LTECH

LM-150-24-G1T2F
LM-150-12-G1T2F

Triac/ELV Push DIM

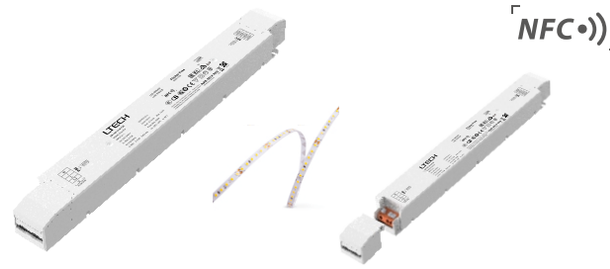
Intelligent LED Driver (Constant Voltage)

- 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.
- With soft-on and fade-in dimming function, enhancing your visual comfort.
- Parameters such as lighting voltage, PWM frequency and power transition time can be changed through the mobile APP.The drive data interaction function is realized
- High frequency exemption level.
- Dimming from 0~100%, down to 0.1%.
- Support Leading edge (Triac), Trailing edge (ELV) and Push DIM.
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, over voltage , overload, short circuit protection and automatic recovery.
- Suitable for ClassⅠ/Ⅱ/Ⅲ indoor light fixtures.
- Up to 50,000-hour life time.
- 5-year warranty (Rubycon capacitor).

Flicker-Free
IEEE 1789
Achieve the exemption level.

Dimmable:
10000 : 1

NFC



The certification icon only represents that the product is in the process of this series of certification applications, certification qualifications to the product shall prevail.

Triac/ELV Push DIM | PWM Digital Dimming | Over Temp. Protection | Short Circuit Protection | Over Load Protection | V Over voltage protection

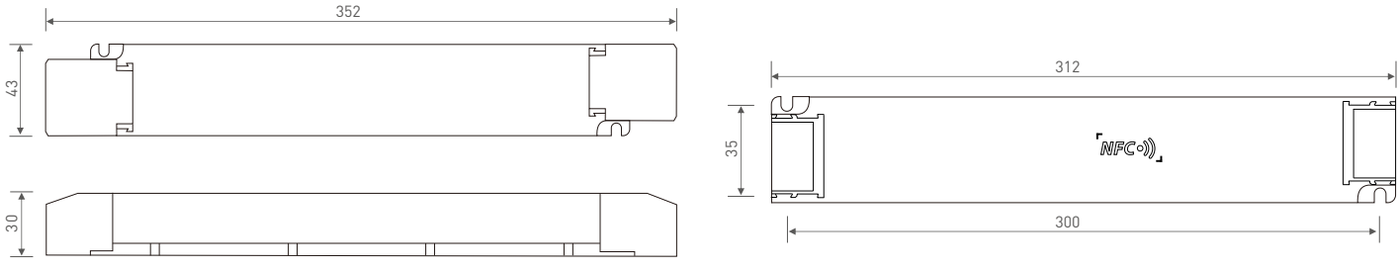
Technical Specs

Model		LM-150-24-G1T2F			LM-150-12-G1T2F
OUTPUT	Output Voltage	24Vdc			12Vdc
	Output Voltage Range	24Vdc ± 0.5Vdc			12Vdc ± 0.5Vdc
	Output Current	Max. 6.25A			Max. 12.5A
	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	≥102%			
	Ripple	≤200mV			
	PWM frequency	≤22000Hz(NFC setting range: 300-22000Hz)			
INPUT	Dimming Interface	Triac/ELV, Push DIM			
	Dc voltage	220-240Vdc			
	Input Voltage	220-240Vac			
	Frequency	0/50/60Hz			
	Emergency output coefficient	EoFi =99.6%			
	Input Current	≤0.75A/230Vac			
	Power Factor	PF>0.98/230Vac (at full load)			
	THD	THD＜6%@230Vac (at full load)			
	Efficiency (typ.)	91%			90%
	Inrush Current	Cold start 45A/230Vac			
	Anti Surge	L-N: 2KV			
	Leakage Current	Max. 0.5mA			
ENVIRONMENT	Working Temperature	ta: -20 ~ 50°C tc: 90°C			
	Working Humidity	20 ~ 95%RH, non-condensing			
	Storage Temperature,Humidity	-40 ~ 80°C, 10~95%RH			
	Temperature Coefficient	±0.03%/°C(0-50°C)			
	Vibration	10~500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively			
PROTECTION	Overheat Protection	Intelligently adjust or turn off the output current if the PCB temperature ≥110°C, and recover automatically			
	Overload Protection	Shut down the output when current load≥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≥28V, and recover automatically			Shut down the output when non-load voltage≥16V, and recover automatically
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vac			
	Isolation Resistance	I/P-O/P: 100MΩ/500VDC/25°C/70%RH			
	Safety Standards	CCC	China	GB19510.1, GB19510.14	
		TUV	Germany	EN61347-1, EN61347-2-13, EN62493	
		CB	CB member states	IEC61347-1, IEC61347-2-13	
		CE	European Union	EN61347-1, EN61347-2-13, EN62384, EN61547	
		KC	Korea	KC61347-1, KC61347-2-13	
		EAC	Russia	IEC61347-1, IEC61347-2-13	
		RCM	Australia	AS 61347-1, AS 61347-2-13	
		ENEC	Europe	EN61347-1, EN61347-2-13, EN62384	
		UKCA	Britain	BS EN 61347-2-13:2014+A1:2017, BS EN 61347-1:2015+A1:2021	
	EMC Emission	CCC	China	GB/T17743, GB17625.1	
		CE	European Union	EN55015, EN61000-3-2, EN61000-3-3, EN61547	
		KC	Korea	KN15, KN61547	
		EAC	Russia	IEC62493, IEC61547, EH55015	
		RCM	Australia	EN55015, EN61000-3-2, EN61000-3-3, EN61547	
		UKCA	Britain	BS EN IEC 55015:2019/A11:2020, BS EN 61547:2009, BS EN IEC 61000-3-2:2019, BS EN 61000-3-3:2013/A1:2019	
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547			
	Strobe Test Standard	IEEE 1789			
ErP	Power Consumption	No-load power consumption			
	Flicker/Stroboscopic Effect	IEEE1789		Meet IEEE 1789 standard/High frequency exemption level	
		CIE SVM		Pst LM≤1.0, SVM≤0.4	
	DF	Phase factor		DF≥0.9	
OTHERS	Gross weight(G.W)	460g±10g			
	Dimensions	352×43×30mm(L×W×H)			
	Package size	355×44×33mm(L×W×H)			
	Carton Size	370×340×93mm(L×W×H) 20pcs/ctn 9.4kg±5%/ctn			

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.

