# SE-12-100-400-W1Y

LTECH | Tuya Bluetooth Mesh

LED Intelligent Driver (Constant Current)

- 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%, LED dimming starts at 0.01% possible.
- 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.
- Up to 50000-hour life time.
- 5 -year warranty (Rubycon capacitor).
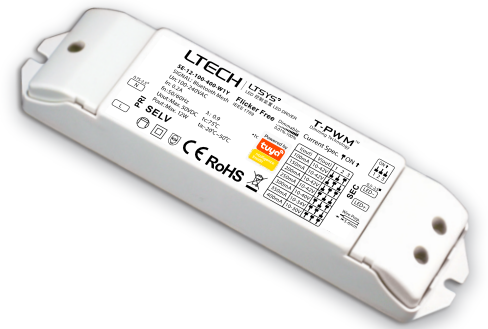
LTECH | Tuya Strategic Partnership

T-PWM Super depth dimming technology

Flicker-free IEEE 1789

Dimmable: 0.01-100%

SELV

T-PWM Super depth dimming technology | Flicker-free IEEE 1789 | Short circuit protection | Overload protection | Overheat protection

Technical Specs

Wireless type:	Tuya Bluetooth Mesh	Input voltage:	100-240Vac (120-300Vdc)
Output voltage:	9-42Vdc	Frequency:	0/50/60Hz
Max output voltage:	50Vdc	Input current:	115Vac≤0.2A, 230Vac≤0.1A
Output current:	100-400mA	Power factor:	PF≥0.95/115Vac , PF≥0.85/230Vac (Full load)
Load power range:	1W~12W	Efficiency (Typ):	80%
Flicker level:	No visible flicker/High frequency exemption level	Inrush current:	Cold start5A@230Vac (Test twidth=40 us tested under 50% Ipeak)
Dimming range:	0~100%, 0.01% depth dimming	Anti surge:	L-N: 1kV
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/1cyde, 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 automatically once it exceeds 1.02 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/1min/25°C/70%RH≥10MΩ
Safety standards:	IEC/EN61347-1, IEC/EN61347-2-13
EMC emission:	EN55015, EN61000-3-2 , IEC61000-3-3
EMC immunity:	EN61000-4-2,3,4,5,6,8,11, EN61547
Strobe test standard:	IEEE 1789

Others

Dimensions(LxWxH): 167x41x32mm   Package size(LxWxH): 168x43x35mm   Gross weight : 120g±10g

LED Current Selection

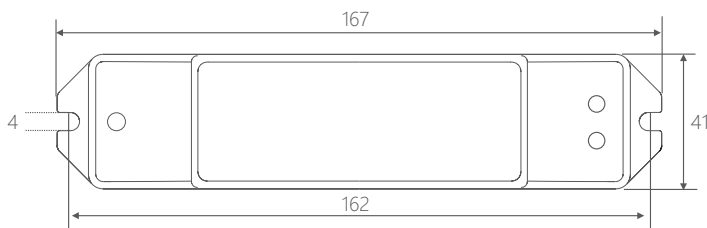DIP switch quickly selects multiple current value (See the table below).   ＊ Please set current value when the driver is power-off
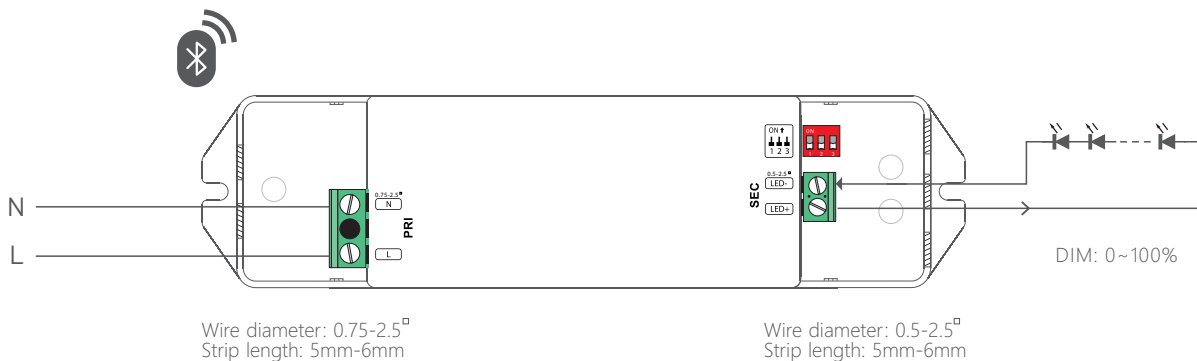
DIP switch

