

## 21W Constant Current power supply



■ Approve



### Features

- Class II, SELV, Independent
- Input Voltage: 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor:
  - 0.6C@300-400mA,600-700mA
  - 0.55C@450-550mA
- Efficiency:  $\geq 85\%$
- 5 years warranty
- IP20

### Applications

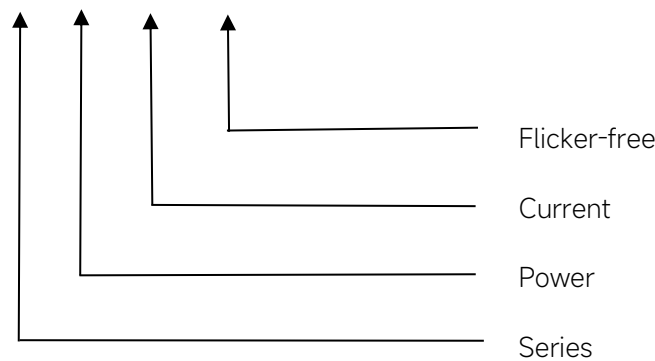
- LED panel, LED down light

### ◆ Description

LS-21-XXX SI1 E is a 21W constant current LED driver with 300~700mA output current. With its compact dimensions from 92 x 36 x 25 mm it is easy to integrate in LED panel, LED down light, LED spot light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

### ◆ Model code

LS-21-XXX SI1 E



## ◆ Specification

Output	Constant Current (mA)	300	350	400	...	700
	Voltage Range(VDC)	40-70	42-60	30-42	...	18-30
	Unload voltage Max.	90	80	59	...	50
	Current Accuracy	±5%				
	Output HF current ripple(≥1KHz)	±5%				
	Output LF current ripple(≤120Hz)	±5%				
	SVM	≤0.4				
	P <sub>st</sub>	≤1				
	Efficiency(Typ.)	≥85%@Full load,230V				
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				
	Frequency(Hz)	50/60 Hz				
	Displacement factor	≥0.7				
	Power Factor	0.6C@300-400mA,600-700mA;0.55C@450-550mA, Full load,230V				
	Input Current max	0.3A				
	Start-up time	< 0.5S				
	No Load Power	≤0.5W				
Protection	Over Load Protection	103-120%				
		YES/Auto Resume				
	Over Voltage Protection(VDC)	90	80	59	...	50
		YES/Auto Resume				
	Short circuit Protection	YES/Auto Resume				
Over Temperature Protection	YES/Auto Resume					
Environment	Operating Temperature	-20°C~+45°C				
	Humidity	20%-90%RH				
	T <sub>c</sub>	80°C				
	Storage Temperature	-25°C~+60°C				
	Life time	> 30,000h@tc=75°C; > 60,000h@tc=65°C				
Surface	Dimension	92x36x25 (LxWxH)mm				
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				

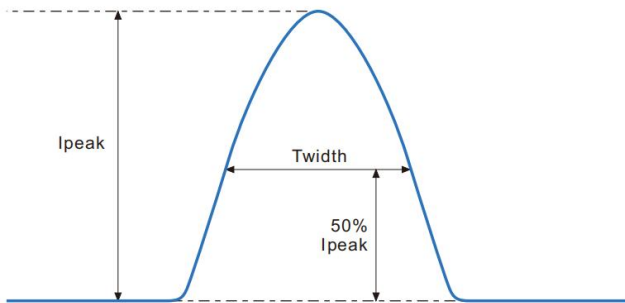
Note	<ol style="list-style-type: none"> <li>1. All parameters NOT specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</li> <li>2. Ripple &amp; Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF &amp; 47 uF parallel capacitor.</li> <li>3. Data are typical values obtained from test samples</li> <li>4. Switch and dimmer are not recommended to connect between this product output and luminaries.</li> </ol>
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## ◆ Model list

Number	Model number	Output			
		Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	LS-21-300 SI1 E	300	40-70	90	21
2	LS-21-350 SI1 E	350	42-60	80	21
3	LS-21-400 SI1 E	400	30-42	59	16.8
4	LS-21-450 SI1 E	450	30-42		18.9
5	LS-21-500 SI1 E	500	30-42		21
6	LS-21-550 SI1 E	550	30-40		22
7	LS-21-600 SI1 E	600	27-39		23.4
8	LS-21-650 SI1 E	650	20-32	50	20.8
9	LS-21-700 SI1 E	700	18-30	50	21

