LTECH

LED Intelligent Driver (constant voltage)

- Small size and light weight. Adopt SAMSUNG/COVESTRO V0 flame resistant polycarbonate protective housings.
- The design of dismountable end cap allows you to adjust the length of housing depending on your needs.
- Dimming interfaces: DALI-2, Push DIM.
- Dimming range: 0~100%, dimming down to 0.1%
- Flicker-free with high frequency exemption level in 0~100% dimming process.
- High-performance drivers: Effeciency 88%, PF>0.95, THD<8%.
- Comply with the EU's ErP Directive, stand-by power consumption＜0.5W.
- The secure and reliable design for signal isolation.
- Innovative thermal management technology intelligently protects the lifetime driver.
- Over-heat / Over voltage / Over load / Short circuit protection, recover automatically.
- DALI bus standard IEC62386-101,102,207.
- Suitable for lamp applications of indoor Ⅰ/Ⅱ/Ⅲ types.
- Up to 50000-hour life time.
- 5 year warranty (Rubycon Capacitor).

DALI 2

Flicker-free
IEEE 1789
Achieve high frequency exemption level.

Dimmable:
0.1%-100%

SELV Class 2
RoHS

(The certification icons represent on-going certification applications only, and final certification qualification is subject to actual products.)
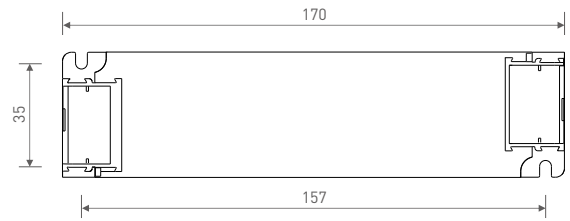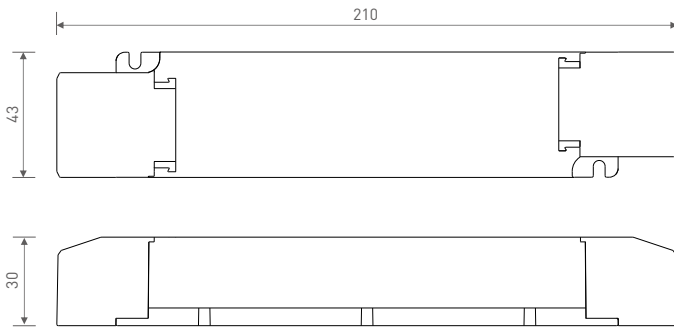
DALI Push DIM | 0.1% Depth Dimming | Over voltage protection | Short circuit protection | Overload protection | Overheat protection

Technical Specs

Model		LM-36-24-G1D2	LM-36-12-G1D2
OUTPUT	Output Voltage	24Vdc	12Vdc
	Output Voltage Range	24Vdc ± 0.5Vdc	12Vdc ± 0.5Vdc
	Output Current	Max. 1.5A	Max. 3A
	Output Power	Max. 36W	
	Output Power Range	0~36W	
	Strobe Level	High frequency exemption level.	
	PWM Frequency	3600Hz	
	Dimming Range	0~100%, dimming down to 0.1%	
	Overload Power Limitation	≥102%	
	Ripple & Noise	Switch ripple≤200mV, noise≤500mV	Switch ripple≤200mV, noise≤800mV
INPUT	Dimming Interface	DALI-2, Push DIM	
	Input Voltage	200-240Vac / 200-280Vdc	
	Frequency	50/60Hz	
	Input Current	Max. 0.26A/230Vac	
	Power Factor	PF>0.95/230Vac, at full load	
	THD	<8% at 230Vac, at full load	
	Efficiency (typ.)	88%	87%
	Standby Power Loss	<0.5W	
	Inrush Current(typ.)	Cold start 25A at 230Vac	
	Control Surge Capability	L-N:2KV	
	Leakage Current	Max. 0.5mA	
ENVIRONMENT	Working Temperature	ta: -20°C ~ 50°C tc: 90°C	
	Working Humidity	20 ~ 95%RH, non-condensing	
	Storage Temperature Humidity	-40°C ~ 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	Over-heat Protection	Intelligently adjust or turn off the output current if the PCB temperature ≥110°C, and recover automatically.	
	Over Voltage Protection	Shut down the output when non-load voltage≥28V, re-power on to recover after fault condition is removed.	Shut down the output when non-load voltage≥16V, re-power on to recover after fault condition is removed.
	Over Load Protection	Shut down the output when current load≥102%, 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:500VdC/25°C/70%RH≥100MΩ	
	Safety Standards	CCC	China	GB19510.1, GB19510.14
		TUV	Germany	EN61347-1, EN61347-2-13, EN62493
		CE	European Union	EN61347-1, EN61347-2-13, EN62384
		KC	Korea	KC61347-1, KC61347-2-13
		RCM	Australia	AS61347-1, AS61347-2-13
		ENEC	Europe	EN61347-1, EN61347-2-13, EN62384
		CB	CB member states	IEC61347-1, IEC61347-2-13
		EAC	Russia	IEC61347-1, IEC61347-2-13
	EMC Emission	CCC	China	GB/T17743, GB17625.1
		CE	European Union	EN55015, EN61000-3-2, EN61000-3-3, EN61547
		KC	Korea	KN15, KN61547
		RCM	Australia	EN55015, EN61000-3-2, EN61000-3-3, EN61547
		EAC	Russia	IEC62493, IEC61547, EH55015
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61547	
	Strobe Test Standard	IEEE 1789	
OTHERS	Weight(G.W.)	210g±10g	
	Dimensions	210×43×30mm(L×W×H)	
	Package Size	213×44×33mm(L×W×H)	
	Carton Size	440×218×235mm(L×W×H) 60pcs/ctn 13.4kg±5%/ctn	

