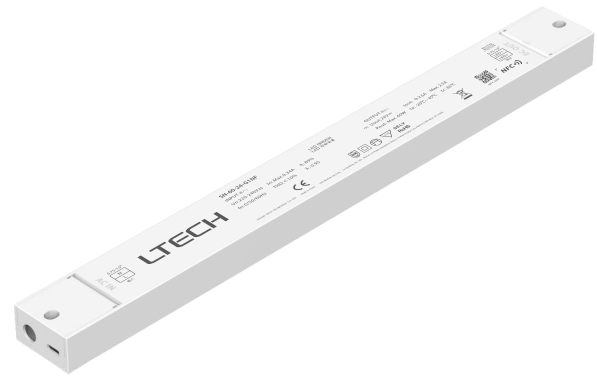# LTECH

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 thorough 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.
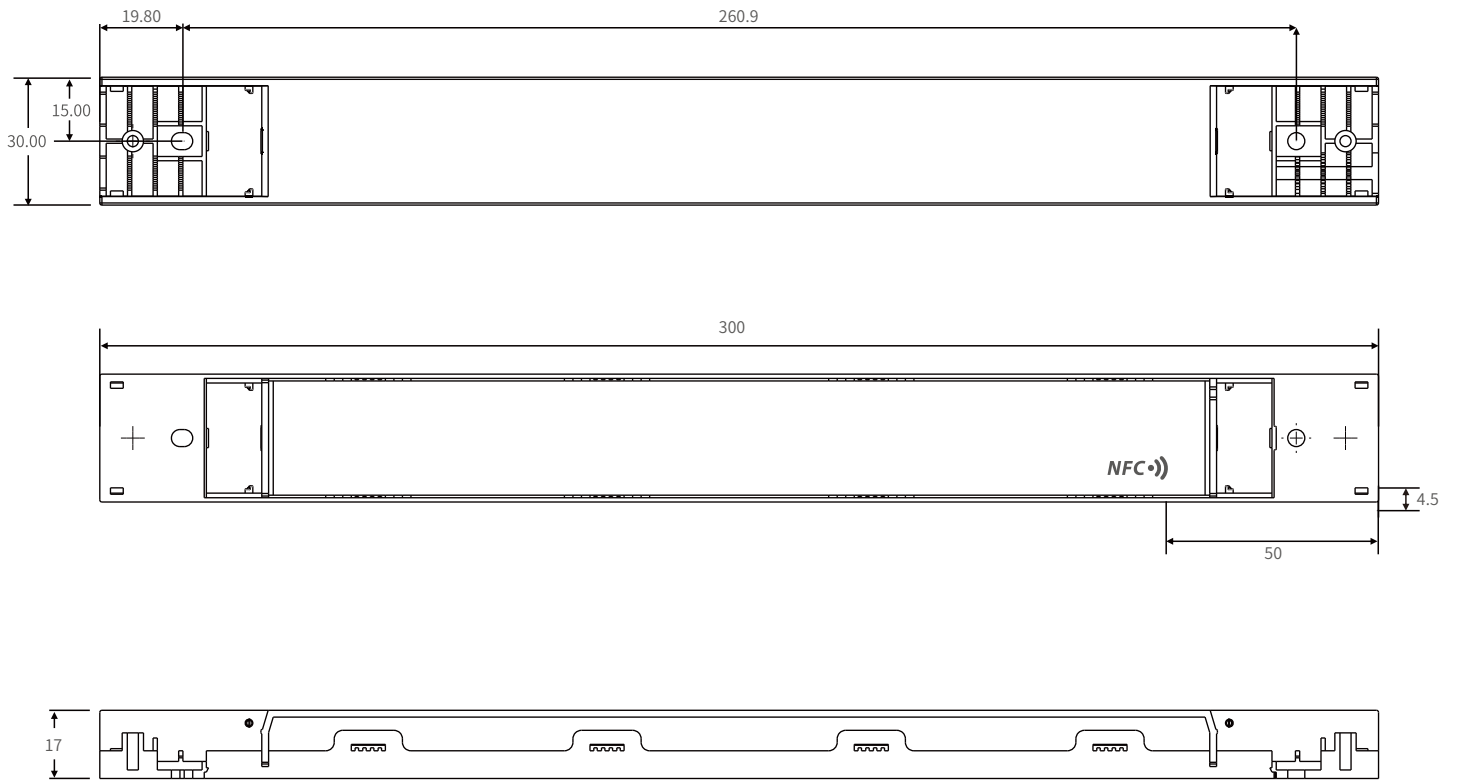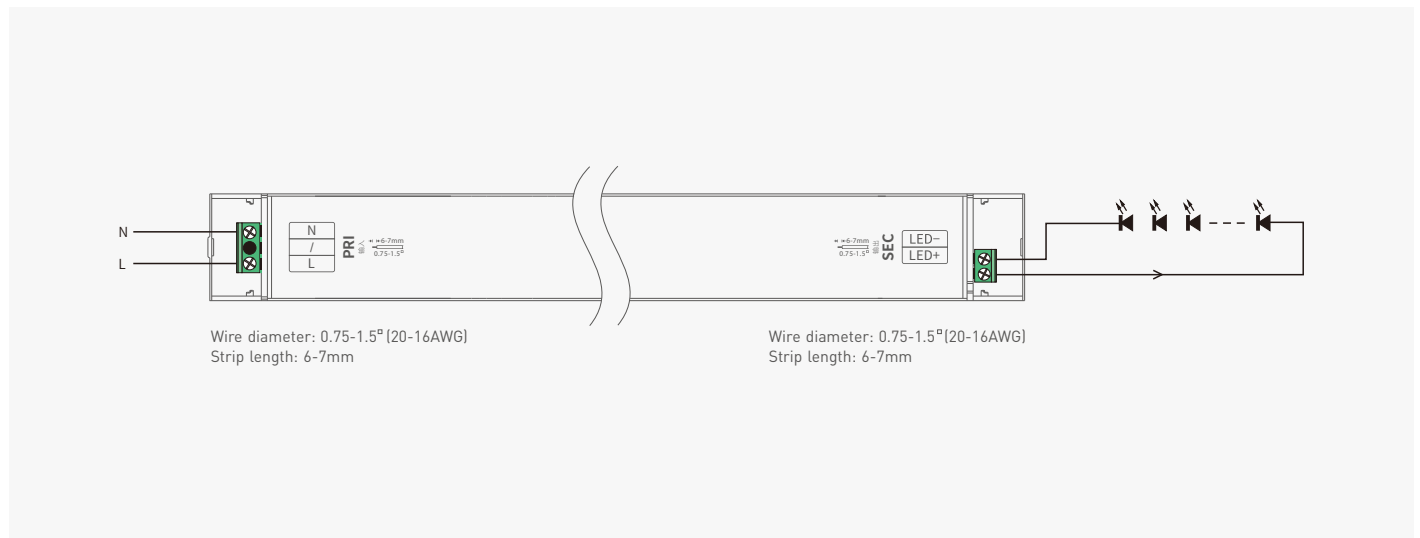- 5-year warranty (Rubycon capacitor).

