LED Driver 0-10V 36W 12V - LM-36-12-G1A2

2814100

General

Product Type	Constant Voltage Driver
Length (mm)	352
Width (mm)	43
Height (mm)	30
Housing Color	White
Housing Material	Plastic
Mounting	Surface mounted
Weight (g)	200

Electronics

Input Domain	AC
Input Voltage	220 ~ 240V AC
Input Current max (A)	0.26A @ 230V AC
Output Voltage	12V DC
Output Current (mA) max/output	1500
Output Current Max. (A)	1.5
Output Power Range (W)	0~36
Power Factor at Full Load	+0.95 @ 230VAC
LED Outputs	1
Leakage current max. (mA)	0.5
Standby Power Loss Max. (W)	0.5
THD (at full load)	8% @ 230V AC
Input Frequency	50 ~ 60Hz
Inrush Current	25A @ 230VAC

Lighting

Color Range	Single Color

Control

Output Signal	PWM-CV
Control	0-10V
Dimming Range	0~100%
Number of Channels	1
Functions	Push DIM

Protection

Protection Class	II

Environmental

Operating Temperature	-20 ~ +50 °C
Ingress Protection	IP20
Safety Standards	NEN-EN-IEC 61347-1, NEN-EN-IEC 61347-2-13,

CE IP20 5 year warranty

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Paper size: A4

LTECH

LM-36-24-G1A2
LM-36-12-G1A2

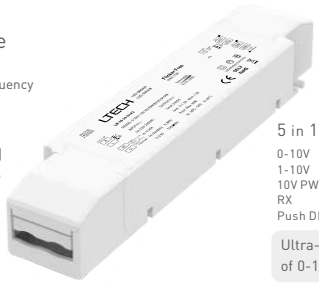
0-10V Push DIM

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: 0-10V(1-10V/10V PWM/RX), Push DIM.
- Automatically recognize 0-10V and 1-10V input signals.
- Ultra-low consumption of 0-10V ports < 0.05mA.
- Dimming range: 0~100%, dimming dowm to 0.1%.
- Flicker-free with high frequency exemption level in 0~100% dimming process.
- With soft-on and fade-in function, bringing more comfortable visual experiences.
- High-performance drivers: Effeciency 88%, PF>0.95, THD<8%.
- Dimming interfaces have photoelectric isolation that are compliant with the latest safety standards and more secure and reliable.
- 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 the driver.
- Over-heat / Over voltage / Over load / Short circuit protection, recover automatically.
- Suitable for lamp applications of indoor Ⅰ/Ⅱ/Ⅲ types.
- Up to 50000-hour life time.
- 5 year warranty (Rubycon Capacitor).

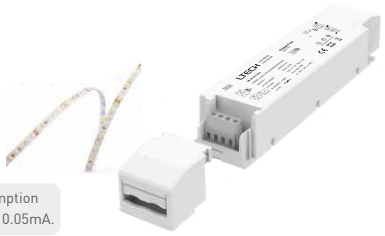
Flicker-free
IEEE 1789
Achieve high frequency exemption level.

Dimmable:
0.1%-100%



5 in 1 dimming
0-10V
1-10V
10V PWM
RX
Push DIM

Ultra-low consumption of 0-10V ports: < 0.05mA.



SELV Class 2
RoHS

(The certification icons represent on-going certification applications only, and final certification qualification is subject to actual products.)

