LF-GMD055YN

Programmable AC100-277V 0-10V Dimmable LED Driver

Product family features

— 0-10V/PWM/Rx 3-in-1 dimmable

— Dimming range: 1-100%

— Output voltage range: 10-56V

— Output current range: 100-1400mA

— Suitable for Class I light fixtures

— 5 years guarantee

Product family benefits

— Luminaire temperature guard via external NTC resistor

— Supports CLO function

— Output current adjustable and parameters configurable via Lifud programmer

— Logarithmic and linear dimming curves available

— According to Zhaga Book13

— High AUX output: DC12V 200mA

— According to UL, Class P, FCC, ENEC, CE, CB, RCM, SAA

— Isolated; flicker free

— Protective features: open circuit, short circuit, overload, over-temperature protection

Typical applications

— For linear lights and tri-proof lights

— For commercial, office and decorative lighting

Product parameters

— Output current 100-1400mA

— Output power 5.6-55W

— Input voltage 90-305Vac

— Output voltage 10-56Vdc

— Efficiency 86%

Electrical data

Input data

Rated input voltage	100 ... 277V		
AC voltage range	90 ... 305V		
Mains frequency	50/60Hz		
Power factor	≥0.95		
Efficiency in max. power	≥86%		
THD	<20%		
Input current	0.68A Max/100V	0.28A Max/230V	0.24A Max/277V
Inrush current	23A 36us/120V	57A 56us/230V	19A 35us/277V
Loading number on circuit breaker 10 A (B)	12	23	28
Loading number on circuit breaker 10 A (C)	12	23	28
Loading number on circuit breaker 16 A (B)	20	38	45
Loading number on circuit breaker 16 A (C)	20	38	45
Protective conductor current	≤3.5mA		
Stand-by power consumption (NOT connected with AUX)	<1W		

Output data

Nominal output voltage	10... 56V
Nominal output current	100...1400mA
Default output current	1400mA
Current setting	Lifud programmer (LF-SCS080C)
Maximum output power	55W
Nominal output power	5.6... 55W
Output current tolerance	±5%[1)]
Output ripple current (100 Hz)	±3.3 %
Flicker	According to IEEE Std 1789-2015
CIE SVM	≤0.4
IEC-Pst	≤1
Temperature tolerance	±10%
Start-up time (NOT connected with the dimmer)	<1.2S
Output type	Class 2
Nominal output voltage of 12V AUX	12V±1V
Nominal output current of 12V AUX	200mA
Ripple voltage of 12V AUX	<200mV

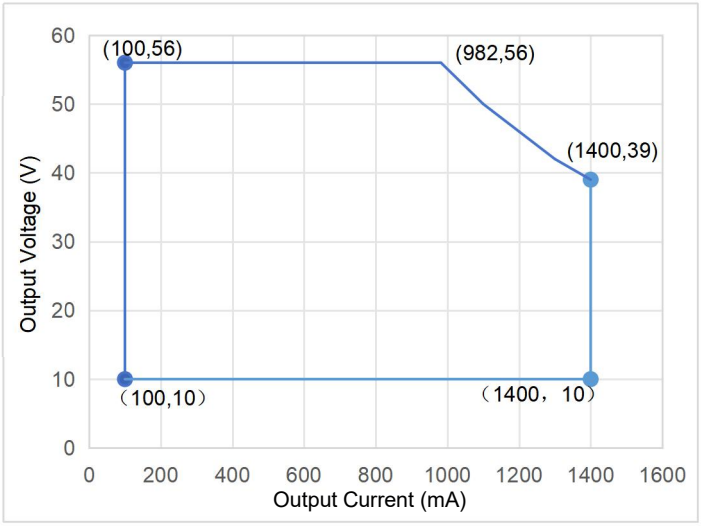
Safety

Withstanding voltage	I/P-O/P: 3.75kV&5mA&60S; I/P-PE:1.5KVac&5mA&60S; O/P-PE:0.5KVac&5mA&60S
Surge capability	L-N: 2.5 kV ; L/N-PE: 2.5 kV
Insulation resistance	I/P-O/P: >100MΩ@500VDC; I/P-P/E: >100MΩ@500VDC; O/P-PE: >100MΩ@500VDC
Ring wave	2.5kV
Guarantee	5 years[2)]

