

### SE-20-250-1000-W2B2

#### Intelligent Tunable White LED Driver (Constant Current)

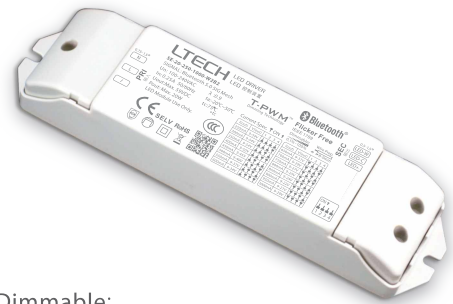
- Adopt SAMSUNG/COVESTRO V0 flame resistant polycarbonate protective housings with small size and light weight.
- Bluetooth 5.0 SIG Mesh with high networking capability are reliable and stable.
- Support iOS or Android devices to control through Bluetooth connection
- Adding a super tool allows you to set up soft start gradient time, lighting status after being power-on, and dimming curves.
- T-PWM™ dimming technology allows continuous and flicker-free images
- under high-speed shooting.
- 0-100% flicker-free dimming with high frequency exemption level. Dimming from 0~100%, down to 0.1%.
- Innovative thermal management technology protects the power life intelligently.
- Overheat, overvoltage , overload, short circuit protection and automatic recovery.
- Suitable for indoor light applications of I/II/III type .
- Up to 50000-hour life time.
- 5 -year warranty (Rubycon capacitor).



**T-PWM™**  
Super depth dimming technology

Flicker-free  
IEEE 1789

Dimmable:  
0.1%-100%



SELV



CE RoHS



#### Technical Specs

Model		SE-20-250-1000-W2B2
OUTPUT	Output voltage	9-54Vdc
	Max output voltage	59Vdc
	Output current	250-1000mA
	Strobe level	No visible flicker/High frequency exemption level
	Dimming range	0~100%, down to 0.1%
	LF current ripple(<120Hz)	<1%
	Current accuracy	±5%
	Ripple&noise	≤2V
	PWM dimming frequency	≤3600Hz
INPUT	Wireless protocol type	Bluetooth 5.0 SIG Mesh
	Input voltage	100-240Vac (120-300Vdc)
	Frequency	0/50/60Hz
	Input current	115Vac≤0.25A, 230Vac≤0.13A
	Power factor	PF>0.95/115Vac , PF>0.90/230Vac(Full load)
	Efficiency (Typ)	83%
	Inrush current	Cold start10A@230Vac (Test twidth=40 us tested under50% Ipeak)twidth=40us)
	Anti surge	L-N: 2kV
	Leakage current	<0.24mA/230Vac
ENVIRONMENT	Working temperature	ta: -20 ~ 50°C tc: 75°C
	Working humidity	20 ~ 95%RH, non-condensing
	Storage temperature/Humidity	-40 ~ 80°C, 10~95%RH
	Temp coefficient	±0.03%/°C(0-50°C)
	Vibration	10-500HZ, 2G 12min/1cycle, 72 min for X,Y and Z axes respectively.
PROTECTION	Overvoltage protection	Shut down the output and recover automatically once it exceeds no-load voltage.
	Overload protection	Shut down the output and recover antomatically once it exceeds1.02 times of the max load power.
	Overheat protection	Intelligently adjust or turn off the output current if the PCB temperature ≥110°C,and recover automatically.
	Short circuit protection	When short circuit occurs,shut down the output and recover automatically.
SAFETY & EMC	Withstand voltage	I/P-O/P:3750Vac
	Insulation resistance	I/P-O/P:500VdC/25°C/70%RH≥100MΩ
	Safety standards	IEC/EN61347-1, IEC/EN61347-2-13
	EMC emission	EN55015, EN61000-3-2 Class C, IEC61000-3-3
	EMC immunity	EN61000-4-2,3,4,5,6,8,11, EN61547
	Strobe test standard	IEEE 1789
OTHERS	Dimensions(L×W×H)	167×41×32mm(L×W×H)
	Package size(L×W×H)	168×43×35mm(L×W×H)
	Weight(G.W.)	160g±10g
	Carton Size	370×340×165mm(L×W×H) 60pcs/ctn 10.4kg±5%/ctn

## LED Current Selection

\* DIP switch quickly selects multiple current value(See the table below).

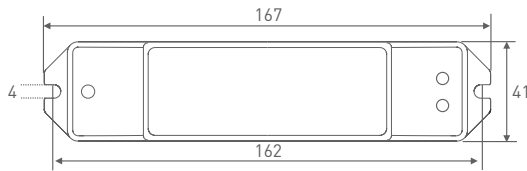
\* Please set current value when the driver is power-off.



