

### Production Description

LF-KAN400 is 400W LED driver with semi-glue filling design. Its input voltage range is 90-264Vac and its output voltage has 2 options: 12V, 24V and 48V. It has aluminum rain-proof casing, ultra-high efficiency and excellent heat dissipation to ensure its reliability. It is suitable for LED strip light, luminous character, logo, advertising board, outdoor monitor, etc.

### Features

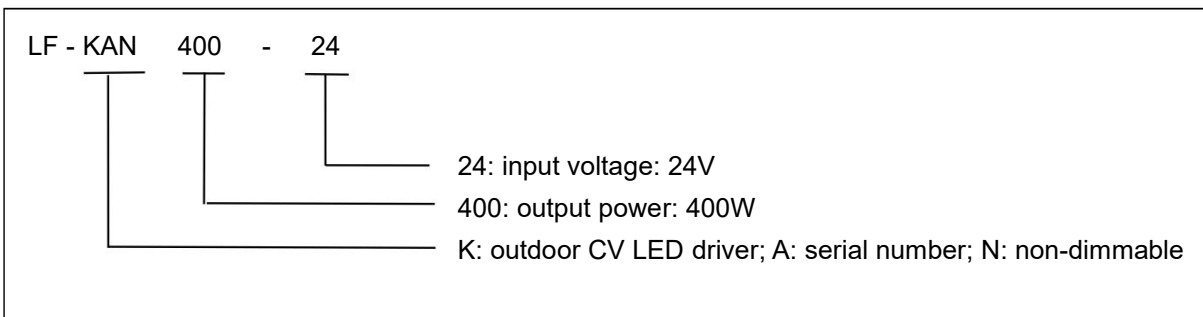
- PF >0.95
- Operating temperature: -30°C~70°C
- Class B of EMC certified
- Semi-glue filling design
- Natural cooling
- All-round protections: input under voltage protection, output short circuit protection, output over current protection and output over voltage protection



### Applications

- LED strip light
- LED luminous character
- LED logo
- LED advertising board

### Product Naming



## Electrical Characteristics

Environment					
Parameter	Min.	Typical	Max.	Unit	Remark
Working Temperature	-30		70	°C	For the working temperature over 45°C, please refer to the load derating curve in the latter part of this data sheet.
Ambient Temperature for Storage	-40		90	°C	
Relative Working Humidity	0		95	%	No condensation
Relative Storage Humidity	0		95	%	No condensation
Altitude			5000	m	
Atmospheric Pressure	70		106	kPa	

Input Characteristics					
Parameter	Min.	Typical	Max.	Unit	Remark
AC Input Voltage Range	90	230	264	Vac	
AC Input Voltage Frequency	47	50	63	Hz	
Input Current			3	A	
Power Factor	0.95				220Vac full load
Inrush Current			90&780us	A	230Vac full load, cold state

Output Characteristics					
Parameter	Min.	Typical	Max.	Unit	Remark
Output Voltage Range	21.6	24	26.4	Vdc	Adjustable between 21.6V and 26.4V
Output Current Range	0		16.7	A	At 90-170V, 50% derating, maximum output current of 8.3A
Constant Voltage Tolerance			±2	%	
Noise & Ripple (Peak-to-Peak Value)			300	mV	Test under the conditions of full load output and rated 230Vac input. Before the test, connect a 0.1uF metalized-film capacitor and a 10uF electrolytic capacitor in parallel at the output. The bandwidth of the oscilloscope is 20MHz.
Output Power			400	W	
Output Efficiency	93	94		%	230Vac input, 100% load output
Start-up Output Delay			<1500	ms	230Vac, full load
Rise Time of Output Voltage			<100	ms	Rated input, rated output

Protections					
Parameter	Min.	Typical	Max.	Unit	Remark
Output Current Limit Protection	18		25	A	Hiccup mode and auto-recovery.
Output Short-circuit Protection					Hiccup mode; This power supply can remain long-term short-circuit status. And after the short circuit status is eliminated, it can automatically recover.
Output Over Voltage Protection	27.6		33	V	Test under the conditions of normal temperature and full load. The protection mode is hiccuping.
Over Temperature Protection	80		100	°C	Auto-recovery. The referred temperature is the temperature of the upper casing.

