



General

|                  |                         |
|------------------|-------------------------|
| Product Type     | Constant Current Driver |
| Length (mm)      | 167                     |
| Width (mm)       | 41                      |
| Height (mm)      | 32                      |
| Housing Color    | White                   |
| Housing Material | Plastic                 |
| Mounting         | Surface mounted         |
| Weight (g)       | 165                     |

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        |
| Output Power Range (W)         | 2.25~20         |
| Power Factor at Full Load      | +0.90 @ 230VAC  |
| Power Supply                   | Internal        |
| LED Outputs                    | 1               |
| Anti Surge                     | L-N: 2kV        |
| Leakage current max. (mA)      | 0.24            |
| Standby Power Loss Max. (W)    | 0.5             |
| THD (at full load)             | 9% @ 230V AC    |
| Input Frequency                | 50 ~ 60Hz       |
| Inrush Current                 | 10A @ 230VAC    |

Lighting

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

Control

|                      |              |
|----------------------|--------------|
| Output Signal        | PWM-CC       |
| Control              | DMX          |
| RDM Support          | Yes          |
| Dimming Range        | 0~100%       |
| Driver Configuration | Dip Switches |
| Number of Channels   | 1            |

Protection

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

Environmental

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



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.



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# SE-20-250-1000-W2M2

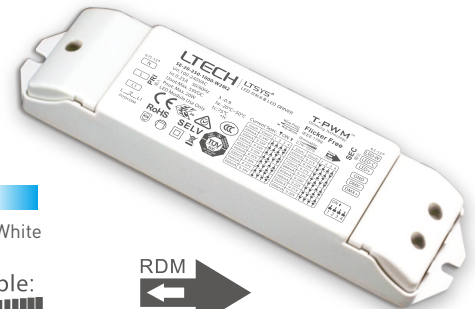
## LED Intelligent CT Driver (constant current)

- Dimming interface: DMX512/RDM, Push DIM.
- T-PWM™ digital dimming, present a perfect visual experience.
- With RDM remote device management protocol.
- Dimming range: 0~100%, LED start at 0.1% possible.
- With soft-on and fade in function, visual more comfortable.
- DIP switch for 16 optional currents' quick selection.
- 0-100% flicker-free, High frequency exemption level.
- Dimming interface with photoelectric isolation, in line with the latest safety standards, more safe and reliable.
- In line with the EU energy efficiency ERP directive, standby power consumption < 0.5W
- Innovative thermal management technology, intelligent power life protection.
- Over temp. / Over voltage / Over load / Short circuit protection, recover automatically.
- Non-load output voltage 0V to prevent damages to LED caused by poor contact.
- Suitable for internal lights application for I / II / III.
- Up to 50000-hour life time.
- 5 years warranty (Rubycon capacitor).

# LTECH

DMX/RDM  
PUSH DIM/CCT

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



### T-PWM™

Super depth dimming technology

Tunable White

### Flicker-free

IEEE 1789

Dimmable:  
0.1%-100%

RDM  
DMX

5 years  
warranty



SELV Class 2

RoHS



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



## Main characteristics

|                      |                                                             |                            |                                                                        |
|----------------------|-------------------------------------------------------------|----------------------------|------------------------------------------------------------------------|
| Dimming interface:   | DMX512/RDM, Push DIM                                        | Output voltage:            | 9-54Vdc                                                                |
| Input voltage:       | 100-240Vac (120-300Vdc)                                     | Max output voltage:        | 59Vdc                                                                  |
| Frequency:           | 50/60Hz                                                     | Strobe level:              | No video flicker / High frequency exemption assessment level.          |
| Input current:       | 115Vac≤0.25A, 230Vac≤0.13A                                  | Dimming range:             | 0~100%, 0.1% dimming depth.                                            |
| Output current:      | 250-1000mA                                                  | LF current ripple(<120Hz): | <1%                                                                    |
| Output power:        | Max. 20W                                                    | Current accuracy:          | ±5%                                                                    |
| Power factor:        | PF>0.95/115Vac, PF>0.90/230Vac, at full load                | Ripple & Noise:            | ≤2V                                                                    |
| THD:                 | 230Vac@THD≤9%, at full load                                 | PWM dimming frequency:     | ≤3600Hz                                                                |
| Efficiency:          | 83%                                                         | Working temperature:       | ta: -20 ~ 50°C tc: 75°C                                                |
| Standby power Loss:  | <0.5W                                                       | Working humidity:          | 20 ~ 95%RH, non-condensing                                             |
| Inrush current(tp.): | Cold start 10A at 230Vac (twidh=40μs measured at 50% Ipeak) | Storage temp., humidity:   | -40 ~ 80°C, 10~95%RH                                                   |
| Anti surge:          | L-N: 2kV                                                    | Temp. coefficient:         | ±0.03%/°C(0-50°C)                                                      |
| Leakage current:     | <0.24mA/230Vac                                              | Vibration:                 | 10~500Hz, 2G 12min./1cycle, period for 72min. each along X, Y, Z axes. |

## LED current selection

DIP switch for 8 optional currents' quick selection (see the table below).

