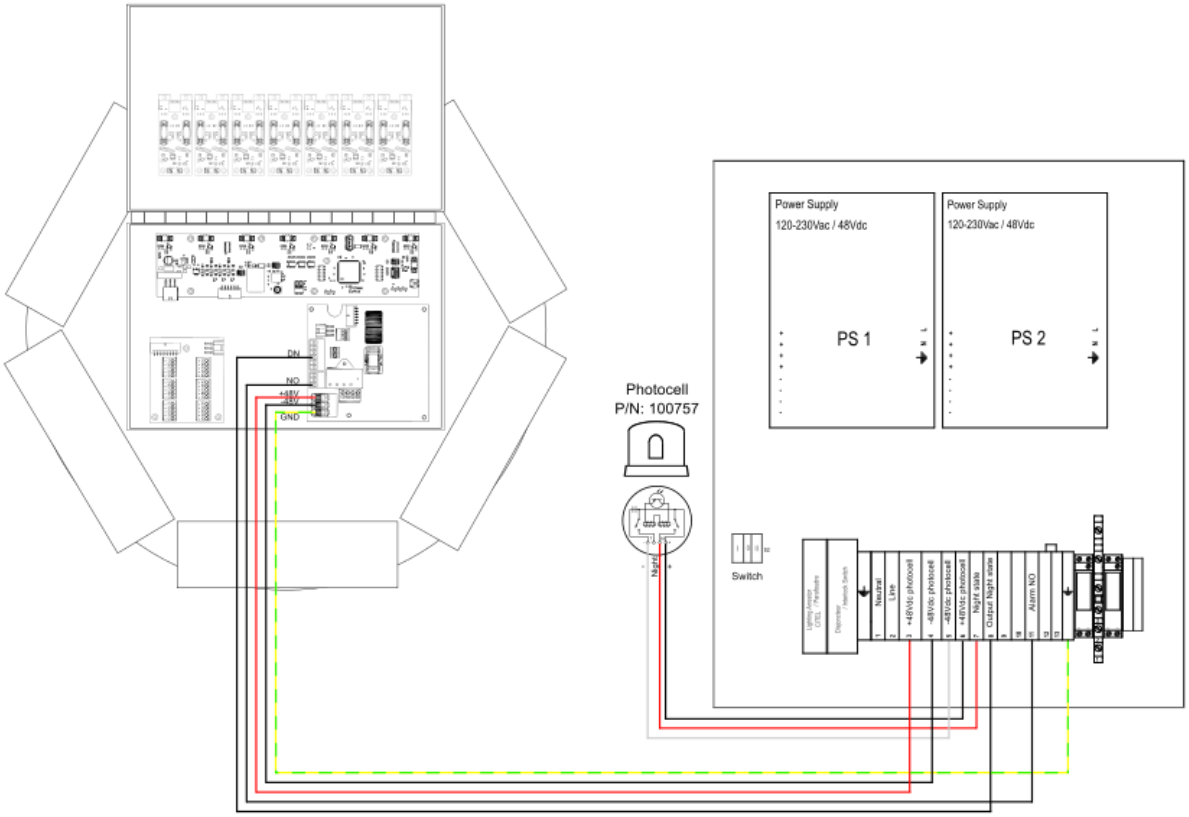
7.2 Overview





- Into PG-09 cable gland use a cable with an external diameter from 4 to 8mm
- Into M32 cable gland, use a cable with an external diameter from 11 to 21mm
- For Power input, use 6mm^2 wire
- For beacon, use 2.5mm^2 wire

Wiring with external cabinet (P/N: 113725AI, 113725UI, 113723UI).



