LTSYS

SE-20-50-100-W5D

DALI-2

Intelligent Tunable White LED Driver (Constant Current)

NFC

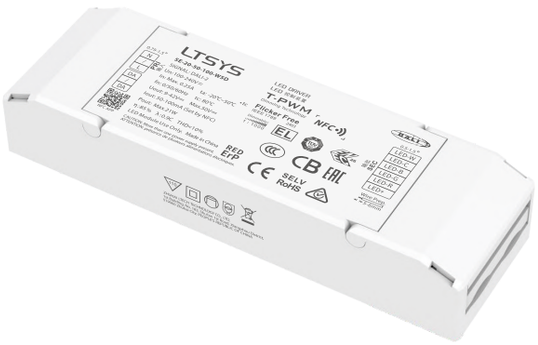
- Ultra-small, thin and light screwless end cap.
- The housing is made from V0 flame retardant PC materials from SAMSUNG/COVESTRO.
- Eight DT6/DT8 device types are integrated in one device, configurable via NFC Lighting APP. RGBCW, W, 2×CT (sync), and XY are single - address; 2×CT (async), XY+CT, RGB+CT, and XY+W are double - address.
- Change the output current, fade time and other parameters on the NFC programmer or via the App, and sync the parameters to the driver.
- The current gear step value can be set as low as 1mA, offering higher compatibility and finer precision.
- Soft-on and fade-in dimming function enhances your visual comfort.
- T-PWM Super depth dimming technology, dimming depth can reach 0.1%
- 0-100% full dimming without video flash, high frequency exemption assessment level
- Comply with the EU's ErP Directive, networked standby<0.5W.
- When there is no load, the output will be 0V to prevent damage to LEDs due to poor contact.
- Overheat, over voltage, overload, short circuit protection and automatic recovery.
- Suitable for Class Ⅰ / Ⅱ /Ⅲ indoor light fixtures.
- Normal service life can reach 100,000 hours.
- 5-year warranty (Rubycon capacitor)

DALI 2

Color light control

T-PWM
Dimming Technology

Flicker Free
IEEE 1789



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

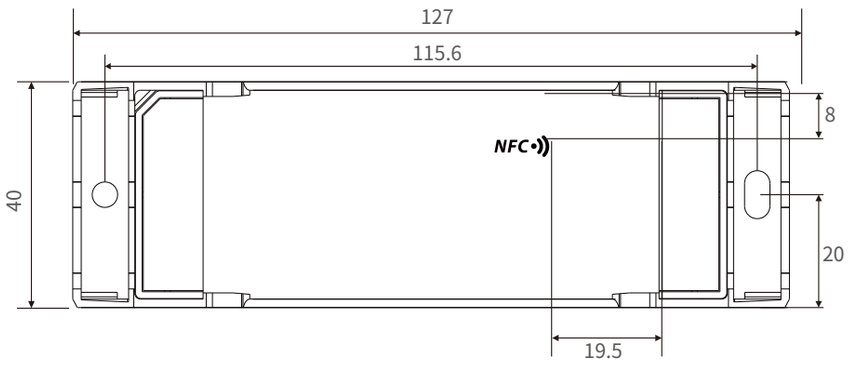
Multi current setting | Constant power setting | Overheat Protection | Over voltage protection | Over Load protection | Short circuit protection

