

Intelligent Full Color RGBW LED Driver (Constant Voltage)

- Small size and light weight. The housing is made from V0 flame retardant PC materials that SAMSUNG/COVESTRO uses.
- The clamshell design and screwless type for strain-relief. The design of dismountable end cap allows you to adjust the length of housing depending on your needs.
- Dimming from 0~100%, down to 0.1%.
- Dimming interface: DMX512/RDM, DALI-2 DT8, Push.
- Energy-efficient driver: Efficiency 93%, PF>0.98, THD<6%.
- Comply with the EU's ErP Directive, stand-by power consumption<0.5W.
- The secure and reliable design for signal isolation.
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, overvoltage, overload, short circuit protection and automatic recovery.
- Up to 50,000-hour life time.
- 5-year warranty (Rubycon capacitor).



Flicker-free
IEEE 1789

Achieve the high frequency exemption level



Dimmable:
0.1%-100%



RoHS

SELV

ErP



The certification icon represents on-going certification applications only, and final certification qualification is subject to actual products.

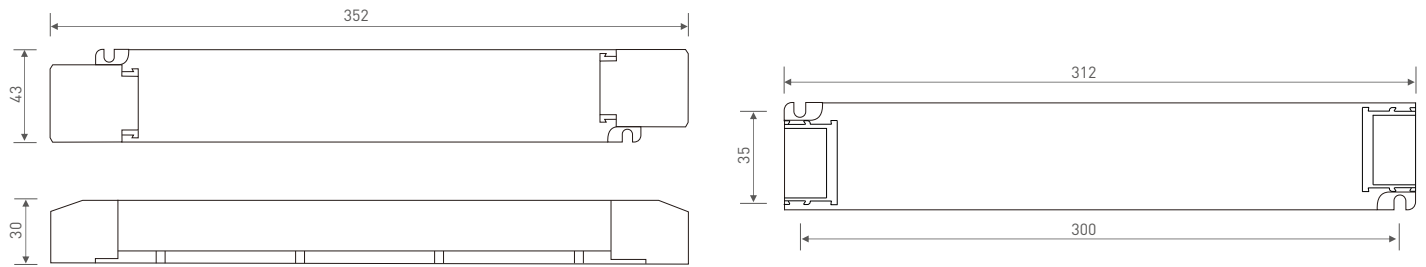
Technical Specs

Model		LM-150-24-G4K3		
Features	Output Type	Constant Voltage		
	Dimming Interface	DMX512/RDM, DALI-2 DT8, Push		
	Output Feature	Isolation		
	Protection Grade	IP20		
	Insulation Grade	Class II (Suitable for class I/ II /III light fixtures)		
OUTPUT	Output Voltage	24Vdc		
	Output Voltage Range	24Vdc $\pm$ 0.5Vdc		
	Output Current	Max. 6.25A (1.56Ax4CH)		
	Output Power	Max. 150W		
	Output Power Range	0~150W		
	Strobe Level	High frequency exemption level		
	Dimming Range	0~100%, down to 0.1%		
	Overload Power Limitation	$\geq 102\%$		
	Ripple	Switch ripple ≤ 150 mV, noise ≤ 300 mV		
INPUT	PWM Frequency	3600Hz		
	DC Voltage Range	200-280Vdc		
	AC Voltage Range	198-264Vac		
	Rated Voltage	220-240Vac		
	Frequency	50/60Hz		
	Input Current	≤ 0.75 A/230Vac		
	Power Factor	PF>0.98/230Vac (at full load)		
	THD	THD<6%@230Vac (at full load)		
	Efficiency (typ.)	93%		
	Standby power consumption	<0.5W		
	Inrush Current	Cold start 45A@230Vac [Test twidth=840us tested under 50% Ipeak]		
	Anti Surge	L-N: 2KV		
ENVIRONMENT	Leakage Current	Max. 0.5mA		
	Working Temperature	ta: -20 ~ 50°C tc: 85°C		
	Working Humidity	20 ~ 95%RH, non-condensing		
	Storage Temperature/Humidity	-40 ~ 80°C, 10~95%RH		
	Temperature Coefficient	$\pm 0.03\%$ /°C [0-50°C]		
PROTECTION	Vibration	10~500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively		
	Overheat Protection	Intelligently adjust or turn off the output current if the PCB temperature $\geq 110^\circ\text{C}$, and recover automatically		
	Overload Protection	Shut down the output when current load $\geq 102\%$, and recover automatically		
	Short Circuit Protection	Enter hiccup mode if short circuit occurs, and recover automatically		
	Overvoltage Protection	Shut down the output when non-load voltage ≥ 28 V, and recover automatically		
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vac		
	Isolation Resistance	I/P-O/P: 100M Ω /500VDC/25°C/70%RH		
	Safety Standards	CCC	China	GB19510.1, GB19510.14
		CE	European Union	EN61347-1, EN61347-2-13, EN62384, EN61547
	EMC Emission	CCC	China	GB/T17743, GB17625.1
		CE	European Union	EN55015, EN61000-3-2, EN61000-3-3, EN61547
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547		
OTHERS	Strobe Test Standard	IEEE 1789		
	Gross weight[G.W]	430g $\pm$ 10g		
	Dimensions	352 $\times$ 43 $\times$ 30mm[L $\times$ W $\times$ H]		

The driver is suitable for connecting resistor current-limiting LED fixture (e.g. LED strip). The inrush current will be dozens of times increased if connecting built-in constant current IC current-limiting LED fixtures, the driver will activate the overloaded protection (hiccups flickering). When you order, please remark controlling the constant current LED fixture (e.g. MR16 lamp, underground light, LED wall washer, constant current LED strip, etc.), so that we can prepare them with special procedures.