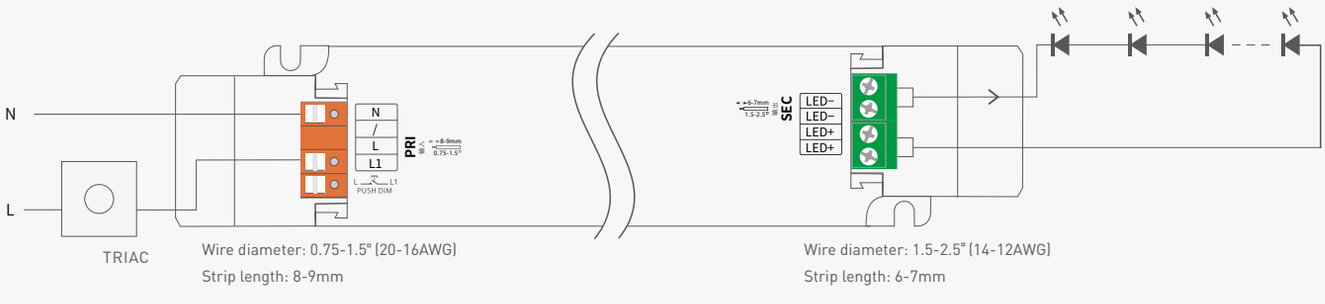
Product Size

Unit: mm



Wiring Diagram

Triac Connection

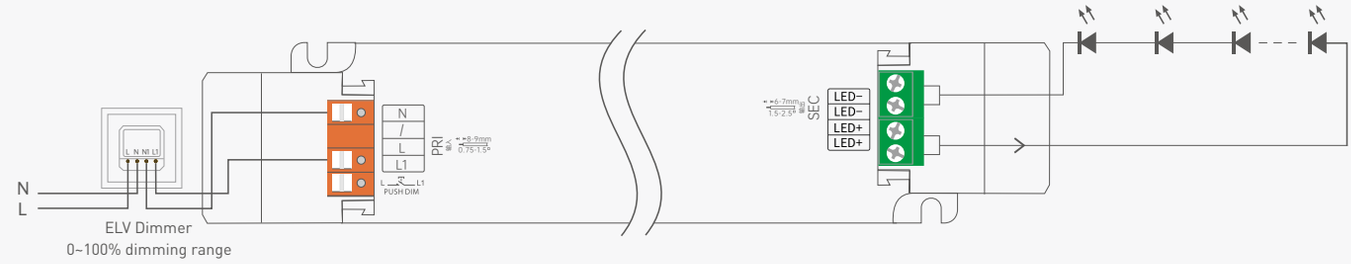


Wire diameter: 0.75-1.5² (20-16AWG)
Strip length: 8-9mm

Wire diameter: 1.5-2.5² (14-12AWG)
Strip length: 6-7mm

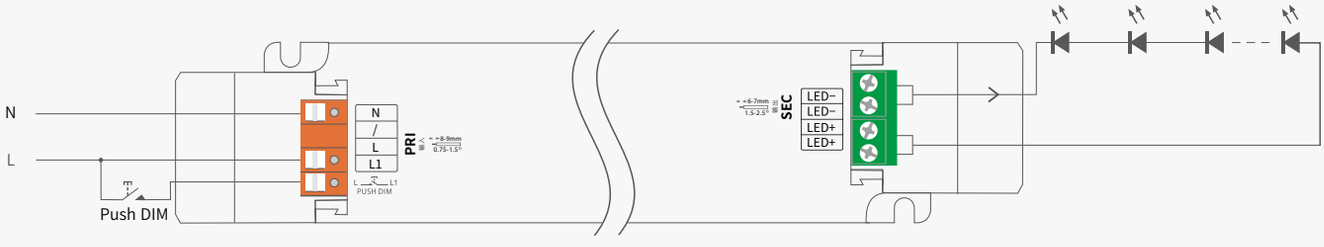
0~100% dimming range

ELV Connection



0~100% dimming range

Push DIM Connection



0~100% dimming range
Short press to turn on/off
Long press to dim

* Push Dim is invalid under DC voltage input.
* Dimming interface priority: Triac first , Push DIM next.

Push DIM

Reset switch

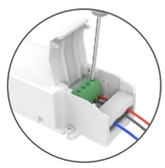
- On/off control: Short press.
- Stepless dimming: Long press.
- With every other long press, the brightness goes to the opposite direction.
- Dimming memory: The lights will return to its previous brightness value when short press on PUSH DIM button.

  Power on again after power cut, the output brightness is subjected to the input voltage of drivers.

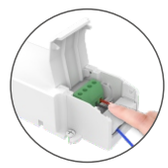
Protective Housing Application Diagram

Tension plate

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

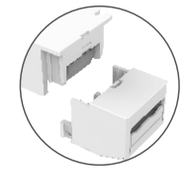


2. Connect to electrical wires with a screwdriver as wiring diagram shows.



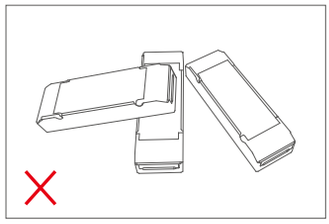
3. Press down the tension plate to fix the the electrical wires, then close the protective housing.