SE-20-250-1000-W2B2	DIP Switch	⬇ ⬇ ⬇ ⬇	⬇ ⬇ ⬇ ⬆	⬇ ⬆ ⬆ ⬆	⬇ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	ON OFF
	Output Current	250mA	300mA	350mA	400mA	450mA	500mA	550mA	600mA	
	Output Voltage	9-54V	9-54V	9-54V	9-50V	9-45V	9-40V	9-37V	9-34V	
	Output Power	2.25-13.5W	2.7-16.2W	3.15-18.9W	3.6-20W	4.05-20.25W	4.5-20W	4.95-20.35W	5.4-20.4W	ON OFF
	DIP Switch	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	⬆ ⬆ ⬆ ⬆	
	Output Current	650mA	700mA	750mA	800mA	850mA	900mA	950mA	1000mA	
	Output Voltage	9-31V	9-29V	9-27V	9-25V	9-24V	9-22V	9-21V	9-20V	
	Output Power	5.85-20.15W	6.3-20.3W	6.75-20.25W	7.2-20W	7.65-20.4W	8.1-19.8W	8.55-19.95W	9-20W	

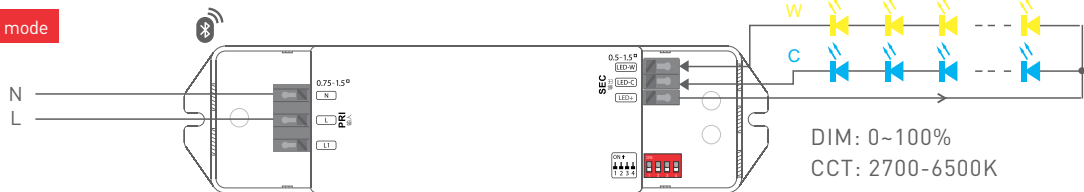
## Product Size

Unit: mm



## Wiring Diagram

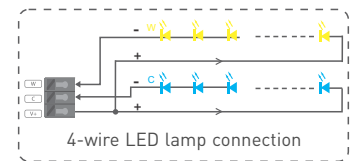
Wireless connection mode



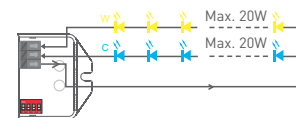
Wire diameter: 0.75-1.5<sup>φ</sup>  
Strip length: 8mm-9mm

Wire diameter: 0.5-1.5<sup>φ</sup>  
Strip length: 8mm-9mm

\* Access the network to control through App and Bluetooth



\* With the constant power program design, brightness remains the same during color temperature adjustments. Drivers can be connected with the load twice the rated power. 20W drivers can be connected with the load of 20W × 2CH. The total power of both channels keeps within 20W.



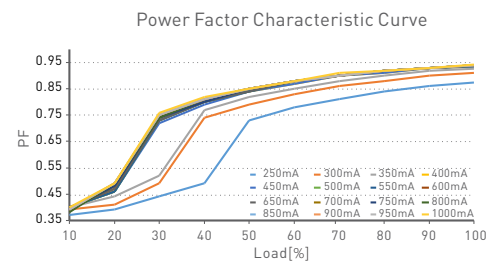
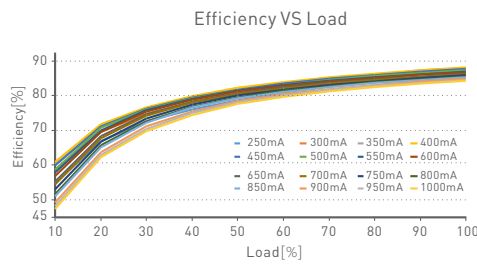
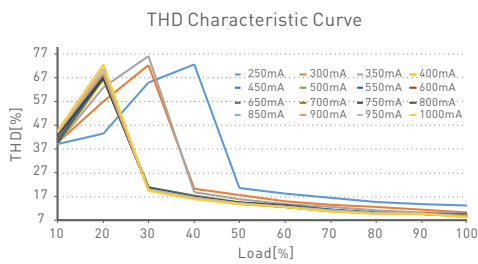
## Push DIM/CT



Reset switch

- On/off control: Short press .
  - Stepless dimming: Long press.
  - With every other long press, the brightness level goes to the opposite direction.
  - Dimming memory: Go to the brightness level adjusted previously when lights are turned on.
- \* Push DIM works when the driver didn't be paired up with a remote or gateway.  
If it did, please remove the paired driver from the remote or gateway.

## Relationship Diagrams



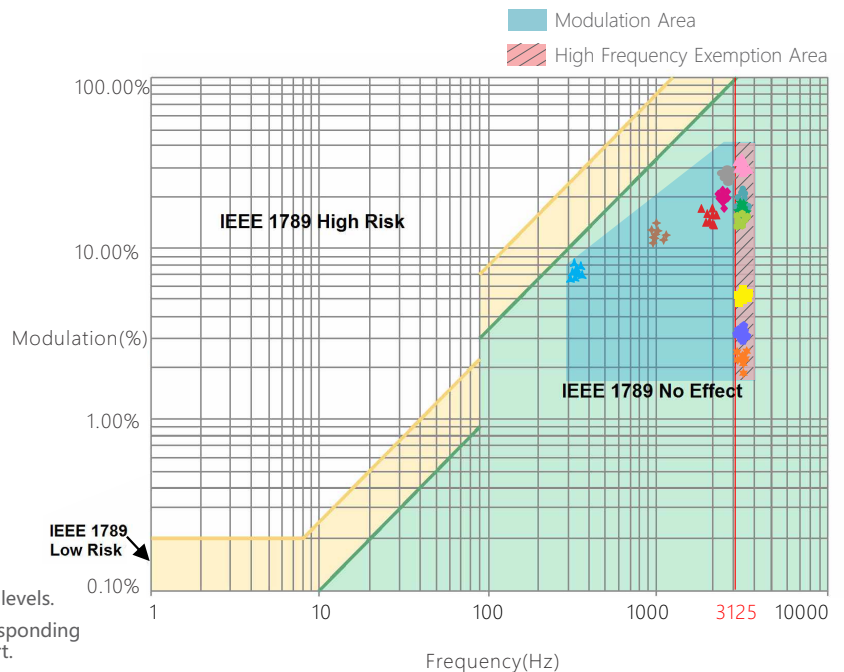
## Flicker Test Table

IEEE 1789

Limit Value of Modulation in Low Risk Areas	
Waveform frequency of Optical output	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	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)

