

LED Driver (constant Voltage)

- Ultra-thin, ultra-small. Housing is made from V0 flame retardant PC materials.
- Clamshell style case and wire clamping structure for convenient wire connection.
- Change max.brightness, power-on fading time, PWM frequency and other parameters through a NFC-enabled phone and driver data can be synced between drivers and the APP.
- With soft-on and fade-in dimming function, enhancing your visual comfort.
- Innovative thermal management technology intelligently protects the life of the LED driver.
- Overheat, over voltage, overload, short circuit protection and automatic recovery.
- Suitable for Class I / II /III indoor light fixtures.
- Suitable for indoor lights such as LED strips and magnetic track lights.
- 5-year warranty (Rubycon capacitor).



Flicker Free
IEEE 1789

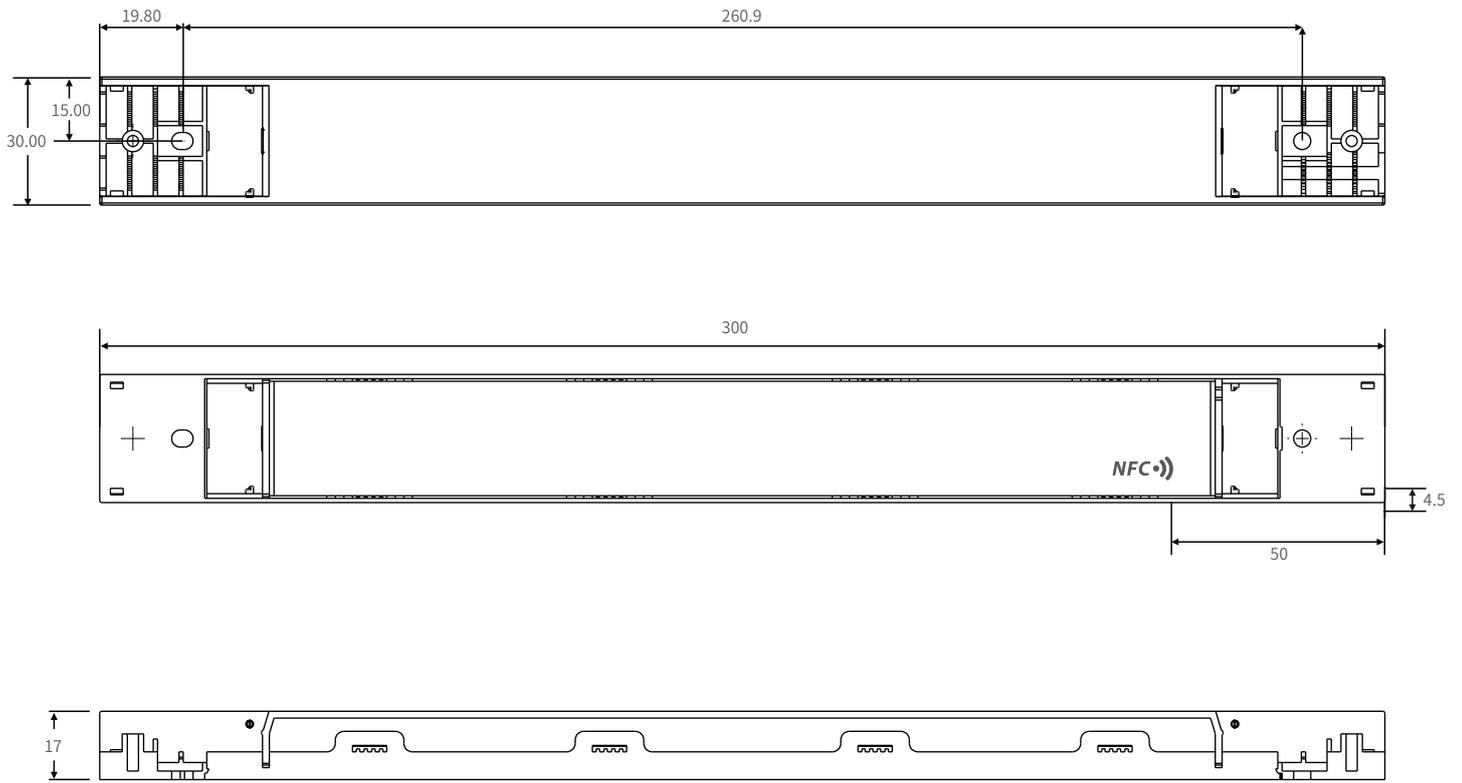


Technical Specs

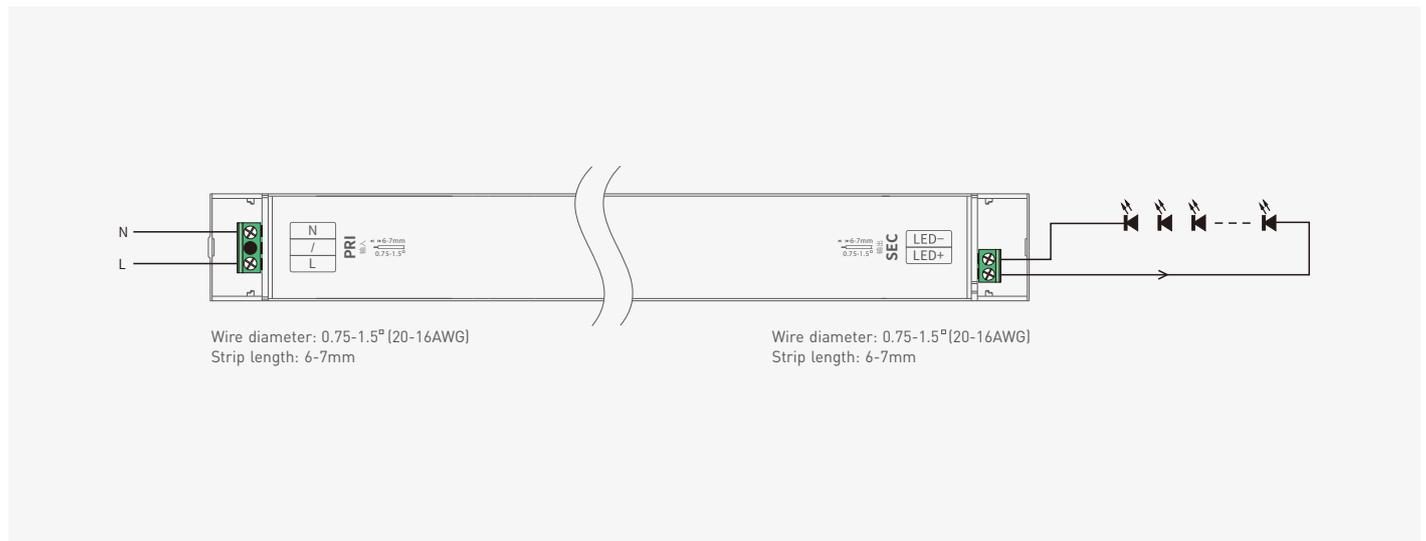
Model	SN-60-24-G1NF			
Features	Output Type	Constant voltage		
	Output Feature	Isolation		
	Protection Grade	IP20		
	Insulation Grade	Class II (Suitable for class I/ II /III light fixtures)		
OUTPUT	Output Voltage	24Vdc		
	Output Voltage Range	24Vdc±0.5Vdc		
	Output Current	Max. 2.5A		
	Output Power	Max. 60W		
	Output Power Range	0-60W		
	Overpower Limitation	≥102%		
	Ripple and Noise	350mVp-p		
	PWM frequency	NFC set up 300-22000Hz		
	INPUT	DC Voltage Range	220-240Vdc	
Input Voltage		220-240Vac		
EoFv		99.6%		
Frequency		0/50/60Hz		
Input Current		Max. 0.32A/230Vac		
Power Factor		PF>0.95(atfullload)		
THD		THD<10%(atfullload)		
Maximum Input Power		Max. 68W		
Efficiency (Typ.)		89%		
Inrush Current		Cold start 30A(Test twidth=162us tested under 50% Ipeak)/230Vac		