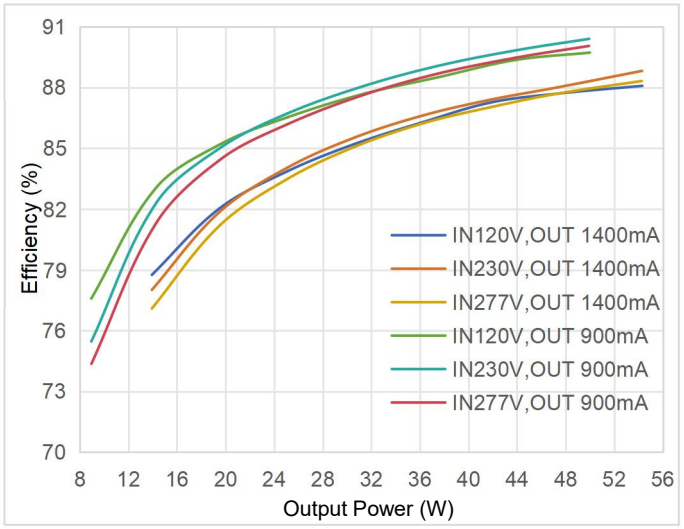
1) ±7%@100-300mA
2) 5 years@Tc≤80℃

Characteristic diagram

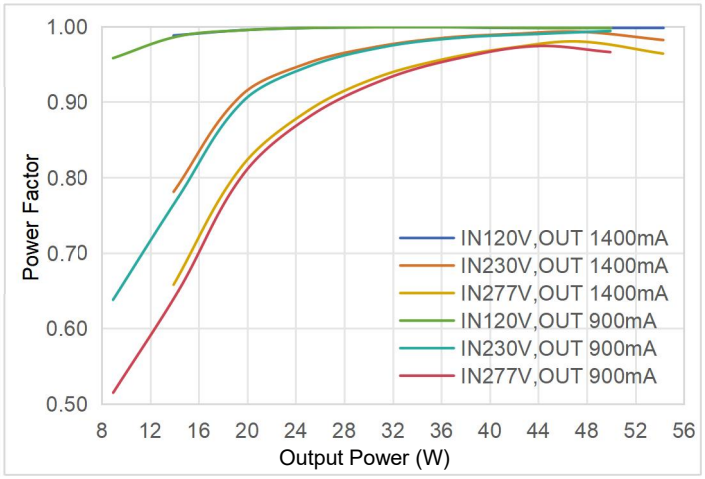
Operating Window



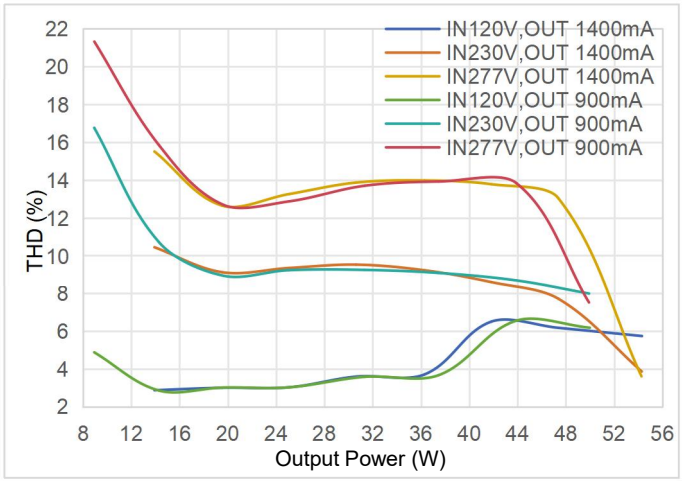
Typical Efficiency vs Load



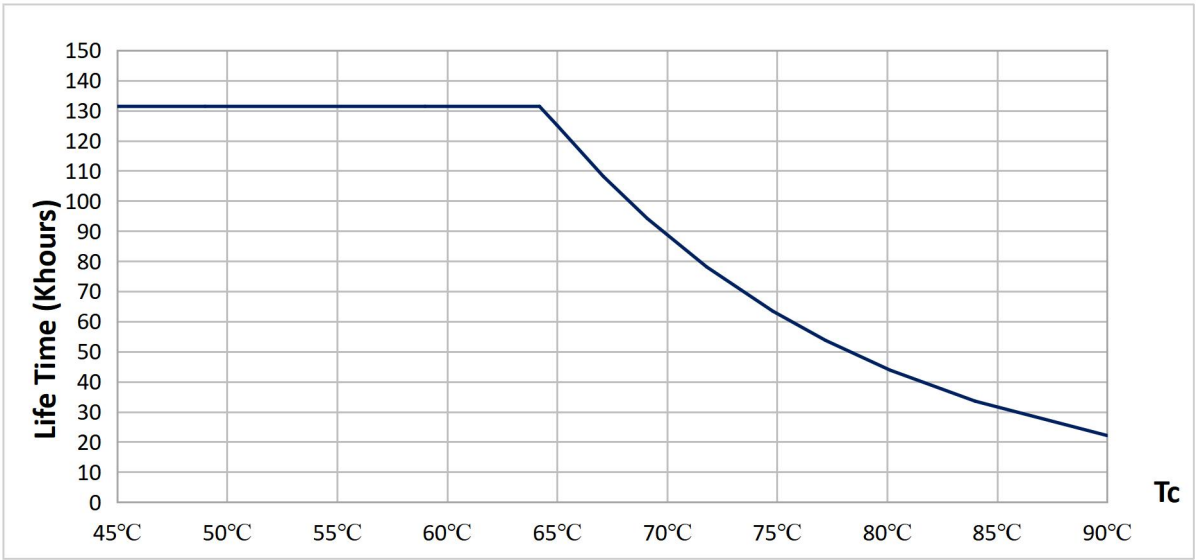
Typical Power Factor vs Load



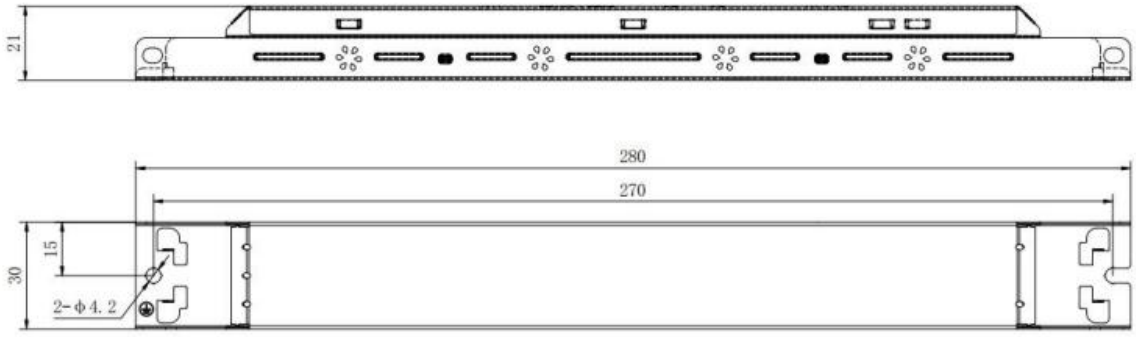
Typical THD vs Load



Lifespan



Dimensions



Mounting hole spacing, length	270mm
Product weight	240g
Cable cross-section, input side	0.5 ... 1.5 mm²
Cable cross-section, output side	0.5 ... 1.5 mm²
Wire preparation length, input side	7 ... 8mm
Wire preparation length, output side	7 ... 8mm
Length	280.0mm
Width	30.0mm
Height	21.0mm

