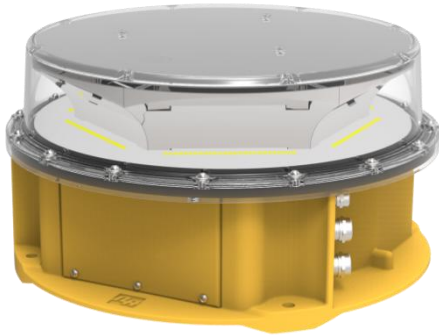


# LM403

## Medium Intensity Aviation Obstruction Light



### Products description and application

- LM403 Medium intensity aviation light Type A is for marking the buildings which will be hazardous to aircraft. It satisfied the working mode of white in the daytime(flashing), Red at night (steady burning/flashing optional);
- Combined with the advanced LED, optical and system control technology to meet the most demanding applications;
- Suitable for towers, chimney, high building, bridge, large construction machinery, large port machinery, wind turbine generation and any other potentially hazardous obstructions to air traffic.
- Applicable to the height of 105m to 150m obstacles or the 105m-150m position of large obstacle.
- Applicable to the high salinity areas.

### Features

- Aluminum alloy die-cast shell, Yellow electrostatic powder spray on surface, anti-vibration, corrosion resistance.
- Anti-UV, shock-resistant PC housing; Flammability level: UL94V-2.
- Open cover to wiring, automatic power off device.
- Light source use LED technology, long life, low energy consumption and high efficiency.
- Professional EMC design, Anti-electromagnetic interference.
- Wind resistance rating:  $\geq 240\text{km/h}$ .
- Local time first optional(time control)or Ambient light priority (photocell control) control the intensity.
- Light color:white at daytime, white or red at night(White color standby).
- With fault alarm detection and fault alarm output function.
- With synchronization function.
- Automatically switch between day and night,can be controlled according to local time or photocell.

### Specifications

International	CAAC ICAO FAA	MH6012-2015 ICAO(Annex 14)14 Volume I, Sixth Edition Advisory Circular 150/5345-43GH	Aviation obstruction light Airport design and operation Specification for Obstruction Lighting Equipment
<b>Electrical parameters</b>			<b>Mechanical parameters</b>
Voltage input	AC110V/ AC220V /DC48V		Storage temperature Ta-40°C ~ +70°C
Fault alarm	Dry contact (NNO or NC optional)		Operation temperature Ta-40 °C ~ +55°C

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Average Power Consumption	Daytime: 20FPM ≤ 50W, 30FPM ≤ 75W, 40FPM ≤ 100W; Night: 20 FPM ≤ 15W, 30 FPM ≤ 23W, 40 FPM ≤ 30W, 60 FPM ≤ 45W, Steady burning(red) ≤ 60W.	Humidity	0% ~ 90% RH (Not condensed)
Lightning surge	IEC61000-4-5 L- L 3kV , IEC61000-4-5 L-G 6kV	IP Rate	IP66
		Weight	18.2kg

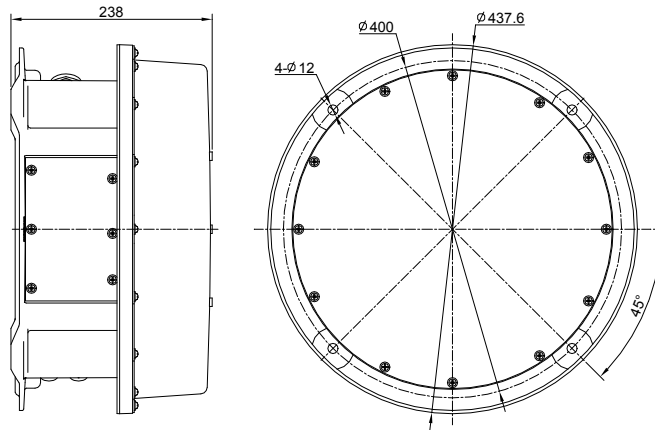
### Optical parameters

Light source	LED	Light source	white/white+red <sup>1</sup>
Work mode	Flashing	Lifespan	≥100,000h
Flashing rate	Daytime/down/dusk: 20/30/40 FPM; Night: 20/30/40/60FPM, steady burning(red); default 40 FPM	Horizontal degree	360°
Flashing duration	Daytime/down/dusk with light color: 95ms; White color at night w: 150ms; Red color at night: 670ms	Vertical degree	≥3°
Intensity	Daytime/down/dusk: 20000 ± 25%cd; Night: 2000 ± 25%cd	On/Off level	50-500lux