EMC Characteristics		
Item	Index	Standard
Electrostatic Discharge Susceptibility (ESD)	Air discharging $\pm 8\text{KV}$	EN 55024 IEC 61000-4-2 (Criterion A)
	Touch discharging $\pm 4\text{KV}$	IEC 61000-4-2 (Criterion A)
Radiated Susceptibility (RS)	Test frequency: 80MHz-2GHz; Electric field intensity: 3V/m; Amplitude modulation: 80%AM (1kHz)	EN 55024 IEC 61000-4-3 (Criterion A)
Conducted Susceptibility (CS)	Test frequency: 0.15 MHz-80 MHz; Test intensity: 3V; Amplitude modulation: 80%AM(1kHz)	IEC 61000-4-6 (Criterion A)
Electrical Fast Transient/Burst (EFT/B)	$\pm 2\text{kV}$ , repeated frequency: 5KHz & 100KHz	EN 55024 IEC 61000-4-4 (Criterion A)
Surge	AC power supply: L-N $\pm 2\text{kV}$ (inner resistance: $2\Omega$ ) L/N-PE $\pm 4\text{kV}$ (inner resistance: $12\Omega$ )	EN 55024 IEC 61000-4-5 (Criterion B)
Conducted Emission (CE)	CLASS B (note 2)	FCC Part15 EN55032 GB9254
Radiated Emission (RE)	CLASS B (note 2)	

Note: Criteria interpretation

The test results shall be classified according to the function loss or performance degradation of the EUT in the test. The relevant performance level shall be determined by the product manufacturer or the commissioning party of the test, or by both parties of the product manufacturer and the purchase after their negotiation. The recommended classifications are as follows:

- A. The performance is normal within the limits specified by the manufacturer, the commissioning party or the purchaser;
- B. The function temporarily loses or performance temporarily degrades, but it can automatically recover after the cessation of disturbance, without operator's intervention;
- C. The function temporarily loses or performance temporarily degrades, and it needs the operator's intervention to recover;
- D. Irrecoverable function loss or performance degradation due to damage to the hardware or software of the device, or loss of data.

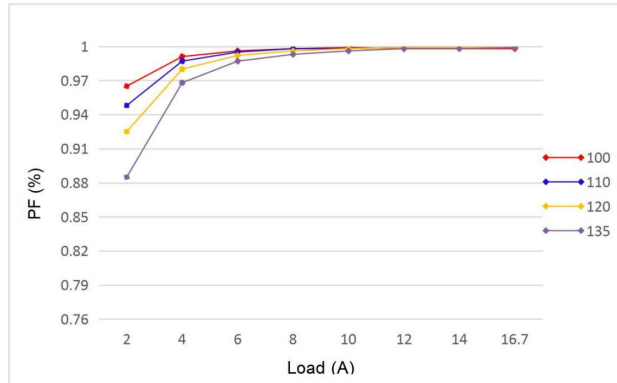
Safety Standards & Insulation Parameters		
Parameter	Standard	Remark
Input - Output	3000Vac / 5mA / 1min	No arc striking; no breakdown
Input - Ground	1500Vac / 5mA / 1min	
Output - Ground	500Vdc / 5mA / 1min	
Insulation Resistance	≥100MΩ	It's the insulation resistance of input-output, input-ground and output-ground under conditions of normal atmosphere, relative humidity less than 90% and test voltage of 500Vdc.
Touch Current	<0.7mA	220Vac input; L - GND & N - GND
Safety Standards	IEC 62368, UL/CUL62368, EN 62368-1: 2014/A11: 2017, GB17625.1-2012, GB4943.1-2011	

## Others

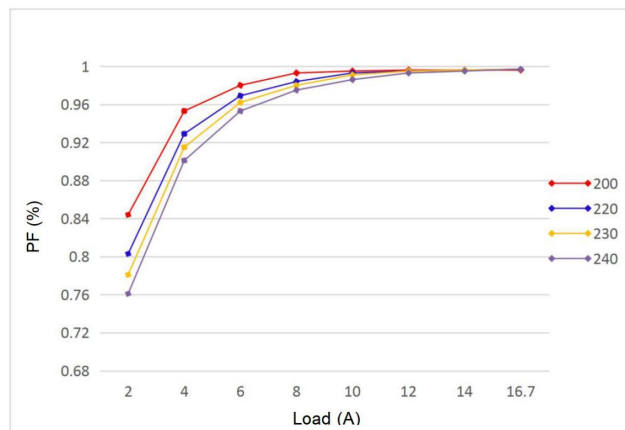
<b>Warranty Condition</b>	3 years
<b>Noise Rating</b>	≤20dBA (Tested in a soundproof room. The noise collector is 50cm away from the power supply.)
<b>Testing Conditions</b>	Unless otherwise stated, the parameters of the power factor, harmonic and efficiency are the test results under the ambient temperature of 25°C and humidity of 50%, input voltage of 220Vac and 100% load.
<b>Remarks</b>	<ol style="list-style-type: none"> <li>It is recommended that customer should install and over voltage and under voltage protection devices and surge protection devices in the power supply circuits of the LED displays to ensure safety before connecting to electricity.</li> <li>As an accessory of an LED display, the power supply is not the only factor determining the EMC performance of the LED display. The structure and the wiring of the display are also relevant. Thus it's strongly recommended the LED display manufacturer should re-confirm the EMC of the whole equipment.</li> </ol>