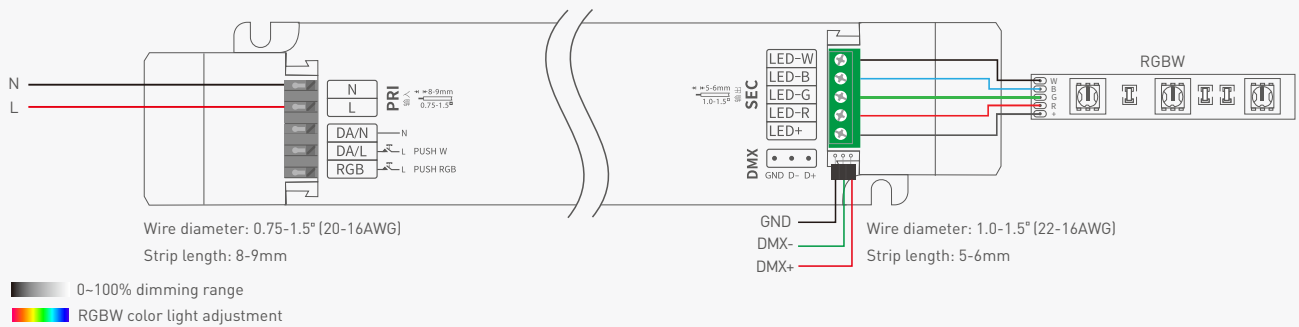
Product Size

Unit: mm

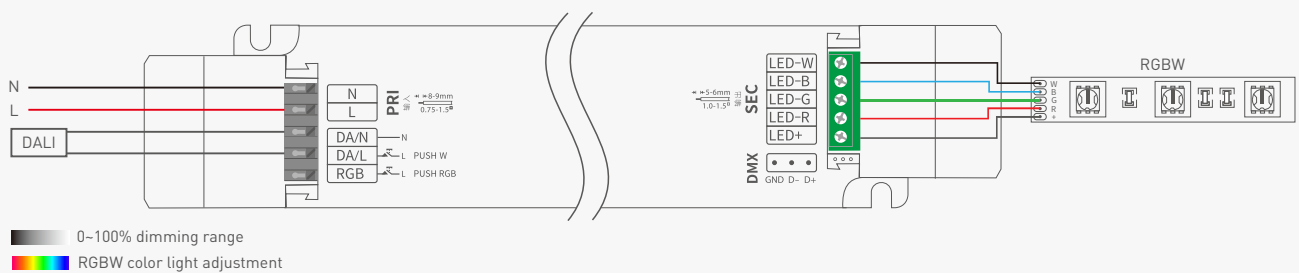


Wiring Diagram

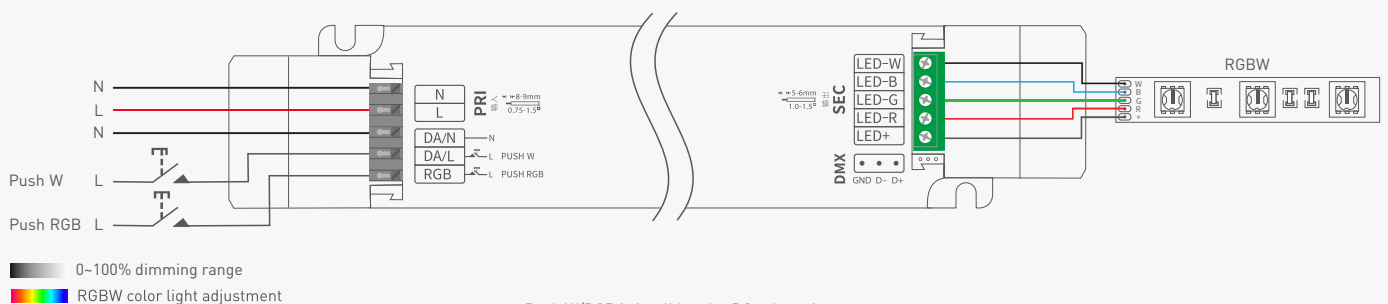
DMX/RDM Connection



DALI Connection



Push W/RGB Connection



* Push W/RGB is invalid under DC voltage input.

* Dimming interface priority: DMX512/RDM first, DALI-2 DT8, Push W/RGB next.

Push W/RGB



Reset switch

Push W:

By pressing the button, the brightness of W and RGB light can be adjusted. You can adjust either W brightness or RGB brightness only. Toggle between W and RGB brightness adjustment by a double press on the button.

W brightness adjustment: Short press to turn on/off, long press to adjust W brightness (RGB brightness and color remain unchanged at this moment).

RGB brightness adjustment: Short press to turn on/off, long press to adjust RGB brightness (W brightness remains unchanged at this moment).

Push RGB:

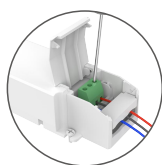
Short press to adjust to the full brightness of RGB color and RGB light, long press to change RGB color.

Protective Housing Application Diagram

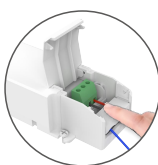
Tension plate



1. Pry up the protecting housing in the side plate position with a tool.



2. Connect to electrical wires with a screwdriver as wiring diagram shows.

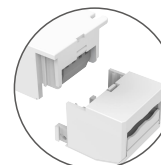
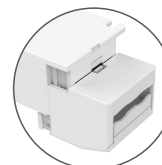