0-10V Push DIM | 0.1% Depth Dimming | V Over voltage protection | Short circuit protection | Overload protection | Overheat protection

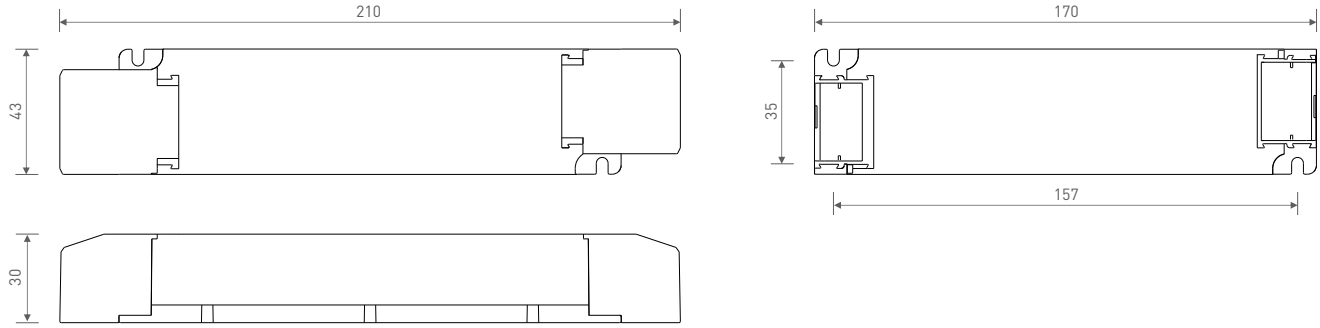
Technical Specs

Model		LM-36-24-G1A2		LM-36-12-G1A2
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	0-10V(1-10V/10V PWM/RX), Push DIM		
	Interface Consumption	<0.05mA @ 0-10V		
	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.

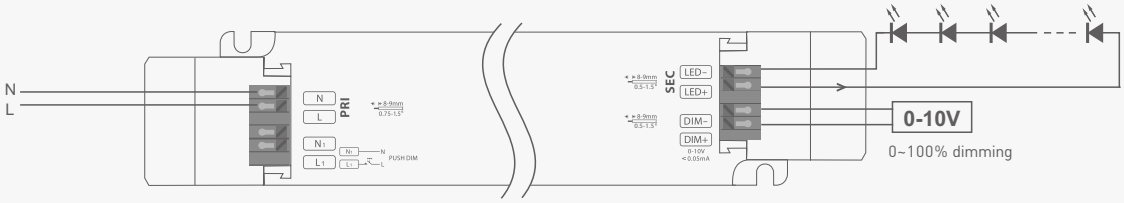
Product Size

Unit: mm



Wiring Diagram

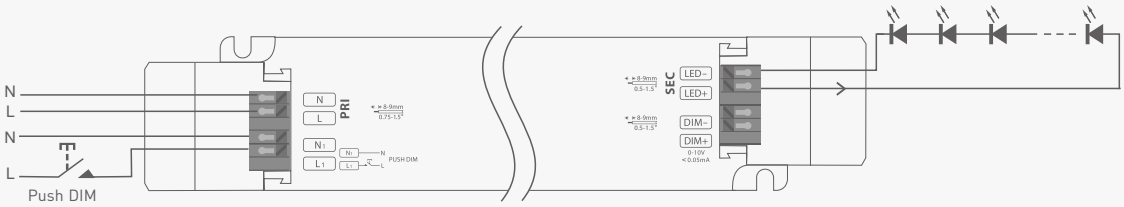
0-10V Connection Mode



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



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

✻ Push Dim is invalid under DC voltage input.
Dimming interface priority: 0-10V first , Push DIM next.

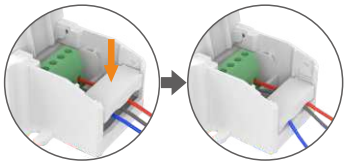
Push DIM

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



Push the tension plate down to fix the electric wires.

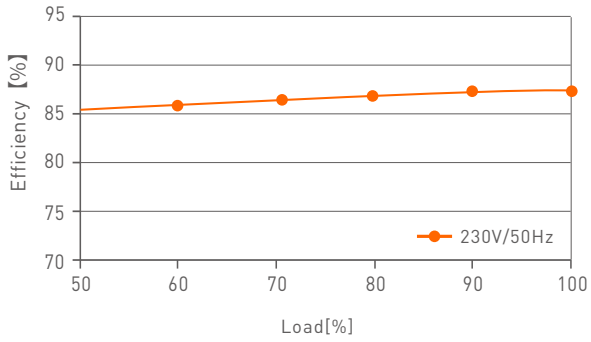
Push the side plate outwards and remove the tension plate by prying it up with a tool at the same time.