OFI360:

- Into PG-09 cable gland, use a cable with an external diameter of 4 to 8 mm
- Into M32 cable gland, use a cable with an external diameter of 11 to 21 mm
- For Power input, use 6mm^2 wire
- For beacon, use 2.5mm^2 wire

Power supply cabinet:

- Into M16 cable gland, use a cable with an external diameter of 4.5 to 10 mm
- Into M20 cable gland, use a cable with an external diameter of 7 to 13 mm
- Into M32 cable gland, use a cable with an external diameter of 11 to 21 mm

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 48Vdc power is supplied with an OBSTA power supply, the cable sections for ICAO configuration are as follows:

	For type A medium intensity or Type, **A/B/C for bi-color beacon (P/N: 113725AI, 113723AI, 113758A, 113757A)**		
Cable length	1 to 45 meters	45 to 105 meters	106 to 160 meters
Cable section	1.5mm^2	2.5mm^2	4mm^2

If 48Vdc power is supplied with an OBSTA power supply, the cable section for FAA configuration only is as follows:

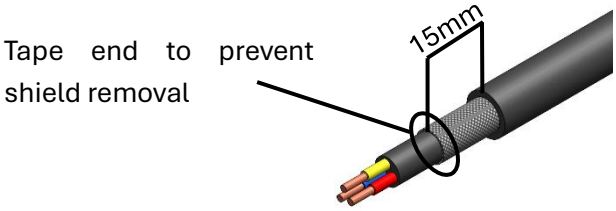
	For dual color or white only beacon (P/N: 113725AUI, 113723AUI, 113758AU, 113757AU)			
Cable length	1 to 60m (1 to 200 ft)	61 to 105m (201 – 350 ft)	106 to 160m (305 to 510 ft)	161 to 215m (511 to 700 ft)
Cable section	2.5 mm^2 (12 awg)	6 mm^2 (10 awg)	7.5 mm^2 (8 awg)	10 mm^2 (7 awg)

Otherwise, the cross section of the power cable as per the maximum current of 14A during the daytime.

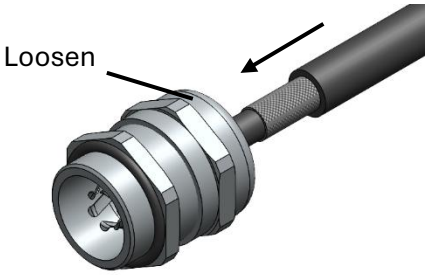
7.3 Cable gland installation

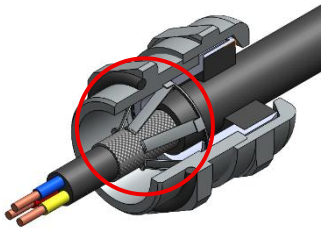
As a reminder, all shielded cables must be earthed at both ends. It is the installer's responsibility to check that OBSTA cabinets and lamps are correctly wired.

- Strip excess cable length to expose shielding.
- Leave 15mm of shielding, strip the rest.



- Thread the cable through the cable gland (the ring is loosened but not removed) so that the shield is in contact with the gland springs.
- The gasket must be correctly positioned flat and in its housing for optimum sealing.



