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 ofⅠ/Ⅱ/Ⅲ type .
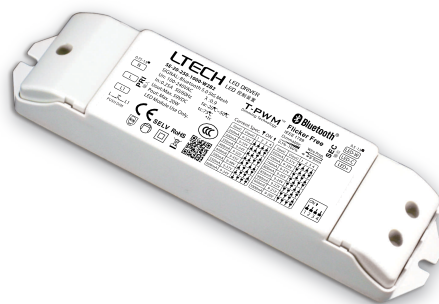- Up to 50000-hour life time.
- 5 -year warranty (Rubycon capacitor).

Bluetooth®

T-PWM™
Super depth dimming technology

Flicker-free
IEEE 1789

Dimmable:
0.1%-100%

DIM/CT

SELV □ ⊡ ◑ CE **RoHS** ☒

T-PWM™
Super depth dimming technology

Flicker-free
IEEE 1789

Short circuit protection

Overload protection

Overheat protection

Technical Specs

Model		SE-20-250-1000-W2B2
INPUT	Control mode	Push DIM
	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
OUTPUT	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 humitdity	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

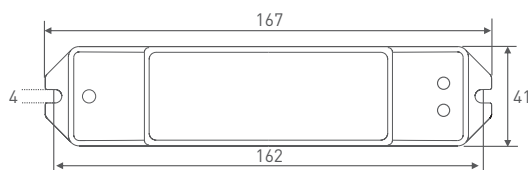* DIP switch quickly selects multiple current value(See the table below). * Please set current value when the driver is power-off.

DIPswitch

SE-20-250-1000-W2B2	DIP Switch								
	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
	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

ON / OFF

Product Size

Unit : mm

167
162
41
4
32

Wiring Diagram

Wireless connection mode

N
L

Wire diameter:0.75-1.5▫
Strip length: 8mm-9mm

Wire diameter:0.5-:1.5▫
Strip length:8mm-9mm

DIM: 0~100%
CCT: 2700-6500K
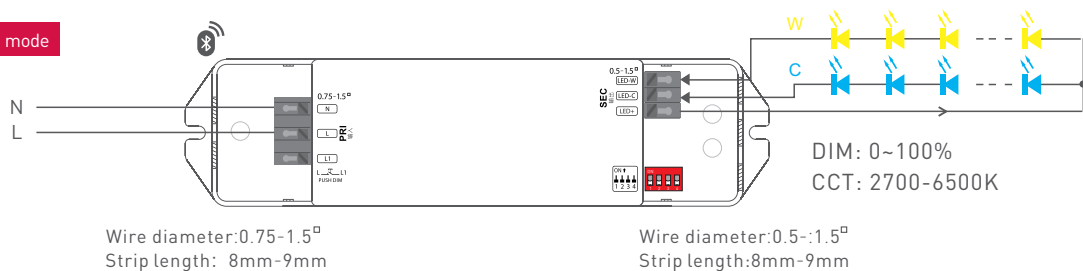
* Access the network to control through App and Bluetooth

Push DIM connection mode

N
L

0-100%

Push DIM
DIM: 0~100%
CCT: 2700-6500K
Short press to turn on/off
Long press to dim or adjust
color temperature

