

Intelligent Tunable White LED Driver (Constant Current)

- The housing is made from V0 flame retardant PC materials from SAMSUNG/COVESTRO.
- Ultra-small, thin and light screwless end cap.
- Change the output current, fade time and other parameters on the NFC programmer or via the App, and sync the parameters to the driver.
- Set the output current down to 1mA.
- With soft-on and fade-in dimming function, enhancing your visual comfort.
- T-PWM Super depth dimming technology, dimming depth can reach 0.0001%
- The whole dimming process is flicker-free with high frequency exemption level.
- Comply with the EU’s ErP Directive, networked standby<0.5W.
- When there is no load, the output will be 0V to prevent damage to LEDs due to poor contact.
- Overheat, over voltage, overload, short circuit protection and automatic recovery.
- Suitable for Class I / II / III indoor light fixtures.
- Normal service life can reach 100,000 hours.
- 5-year warranty (Rubycon capacitor)



Bluetooth®

DIM / CT

T-PWM

Dimming Technology

Flicker Free

IEEE 1789

Dimmable:

1:1000000

NFC



CCCUKCAELTUVCBFCERCE

2019-IN1397

SRRC Class 2 SELV RED RoHS ErP

The certification icon represents undergoing certification applications only, and final certification qualification subject to actual product.

NFC

Constant power setting

Overheat Protection

Over voltage protection

Over Load protection

Short circuit protection

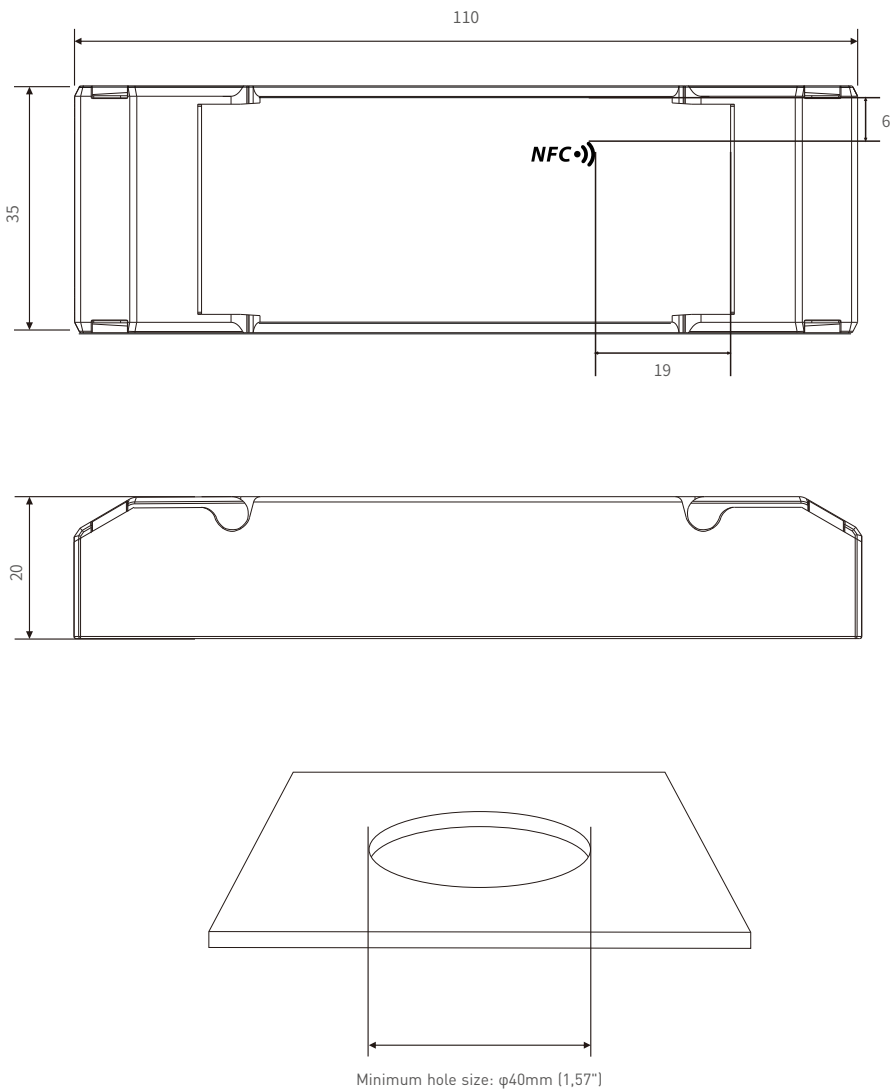
Technical Specs

Model		SE-12-100-500-W2B				
Features	Output Type	Constant current				
	Dimming Interface	Bluetooth 5.0 SIG Mesh				
	Output Feature	Isolation				
	Protection Grade	IP20				
	Insulation Grade	Class II (Suitable for class I/ II /III light fixtures)				
OUTPUT	Output Voltage	9-42Vdc				
	Maximum output voltage	≤48Vdc				
	Output Current Range	100-500mA				
	Output Power Range	0.9W- 12W				
	Dimming Range	0~100%, down to 0.0001%				
	LF Current Ripple	<3%(Maximum current for non dimming state)				
	Current Accuracy	±5%				
	PWM Frequency	≤3600Hz				
INPUT	DC Voltage Range	120-250Vdc				
	AC Voltage Range	100-240Vac				
	Input Voltage	115Vac/230Vac				
	Frequency	50/60Hz				
	Input Current	≤0.18A/115Vac, ≤0.08A/230Vac				
	Power Factor	PF>0.95/115Vac (at full load), PF>0.9C/230Vac (at full load)				
	THD	THD≤10%/230Vac, at full load				
	Efficiency (Typ.)	84%@300mA(at full load), 82%@500mA(at full load)				
	Inrush Current	Cold start 15A(Test twidth=102us tested under 50% Ipeakl)/230Vac				
	Anti Surge	L-N: 2KV				
ENVIRONMENT	Leakage Current	Max. 0.5mA				
	Working Temperature	ta: -20 ~ 50°C tc: 80°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]				
PROTECTION	Vibration	10~500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively				
	Overload Protection	Automatically protect the device when the load exceeds 102% of the rated power. Automatically recover once load is reduced				
	Overheat Protection	Intelligently adjust or turn off the current output if the PCB temperature ≥110°C. When the PCB temperature <90°C, automatically recover normal output				
	Overvoltage Protection	Automatically protect the device when voltage exceeds the no-load voltage. It can be recovered automatically				
	Short Circuit Protection	Enter hiccup mode if short circuit occurs, and recover automatically				
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vdc				
	Insulation Resistance	I/P-O/P: 100MQ/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		
		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 61347-1, BS EN 61347-2-13, BS EN 62493		
		BIS	India	IS 15885 (PART 2/SEC 13)		
	EMC Emission	CUL	Canada	CSA C22.2 NO.250.13		
		UL	America	UL 8750		
		CCC	China	GB/T17743, GB17625.1		
		CE	European Union	EN55015, EN61000-3-2, EN61000-3-3, EN61547		
		KC	Korea	KSC 9815, KSC 9547		
		EAC	Russia	IEC62493, IEC61547, EH55015		
		RCM	Australia	EN55015, EN61000-3-2, EN61000-3-3, EN61547		
		UKCA	Britain	BS EN IEC 55015, BS EN IEC 61000-3-2, BS EN 61000-3-3, BS EN 61547		
	EMC Immunity	CUL	Canada	ICES-005		
		UL	America	FCC PART 15B		
ErP	Power Consumption	Networked standby	<0.5W (After shutdown by command)			
		No-load power consumption	<0.5W (When the lamp is not connected)			
	Flicker/Stroboscopic Effect	IEEE 1789	Meet IEEE 1789 standard/High frequency exemption level			
		CIE SVM	Pst LM≤1.0, SVM≤0.4			
	DF	Phase factor	DF≥0.9			
OTHERS	Weight(N.W.)	85g±10g				
	Dimensions	110×35×20mm(L×W×H)				