＊ The driver is suitable for connecting resistor current-limiting LED fixture (e.g. LED strip). The inrush current will be dozens of times increased if connecting built-in constant current IC current-limiting LED fixtures,the driver will activate the overloaded protection (hiccups flickering). When you order, please remark controlling the constant current LED fixture (e.g. MR16 lamp, underground light, LED wall washer, constant current LED strip, etc.), then we can prepare the special programs.
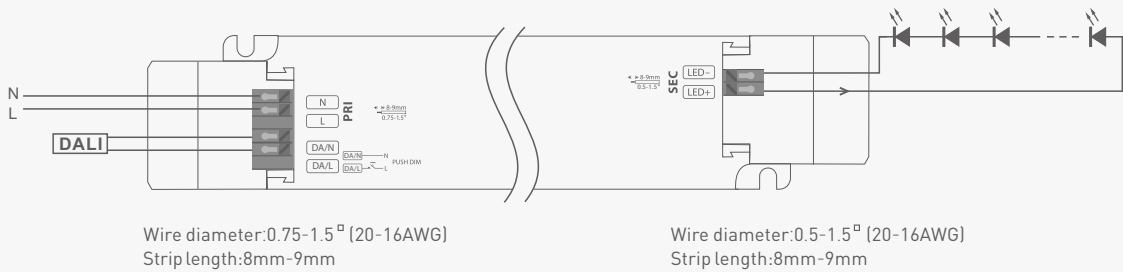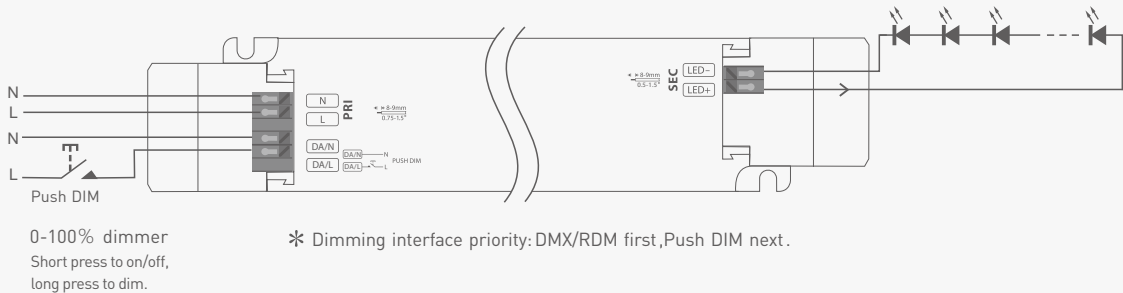
LTECH

Product Size

Unit：mm

210

43

170

35

157

30

Wiring Diagram

DALI Connection Mode

N
L
DALI

N PRI
L
DA/N
DA/L

LED−
LED+

Wire diameter:0.75-1.5□ (20-16AWG)
Strip length:8mm-9mm

Wire diameter:0.5-1.5□ (20-16AWG)
Strip length:8mm-9mm

Push DIM Connection Mode

N
L
N
L
Push DIM

N PRI
L
DA/N
DA/L

LED−
LED+

0-100% dimmer
Short press to on/off,
long press to dim.

✱ Dimming interface priority: DMX/RDM first ,Push DIM next .

Push DIM

Reset switch

• On/off control: Short press.

• Stepless dimming: Long press.

• With every other long press, the brightness level goes to the opposite direction.

• Dimming memory: Go to the brightness level adjusted previously when lights are turned on.

