

20W constant Voltage-US Series



Features

- For luminaries of protection Class II, SELV, Independent
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OCP/OTP
- Power Factor: ≥ 0.95 (Typ.)
- Efficiency: $\geq 85\%$ (Typ.)
- 5 years warranty

Applications

- LED strips

■ Approve

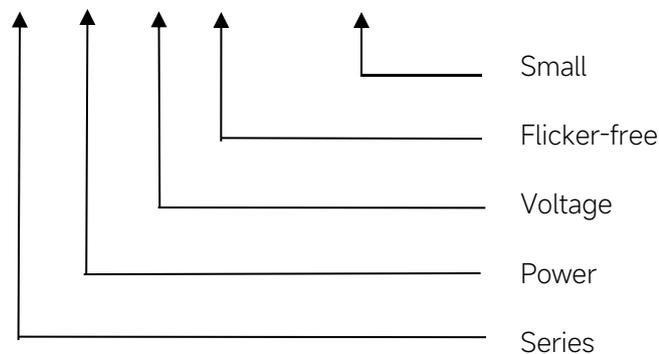


◆ Description

US-20-XX LI EXC S is a 20W constant voltage LED driver that operates from 198-264Vac input with 12V or 24V output voltage. With it's dimensions from 102.5X35.5X16.5mm, it is easy to integrate in LED strips products. To ensure trouble-free operation, protection is provided against output short circuit, over load, over current and over temperature.

◆ Model code

US-20-XX LI EXC S



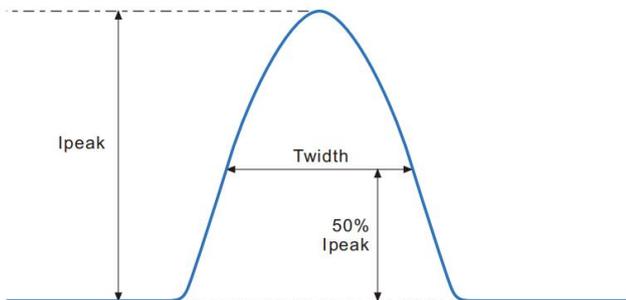
◆ Specification

Output	Constant Voltage	12VDC	24VDC
	Current Range	0-1.67A	0-0.83A
	Voltage Accuracy	±5%	
	Output HF voltage ripple(≥1KHz)	±5%	
	Output LF voltage ripple(≤120Hz)	±5%	
	SVM	≤0.4@Full load,230V	
	Pst	≤1@Full load,230V	
	Efficiency(Typ.)	≥85%@Full load,230V	
	EOFI	100%	
Input	Rated input voltage	220-240VAC	
	Range of input voltage	198-264VAC	
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition	
	Range of input voltage(VDC)	176-280VDC	
	Frequency(Hz)	0/50/60 Hz	
	Displacement factor	≥0.9@Full load,230V	
	Power Factor	≥0.95@Full load,230V	
	Input Current max	0.14A	
	Start-up time	< 0.5S	
	No Load Power	≤0.5W	
	THD (Typ.)	< 15%@Full load,230V	
Protection	Over Load Protection	105-150% YES/Auto Resume	
	Over Current Protection	2.5A	1.25A
	Short Circuit Protection	YES/Auto Resume	
capability	Surge capability (L-N)	1KV	
	Surge capability (L/N-Ground)	NA	
Environment	Operating Temperature	-20°C~+45°C	
	Humidity	20%-90%RH	
	Tc	80°C	
	Storage Temperature	-20°C~+80°C	
	Life time	> 50000h@Tc=75°C	
	Noise	≤20dB(A)@10cm	
Surface	Dimension	102.5X35.5X16.5(LXWXH)mm	
	material	PC	
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2-13;EN62384;	

	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547
	Energy Efficiency	Erp2.0 EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	<p>1.All parameters NOT specially mentioned are measured at 240VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.</p> <p>3.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered.</p> <p>4.Switch and dimmer are not recommended to connect between this product output and luminaries.</p> <p>5.The over-temperature protection of the product is provided by the IC.</p> <p>6.DC input does not guarantee EMI performance.</p> <p>7.All Eaglerise power supply are complied with EMI regulations. Since they are belong to component and will be installed inside system enclosure. When they are integrated into a system, the EMI characteristics of the system must be re-verified again.</p>	