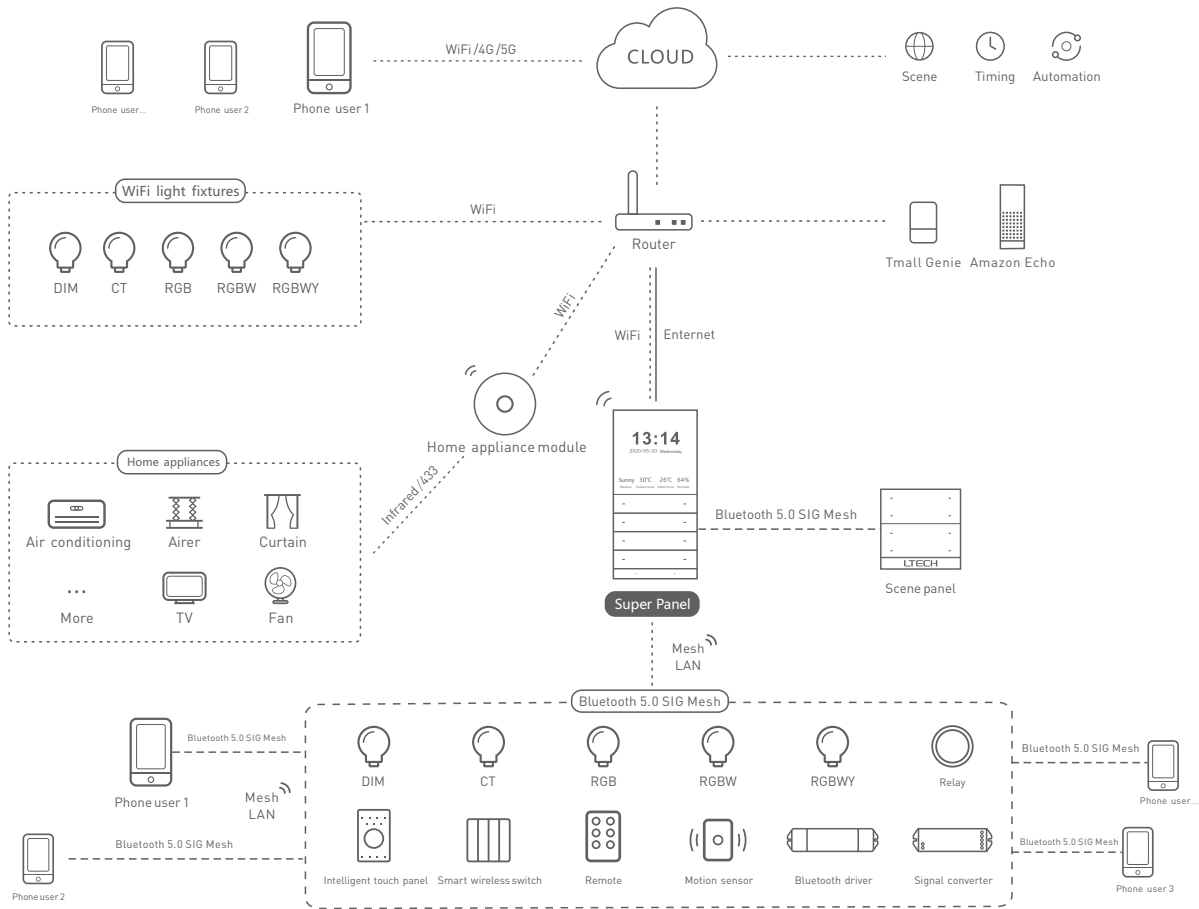
Brightness

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



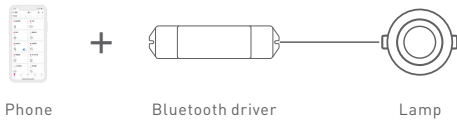
Marks in the right chart are tested results of different current levels.  
The output frequency is 0Hz in 100% brightness and its corresponding modulation is 0%, which could not be shown in the right chart.

## Application Diagram



## Recommend Applications

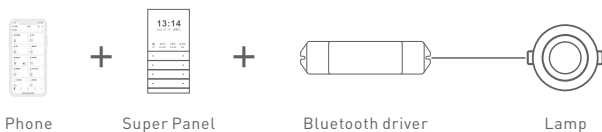
1、 Achieve fast dimming control.



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



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



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

## Other Instructions

If the driver works with a remote, gateway ,intelligent wireless switch or other items ,please refer to related manuals.