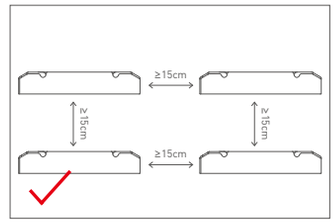
Remove the protective housing



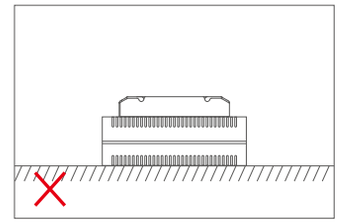
Pull the housing left and right from the bottom to remove it.

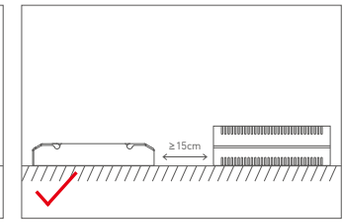
Installation Precautions



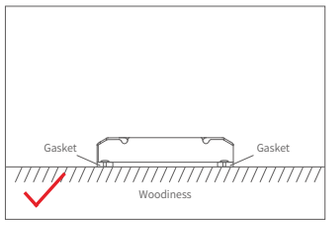


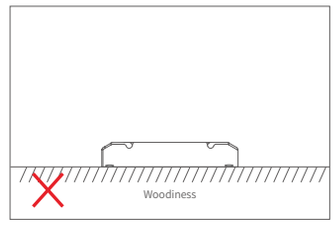
Please do not stack the products. The distance between two products should be ≥15cm so as not to affect heat dissipation and the lifespan of the products.





Please not place the products on LED drivers. The distance between the product and the driver should be ≥15cm so as not to affect heat dissipation and shorten the lifespan of the products.





Do not fix the product screws tightly against the wooden board. Instead, add a washer with a thickness of ≥ 7mm under the fixing screws.
Leaving some gaps can effectively dissipate heat, preventing any impact on the product's heat dissipation performance and service life.

Use the NFC Lighting APP

Scan the QR code below with your mobile phone and follow the prompts to complete the APP installation (According to performance requirements, you need to use a NFC-capable Android phone, or an iphone 8 and later that are compatible with iOS 13 or higher).

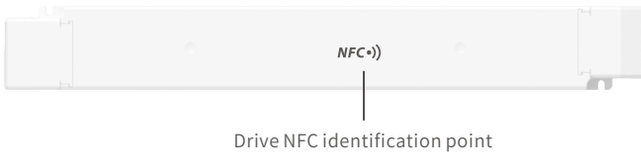
✱ Before you begin setting the parameters of the driver, please make sure the driver is powered off.

Read/Write the LED driver

Use your NFC-capable phone to read LED driver data, then edit the parameters and they can be directly written to the driver.

1. Read the LED driver

On the APP home page, click【Read/Write LED driver】, then keep the programmer's sensing area close to the NFC logo of the driver to read the driver parameters.

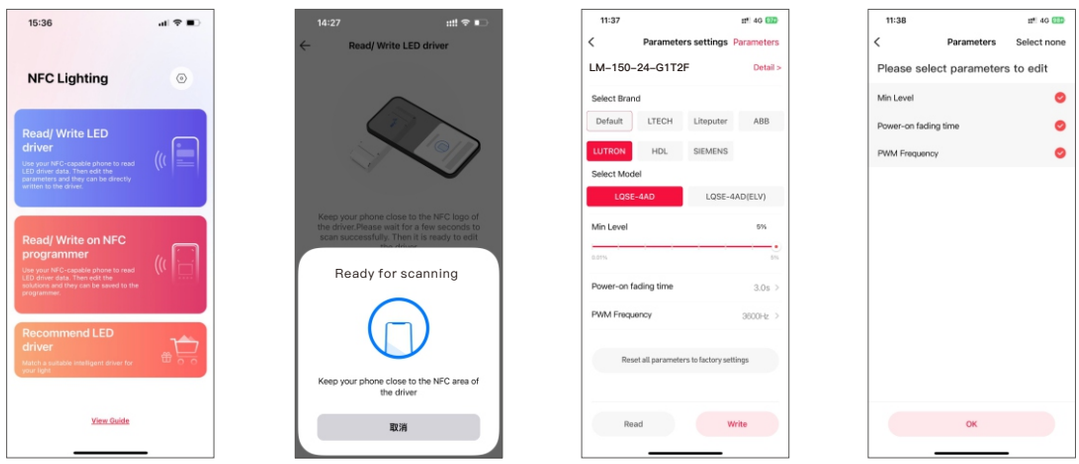


2. Edit the parameters

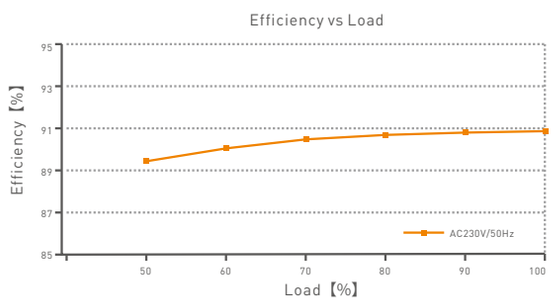
Click【Parameter Management】to edit the Min level, power-on fading time, PWM frequency and other parameters.

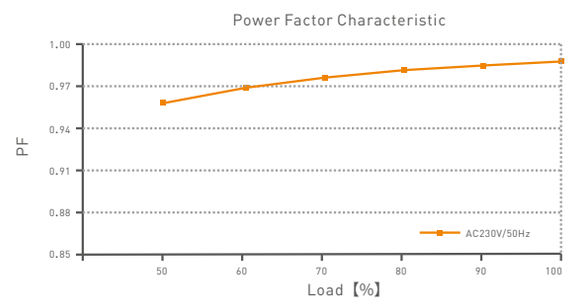
3. Write to the driver

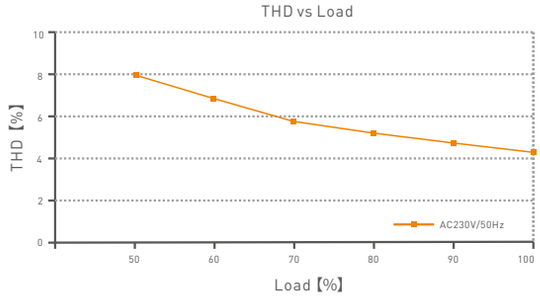
After completing the parameter settings, click 【Write】 in the upper right corner, and keep the programmer's sensing area close to the NFC logo of the driver, so the parameters can be written to the driver.