* Push Dim is invalid under DC voltage input

* Dimming interface priority:Buletooth 5.0 Mesh first,Push Dim next

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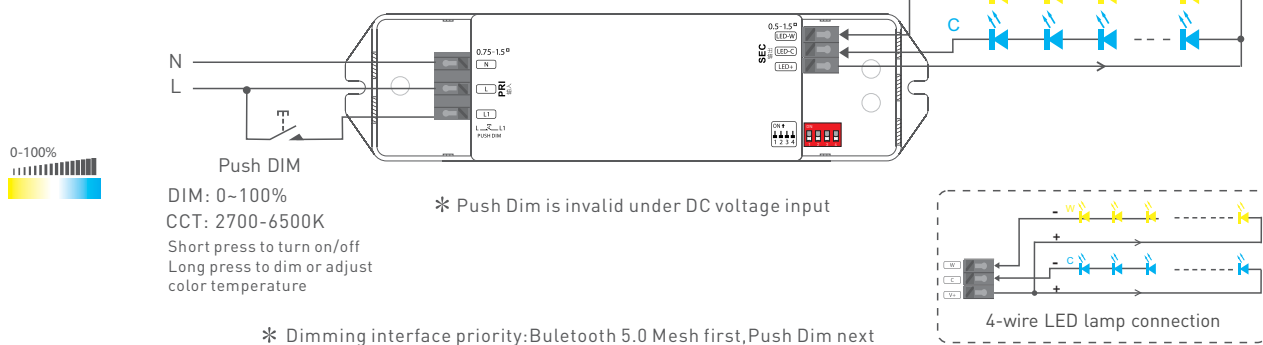
* With the constant power program design, brightness remains the same during color temperature adjustments.Drivers can be connected with the load twice the rated power. **20W drivers can be connected with the load of 20W × 2CH.**The total power of both channels keeps within 20W.

Max. 20W
Max. 20W
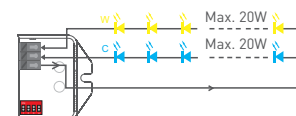
Push DIM/CT

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.
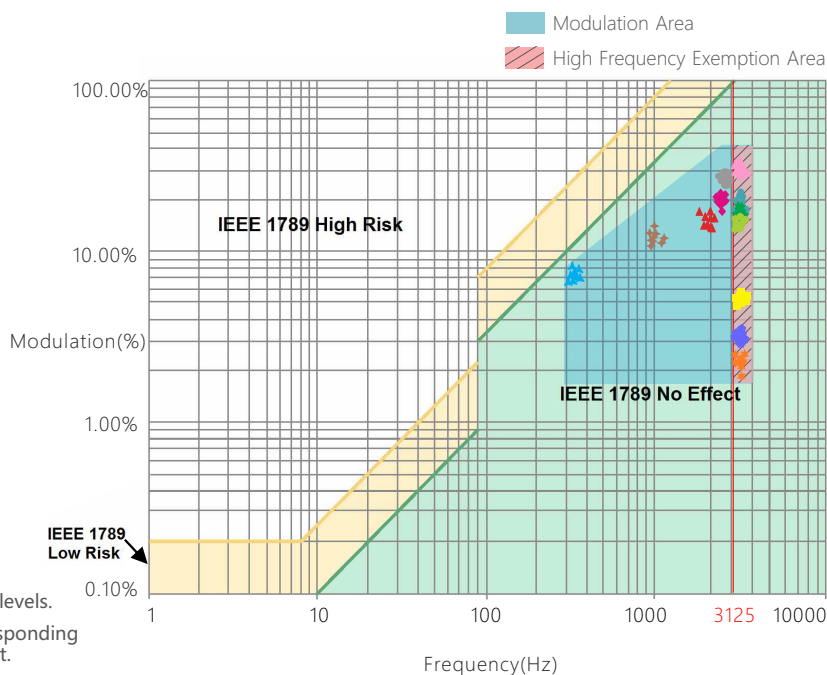
Relationship Diagrams

THD Characteristic Curve

Efficiency VS Load

Power Factor Characteristic Curve
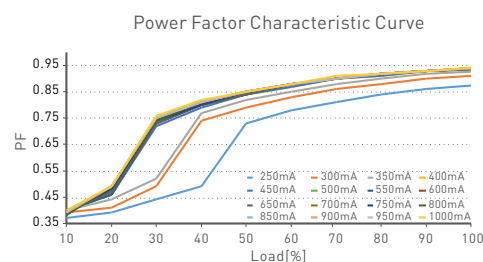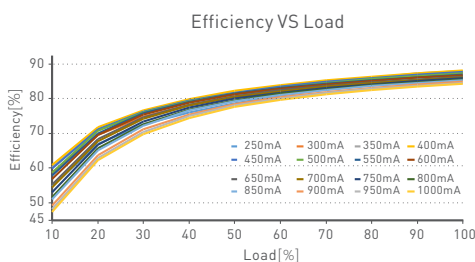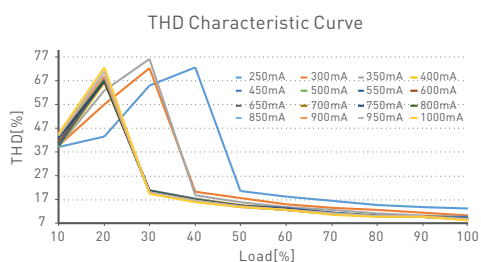
Flicker Test Table