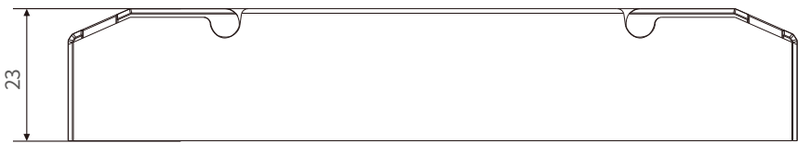
Technical Specs

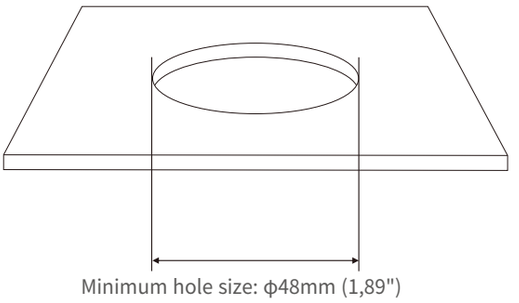
Model				
		SE-20-50-100-W5D		
Features	Output Type	Constant current		
	Dimming Interface	DALI-2		
	Output Feature	Isolation		
	Protection Grade	IP20		
	Insulation Grade	Class II (Suitable for class I/ II /III light fixtures)		
OUTPUT	Output Voltage	9-42Vdc		
	Maximum output voltage	≤50Vdc		
	Output Current Range	50-100mA （Set this parameter using the NFC APP）		
	Output Power Range	0.45W-21W		
	Dimming Range	0.1~100%, down to 0.1%		
	LF Current Ripple	<5%(Maximum current for non dimming state)		
	Current Accuracy	±5%		
	PWM Frequency	≤3600Hz		
INPUT	DC Voltage Range	100-240Vdc		
	AC Voltage Range	100-240Vac		
	DC current range	0.09-0.25A		
	Emergency output coefficient	EoF_i=98%		
	Input Voltage	115Vac/230Vac		
	Frequency	0/50/60Hz		
	Input Current	≤0.25A/115Vac, ≤0.13A/230Vac		
	Power Factor	PF>0.95/115Vac (at full load), PF>0.9C/230Vac (at full load)		
	THD	THD≤10%/230Vac(at full load)		
	Efficiency (Typ.)	85%(at full load)		
	Inrush Current	Cold start 15A(Test twidth=102us tested under 50% Ipeak)/230Vac		
	Anti Surge	L-N: 2KV		
	Leakage Current	Max. 0.24mA		
ENVIRONMENT	Working Temperature	ta: -20 ~ 50°C tc: 80°C		
	Working Humidity	20 ~ 95%RH, non-condensing		
	Storage Temperature/Humidity	-40 ~ 80°C/10~95%RH		
	Temperature Coefficient	±0.03%/°C(-20-50°C)		
	Vibration	10~500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively		
PROTECTION	Overload Protection	Automatically protect the device when the load exceeds 102% of the rated power. Automatically recover once load is reduced.		
	Overheat Protection	The temperature returns to normal and the abnormality is eliminated.		
	Overvoltage Protection	Automatically protect the device when voltage exceeds the no-load voltage.		
	Short Circuit Protection	Enter hiccup mode if short circuit occurs, and recover automatically.		
SAFETY & EMC	Withstand Voltage	I/P-O/P: 3750Vac≦5mA/60S		
	Insulation Resistance	I/P-O/P: 100MΩ/500VDC/25°C/70%RH		
	Safety Standards	CCC	China	GB19510.1, GB19510.14
		TUV	Germany	EN61347-1, EN61347-2-13, EN62493
		CB	CB Member States	IEC61347-1, IEC61347-2-13
		CE	European Union	EN61347-1, EN61347-2-13, EN62384
		EAC	Russia	IEC61347-1, IEC61347-2-13
		RCM	Australia	AS 61347-1, AS 61347-2-13
		ENEC	Europe	EN61347-1, EN61347-2-13, EN62384
	EMC Emission	CCC	China	GB/T17743, GB17625.1
		CE	European Union	EN55015, EN61000-3-2, EN61000-3-3, EN61547
		EAC	Russia	IEC62493, IEC61547, EH55015
		RCM	Australia	EN55015, EN61000-3-2, EN61000-3-3, EN61547
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547		
ErP	Power Consumption	Networked standby		<0.5W (After shutdown by command)
		No-load power consumption		<0.5W (When the lamp is not connected)
	Flicker/Stroboscopic Effect	IEEE 1789		Meet IEEE 1789 standard/High frequency exemption level
		CIE SVM		Pst LM≤1.0, SVM≤0.4
	DF	Phase factor		DF≥0.9
OTHERS	Weight(N.W.)	100g±10g		
	Dimensions	127×40×23mm(L×W×H)		