	DIP switch								
SE-12-100-400-W1Y	Output current	100mA	150mA	200mA	250mA	300mA	350mA	400mA	ON
	Output voltage	9-42V	9-42V	9-42V	9-42V	9-40V	9-34V	9-30V	
	Output power	0.9-4.2W	1.35-6.3W	1.8-8.4W	2.25-10.5W	2.7-12W	3.15-11.9W	3.6-12W	OFF

Product Size

Unit: mm

167

4

41

162

32

Wiring Diagram

N

L

DIM: 0~100%

Wire diameter: 0.75-2.5▫
Strip length: 5mm-6mm

Wire diameter: 0.5-2.5▫
Strip length: 5mm-6mm

Access the network to control through App and Bluetooth

Relationship Diagrams

THD Characteristic Curve

THD[%] vs Load[%]

100mA — 150mA — 200mA — 250mA
300mA — 350mA — 400mA

Efficiency VS Load

Efficiency[%] vs Load[%]

100mA — 150mA — 200mA — 250mA
300mA — 350mA — 400mA
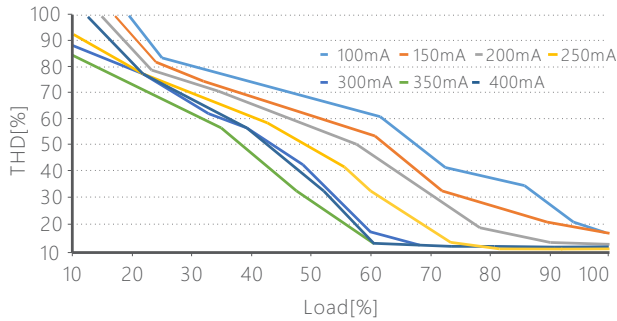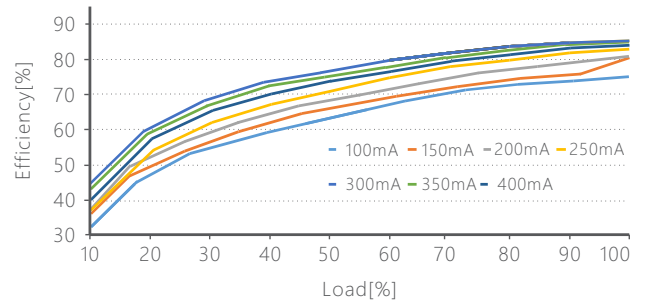
Power Factor Characteristic Curve

PF vs Load[%]

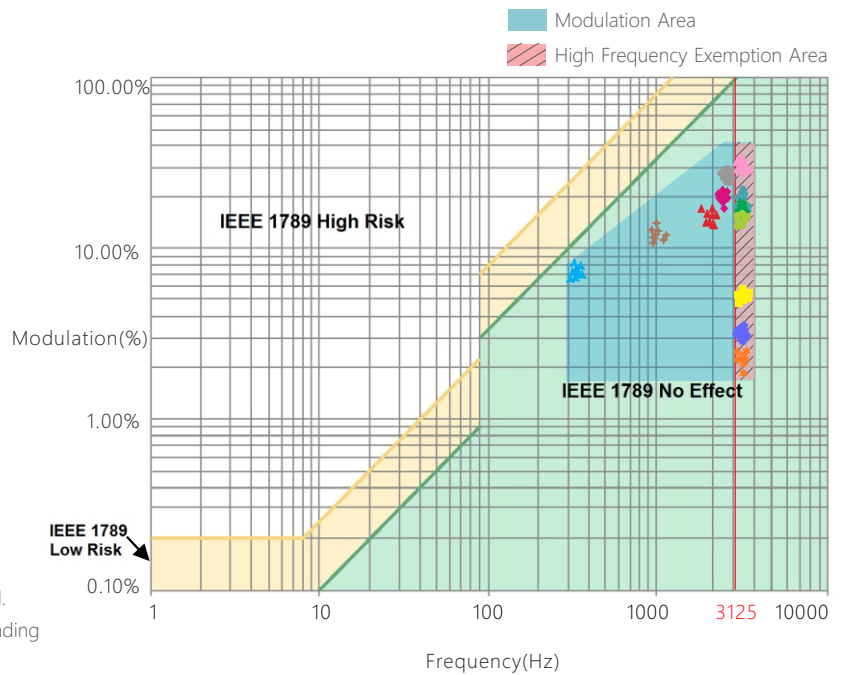100mA — 150mA — 200mA — 250mA
300mA — 350mA — 400mA
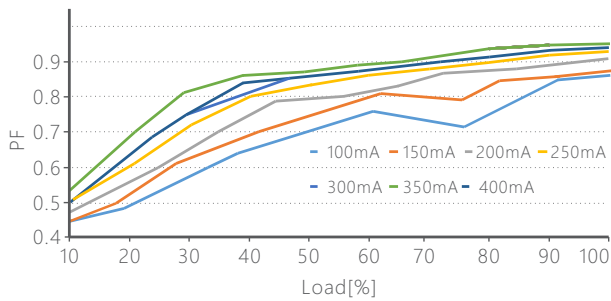
Flicker Test Table