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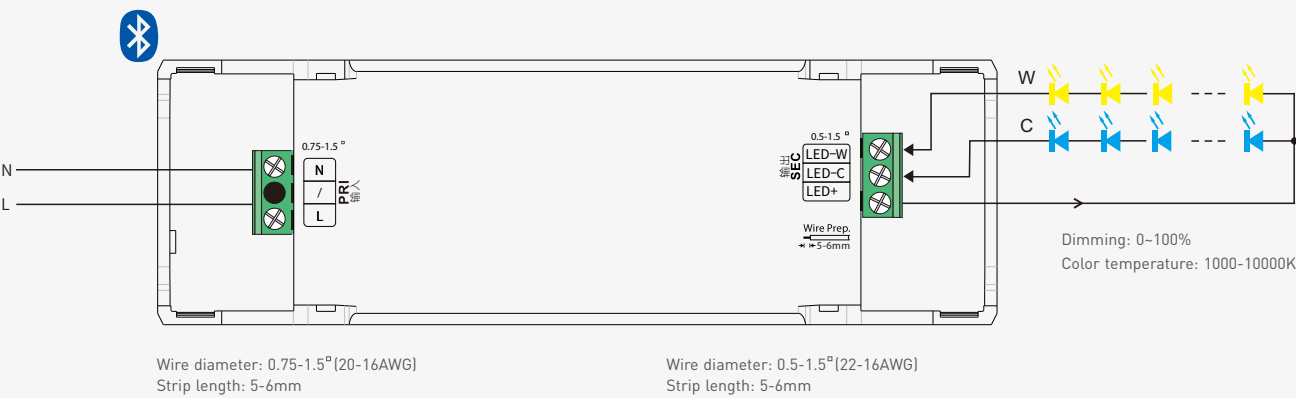
Product Size

Unit: mm



Wiring Diagram

Wireless connection mode



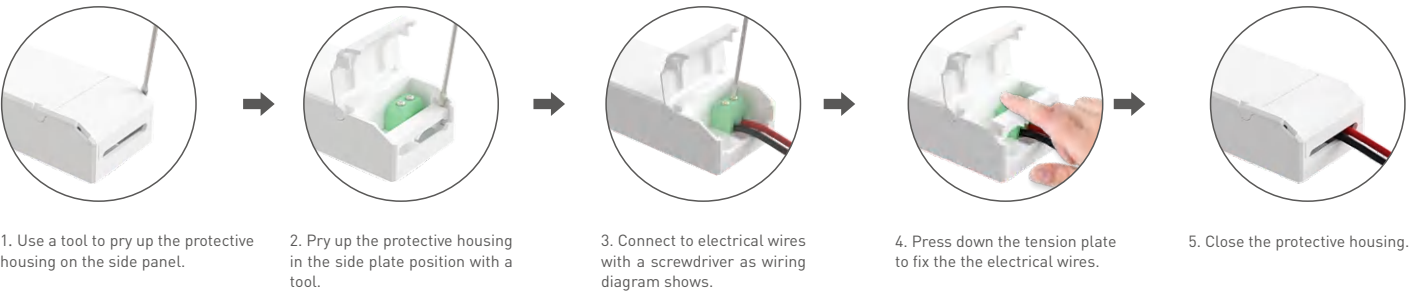
★ Access the network to control through App and Bluetooth

Table of Typical Corresponding Parameters for Current

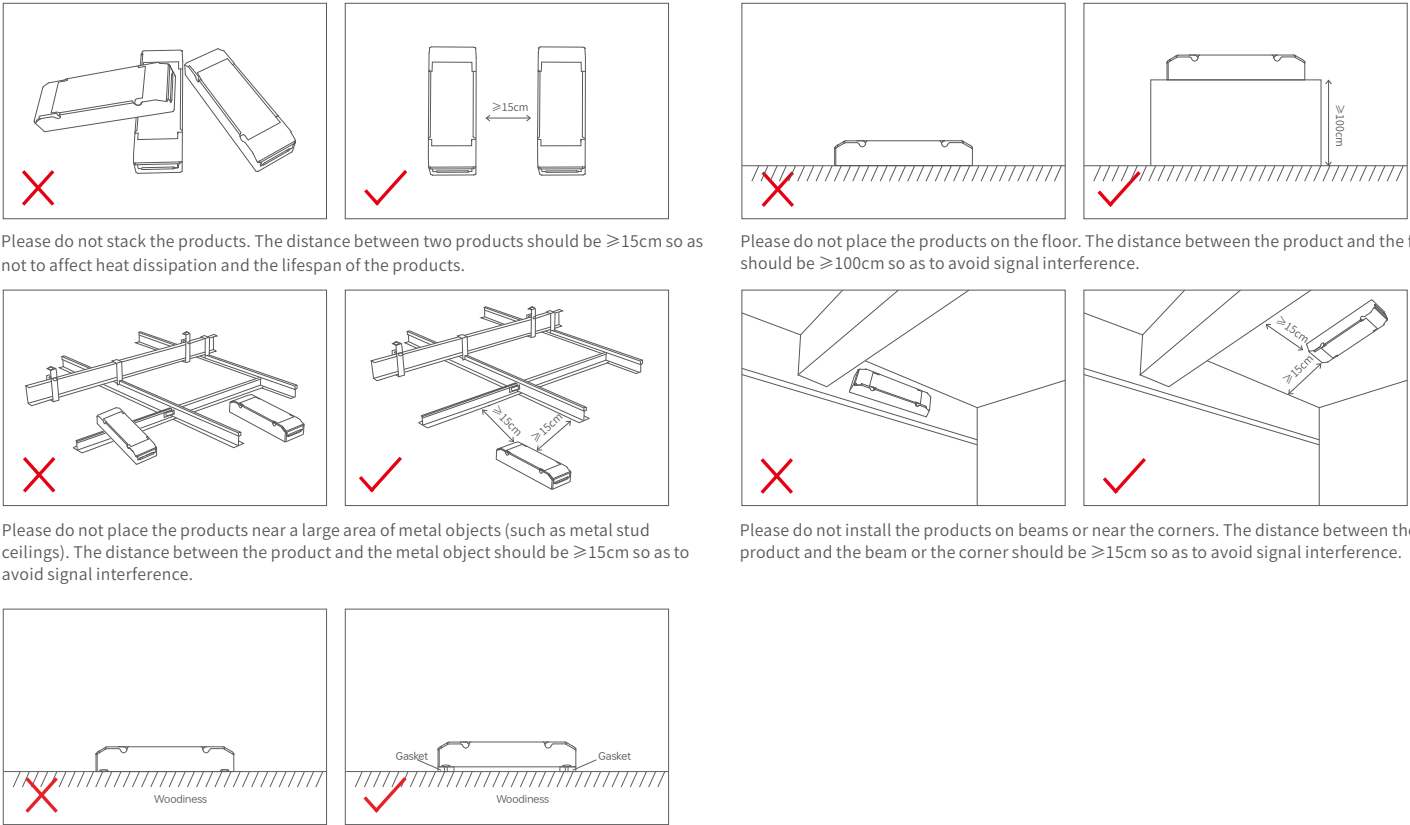
The typical 9 current data sets below are for reference when selecting LED fixture models. More current levels can be set by NFC using mobile APP with 100-500mA adjustable in 1mA step

Output Current	100mA	150mA	200mA	250mA	300mA
Output Voltage	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc	9-40Vdc
Output Power	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10.5W	2.7-12W
Output Current	350mA	400mA	450mA	500mA	/
Output Voltage	9-34Vdc	9-30Vdc	9-27Vdc	9-24Vdc	/
Output Power	3.15-11.9W	3.6-12W	4.05-12.15W	4.5-12W	/

Application Diagram of Protective Cover



Installation Precautions



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 on the NFC programmer or via the APP, please make sure the driver is powered off.

Read/Write the LED driver

Use your NFC-capable phone to read the driver parameters, then set the output current, fade time, power-on status, other parameters. Save your settings and hold your phone close to the driver again, so the parameters can be easily 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.