Protective Housing Application Diagram

Tension plate

Remove the protective housing
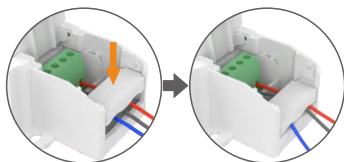
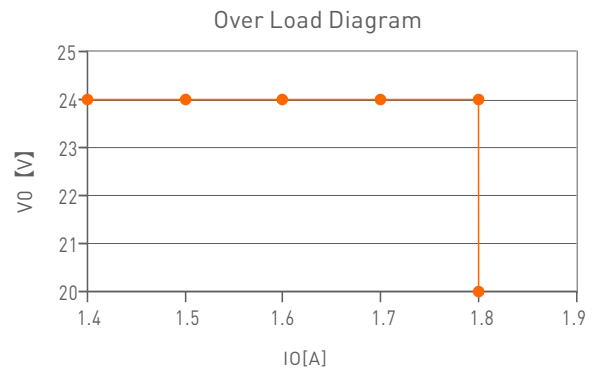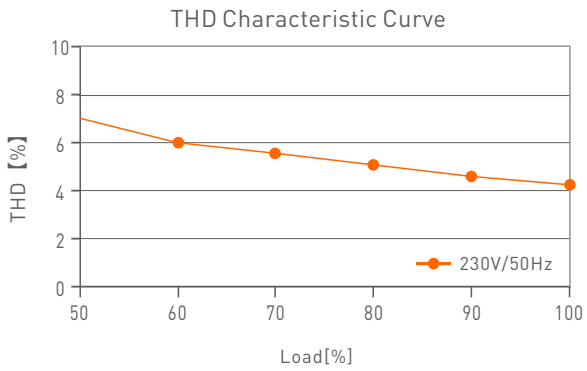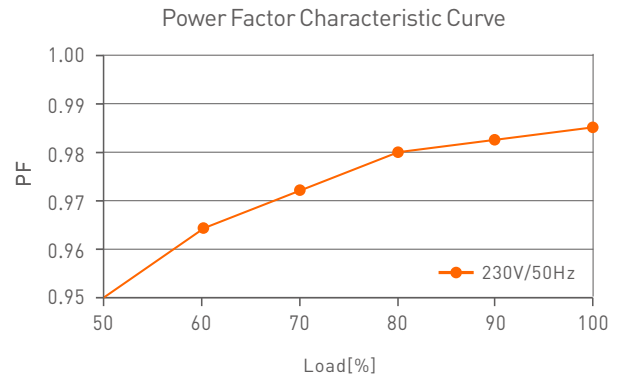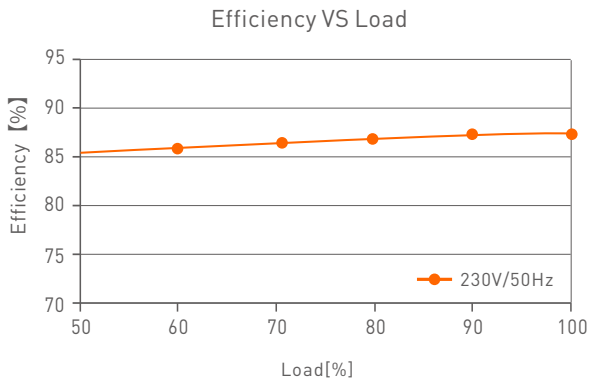Push the tension plate down to fix the electric wires.

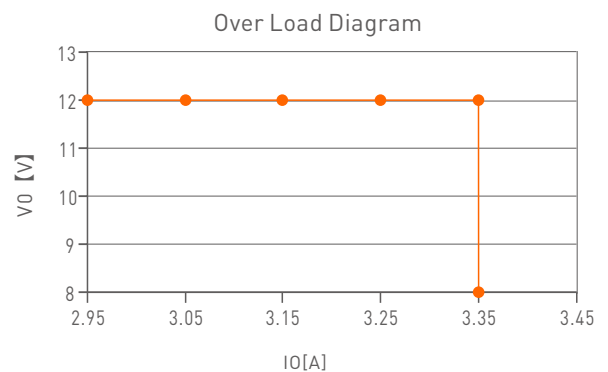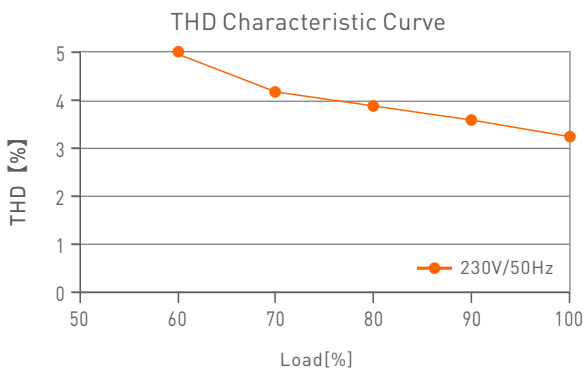Push the side plate outwards and remove the tension plate by prying it up with a tool at the same time.
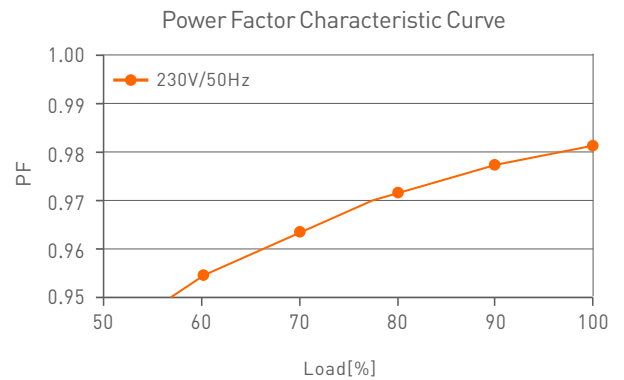
Pull the bottom left and right from the bottom to remove it.

