



General

|                  |                                    |
|------------------|------------------------------------|
| Product Type     | Constant Current Driver, Wireless, |
| Length (mm)      | 167                                |
| Width (mm)       | 41                                 |
| Height (mm)      | 32                                 |
| Housing Color    | White                              |
| Housing Material | Plastic                            |
| Mounting         | Surface mounted                    |
| Weight (g)       | 160                                |

Electronics

|                                |                 |
|--------------------------------|-----------------|
| Input Domain                   | AC              |
| Input Voltage                  | 100 ~ 240V AC   |
| Input Current max (A)          | 0.13A @ 230V AC |
| Output Voltage                 | 9 ~ 54V DC      |
| Output Current (mA) max/output | 250~1000        |
| Power Consumption (W)          | 20              |
| Output Power Range (W)         | 2.25~20         |
| Power Factor at Full Load      | +0.90 @ 230VAC  |
| Power Supply                   | Internal        |
| LED Outputs                    | 2               |
| Anti Surge                     | L-N: 2kV        |
| Efficiency                     | 83%             |
| Leakage current max. (mA)      | 0.24            |
| Input Frequency                | 50 ~ 60Hz       |
| Inrush Current                 | 10A @ 230VAC    |

Lighting

|             |               |
|-------------|---------------|
| Color Range | Tunable White |
|-------------|---------------|

Control

|                    |                             |
|--------------------|-----------------------------|
| Output Signal      | PWM-CC                      |
| Control            | Bluetooth                   |
| Dimming Range      | 0~100%, 0.1% dimming depth. |
| Number of Channels | 2                           |

Protection

|                  |    |
|------------------|----|
| Protection Class | II |
|------------------|----|

Environmental

|                       |                                               |
|-----------------------|-----------------------------------------------|
| Storage Temperature   | -40 ~ +80 °C                                  |
| Operating Temperature | -20 ~ +50 °C                                  |
| Fire-retardant        | V-0                                           |
| Ingress Protection    | IP20                                          |
| Safety Standards      | NEN-EN-IEC 61347-1,<br>NEN-EN-IEC 61347-2-13, |



IP20 5 year warranty

Disclaimer

Due to the technical evolution and improvement of our products, the data provided in this document may be updated on a regular basis, and as such, confirmation of this information is strongly recommended prior to the order process. OneEightyOne is not responsible for any discrepancies in this document following changes in our products. We reserve the right to make technical changes to our products and to change information, at its sole discretion, without notice.



## Intelligent Tunable White LED Driver (Constant Current)

2.25~20W 250~1000mA 9~54Vdc

- Adopt SAMSUNG/COVESTRO V0 flame resistant polycarbonate protective housings with small size and light weight.
- Bluetooth Mesh & Tuya application protocol with high networking capability are reliable and stable.
- With soft-on and fade-in dimming function enhancing visual comfort.
- Adjust brightness levels when lights are turned on or go to the brightness level adjusted last time.
- 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%.
- Color temperature unchanged as it dims, brightness also remains the same during color temperature adjustments.
- Innovative thermal management technology protects the power life intelligently.
- Overheat, over voltage , 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).

**LTECH | tuya**  
Strategic Partnership

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

**Flicker-free**  
IEEE 1789

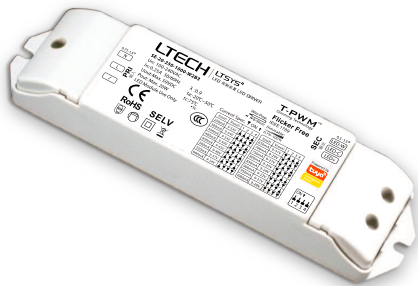
Dimmable:  
0.1%~100%

Dim/CT

**5 Year**  
Warranty



**SELV**  
RoHS



## Technical Specs

|                            |                                                   |                      |                                                                    |
|----------------------------|---------------------------------------------------|----------------------|--------------------------------------------------------------------|
| Wireless type:             | Tuya Bluetooth Mesh                               | Input voltage:       | 100-240Vac (120-300Vdc)                                            |
| Output voltage:            | 9-54Vdc                                           | Frequency:           | 0/50/60Hz                                                          |
| Max output voltage:        | 59Vdc                                             | Input current:       | 115Vac≤0.25A, 230Vac≤0.13A                                         |
| Output power:              | Max. 20W                                          | Power factor:        | PF>0.95/115Vac, PF>0.90/230Vac (Full load)                         |
| Output current:            | 250-1000mA                                        | Efficiency:          | 83%                                                                |
| Flicker level:             | No visible flicker/High frequency exemption level | Inrush current:      | Cold start10A@230Vac (Test twidth=40 us tested under 50% Ipeak)    |
| Dimming range:             | 0~100%, dimming down to 0.1%                      | Anti surge:          | L-N: 2kV                                                           |
| LF current ripple(<120Hz): | <1%                                               | Leakage current:     | <0.24mA/230Vac                                                     |
| Current accuracy:          | ±5%                                               | Working temperature: | ta: -20 ~ 50°C tc: 75°C                                            |
| Ripple & noise:            | ≤2V                                               | Working humidity:    | 20 ~ 95%RH, non-condensing                                         |
| PWM dimming frequency:     | ≤3600Hz                                           | 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 and recover automatically once it exceeds 1.02 times of the max load power.             |
| Overvoltage protection:   | Shut down the output and recover automatically once it exceeds no-load voltage.                              |
| 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:100MΩ/500VDC/25°C/70%RH            |
| 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 Package size(L×W×H): 168×43×35mm Gross weight: 160g±10g