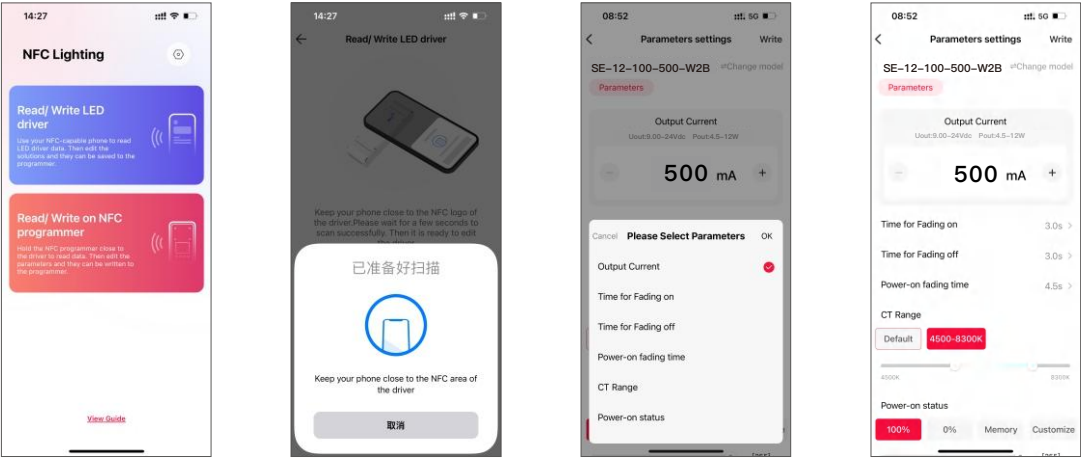


2. Edit the parameters

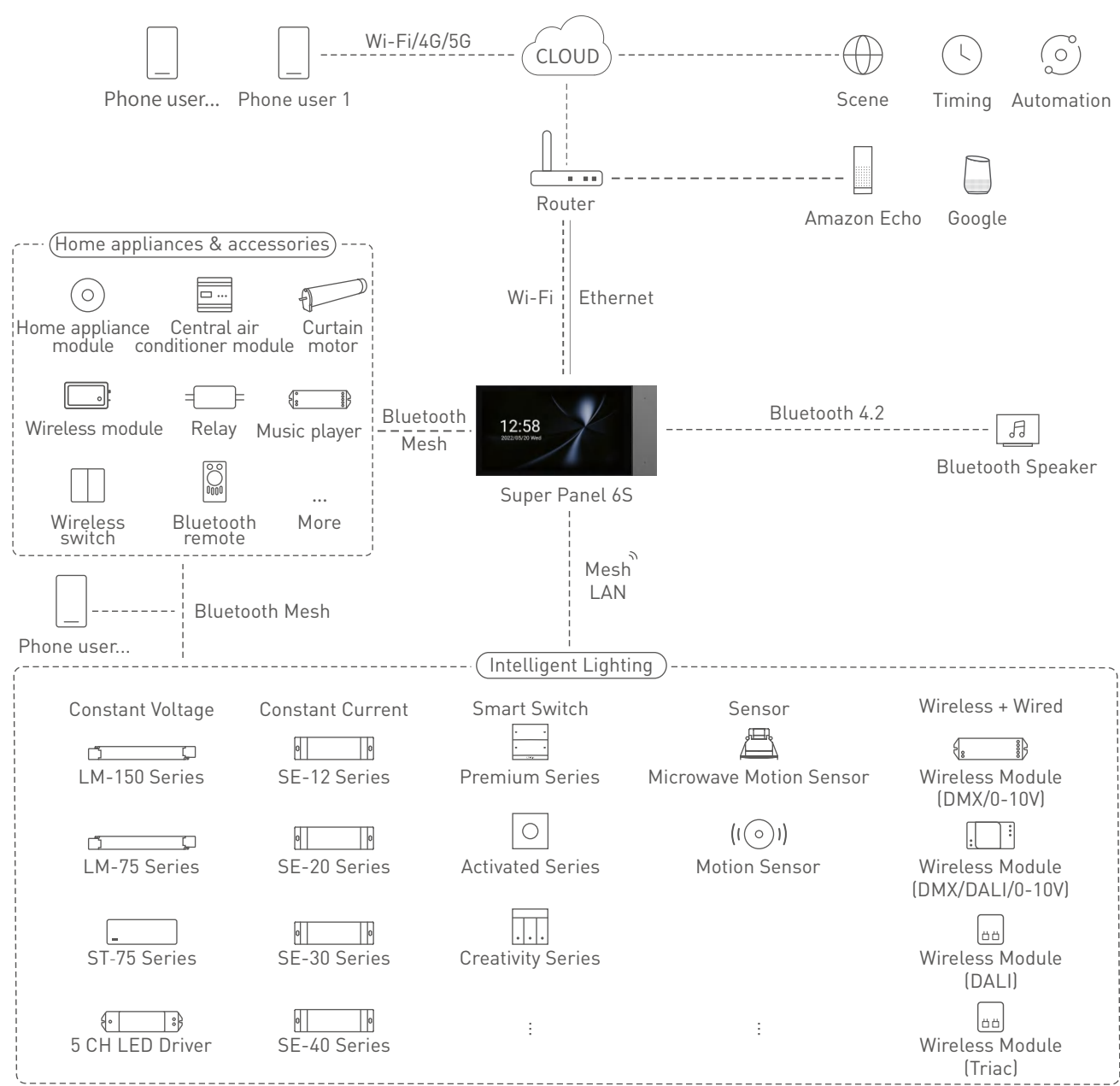
Click [Parameter settings] to edit the advanced parameters, like output current, time for fading on/off, power-on fading time, power-on status, etc.

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.

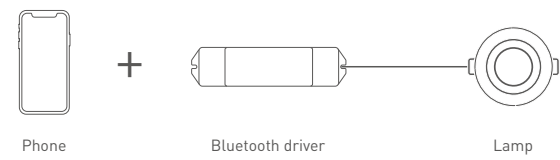


Bluetooth System Diagram

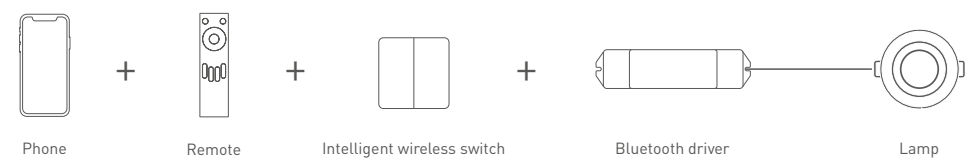


Recommend Applications

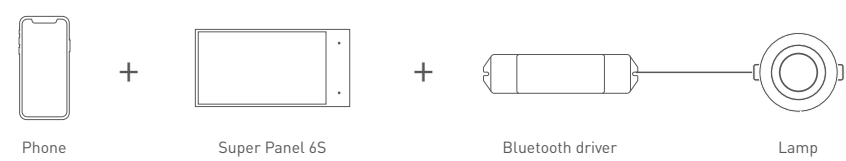
1. Achieve fast dimming control.



2. Both App and remote can control the driver after connecting the remote to the driver with App.



3. Both App and Super Panel 6S can control the driver simultaneously after connecting the Super Panel 6S to the driver with App. By connecting the Super Panel to network, you are allowed to control the driver, cloud scenes and automation remotely with App.



4.More applications of intelligent control are waiting for you to set up.

Use with Bluetooth L-Home APP

1. Register an account

The App is available on iOS or Android devices. Scan the QR code below with you mobile phone and follow the prompts to complete the App installation. Open the App to log in or register an account.



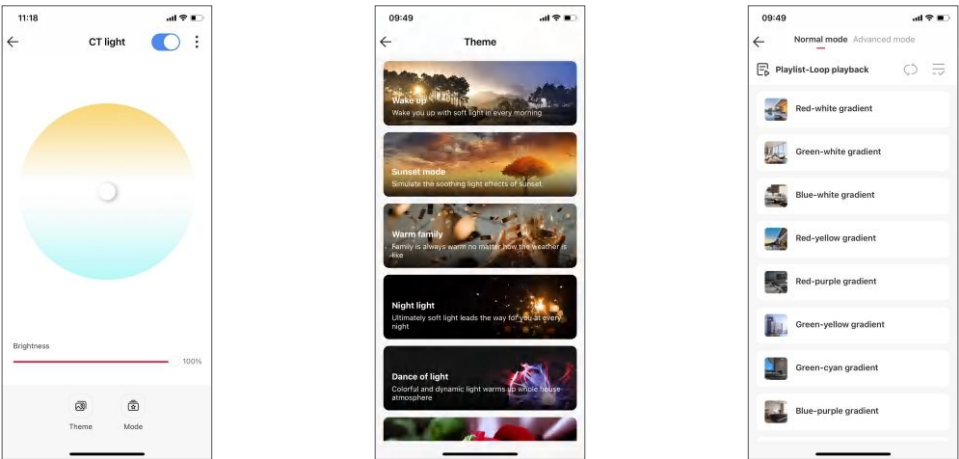
2. Paring instructions

Open the APP and create a home if you are a new user. Click “+” icon in the upper right corner and access the “Add Device” list, then follow the prompts to add the device. Pick “Smart lighting-CT light” from the list and follow the prompts to power on the device firstly. Make sure the device is not connected to the network. Then click “Bluetooth Search” and follow the prompts to add the device.