◆ Inrush Current

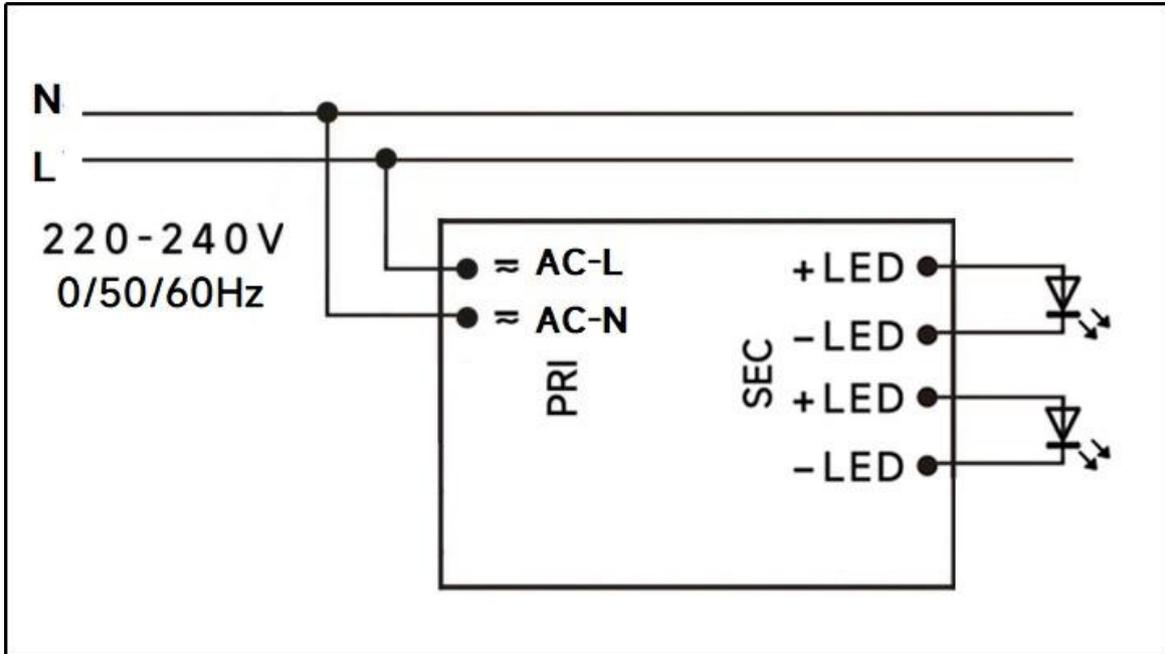
I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
11.1A	138μs	54pcs	87pcs	109pcs	57pcs	91pcs	114pcs