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

Overheat Protection | Over voltage protection | Over Load protection | Short circuit protection

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	
	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

19.80　　　　　　　　　　　　　260.9

15.00
30.00

300

NFC•))

4.5

50

17

Wiring Diagram

N

L

PRI

N
/
L

6-7mm
0.75-1.5²

6-7mm
0.75-1.5²

SEC

LED−
LED+

Wire diameter: 0.75-1.5² (20-16AWG)
Strip length: 6-7mm

Wire diameter: 0.75-1.5² (20-16AWG)
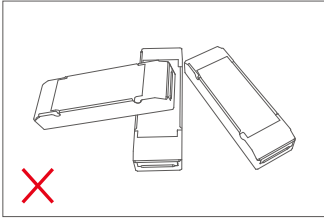Strip length: 6-7mm

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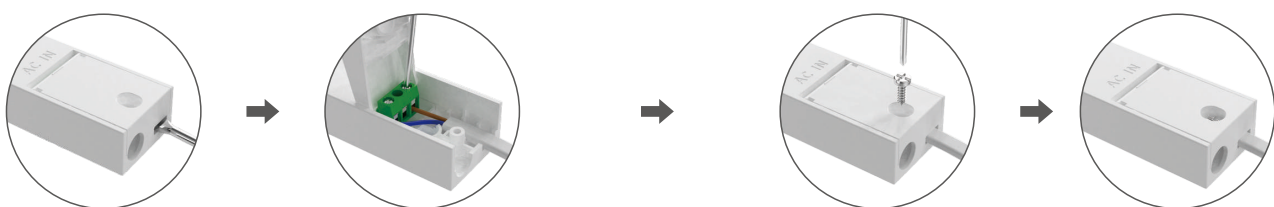
1.Put the head of the screwdriver at the cable entry to pry up the protective cover，
then connect the wires as the wiring diagram shown.