Product Size

Unit: mm



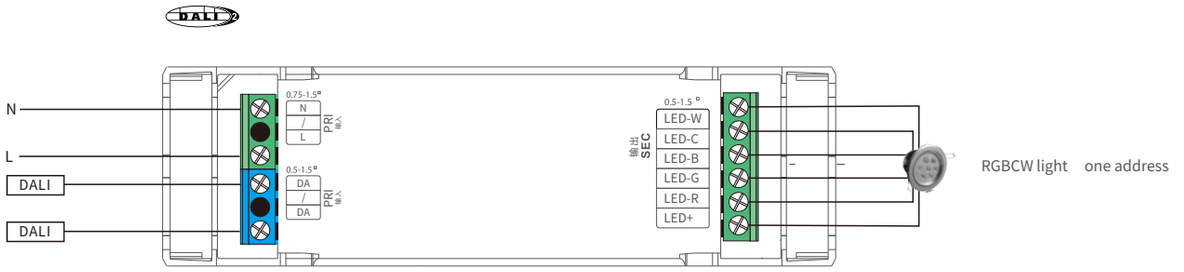




Minimum hole size: ϕ48mm (1,89")

Wiring Diagram

Single-address RGBCW wiring method

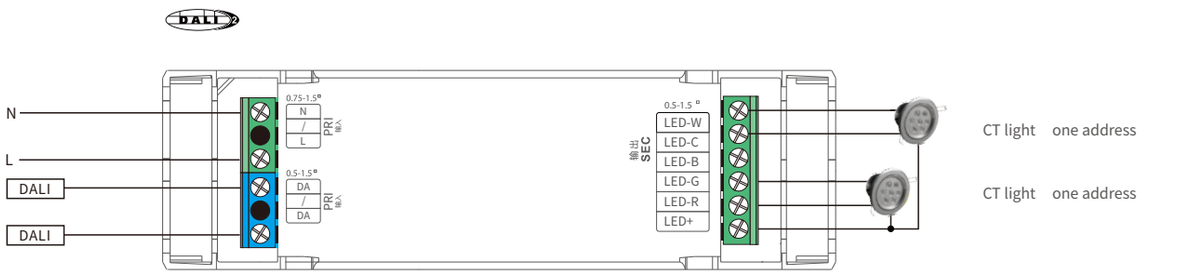


Wire diameter:0.75-1.5㎡(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎡(22-16AWG)
Strip length：5-6mm

* It is set through the NFC Lighting APP. Connect one RGBCW light, which occupies one address.

Single - address 2 - CT wiring method

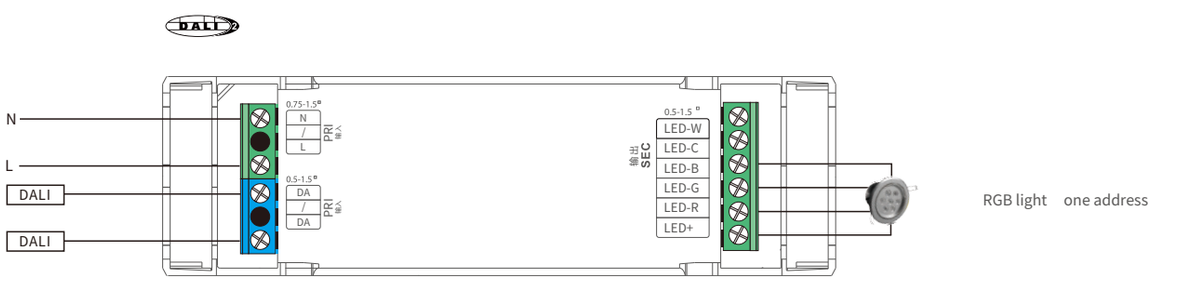


Wire diameter:0.75-1.5㎡(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎡(22-16AWG)
Strip length：5-6mm

* Set via the NFC Lighting APP, connect 2 color temperature lights for synchronous control, occupying 1 address.