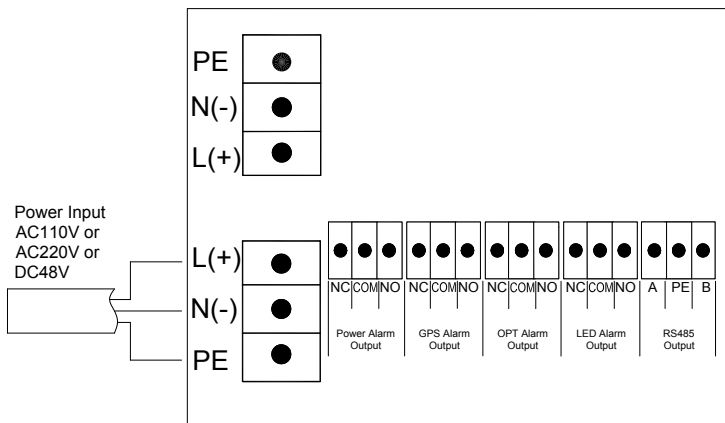
**1. White and red color can be optional at night; when choose red color, white color should be standby; means that when red color is in failure at night, white color began to operation.**

### Mounting dimensions

unit:mm

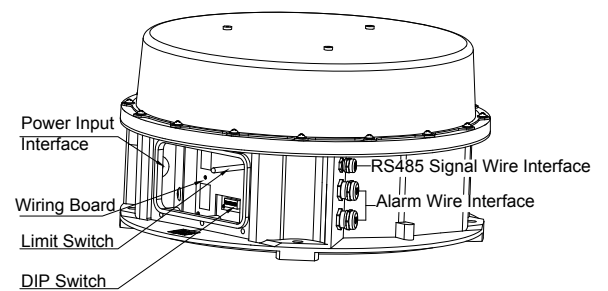


### Wiring diagram



**Notice: The specific input voltage is subject to the order.**

Wiring board wiring diagram



Schematic diagram of lamp wiring structure

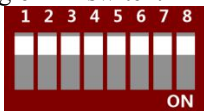


### Installation method of use

- 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 the type 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 .
- Open the wiring cover in side, Pass the input power cable through the power input connector on the left side of the lamp(AC or DC), connect the power line correctly according to the mark on cable connection label, DC Voltage please pay attention to the polarity of the positive and negative poles , Penetrate the fault alarm wire and RS485 signal wire separately by the interface of alarm wire and signal wire on the right side of the light; And then check the line, please tighten the waterproof gland and buckles, and finally connected to the power supply, After power, press the lower limit switch, the light starts to work.
- Every time the lamp is powered on, it will delay for 30 seconds and perform self-test.
- It has limit switch, and is used to open the wiring cover, and the automatically powered off inside of the light; but the power input end of the wiring board is still connected, please pay attention to safe operation.
- Alarm wire was suggested to use 4\*1~1.5mm<sup>2</sup>Jacket line ; Signal wire was suggested to use 3\*0.5-1mm<sup>2</sup>twisted pair or shielded sheathed wire.

### Light dial switch function using the method

- This product has flashing function and 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: (The factory setting flashing rate defaults to 40FPM.)

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

BIT3: Obstruction light working mode setting as below:(The factory setting flashing at night)


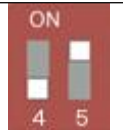
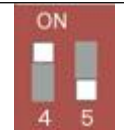
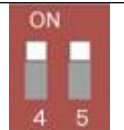
Dial Number	1	0
DIP figure		
working status	Steady burning at night (red)	Flashing at night

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BIT4、BIT5: Obstruction light daytime flashing FPM setting as below: (The factory setting flashing rate defaults to 40FPM.)