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 ≥15cm so as not to affect heat dissipation and the lifespan of the products.
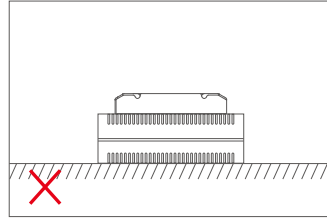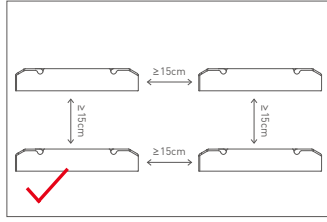
Please not place the products on LED drivers. The distance between the product and the driver should be ≥15cm so as not to affect heat dissipation and shorten the lifespan of the products.
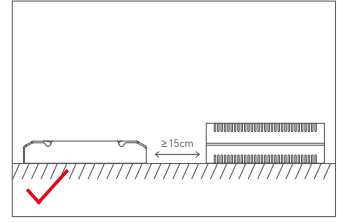
Note: The temperature within the installation area should be within the working temperature range of the products. Please do not install products inside LED fixtures to avoid temperature exceeding the working temperature that may affect the product lifetime.

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 logo of the driver to read the driver parameters.
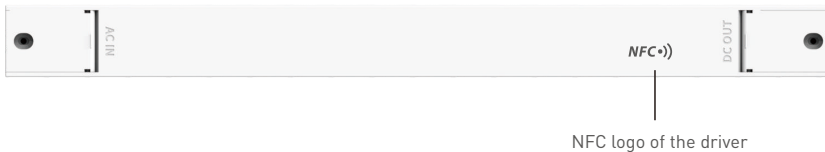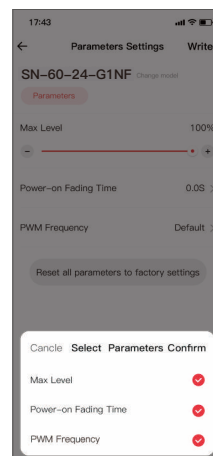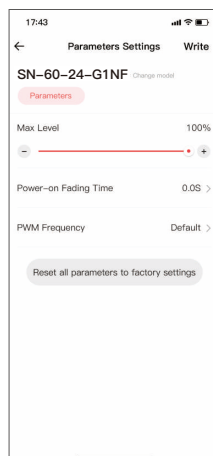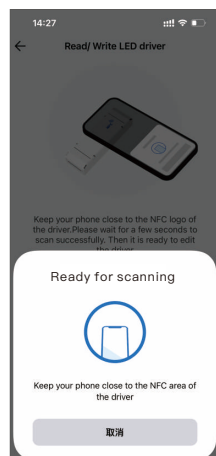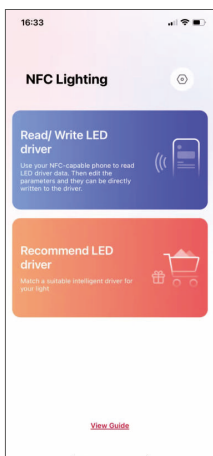

NFC logo of the driver

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 logo of the driver, so the parameters can be written to the driver.
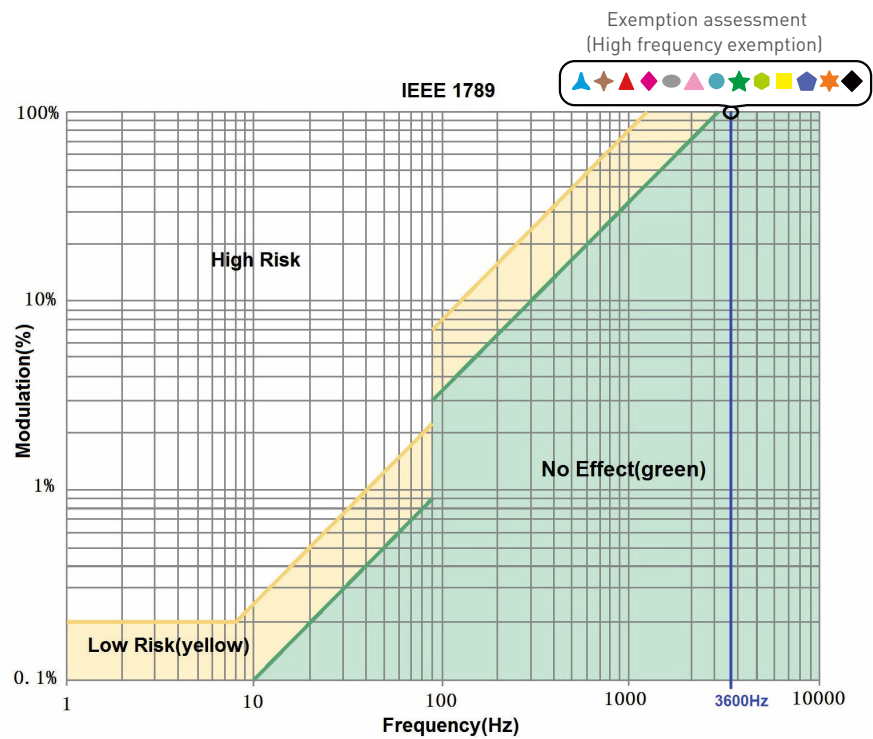
Relationship Diagrams

