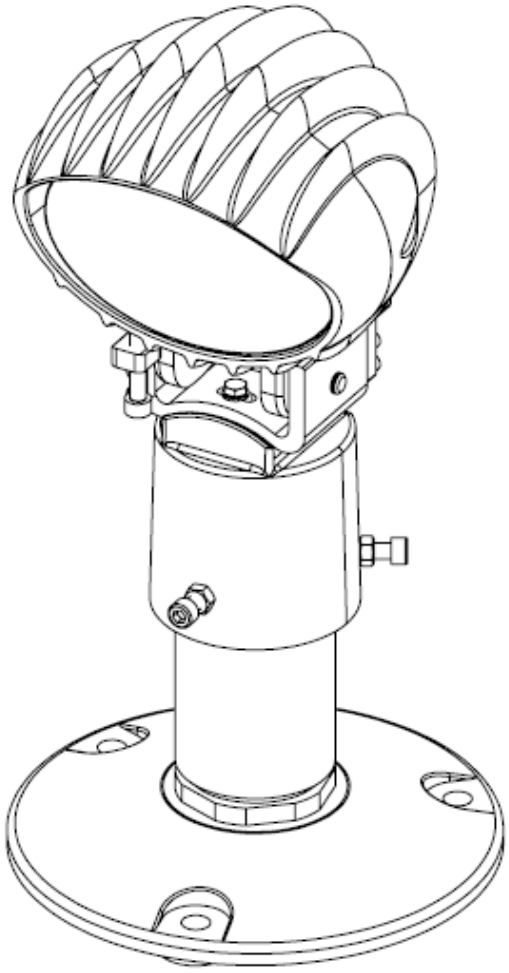
LED AIRFIELD LIGHTING



CONTENT

Disclaimer/Standard Warranty 5

1. Safety 6

2. Introduction 7

2.1. Models & Variants 8

2.2. Product Features 9

2.3. Electrical Properties 10

2.4. Mechanical Properties 11

2.5. Main Components 12

2.6. Nameplate 14

3. Installation 15

3.1. Tools Required 15

3.2. Unpack the Unit 15

3.3. Installation on the Light Fixture Base 16

3.4. Installation on the Mounting Bracket of the Frangible Mast 17

3.5. Calibrating the Glowing Direction 18

3.6. Removal of the Light Fixture 20

4. Maintenance 21

4.1. Basic Maintenance Program 21

4.2. Tools Preparation 21

4.3. Maintenance Items 23

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4.4. Operation Step 25

4.4.1. Assembly and Disassembly of the Front/ Back Cover Module 26

4.4.2. Assembly and Disassembly of the Driver Module 27

4.4.3. Assembly and Disassembly of the Power Cord 28

4.4.4. Assembly and Disassembly of the Optical Components 30

4.5. Fail Open Function 32

4.6. Trouble Shooting 35

5. Support 36

5.1. Customer Service 36

5.2. Recycling 36

5.3. About HDK 36

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LIST OF TABLES

Table 1	List of the Light Series	8
Table 2	Requirements for Specification of Isolation Transformer	10
Table 3	Basic Maintenance Program of Unidirectional Elevated Light	21
Table 4	Specification of Screws & Washers(For Maintenance)	22
Table 5	Maintenance Items for Light Fixture (Deployed)	23
Table 6	Maintenance Items for Light Fixture (Non-deployed)	24
Table 7	Trouble Shooting	35

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LIST OF FIGURES

Figure 1	Unidirectional Elevated Light Series	7
Figure 2	Major Dimensions of the Light Fixture	11
Figure 3	Exploded View of the Light Structure	13
Figure 4	Installation on the Light Fixture Base	16
Figure 5	Installation on the Mounting Bracket of the Frangible Mast	18
Figure 6	Calibrating the Glowing Direction	19
Figure 7	Assembly and Disassembly of the Front & Back Cover	26
Figure 8	Assembly and Disassembly of the Diver Module	27
Figure 9	Disassembly of the Power Cord	29
Figure 10	Assembly of the Power Cord	30
Figure 11	Assembly and Disassembly of the Optical Components	31
Figure 12	Driver with Fail Open Module	34

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Disclaimer/Standard Warranty

All products manufactured by Hangdakang Mechanical & Electrical technology (Wuhan) co. LTD, hereinafter referred to as HDK, meet the requirements of CAAC, ICAO and IEC. All warranties provided by HDK exclude all cases of gross negligence and handling of all products.

In case of avoidable defects or failure caused by mechanical, electrical or physical defects, the company will provide the necessary spare parts for repair.

The replacement and delivery of spare parts shall meet the requirements of proper storage, installation, and maintenance of the products, and shall submit the spare parts requirements to the Company in writing.

Hangdakang Mechanical & Electrical technology (Wuhan) co. LTD reserves the right to inspect the avoidable defective or damaged products in its own company facilities.

The obligations of Hangdakang Mechanical & Electrical technology (Wuhan) co. LTD are limited to the labor cost required for disassembly and assembly of the product and the delivery of the corresponding products.

Hangdakang Mechanical & Electrical technology (Wuhan) co. LTD assumes no liability for injury or damage resulting from any incorrect use of the equipment. All products and their equipment are explicitly designed for their intended use only. Any other use outside the scope of the instructions is considered incorrect and excluded from the warranty.

Included are:

- Use HDK products outside of their intended operating use.
- Any changes or modifications to products that are not explicitly approved.
- Use of unauthorized, incompatible or unapproved tools by HDK or local regulations.

Local regulations on labour safety must always be followed in addition to those of HDK.

HDK reserves the right of interpretation within the scope permitted by law.

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1. Safety

Airfield Ground Lighting is installed in high voltage series circuits, where the primary voltage is usually from several hundred to thousand volts and can be fatal if operated improperly. International or national standards referring to the electrical safety and safety of electrical operations should be strictly implemented during the operation and maintenance. Correct safety regulations must be followed during any operation in lighting circuit On and Off state conditions.

Pay attention to all safety tips and instructions in this user manual. Negligence in following safety practices and instructions can result in serious injury, accident, or death. Safety instructions are categorized following the IEC standard and accompanied by an icon accordingly. Safety instructions and icons are listed and explained below:

DANGER: 	Risk of electrical shock or flashover. Before any operations disconnect the equipment from line voltage, never connect or disconnect live circuits. Failure to observe "Danger" may result in severe injury, death, or equipment damage.
WARNING: 	Failure to observe "Warning" may result in personal injury, death or equipment damage.
CAUTION: 	Ignoring or violating “Caution” may cause damage to equipment.
Note: 	Explanations and supplements to parts of the description.

