

LED HELIPOINT PROJECTOR

LHP

INSTRUCTION MANUAL FOR USE, INSTALLATION AND MAINTENANCE

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LIMITED PRODUCT WARRANTY

THE FOLLOWING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT BY WAY OF LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

OCEM - ENERGY TECHNOLOGY warrants to each original Buyer of Products manufactured by the Company that such Products are at the time of delivery to the Buyer, free of material and workmanship defects, provided that no warranty is made with respect to:

- (a) any Product, which has been repaired or altered in such a way, in Company's judgement, as to affect the Product adversely;
 - (b) any Product which has, in Company's judgement, been subject to negligence, accident or improper storage;
 - (c) any Product which has not been operated and maintained in accordance with normal practice and in conformity with recommendations and published specification of Company;
 - (d) the breaking of the warranty seals, if present, determines the immediate termination of the warranty;
- and,

OCEM - ENERGY TECHNOLOGY's obligation under this warranty is limited to use reasonable efforts to repair or, at its option, replace, during normal working hours at the facility of the Company, any Product which in its judgement proved not to be as warranted within the applicable warranty period. All costs of transportation of Products claimed not to be warranted and of those repaired or replaced, to or from the facility of the Company shall be borne by Purchaser. Company may require the return of any Product claimed not to be as warranted to its facility, transportation prepaid by Purchaser, to establish a claim under this warranty. The cost of labour for the installation of a repaired or replaced Product shall be borne by Purchaser. Replacement parts provided under the terms of this warranty are warranted for the remainder of the warranty period of the Products upon which they are installed to the same extent as if such parts were original components thereof. Warranty services provided under the Agreement do not assure uninterrupted operations of Products; Company does not assume any liability for damages caused by any delays involving warranty service.

IMPORTANT: READ THIS DOCUMENT

Before proceeding to the operations of installation, commissioning, operation, maintenance or disposal, carefully read the entire document.

SAFETY INFORMATION

Extreme caution should be exercised when working with this equipment; it is normally used or connected to circuits that operate at dangerous voltages and can be fatal.

The following section contains important safety information that you must follow when installing and using the apparatus.

Misuse of the equipment or lack of care in applying safety procedures and prescriptions specified in this document, may result in a hazard.

Avoid contact with voltage or current sources.

For no reason the protections and the safety devices must be removed.

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OPERATION ON THE EQUIPMENT - SKILLS

Operation on the equipment and access to its internal parts shall be done by experienced personnel, adequately trained and aware of the risks related to electricity and high voltages.

Safety rules shall be adopted when operating on the equipment, or on cables and other apparatus connected to the it

DO NOT OPERATE ON ENERGIZED CIRCUITS

Do not carry out any operation on the converter or on apparatus connected to it when the circuits are energized.

WHEN HANDLING AND SERVICING THIS EQUIPMENT, OBSERVE PRECAUTIONS FOR HIGH VOLTAGE EQUIPMENT.

Before any access, inspection or intervention, be sure to have switched-off the unit, opened the main circuit breaker and removed the supply to the unit (by opening the circuit breaker/switch on the distribution board at the beginning of the supply line).

Then wait discharge time (at least 5 minutes), ground carefully the system, and check for voltage presence before accessing..

REANIMATION

The maintenance staff must be aware of the risks related to electricity, criteria to prevent the risk of electric shock and resuscitation techniques

CE MARK



This equipment complies with the requirements of European regulations for the CE mark. The user has to respect all prescriptions reported in this document.

This equipment complies with the requirements of the EEC directives 2004/108/EEC and 2006/95/EEC with regard to "Electromagnetic Compatibility" and "Low Voltage Electrical Apparatus" respectively.

OUT OF SERVICE

In case of dismantling, decommissioning, destruction, disposal, the user shall follow all the required precautions for component and material elimination, according to local rules and applicable law.

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EDITIONS

Date	Date
12/22/2011	First issue

REVISIONI

Indice	Data	Descrizione	Eseguita da	Approvata da
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ELENCO DELLE PAGINE VALIDE

From page 1 to page 12

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LIST OF ATTACHMENTS

UC-PU-0317 - LIST OF THE RECOMMENDED SPARE PARTS

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1 GENERAL

LHP heliport projector is directional, steady burning type.

These fittings are specifically designed to provide an optimal and uniform horizontal illuminance of the helipads, allowing to use a less quantity of luminous sources respect to the traditional floodlights.

LHP projectors are in compliance with ICAO Annex 14 Vol.2, IEC TS 61827 and NATO-STANAG 3619.

The fixtures described in this manual are designed to be connected to parallel circuits, 48 VAC.

Location of these fittings shall be in compliance with ICAO - Annex 14 or STANAG Specs.