### LED Current Selection

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

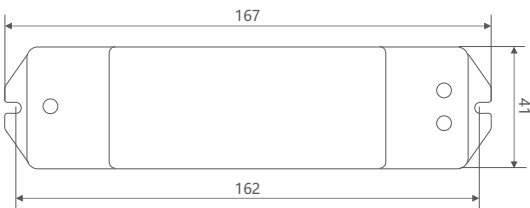
▲ Please set current value when the driver is power-off



|                     |                |             |           |             |         |             |           |             |           |           |
|---------------------|----------------|-------------|-----------|-------------|---------|-------------|-----------|-------------|-----------|-----------|
| SE-20-250-1000-W2B3 | DIP switch     |             |           |             |         |             |           |             |           | ON<br>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 |           |
|                     | 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     |           |
|                     |                |             |           |             |         |             |           |             |           |           |
|                     |                |             |           |             |         |             |           |             |           |           |

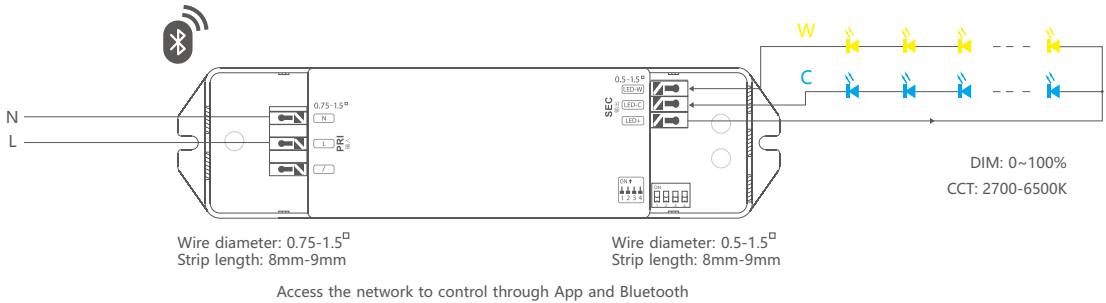
### Product Size

Unit: mm

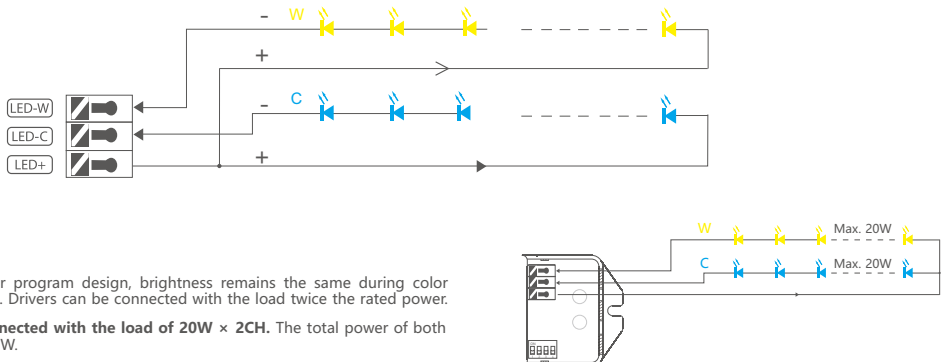


### Wiring Diagram

#### Wireless connection mode



#### 4-wire LED lamp connection

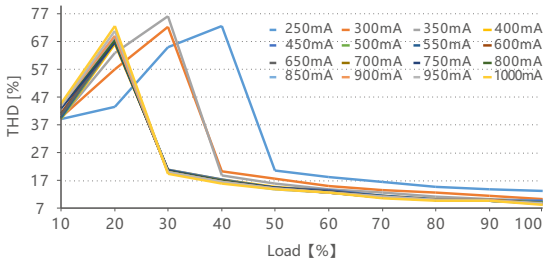


\* With the constant power program design, brightness remains the same during color temperature adjustments. Drivers can be connected with the load twice the rated power.