## App Operating Instructions

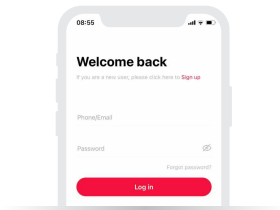
### 1. Register an account

Scan the QR code below with you mobile phone and follow the prompts to complete the app installation.



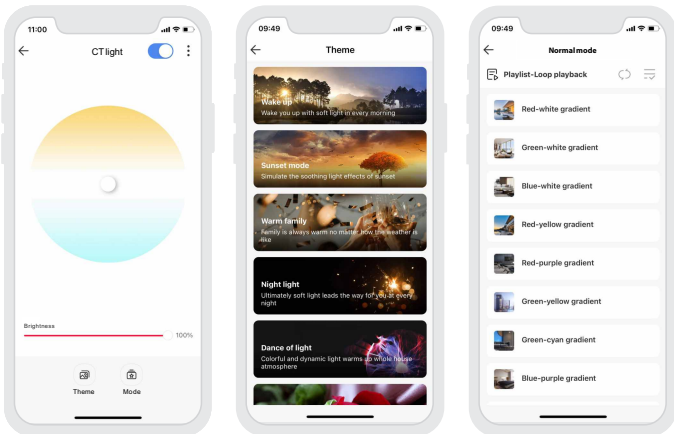
Scan and download the App

### 1.2 Open the App and log in or register an account.



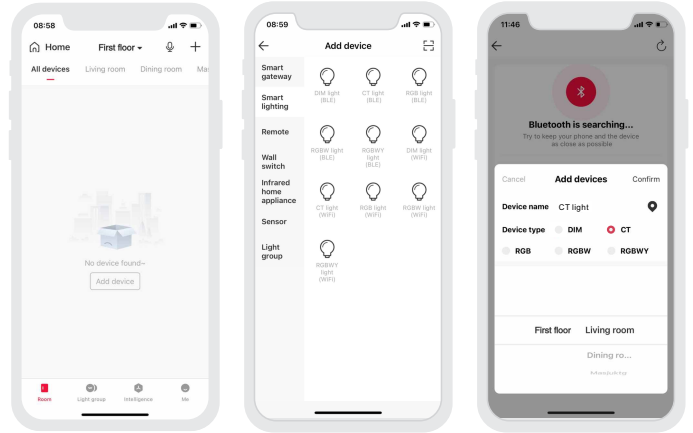
### 3. Control interface settings

After pairing up your device, go to the control interface. You'll be able to achieve your desired lighting effects by changing brightness, colors 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.



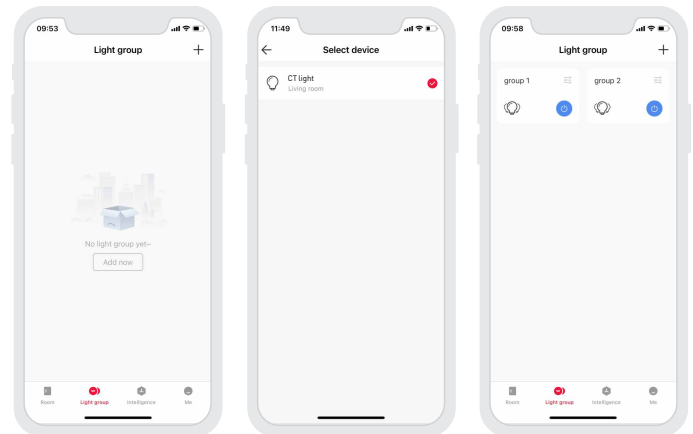
### 2. Control interface settings

Create a home if you are a new user. Click "+" icon in the upper right corner and access the "Add Device" list. Pick "Smart lighting -CT light (BLE)" from the list and select the light fixture type you want to add. Follow the prompts on the App. Power on the device firstly, and make sure the device is not connected to network. Then click "Bluetooth Search" and follow the prompts to add the device.



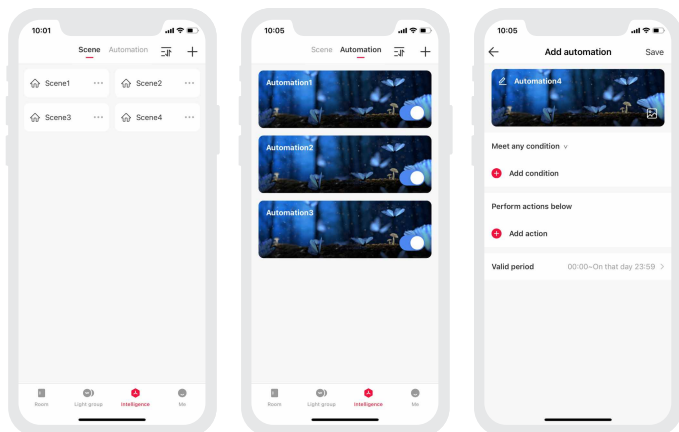
### 4. Light groups

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 or change color temperature more easily. Switch to "Group" menu and click "+" icon in the upper right corner. Follow the prompts to rename the group and click "Next" to pick the lights you are going to group together and to save them.