2 MAIN FEATURES

Each projector includes:

- an aluminum cover, fastened to the body by means of six screws with intermediate gasket
- an aluminum body mounted on the frangible support by means of two screws for the aiming and two screws used as fulcrum. After the aiming completion, the four screws must be tightened, to securely lock the body to the frangible support
- the power supply/control PCB with aluminium support fixed to the cover
- the LED modules, complete with lenses, fixed to the cover and properly aimed to obtain an optimal luminous distribution as required by the current Specs
- an aluminum frangible support, available in 2 versions, with breakable groove to allow the installation of the fitting at the helipad edge
- cable lead complete with FAA L-823 plus, size 2.5 mm², 1 m long. As alternative, it is possible supply a cable lead without plug of greater length.

All hardware is made of stainless steel.

See *“Complete P/N identification”* figure for P/N information.

Power consumption 60 VA, power factor 0.89.

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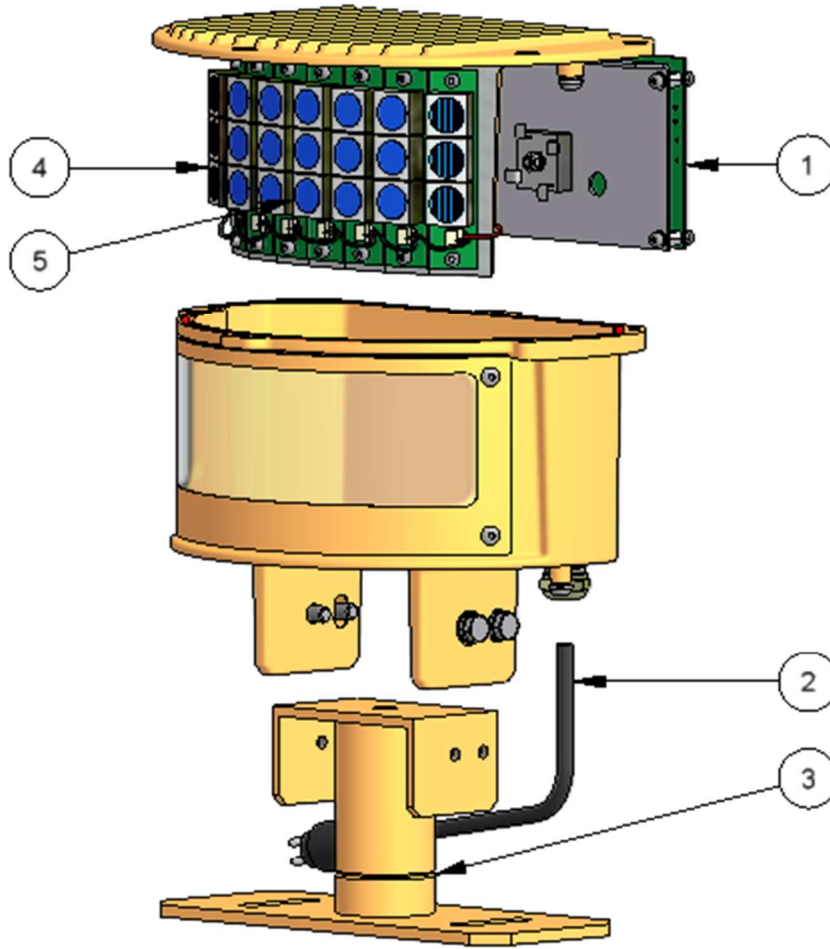


Figure 1 - Exploded view

No.	Description	Qty
1	Power supply/control PCB with support	1
2	Cable lead.....	1
3	Frangible support.....	1
4	LED module "SPREAD", external position, complete with lenses	2
5	LED module "SPOT", internal position, complete with lenses	5

Figure 2 - Part list

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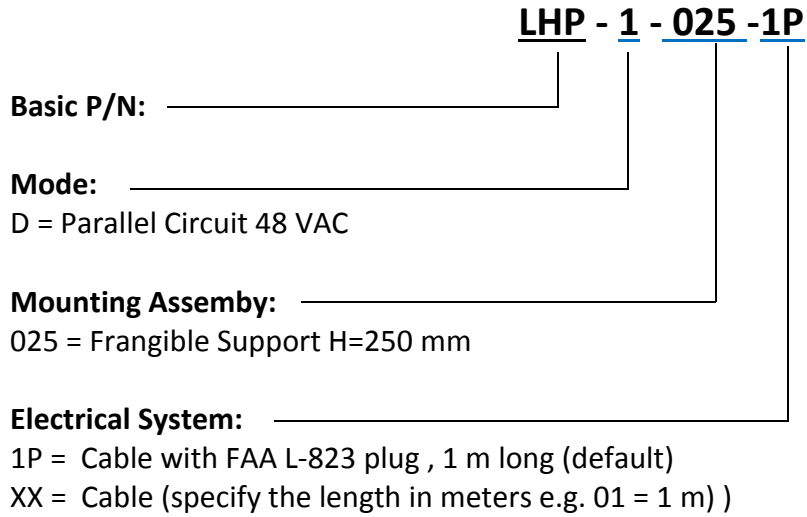


Figure 3 - Complete P/N identification

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3 INSTALLATION

3.1 CIVIL WORKS

The projector doesn't require specific civil works. The eventual isolation transformer, to power supply the light at 48VAC, is normally housed into a separate concrete pit close to the fitting. In this case a suitable cable duct has to be realized between the pit and the projector for passing the secondary cable and the grounding wire.