Single-address XY wiring method

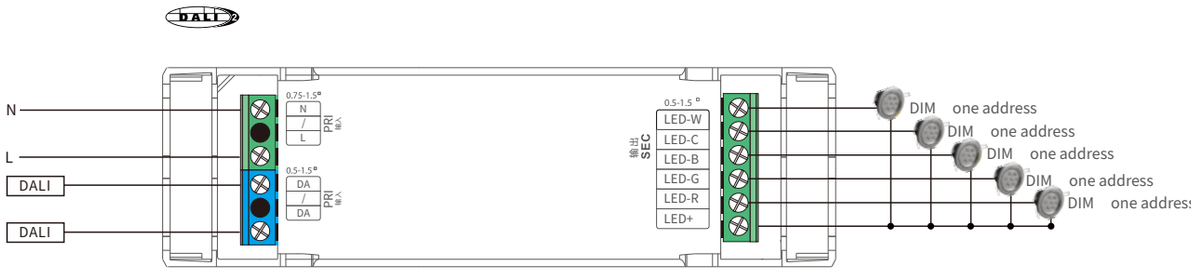


Wire diameter:0.75-1.5㎡(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎡(22-16AWG)
Strip length：5-6mm

* Set through the NFC Lighting APP, connect one RGB light, which occupies one address.

Single-address W wiring method

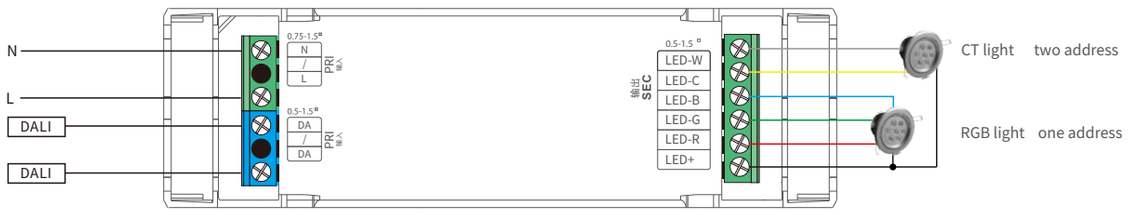


Wire diameter:0.75-1.5㎡(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎡(22-16AWG)
Strip length：5-6mm

* Set through the NFC Lighting APP, connect one or more dimmable lights for synchronous control, occupying one address.

Multi-address RGB+CT wiring method

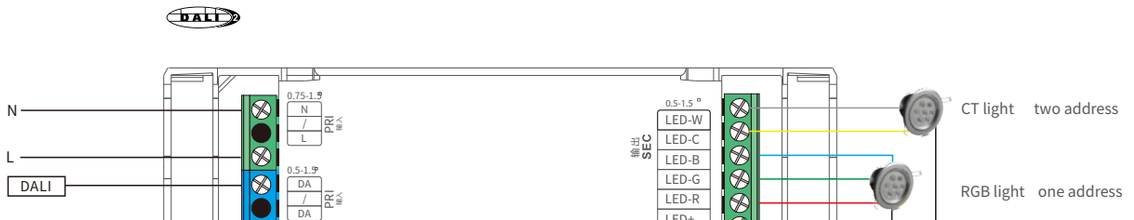


Wire diameter:0.75-1.5㎟(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎟(22-16AWG)
Strip length：5-6mm

* Set through the NFC Lighting APP, connect one RGB light and one color temperature light for independent control, occupying 2 addresses.