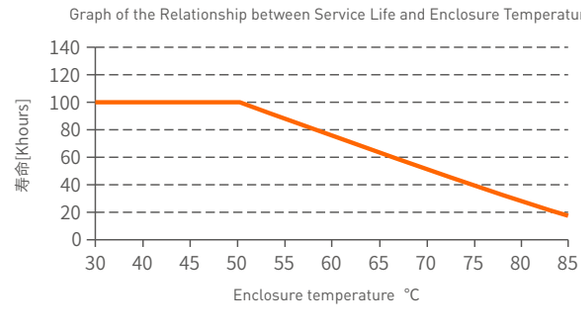


Relationship Diagrams

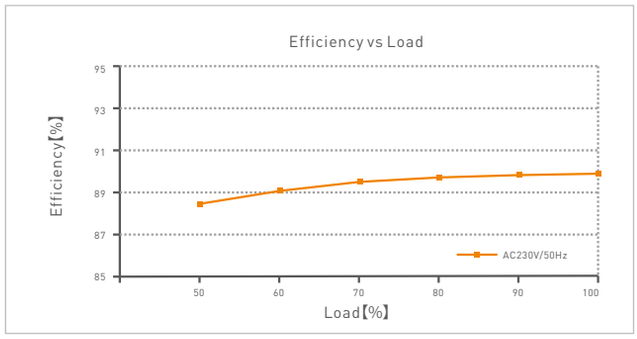


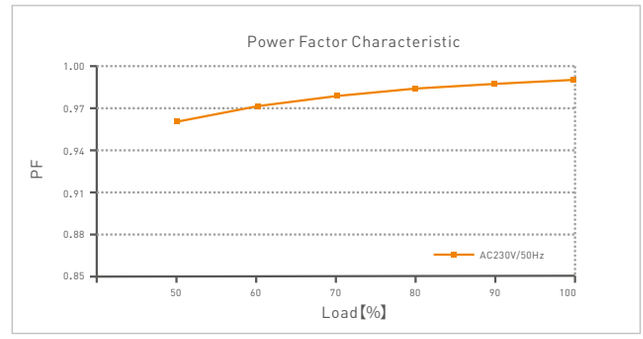


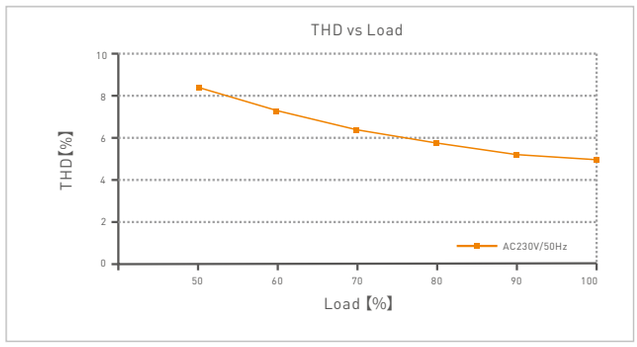


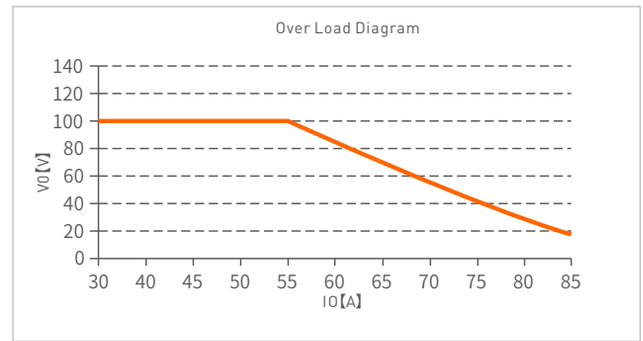


LM-150-24-G1T2F









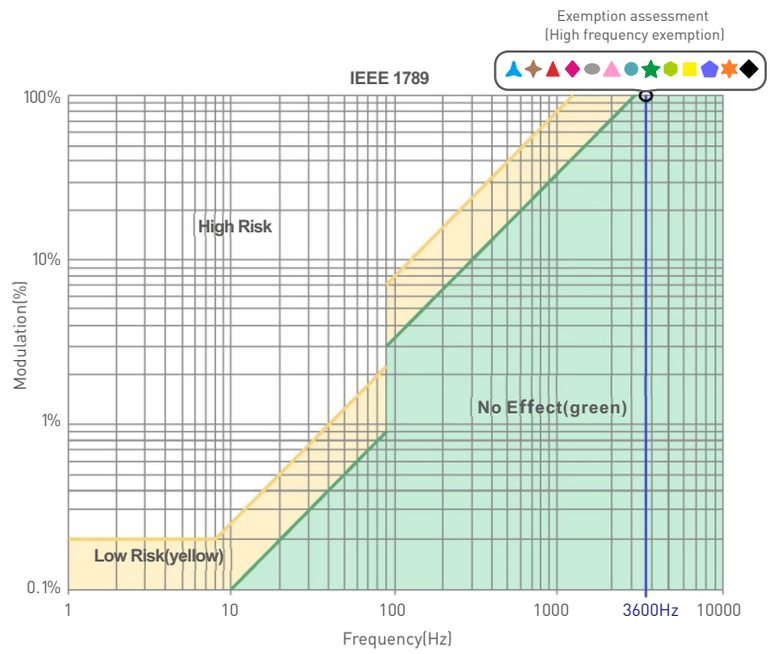
LM-150-12-G1T2F

Flicker Test Table

Limit Value of Modulation in Low Risk Areas	
Waveform frequency of Optical output (f)	Limit value (%)
f ⩽ 8Hz	0.2
8Hz < f ⩽ 90Hz	0.025 × f
90Hz < f ⩽ 1250Hz	0.08 × f
f > 1250Hz	Exemption assessment
Limit Value of Modulation in No Effect Areas	
Waveform frequency of Optical output (f)	Limit value (%)
f ⩽ 10Hz	0.1
10Hz < f ⩽ 90Hz	0.01 × f
90Hz < f ⩽ 3125Hz	(0.08/2.5) × f
f > 3125Hz	Exemption assessment (High frequency exemption)