3. Press down the tension plate to fix the the electrical wires, then close the protective housing.

Remove the protective housing



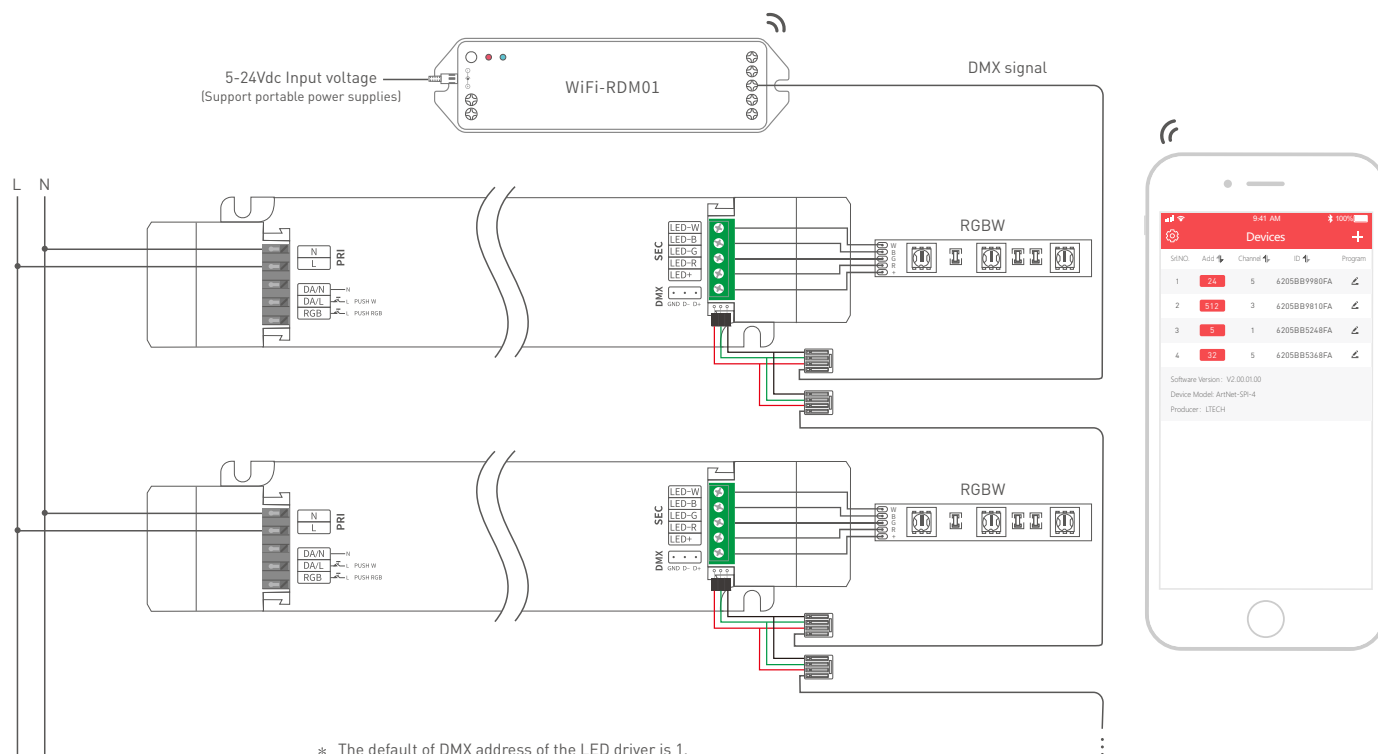
Pull the housing left and right from the bottom to remove it.



DMX Address Settings

The DMX driver can work with a DMX address programmer that follows the standard RDM protocol.

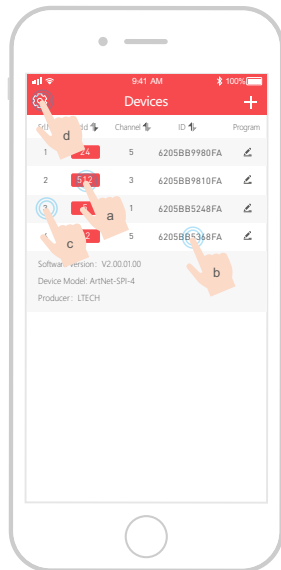
It is recommended to use LTECH RDM Programmer (Model: WiFi-RDM01), which allows remote browsing, parameter setting, checking output power and modifying the current value.



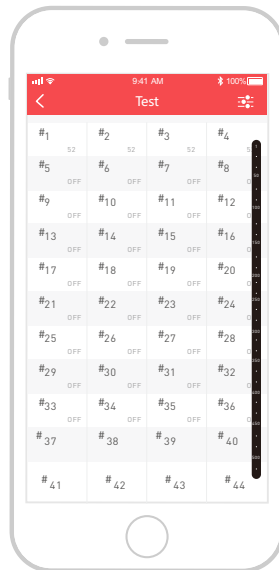
Mobile App Interface for the RDM Programmer

Download the App with your mobile phone and connect the RDM Programmer successfully, then you are allowed to set parameters through the APP. Please refer to the WiFi-RDM01 manual for more details.

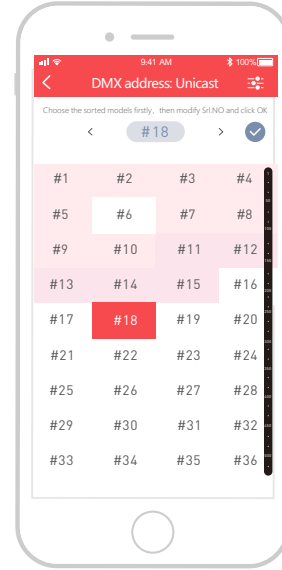
- At the homepage, click "Add" of the device you are going to operate to edit the address, as shown below in the interface.
- Click "ID" to get more details for devices.
- Click "No" to issue an recognizing command.
- Click "⚙️" in the upper left corner to access the settings which allows you to test, edit DMX addresses, set WiFi for devices and upgrade firmware.