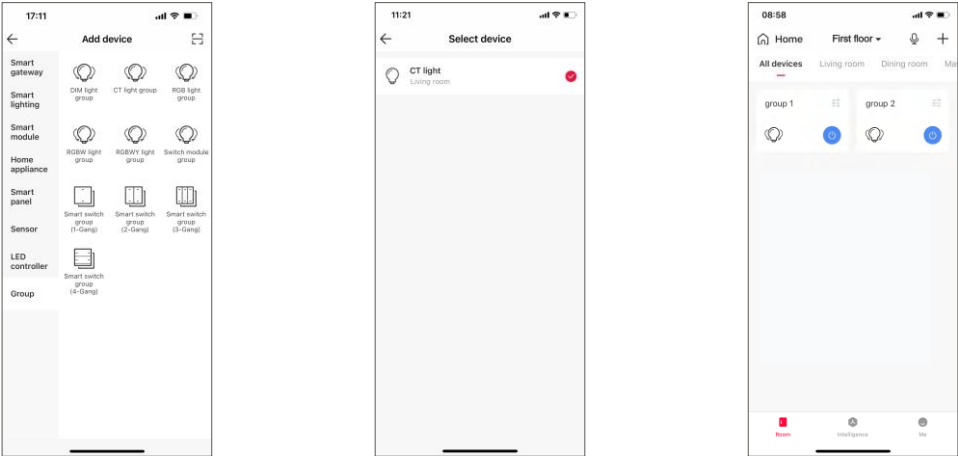
3. Control interface settings

After pairing up your device, go to the control interface. You'll be able to achieve your desired lighting effects by changing brightness and color temperature. Click “Theme” and you'll easily switch to multiple theme lighting effects with one tap. Click “Mode” and the App provides you editable advanced modes. Customize dynamic modes to put you into a more colorful life.



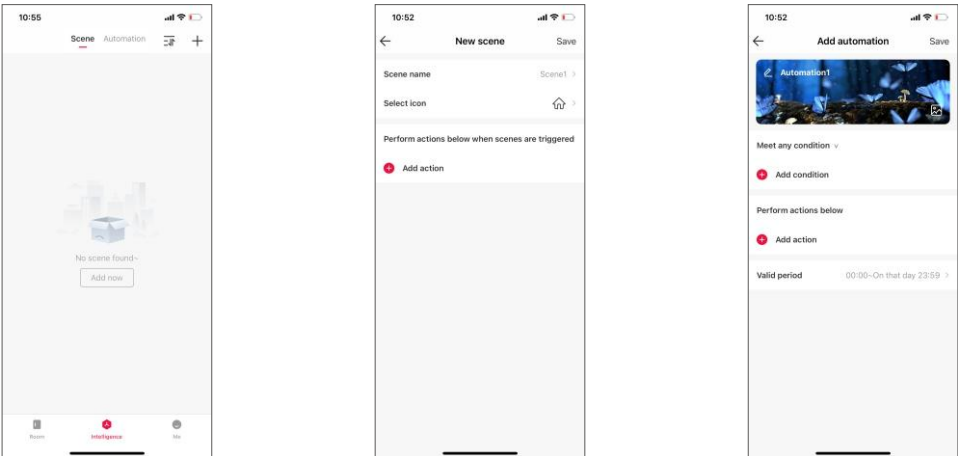
4. Light groups

Users are able to combine the same type of light fixtures into a group to control them simultaneously. Once you create the group, you can set the dim level and adjust the color temperature more easily. Pick "Group-CT light group" from the list . Follow the prompts to rename the group and click "Next" to pick the lights you are going to group together and click "Save".



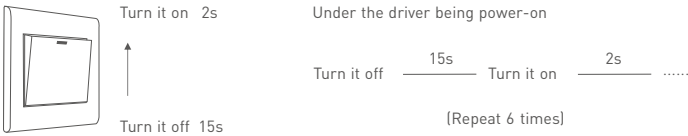
5. Advanced functions

This driver can be linked up with gateway function devices (such as LTECH Super Panel) to achieve the advanced functions from cloud scenes to automation.

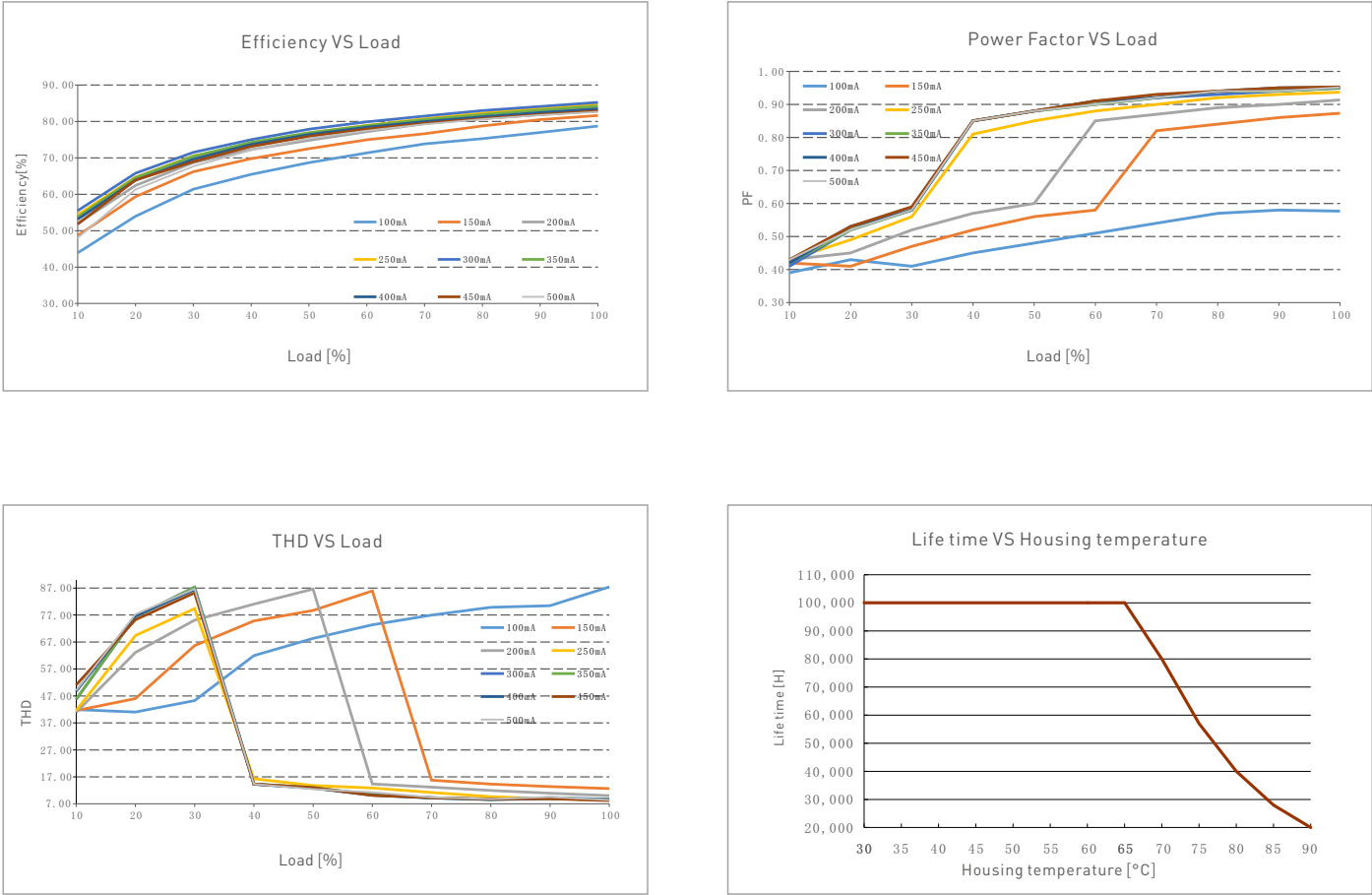


Reset The Device (Reset to factory defaults)

Make sure the driver is well-connected to a lamp and the lamp is on, turn it off with the switch and after 15s turn it on. After 2s, turn it off again. Repeat the same operation 6 times. When the lamp flashes 5 times , reset the device to factory defaults successfully.



Relationship Diagrams



SE-12-100-500-W2B

Flicker Test Sheet

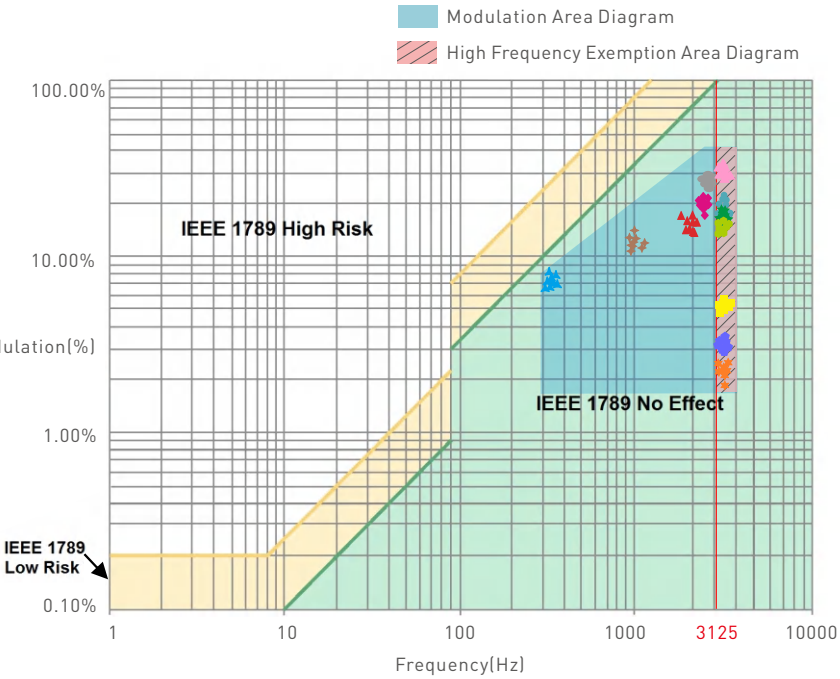
IEEE 1789

Limit of modulation in low risk area	
Waveform frequency of optical output	limit [%]
$f \leq 8\text{Hz}$	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 of modulation in no effect area	
Waveform frequency of optical output	limit [%]
$f \leq 10\text{Hz}$	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 were tested results of different current ranges.