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
△ 01%
✦ 1%
▲ 5%
◆ 10%
● 20%
▲ 30%
● 40%
★ 50%
● 60%
■ 70%
⬟ 80%
✶ 90%
◆ 100%

Modulation Area
High Frequency Exemption Area

IEEE 1789 High Risk

IEEE 1789 No Effect

IEEE 1789 Low Risk

Modulation(%) vs Frequency(Hz)

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

TuyaSmart 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 completed, you can log in or register an account.

APP support

App download

2. Paring instructions

A new user clicks "Me" → "Home Settings Management" → "Create Home Settings", confirm your home location and give names for all rooms of your home. Click "My Home Settings" and come to "Add Device" interface. After obtaining appropriate privileges for accessing devices, select "Auto-discovery" in "Add Devices" list to automatically search devices, and then Bluetooth/WIFI/Zigbee and other wired devices can be discovered. Follow the prompts to complete the device addition (Please make sure the devices are in the network configuration mode).

3. Lighting control settings

After paring the device, click the lighting added and adjust to the appropriate lighting status by controlling dimming. There also exists lighting alarm clock (Tuya Bluetooth Gateway needs to be added) and countdown functions in "Settings".

4. Register an account

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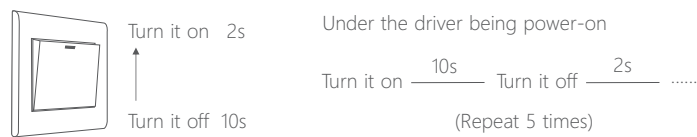

4.2 Automation settings: After adding Tuya Bluetooth Gateway, control the lighting remotely by clicking "Automation" in the "Intelligence" interface. Set status changes for weather, location, timing and other equipment in "Automation" to trigger the lighting effects preset and realize the lighting automation.

Reset The Device (Reset to factory defaults)

When the driver is power-on, turn off it 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.

Turn it on   2s

Turn it off   10s

Under the driver being power-on

Turn it on ——10s—— Turn it off ——2s—— ......

(Repeat 5 times)

Attentions

· Please use in spacious and open space. Avoid metal obstructions above and in front of products.

· Please use in a cool and dry environment.

· No disassembly of products so as not to affect the warranty.

· Avoid direct contact with light and heat.

· Please do not open, modify, repair or maintain products without authorization , otherwise warranties are not allowed.

Warranty Agreement

Thanks for your purchasing. Our products offer a 5-year warranty and you can enjoy free maintenance services within 5 years from the date of receiving products. Please contact your suppliers before sending products back to repair.

Warranty exclusions below:

· Any failure or damage of products caused by improper installation, operation, maintenance and storage ,which results from failing to follow manuals.

· Beyond warranty periods.

· Alter or tear up product bar codes without authorization.

· Change configuration files of products or dismantle products for repair without authorization.

· Artificial damage of products, such as Improper voltage, high temperature, water damage, mechanical damage, smash, serious oxidation, and rust.

· Failures or damage of products caused by force majeure , such as earthquake, fire disaster, flood, and electric shock.

· Failures or damage of products not caused by product designs, technology, manufacturing, or quality.

﹡ 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.

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