Home page



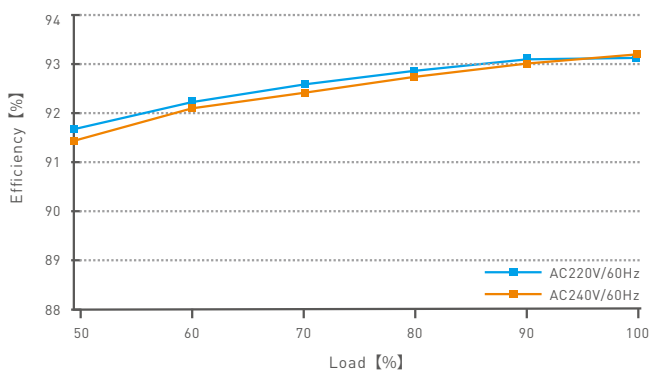
Test



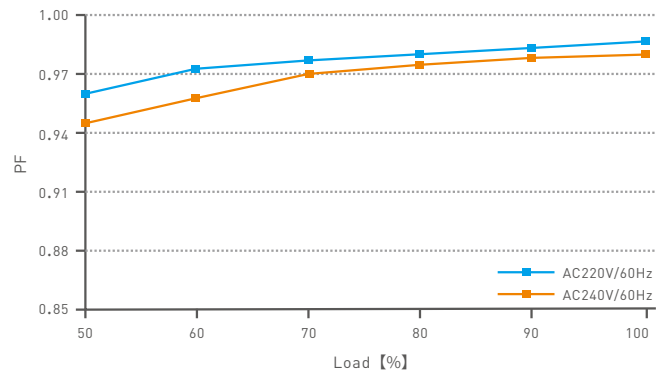
DMX address setting

Relationship Diagrams

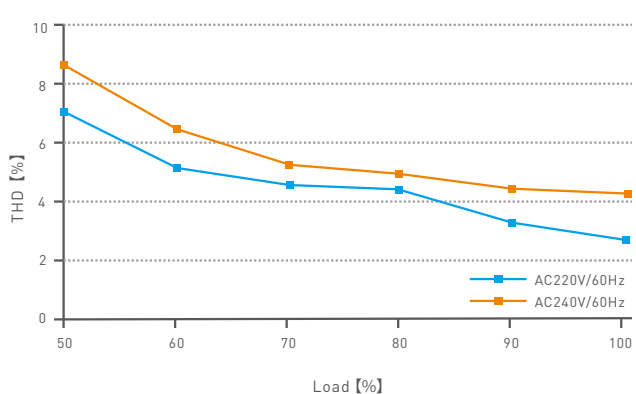
Efficiency vs Load



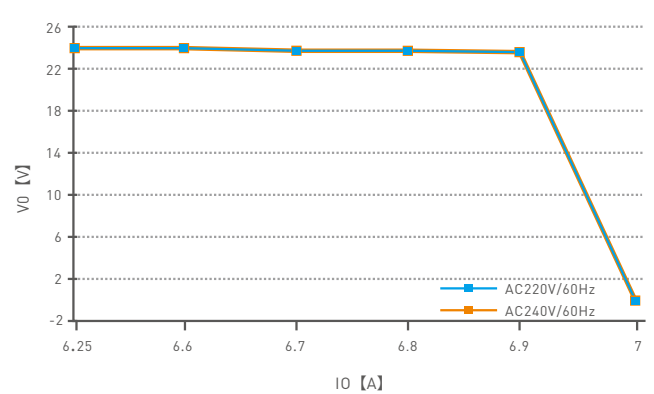
Power Factor Characteristic



THD vs Load



Over Load Diagram

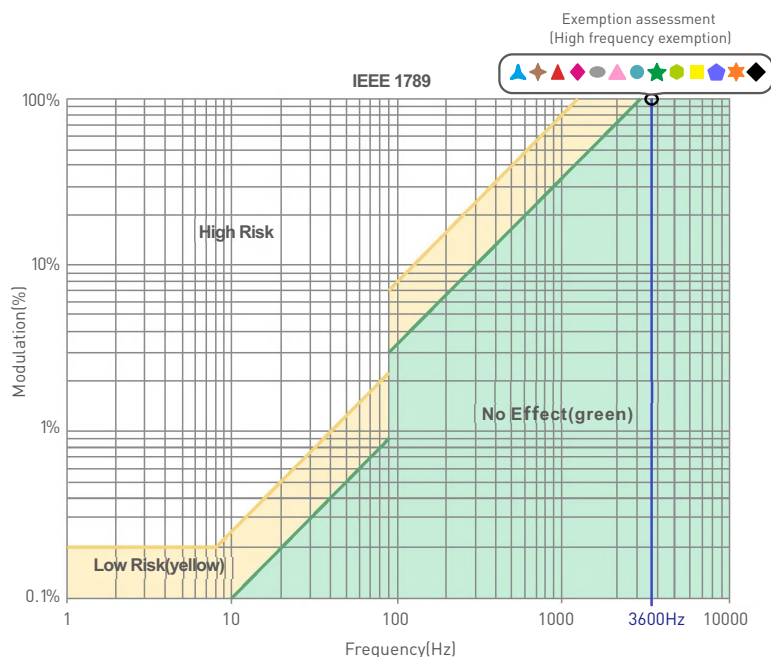


Flicker Test Table

IEEE 1789	
Limit value of Modulation in Low Risk Areas	
Waveform frequency of Optical output (f)	Limit value (%)
$f \leq 8\text{Hz}$	0.2
$8\text{Hz} < f \leq 90\text{Hz}$	$0.025 \times f$
$90\text{Hz} < f \leq 1250\text{Hz}$	$0.08 \times f$
$f > 1250\text{Hz}$	Exemption assessment
Limit value of Modulation in No Effect Areas	
Waveform frequency of Optical output (f)	Limit value (%)
$f \leq 10\text{Hz}$	0.1
$10\text{Hz} < f \leq 90\text{Hz}$	$0.01 \times f$
$90\text{Hz} < f \leq 3125\text{Hz}$	$(0.08/2.5) \times f$
$f > 3125\text{Hz}$	Exemption assessment (High frequency exemption)

Brightness

- ▲ 0.1%
- ◆ 1%
- ▲ 5%
- ◆ 10%
- 20%
- 30%
- 40%
- ★ 50%
- 60%
- 70%
- ★ 80%
- ★ 90%
- ◆ 100%

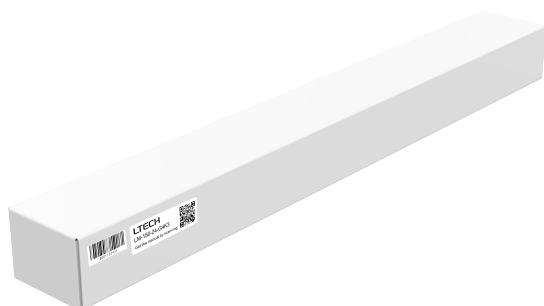


Marks in the right chart are tested results of different current levels
The output frequency is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.

Packaging Specifications

Model	LM-150-24-G4K3
Carton Dimensions	370×340×93mm(L×W×H)
Quantity	10 PCS/Layer; 2 Layers/Carton; 20 PCS/Carton
Weight	0.43 kg/PC; 9.4 kg/Carton

Packaging Image



Inner Packaging Box



Carton Packaging

Transportation and Storage

1. Transportation

Products can be shipped via vehicles, boats and planes.

During transportation, products should be protected from rain and sun. Please avoid severe shock and vibration during the loading and unloading process.

2. Storage

The storage conditions should comply with the Class I Environmental Standards. The products that have been stored for more than six months are recommended to be re-inspected and can be used only after they have been qualified.