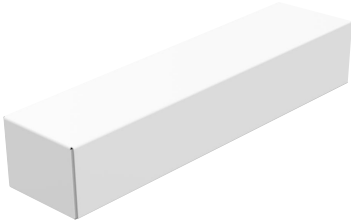
The output frequency is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.



Packaging Specifications

Model	SE-12-100-500-W2B
Carton Dimensions	260×240×215mm(L×W×H)
Quantity	20 PCS/Layer; 5 Layers/Carton; 100 PCS/Carton
Weight	0.095 kg/PC; 9.5 kg±5%/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

- This product must be installed and adjusted 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 extend the life the product. Please install the product in a environment with good ventilation.
- When you install this product, please avoid being near a large area of metal objects or stacking them to prevent signal interference.
- Please keep the product away from a intense magnetic field, a high pressure area or a place where lightning is easy to occur.
- Please check whether the working voltage used complies with the parameter requirements of the product.
- Before you power on the product, please make sure all the wiring is correct in case of incorrect connection that may cause a short circuit and damage the components, or trigger a accident.
- If a fault occurs, please do not attempt to fix the product by yourself. If you have any question, please contact the supplier.

✱ 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, and release in written form shall prevail.

LED智能色温驱动器 (恒流型)

- 外壳采用科思创/三星PC阻燃V0级原料
- 超小体积、轻薄、免螺丝端盖设计
- 通过手机APP可更改输出电流、通电渐变时间等参数，实现驱动器数据交互功能
- 电流档位步进值设置低至1mA，兼容性更高更精细
- 带软启动渐亮功能，让人眼视觉更舒服
- T-PWM超深度调光技术，调光深度可达0.0001%
- 0-100%全程调光无可视频闪, 高频豁免考核级别
- 欧盟ERP空载功耗、网络待机功耗<0.5W
- 空载保护，防止接触不良损坏LED灯具
- 过温、过载、短路保护，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）