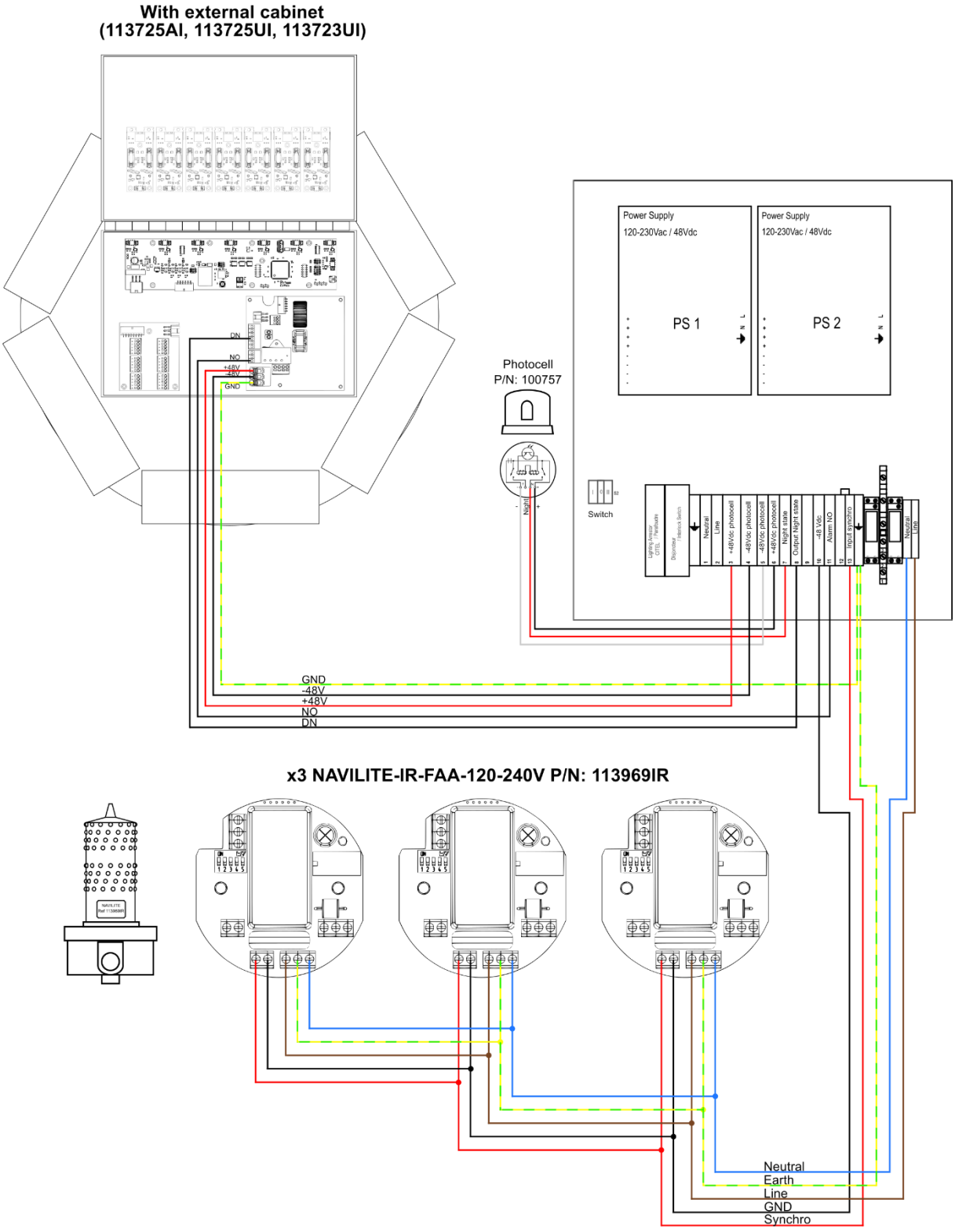


- Tighten the gland ring with the appropriate wrench.
- Once the cable has been clamped in the cable gland, cut and strip the wires to the length required to connect the terminal blocks (don't forget to fit cable ferrules before connection).