Attentions

- Product installation and commissioning should be done by a qualified professional.
- LTECH products are and not lightningproof non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure they are mounted in a water proof enclosure or in an area equipped with lightning protection devices.
- Good heat dissipation will prolong the working life of products. Please ensure good ventilation.
- Please check if the working voltage used complies with the parameter requirements of products.
- The diameter of wire used must be able to load the light fixtures you connect and ensure the firm wiring.
- Before you power on products, please make sure all the wiring is correct in case of incorrect connection that causes damage to light fixtures.

If a fault occurs, please do not attempt to fix products by yourself. If you have any question, please contact your suppliers.

* This manual is subject to changes without further notice. Product functions depend on the goods. Please feel free to contact our official distributors if you have any question.

Warranty Agreement

- Warranty periods from the date of delivery: 5 years.
- Free repair or replacement services for quality problems are provided within warranty periods.

Warranty exclusions below:

- Beyond warranty periods.
- Any artificial damage caused by high voltage, overload, or improper operations.
- Products with severe physical damage.
- Damage caused by natural disasters and force majeure.
- Warranty labels and barcodes have been damaged.
- No any contract signed by LTECH.

1. Repair or replacement provided is the only remedy for customers. LTECH is not liable for any incidental or consequential damage unless it is within the law.
2. LTECH has the right to amend or adjust the terms of this warranty. The warranty that issues in writing shall prevail.

Update Log

Version	Updated Time	Update Content	Updated by
A0	2021.08.05	Original version	Liu Weili
A1	2022.01.24	Modify the wiring application diagram	Liu Weili
A2	2022.02.28	Update output terminal wire diameter and stripping length	Liu Weili
A3	2023.12.25	Updated parameters and silk screen to the latest version, added corresponding certification icons and updated attentions	Li Siyu
A4	2024.06.03	Updated silk screen to the latest version and removed corresponding certification icons	Li Siyu

LED智能全彩驱动器 (恒压型)

- 体积小、重量轻；外壳采用科思创/三星PC阻燃V0级原料
- 免螺丝压线翻盖设计，可拆卸端盖，按需调节壳体长度
- 调光范围0~100%，LED从0.1%开始调光
- 调光接口：DMX512/RDM, DALI-2 DT8, Push
- 高效能电源：效率93%、PF>0.98、THD<6%
- 符合欧盟能效EPR指令，待机功耗<0.5W
- 信号光电隔离设计，更加安全可靠
- 创新的热管理技术，智能保护电源寿命
- 短路、过温、过载、过压保护，可自动恢复
- 高达50,000小时的额定寿命
- 5年保修期（采用红宝石电容）



无频闪
IEEE 1789
高频豁免考核级别

0~100%调光

Dimmable:
0.1%-100%

RGBW彩光调节



RoHS

SELV

ErP



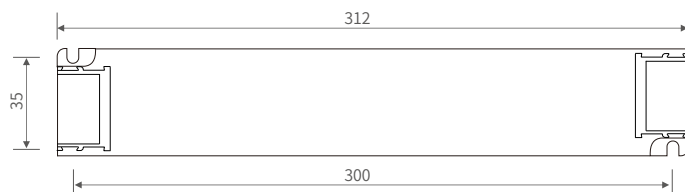
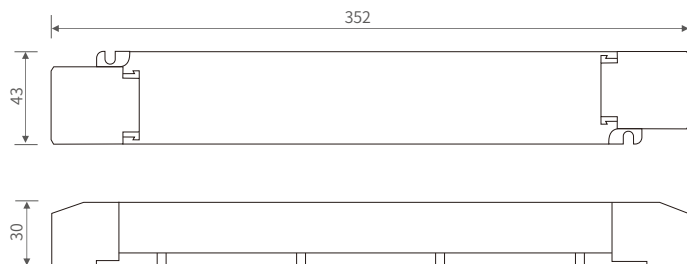
技术参数

型号	LM-150-24-G4K3		
特征	输出类型	恒压	
	调光接口	DMX512/RDM, DALI-2 DT8, Push (可以通过OEM定制成DALI-2 DT6)	
	输出特征	隔离	
	防护等级	IP20	
	绝缘等级	II类 (适用于室内 I、II、III类灯具)	
输出	输出电压	24Vdc	
	输出电压范围	24Vdc ± 0.5Vdc	
	输出电流	Max. 6.25A (1.56Ax4CH)	
	输出功率	Max. 150W	
	输出功率范围	0~150W	
	频闪级别	高频豁免考核级别	
	调光范围	0~100%，调光深度: Max. 0.1%	
	过载功率限制	≥102%	
	纹波与噪声	开关纹波≤150mV, 噪声≤300mV	
	PWM调光频率	3600Hz	
输入	直流电压范围	200-280Vdc	
	交流电压范围	198-264Vac	
	额定电压	220-240Vac	
	频率范围	50/60Hz	
	输入电流	≤0.75A/230Vac	
	功率因数	PF>0.98/230Vac (满载)	
	谐波THD	THD<6%@230Vac (满载)	
	效率(Typ.)	93%	
	待机功耗	<0.5W	
	浪涌电流	冷启动, 45A (在50%peak下测twidth=840us)@230Vac	
	抗浪涌	L-N: 2KV	
	漏电流	Max. 0.5mA	
环境	工作温度	ta: -20 ~ 50°C tc: 85°C	
	工作湿度	20 ~ 95%RH, 无冷凝	
	储存温度/湿度	-40 ~ 80°C/10~95%RH	
	温度系数	±0.03%/°C(0-50°C)	
	耐振动	10-500HZ, 2G 12分钟/周期, X,Y,Z轴各72分钟	
保护	过温保护	根据PCB温度超标情况(≥110°C), 智能调节电流输出或关闭, 可自动恢复	
	过载保护	负载电流≥102%, 关闭输出, 可自动恢复	
	短路保护	输出线路短路进入打嗝模式, 可自动恢复	
	过压保护	空载电压≥28V, 关闭输出, 可自动恢复	
安规和电磁规格	耐压	输入对输出: 3750Vac	
	绝缘阻抗	输入对输出: 100MΩ/500VDC/25°C/70%RH	
	安全规范	CCC	中国 GB19510.1, GB19510.14
		CE	欧盟 EN61347-1, EN61347-2-13, EN62384
	电磁兼容发射	CCC	中国 GB/T17743, GB17625.1
		CE	欧盟 EN55015, EN61000-3-2, EN61000-3-3, EN61547
	电磁兼容抗扰度	EN61000-4-2,3,4,5,6,8,11, EN61547	
其他	频闪测试标准	IEEE 1789	
	产品质量	430g±10g	
	产品尺寸	352×43×30mm(L×W×H)	