Anti Surge		L-N: 2KV		
Leakage Current		Max. 0.5mA		
ENVIRONMENT		Working Temperature	ta: -20~45°Ctc: 85°C	
	Working Humidity	20~95%RH,non-condensing		
	Storage Temperature/Humidity	-40~80°C/10~95%RH		
	Temperature Coefficient	±0.03%/°C(0-45°C)		
	Vibration	10~500Hz, 2G 12min/1cycle, 72 min for X, Y and Z axes respectively		
PROTECTION	Overload Protection	Shut down the output when rated power>102%, auto recovers		
	Overheat Protection	Intelligently adjust or turn off the output current if the PCB temperature ≥110°C, and recover automatically		
	Overvoltage Protection	Shut down the output when voltage≥28V, and recover automatically		
	Short Circuit Protection	Enter hiccup mode if short circuit occurs, 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	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
		KC	Korea	KC61347-1,KC61347-2-13
		EAC	Russia	IEC61347-1,IEC61347-2-13
		RCM	Australia	AS 61347-1,AS 61347-2-13
		ENEC	Europe	EN61347-1,EN61347-2-13, EN62384
		UKCA	Britain	BS EN 61347-1,BS EN 61347-2-13, BS EN 62493
		BIS	India	IS 15885 (PART 2/SEC 13)
	EMC Emission	CCC	China	GB/T17743, GB17625.1
		CE	European Union	En55015, EN61000-3-2, EN61000-3-3, En61547
		KC	Korea	Kn15, Kn61547
		EAC	Russia	IEC62493, IEC61547, Eh55015
		RCM	Australia	En55015, EN61000-3-2, EN61000-3-3, En61547
		UKCA	Britain	BS EN IEC 55015, BS EN IEC 61000-3-2, BS EN 61000-3-3, BS EN 61547
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547		
ErP	Power Consumption	No-load power consumption	<0.5W (When the lamp is not connected)	
	Flicker/Stroboscopic Effect	IEEE1789	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.)	195g±10g		
	Dimensions	300×30×17mm(L×W×H)		