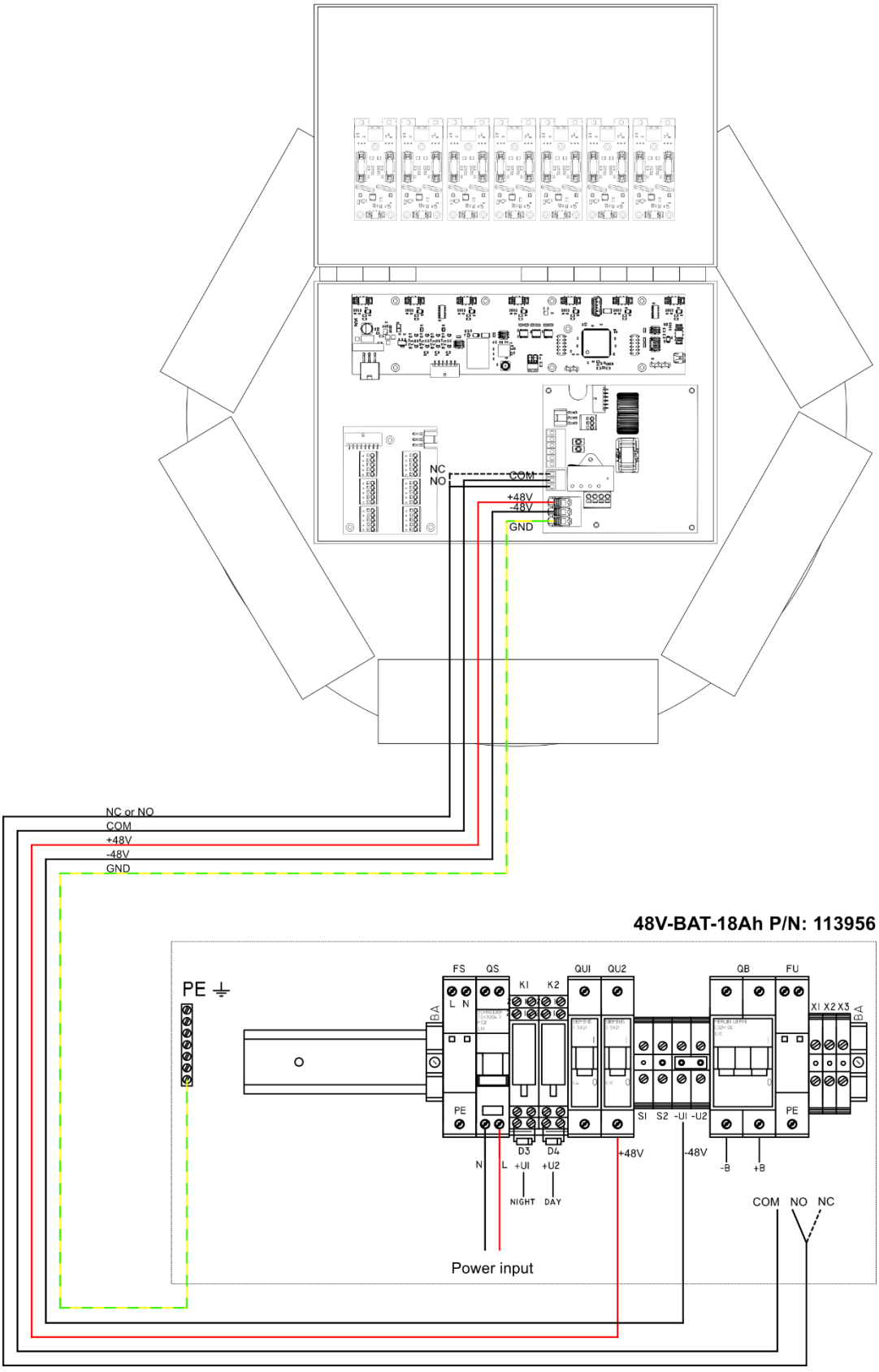
CEM	Cable diam min (mm)	Cable diam max (mm)	Pressure nut wrench	Locknut wrench
PG09	4	8	17	17
M32	11	21	36	36