本款驱动器适合连接电阻限流的LED灯具（如LED灯条）。如果连接内置恒流IC限流的灯具，会产生几十倍的瞬间浪涌电流，导致驱动器会执行过载保护（打嗝频闪）。下单时这类内置恒流IC限流的灯具需要注明（如MR16灯杯、地埋灯、洗墙灯、恒流硬灯条等），以便烧写特殊程序。

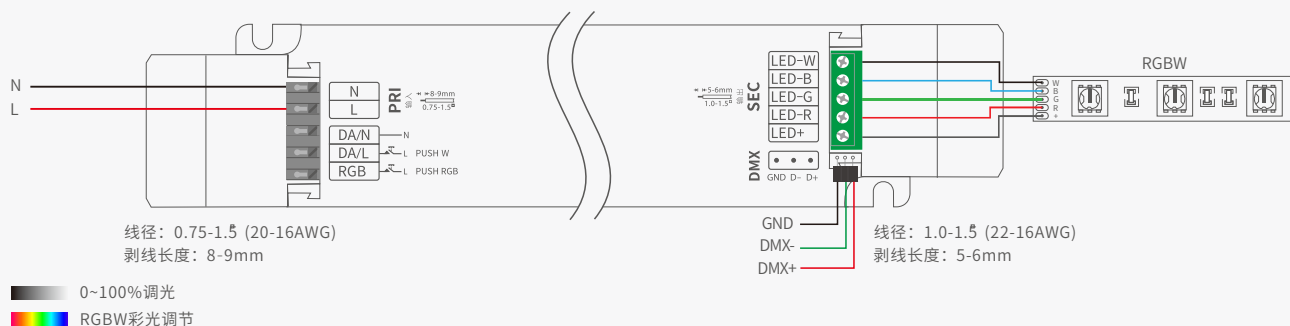
尺寸图

单位: mm

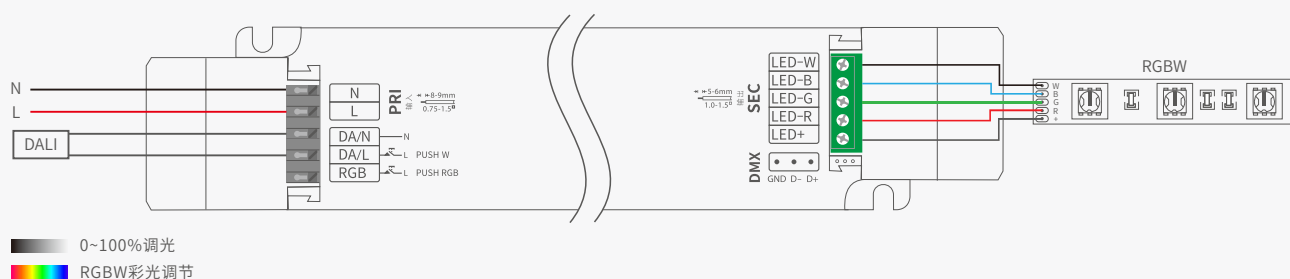


连接应用图

DMX/RDM 连接方式



DALI 连接方式



Push W/RGB 连接方式



Push W/RGB



复位开关

Push W按键

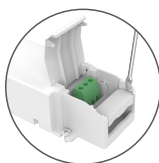
- 该按键用于调节W(白光)亮度与RGB(彩光)亮度,某时刻只能调节其中一种,通过双击PUSH RGB按键切换;
- 当调节W(白光)亮度时:短按开/关,长按调节W(白光)亮度,此时RGB(彩光)亮度及颜色不受影响;
- 当调节RGB(彩光)亮度时:短按开/关,长按调节RGB(彩光)亮度,此时W(白光)亮度不受影响;

Push RGB按键

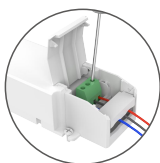
- 短按RGB(彩光)颜色值及亮度达到最大,长按调节RGB(彩光)颜色。

保护盖应用图

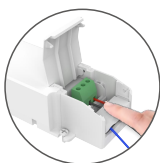
压线板



1. 使用工具撬起压线板侧边即可拆下。



2. 使用螺丝批按照接线图接线。

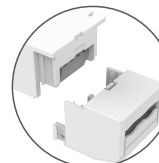
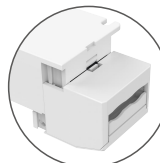