### ◆ Inrush Current

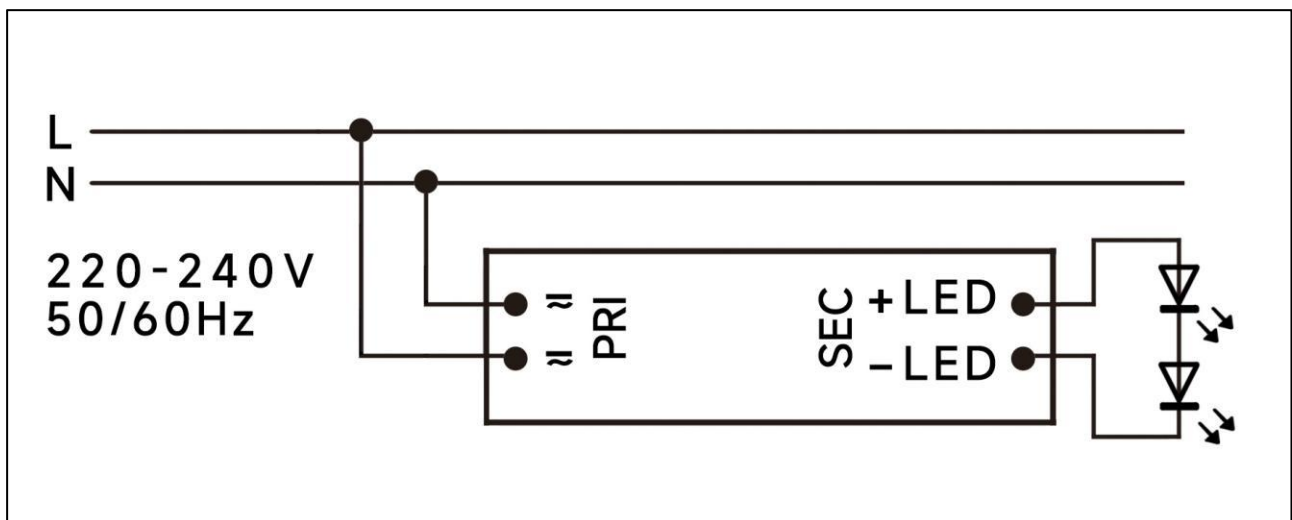
$I_{peak}$	Twidth	B10	B16	B20	C10	C16	C20
12.5A	100μs	26pcs	42pcs	53pcs	26pcs	42pcs	53pcs



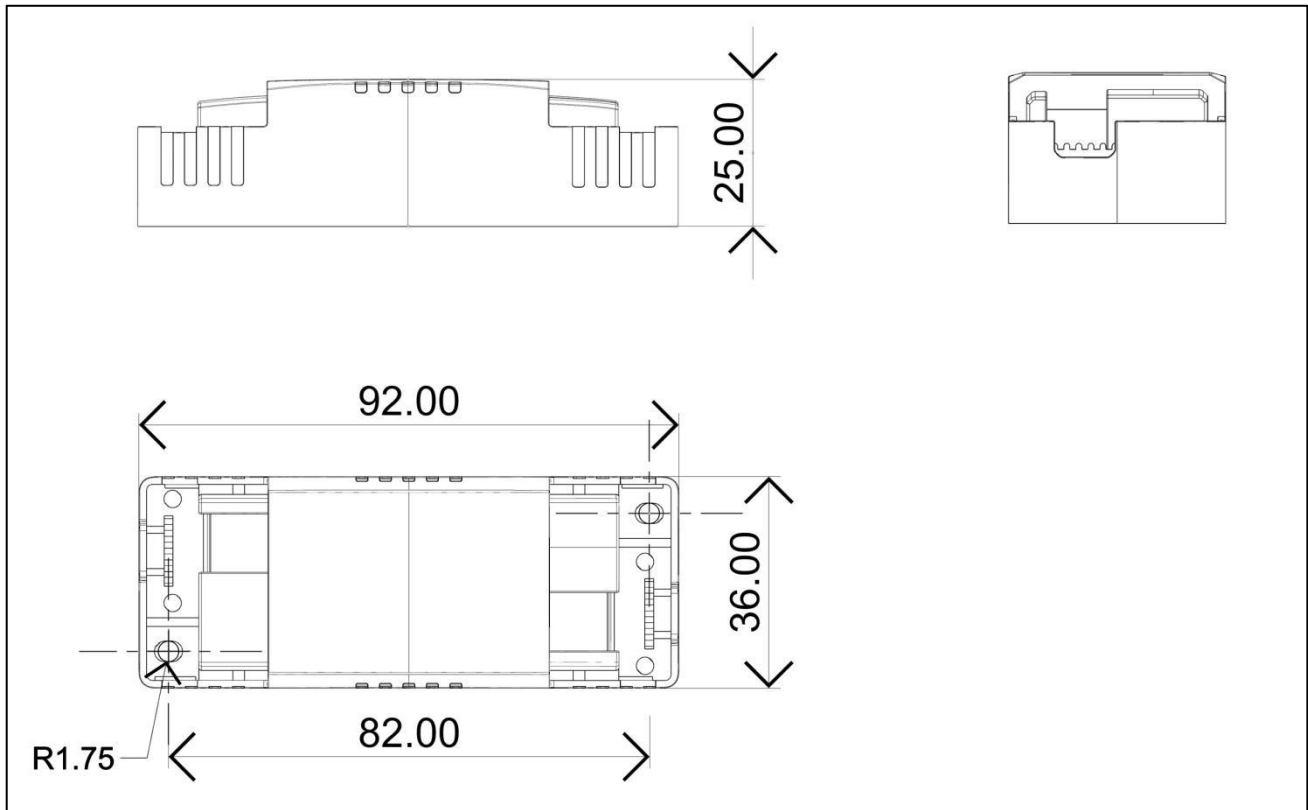
Remarks:

- 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



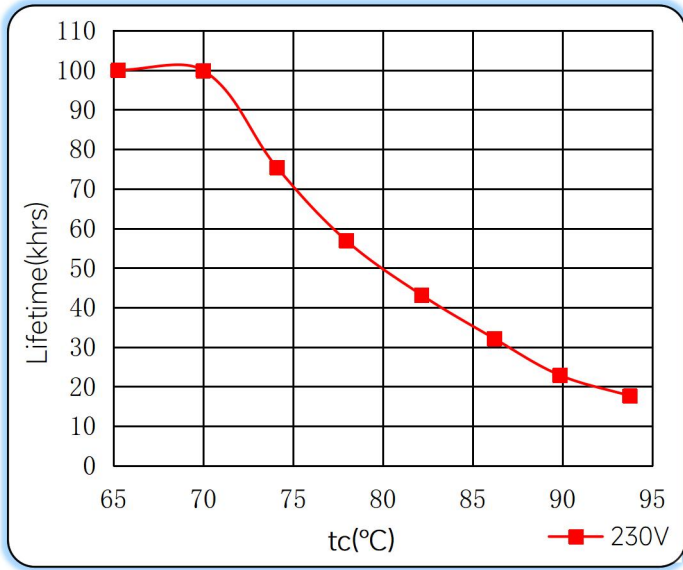
### ◆ Wiring & Connections

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

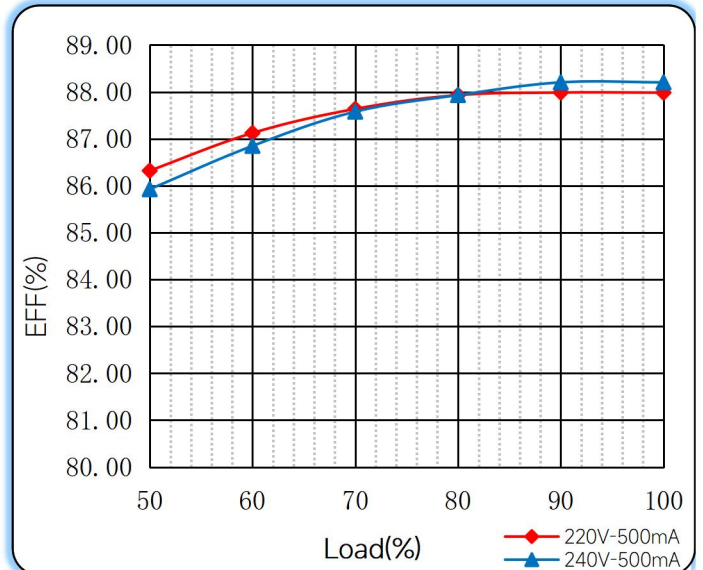
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for LS-21-XXX S1 E, I<sub>o</sub>=500mA