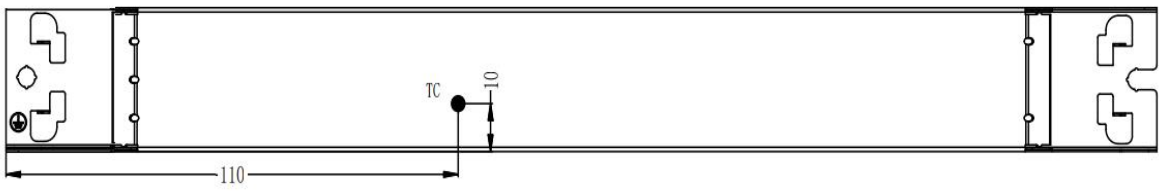
Colors & materials

Casing material	Color coated sheet
Casing color	White

Temperature & operating conditions

Ambient temperature range	-30℃ - +60℃
Maximum temperature at tc test point	90℃
Temperature range at storage	-30℃ - +80℃ (6 months in Class I environment)
Humidity range at storage	20-75%RH (no condensation)
Humidity during operation	20-95%RH (no condensation)
Atmospheric pressure	86-106KPa
RoHS	RoHS 2.0 (EU) 2015/863

Tc test point



Tc point is at the top of LED driver

Product terminal

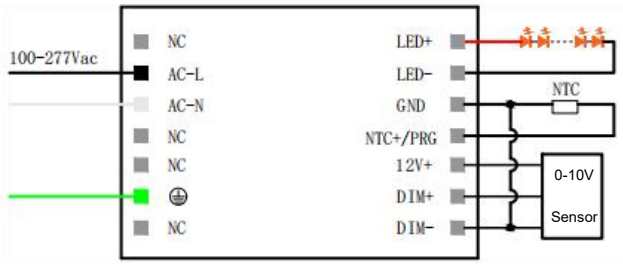
Input		Output	
NC	/	**LED+**	Positive terminal output of LED driver
AC-L	AC live wire input	**LED-**	Negative terminal output of LED driver
AC-N	AC neutral wire input	**GND**	Negative terminal input of NTC
NC	/	**NTC+/PRG**	Positive terminal input of NTC
NC	/	**12V+**	Positive terminal output of 12V
⏚	Earth wire	**DIM+**	Positive terminal output of dimming
NC	/	**DIM-**	Negative terminal output of dimming

Capabilities

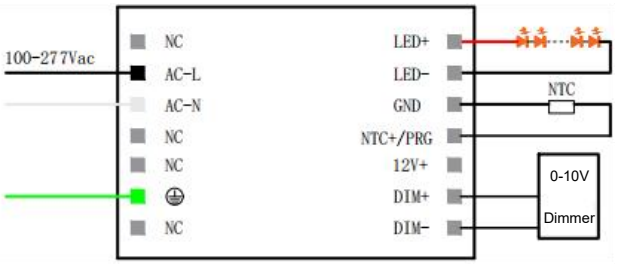
Dimmable	0-10V/PWM/Rx
Dimming range	1...100%
Overload protection	Yes
Short circuit protection	Hiccup mode (Automatic reversible)
No-load protection	<59V
Over-temperature protection	Yes
Suitable for fixtures with prot. class	I
Programming interface	12V+/PRG/GND
Control interface	0-10V/PWM/Rx
Number of channels	1 channel