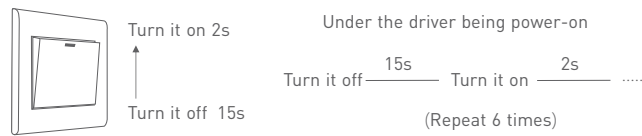
### 5. Advanced functions

The 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 15 s turn it on. After 2s, turn it off again. Repeat the same operation 6 times. When the indicator light flashes 5 times, reset the device to factory defaults successfully.



### FAQs

1. What should I do if I fail to add the device?
  - 1.1 Please make sure the device is powered on normally and is in the activated mode.
  - 1.2 Please make sure the device hasn't been added by any other account. If it did, please reset to factory defaults manually.
  - 1.3 The recommended distance between the mobile phone and the device is no more than 20 meters.
  - 1.4 If the device has been forced to delete, please reset to factory defaults manually and then add the device again.
2. What should I do if the device disconnects from the network?
  - 2.1 Please make sure the device is powered on normally.
  - 2.2 Please make sure the router works with network available.
  - 2.3 If you control the device remotely, please make sure your phone network works normally.
3. How to control remotely and set cloud scenes?
 

Remote control and cloud scenes can achieved only by working with LTECH Super Panel.
4. How to share control of your home devices?
 

Please go to "Me" - "Home Management" and access the home you want to share.

Click "Add Member" and follow the prompts to add members to your home.

### Attentions

- Products shall be installed by qualified professionals.
  - LTECH products are non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure it is mounted in a water proof enclosure.
  - Good heat dissipation will extend 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, and release in written form shall prevail.

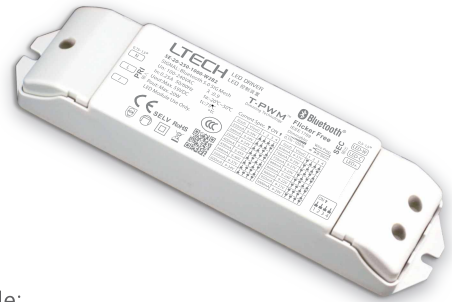
### SE-20-250-1000-W2B2

#### LED 智能调光调色温驱动器 (恒流型)

- 体积小、重量轻；采用SAMSUNG/COVESTRO PC V0阻燃保护壳
- Bluetooth 5.0 SIG Mesh通信协议，组网能力强，可靠稳定
- 支持IOS和安卓智能设备蓝牙直连控制
- 通过超级工具，可设置缓启动渐变时间、通电后灯光状态、调光曲线等高阶参数，赋予灯光设计高端品质
- T-PWM™调光技术高速相机拍摄无条纹闪烁
- 0-100%全程调光无可视频闪，高频豁免级别
- 调光范围：0~100%，LED从0.1%开始调光
- 创新的热管理技术，智能保护电源寿命
- 过温、过压、过载、短路保护，可自动恢复
- 适合室内 I、II、III类灯具应用
- 高达50,000小时的额定寿命
- 5年保修期



**T-PWM™**  
超深度调光技术



**无频闪**  
IEEE 1789

**Dimmable:**  
0.1% - 100%



SELV



RoHS



#### 技术参数

型号	SE-20-250-1000-W2B2	
输出	输出电压	9-54Vdc
	最大输出电压	59Vdc
	工作电流范围	250-1000mA
	频闪级别	无可视频闪/高频豁免考核级别
	调光范围	0~100%，调光深度0.1%
	低频电流纹波(<120Hz)	<1%
	电流精度	±5%
	纹波与噪声	≤2V
PWM频率	≤3600Hz	
输入	无线类型	Bluetooth 5.0 SIG Mesh
	输入电压	100-240Vac (120-300Vdc)
	频率范围	0/50/60Hz
	输入电流	115Vac≤0.25A, 230Vac≤0.13A
	功率因数	PF>0.95/115Vac, PF>0.90/230Vac( )
	效率(Typ)	83%
	浪涌电流	冷启动10A@230Vac (在50% Ipeak下测试twidth=40us)
	抗浪涌	L-N: 2kV
漏电流	<0.24mA/230Vac	
环境	工作温度	ta: -20 ~ 50°C tc: 75°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	过压保护	超过空载电压值进入保护, 可自动恢复
	过载保护	超过最大负载功率1.02倍启动保护, 可自动恢复
	过温保护	根据PCB温度超标情况(≥110°C), 智能调节电输出或关闭, 可自动恢复
	短路保护	输出线路短路自动关闭, 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	IEC/EN61347-1, IEC/EN61347-2-13
	电磁兼容发射	EN55015, EN61000-3-2 Class C, IEC61000-3-3
	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
其他	产品尺寸	167×41×32mm[L×W×H]
	包装尺寸	168×43×35mm[L×W×H]
	产品重量	160g±10g
	外箱尺寸	370×340×165mm[L×W×H] 60个/箱 10.4kg±5%箱

### LED电流选择

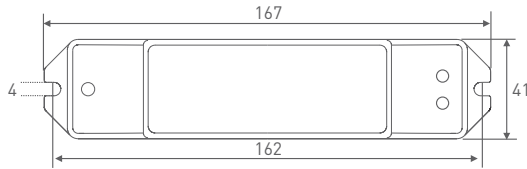
\* DIP开关快速选择多档电流值(具体方法见表格) \* 请在断电状态下设置电流值。



