

# LM40

## Medium Intensity Aviation Obstruction Light



### Products description and applicaiton

LM40 Series type A aviation obstruction lights with ICAO certificate. Type A aviation obstruction light play a warning role in tall buildings to reduce aviation hazards, daytime is white, at night is white or red (optional). Advanced LED, optical and system control technology to meet the advantages of the most demanding applications. For towers, chimneys, tall buildings, large bridges, large port machinery, large construction machinery, wind turbines and other aircraft need to play a warning role in the occasion. Applicable to obstacles with a height of 105 m to 150 m. Applicable to high salinity areas.

### Features

- Aluminum alloy die-cast shell, the surface electrostatic powder spray yellow, anti-vibration, corrosion resistance;
- Anti-UV, shock-resistant PC housing; Flammability level: UL94V0;
- Waterproof silicone seal structure;
- Optical design based on Fresnel lens principle, the light source using LED technology, long life, low energy consumption, high efficiency;
- Professional EMC design, anti-electromagnetic interference;
- Wind resistance:  $\geq 240\text{km/h}$ ;
- Luminous intensity with the ambient light automatically switch ( daytime:  $20000 \pm 25\%$  cd, night:  $2000 \pm 25\%$  cd);
- Luminous intensity with the ambient light auto switch (Daytime  $20000 \pm 25\%$  cd, night  $2000 \pm 25\%$  cd);
- Lamp with fault alarm detection and alarm output;
- GPS synchronization function;
- Day and night auto switch, can be controlled by local time or photocell.

### Lamp Specifications

Electrical parameters		Mechanical parameters	
Input Voltage	DC48V	Storage Temperature	Ta-40°C ~ +70°C
Fault Alarm	Dry contact (NO or NC optional)	Operating Temperature	Ta-40°C ~ +55°C
Power Consumption	Daytime: 20FPM $\leq$ 50W, 30FPM $\leq$ 75W, 40FPM $\leq$ 100W; Night: 20 FPM $\leq$ 15W, 30 FPM $\leq$ 23W, 40 FPM $\leq$ 30W, 60 FPM $\leq$ 45W, Steady burning $\leq$ 60W.	Ambient Humidity	0% ~ 90% (No condensation)
Surge Lightning Protection	IEC61000-4-5 L-L 3kV IEC61000-4-5 L-G 6kV	IP Rate	IP65
Electrostatic Discharge	IEC61000-4-2 Contact discharge 8kV	Weight	7kg
Optical parameters			
International Standard	ICAO(Annex 14) medium intensity aviation obstruction light standard and FAA-L865, CAAC MH6012-2015		
Light source	LED		
LED life	$\geq 100,000\text{h}$		
Light color	White / White +Red		
Intensity	Daytime $20000 \pm 25\%$ cd    night $2000 \pm 25\%$ cd		
Horizontal degree	$360^\circ$		
Vertical degree	$\geq 3^\circ$		
Work styles	flashing		
Flashing rate	Daytime: 20/30/40 FPM; Night: 20/30/40/60 FPM, Steady burning; Default 40FPM		
Flashing duration	Daytime: 150ms; Night: 750ms		
On/Off level	50-200lux		

### AC Power cabinet technical parameters

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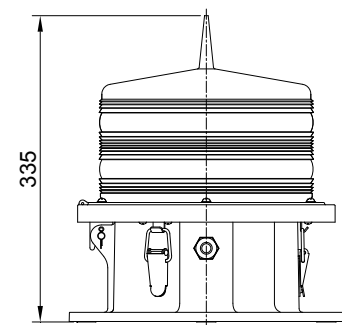
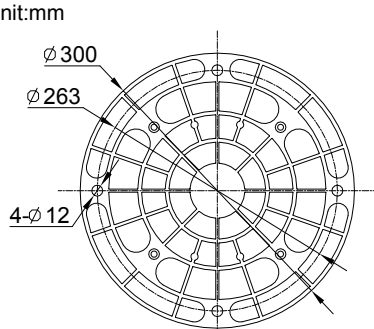
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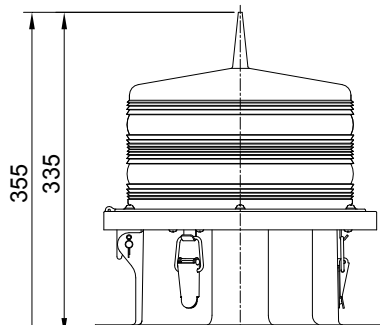
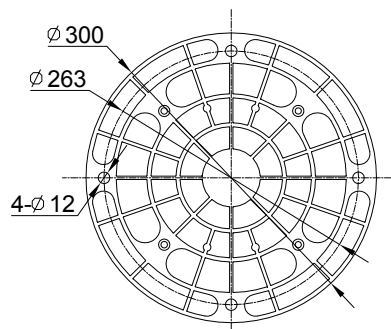
Electrical parameters		Mechanical parameters	
Voltage	Input:AC100~240V;output:DC48V	Storage temperature	-40°C ~ +70°C
Fault alarm	Dry contact (NO or NC optional, default NO)	Operating Temperature	-40°C ~ +55°C
Consumption	1200w	Ambient Humidity	0% ~ 90% RH(No condensation)
		IP Rate	IP65
		Weight	13kg