IEEE 1789 Brightness

0.1%
1%
5%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

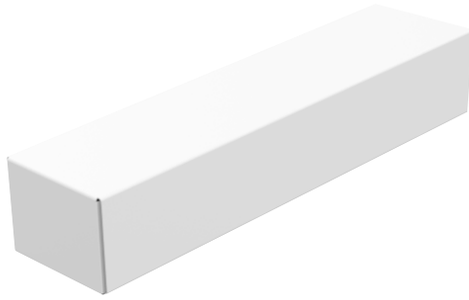


Marks in the right chart are tested results of different current levels. The output frequency is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.

Packing Specification

Model	LM-150-12-G1T2F、LM-150-24-G1T2F
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 Pattern Drawing



Inner box

FCL packing

Transport and Storage

1. Transportation

The product is suitable for vehicle, ship and aircraft transportation.

During transportation, the awning should be kept in and out of the sun, and maintained.

There should be no violent vibration, impact, etc., during loading and unloading.

2.storage

Storage meets the requirements of Class I environment. Products with a storage period of more than 6 months are recommended to be re-inspected before they can be used.

Matters Needing Attention

- Please be commissioned and installed by professionally qualified personnel;
- Ltech products (except proprietary models) can not be waterproof and lightning protection, to avoid the sun and rain, if installed outdoors, please use water tank and lightning protection devices;
- Good heat dissipation conditions will extend the service life of the product, please install the product in a well-ventilated environment;
- Please check whether the working voltage used meets the parameter requirements of the product;
- The diameter of the wire used must be enough to load the connected LED lamps and ensure that the wiring is firm;
- Before power commissioning, ensure that all wiring is correct to avoid damage to the lamp due to wiring errors;
- If there is a fault, please do not repair it. If in doubt, contact the supplier.

* The contents of this manual are subject to change without prior notice. If the content is different from the function you are using, the physical version shall prevail. If you have any questions, please consult our authorized dealers.

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, and release in written form shall prevail.

LTECH

LM-150-24-G1T2F
LM-150-12-G1T2F

Triac/ELV Push DIM

LED智能调光驱动器 (恒压型)

- 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
- 使用手机APP，通过NFC可更改起亮电压、PWM频率、通电渐变时间等参数，实现驱动器数据交互功能
- 带软启动渐亮功能，让人眼视觉更舒服
- 高频豁免考核级别
- 调光范围0~100%，LED从0.1%开始调光
- 前沿(Triac)，后沿(ELV)切相和PUSH DIM
- 信号光电隔离设计，更加安全可靠
- 短路、过温、过载、过压保护, 可自动恢复
- 适合室内I、II、III类灯具应用
- 常规使用下寿命可达10万小时
- 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

