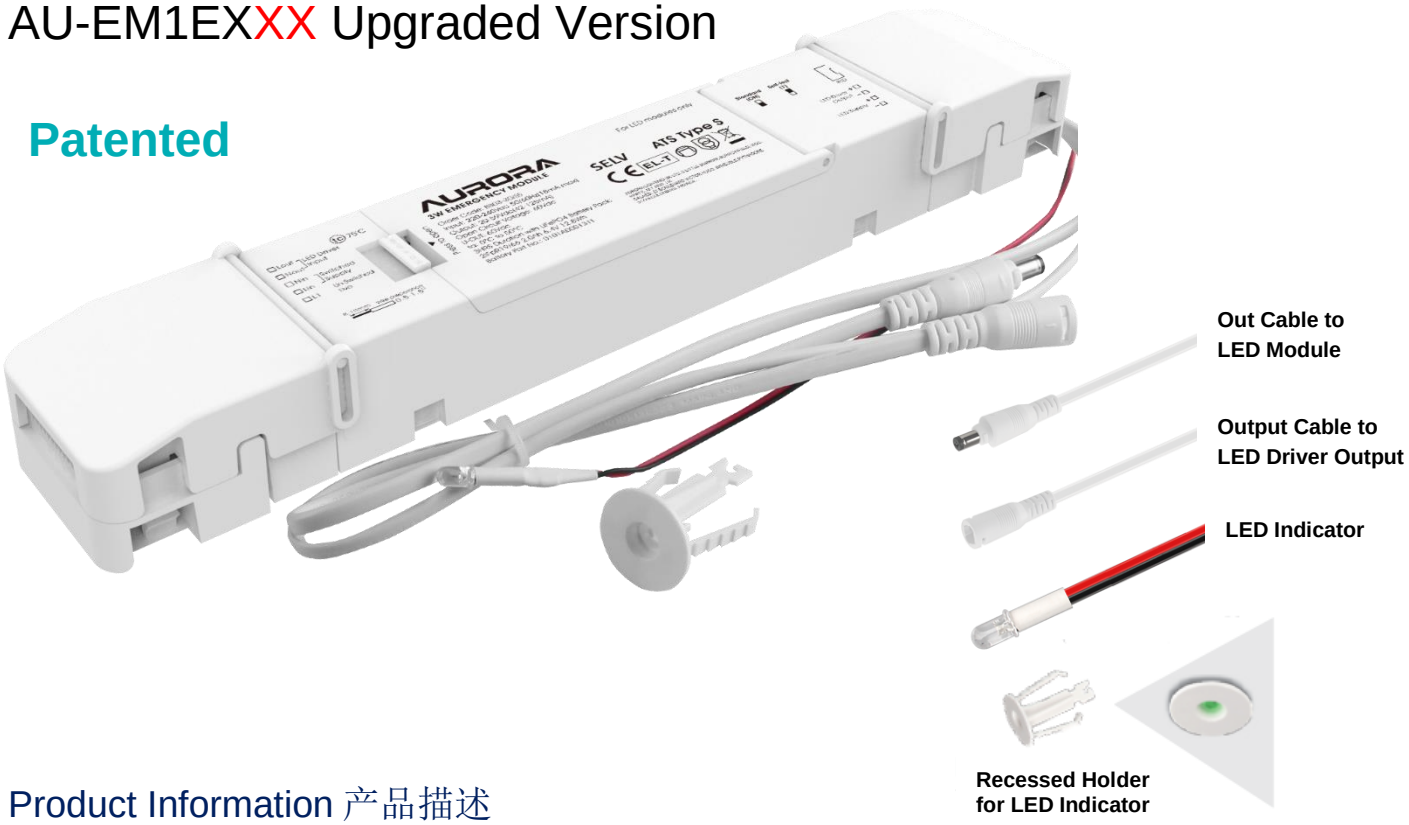
β B

Standard and Self-Test 2 in 1 External Emergency Module for LED Panels and Commercial Downlight

适用于 LED 平板灯和商业筒灯的标准/自检 2 合 1 外置式应急电源

AU-EM1EXXX Upgraded Version

Patented



Product Information 产品描述

The Emergency Module (EM) is suitable for class III luminaires with integrated LEDs and separate LED drivers. The EM has a replaceable internal battery and can be installed within a luminaire or within the ceiling void to provide a back-up supply in the event of a power cut. The EM requires a permanent live un-switched supply to maintain the battery charge. In the event of a power cut the battery within the EM will supply the luminaire at a reduced output.

Automatic Self-Test technology that will perform regular automatic function and duration tests as required by EN 62034, reporting the results via a bi-coloured LED indicator.