### Mounting dimensions

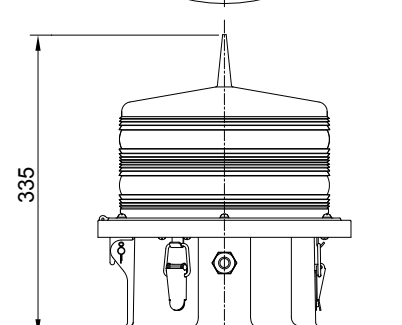
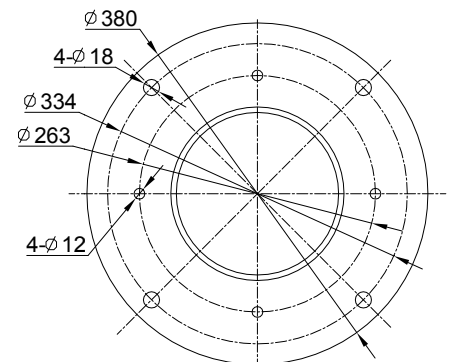
Unit:mm



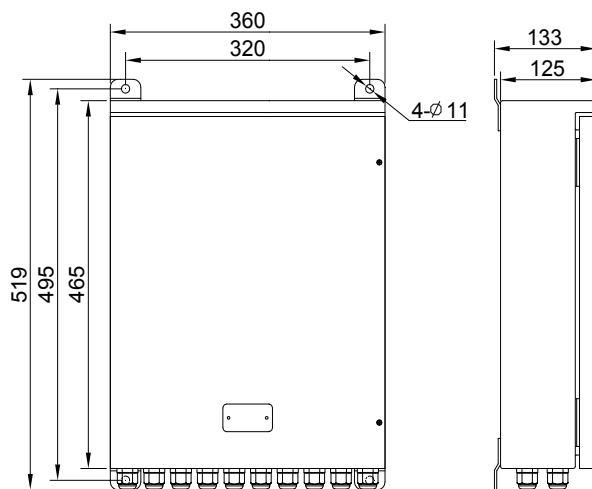
picture 1 regular base size(Side outlet)



picture 2 regular base size(Bottom outlet)



picture 3 big base size(Side outlet)

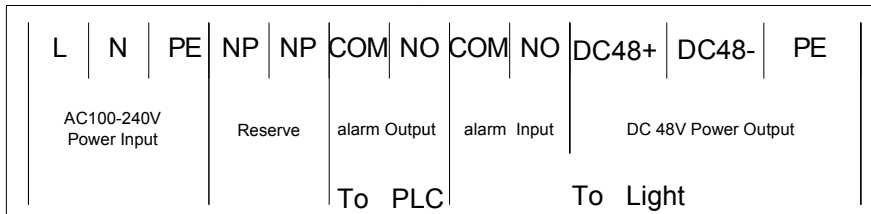


picture 4AC Powercabinet installation dimensions

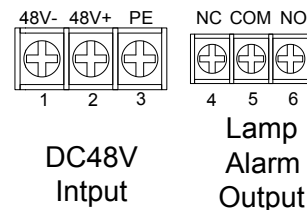
### Wiring diagram

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picture 5 AC Powercabinet installation Wiring diagram



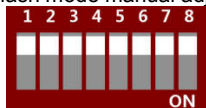
picture 6 Lamp connection Wiring diagram