Dimming function instructions

- **0-10V dimming function**



Wiring diagram of 0-10V sensor



Wiring diagram of 0-10V dimmer

- **0-10V dimming instruction**

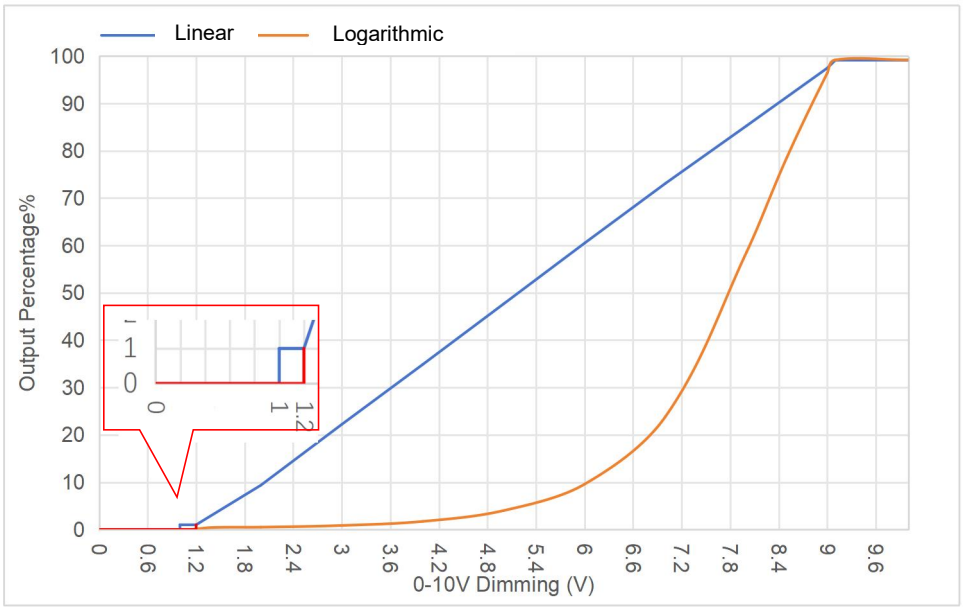
① Connect 0-10V signal to DIM terminal

② In 0-10V dimming mode, when the input voltage is 1.2V±0.1V, the light turns on. When it's 1V±0.1V, the light turns off