Multi - address XY + CT wiring method

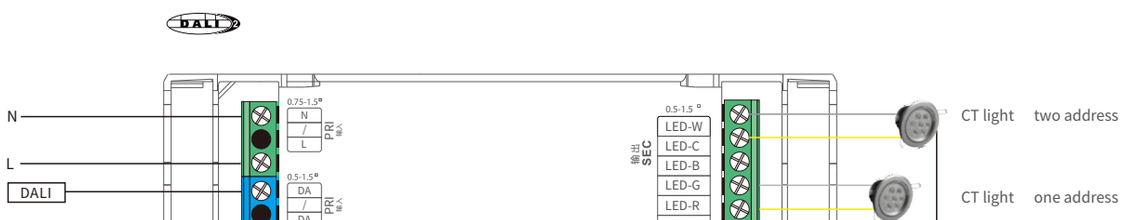


Wire diameter:0.75-1.5㎟(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎟(22-16AWG)
Strip length：5-6mm

* Set through the NFC Lighting APP, connect one RGB light and one color temperature light for independent control, occupying two addresses.

Multi-address 2×CT Wiring Method

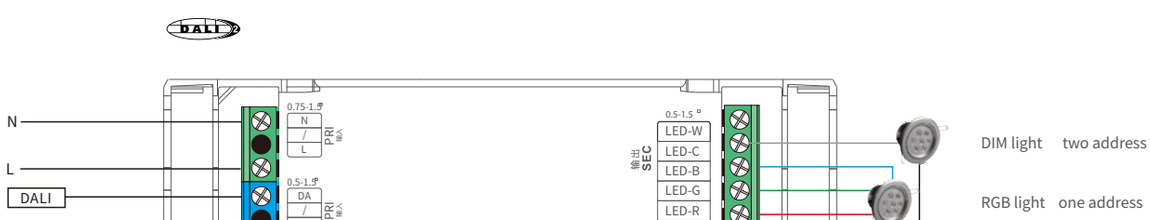


Wire diameter:0.75-1.5㎟(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎟(22-16AWG)
Strip length：5-6mm

* Set two color temperature lights through the NFC Lighting APP for independent control, occupying two addresses.

Multi-address XY+W Wiring Method



Wire diameter:0.75-1.5㎟(20-16AWG)
Strip length：5-6mm

Wire diameter:0.5-1.5㎟(22-16AWG)
Strip length：5-6mm

* Set one RGB light and one dimmable light through the NFC Lighting APP for independent control, occupying two addresses.

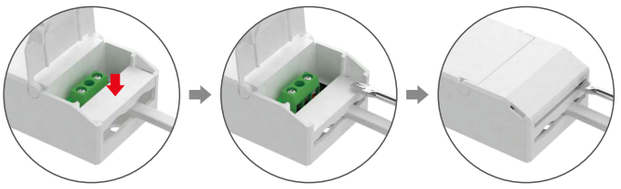
Table of Typical Corresponding Parameters for Current

The typical 4 current data sets below are for reference when selecting LED fixture models. More current levels can be set by NFC using mobile APP with 50-100mA adjustable in 1mA step				
Output Current	50mA(1 Channel)	100mA(1 Channel)	50mA(5 Channels)	100mA(5 Channels)
Output Voltage	9-42Vdc	9-42Vdc	9-42Vdc	9-42Vdc
Output Power	0.45-2.1W	0.9-4.2W	2.25-10.5W	4.5-21W

Installation procedure

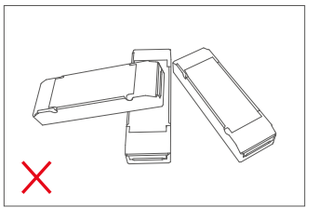


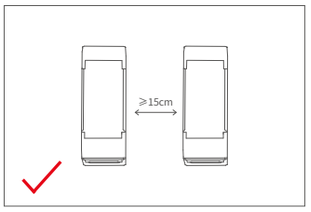
1. Put the head of a screwdriver on the side of the housing to pry up both the protective cover and wire fixing board. Then remove the wire fixing board and connect to the wires as wiring diagram shows.