### Product Characteristic Curves

#### ■ PF Curves

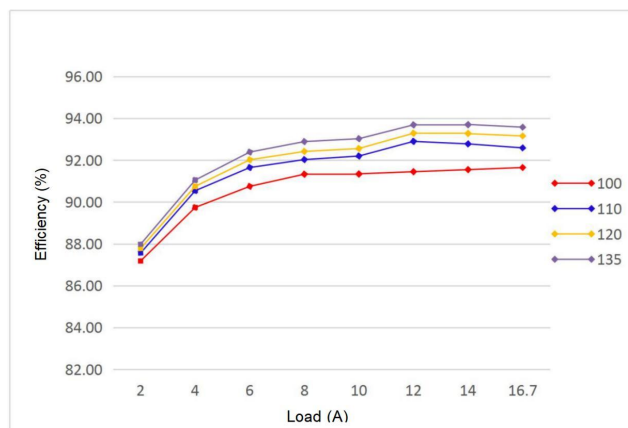


100-135Vac

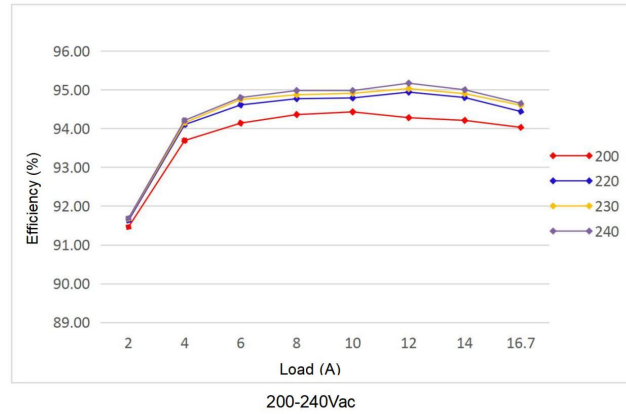


200-240Vac

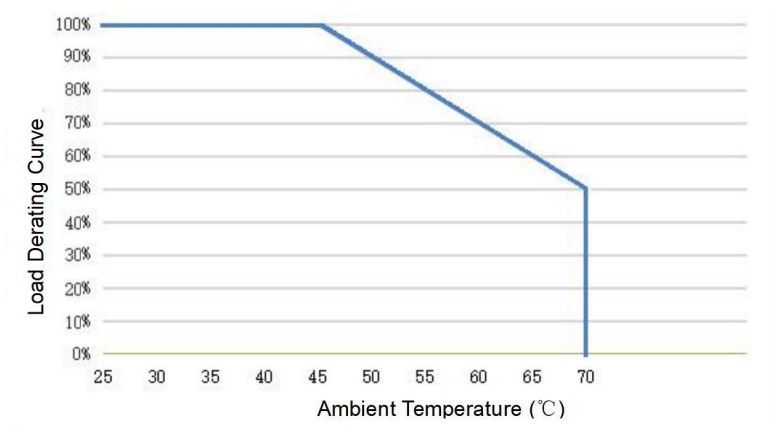
#### ■ Efficiency Curves



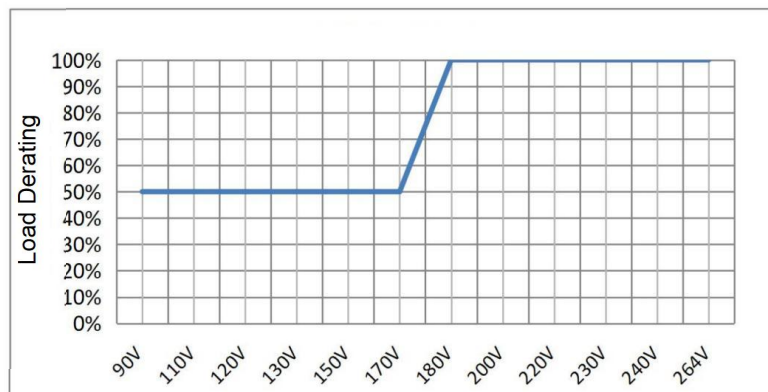
100-135Vac



■ Load Derating Curve



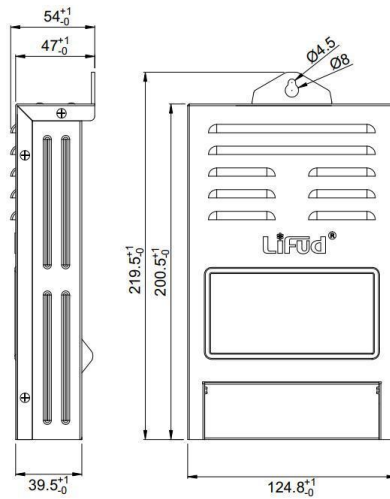
■ Voltage Derating Curve



**Terminals**

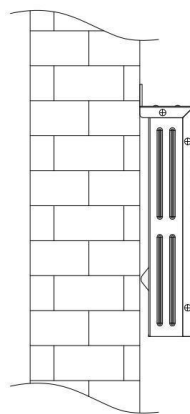
OUTPUT						INPUT		
V-	V-	V-	V+	V+	V+	⊕	N	L
Negative electrode of LED driver			Positive electrode of LED driver			Grounding wire	Input terminal of AC neutral wire	Input terminal of AC live wire

**Structure & Dimensions (unit: mm)**



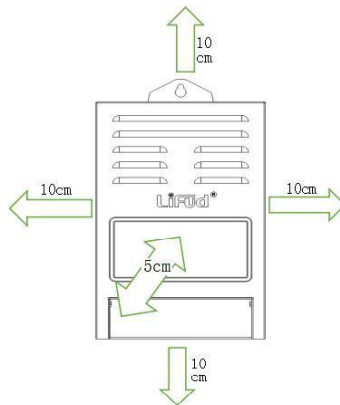
**Installation Method**

1. Please use vertical wall mounted installation, no forward, backward or horizontal, shown as the following picture:

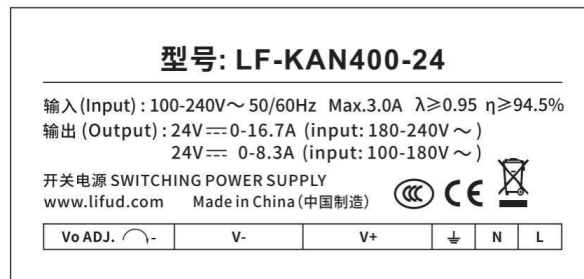




2. For ensuring good heat dissipation, anything should be kept 10cm from four sides (up, down, left and right) of the LED driver and 5cm from the vent on the front side, shown as the following picture:



**Label**



**Packaging Specifications**

Model	LF-KAN400-24
Packaging Dimensions	470*235*285 mm (L*W*H)
Quantities	8 pcs/layer; 2 layers/ctn; 16 pcs/ctn
Weights	0.9 kg/pc; 15.5 kg/ctn

## Transportation & Storage

### ■ Transportation

- Suitable transportation means: vehicles, boats and aircraft.
- During transportation, there should be awnings for sun protection. Civilized loading and unloading are required. There should be no severe vibration or impact.

### ■ Storage

- Storage in accordance with the provisions of Class I environment. For products which have been stored for more than six months, they mustn't be used until they pass the re-inspection.

## Attention

- Please use this product according to its specifications otherwise there may be malfunction.
- Use uncertified wires or connectors may cause fire or other hazards.
- It is suggested that user use a slotted screwdriver or a Philips to adjust the output current of LED driver, otherwise the potentiometer may be damaged. (please use the screwdriver with an insulated handle, and the screwdriver with a 2mm head is recommended as well. Meanwhile, please pay attention that the intensity of torque not exceed 0.5KN.m)
- Man-made damage is not covered by warranty.

Remark: the final interpretation right of the contents of this data sheet belongs to Lifud Technology Co., Ltd.