Relationship Diagrams

Efficiency VS Load

Power Factor Characteristic Curve

THD Characteristic Curve

Over Load Diagram

LM-36-24-G1D2

Efficiency VS Load

Power Factor Characteristic Curve

THD Characteristic Curve
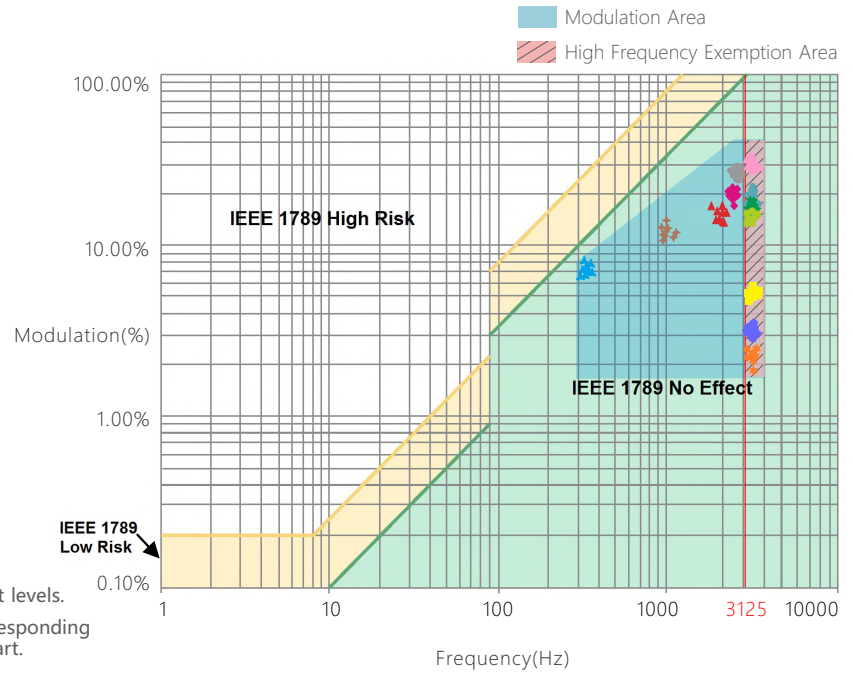

Over Load Diagram

LM-36-12-G1D2

www.ltech-led.com
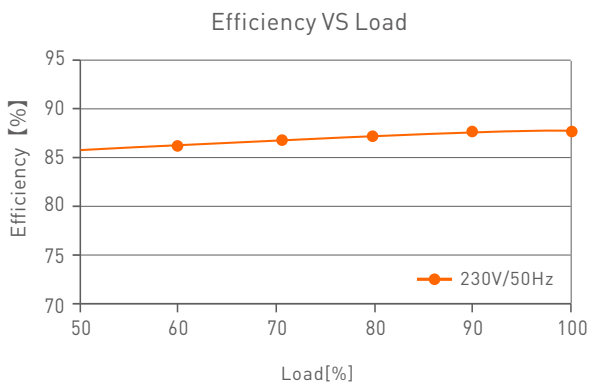
Flicker Test Table

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
- ▲ 0.1%
- ✦ 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(%)

Frequency(Hz)

Marks in the right chart are tested results of different current levels.

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

Attentions

- Products shall be installed by qualified professionals.
- LTECH products are non-waterproof (special models excepted). Please avoid the sun and rain. When installed outdoors, please ensure it is mounted in a water proof enclosure.
- Good heat dissipation will extend the working life of products. Please ensure good ventilation.
- Please check if the working voltage used complies with the parameter requirements of products.
- The diameter of wire used must be able to load the light fixtures you connect and ensure the firm wiring.
- Before you power on products, please make sure all the wiring is correct in case of incorrect connection that causes damage to light fixtures.
- If a fault occurs, please do not attempt to fix products by yourself. If you have any question, please contact your suppliers.

✳ 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	2021.03.22	Original version	Xu Shujun