T-PWM
超深度调光技术

无频闪
IEEE1789
高频豁免考核级别

Dimmable:
1:1000000

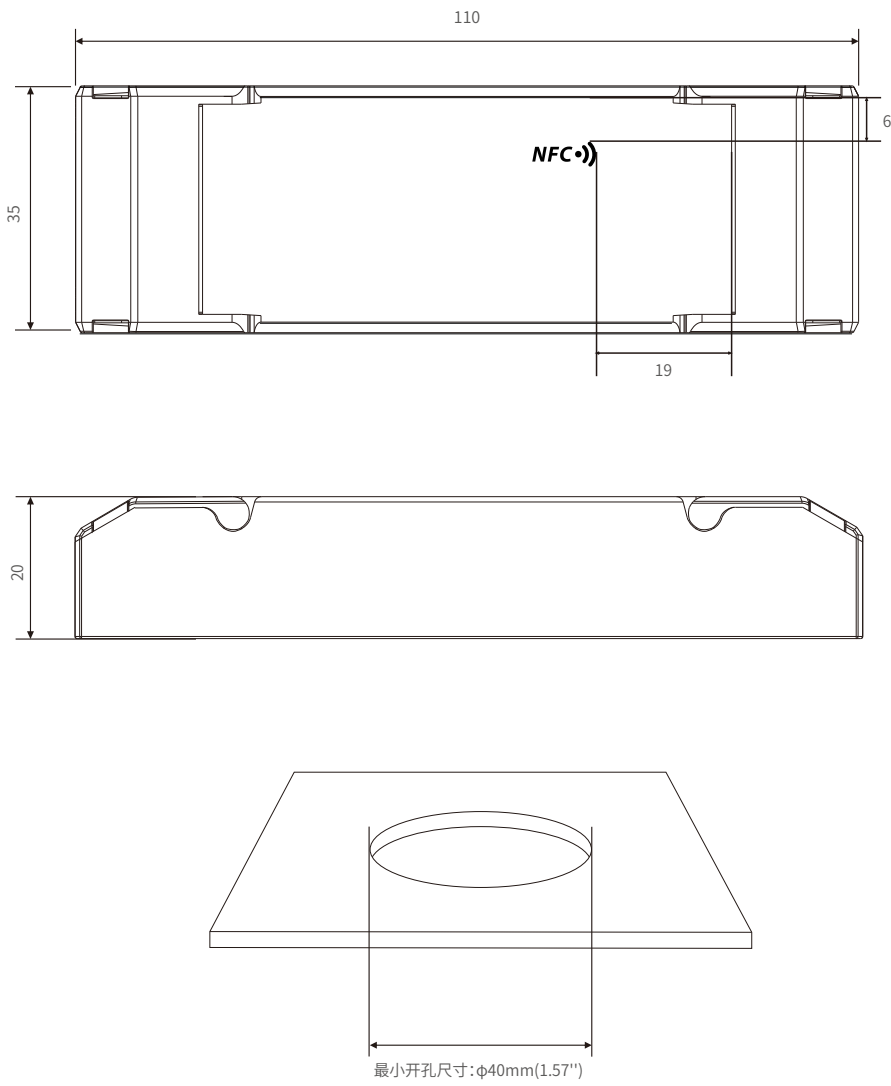


技术参数

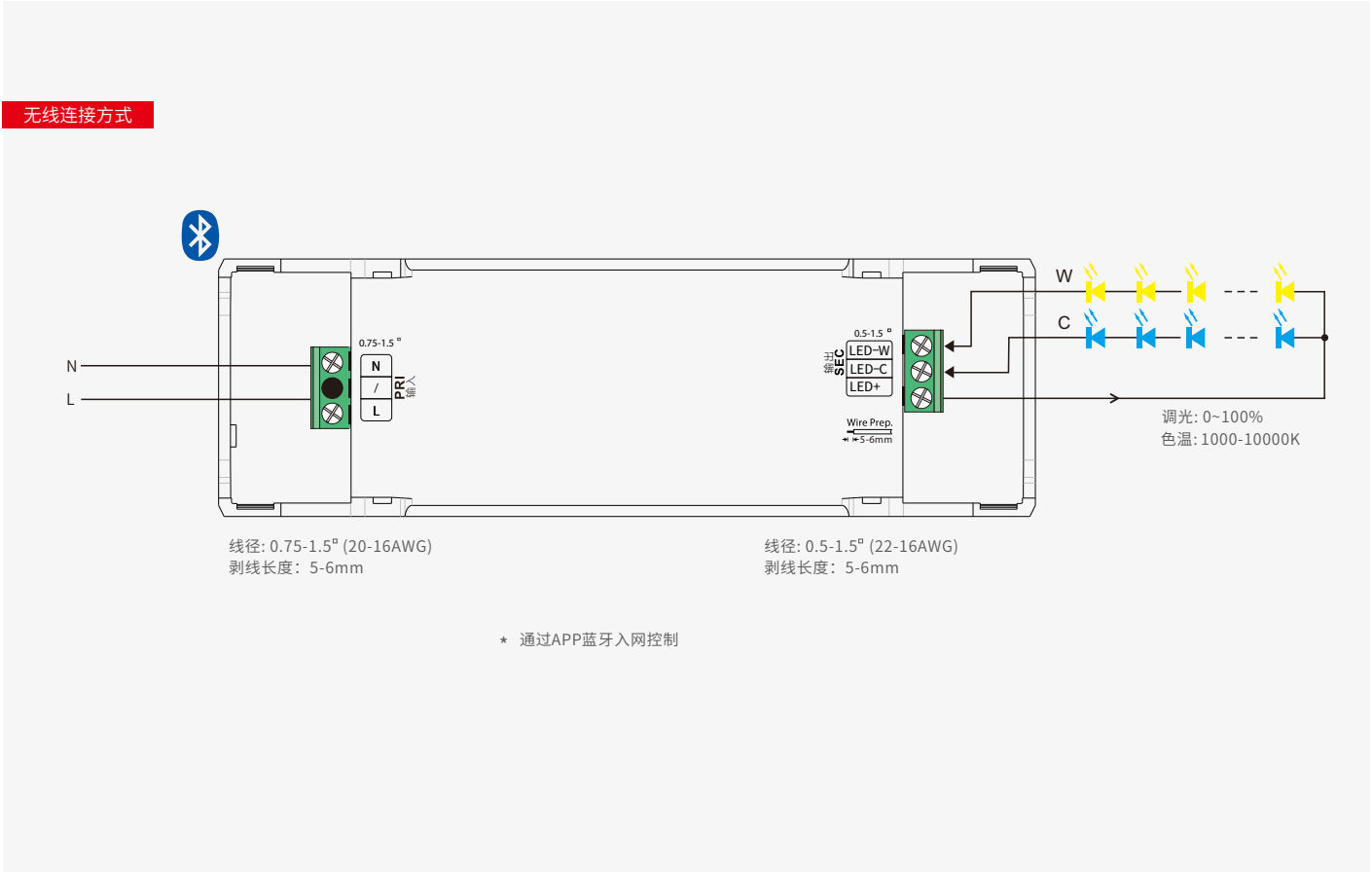
型号		SE-12-100-500-W2B		
特征	输出类型	恒流		
	调光接口	Bluetooth 5.0 SIG Mesh		
	输出特征	隔离		
	防护等级	IP20		
	绝缘等级	II类(适用于室内Ⅰ、Ⅱ、Ⅲ类灯具)		
输出	输出电压	9-42Vdc		
	最大输出电压	≤48V		
	工作电流范围	100-500mA		
	负载功率范围	0.9W~12W		
	调光范围	0~100%,调光深度:0.0001%		
	电流纹波	<3%(输出最大电流非调光状态)		
	电流精度	±5%		
	PWM频率	≤3600Hz		
输入	直流电压范围	120-250Vdc		
	交流电压范围	100-240Vac		
	额定电压	115Vac/230Vac		
	频率范围	50/60Hz		
	输入电流	≤0.18A/115Vac ≤0.08A/230Vac		
	功率因数	PF>0.95/115Vac(满载) PF>0.9C/230Vac(满载)		
	谐波THD	THD≤10%/230Vac(满载)		
	效率(Typ.)	84%@300mA(满载) , 82%@500mA(满载)		
	浪涌电流	冷启动,15A(在50%Ipeak下测twidth=102us)@230Vac		
	抗浪涌	L-N:2KV		
漏电流	Max.0.24mA			
环境	工作温度	ta:-20~50℃ tc:80℃		
	工作湿度	20-95%RH,无冷凝		
	储存温度/湿度	-40~80℃/10~95%RH		
	温度系数	±0.03%/℃(0-50℃)		
	耐振动	10-500HZ,2G12分钟/周期, X,Y,Z轴各72分钟		
保护	过载保护	负载超过额定功率≥1.02倍时自动保护,减轻负载自动恢复		
	过温保护	根据PCB温度超标情况(≥110℃),智能调节电流输出或关闭,可自动恢复;PCB温度<90℃时,可自动恢复正常输出		
	过压保护	超过空载电压值进入保护,可自行恢复		
	短路保护	输出线路短路进入打嗝模式,可自动恢复		
	耐压	输入对输出: 3750Vac		
安规和电磁规格	绝缘阻抗	输入对输出: 100MΩ/500VDC/25℃/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 61347-1, BS EN 61347-2-13, BS EN 62493
		BIS	印度	IS 15885 (PART 2/SEC 13)
	CUL	加拿大	CSA C22.2 No.250.13	
	UL	美国	UL 8750	
	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	KSC 9815, KSC 9547
		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, BS EN IEC 61000-3-2, BS EN 61000-3-3, BS EN 61547
		CUL	加拿大	ICES-005
		UL	美国	FCC part 15B
	电磁兼容抗扰度	EN61000-4-2,3,4,5,6,8,11,EN61547		
	ErP	功耗	网络待机功耗	<0.5W (通过指令关机后)
空载功耗			<0.5W (不接灯具时)	
频闪/频闪效应		IEEE1789	满足无影响/高频豁免考核级别	
		CIESVM	PstLM≤1.0, SVM≤0.4	
DF		相位因素	DF≥0.9	
其他	产品重量	85g±10g		
	产品尺寸	110×35×20mm(L×W×H)		

尺寸图

单位:mm



连接应用图



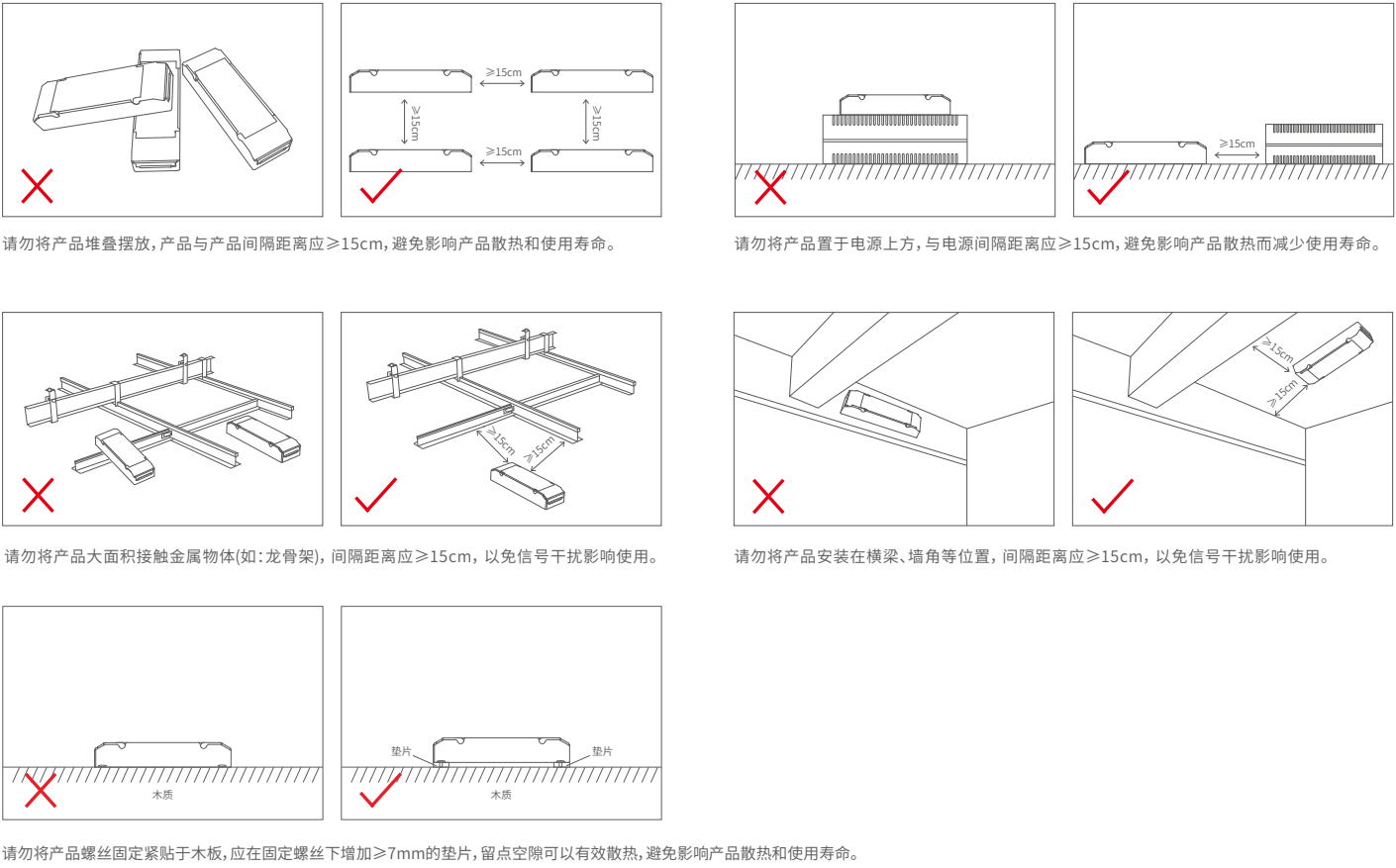
典型电流对应参数表

下图典型9组电流数据供选型参考，均可通过手机APP NFC设置更多电流，可设置范围在100-500mA，电流步进值低至1mA					
输出电流	100mA	150mA	200mA	250mA	300mA
输出电压	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc	9-40Vdc
输出功率	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10.5W	2.7-12W
输出电流	350mA	400mA	450mA	500mA	/
输出电压	9-34Vdc	9-30Vdc	9-27Vdc	9-24Vdc	/
输出功率	3.15-11.9W	3.6-12W	4.05-12.15W	4.5-12W	/