此应急电源适用于配有独立电源、集成 LED 模组的 III 类灯具。具有内置的可更换的电池，可装在灯具内或直接放在天花板内，停电时作为备用电源给灯供电。需要一直通电持续为电池充电。在停电的情况下，其内置的电池将以较低的功率给灯具中 LED 模组供电。

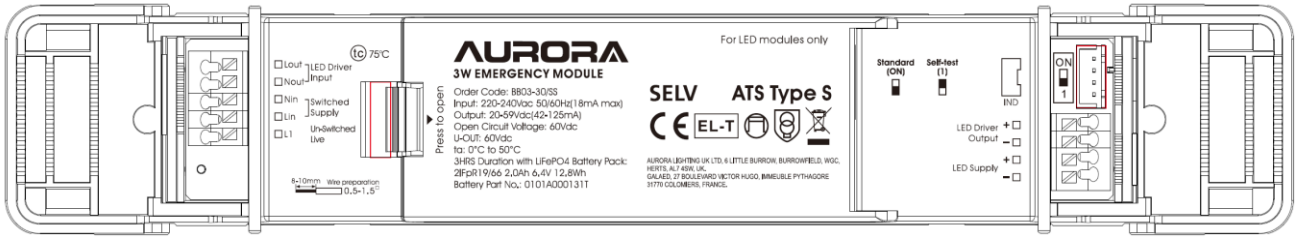
自检功能指按照 EN62034 的要求执行定期的自动功能和持续时间测试，并通过双色 LED 指示灯报告结果。

Features 产品特色

- To set standard or self-test mode via the internal DIP switch
- For luminaires with class III LED modules and separate LED drivers
- For maintained or non-maintained emergency lighting systems
- Automatic self-test technology conforming to EN 62034
- Conforms to EN 61347-1 and EN 61347-2-7
- Wired between driver and LED module via wiring leads with connector
- Suitable for use in luminaires for high-risk task area lighting
- Voltage change-over threshold according to EN 60598-2-22
- 3 hours rated duration
- Replaceable internal LiFePO4 battery pack
- Over-charge, over-current, short-circuit and deep discharge protection for battery
- Bi-coloured status LED
- Weekly function test and yearly duration test for self-test mode
- Constant power output
- For independent
- Battery charging temperature control

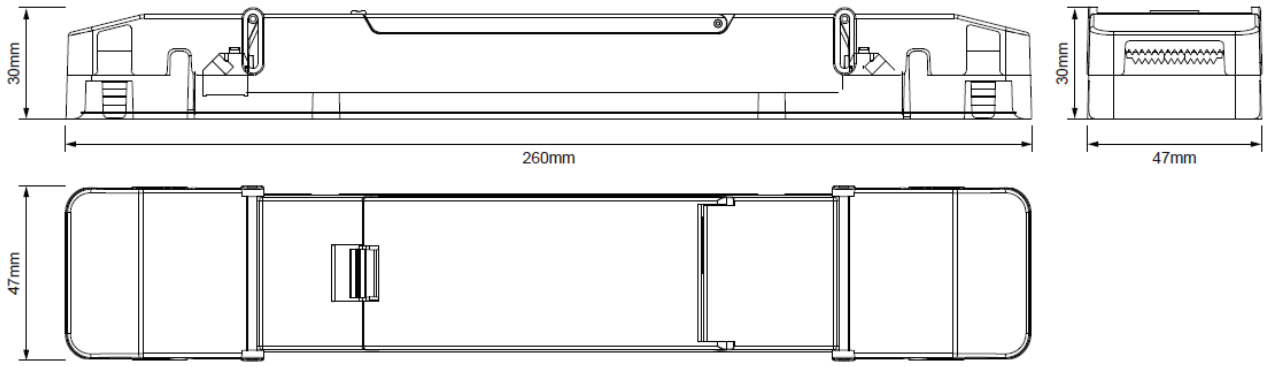
- 通过内部拨码开关设置标准或自检模式
- 适用于由独立电源控制集成LED模组的III类灯具
- 用于持续式或非持续式应急照明灯具
- 自检功能符合标准EN 62034
- 符合EN61347-1, EN61347-2-7
- 通过带端子电线与电源及LED模组接线
- 适用于高风险任务区照明灯具
- 应急转换符合标准EN 60598-2-22
- 3小时应急工作时间
- 内置的且方便更换的磷酸铁锂电池组
- 具有过充、过流、短路、电池深度放电保护功能
- 双色状态指示灯
- 自检模式下每周功能检测,每年持续时间检测
- 恒功率输出
- 外置式应用