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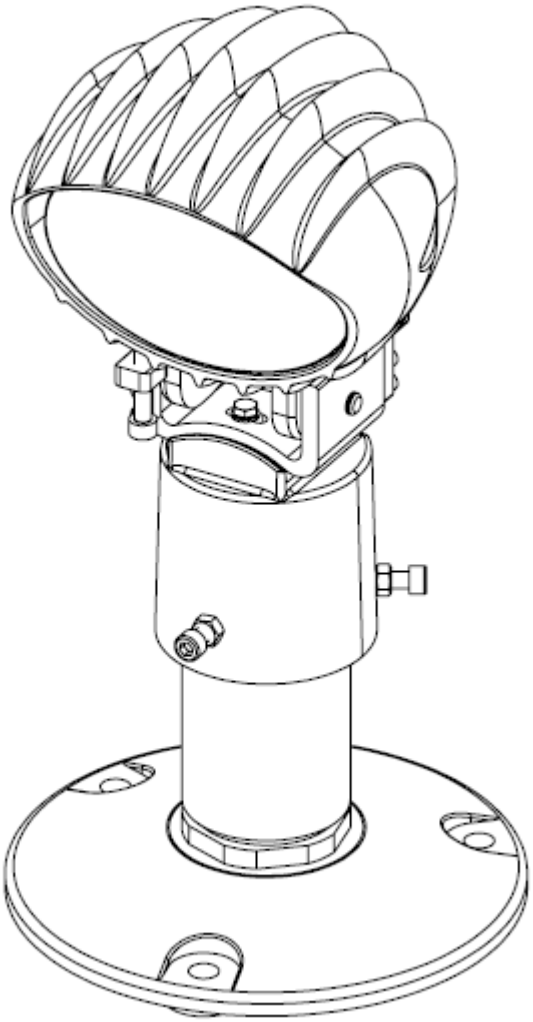
2. Introduction

The unidirectional elevated light series produced by HDK can be applied to airfields with various conditions. It is equipped with three-axis independent angle adjustment and calibration function. The product has met the requirements of ICAO, CAAC, IEC and FAA standard and is famous for its ultra-durable structure, extreme elegant design as well as long maintenance-free period. The light source itself is made from imported energy-saving and long-life LED.

Figure 1 - Unidirectional Elevated Light Series



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2.1. Models & Variants

This manual presents essential information for handling, installation and maintenance operations of the unidirectional elevated light series. The series can be divided into different models according to the application, light output direction and colors. All models are shown in Table 1:

Table 1 List of the Light Series

Application	Model	Control Type/ color	CAAC Type	ICAO Type	FAA Type
Threshold	ELA-THR(L)	Single / Green	L-3C	A2-3	
Threshold Wing Bar	ELA-TWB(L)	Single / Green	L-3E	A2-4	
Runway End	ELA-RWE(L)	Single / Red	L-3G	A2-8	L-862E
Approach Centre Line	ELA-APH(L)	Single / White	L-5A	A2-1	
Approach Side Row	ELA-ASR(L)	Single / Red	L-5B	A2-2	
Stop bar	ELA-STB(L)	Single / Red	L-3M	A2-12	
High-intensity Stop Bar	ELA-HSTB(L)	Single / Red	L-2F	A2-17	

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2.2. Product Features

This series of lamps uses energy-saving, long-life LED light source. According to the use, light output direction and colors can be divided into a variety of types.

The main components of the light fixture are front cover module, optical components, driver module, sealing ring, back cover module as well as installation adjustment module. Aluminum alloy high pressure casting technique is adopted in the making of front / back cover module and the transparent front cover is made of high- strength scratch-resistant material. All fasteners are made of 316 stainless steels and the sealing ring is made of high temperature and aging resistant silicone rubber. The overall design logic of the light fixture is for stable installation and heat dissipation.

The light source of the product is OSRAM LED.The optical components of the product adopt a fully universal design.

This series of LED light fixture can be used on the existing AC series circuit. A dimming control of 5 light intensity levels can be performed with the equipped isolation transformer in corresponding power.

The light fixture is equipped with secondary cables and L-823 electrical connection plugs that comply with FAA standards. Also, the light fixture can be mounted on flange using a frangible mast or on the top cover of an isolated transformer box.

The performance parameters of the light fixture meet the following standards:

(current version)

- ICAO Annex 14, Volume 1, & Aerodrome Design Manual
- EASA CS-ADR-DSN
- IEC TS 61827
- FAA AC150/5345-46 & Engineering Brief NO. 67
- AENA DIN-DSEYN-PPT
- TCCA TP 312
- UK CAA CAP 168

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2.3. Electrical Properties

Input Cable

- FAA L823 Class A, Type Ⅱ, Style 1； Plug*1

Input Current

- 2.8A-6.6A_{eff} AC

Sine wave CCR

- $I_{peak\ max}$ = 9.88A

Thyristor CCR

- $I_{peak\ max}$ = 12.60A， j_{min} = 45°

CAUTION: **Inputting electrical parameters beyond the specified range above is highly likely to damage the fixture.**

Table 2 - Requirements for Specification of Isolation Transformer

Application	Model	Suggested Transformer Specs
Threshold	ELA-THR(L)	≥45W
Threshold Wing Bar	ELA-TWB(L)	≥45W
Runway End	ELA-RWE(L)	≥25W
Approach	ELA-APH(L)	≥45W
Approach Side Row	ELA-ASR(L)	≥45W
Stop Bar	ELA-STB(L)	≥25W

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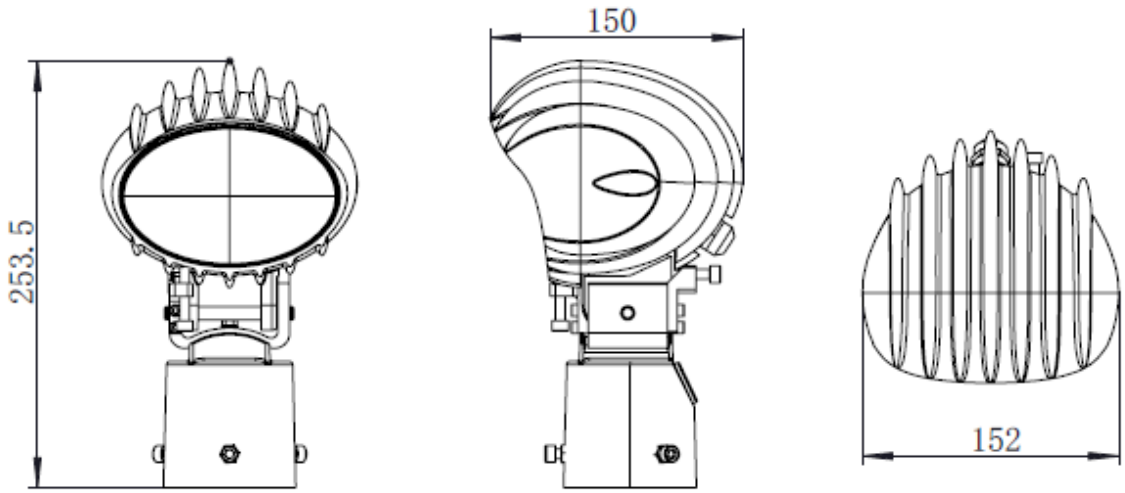
2.4. Mechanical Properties