Efficiency VS Load

Power Factor VS Load

THD VS Load

Flicker Test Form

IEEE 1789
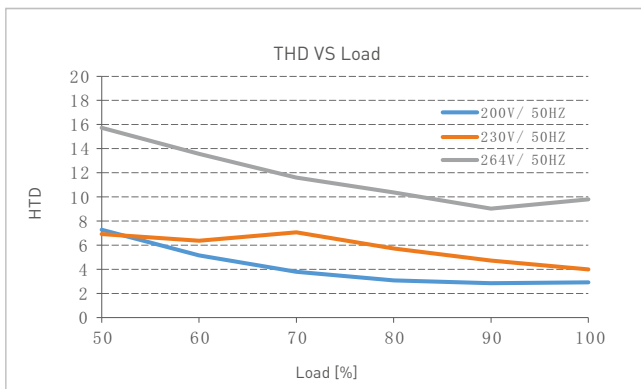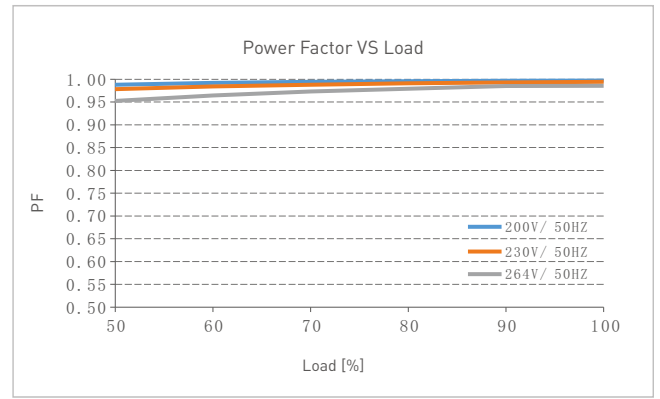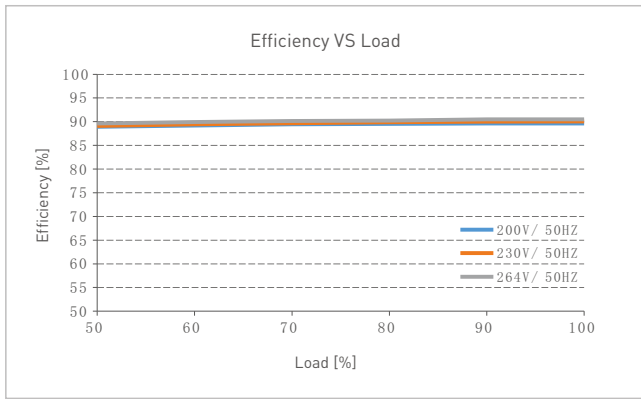
Limit of Modulation in low risk area	
Waveform frequency of optical output	limit (%)
$f \leqslant 8Hz$	0.2
$8Hz < f \leqslant 90Hz$	$0.025 \times f$
$90Hz < f \leqslant 1250Hz$	$0.08 \times f$
$f > 1250Hz$	Exemption assessment

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)

Brightness
- △ 0.1%
- ✦ 1%
- ▲ 5%
- ◆ 10%
- ● 20%
- ▲ 30%
- ● 40%
- ★ 50%
- ● 60%
- ■ 70%
- ⬟ 80%
- ✴ 90%
- ◆ 100%

Exemption assessment
(High frequency exemption)

IEEE 1789

High Risk

No Effect(green)

Low Risk(yellow)

Modulation(%)

Frequency(Hz)

3600Hz

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.

Update Log

Version	Updated Time	Update Content	Updated by
A0	20240416	Original version	Yang Weiling