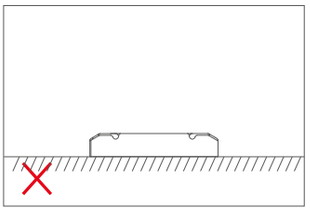
2. Install the wire fixing board and press it down. Then snap on the protective cover while pressing the wire fixing board with a small flat-head screwdriver

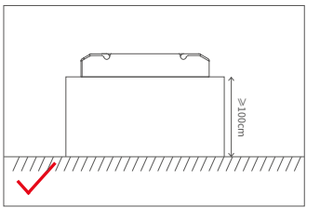
Installation Precautions





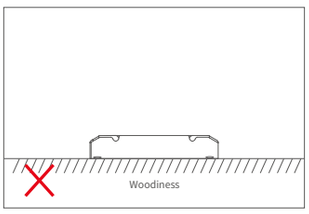
Please do not stack the products. The distance between two products should be ⩾15cm so as not to affect heat dissipation and the lifespan of the products.

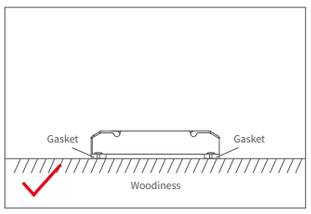




Please do not place the products on the floor. The distance between the product and the floor should be ⩾100cm so as to avoid signal interference.

Note: The installation should be in line with the environmental operating temperature of the product. Do not install it inside the lamp to avoid exceeding the environmental operating temperature of the product, which may affect the product's lifespan.





Do not fix the product screws tightly against the wooden board. Instead, add a washer with a thickness of ⩾7mm under the fixing screws. Leaving some gaps can effectively dissipate heat, preventing any impact on the product's heat dissipation performance and service life.

Use the NFC Lighting APP

Scan the QR code below with your mobile phone and follow the prompts to complete the APP installation (According to performance requirements, you need to use a NFC-capable Android phone, or an iphone 8 and later that are compatible with iOS 13 or higher).

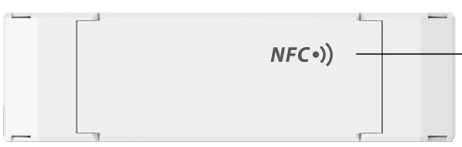
✱ Before you begin setting the parameters of the driver on the NFC programmer or via the APP, please make sure the driver is powered off.

Read/Write the LED driver

Use your NFC-capable phone to read the driver parameters, then set the output current, fade time, power-on status, other parameters. Save your settings and hold your phone close to the driver again, so the parameters can be easily written to the driver.

1. Read the LED driver

On the APP home page, click【Read/Write LED driver】, then keep the programmer' s sensing area close to the NFC logo of the driver to read the driver parameters.

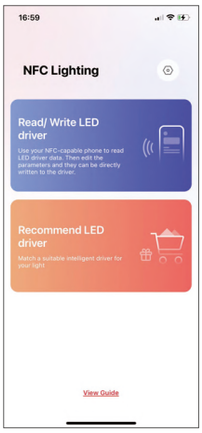


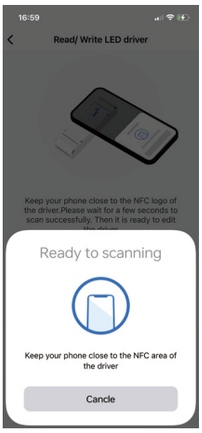
2. Edit the parameters

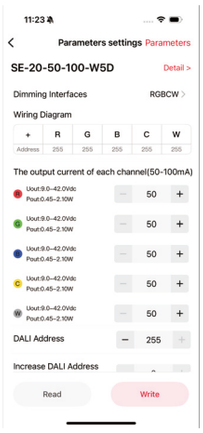
Click [Parameter settings] to edit more advanced parameters such as output current, DALI address, dimming curve, and DALI advanced template.