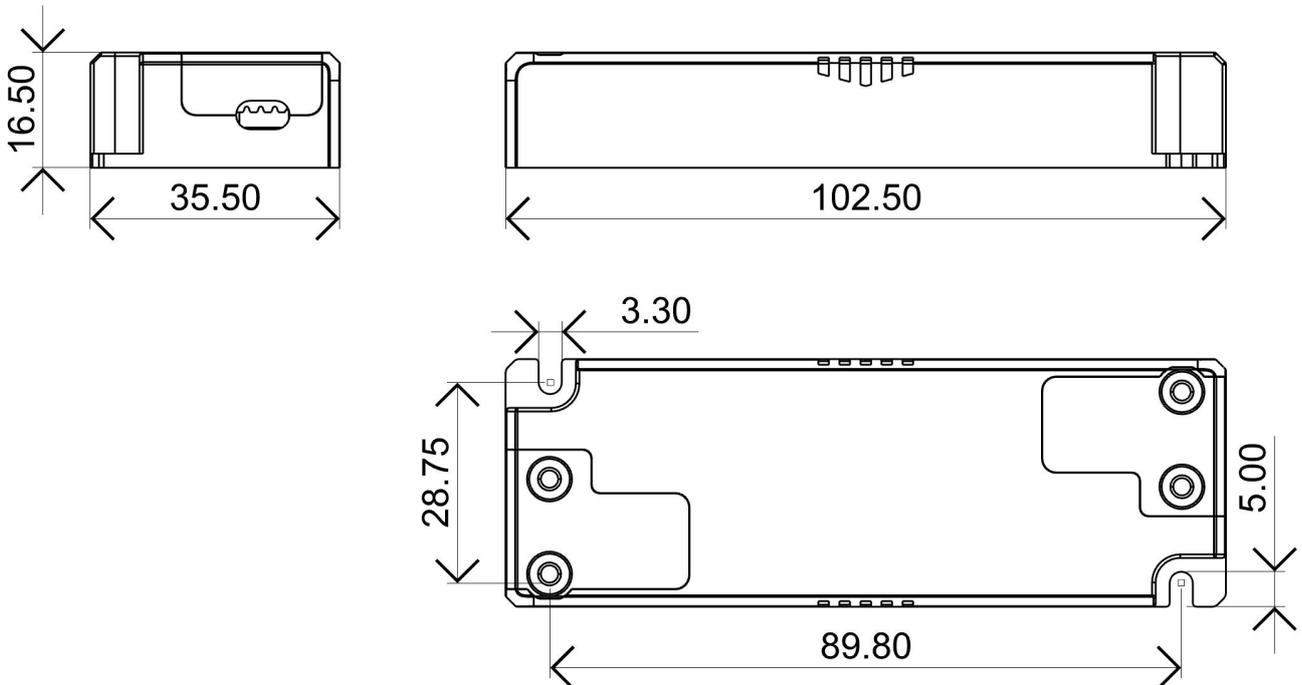
Remarks:

- 1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
- 2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

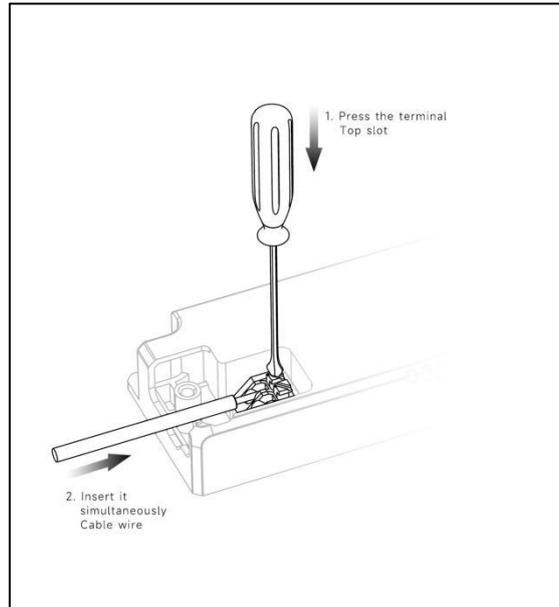
◆ **Wiring diagram**



◆ **2D diagram**



Terminal



◆ Wiring & Connections

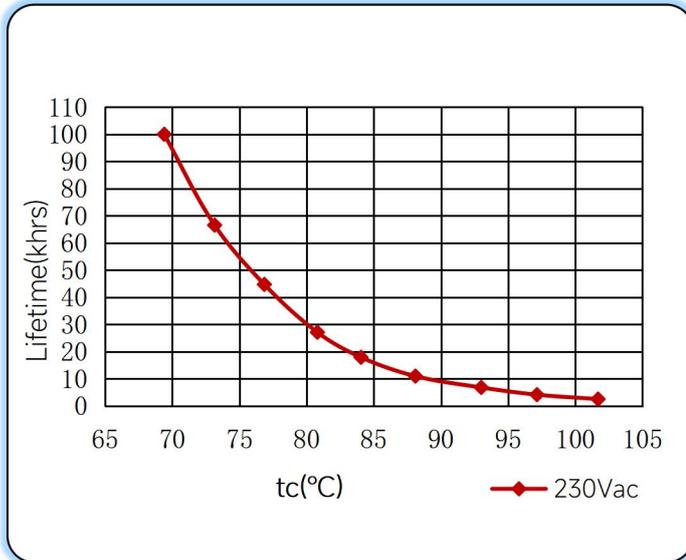
Specification item		Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm ²
	Input wire gauge.	16...20 AWG
	Input wire strip length	7...9mm
Output	Output wire cross-section	0.5...1.5 mm ²
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