Product Size

Unit: mm



Wiring Diagram



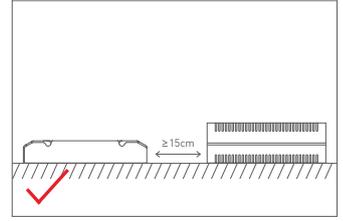
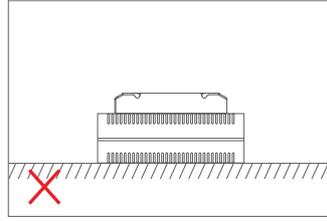
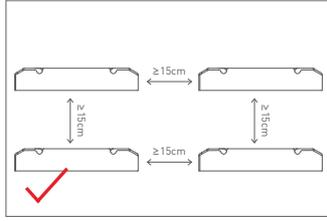
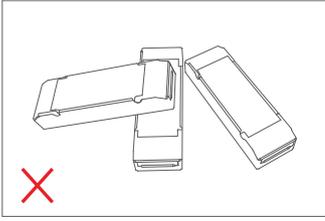
Protective Housing Application Diagram



1. Put the head of the screwdriver at the cable entry to pry up the protective cover, then connect the wires as the wiring diagram shown.

2. After closing the protective cover, tighten the protective cover with the PA screws.

Installation Precautions



Please do not stack the products. The distance between two products should be $\geq 15\text{cm}$ so as not to affect heat dissipation and the lifespan of the products.

Please not place the products on LED drivers. The distance between the product and the driver should be $\geq 15\text{cm}$ so as not to affect heat dissipation and shorten the lifespan of the products.

Note: The temperature within the installation area should be within the working temperature range of the products. Please do not install products inside LED fixtures to avoid temperature exceeding the working temperature that may affect the product lifetime.

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).



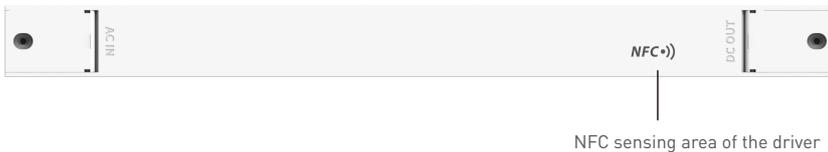
* Before you begin setting the parameters of the driver, please make sure the driver is powered off.

Read/Write the LED driver

Use your NFC-capable phone to read LED driver data, then edit the parameters and they can be directly 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 sensing area of the driver to read the driver parameters.



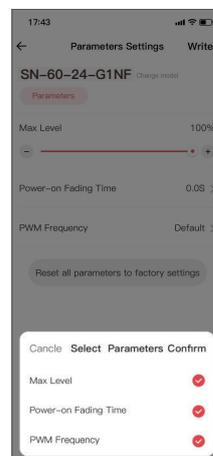
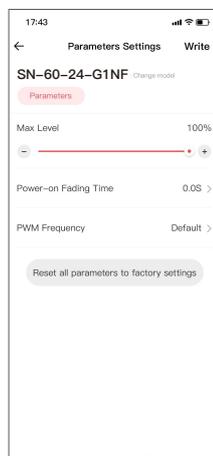
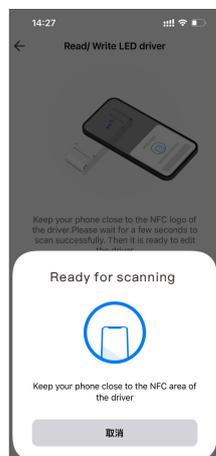
NFC sensing area of the driver