Choose current via DIP switch



| SE-20-250-1000-W2M2 | DIP switch     | 1 1 1 1     | 1 1 1 1   | 1 1 1 1     | 1 1 1 1 | 1 1 1 1     | 1 1 1 1   | 1 1 1 1     | 1 1 1 1   | 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     | 1 1 1 1     | 1 1 1 1   | 1 1 1 1     | 1 1 1 1 | 1 1 1 1     | 1 1 1 1   | 1 1 1 1     | 1 1 1 1   |           |
|                     | 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     |           |

- \* Please choose the current value when the driver is power off.
- \* E.g. LED 3V/pcs: 9-20V can power 3-6pcs LEDs in series, 9-54V can power 3-18pcs LEDs, the max quantity of LEDs in series will be subject to the actual voltage of LED.
- \* Setting DMX address via RDM function

## Protection

|                           |                                                                                                          |
|---------------------------|----------------------------------------------------------------------------------------------------------|
| Over temp. protection:    | Intelligently adjusting or turning off the output current if the PCB temperature ≥ 110°C, auto recovers. |
| Over load protection:     | Shut down the output when current load ≥ 102%, auto recovers.                                            |
| Short circuit protection: | Shut down automatically if short circuit occurs, auto recovers.                                          |
| Over voltage protection:  | Output current declined when over non-load voltage, auto recovers.                                       |
| Non-load Protection       | Shut down the output if no load, auto recovers.                                                          |

## Safety & EMC

|                       |                                            |
|-----------------------|--------------------------------------------|
| Withstand voltage:    | I/P-O/P: 3750Vac                           |
| Isolation 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

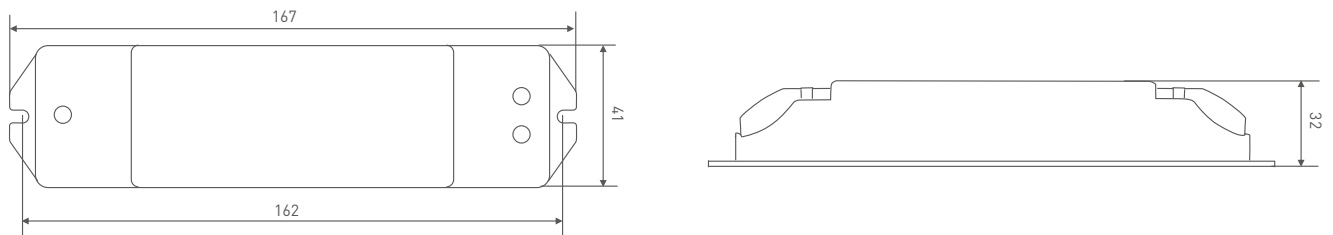
|               |                    |
|---------------|--------------------|
| Dimension:    | 167×41×32mm(L×W×H) |
| Packing:      | 168×43×35mm(L×W×H) |
| Weight(G.W.): | 160g±10g           |