Figure 2 – Major Dimensions of the Light Fixture



Degree of Protection

- IP67 (IEC60598-1)

Operating Temperature

- -55°C ~ +55°C

Storage Temperature

- -55°C ~ +85°C

Weight

- Net Weight：2.9 kg
- Gross Weight: 6.3kg (2 Sets / Package)

Package Dimensions

- 360mmx225mmx350mm (2 Sets / Package)

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2.5. Main Components

The HDK unidirectional elevated LED light fixture contains following main components:

Front Cover Module

- Transparent front cover - High-strength scratch-resistant glass material
- Aluminum alloy front cover - spray plastic anti-corrosion treatment
- Sealing compound

Optical Component

- LED luminaire source with the color of white, red and green.
- LED Aluminum-based circuit board
- Unidirectional light reflector

Electronic Driver Module

- Driver circuit board
- Potting compound
- Heat sink

Back Cover Module

- Aluminum alloy back cover - spray plastic anti-corrosion treatment
- Power cord - Plug: FAA L-823 Type Ⅱ style 1, Secondary cable: FAA 150/5345-7
- Power cord sealing head

Light Fixture Bracket Module

- Top bracket

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- Bottom bracket
- Adjusting parts

Note: For detail information of light source and driver module specification, please refer to Table 3;

Others

- Light fixture Body sealing ring
- Fastener - Anti-corrosion 316 stainless steel
- Thermal grease

Figure 3 – Exploded View of the Light Structure

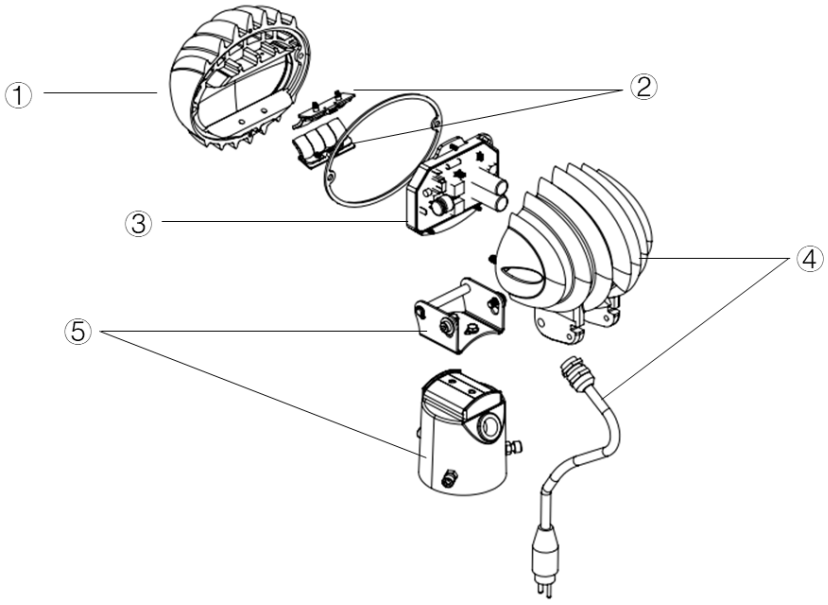
① Front cover module

② Optical components

③ Driver module

④ Back cover module

⑤ Light fixture bracket module



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2.6. Nameplate

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3. Installation

WARNING: **Before installation, confirm that the primary circuit of the light is in the power-off state, that is, turn off the power supply of the constant current regulator of the circuit. Meantime, ensure the integrality of the light fixture, and it is strictly prohibited to cut the cable plug to avoid affecting the watertightness and after-sales service of it.**

Note: **For the installation position requirements of the light fixture, refer to the Aerodrome Design Manual and the ICAO Annex 14, Volume 1.**

3.1. Tools Required

The tools and materials required for installation are listed below:

- Hexagon wrench (Specification: 11mm, 17mm)
- Allen wrench (Specification: Metric No. 5)
- Open-end Wrench
- Cable seam sealing material and insulating tape
- Unidirectional elevated light fixture calibrator
- Impact drill and accessories
- Clean cloth

3.2. Unpack the Unit

Please check carefully whether the package is in good condition. After opening the package, please promptly claim compensation from the carrier if the product and accessories in the package are damaged.

When receiving the light fixture cargo, please confirm whether the product information on the cargo list is consistent with the actual construction design. At the

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same time, please check the quantity, type, specification, color and other characteristics of the light fixtures on the cargo list are consistent with those of the actual cargo. If you find any problem, please contact the supplier as soon as possible.

CAUTION: **This product package can be used for maintenance, disassembly and subsequent transportation of light fixture. Please keep this product package properly after receiving the goods.**

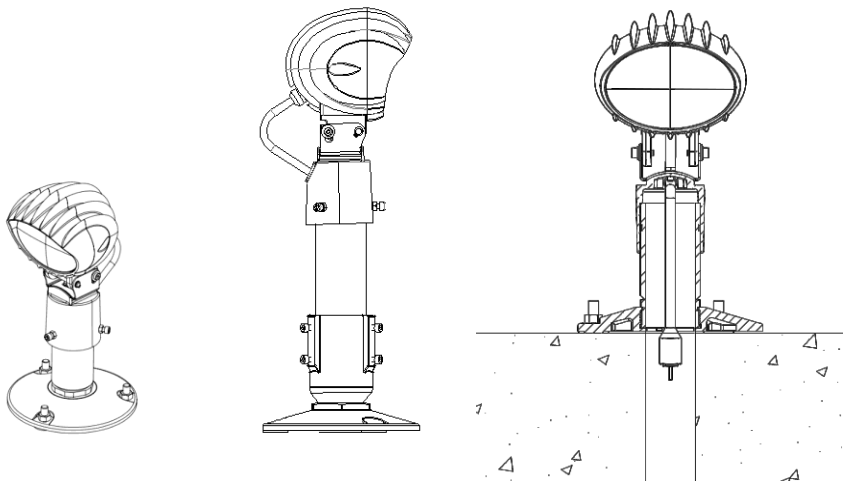
3.3. Installation on the Light Fixture Base

Please check the following items before proceeding:

Please confirm that the angle of the light fixture base is consistent with the design requirements and construction regulations.

Please make sure that the length of the reserved secondary cable is 30-50cm for installation and maintenance.

Figure 4 – Installation on the Light Fixture Base



- Use an air compressor to blow and dry the threading tube;
- Confirm the installation position of the flange, and pre-embed M10 bolts or M10 expansion bolts.