SE-20-250-1000-W2B2	DIP 开关	⬇⬇⬇⬇	⬇⬇⬇⬆	⬇⬇⬆⬆	⬇⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	
	电流输出	250mA	300mA	350mA	400mA	450mA	500mA	550mA	600mA	
	电压输出	9-54V	9-54V	9-54V	9-50V	9-45V	9-40V	9-37V	9-34V	
	功率输出	2.25-13.5W	2.7-16.2W	3.15-18.9W	3.6-20W	4.05-20.25W	4.5-20W	4.95-20.35W	5.4-20.4W	
	DIP 开关	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	⬆⬆⬆⬆	
	电流输出	650mA	700mA	750mA	800mA	850mA	900mA	950mA	1000mA	
	电压输出	9-31V	9-29V	9-27V	9-25V	9-24V	9-22V	9-21V	9-20V	
	功率输出	5.85-20.15W	6.3-20.3W	6.75-20.25W	7.2-20W	7.65-20.4W	8.1-19.8W	8.55-19.95W	9-20W	

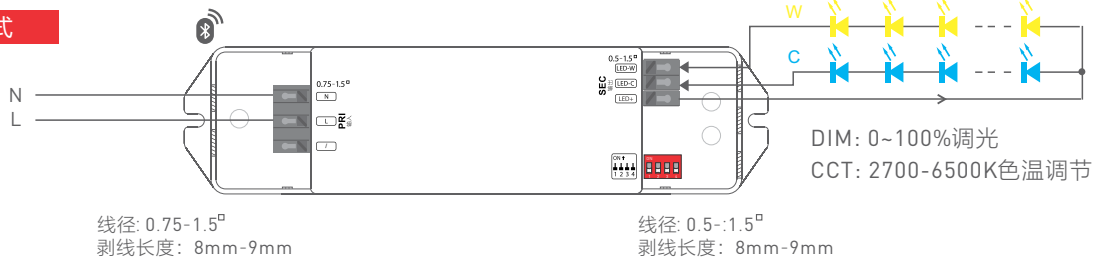
### 尺寸图

单位: mm

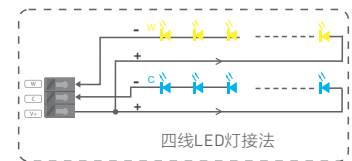


### 接线应用图

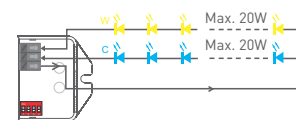
#### 无线连接方式



\* 通过APP蓝牙入网控制



\* 采用恒功率程序设计, 色温调节全程能保持亮度一致, 电源可连接额定功率两倍的负载。  
20W电源, 可连接20W×2CH的负载, 恒功率设计, 两路总功率会保持在20W以内。





## Push DIM/CT

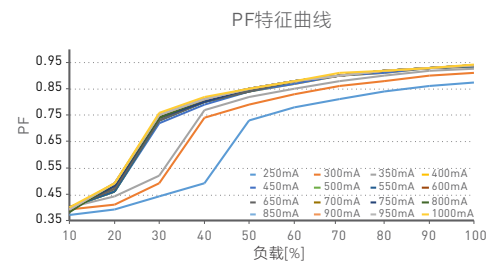
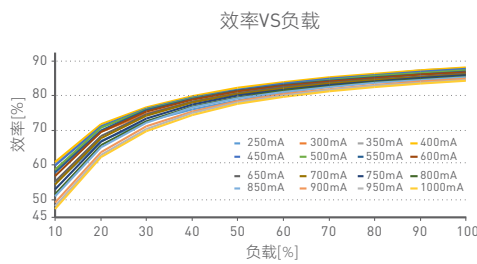
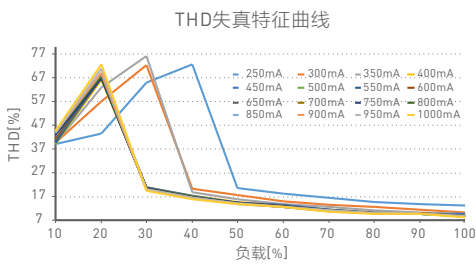


复位开关

- 开关控制: 短按.
- 无级调光调色: 长按.
- 每隔一次长按, 亮度和色温会向相反方向调整.
- 调光记忆: 当再次开关时, 灯光会回到先前调整的亮度水平.

\* 在未配对任何遥控器或者网关的情况下, 按键调光才有效, 若已经配对, 需要电源清码后, 才能使用按键功能.