2. Edit the parameters

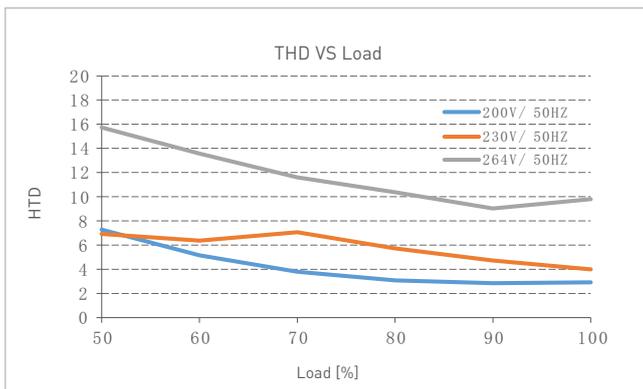
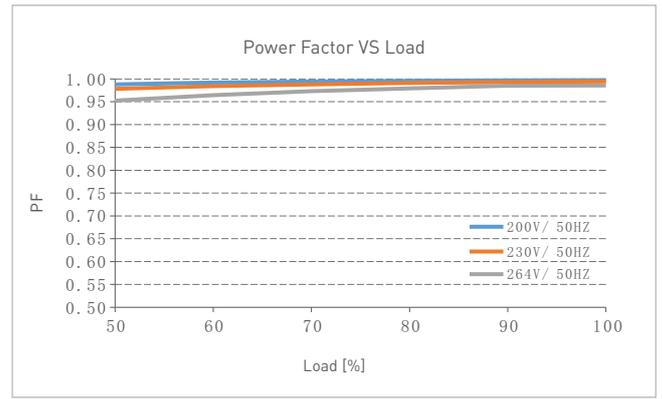
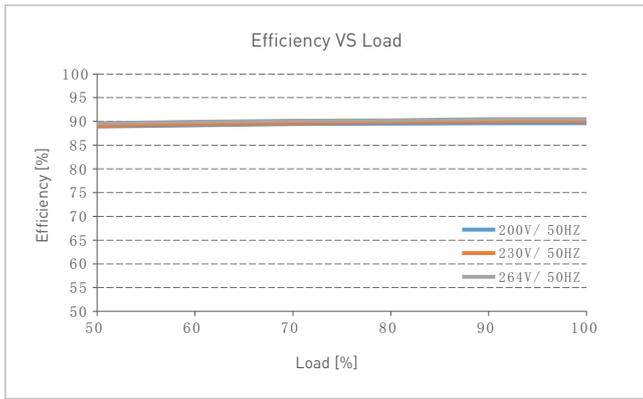
Click [Parameter Management] to edit the maximum brightness value, power transition time, PWM frequency and other parameters.

3. Write to the driver

After completing the parameter settings, click [Write] in the upper right corner, and keep the programmer's sensing area close to the NFC sensing area of the driver, so the parameters can be written to the driver.



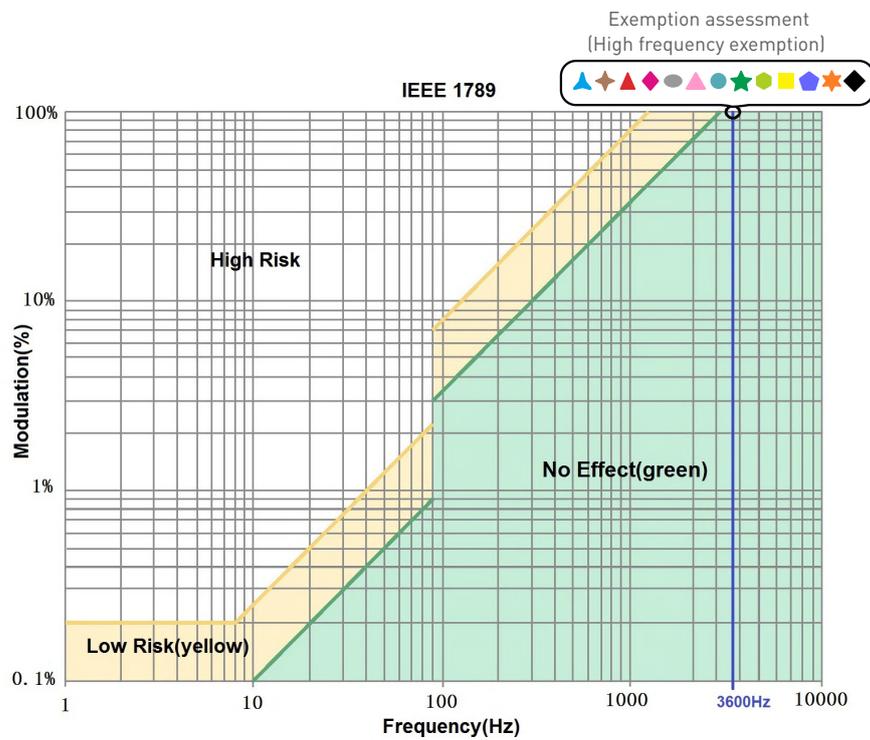
Relationship Diagrams



Flicker Test Form

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 (High frequency exemption)

- Brightness
- ▲ 0.1%
 - ◆ 1%
 - ▲ 5%
 - ◆ 10%
 - 20%
 - 30%
 - 40%
 - ★ 50%
 - 60%
 - 70%
 - 80%
 - ★ 90%
 - ◆ 100%



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

- Product installation and commissioning should be done 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.