Remove the protective housing

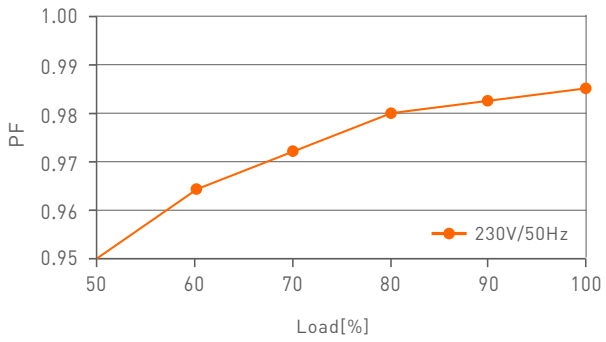
Pull the bottom left and right from the bottom to remove it.

Relationship Diagrams

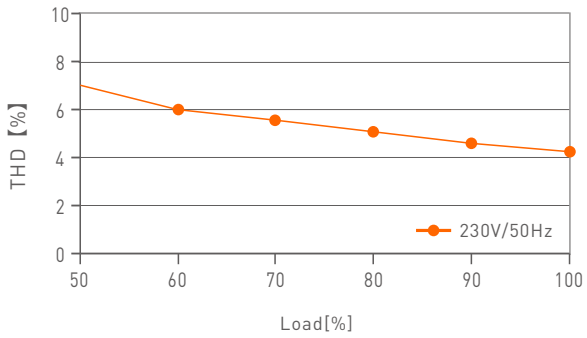
Efficiency VS Load



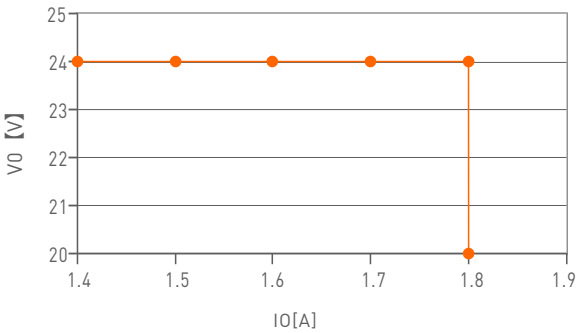
Power Factor Characteristic Curve



THD Characteristic Curve



Over Load Diagram



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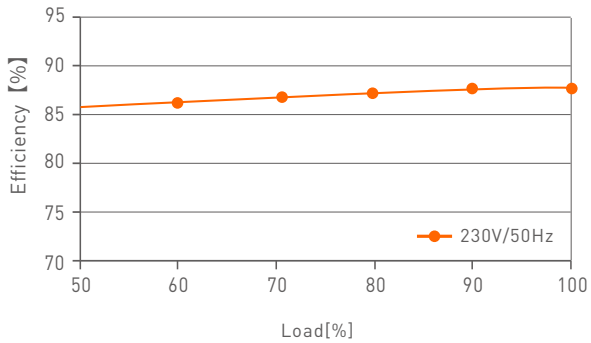
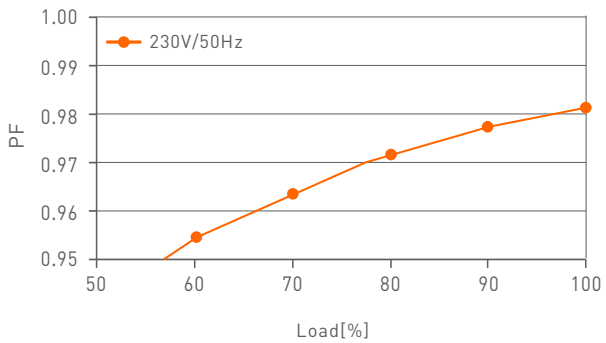
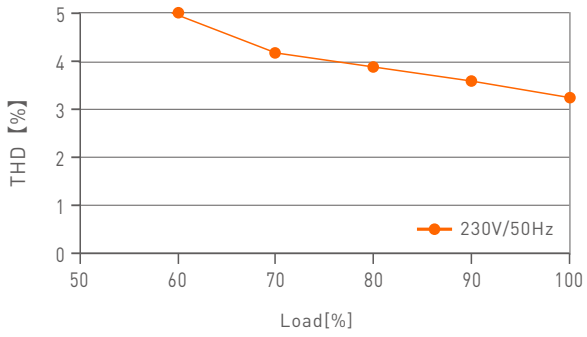
Efficiency VS Load