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- Connecting the ground wire with the flange of the light fixture is necessary.
- Fix the flange of the light fixture on the pavement, then tighten the frangible mast sleeve tube of the light fixture after fixing the flange;
- If an extension rod is to be used, first fix the adjustable breakable coupling to the flange, then insert the extension rod into the fitting, and tighten the screws on the adjustable breakable coupling to fix the extension rod in place.
- Assemble the secondary power supply cable of the light fixture through the frangible mast sleeve tube according to the L-823 plug and socket connection method (Plug: FAA L-823, Type Ⅱ, Style 1; Socket: FAA L-823, Type Ⅱ, Style 12). Use sealing tape if necessary;
- Insert the light fixture into the frangible mast sleeve tube according to the glowing direction;
- Adjust the aiming direction of the light fixture (See section 3.5 for detail);
- Tighten the fixing bolts so that the light fixture can be fixed to the frangible mast.

CAUTION: **Be careful not to cut or press the cable during the operation. Do not use high-speed power tools to tighten the bolts, as this may cause slippage.**

3.4. Installation on the Mounting Bracket of the Frangible Mast

Please check the following items before proceeding:

- Please confirm that the mounting bracket of the frangible mast is consistent with the design requirements and construction regulations.
- Please make sure that the length of the reserved secondary cable is 30- 50cm for installation and maintenance.

CAUTION: **Please install our products in accordance with the relevant local regulations and the construction team's construction regulations. This section only provides the theoretical installation method that uses the Lattix frangible masts sold by our company as an example.**

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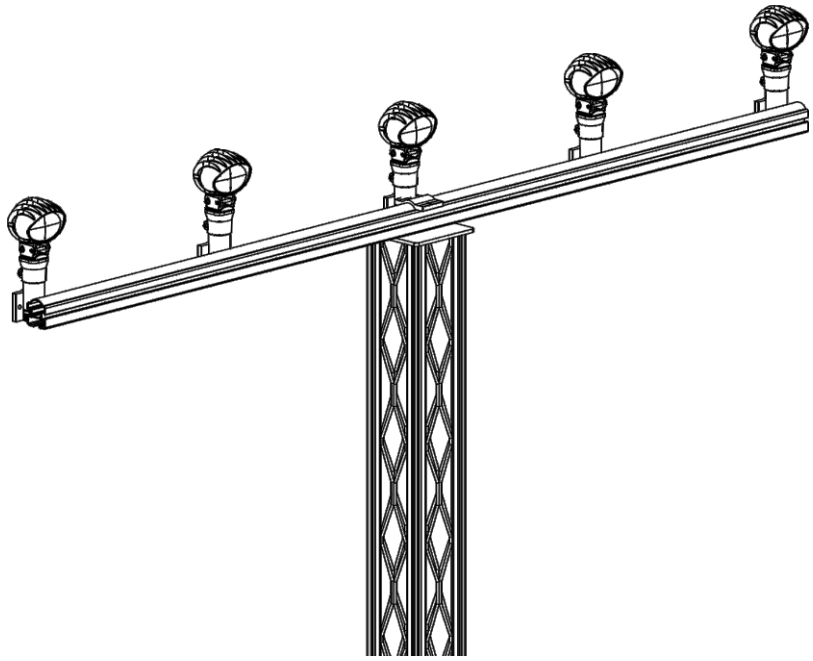
- Please Pre-install the light fixture on the ground, then assemble the secondary power supply cable of the light fixture through the mounting sleeve according to the L-823 plug and socket connection method (Plug: FAA L- 823, Type Ⅱ, Style 1; Socket: FAA L-823, Type Ⅱ, style 12). Use sealing tape if necessary. Finally, fix the light fixture using the mounting sleeve on the crossbar;
- Calibrate the installing direction of the light fixture (See section 3.5 for detail);
- Tighten the fixing bolts so that the light fixture can be fixed to the mounting sleeve;

CAUTION: **Do not use high-speed power tools to tighten the bolts, as this may cause slippage.**

Figure 5 – Installation on the Mounting Bracket of the Frangible Mast



3.5. Calibrating the Glowing Direction

- Insert the Unidirectional elevated light fixture calibrator (hereinafter referred to as calibrator) into the bracket of the light fixture(Figure a)

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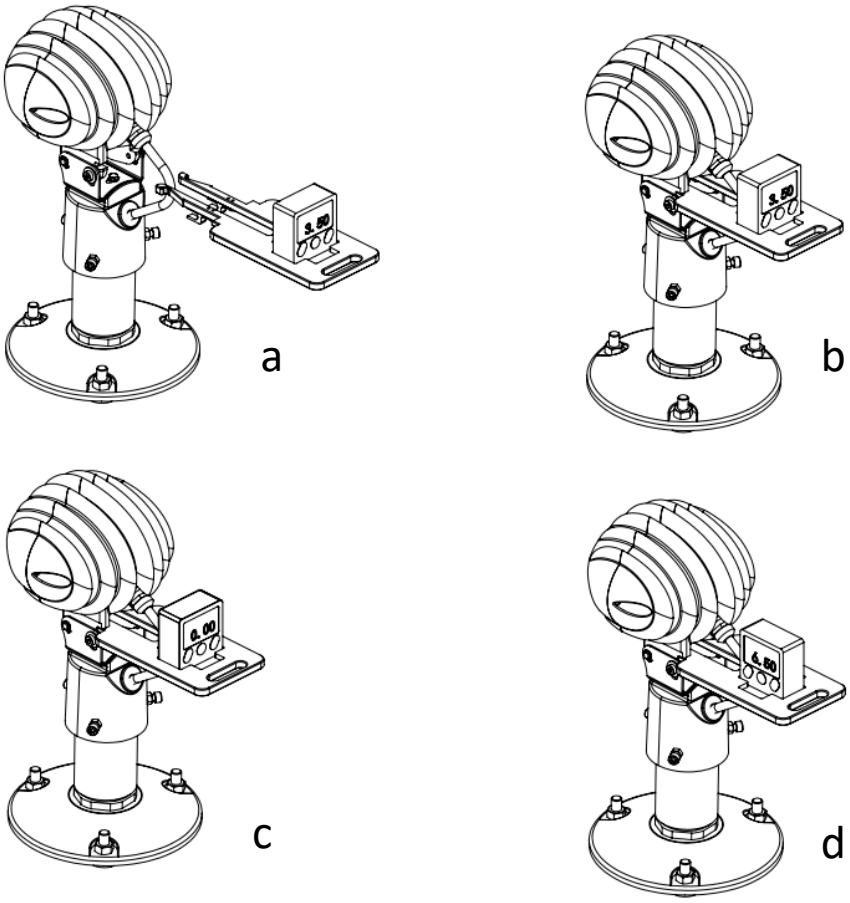
- Loosen the fixing bolts on the light fixture bracket, then install the angle meter on the fixing plate of the calibrator. Keep the angle meter in the opposite side of the glowing direction. Turn on the angle meter, and set the ground as the angle reference datum. Adjust the light fixture so that the display of the angle meter is 0, then tighten the fixing bolt(Figure b/c)
- Calibrate the glowing direction of the light fixture and tighten the fixing bolts under the light fixture
- Loosen the two fixing bolts on the light fixture bracket module, then install the angle meter on the fixing plate of the regulator. Keep the direction of the display window of the angle meter perpendicular to the glowing direction of the light fixture. Turn on the angle meter, and set the ground as the angle reference datum. Adjust the elevation angle of the light fixture so that the displayed data of the angle meter meets the design angle requirements, then tighten the fixing bolts(Figure d)