## Dimensions

Unit: mm

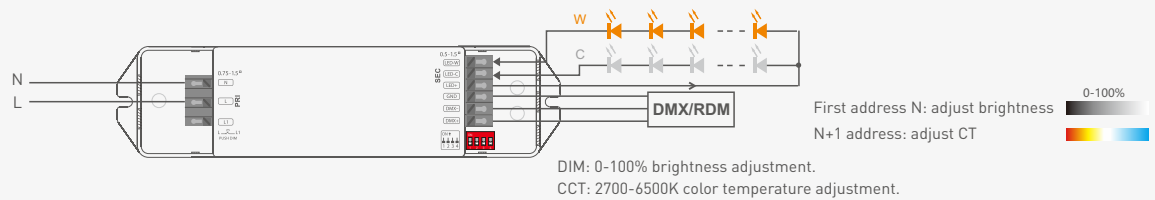
# LTECH

DMX/RDM  
PUSH DIM/CCT

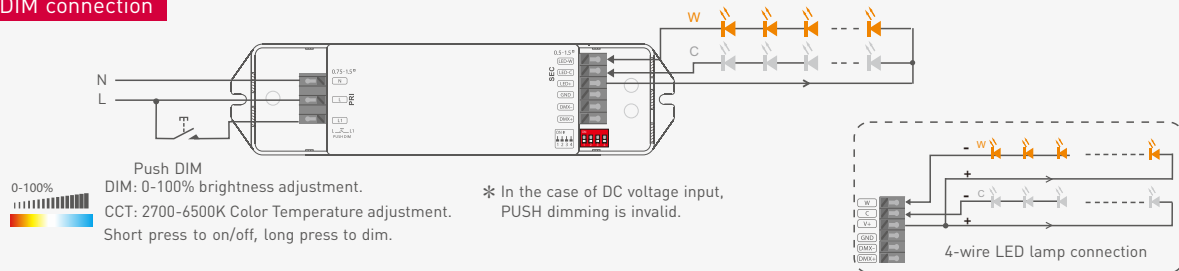


## Wiring diagram

### DMX/RDM connection



### Push DIM connection



\* Dimming interface priority: First DMX/RDM, next Push DIM.

\* Adopting constant power program design, it keeps the same brightness in color temperature dimming, twice the rated power load can be connected.  
20W driver, 20W × 2CH load can be connected, the total power of the 2 channels will be kept in 20W.



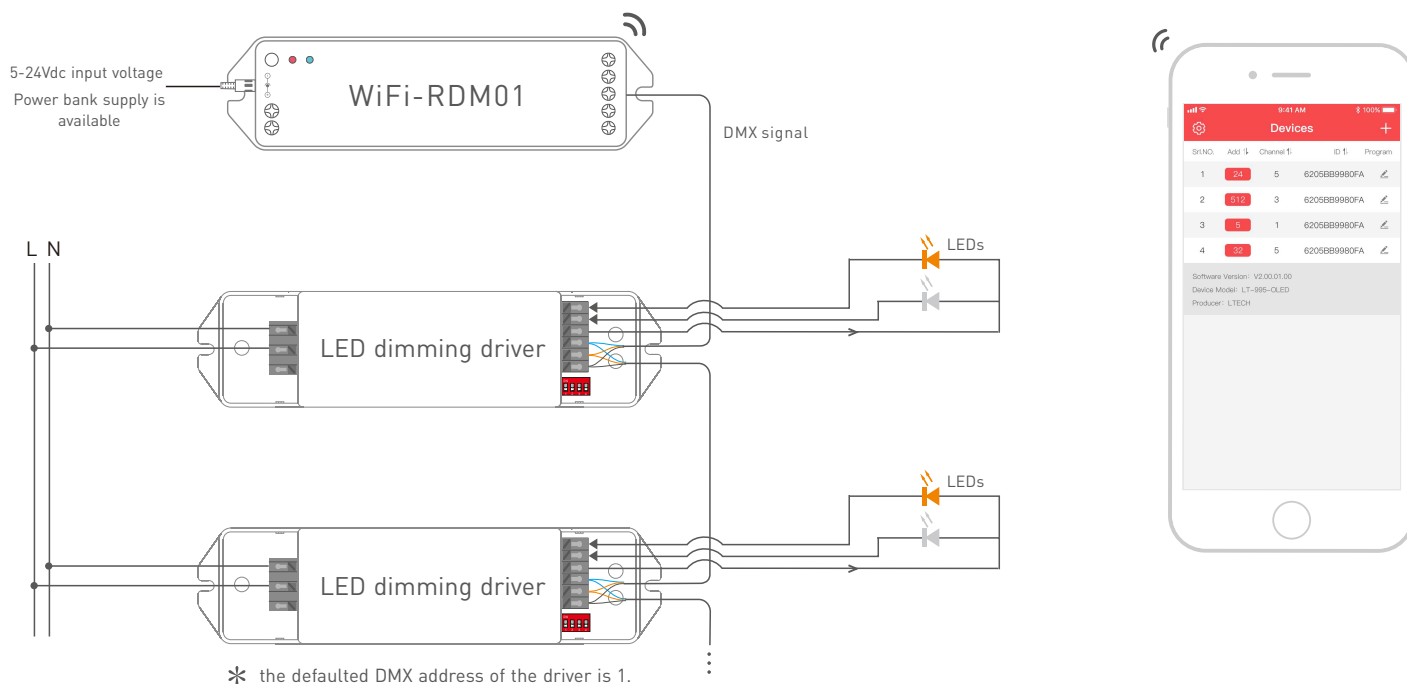
## Push DIM/CCT



Reset switch

- On/off control: Short press.
- Stepless DIM/CT: Long press.
- With every other long press, the light level goes to the opposite direction.
- Dimming memory: Brightness will be the same as previously adjusted when turning off and on again.