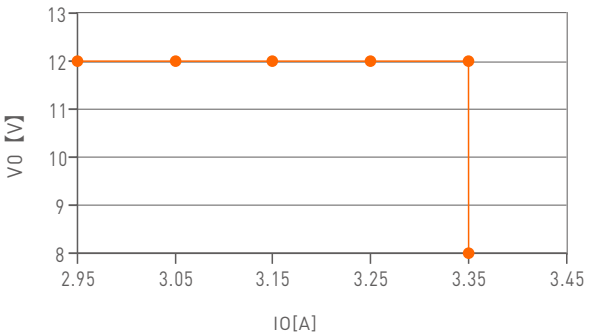
Power Factor Characteristic Curve



THD Characteristic Curve



Over Load Diagram



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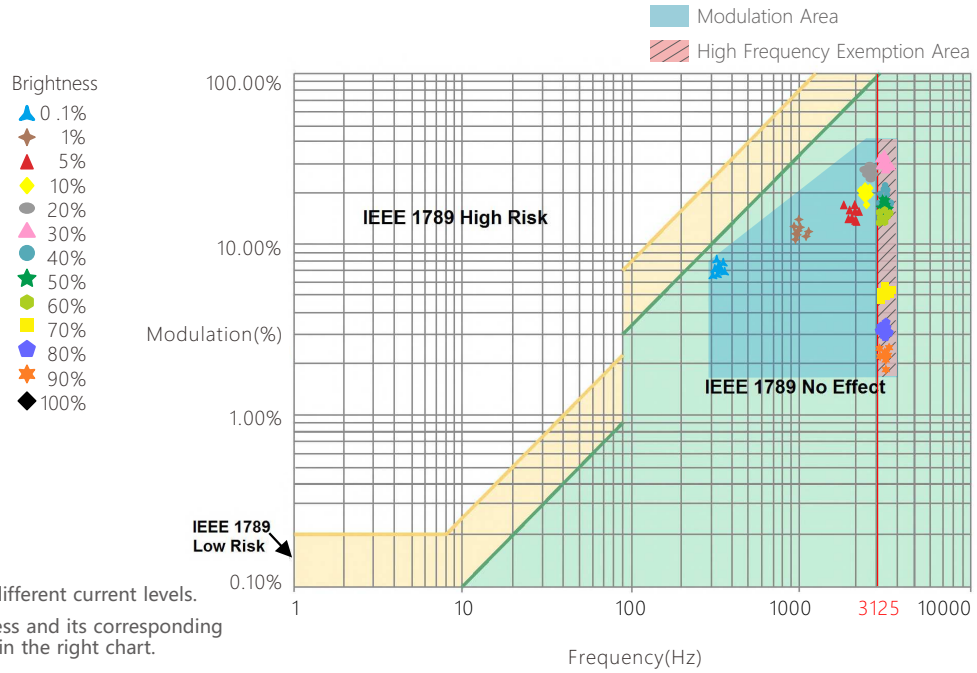
Flicker Test Table

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)



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