Figure 6 – Calibrating the Glowing Direction



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3.6. Removal of the Light Fixture

- Loosen the fixing bolts at the bottom of the light fixture;
- Separate the light fixture from the frangible mast sleeve;
- Separate the secondary cable connector that connects to the isolation transformer;
- Pack the light fixture.

WARNING: **After disassembling the light fixture, all tools and parts on the site should be carefully checked and taken away to avoid "FOD". During the on-site operation, dust on the surface of the light fixture should be cleaned as much as possible.**

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4. Maintenance

Note: **For method of replacing the spare parts, please refer to section 4.4; for trouble shooting, please refer to section 4.6;**

4.1. Basic Maintenance Program

According to the requirements of ICAO, Airport Services Manual Part 9, Airport Maintenance Practice and FAA AC 150/5340-26, Maintenance of airport visual aids facilities, the suggested maintenance program plan is listed in Table 3.

Table 3 - Basic Maintenance Program of Unidirectional Elevated Light

Maintenance frequency	Maintenance task
Daily	1.Check the glowing condition
Semiannual	1.Check the damage to the light fixture body. 2.Clean the dust and dirt on the light fixture surface. 3.Check the fixing condition and the bolt torque of the light fixture.
Annual/Biennial	1.Check the airtight performance of the light fixture 2.Clean the optical component (If necessary).

Note: **The table above is the recommended plan. The actual implementation of the plan should be subject to the maintenance regulations of the customers.**

4.2. Tools Preparation

The maintenance tools and materials are as follows

- Phillips screwdriver, specifications: PH1
- Phillips screwdriver, specifications: PH3
- Allen wrench, specification: Metric 5
- Flat-blade screwdriver, specifications: Metric 4-8

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- Special tools for installation / removal of power cords
- Clean cloth
- Special non-woven cloth for cleaning optical lenses
- Optical lens cleaner
- Thermal grease
- Tweezers

Table 4 –Specification of Screws & Washers(For Maintenance)

Screw name	Screw specs	Installation torque （Nm)	Quantity
Front/ Back Cover	Screw: M6*16	6	2
Driver Module Screw	M3*10 Phillips pan head	1.2	3
Optical Component Screw	M3*12 Phillips pan head	1.2	4
Light Fixture Bracket Module Fastener	Circlip φ8	-	2
	M6*12Washer: M6 Flat washer	6	2/2
	M5*20 316 Hexagon with washer	4	2/2
Fixed Frangible Rod	M6*20, Nut: M6	2	3/3

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4.3. Maintenance Items

For the light fixtures deployed on the runway / taxiway, the following maintenance items can be applied:

Table 5 - Maintenance Items for Light Fixture (Deployed)

Maintenance Items	Method/Steps
Check the glowing condition	Visual inspection
Check the damage of the front cover	Visual inspection
Clean the dust and dirt on the light fixture surface	Use a clean cloth or brush
Check the fixing condition	Visual inspection
Check the bolt torque	Using torque wrench to confirm the torque is 24.5Nm
Check the airtight performance of the light fixture	Check if there is any moisture/ water stains(inside the light fixture) through the transparent front cover
Malfunctioning light fixture removal	See section 3.6
FAIL OPEN reset (Online)	See section 4.5

CAUTION:

When cleaning the dirt on the surface of the light fixture, do not use a cloth covered with dirt and sand, or a hard brush to rub the surface of the transparent front cover to avoid scratching the transparent front cover (as it may reduce the luminous performance of the light fixture). A clean soft cloth should be used to gently wipe the glass surface. Optical lens cleaner can be used if necessary.

When elevated light fixtures are not in use, please avoid outdoor storage. They should be stored in a dry and clean indoor environment. Also, keep the storage temperature in accordance with the requirements.

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After removing the light fixtures from the runway, the maintenance items in Table 6 can be applied:

Table 6 - Maintenance Items for Light Fixture (Non-deployed)

Maintenance Items	Method/Steps
Test whether the light fixture works properly	Connect the light fixture with power and visually inspect the light fixture
Trouble shooting	See section 4.6
Check the airtight performance of the light fixture	Check if there is any moisture/ water stains(inside the light fixture) through the transparent front cover or after disassembling the light fixture
Replace front cover module	See section 4.4.1
Replace back cover module	See section 4.4.1
Replace driver module	See section 4.4.1, 4.4.2 in order
Clean optical components	See section 4.4.1, 4.4.4 in order
Replace optical components	See section 4.4.1, 4.4.4 in order
Replace sealing ring	See section 4.4.1
Replace power cord	See section 4.4.1, 4.4.2, 4.4.3 in order

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4.4. Operation Step

WARNING: **Before operating, please make sure to read the "Safety Instructions" carefully.**

CAUTION: **During the maintenance process, make sure to use screws and gaskets that meet the required specifications. Otherwise, it may cause potential safety issue.**

Please keep a clean working condition during the maintenance process.

Use a soft, clean and dry cloth to wipe the optical components. Do not touch the optical parts with bare hands. Otherwise it may affect the life of the light source and reduce optical performance. Optical components include transparent front cover and LED light source.