3. 向下按压压线板固定住线合上保护盖即可。

保护盖的拆装



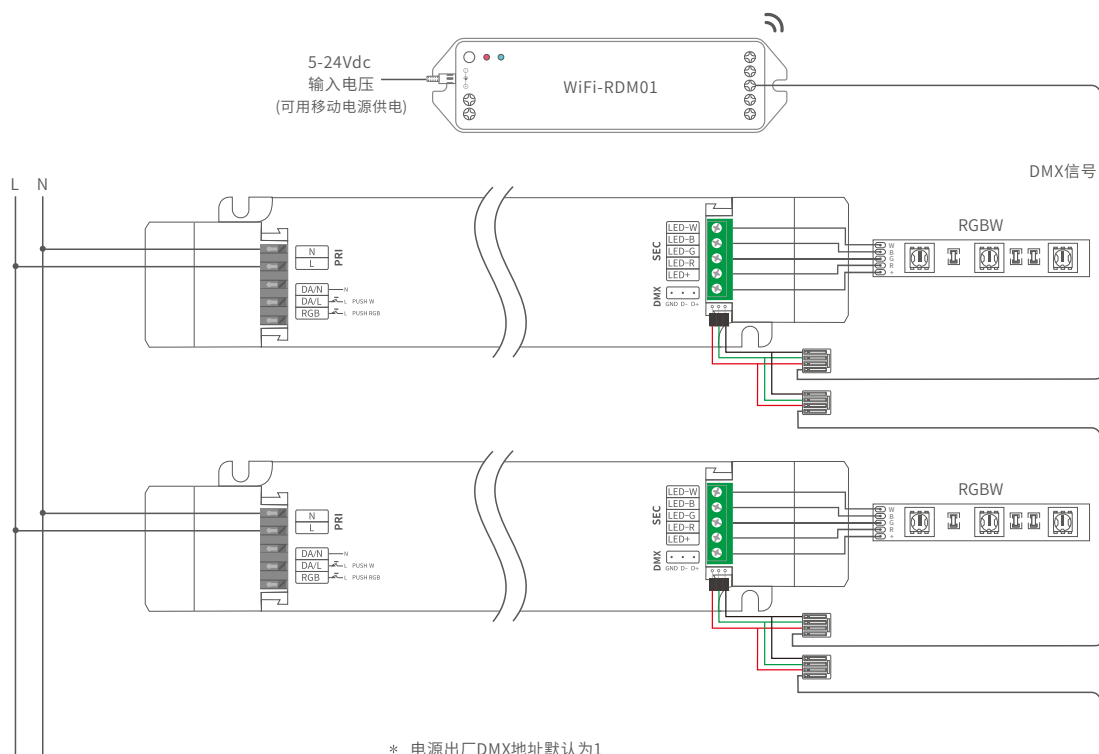
在底部左右掰动,即可将保护盖拆下。



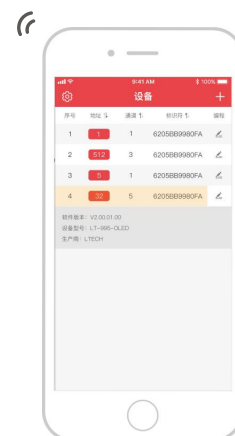
DMX地址设置

DMX电源可以与遵从标准RDM协议的地址编辑器配合使用。

建议使用LTECH的RDM编辑器(型号WiFi-RDM01),可实现手机远程浏览、设置参数、查询输出功率、修改电流等。



* 电源出厂DMX地址默认为1



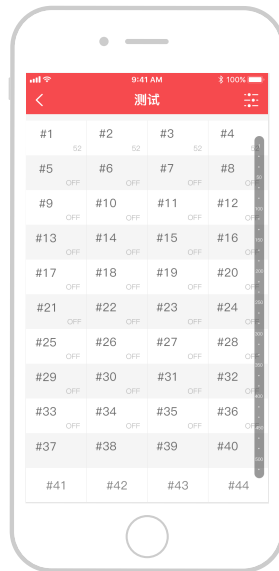
LTECH RDM编程器APP界面介绍

手机下载APP, 与RDM编辑器连接成功后, 即可通过APP设置参数, 具体请参看WiFi-RDM01的使用说明书。

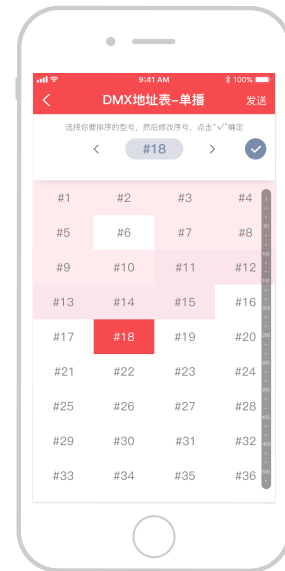
- 在首页界面, 点击对应设备的"地址"方框即可编辑设备地址;
- 点击"标识符"出现设备详细信息;
- 点击序号发出识别命令;
- 点击右上角设置按钮, 进入设置界面。可以进行测试、编写DMX地址等。