### Installation method of use

- Secure the light on a smooth surface which has enough strength, if there is no mounting surface, we can customize special mounting bracket as request.
- When installation, please stay away the nearby light source, at the same time, ensure the photocell do not cover by the near object (suitable for light with photocell).
- Make sure the power supply can match the rated power of light before connecting.
- GPS synchronization function test in the outdoor without blocking the environment test, synchronization takes about 30 minutes ( only for lights with GPS).
- DC voltage obstruction lights first open the three buckle on the base, turn the lamp body, exposed terminal block; connect power wire through waterproof gland, Connect the power wire (positive, negative, ground) and fault alarm wire according to the terminal definition on the label (picture 6);And then check the line, please tighten the waterproof gland and buckles, and finally connected to the DC48V power supply, the lights began to work.
- AC voltage obstruction lights through the bottom of the power box waterproof gland access AC input power wire(L, N and ground wire), fault alarm wire (COM/NO or COM/NC ) (optional) and DC48V output power wire (5 \* 1.5mm<sup>2</sup> jacket line , and less than 3m), Correctly connect all power wires and fault alarm wires, pay attention to positive and negative polarity according to the terminal definition on the label (picture 5),And then check the line, please tighten the waterproof gland and buckles,After power, push the circuit breaker and manual switch to the ON side, the light starts to work.

### Light dial switch function using the method

- This product has a flash mode manual adjustment function.
- Flash mode manual adjustment method, please operate in the case of power off: open the lamp body, with a screwdriver toggle DIP switch



BIT1、 BIT2 : Obstruction light daytime flashing FPM setting as below:

Dial Number	11	10	01	00
DIP figure				
Flash frequency	40FPM	40FPM	30FPM	20FPM

**Noted 1:** The factory setting defaults to 40FPM.

BIT3 : Obstruction light working model setting as below:

Dial Number	1	0
DIP figure		
Working status	Night steady burning	Night flashing

**Noted 2:** The factory setting defaults to night flashing model.

BIT4、 BIT5 : Obstruction light night flashing FPM setting as below:

Dial Number	00	01	10	11
DIP figure				
Flash frequency	20FPM	30FPM	40FPM	60FPM

**Noted 3:** The factory setting defaults to 40FPM.

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BIT6 : Day and night switch selection as below:

Dial value	0	1
DIP		
Work status	Time control priority	Photocell priority

**Noted 4:** The factory setting defaults to photocell controlled priority.

BIT7 : DIP switch function setting below:

Dial Number	0	1
DIP figure		
Control	Dial the frequency non-effective	Dial the frequency

**Noted 5:** The factory setting defaults to flash frequency setting valid.

BIT8 : DIP switch function setting below:

Dial Number	0	1
DIP figure		
Red light optional	YES	NO

**Noted 6:** If the lamp including red light, the factory setting defaults to red light priority.

**Noted 7:** The DIP switch is 0 at the digital end, and 1 at the ON

### Time control priority application Introduction

•Time-controlled factory default setting time slot open schedule:

Time section Season(Start-End Date)	Dawn	Day time	Dusk	Night
Spring (21th March-21th June)	5: 00-7: 00	7: 00-17: 00	17: 00-19: 00	19: 00-5: 00
Summer(22th June-23th Sep)	4: 00-6: 00	6: 00-18: 00	18: 00-20: 00	20: 00-4: 00
Autumn(24th Sep- 22th Dec)	5: 00-7: 00	7: 00-17: 00	17: 00-19: 00	19: 00-5: 00
Winter(23th Dec- 20th March)	6: 00-8: 00	8: 00-16: 00	16: 00-18: 00	18: 00-6: 00

**Noted 8:**When the time into the night, photocell control is invalid, the lamp is forced to run in the night mode.

**Noted 9:** When the time into the dawn, photocell control effectively, lamp will switch to day time if the photocell control reaches a certain threshold, on the contrary to continue in the night.

**Noted 10:**When the time into the daytime, photocell control is invalid, the lamp is forced to run in daytime mode.

**Noted 11:** When the time into the dusk, photocell control effectively, lamp will switch to the night if the photocell control reaches a certain threshold, on the contrary to continue in the day time.