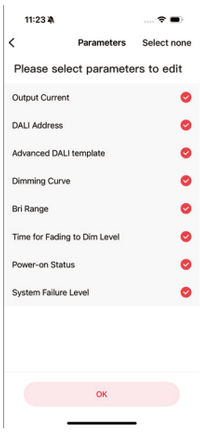
3. Write to the driver

After completing the parameter editing, click [Write] in the upper right corner, bring the phone's sensing area close to the NFC identification point of the driver, and the driver parameters can be successfully written.

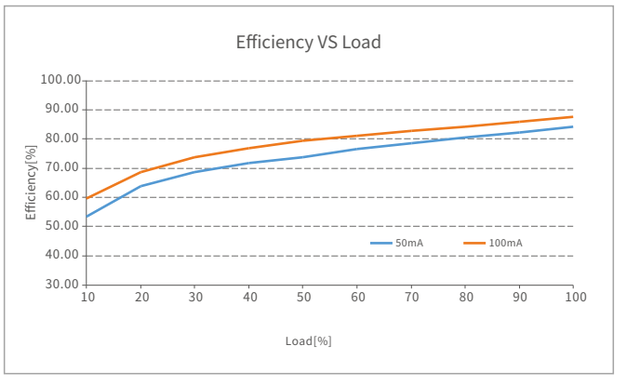


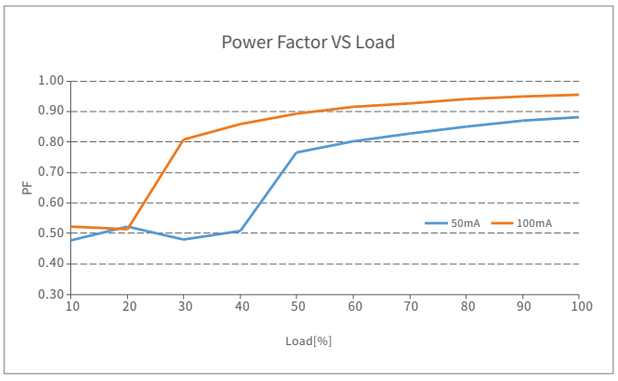


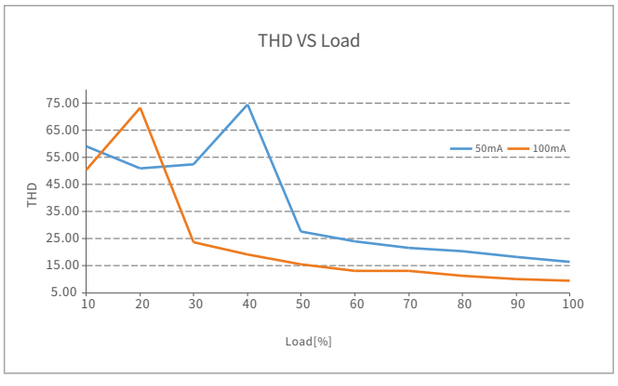


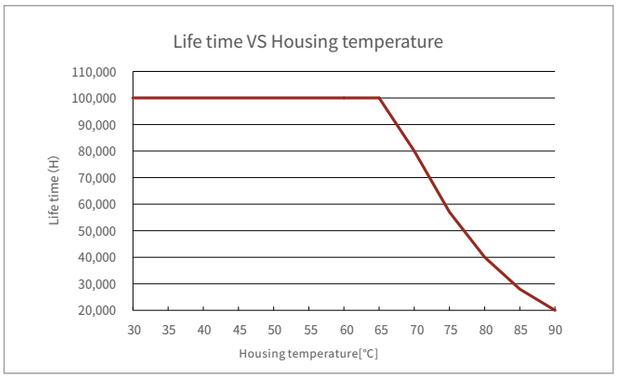


Relationship Diagrams





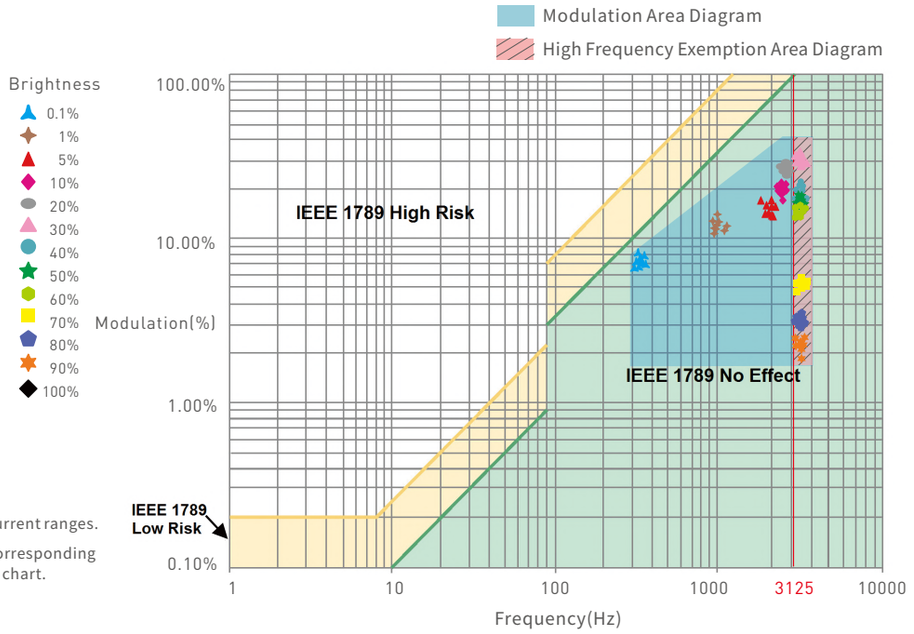




Flicker Test Sheet

IEEE 1789

Limit of modulation in low risk area	
Waveform frequency of optical output	limit (%)
$f \leqslant 8Hz$	0.2
$8Hz < f \leqslant 90Hz$	$0.025 \times f$
$90Hz < f \leqslant 1250Hz$	$0.08 \times f$
$f > 1250Hz$	Exemption assessment
Limit of modulation in no effect area	
Waveform frequency of optical output	limit (%)
$f \leqslant 10Hz$	0.1
$10Hz < f \leqslant 90Hz$	$0.01 \times f$
$90Hz < f \leqslant 3125Hz$	$[0.08/2.5] \times f$
$f > 3125Hz$	Exemption assessment (High frequency exemption)



Marks in the right chart were tested results of different current ranges.

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

Packaging Specifications

Model	SE-20-50-100-W5D
Carton Dimensions	290×275×106mm(L×W×H)
Quantity	20 PCS/Layer; 2 Layers/Carton; 40 PCS/Carton
Weight	0.11 kg/PC; 52 kg±5%/Carton

Packaging Image



Inner Packaging Box



Carton Packaging

Transportation and Storage

1. Transportation

Products can be shipped via vehicles, boats and planes.

During transportation, products should be protected from rain and sun. Please avoid severe shock and vibration during the loading and unloading process.

2. Storage

The storage conditions should comply with the Class I Environmental Standards. The products that have been stored for more than six months are recommended to be re-inspected and can be used only after they have been qualified.

Attentions

- This product must be installed and adjusted by a qualified professional.
- LTECH products are and not lightningproof non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure they are mounted in a water proof enclosure or in an area equipped with lightning protection devices .
- Good heat dissipation will extend the life the product. Please install the product in a environment with good ventilation.
- When you install this product, please avoid being near a large area of metal objects or stacking them to prevent signal interference.
- Please keep the product away from a intense magnetic field, a high pressure area or a place where lightning is easy to occur.
- Please check whether the working voltage used complies with the parameter requirements of the product.
- Before you power on the product, please make sure all the wiring is correct in case of incorrect connection that may cause a short circuit and damage the components, or trigger a
- accident.
  If a fault occurs, please do not attempt to fix the product by yourself. If you have any question, please contact the supplier.

* 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.

Update Log

Version	Updated Time	Update Content	Updated by
A0	20240920	Original version	HaiPeng Li
A1	2025.8.02	更新logo	黎海鹏