Dimmable:
10000 : 1

认证图标仅代表产品正在进行这一系列的认证申请，认证资质以产品实物为准。

Triac/ELV Push DIM | PWM 数字调光 | 过温保护 | 短路保护 | 过载保护 | 过压保护

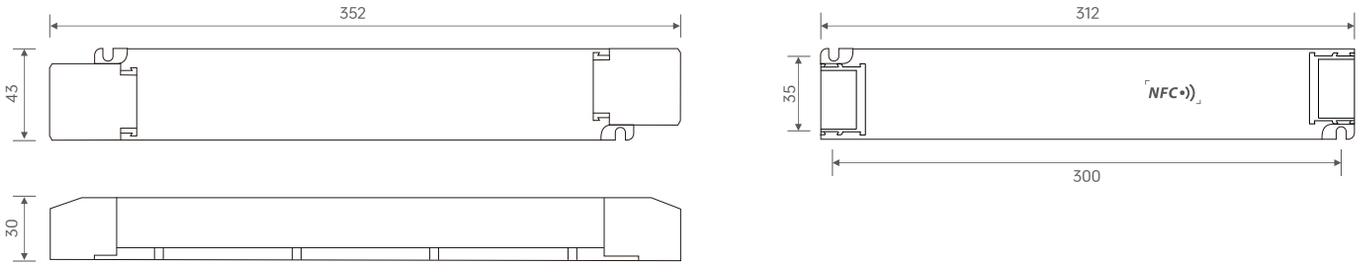
技术参数

型号		LM-150-24-G1T2F			LM-150-12-G1T2F
输出	输出电压	24Vdc			12Vdc
	输出电压范围	24Vdc ± 0.5Vdc			12Vdc ± 0.5Vdc
	输出电流	Max. 6.25A			Max. 12.5A
	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. 0.01%			
	过功率限制	≥102%			
	纹波	≤200mV			
	PWM频率	≤22000Hz(NFC设置范围300-22000Hz)			
输入	调光接口	前沿Triac/后沿ELV切相, Push DIM			
	直流电压	220-240Vdc			
	输入电压	220-240Vac			
	频率范围	0/50/60Hz			
	应急输出系数	EoF_1=99.6%			
	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.)	91%			90%
	浪涌电流	冷启动, 45A(在50%Ipeak下测twidth=460us)@230Vac			
	抗浪涌	L-N: 2KV			
	漏电流	Max. 0.5mA			
环境	工作温度	ta: -20 ~ 50°C tc: 90°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			空载电压≥16V, 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	
		TUV	德国	EN61347-1，EN61347-2-13，EN62493	
		CB	CB成员国	IEC61347-1，IEC61347-2-13	
		CE	欧盟	EN61347-1，EN61347-2-13，EN62384	
		KC	韩国	KC61347-1，KC61347-2-13	
		EAC	俄罗斯	IEC61347-1，IEC61347-2-13	
		RCM	澳洲	AS 61347-1，AS 61347-2-13	
		ENEC	欧洲	EN61347-1，EN61347-2-13，EN62384	
		UKCA	英国	BS EN 61347-2-13:2014+A1:2017，BS EN 61347-1:2015+A1:2021	
	电磁兼容发射	CCC	中国	GB/T17743，GB17625.1	
		CE	欧盟	EN55015，EN61000-3-2，EN61000-3-3，EN61547	
		KC	韩国	KN15，KN61547	
		EAC	俄罗斯	IEC62493，IEC61547，EH55015	
		RCM	澳洲	EN55015，EN61000-3-2，EN61000-3-3，EN61547	
		UKCA	英国	BS EN IEC 55015:2019/A11:2020，BS EN 61547:2009，BS EN IEC 61000-3-2:2019，BS EN 61000-3-3:2013/A1:2019	
	电磁兼容抗扰度	EN61000-4-2,3,4,5,6,8,11，EN61547			
	频闪测试标准	IEEE 1789			
ErP	功耗	空载功耗		无空载模式	
	频闪/频闪效应	IEEE 1789		满足无影响/高频豁免考核级别	
		CIE SVM		Pst LM≤1.0，SVM≤0.4	
	DF	相位因素		DF≥0.9	
其他	产品重量	460g±10g			
	产品尺寸	352×43×30mm(L×W×H)			
	包装尺寸	355×44×33mm(L×W×H)			
	外箱规格	370×340×93mm(L×W×H) 20个/箱 9.4kg±5%/箱			

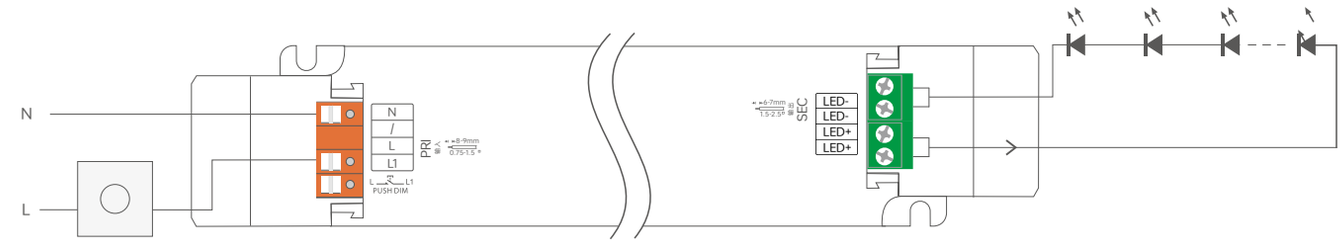
本款驱动器适合连接电阻限流的LED灯具(如LED灯条)。如果连接内置恒流IC限流的灯具，会产生几十倍的瞬间浪涌电流，导致驱动器会执行过载保护(打嗝频闪)。下单时这类内置恒流IC限流的灯具需要注明(如MR16灯杯、地埋灯、洗墙灯、恒流硬灯条等)，以便烧写特殊程序。

尺寸图

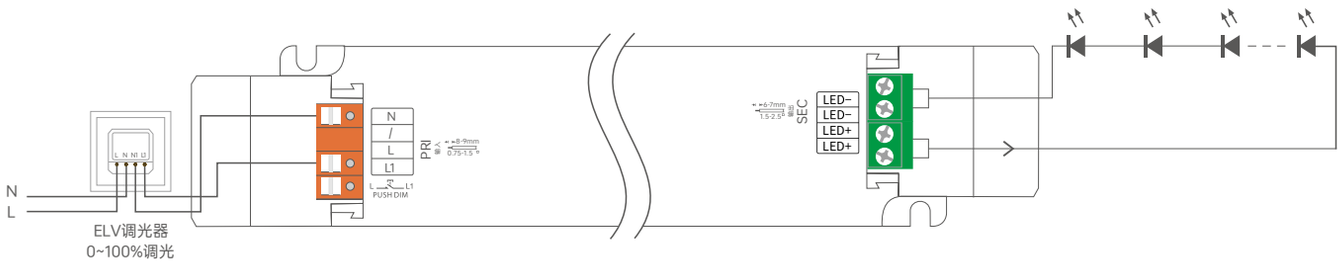
单位: mm



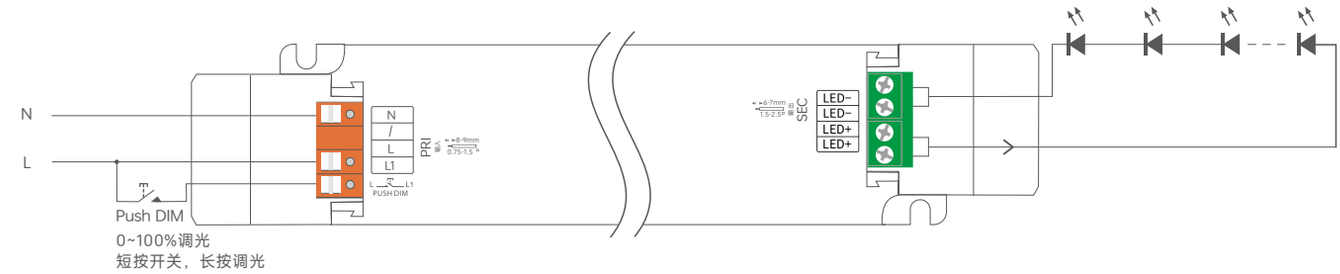
Triac调光应用



ELV调光应用



Push DIM调光应用



* 在直流电压输入的情况下，按键调光无效
* 调光接口优先级为：首先Triac，然后Push DIM

Push DIM

复位开关

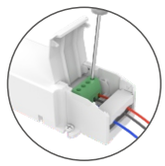
- 短按: 开关控制。
- 长按: 亮度调节+/-，每隔一次长按，亮度会向相反方向调整。