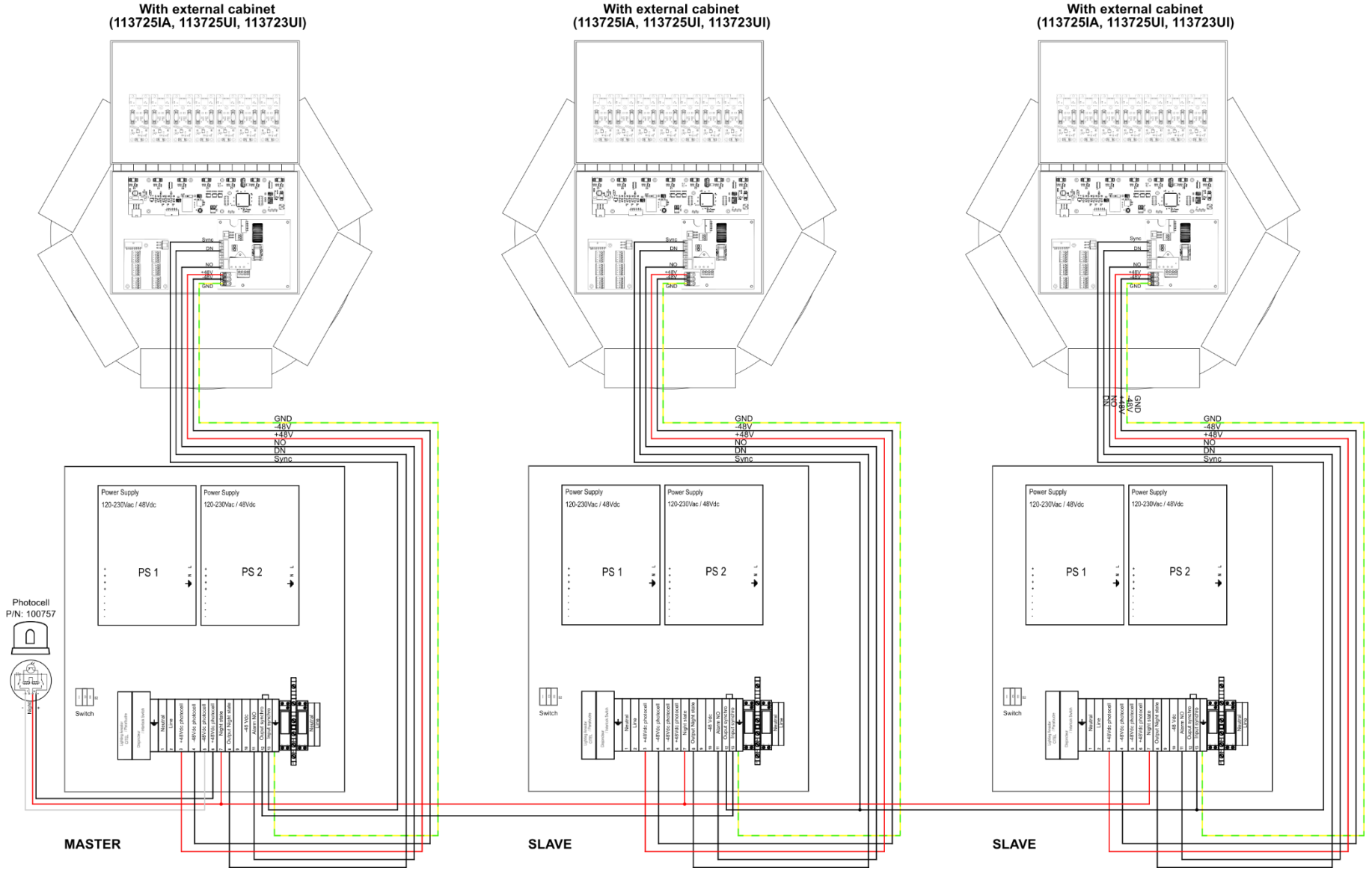
7.4 Typical wiring

The following typical wiring are provided for illustrative purposes only.



OFI 48Vdc P/N: 113762A; 113791U; 113792U





8 Startup and configuration

8.1 Power-up

Before turning on the power, ensure that all electrical connections are properly made and that the supply voltage matches the product specifications. Check that the wiring is secure and that there are no bare wires or conductive elements that could cause a short circuit.

8.2 Configuration

Configuration is set in the factory as the topology of the systems. ***Changing the switches without OBSTA approval may cause irreversible damage either to the lamp or the power supply.***

8.2.1 SW1- Operating mode

1	2	3	4	5	6	7	8	Operating mode
FAA main configuration, only for USA version (Part number 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

8.2.2 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 (Syn 0)	*3 (Sync 1)	Behavior
OFF	**OFF**	Flash sequence starts 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 starts at the second “1” of each minute

During initialization after start-up, the GPS chip waits for a precise signal. When preliminary signals are received, the GPS status LED may blink or light up (Operation LED).

Once the preliminary signals have been received, it may take up to 15 minutes for the card to receive a complete, valid signal, enabling the product to synchronize correctly. During this phase, synchronization may not be fully valid, and a GPS fault may occur. We recommend waiting at least 20 minutes before considering the synchronization valid. If a GPS led default is still activated after 20 minutes, the product is not receiving signals correctly.

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

8.2.3 SW3 – Control

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

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

8.2.4 SW4 - Mode

This switch selects which sensor is used on the product:

N°	1	2	3	4
ON	Photoresistor	External	GPS	Alarm used
OFF	-	-	-	Alarm not used

8.3 Operation and default LEDs

When the beacon is in operation, several LEDs located on the command card indicate the operating status of the system. Specific sequences indicate whether the beacon or system is operating correctly or has failed.