3.2 INSTALLING THE PROJECTOR

- The frangible support of the LHP projector must be fixed to the helipad pavement by means of two M12 threaded rods, each complete with washer, grower and M12 nut. The rods have to be cast into the pavement; tightening torque for nuts: 50 Nm. Take as reference figure 4 for the interdistance between the rods.

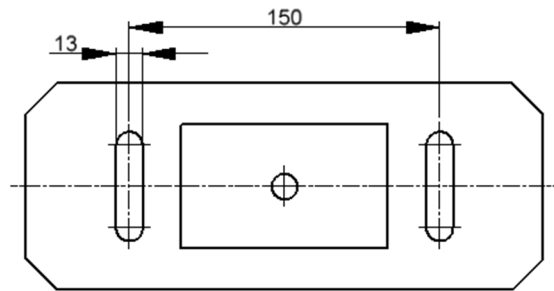


Figure 4 - Reference template for projector installation

- Connect the light plug to the secondary receptacle of the isolation transformer and then provide the grounding wiring.
- Check the proper operation of the projector.
- The vertical aiming of the projector must be carry out with the light and operate as follows .
- Loosen the four M8x20 screws (2 as fulcrum and 2 for the adjustment) which fasten the body to the frangible support.
- Aim the main central beam to the helipad center.

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- Tighten before the two vertical adjusting screws and then that ones used as fulcrum by a tightening torque of 14.5 Nm.



Figure 5 - Particular view: fulcrum and adjusting screws

4 MAINTENANCE

WARNING
BEFORE ANY MAINTENANCE INTERVENTION, MAKE SURE
THE POWER SUPPLY BE SWITCHED OFF.
DO NOT OPERATE ON LIVE PARTS!!!

LED lighting fixtures do not require frequent maintenance. With well-run installations and handling fixture carefully, avoiding excessive falls or collisions, the only maintenance work to be carried out on the field is to clean the front transparent protection.

4.1 MAINTENANCE PROGRAM

In order to ensure maximum light fixture life, the installed units should be subject to a maintenance program in accordance with the following instructions and taking as reference the Airport Service Manual ICAO - Part 9 - Airport Maintenance Practices or FAA AC 150 5340-30.

4.1.1 Periodical checks

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Monthly	Cleaning of the front protection
	Correct setting of the light
Annual	Electrical connections and insulation degree
	Luminous efficiency of luminous sources
Unscheduled	After unusual atmospheric precipitation, check the light condition and remove any luminous beam obstructions

4.1.2 Snowplow operations

Snowplow operators should exercise extra care not to strike the light fixtures with snowplow blades. After snow removal operations, inspect all light fixtures to locate and replace, if necessary, any damaged light assembly.

4.2 LED MODULE REPLACEMENT

- Remove the cover, which support the seven LED modules and the power supply/control PCB, unscrewing the six M6x12 HSBH screws.
- Disconnect the internal grounding wire provided between cover and body.
- Disconnect the faulty LED module.
- Remove the faulty LED module unscrewing the two M4x8 HSCH screws and replace it with a new one.
- Connect the new LED module and restore the grounding wiring.
- Check the proper operation of the projector, before to reassembly the cover.

4.3 POWER SUPPLY/CONTROL PCB REPLACEMENT

- Remove the cover, which support the seven LED modules and the power supply/control PCB, unscrewing the six M6x12 HSBH screws.
- Disconnect the internal grounding wire provided between cover and body.
- Disconnect the strip for the power supply of the LED modules, the strip for the feeding of the PCB and the grounding wire.
- Unscrew the two M6x12 HSBH screws which lock the support complete with power supply/control PCB and replace it with a new complete one.
- Restore all the electrical wirings.
- Check the proper operation of the projector, before to reassembly the cover.

4.4 CABLE LEAD REPLACEMENT

- Remove the cover, which support the seven LED modules and the power supply/control PCB, unscrewing the six M6x12 HSBH screws.

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- Unscrew the outer nut of the cable gland.
- Disconnect the cable lead from the relevant strip.
- Pull out the cable lead from the grommet and from the cable gland nut.
- Insert the new cable lead through the cable gland nut and through the grommet.
- Provide a length of cable of 25-30 cm inside the fitting and then connect it to the relevant strip.
- Check the proper operation of the projector, before to reassembly the cover.

5 TROUBLE SHOOTING

Problem	Possible cause	Solution
Weak light output	Faulty isolation transformer	Replace transformer
	Dirty front protection	Clean front protection
	Faulty LED module	Replace LED module
Luminous source not working	Faulty power supply/control PCB	Replace power supply/control PCB
	No power supply to the projector	Check the power supply line
	Faulty isolation transformer or defective secondary cabling	Replace the isolation transformer or provide a new secondary cabling