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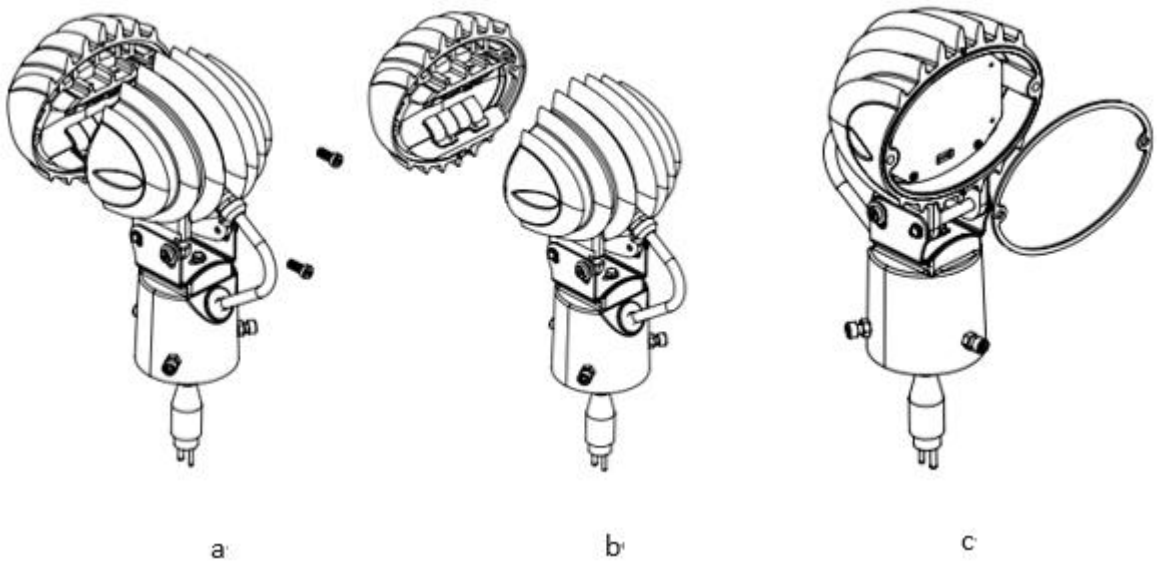
4.4.1. Assembly and Disassembly of the Front/ Back Cover Module

Disassembly the front/back cover module

- Use an Allen wrench to remove the two M6 socket head screws on the back cover module and loosen the front cover module
- Remove the terminal connecting the LED board and the driver board, then separate the front cover module and back cover module
- Take out the sealing ring between the front and back cover modules

Figure 7 – Assembly and Disassembly of the Front & Back Cover



Assembly the front/ back cover module

- Replace the sealing ring at the connection between the back cover module and the front cover module
- Reinstall the terminal connecting the LED board and the driver board
- Align the installation holes of the front and back cover modules. Tighten the two M6 socket head screws on the back cover module

CAUTION: **Please apply anaerobic glue to the fixing screws during the installation process.**

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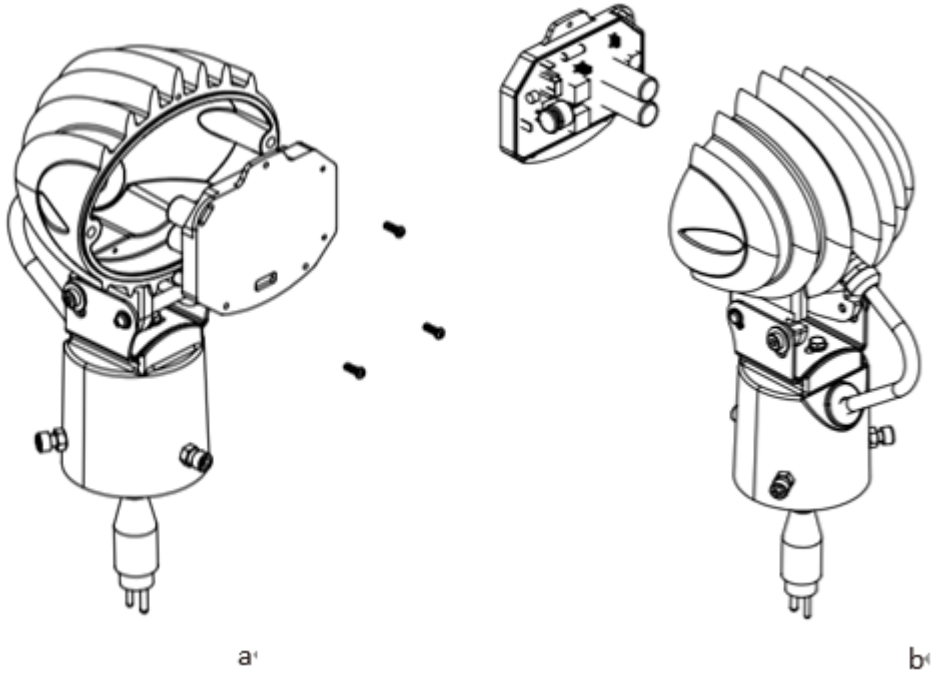
4.4.2. Assembly and Disassembly of the Driver Module

Disassembly the diver module

- Place the back cover module on a flat working surface with its opening upwards
- Unplug the cable of the light source
- Use a Phillips screwdriver (PH1) to remove 3 Phillips screws of the driver module.
- Unplug the flag shaped terminal that connects the cable to the driver module
- Take out the driver module

Figure 8 – Assembly and Disassembly of the Diver Module



Assembly the diver module

- Plug in the flag shaped terminal that connects the cable to the driver module
- Make sure the cable that connects to the light source is plugged in
- Insert the light source cable into the terminal block on the driver module
- Place the driver module into the back cover module and align the screw holes

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- Use a Phillips screwdriver (PH1) to install the screws with a torque of 1.2Nm

CAUTION: **When installing the screws, please assemble the upper and lower screws first, and then assemble the left and right screws.**
Please apply anaerobic glue to the fixing screws during the installation process.

Note: **Make sure that the wire is plugged into place and gently pulled without falling off.**
The driver modules must correspond to the light fixture models in Table 4

4.4.3. Assembly and Disassembly of the Power Cord

Disassembly the the power cord

- Cut off the flag shaped terminal on the cable
- Place the back cover module (with its opening downwards) on a flat working surface
- Use the special tools for installation / removal of power cords to clamp the root of the power cord seal head and turn it counterclockwise until the nut of the seal head is completely separated from the mounting hole of the back cover
- Pull out the cable from the back cover module and clean the mounting hole of the back cover
- Remove the power cord seal head, pull out the cable from the bracket module and clean the bracket module cable installation hole