## 关系图表

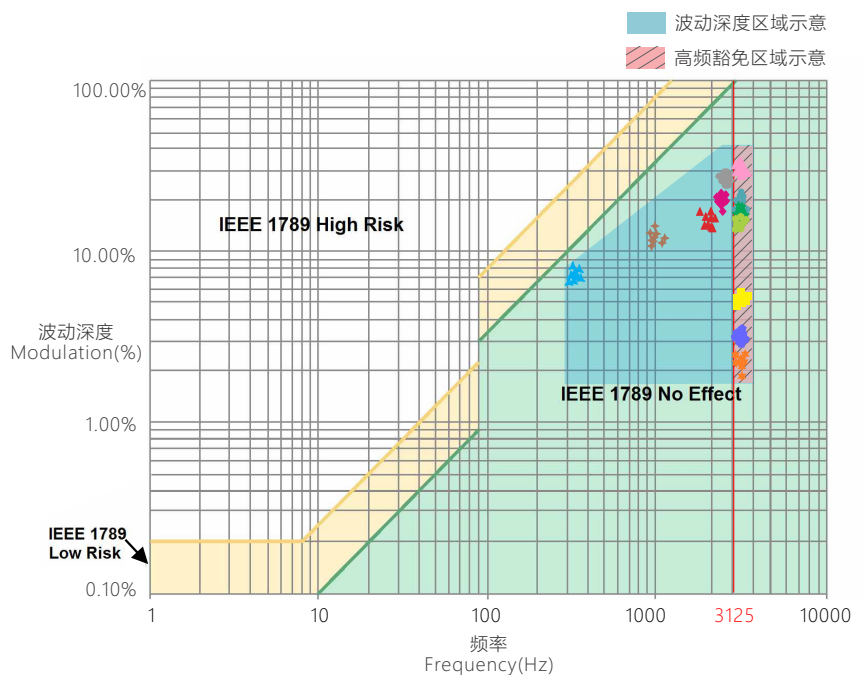


## 频闪测试表

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 (%)
$f \leq 8\text{Hz}$	0.2
$8\text{Hz} < f \leq 90\text{Hz}$	$0.025 \times f$
$90\text{Hz} < f \leq 1250\text{Hz}$	$0.08 \times f$
$f > 1250\text{Hz}$	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 (%)
$f \leq 10\text{Hz}$	0.1
$10\text{Hz} < f \leq 90\text{Hz}$	$0.01 \times f$
$90\text{Hz} < f \leq 3125\text{Hz}$	$(0.08/2.5) \times f$
$f > 3125\text{Hz}$	免除考核 (高频豁免)

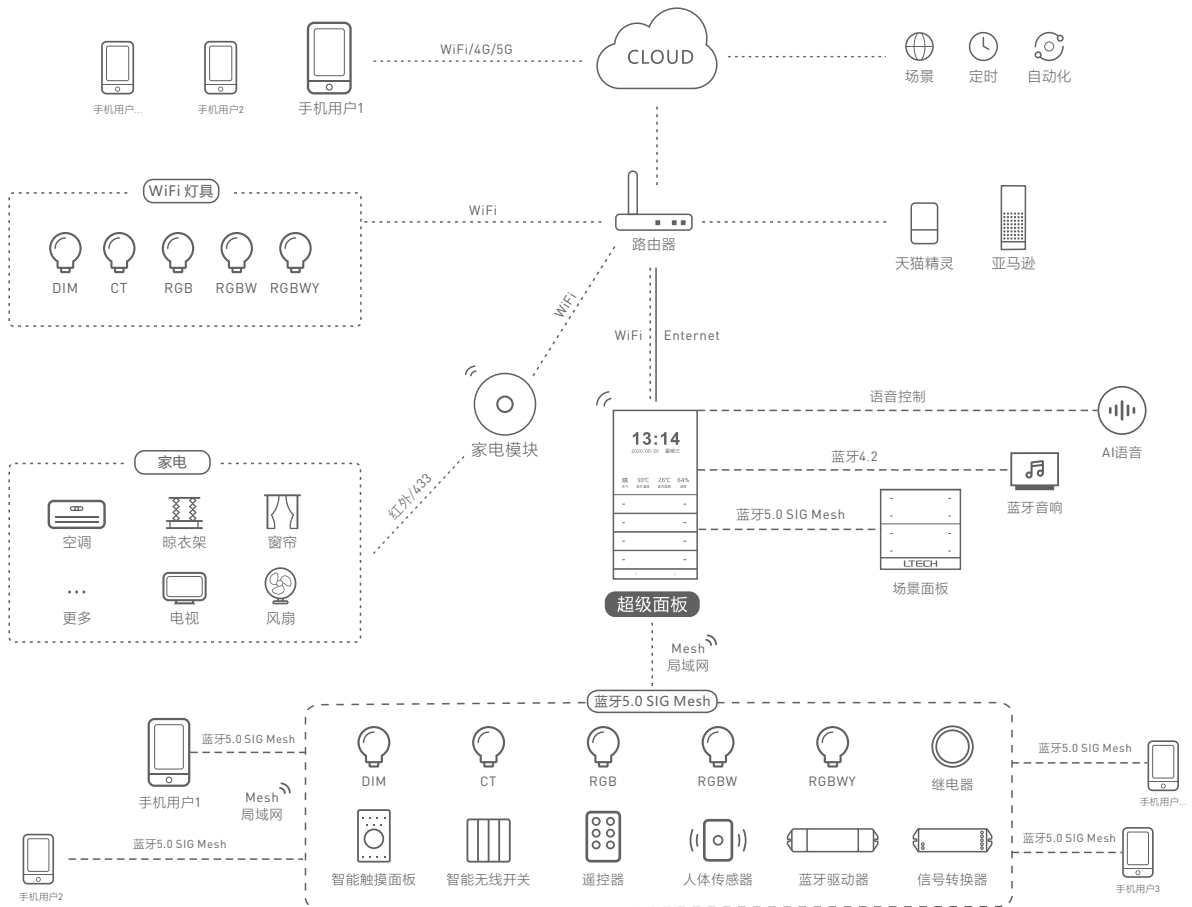
- 亮度
- ▲ 0.1%
  - ◆ 1%
  - ▲ 5%
  - ◆ 10%
  - 20%
  - 30%
  - 40%
  - 50%
  - 60%
  - 70%
  - 80%
  - 90%
  - ◆ 100%