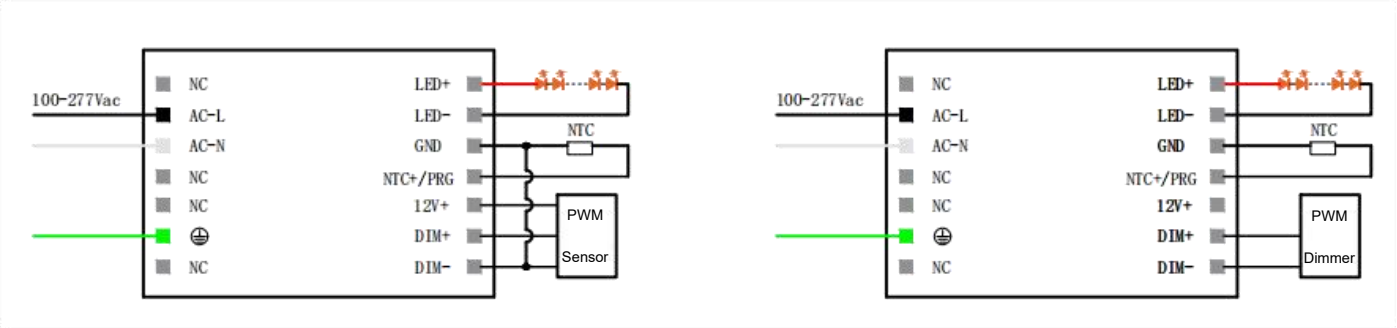
③ Dimming depth: 1%

④ DIM+/- (without signal connected): 100% rated current output

• 0-10V dim-to-off curve



• PWM dimming function



Wiring diagram of PWM sensor

Wiring diagram of PWM dimmer

• PWM dimming instruction

① Connect PWM signal to DIM terminal

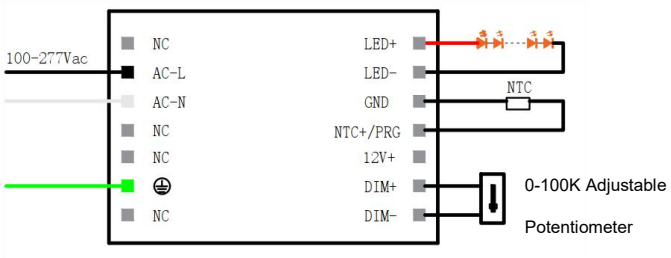
② Compatible signal range: 200-2000(Hz); amplitude: 9-10(V)

③ Dimming depth: 1%

④ DIM+/- (without signal connected): 100% rated current output

• PWM dimming curve

• Rx dimming function



Wiring diagram of Rx dimmer

• Rx dimming instruction

① Connect Rx signal to DIM terminal

② Range: 0-100KΩ@Uo max&Ta=25℃

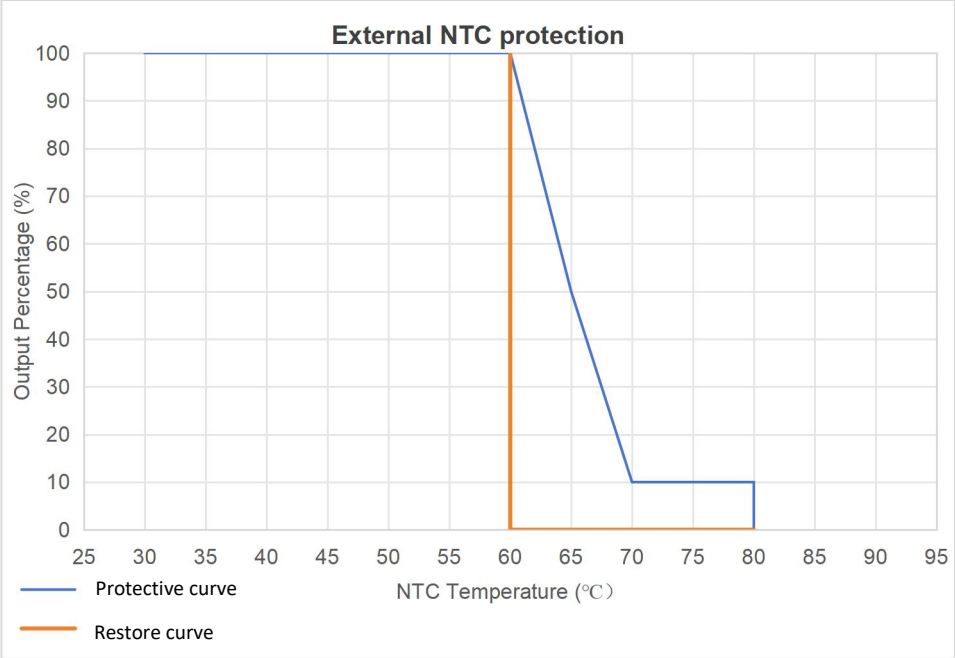
When it is 5.5KΩ±1KΩ, the light turns on; when it is 3KΩ±1KΩ, the light turns off.

③ Dimming depth: 1%

④ DIM+/- (without signal connected): 100% rated current output

- **Over-temperature protection function**

External over-temperature protection can be set by Lifud programmer. NTC = 0805SMD, R25C = 15K Ohms±2%, R64C = 3700, Vishay Part#:NTCS0805E3153GMT.