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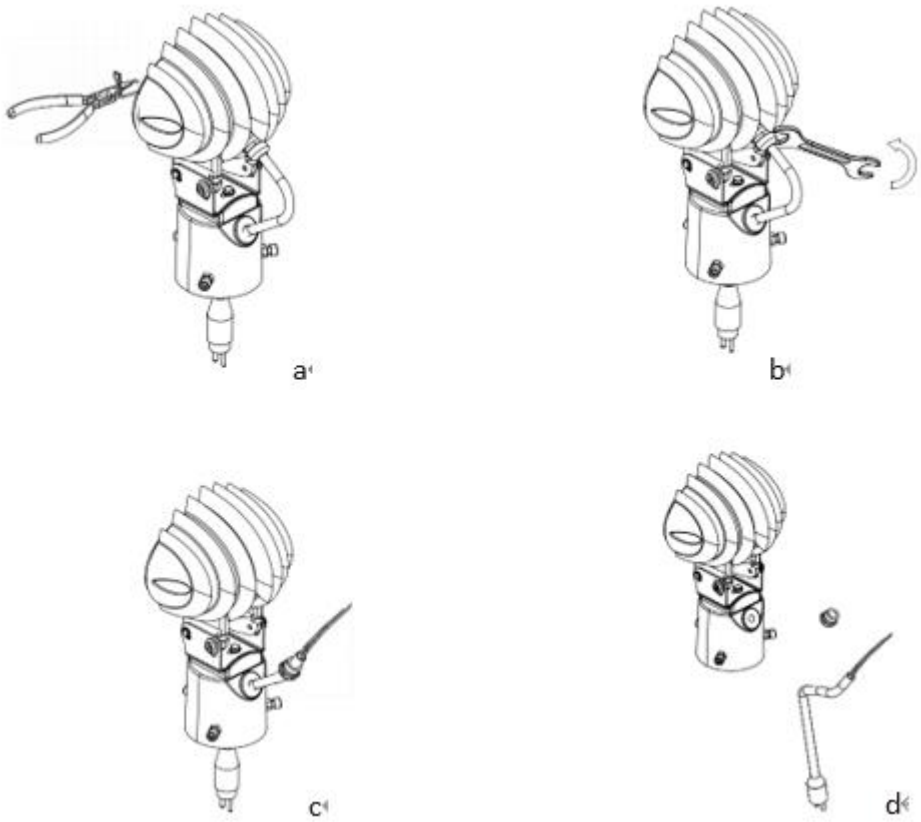
Figure 9 – Disassembly of the Power Cord



Assembly the power cord

- Prepare the new accessories to be replaced (The new accessories require power cord without flag shaped terminal), then pass the cable through the mounting hole of the light fixture bracket module
- Pass the cables through the mounting holes of the back cover and reserve about 10 cm length cable inside
- Screw the nut of the power cord seal head clockwise into the mounting hole of the back cover, then use the special tools for installation/ removal of power cords to tighten the hexagon nuts at the root of the sealing head and the cable locking hexagon nuts. Check whether the cable is tight. If it is loose, you need to tighten the lock nuts
- Use crimping pliers to install the flag shaped terminal to the cable

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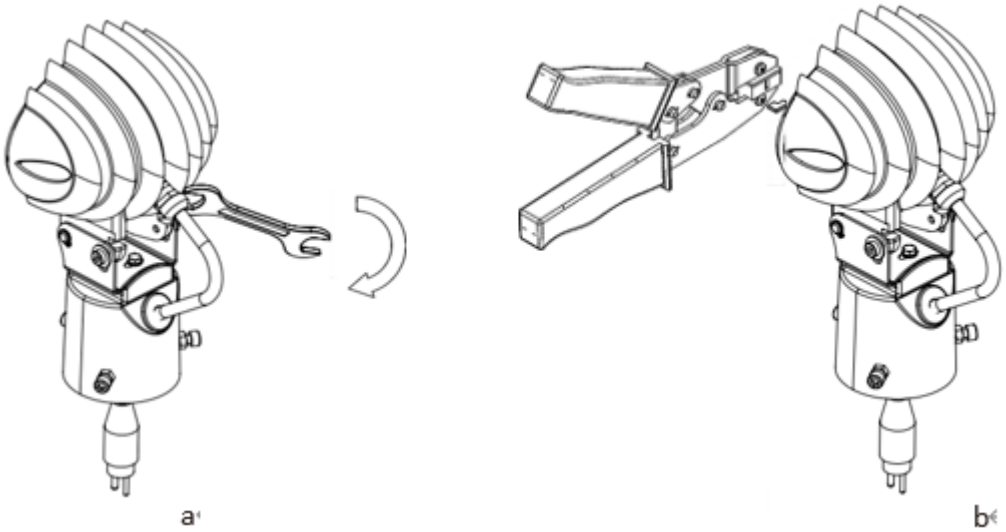
Figure 10 – Assembly of the Power Cord



4.4.4. Assembly and Disassembly of the Optical Components

CAUTION: **Please wear rubber gloves for the following operations. During the operation, avoid direct contact with the light-emitting surface of the optic component, including the prism, LED light source, and the inner surface of the reflector.**

Disassembly the optical components

- Carefully pull out the cable from the light source component
- Use a Phillips screwdriver (PH1) to remove the screws of the light source component
- Remove the reflector and LED aluminum-based circuit board from the light source component in turn
- After removing the light source component, please place it properly

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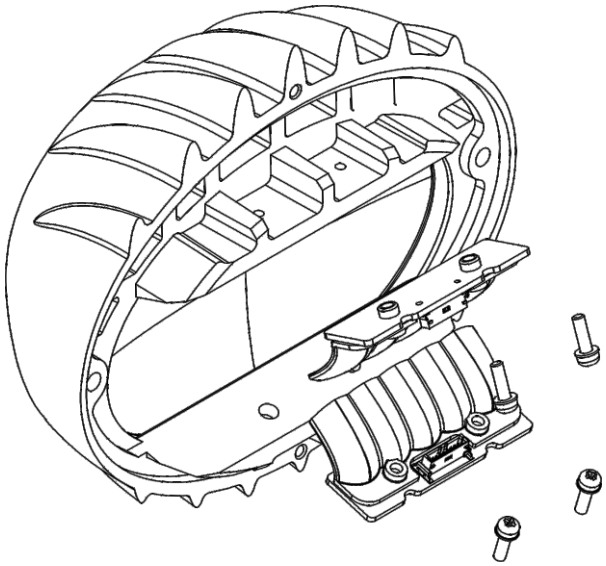
Note:

The "mounting feet" of the reflector are stuck in the mounting holes. Be careful when separating the reflector to avoid damaging the light source component. A small flat screwdriver can be used to gently pry open along the seam.

There is thermal grease under the LED aluminum-based circuit board. Please place it properly to avoid polluting the workbench.

Figure 11 – Assembly and Disassembly of the Optical Components



Assembly the optical components

- Coat the LED aluminum-based circuit board with thermal grease
- Attach the LED aluminum-based circuit board to the inclined surface of the front cover and align the two holes
- Insert the "mounting feet" of the reflector into the two holes and fasten them tightly
- Use a Phillips screwdriver (PH1) to tighten the screws. The torque is 1.2Nm
- Connect the cable

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Note: **Thermal grease should not be applied too much or too thick, just cover the aluminum substrate evenly.**
When installing the reflector, the two mounting feet should be placed at the same time, and brute force should not be used to avoid damage to the reflector.

CAUTION: **During the disassembly and assembly process, dust or debris should be prevented from contaminating the prism of the light fixture. The front cover can be cleaned with an air compressor if necessary.**

4.5. Fail Open Function

Description of English abbreviation:

- FON: No fail open.
- FOA: Fail open and automatic reset
- FOM: Fail open and manual reset.