* 当再次开关时，灯光会回到先前调整的亮度。

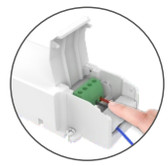
保护盖应用图

压线板

1. 使用工具撬起压线板侧边即可拆下。

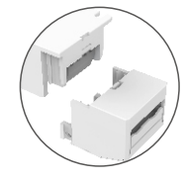


2. 使用螺丝批按照接线图接线。



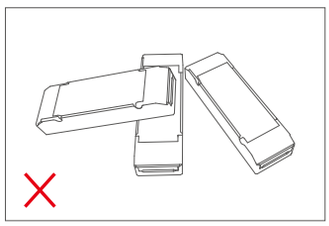
3.向下按压压线板固定住线合上保护盖即可。

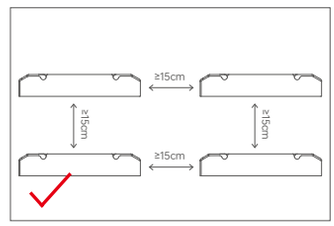
保护盖的拆装



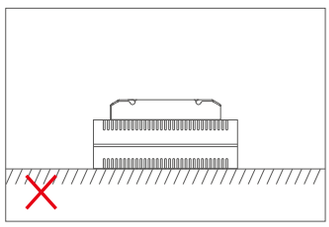
在底部左右掰动，即可将保护盖拆下。

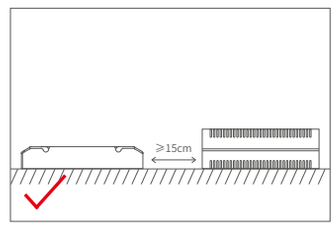
安装注意事项



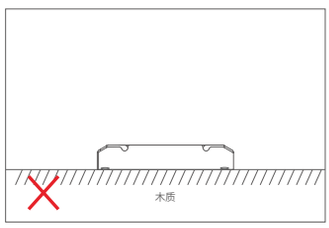


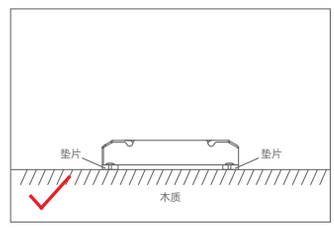
请勿将产品堆叠摆放，产品与产品间隔距离应≥15cm，避免影响产品散热和使用寿命。





请勿将产品置于电源上方，与电源间隔距离应≥15cm，避免影响产品散热而减少使用寿命。





请勿将产品螺丝固定紧贴于木板，应在固定螺丝下增加≥7mm的垫片，留点空隙可以有效散热，避免影响产品散热和使用寿命。

搭配NFC Lighting APP使用

使用手机，通过NFC读取驱动器信息，根据需求设置参数后，可直接写入驱动器。
注意：设置驱动器参数时，必须在驱动器断电情况下进行操作。

1.下载安装APP

通过手机扫描下方二维码， 按提示完成APP安装。(因性能需求，要求手机型号苹果：iPhone 8及以上、且操作系统iOS13及以上；安卓：具备NFC功能机型)

2.读取驱动器

在APP“首页”点击【读/写智能电源】，将手机感应区域靠近驱动器NFC标识点，读取驱动器参数。

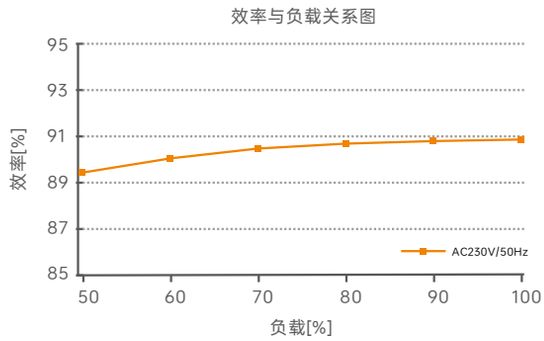
3.编辑参数

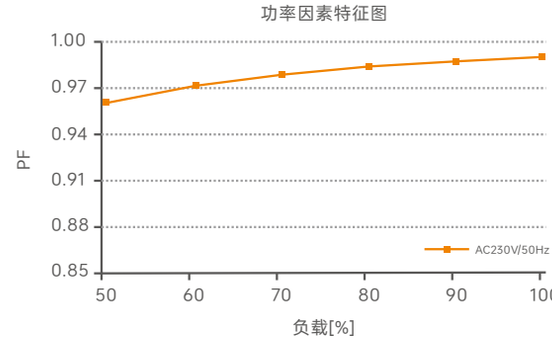
点击【参数管理】可选择品牌，编辑起亮电压、通电渐变时间、PWM频率等参数。

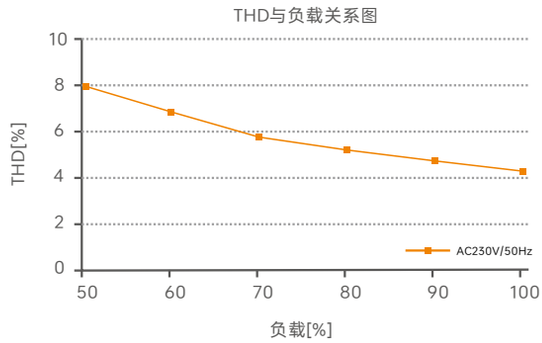
4.写入驱动器

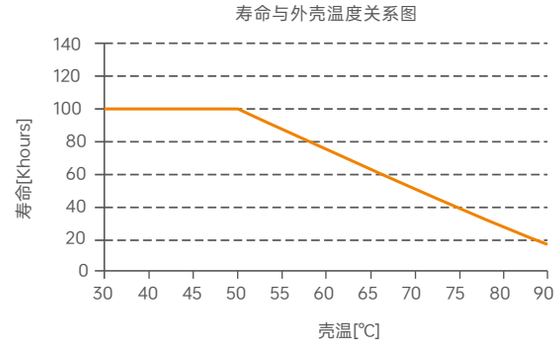
参数设置完成后， 点击右上角【写入】， 将手机感应区域靠近驱动器NFC标识点， 即可写入驱动器成功修改参数。