Product Markings 产品印字

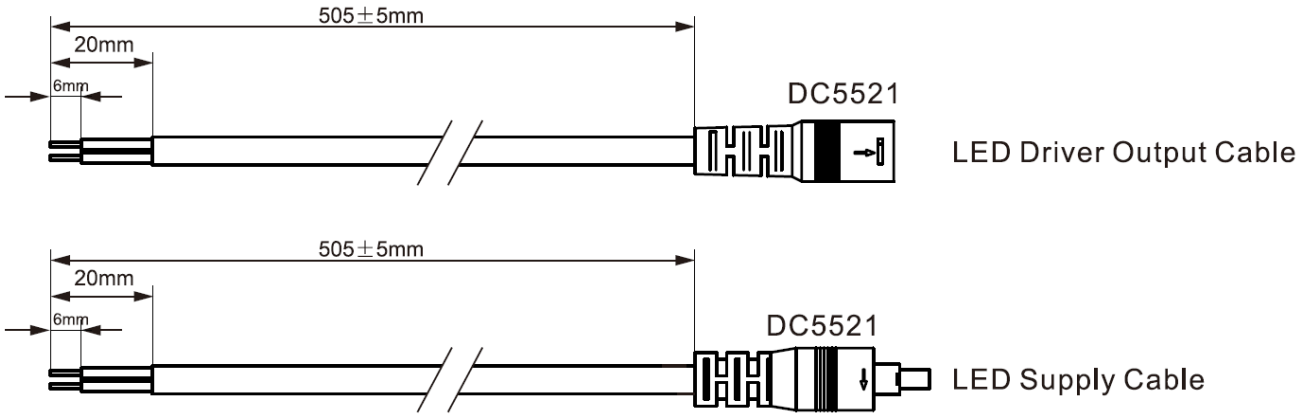


Dimensions 产品尺寸

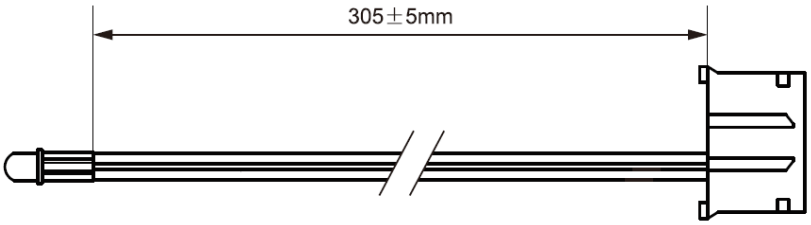
Emergency Module 应急模块



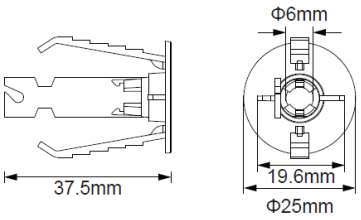
Output Cabel 输出电线



Indicator Cable 指示器电线



Indicator Holder 指示灯固定座



Specifications 产品参数

Cyantronic Product Code **卬锐产品型号**	**BB03-30/SS**
Aurora Product Code **Aurora 产品型号**	**AU-EM1EXXX Upgraded Version**
Input Parameters **输入参数**	
Rated Input Voltage Range **额定工作电压范围**	**220-240Vac**
Operation Input Voltage Range **输入电压范围**	**198-264Vac**
Input frequency **工作频率**	**50/60Hz**
Input Wattage (max) **输入功率（最大值）**	**3.5W @Rated Input Voltage & Battery full discharge** **3.5W @额定工作电压输入及电池完全放电后**
Input Current (max) **输入电流（最大值）**	**18mA @Rated Input Voltage & Battery full discharge** **18mA @额定工作电压输入及电池完全放电后**
Input PF **功率因数**	**PF:0.75 @Rated Input Voltage & Battery full discharge** **PF:0.75 @额定工作电压输入及电池完全放电后**
Overvoltage Protection **过压保护**	**No**
Input Connection **输入端连接方式**	**Push-fit terminals 0.5-1.5mm²** **按压快接端子 0.5-1.5mm²**