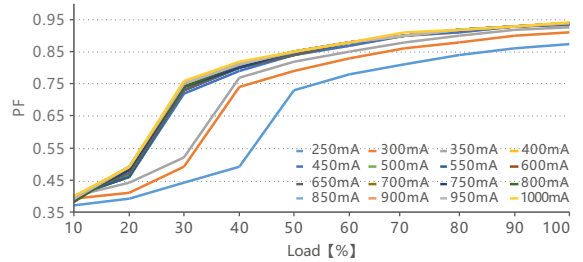
**20W drivers can be connected with the load of 20W × 2CH.** The total power of both channels keeps within 20W.

### Relationship Diagrams

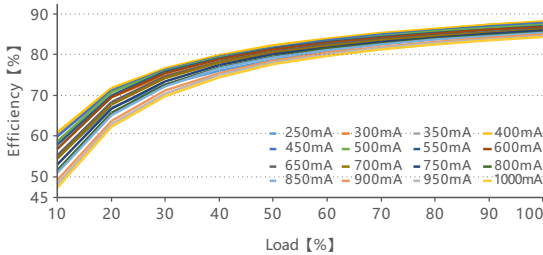
THD Characteristic Curve



Power Factor Characteristic Curve



Efficiency VS Load

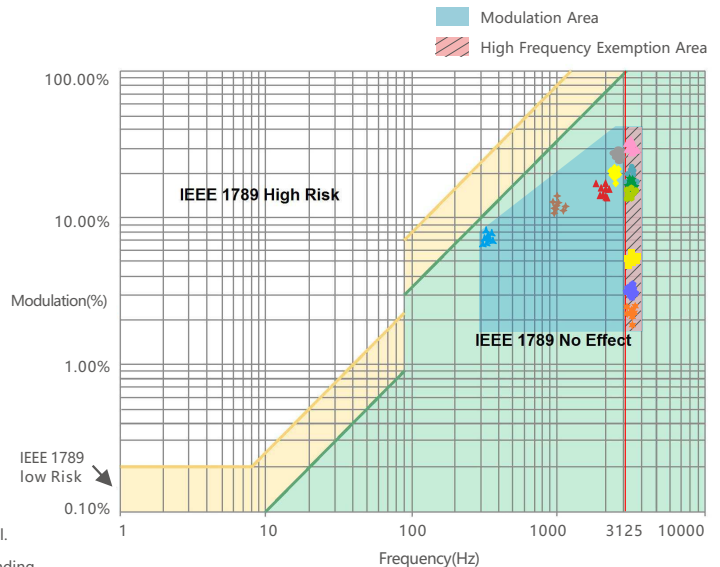
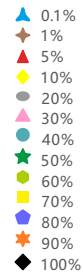


### Flicker Test Table

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



Marks in the right chart are tested results of different current level.

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

## App Operating Instructions

### 1. Register an account

Tuya Smart App is compatible with iOS and Android systems. Scan the QR code below with you mobile phone and follow the prompts to complete the app installation. After installation being completed, you can log in or register an account.