◆ Packaging

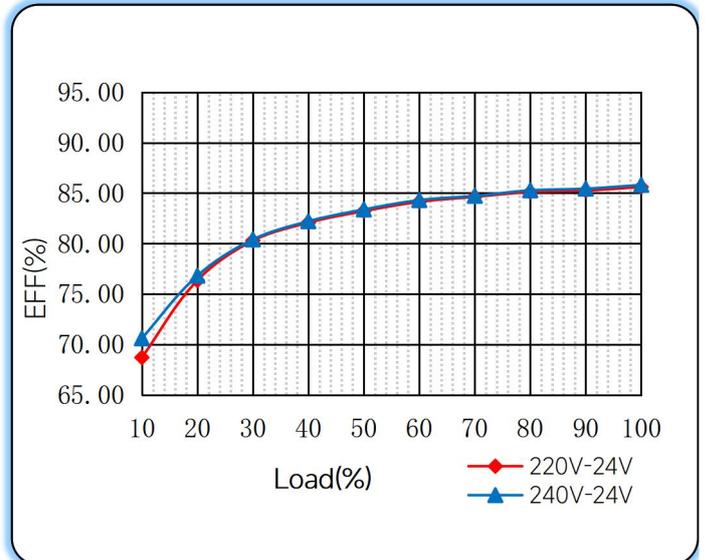
Model	Product Dimensions(mm)	weight/ piece(Kg)	Outer carton dimension(mm)	Quantity/carton	Net weight/carton(Kg)	Gross weight/carton(Kg)
US-20-XX LI EXC S	102.5x35.5x16.5	0.065	405x315x170	297	19.3	20