IEEE 1789

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

Brightness
▲ 0.1%
✦ 1%
▲ 5%
◆ 10%
● 20%
▲ 30%
● 40%
★ 50%
● 60%
■ 70%
⬟ 80%
✶ 90%
◆ 100%

Modulation Area
High Frequency Exemption Area

100.00%

IEEE 1789 High Risk

10.00%

Modulation(%)

1.00%

IEEE 1789 No Effect

IEEE 1789
Low Risk

0.10%

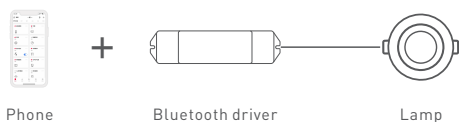1   10   100   1000   3125   10000

Frequency(Hz)

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

Phone user... | Phone user 2 | Phone user 1

WiFi /4G /5G — CLOUD — Scene | Timing | Automation

WiFi light fixtures: DIM | CT | RGB | RGBW | RGBWY

WiFi — Router

Tmall Genie | Amazon Echo

WiFi | Enternet

Home appliance module

WiFi | Infrared /433

Home appliances:
Air conditioning | Airer | Curtain
More | TV | Fan

13:14
2020/05/20 Wednesday
Sunny 10℃ 26℃ 64%

Super Panel

Bluetooth 5.0 SIG Mesh

Scene panel

Mesh LAN

Bluetooth 5.0 SIG Mesh

Phone user 1 — Bluetooth 5.0 SIG Mesh — Mesh LAN

Phone user 2 — Bluetooth 5.0 SIG Mesh

DIM | CT | RGB | RGBW | RGBWY | Relay

Intelligent touch panel | Smart wireless switch | Remote | Motion sensor | Bluetooth driver | Signal converter

Bluetooth 5.0 SIG Mesh — Phone user...
Bluetooth 5.0 SIG Mesh — Phone user 3

Recommend Applications

1、Achieve fast dimming control.

Phone + Bluetooth driver — Lamp

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

Phone + Remote + Intelligent wireless switch + Bluetooth driver — Lamp

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.

Phone + Super Panel + Bluetooth driver — Lamp
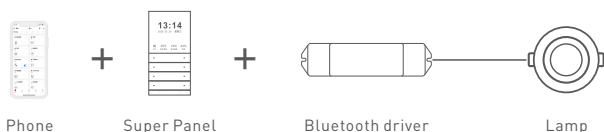
4、……More applications of intelligent control are waiting for you to set up.

Other Instructions

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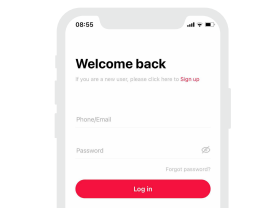
App Operating Instructions