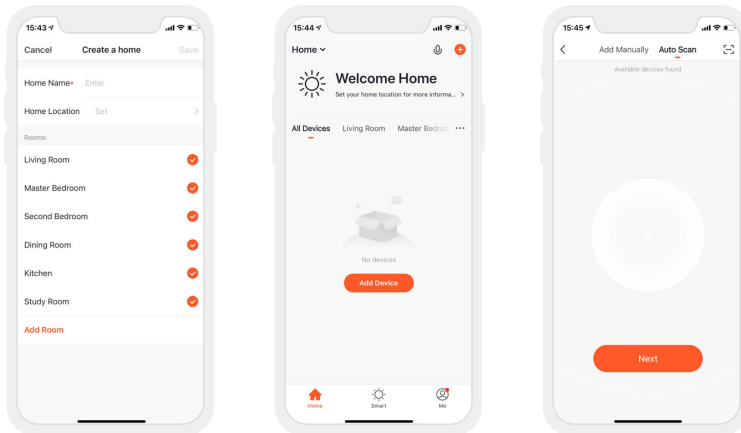
App support



App download

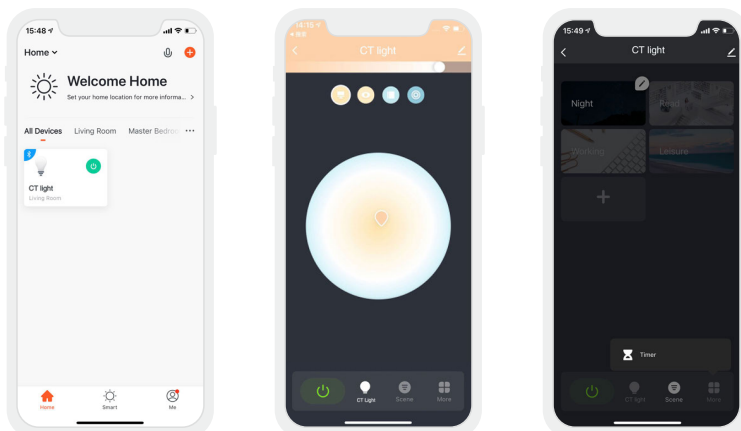
### 2. Paring instructions

A new user clicks "Me" → "Home Management" → "Create a Home", give a name to your home and confirm your home location, then add the rooms you need. Click "Add Device" — "Auto Scan" and enable permissions for automatically scanning Bluetooth/Wi-Fi/Zigbee/wired devices. Follow the prompts to add the device (Ensure that the device is ready for network connection).



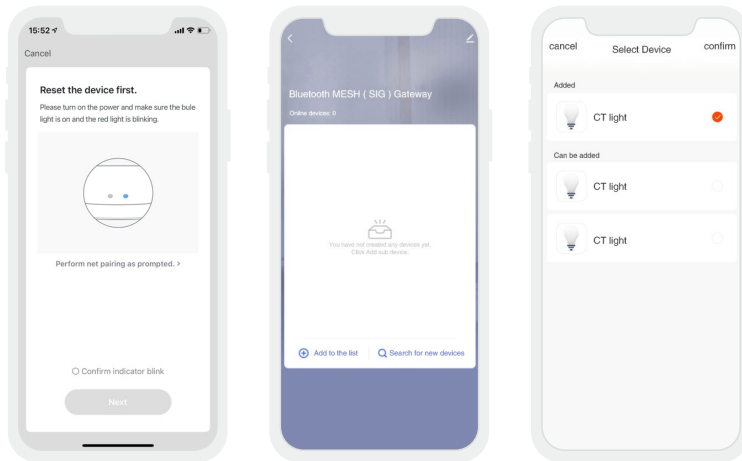
### 3. Lighting control settings

After paring up your device, click the device you add and adjust to your desired lighting status by brightness changing and color temperature adjustment. In "Settings", there are also lighting alarm clock (Tuya Bluetooth Gateway needs to be added) and countdown functions.

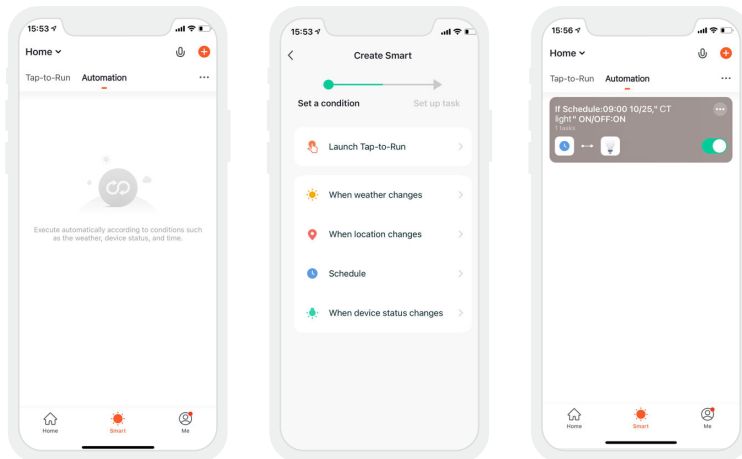


## 4. Remote control and automation

4.1 Remote control: Add Tuya Bluetooth MESH (SIG) Gateway by search bluetooth devices, and follow the prompts to configure the gateway to the network. After configuring the network, access the gateway interface and click "Add to the list" or "Search for new devices" to add the device to the gateway, and then the device can be controlled remotely.

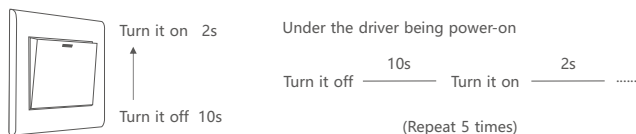


4.2 Automation settings: After adding Tuya Bluetooth MESH (SIG) Gateway, you'll be able to control the lighting remotely by clicking "Automation" in the "Smart" menu. In "Automation", set up conditions from weather, location and timing to other device status so as to trigger the lighting effects you preset and realize the lighting automation.



## Reset the device (Reset to factory defaults)

When the driver is power-on, turn it off and after 10s turn it on. After 2s, turn it off again. Repeat the same operation 5 times and then turn on the driver again. When the lamp is flashing (2 flashes/s), reset the device successfully.



## 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 needs. 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.