◆ **Curve for US-20-24 LI EXC S**

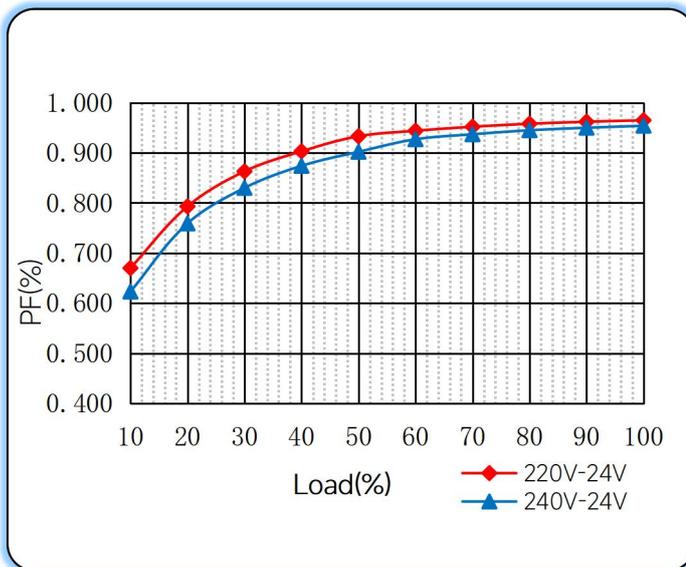
Lifetime vs. Temperature Curve



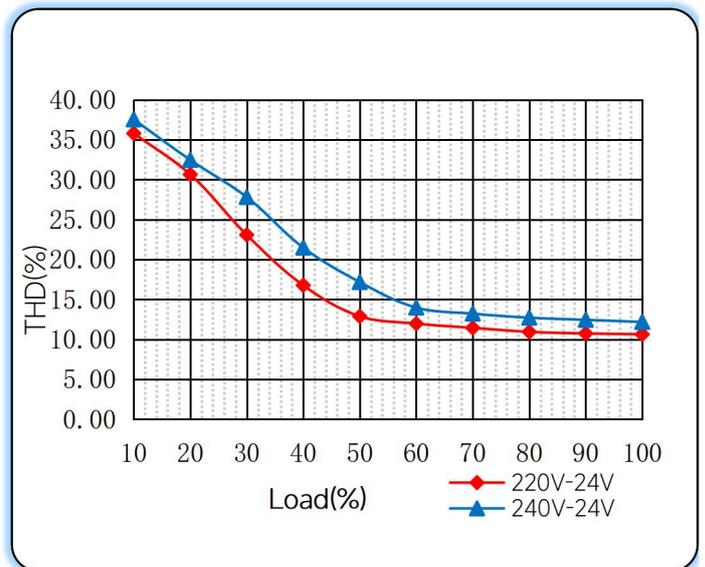
Efficiency vs. Load



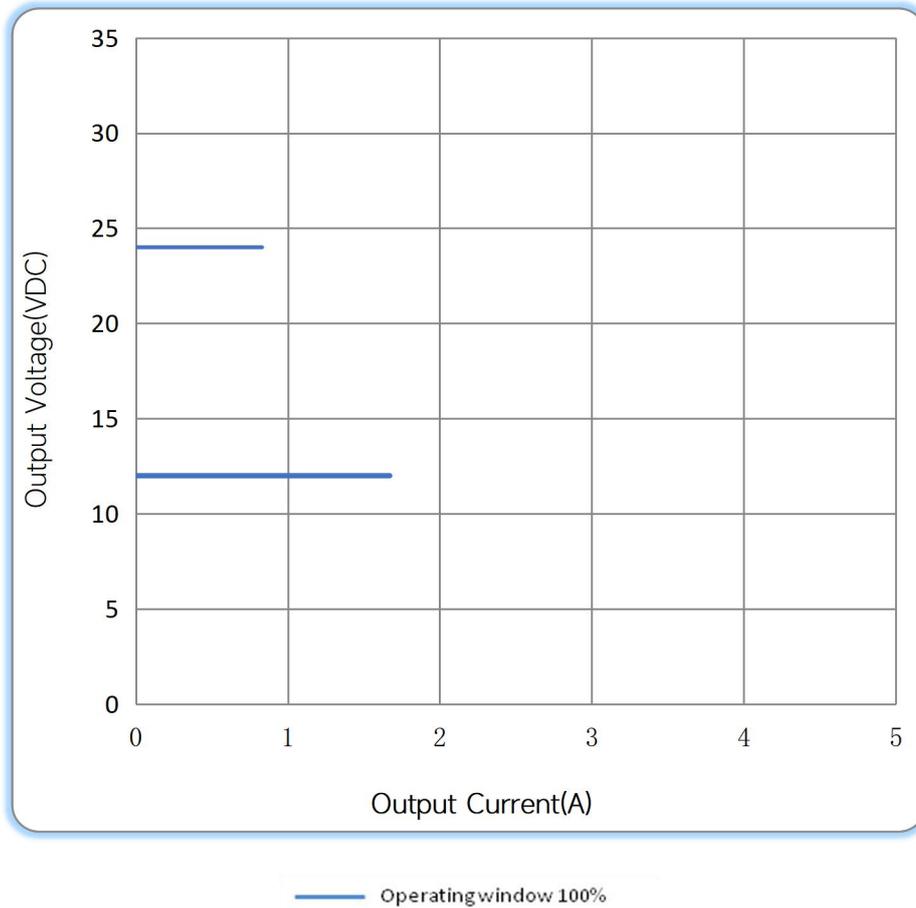
Power Factor Characteristics



THD vs. Load



◆ **Operating window**



◆ **Revision Updates**

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2025/03/11
EOFI	15%	100%	B	2025/12/10

Remark: The final interpretation of the contents of the specification belongs to Eaglerise Electric & Electronic (China) Co., Ltd.

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EAGLERISE



Manual