1.Register an account

Scan the QR code below with you mobile phone and follow the prompts to complete the app installation.
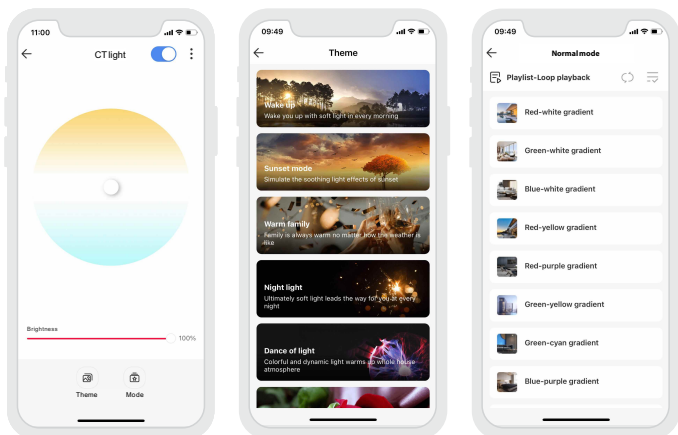
Scan and download the App
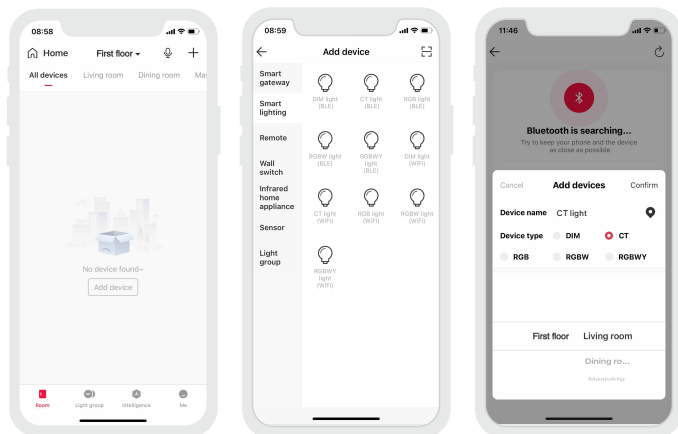
1.2 Open the App and log in or register an account.

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.

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 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 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.
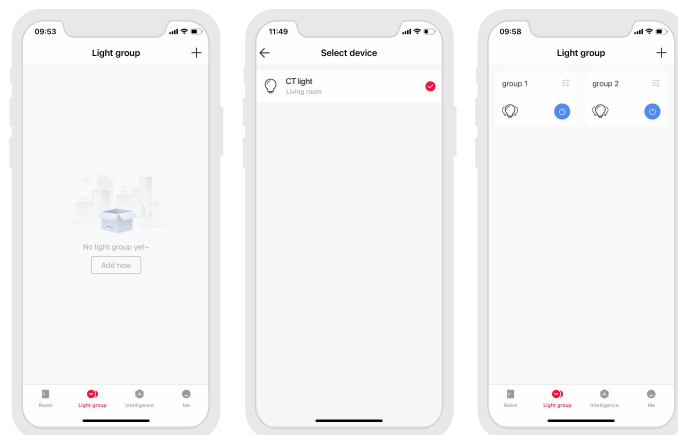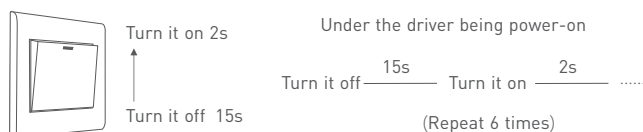
5. Advanced functions

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.
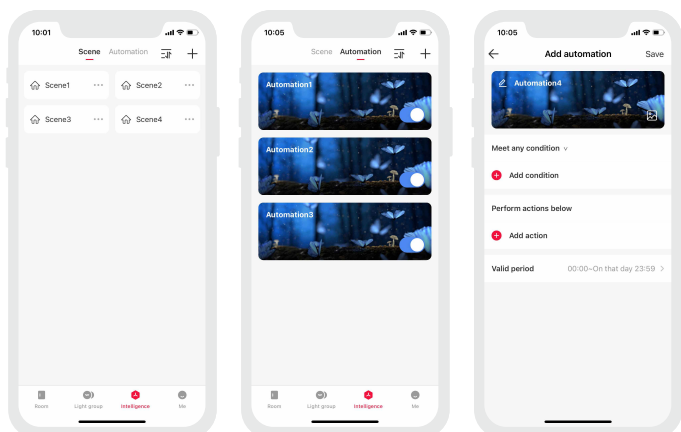
Reset The Device (Reset to factory defaults)

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.

Turn it on 2s

Turn it off 15s

Under the driver being power-on

Turn it off ——15s—— Turn it on ——2s—— ......

(Repeat 6 times)

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.