8.3.1 Operation led

In operating conditions

- ····· Power supply voltage problem (Over-voltage or under-voltage)
- — ··· Configuration is invalid. Means inconsistency in dipswitches
  - GPS is disabled and Sync 1 + Sync 0 are set
  - Several sensors for switching mode are set
  - The selected configuration number does not exist
- ·· Default mode activated due to channels errors
- · Relay activated due to channels errors
- — · Slave out of synchronization (no TOP SYNCHRO received)
- — ·· GPS out of synchronization
- ··· HIFAA internal communication problem (between the two PCB)
- — Day/Twilight/Night mode unchanged (in the past 48 hours)
- — — External (CAN or Ethernet) communication problem
- = GPS lost synchronization after less than 15 minutes

During USB firmware update process

- ····· Log retrieval has been processed successfully
- ····· Software update has been processed successfully
- ····· The IP configuration was correctly done (· and · alternate 12 times)
- — · — 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 reported AFTER the USB key has been removed, for 10 sec)
- — — Error processing USB events: unexpected events

8.3.2 Power card led

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 red leds on the power card:

- Flash at the same time if the program 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.

Errors in operating conditions

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

· Short circuit
· — Full open circuit: Both led circuits piloted by the power card are in open circuit
· — — Full regulation problem: Power card cannot set the according current on both circuits led
— One channel open circuit: One of the two leds circuits piloted by the power card is in open circuit
— · One channel regulation problem: Power card cannot set the according current on one circuit led

8.3.3 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).

8.3.4 Alarm led

The LED lights up when the alarm relay wired to the “supply card” is triggered (switching to NO).

9 Maintenance

9.1 Annual visit

Test	Frequency	Preventive action	Risk
Cable	Annual	Tighten power card connector screw Tighten projector connector plugged on the PSU	Short circuit
Waterproof	Annual	Visual verification	Short circuit
Corrosion	Annual	Visual verification	Short circuit
Power supply	Annual	Visual verification	Power supply failed
Led projector	Annual	Clear, with humid cloth the glass of watch projector	Luminosity

9.2 Spare part

COMMAND-CARD-48VDC-6P-RW	**113744B**
POWER SUPPLY BLOC + SUPPLY CARD	**113742B**
POWER CARD 48VDC	**113741B**
PROJECTOR-GM-RW-0.75 (Specific for FAA version)	**113761UIR**
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 DS215-230/G 240VAC	**451721**
Power Supply (AC/DC Converter)	**113742**

Accessories

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

10 Technical specifications

10.1 Light output

Parameter	Min	Nominal	Max	Unit
Flash Rate	-	40 (white mode) 30 (red mode)	-	FPM
Beam pattern				
Horizontally	-	360	-	°
Vertically	3	5	6	°
Ratio Intensity 0°/ 10°	-	-	3	%
Day luminosity +- 25%	-	20 000	-	Cd
Twilight luminosity +-25%	-	20 000	-	Cd
Night luminosity +-25%	-	2 000	-	Cd
Flash duration day	-	100	-	ms
Flash duration twilight	-	100	-	ms
Flash duration night	-	200	-	ms

10.2 Electrical input for 48 Vdc

Parameter	Min	Nominal	Max	Unit
DC power input voltage	45	50	55	Vdc
Max current (white day mode)	-	-	13.8	A
Average consumption (with 40fpm – 100ms day mode)	-	-	50	W
Voltage for signal (synchro, night, twilight)	30	48	55	Vdc

10.3 Electrical input or 120/240 Vac

Parameter	Min	Nominal	Max	Unit
AC power input voltage	110	120/240	264	Vac
AC frequency	47	50/60	63	Hz
DC output voltage for the flash head	-	50	-	Vdc
Cold starts to inrush current	-	-	70	A
Average power consumption (with 40fpm – 100ms day mode)	-	-	50	W
Voltage for signal (synchro, night, twilight)	30	48	55	Vdc

10.4 Mechanical properties and operating environments

Parameter	Min	Nominal	Max	Unit
Mass of the power supply	-	~15.5	-	kg
Mass of the flash head	-	~19	-	kg
Max wind force under 324km/h (Flash head)	-	850	-	N
Dimension w/h/d				
Integrated cabinet	-	400 x 408 x 220	-	mm
Flash-head	-	50(diam) x 333	-	mm
Operating environment				
Working temperature	-40	20	55	°C
Relative humidity	5	-	95	%