首页



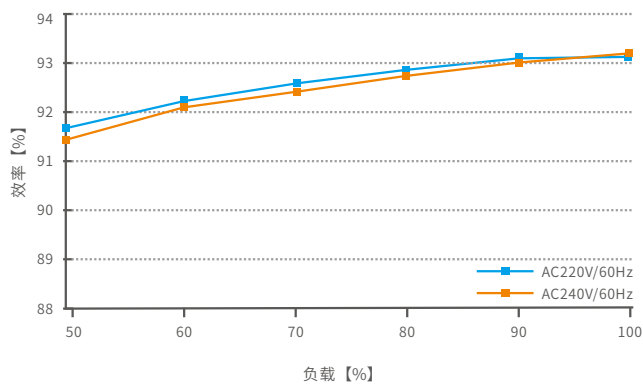
测试



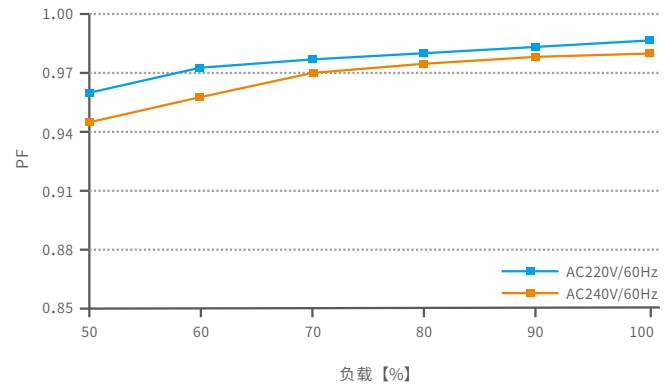
DMX地址设置

关系图表

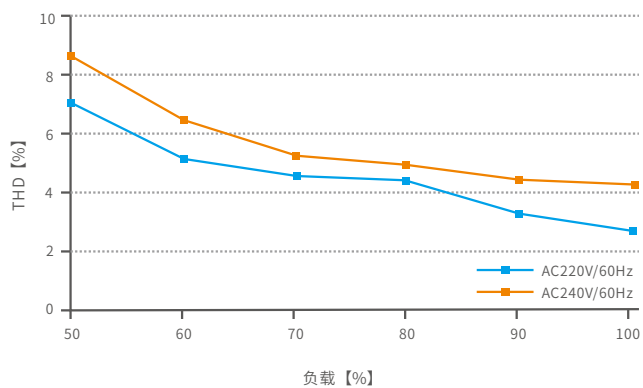
效率与负载关系图



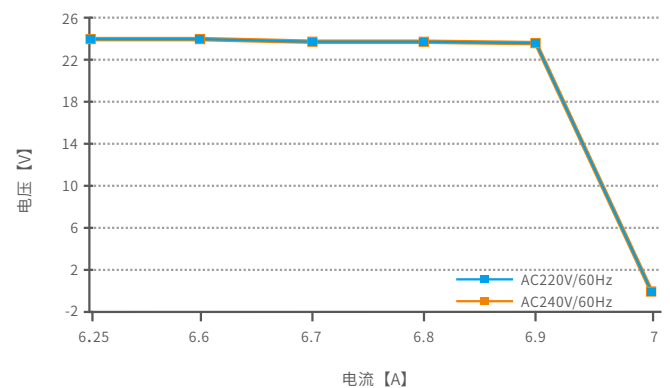
功率因素特征图



THD与负载关系图



过载曲线

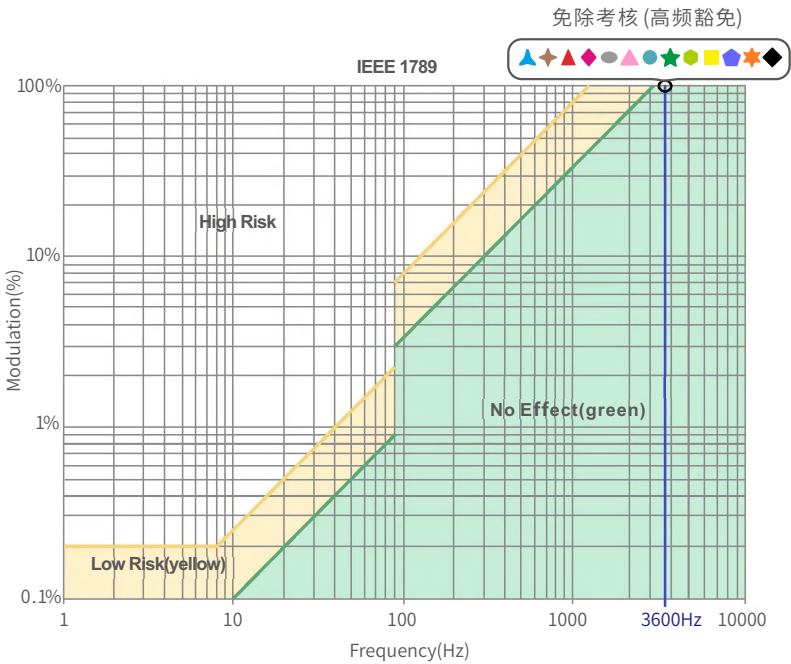


频闪测试表

IEEE 1789

低风险区域 (Low Risk) 的波动深度 (Modulation) 限值	
光输出波形频率 (f)	限值 (%)
f ≤ 8Hz	0.2
8Hz < f ≤ 90Hz	0.025 × f
90Hz < f ≤ 1250Hz	0.08 × f
f > 1250Hz	免除考核
无风险区域 (No Effect) 的波动深度 (Modulation) 限值	
光输出波形频率 (f)	限值 (%)
f ≤ 10Hz	0.1
10Hz < f ≤ 90Hz	0.01 × f
90Hz < f ≤ 3125Hz	(0.08/2.5) × f
f > 3125Hz	免除考核(高频豁免)

- 亮度
- ▲ 0.1%
 - ▲ 1%
 - ▲ 5%
 - ▲ 10%
 - 20%
 - ▲ 30%
 - ★ 40%
 - ★ 50%
 - ★ 60%
 - ★ 70%
 - ★ 80%
 - ★ 90%
 - ◆ 100%



右图标识为不同电流档的测试结果。
100%亮度时输出频率为0Hz, 对应波动深度为0%, 无法在右图中示意。

包装规格

型号	LM-150-24-G4K3
包装箱尺寸	370×340×93mm(L×W×H)
数量	10 PCS/层; 2层/箱; 20 PCS/箱
重量	0.43 kg/PC; 9.4 kg/箱

包装样式图



内包装盒



整箱包装

运输和贮存

1. 运输

产品适用车、船、飞机交通运输工具运输。

在运输中，应使用遮篷进行防雨和防晒，并保持文明装卸，不应有剧烈振动、撞击等。

2. 贮存

贮存符合 I 类环境的规定。贮存期限超过6个月的产品建议重新检验，合格后方可使用。

注意事项

- 请由具有专业资格的人员进行调试安装;
- 雷特产品 (专有型号除外) 不能防水防雷, 需避免日晒雨淋, 如安装在户外, 请用防水箱和防雷装置;
- 良好的散热条件会延长产品的使用寿命, 请把产品安装在通风良好的环境;
- 请检查使用的工作电压是否符合产品的参数要求;
- 使用的电线直径大小必须能够负载连接的LED灯具, 并确保接线牢固;
- 通电调试前, 应确保所有接线正确, 以避免因接线错误而导致灯具损坏;
- 如果发生故障, 请勿私自维修; 如有疑问, 请联系供应商。

* 本说明书的内容如有变更, 恕不另行通知。若内容与您使用的功能有所不同, 则以实物为准。如有疑问, 欢迎向我司授权的经销商咨询。

保修条例

- 自出厂之日起保修服务期为5年。
- 在保修服务期内出现产品质量问题雷特将给予免费修理或更换服务。

非保修条例:

属下列情况不在免费保修或更换服务范围之内:

- 已经超出保修服务期;
 - 过高电压、超负载、操作不当等人为造成的损坏;
 - 产品外形严重损坏或变形;
 - 自然灾害以及人力不可抗拒原因造成的损坏;
 - 产品保修标签和产品唯一条形码损坏;
 - 无雷特签订的合同或发票凭证。
1. 修理或更换是雷特对客户的一补救措施。雷特不承担任何附带引起的损害赔偿, 除非在适用法律范围之内。
 2. 雷特享有修正或调整本保修条款的权利, 并以书面形式发布为准。

更新日志

版本	更改日期	更改内容	更改人
A0	2021.08.05	正稿	刘伟丽
A1	2022.01.24	修改接线应用图	刘伟丽
A2	2022.02.28	更新输出端子线径和剥线长度	刘伟丽
A3	2023.12.25	修改说明书内容第一页删除DT6，丝印更新为最新的版本，添加相应认证图标，第二页删除DT6，第六页更新注意事项	李思雨