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



BIT6: Day and night switch selection as below:(The factory setting photocell priority)

Dial Number	0	1
DIP figure		
working status	Time control priority	Photocell priority

BIT7: DIP switch function setting below:(The factory setting defaults to flash frequency setting valid.)

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

BIT8: With red light or not setting below: (The factory setting no red light)

Dial Number	0	1
DIP figure		
With red light or not	yes	no

**Remarks 1:** The DIP switch is 0 at the digital end, and 1 at the ON.

**Remarks 2:** Operation time of the obstruction light is synchronous offered by GPS module, When no GPS signal is powered on, it is initialized, that is, night mode.

### Time control priority application Introduction

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

Time slot Season(Start-End Date)	Dawn	Day	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
<b>Autumn(24th Sep- 22th Dec)</b>	5: 00-7: 00	7: 00-17: 00	17: 00-19: 00	19: 00-5: 00
<b>Winter(23th Dec- 20th March)</b>	6: 00-8: 00	8: 00-16: 00	16: 00-18: 00	18: 00-6: 00



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

Remark 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.

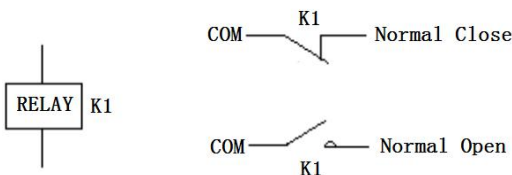
Remark 10: When the time into the daytime, photocell control is invalid, the lamp is forced to run in daytime mode.

Remark 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.

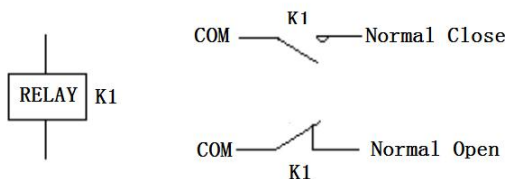
Remark 12: The period of spring, summer, autumn and winter is subject to the northern hemisphere.

### Fault alarm function

•when the lamp is not receiving a power supply or a lamp failure:The relay has no action,“ common terminal“ and “normal close terminal“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"

### Fault detection function description

•When the light is white, When the single-sided lamp is not lit or the white LED lamp bead of more than 25% of the whole lamp is not lit, The lamp will output a light alarm signal.

•When the light is red at night, When the red LED lamp bead of more than 25% of the whole lamp is not lit, The lamp will output a light alarm signal and switch to the night white light working mode.

•When the GPS have no signal for 30minutes, The lamp will output a GPS alarm signal.

•When the photocell lost signal for 24h, The lamp will output a light alarm signal.

•When it is no voltage in the control panel of the lamp, and the lamp will output a power failure alarm signal.

### Precautions

• For high-power lamp , the surface temperature is high, it cannot be covered. And the distance from the object no less than

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3m, to avoid burns or fire.

- The part of material of products is PC( like lamp cover and lamp shell ), so it cannot direct or indirect touch the organic solvent, such as industrial alcohol, banana oil, Isopropanol , Carbon tetra chloride, cyclohexanone and so on, otherwise, the product will be corrosion cracking.
- Ensure the power connection part is correct before using and temperature rise when light working is normal phenomenon.
- It with delay judgment about 15s after photocell change detected and about 10 s delay after alarm detected which as normal phenomenon.
- The cable diameter connected with obstruction light and power box bigger than 4mm x2, length less than 20m. Otherwise, it may occur voltage loss result in obstruction light cannot turn on or intensity insufficient.
- Please do not open any components inside by yourself and do not look light horizontally to protect your eyes while the light working.
- Do not operate with electricity.

### Order number

Product No	Input voltage	Color	Work mode	Photocell	GPS Synchronize	Fault alarm	Installation
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