Output Parameters 输出参数	
Regulation Method 恒定方式	**Constant Wattage** 恒功率
Battery Output Wattage(max) 电池输出功率(最大值)	**3W Max**
Rated Output Wattage 额定输出功率	**2.5W Max**
Rated Output Voltage Range 额定输出电压范围	**20-59Vdc**
Rated Output Current Range 额定输出电流范围	**42-125mA**
Max. Open Circuit Voltage 最大开路电压	**60Vdc**
U-OUT	**60Vdc**
Short-circuit Protection 短路保护	**Yes (For battery)**
Open Circuit Protection 开路保护	**Yes**
Output Connection 输出端连接方式	**Wiring leads with connector** 带端子的电线
Output Hot Plug-in 输出热拔插	**When the driver is powered on and the battery is connected, reconnecting the LED luminaire is not allowed.** 通电状态下，不允许重新插拔负载
Safety 安全	
Input to Output Protection 输入到输出防护等级	**Double Insulation** 双重绝缘
Battery to Output Protection 电池到输出防护等级	**Basic Insulation** 基本绝缘
Mains Surge Capability 雷击	**L-N:1KV**
IP Protection IP 等级	**IP20, Independent Driver** IP20，独立式电源
Emergency Information 应急信息	
Mains Voltage Changeover Threshold 应急转换电压范围	**144-187Vac**
Emergency Operation Time 应急工作时间	**3h**
Emergency Conversion Time 应急转换时间	**<1s**
Test Function 检测方式	**Automatic Self-Test / Manual test** 自测试/手动测试 **Refer to Automatic / Manual Testing User Guide** 参考自测试/手动测试用户指南

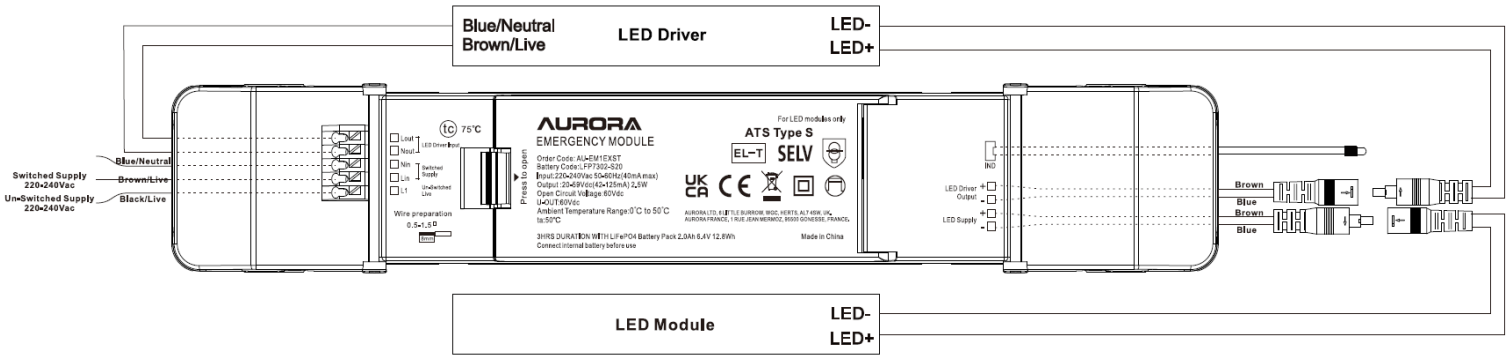
Environment & Life time 环境&寿命	
Operating Temperature Range 工作环境温度	**Ta:0 to 50°C**
Maximum Case Temperature 外壳最高温度	**Tc:75°C**
Operating Humidity 工作环境湿度	**<75% RH (Not Condensing)**
Operating Altitude 工作海拔高度	**≤3000m**
Driver Storage temp./humidity 驱动储存温度/湿度	**-20-50℃(≤75% RH)**
Driver Guarantee 驱动保修期	**5 Years** **5 年**
Certifications and Standards 认证和标准	
Certifications 认证	**CE**
Safety 安全	**EN 61347-1, EN 61347-2-7**
EMC	**EN55015, EN61000-3-2, EN61000-3-3, EN61547**
RoHS	**Directive 2011/65/EU with amendment (EU) 2015/863**
Reach	**No.1907/ 2006(EC) SVCH 240**
Patent 专利	
EP3229557B1	**EMERGENCY LIGHTING**
CN109640479B	**一种兼恒功率输出的应急驱动的照明装置**

Battery Pack 电池组	
Battery Model 电池型号	**2IFpR19/66 2.0Ah 6.4V**
Cell Type 电芯规格	**LiFePO4 18650 3.2V 2000mAh**
Number of cells 电芯数量	**2**
Series-parallel Combination 串并联方式	**2S1P**
Rated Battery Capacity 标称电池容量	**2000mAh**
Rated Battery Voltage 标称电池电压	**6.4V**
Battery Energy 电池能量	**12.8Wh**