关系图表

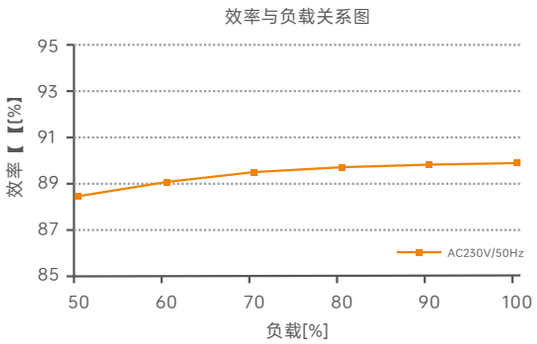


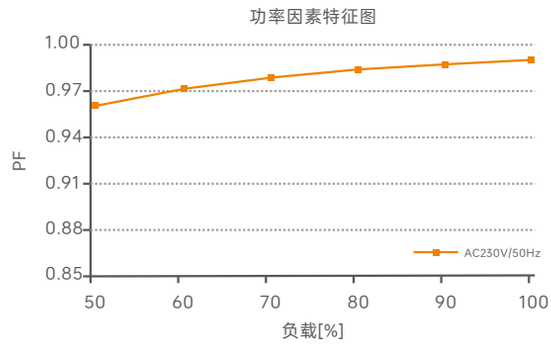


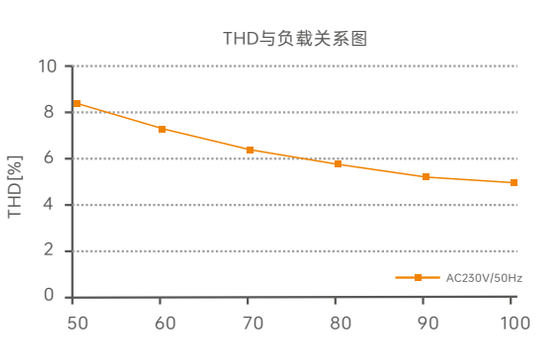


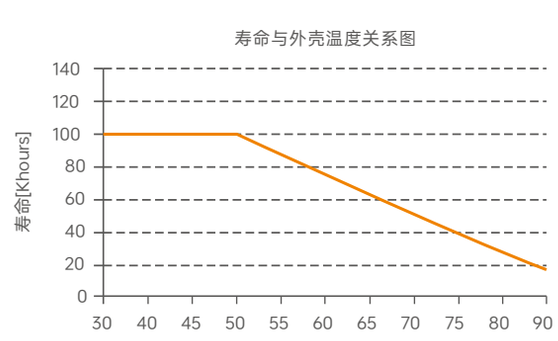


LM-150-24-G1T2F









LM-150-12-G1T2F

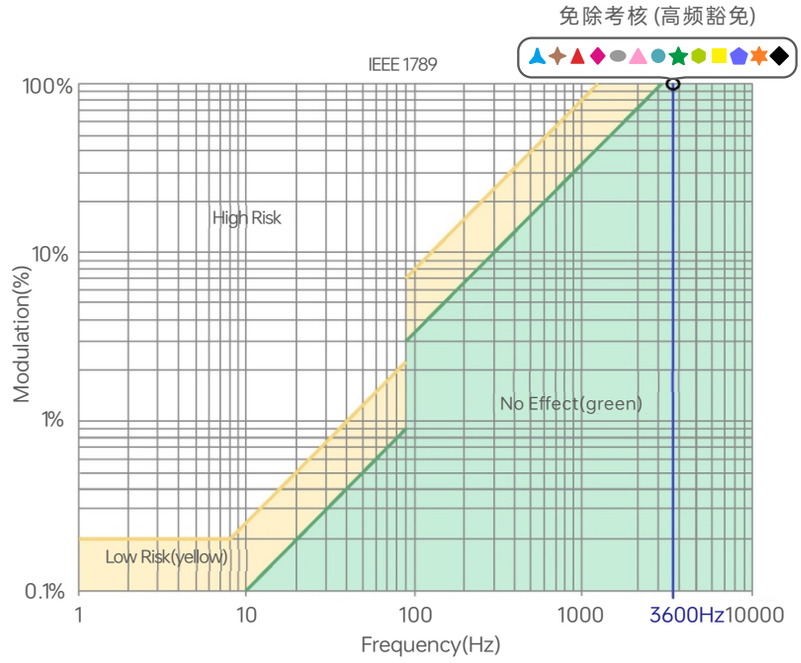
频闪测试表

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%



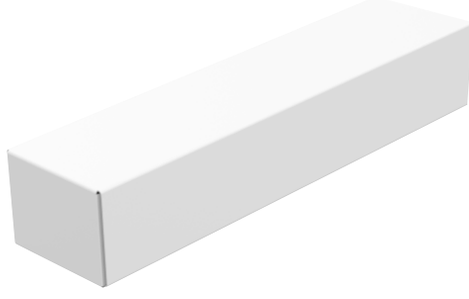
右图标识为不同电流档的测试结果。

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-150-12-G1T2F、LM-150-24-G1T2F
包装箱尺寸	370×340×93mm(L×W×H)
数量	10PCS/层；2层/箱；20PCS/箱
重量	0.555kg/PC；12kg±5%/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，应使用遮蓬进行防雨和防晒，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足够负载连接的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；如果有疑问，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唯一补救措施。雷特不承担任何附带引起的损害赔偿责任, 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	2024.12.30	正稿	黎海鹏