**Noted 12:** The period of spring, summer, autumn and winter is subject to the northern hemisphere

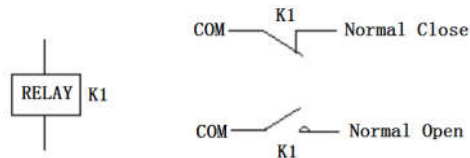
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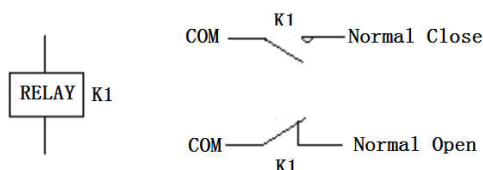


### Fault alarm function

•When the lamp is not receiving a power supply or a lamp fault:The relay has no action,“ common terminal“ and “normal closeterminal“close, as below:



•The lights are connected to the power supply and are working properly:Relay action, “common terminal“ and “normal open terminal“close, as below:

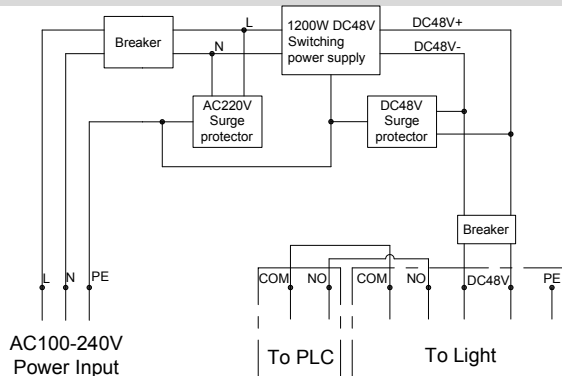


•If there is no power access, or failure are received "disconnect" signal, the alarm signal line connected to the "common" + "normally open";  
 •If the "closed" signal is received when there is no power supply access or fault, the alarm signal line is connected to "common" + "normal closed"

• Power cabinet ( only AC voltage product)

To Light : Lamp failure alarm terminal: obstruction light normal work when the port is normally closed state. This part is disconnected when the obstruction is faulty

### AC power cabinet Schematic diagram



### Precautions

- For high-power lamp , the surface temperature is high, it cannot be covered. And the distance from the object no less than 3m, to avoid burns or fire.
- Using PC material components (such as lamp cover, shell), can not be industrial alcohol, banana water, isopropyl alcohol, carbon tetrachloride, cyclohexanone and other organic solvents directly or indirectly contact,otherwise it will be corrosion cracking.
- Make sure that the power supply voltage is the same as that of the one before use; if there is a temperature rise during operation, it is normal.
- It with delay judgment about 15s after photocell change detected and about 10 s delay after alarm detected which as normal phenomenon.
- Obstruction lights and power box connection diameter greater than 4mm<sup>2</sup>, cable length less than 15m, otherwise there may be pressure drop loss to the obstruction light can not start or lack of light intensity.
- Please do not open any components inside by yourself and do not look light horizontally to protect your eyes while the light working.
- It is important to note that ambient temperature conditions are consistent with this product. Otherwise it will not work properly.
- This product will be working when the temperature rise, are normal.
- This product is sealed structure, non-professional maintenance personnel do not disassemble, once discovered, the company will not warranty.

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Order number							
Product No.	Input Voltage	Color	Work Styles	Photocell	GPS Synchronization	Fault Alarm	Installation Method
1000243-001	DC48V	white(daytime) white(night)	Default 40FPM	YES	YES	YES	Small base (cable diameter φ13-18mm)
1000243-004	AC100-240	white(daytime)+red(night) +whitestandby (night)	Default 40FPM	YES	No	YES	Small base (cable diameter φ9-14mm)
1000243-005	AC100-240	white(daytime) white(night)	Daytime40FPM Night20 FPM	YES	YES	YES	Small base (cable diameter φ9-14mm)
1000243-006	AC100-240	white(daytime) white(night)	Default 40FPM	YES	YES	YES	Small base (cable diameter φ9-14mm)
1000243-007	DC48V	white(daytime)+red(night) +whitestandby (night)	Default 40FPM	YES	YES	YES	Small base (cable diameter φ13-18mm)
1000243-012	AC100-240	white(daytime)+red(night) +whitestandby (night)	Default 40FPM	YES	YES	YES	Small base (cable diameter φ9-14mm)
1000243-014	AC100-240	white(daytime) white(night)	Default 40FPM	YES	YES	YES	Small base (cable diameter φ13-18mm)
1000243-015	AC100-240	white(daytime)+red(night) +whitestandby (night)	Default 20FPM	YES	YES	YES	Small base (cable diameter φ9-14mm)

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