Configuration tools and software

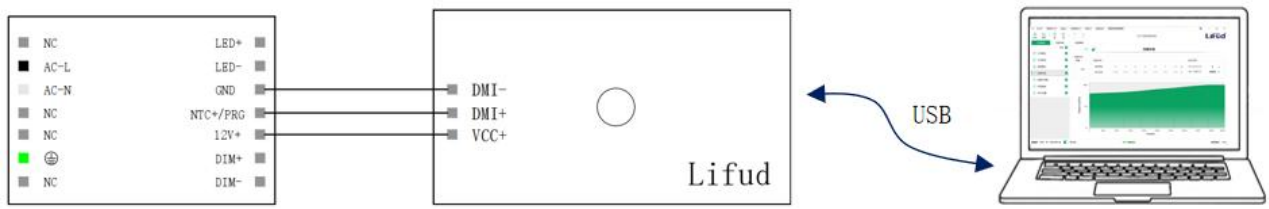
Product	Name	Brand	Model	Software
	Lifud programmer	LIFUD	LF-SCS080C	Lifud SmartSet

Read/write and parameter configuration

Programming project	Default settings	Parameters settings	Read/Write
Production information	-	No	Read
Output current	1400mA (default)	Yes	Read/Write
Over-temperature protection	Activated	Yes	Read/Write
Dimming curve	Linear	Yes	Read/Write
CLO	OFF	Yes	Read/Write

Programmable function

① Lifud programmer



LED Driver　　Lifud Programmer　　PC Software

Certificates & standards

Approval marks – approval	UL, Class P, FCC, ENEC, CE, CB, RCM, SAA
Standards	UL 8750; CSA C22.2 no.250.13; FCC Part 15B; EN 61347-2-13; EN 61347-1; EN 62384; EN 55015; EN 61547; EN 61000-3-2; EN 61000-3-3; IEC61347-1; IEC61347-2-13; AS 61347.2.13 & AS/NZS 61347.1
Type of protection	IP20

Logistical data

Product	Packaging unit (Pieces/Unit)	Dimensions (L*W*H)	Volume	Gross weight
LF-GMD055YN	42	385mm*285mm*210mm	23.04dm³	11kg±5%

Test equipment & condition

Test Equipment	AC power source: CHROMA6530, digital power meter: CHROMA66202, oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber, lightning surge generator: Everfine EMS61000-5B, rapid group pulse generator: Everfine EMS61000-4A, spectroanalyzer: KH3935, hi-pot tester: EEC SE7440, flicker tester (flicker-free coefficient test): Everfine LFA-3000, etc.

If there are no special remarks, the above parameters are tested at the ambient temperature of 25℃, humidity of 50%, full load and input voltage of 230Vac/50Hz.

Additional information

1. It is recommended that user install the over voltage protection, under voltage protection and surge protection devices in the power supply circuits of light fixtures to ensure electricity safety.

2. The LED driver used in combination with the end device is one of the accessories of the whole light fixture, and the EMC of the whole light fixture is not only susceptible to the driver itself, but to the LED light fixture and the whole light fixture's wiring. Thus, the manufacturer of LED light fixture should re-confirm the EMC of the whole light fixture before the whole light fixture is finished.

3. The test conditions of the circuit breaker configuration quantity are the same as those of the inrush current.

4. The PC cover, casing and end cap for assembling the LED driver in the light fixture must meet the fire rating of UL94-V0 or above.

5. Lifud Technology Co., Ltd. reserves the right to interpret any contents of this specification.

Transportation & storage

Suitable transportation means: vehicles, boats and aeroplanes.

In transit, it is necessary to prepare awnings for rain or sun protection. Moreover, please keep civilized loading and unloading to prevent the vibration or impact of LED driver as much as possible.

The storage of LED driver shall conform to the standard of Class I environment. When using LED drivers which have been stored for more than 6 months, please re-test them firstly. Do not use them unless they are tested to be qualified.

Cautions

Please use Lifud LED driver according to its parameters in the specification, otherwise the LED driver may malfunction.

Using any incompatible light fixtures or those that have not been certified may cause fire, explosion or other risks.

Man-made damage is beyond the scope of Lifud warranty service.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.

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