保护盖应用图



安装注意事项



搭配 NFC Lighting APP 使用

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)



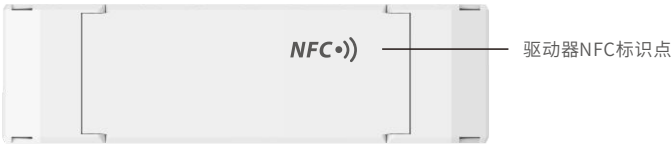
* 设置驱动器参数时, 必须在驱动器断电情况下进行操作。

读/写智能电源

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。

1. 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。

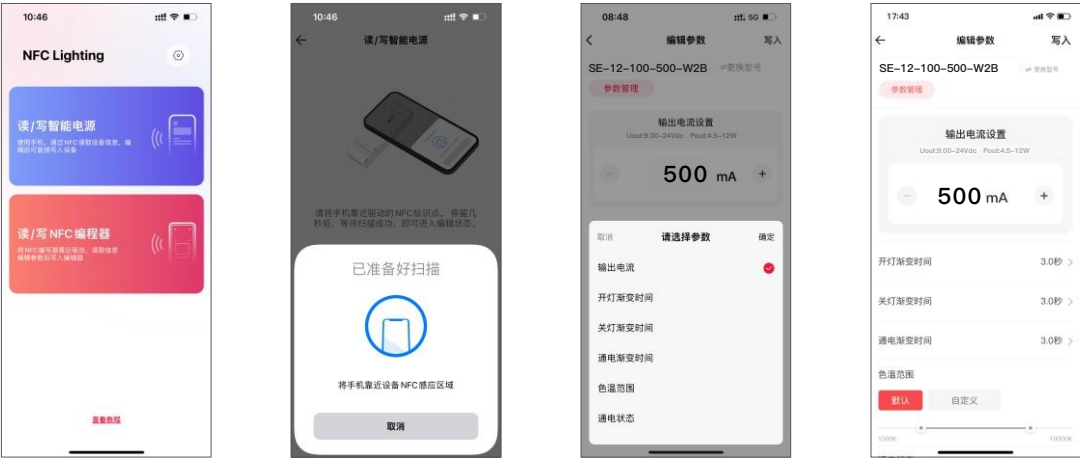


2. 编辑参数

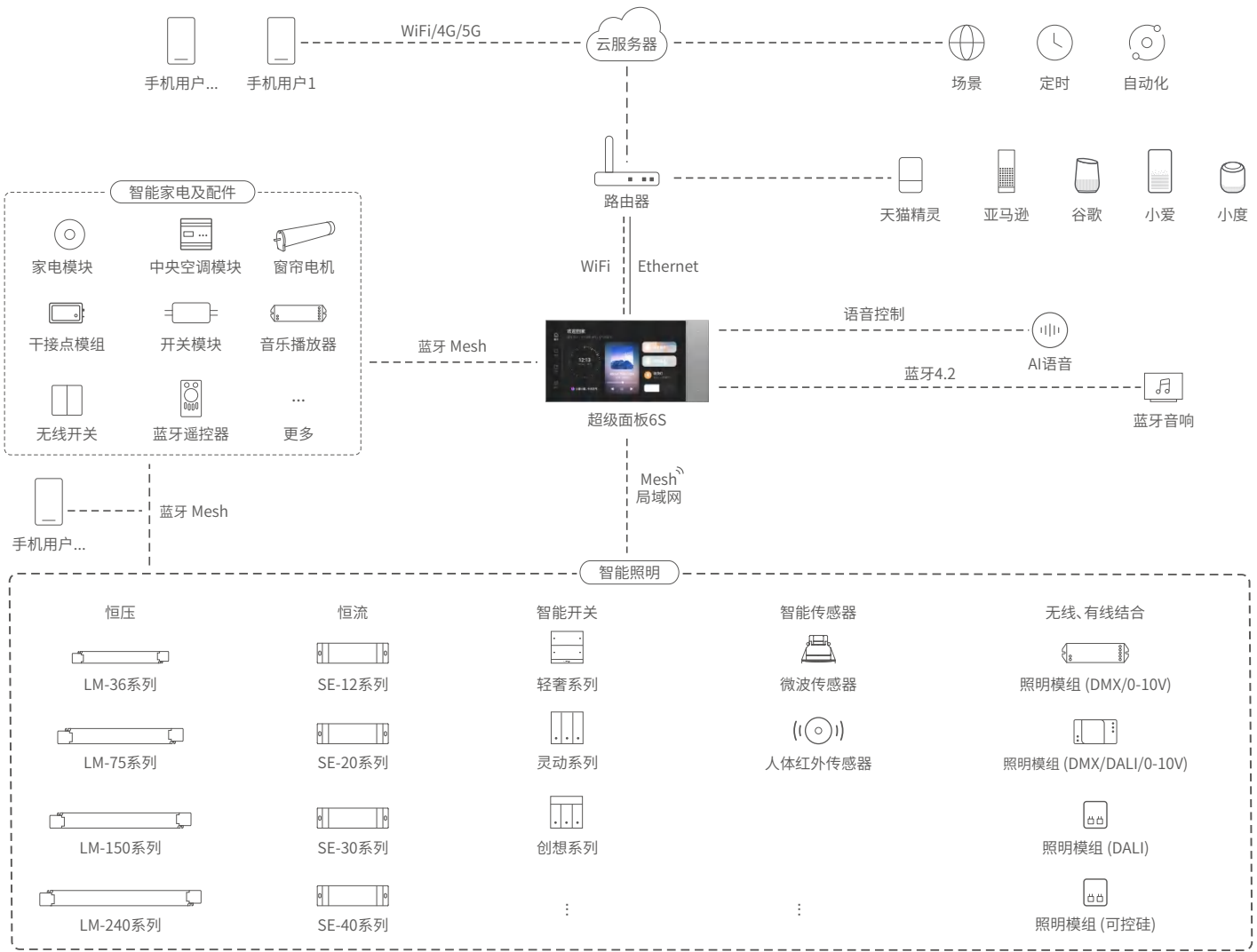
点击【参数管理】可编辑输出电流、开/关渐变时间、通电渐变时间、通电状态等更多高级参数。

3. 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。

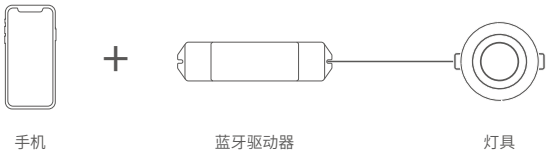


蓝牙系统图

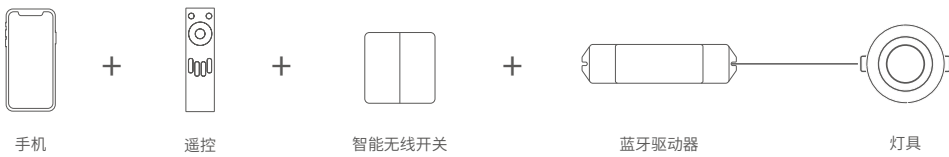


推荐应用控制方式

1、快速实现本地调光。



2、通过APP设置遥控关联驱动后，可实现APP与遥控两种控制方式控制驱动。



3、通过APP设置面板关联驱动，可实现APP与面板同时控制。并能够通过面板联网，可实现APP远程控制驱动，云场景，自动化联动功能。



4、.....智能控制，更多应用搭配等您来设置。

搭配蓝牙 L-Home APP 使用

1. 账号注册

APP兼容iOS和Android系统，通过手机扫描下方二维码，按提示完成APP安装，安装后即可进行登录/注册操作。



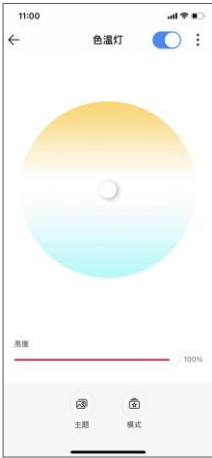
2. 配对操作

新用户创建家庭后，点击右上角“+”进入添加设备列表，先将驱动器按照提示添加完成后，在添加设备列表选择“智能照明-色温灯”后，按照界面提示，先将设备接通电源，确保设备处于未入网状态。然后点击“蓝牙搜索”后，按照提示完成添加设备。



3. 控制界面设置

配对完成后，进入控制界面，可以通过调节色温，亮度达到想要的灯光效果。点击主题，进入主题界面，可一键切换多种主题灯光效果。点击模式，具有可编辑的高级模式。自定义动态模式，让您的生活更加丰富多彩。



4. 灯具群组

同类型的灯具可以组成群组，用户可以对群组进行调色、调光等操作，操作更加便利。在添加设备列表中选择“群组—色温灯组”，按照界面提示编辑灯组名称后，点击“下一步”，勾选您要组成群组的设备，保存即可。