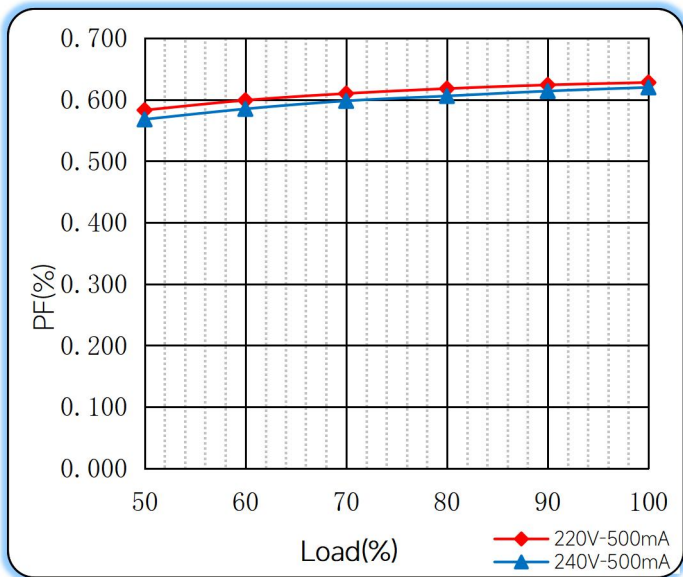
Lifetime vs. Temperature Curve



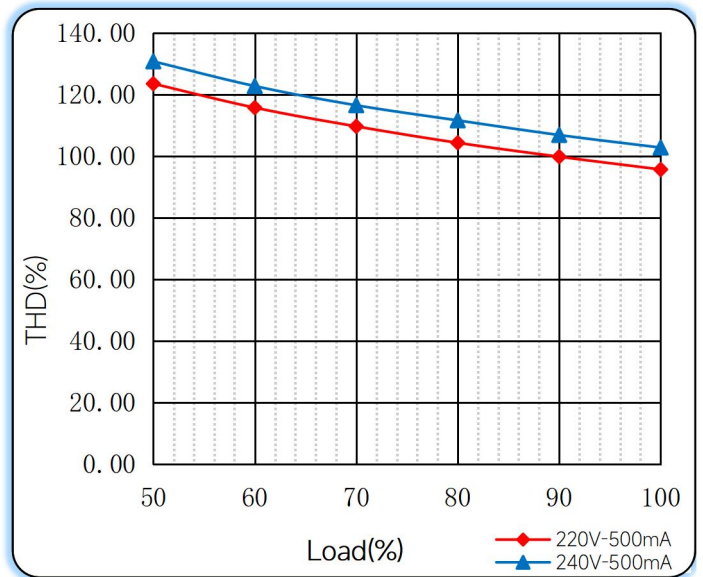
Efficiency vs. Load



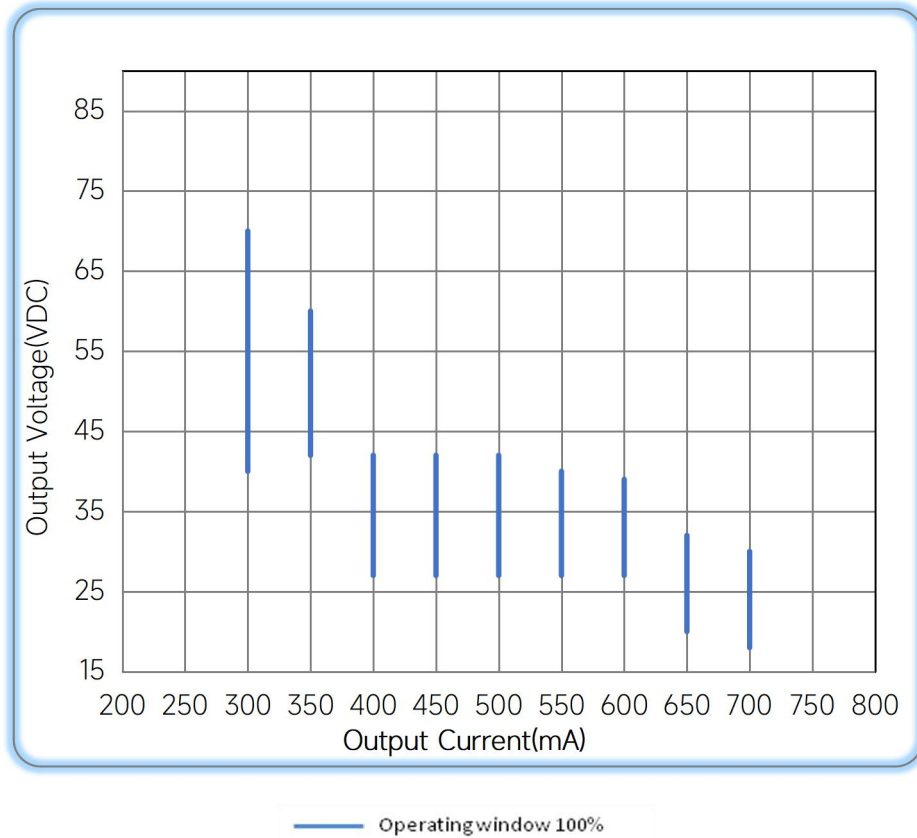
Power Factor Characteristics



THD vs. Load



### ◆ Operating window



### ◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/12/22
Unload voltage Max.	60V	69V	B	2024/02/02
Voltage Range		update	C	2024/03/25
PF		update	D	2024/09/10

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

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