The DMX driver can work with the address editor that complies with standard RDM protocol. It is recommended to use LTECH's RDM editor (model WiFi-RDM01), which can achieve more functions such as remote browsing and parameter setting. Wiring diagram as below:

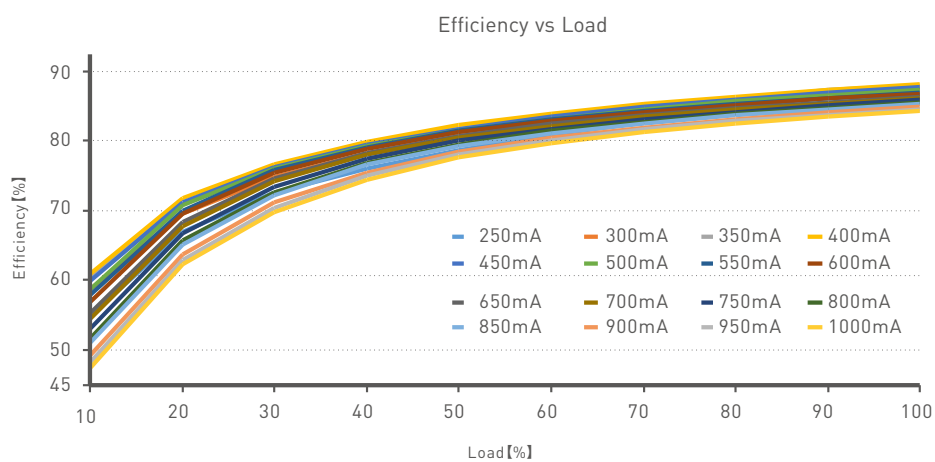
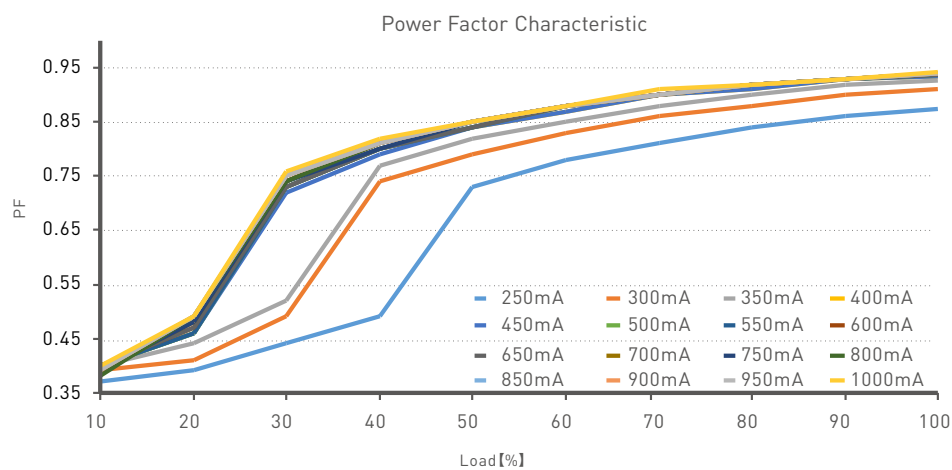
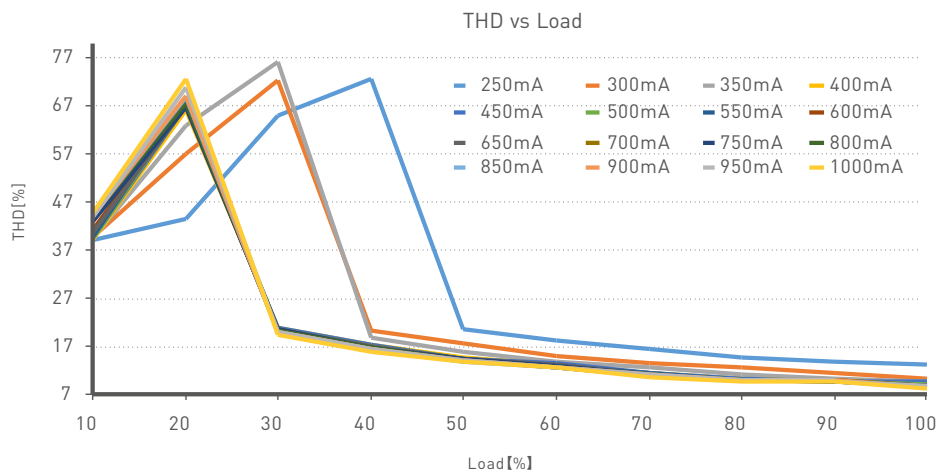


Download the App, setting the parameters after well connecting the RDM editor, please check the manual of WiFi-RDM01 for more details.



- www.ltech-led.com

## Relationship Diagrams



## Flicker Test Form

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<br>(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.