5. 高级功能

本产品可以通过与具有网关功能的设备联动，如超级面板6S。可实现云场景、自动化等高级功能。

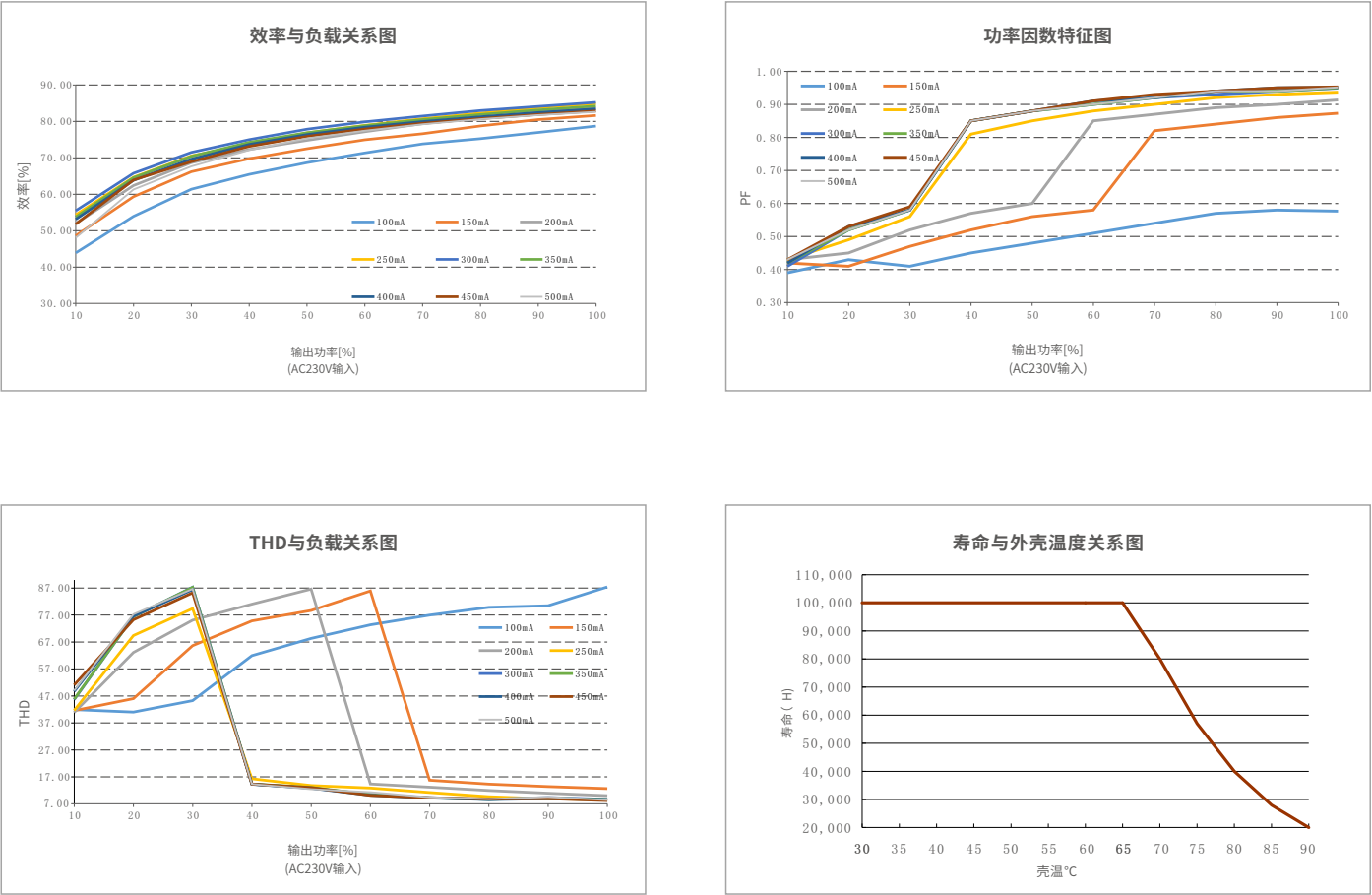


重置设备 (恢复出厂设置)

确保驱动已接灯具且处于常亮状态下，使用开关让驱动连续断通电6次（每次断电时间15秒，通电2秒），第六次通电2秒后，灯具闪烁5次，即表示驱动已恢复到出厂设置状态。

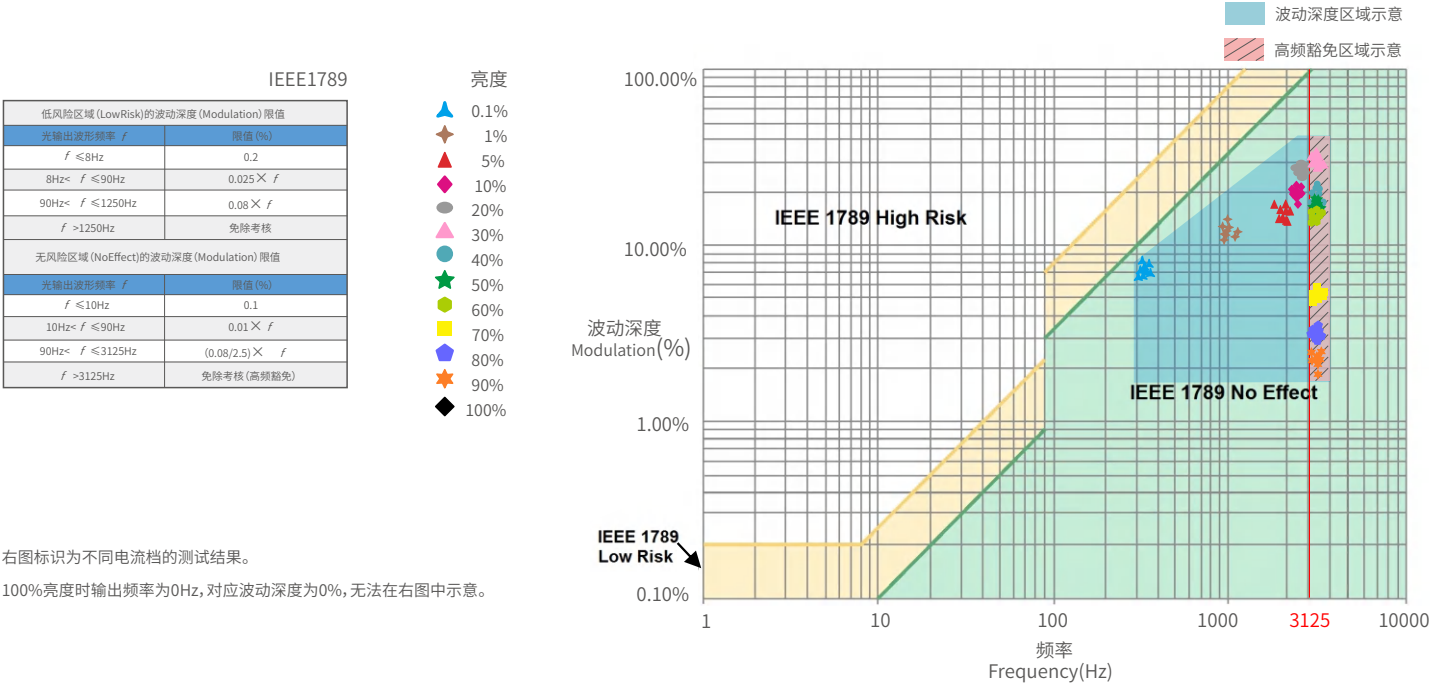


关系图表



SE-12-100-500-W2B

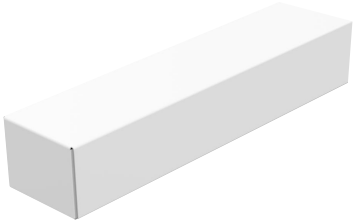
频闪测试表



包装规格

型号	SE-12-100-500-W2B
包装箱尺寸	260×240×215mm(L×W×H)
数量	20PCS/层;5层/箱; 100PCS/箱
重量	0.095kg/PC;9.5kg±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

- 本产品请由具有专业资格的人员进行调试安装；
 - 本产品(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, 请使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；
 - 安装时, 避免靠近大面积金属物体, 或堆叠摆放, 以免信号干扰影响使用；
 - 避免安装在雷区、强磁场和高压区域；
 - 请检查使用的工作电压是否符合产品的参数要求；
 - 通电调试前, 确保所有接线正确且牢固, 以免短路损坏部件, 触发事故；
 - 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科技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;
- 无雷特科技签订的合同或发票凭证。

- 1.修理或更换是雷特科技对客户的一补救措施。雷特科技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.雷特科技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。