Applicable environment:

- FON: Applicable for circuits without a individual lamp monitoring unit.
- FOA: Applicable for circuits with specific a individual lamp monitoring units.
- FOM: Applicable for circuits with a individual lamp monitoring unit.

Note: **With the corresponding module (FOA / FOM) inserted in the drive of the lamp, the drive has the function of fail open. See Figure Figure 12 for the FOA / FOM module.**

Functional characteristics:

- FON: There is no fail open function. After the LED light source is damaged, the master control will not take any action on the secondary side of the lamp input terminal.

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- FOA：a) The automatic fail open function of LED is achieved through the driver with FOA module. When the LED damaged, the driver will disconnect the relay, and the lamp input terminal will form an open circuit. The individual-lamp monitoring unit can detect the lamp LED failure fault by detecting the lamp open circuit.

b) It can prevent accidental misjudgment of lamps. When the individual-lamp monitoring unit detects the lamp failure, if the lamp can be powered on again for detection, the lamp will judge whether the LED is invalid again. If the lamp LED is working normal again, it will maintain normal operation. (When the lamp is powered on again, the driver needs about 10s of power-on detection time.)

Note: **The lamp with the FOA module,after the FOA module is disconnected and the lamp is powered on again, the master control takes about 10s of power-on detection time to re-determine whether the LED is faulty.**

c) For the repair of failed LED lamps, after replacing a new LED light source, the lamps can continue to be used without replacing the FOA module components

Note: **If the lamp with LED failure is not replaced in time, the driver will be powered off after the lamp is powered off, the open circuit status will be cleared, and the resistance value will return to normal, which will cause misjudgment to the single-lamp monitoring unit on the lamp (mistaken for replacing the normal lamp), and the lamp will be powered on repeatedly to detect and feedback the LED failure fault several times.**

- FOM：a) It has the LED failure detection function. When the LED fails, the driver with FOM module will permanently disconnect the input terminal secondary to form an open circuit. The individual-lamp monitoring unit can detect the LED failure of the lamp. In principle, it can be compatible with all individual-lamp monitoring units.

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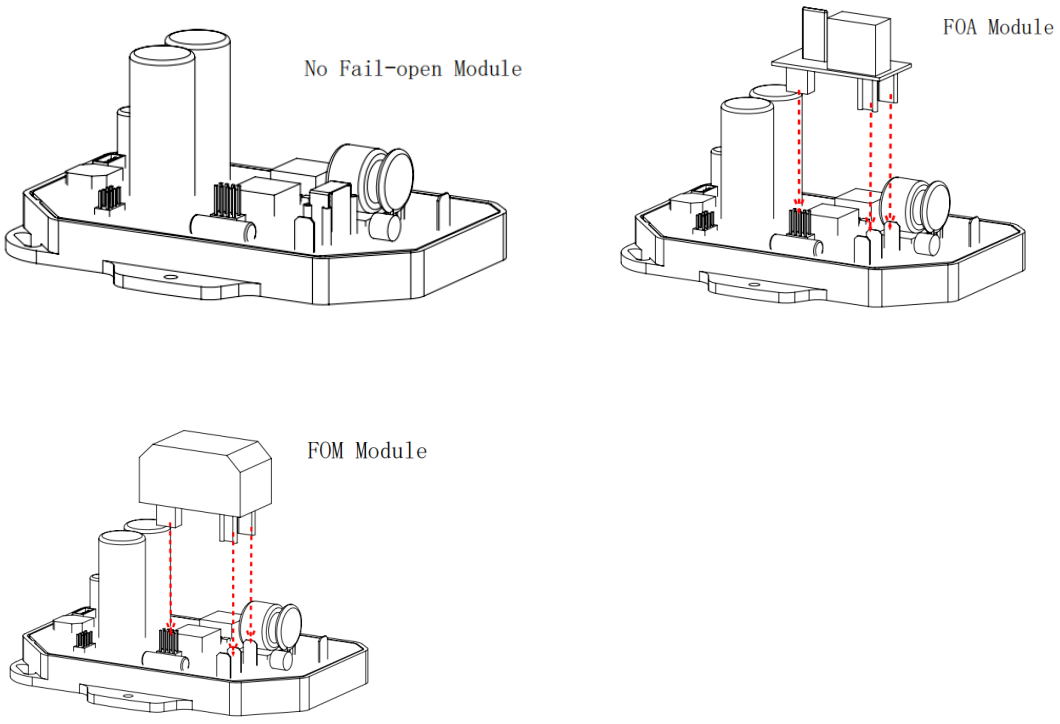
b) FOM module is a disposable part. When repairing the lamp with LED failure, the FOM module must be replaced synchronously before it can be used again.

Figure 12 – Driver with Fail Open Module



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4.6. Trouble Shooting

Table 7 - Trouble Shooting

Malfunction	Trouble Shooting Step
The light stops working completely (glowing)	1.Turn off the light and restart after 1 min 2.If the fault is not eliminated, check the power cord plug 3.If the fault is not eliminated, check the wiring between the power cord and the driver board 4.If the fault is not eliminated, check the driver board
Only part of the light source stops working (glowing)	1.Check the light source and wiring on the malfunction side
Water leakage inside the light fixture	1.Check the sealing of the transparent front cover 2.If the fault is not eliminated, check the sealing ring 3.If the fault is not eliminated, check the power cord seal head
Unable to dim normally	1.Confirm that the dimmer and isolation transformer are fault-free and operate without problems 2.If the fault is not eliminated , replace the driver board
Unstable glowing and flickering	1.Make sure that the specifications of the dimmer and isolation transformer match the operation requirements of the light fixture, no operational problem 2.If the fault is not eliminated, replace the driver board 3.If the fault is not eliminated, contact the manufacturer for customers service and update the program

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5. Support

5.1. Customer Service

If you need after-sales service, you can contact us through the after-sales service hotline or sales consultant.

After-sales service hotline
China +86-27-63498449

Please prepare the following information in advance in order to get the service quickly:

- Product name and serial number
- Airport code or company name
- Your phone and email address

5.2. Recycling

Improper disposal of scrapped electronic equipment may have a negative impact on the environment and human health. Regarding the recycling of electronic products, please follow the local laws and regulations.

5.3. About HDK

Handakang Electrical & Mechanical Technology Corp. Ltd., established in 2003 in Wuhan/China is a professional locally known provider of Airfield Lighting, Navigation Aids, Frangible Mast Systems and Heavy Duty Support Equipment. In 2017 HDK started to create a new LED Airfield Lighting Portfolio supported by known capacities from Europe, to become the supplier for Airfield Customers in China, Asia, Europe and all over the World for reliable, efficient and innovative Airfield Lighting Products at highest quality.

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