右图标识为不同电流档的测试结果。

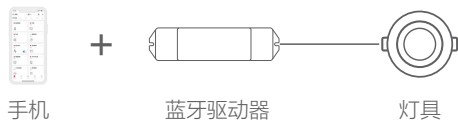
100%亮度时输出频率为0Hz, 对应波动深度为0%, 无法在右图中示意。

## 系统图



## 推荐应用控制方式

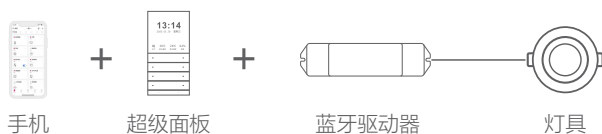
1、快速实现本地调光。



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。

## 其他操作方法

当本产品与遥控、网关、智能无线开关.....等配套使用时，请参看相应产品的使用说明书。

## APP操作说明

### 1. 账号注册

1.1 通过手机扫描下方二维码，按提示完成APP安装。



扫码下载APP

1.2 打开APP进行登录/注册操作。



### 3. 控制界面设置

配对完成后，进入控制界面，可以通过调节颜色色温，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。



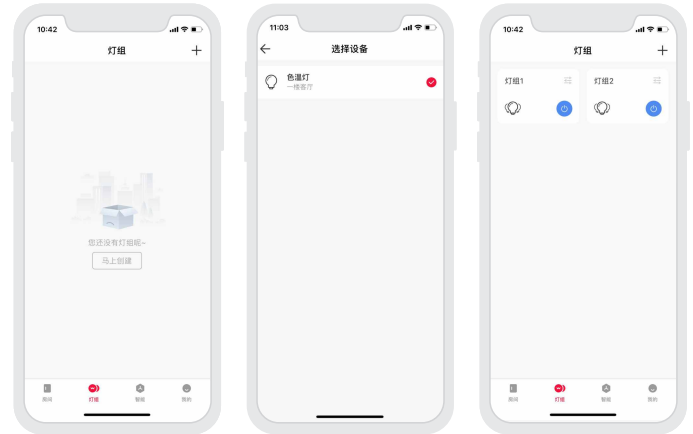
### 2. 配对操作

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（蓝牙）”，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。



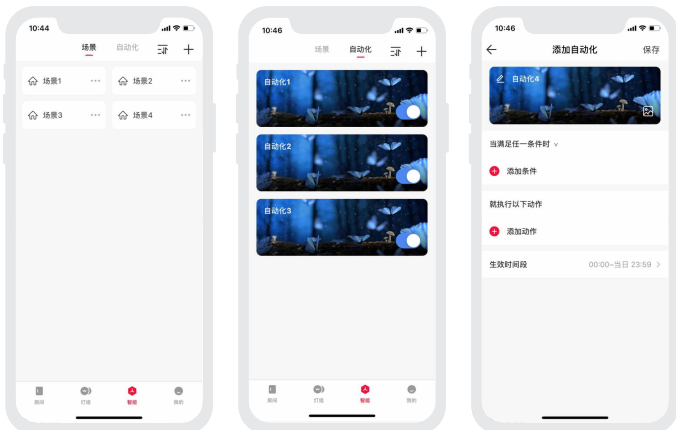
### 4. 灯具群组

同类型的灯具可以组成群组，用户可以对群组进行调色温、调光等操作，操作更加便利。切换到“群组”菜单，点击右上角“+”，按照提示修改群组名称后，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），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。



## 常见问题

### 1. 设备添加失败怎么办？

- 1.1 确保设备正常通电，并且处于激活状态；
- 1.2 需要添加的设备未被其他账号添加过，如被添加过，请手动恢复出厂；
- 1.3 确保手机与设备两者尽量靠近，建议不超过20米；
- 1.4 如设备已被强制删除，请手动恢复出厂，然后重新添加设备。

### 2. 设备离线怎么办？

- 2.1 请检查设备是否正常通电；
- 2.2 请检查路由器是否工作正常，网络畅通；
- 2.3 如使用远程控制，请检查手机网络是否工作正常，网络畅通。

### 3. 如何远程控制/云场景设置？

如需远程控制/添加云场景设置，需搭配本司超级面板方可使用。

### 4. 如何共享设备？

请在“我的”-“家庭管理”，进入需要共享的家庭，点击“添加成员”，请按提示将需要设备共享的家人/朋友加入该家庭即完成共享。

## 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，需避免日晒雨淋，如安装在户外，请用防水箱。
- 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，请与供应商联系。

## 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。