Battery Charge Voltage **电池充电电压**	**7.3±0.1V**
Battery Charge Current **电池充电电流**	**Max.150mA**
Battery Discharge Voltage **电池放电电压**	**5.0-7.2V**
Battery Discharge Current **电池放电电流**	**450-480mA**
Charging Time **充电时间**	**24h**
Charge Temperature Range Tcmin-Tcmax **充电温度范围**	**0 to 65°C**
Battery Design Life **电池设计寿命**	**5 Years at 40℃**
Max. storage time **最长储存时间**	**12 months at +5 °C to +25 °C**

Wiring Diagram接线图

Driver output current ≤ 2A 驱动输出电流≤2A



Self-Test Mode: Automatic / Manual Testing User Guide

Commissioning

- Commissioning takes place by connecting the battery and then the un-switched supply. The battery must be connected first.
- The green LED will immediately flash 1 x second to indicate that there is a pending duration test.
- A functional test will occur at 5 minutes after commissioning to allow 5 minutes for battery charging to ensure there is some charge in the battery.
- A duration test will occur at a random point between 24 hours and 48 hours after commissioning to allow 24 hours for battery charging.
- Any faults found in the functional and duration testing will be reported via the LED indicator, as detailed below.
- Disconnecting the un-switched supply and then the battery resets the emergency module, clears all fault reports and forces a re-commission when the battery and then the un-switched supply are reconnected.
- **If the un-switched supply of an emergency lighting circuit is switched OFF/ON twice within 5 seconds, the schedule for all the emergency units in the emergency lighting circuit is reset (to the current time).**

Duration Testing (3 hours)

- An automatic duration test will occur at a random point between 24 hours and 48 hours after commissioning to allow for battery charging.
- An automatic duration test will occur semi-annually or annually at a random point in the 52nd week of each year.
- A duration test may be delayed by other events, such as a power cut that interrupts the test or a lack of charging time, in which case the green LED will flash 1 x second to indicate there is a pending duration test that the emergency module has rescheduled.
- Any faults found in the duration testing will be reported via the LED indicator, as detailed below.
- A functional test will not override any faults reported by a duration test. A full duration test or re-commissioning is required to clear any faults.

Functional Testing (<2 minutes)

- A 5 seconds automatic functional test will occur at 5 minutes after commissioning.
- A 108 seconds automatic functional test will occur every 7 days.
- Any faults found in the functional testing will be reported via the LED indicator, as detailed below.
- A functional test will not override any faults reported by a duration test. A full duration test or re-commissioning is required to clear any faults.

Pending Duration Testing

- A duration test may be delayed by other events, such as a power cut that interrupts the test or charging period, in which case the green LED will flash to indicate there is a pending duration test that the emergency module has rescheduled until charging is complete.

Lamp or Luminaire Fault

- Turn off the supply and replace or correct the fault with the lamp or luminaire, and then reconnect the supply.
- If the battery and power have been disconnected the emergency module will re-commission and automatically test the replacement.
- A successful functional test will not override any faults reported by a duration test. A full duration test or re-commissioning is required to clear fault reports.

Battery Fault

- Turn off both the un-switched and switched supply and replace the battery, and then reconnect the supply.
- If the battery fault was due to the battery not being connected, both the un-switched and switched supply must off when connecting the battery to clear the battery fault.
- The emergency module will re-commission and so automatically test the replacement at a random point between 24 and 48 hours after commissioning to allow for battery charging.

Standard Mode: Manual Testing User Guide

- The battery leaves the factory in a semi-charged state but may take up to 24 hours to fully charge for a 3-hour test. Charge for 5 minutes before performing a functional test to ensure there is some charge in the battery.
- To fully test the emergency function, the un-switched supply will need to be switched off.
- Replace the battery when the emergency module fails to meet the 3-hour duration requirement in testing.

LED Indicator
System status is locally indicated by a bi-coloured LED indicator.

LED indication		Description	Status	Standard Mode	Self-test Mode
		Green Permanently On	System Healthy	✓	✓
		Permanently OFF	Emergency Mode: Mains failure or mains disconnected	✓	✓
			Battery disconnected	✓	N/A
		Green Slow Flash (0.5s on-0.5s off)	Duration Test Pending	N/A	✓
		Green Medium Flash (0.25s on-0.25s off)	Duration Test Running	N/A	✓
		Green Fast Flash (0.125s on-0.125s off)	Functional Test Running	N/A	✓
		Red Permanently On	Battery Charging Fault	N/A	✓
		Red Medium Flash (0.25s on-0.25s off)	Battery Duration Fault	N/A	✓
		Red Fast Flash (0.125s on-0.125s off)	Lamp or Luminaire Fault	N/A	✓