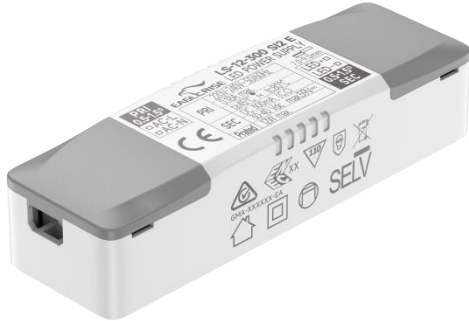


# 12W Constant Current power supply



■ Approve



## Features

- Class II, SELV, Independent
- Input Voltage: 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: 0.6C
- Efficiency:  $\geq 82\%$
- 5 years warranty
- IP20

## Applications

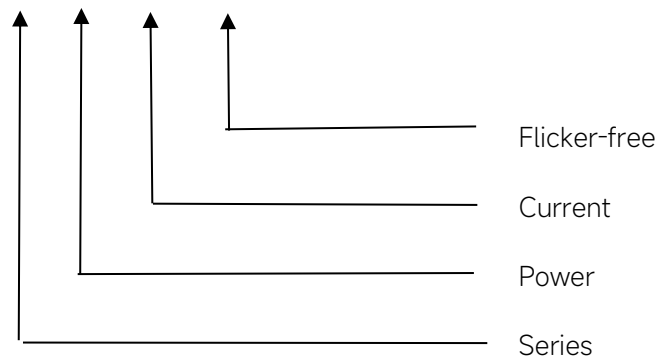
- LED panel, LED down light  
LED spot light

## ◆ Description

LS-12-XXX SI2 E is a 12W constant current LED driver with 250 and 700mA output current. With it's compact dimensions from 92 x 28 x 21 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-12-XXX SI2 E



## ◆ Specification

Output	Constant Current	250mA	280mA	300mA	350mA	500mA	600mA	700mA
	Voltage Range	30-40V				18-24V	15-20V	13-17.2V
	Unload voltage Max.	59VDC				40VDC	35VDC	
	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.)	≥82%@Full load,230V						
Input	Rated input voltage	220-240VAC						
	Range of input voltage	198-264VAC						
	Frequency(Hz)	50/60 Hz						
	Displacement factor	≥0.7						
	Power Factor	0.6C@Full load,230V						
	Input Current max	150mA	160mA	180mA		160mA		
	Start-up time	< 0.5S						
	No Load Power	≤0.5W						
Protection	Over Load Protection	103-130% YES/Auto Resume						
	Over Voltage Protection	59VDC YES/Auto Resume						
	Short circuit Protection	YES/Auto Resume						
Environment	Operating Temperature	-20°C~+45°C						
	Humidity	20%-90%RH						
	T <sub>c</sub>	80°C				85°C		
	Storage Temperature	-25°C~+60°C						
	Life time	> 50,000h@T <sub>c</sub> =80°C						
	Noise	≤20dB(A)@10cm						
Surface	Dimension	92X28X21 (LXWXH)mm						
	material	PP						
statutory	Safety Standards	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13;AS/NZS 61347- 1, AS/NZS 61347-2- 13;EN62384						
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN55015, EN61000-3-2, EN61000-3-3, EN61547,EN 62493;EN61000-4-5						
	Energy Efficiency	Erp2.0 EU 2019/2020						
	RoHS	RoHS (2011/65/EU) (EU)2015/863						

Note

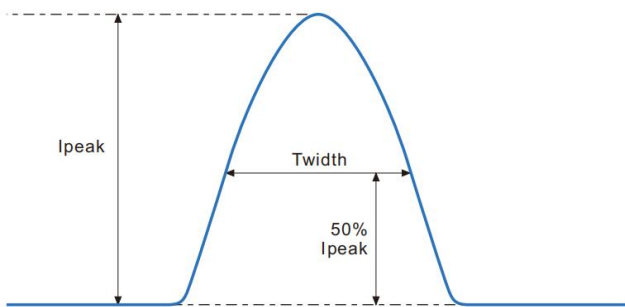
- 1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.
- 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.
- 3.Data are typical values obtained from test samples
- 4.The over-temperature protection of the product is provided by the IC.
- 5.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.

### ◆ Model list

Number	Model number	Output			
		Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	LS-12-250 SI2 E	250	30-40	59	10
2	LS-12-280 SI2 E	280			11.2
3	LS-12-300 SI2 E	300			12
4	LS-12-350 SI2 E	350			14
5	LS-12-500 SI2 E	500	18-24	40	12
6	LS-12-600 SI2 E	600	15-20	35	12
7	LS-12-700 SI2 E	700	13-17.2	35	12

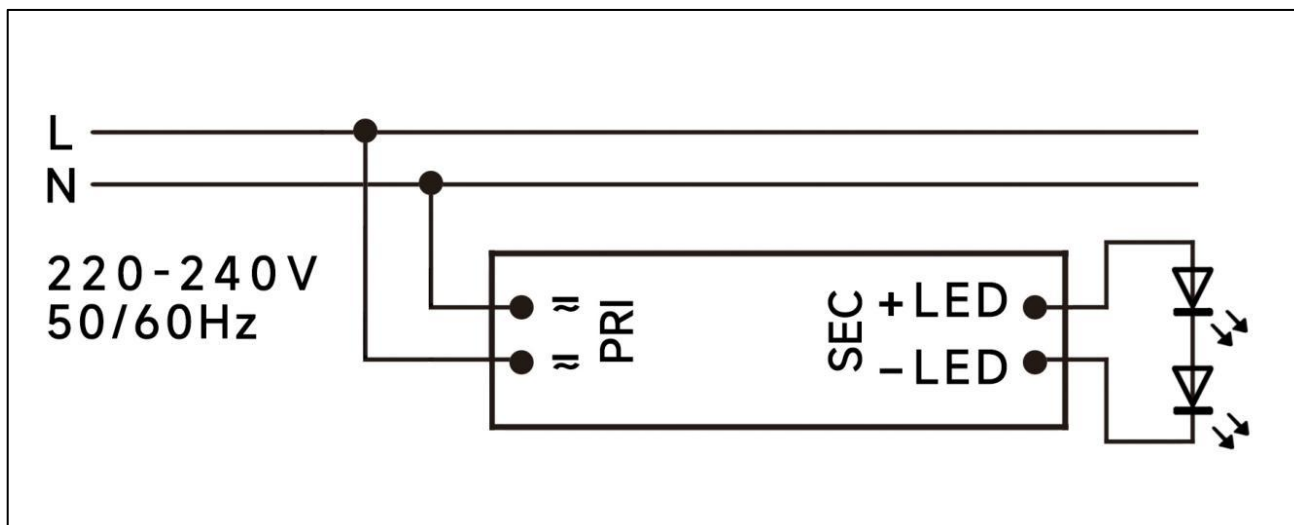
### ◆ Inrush Current

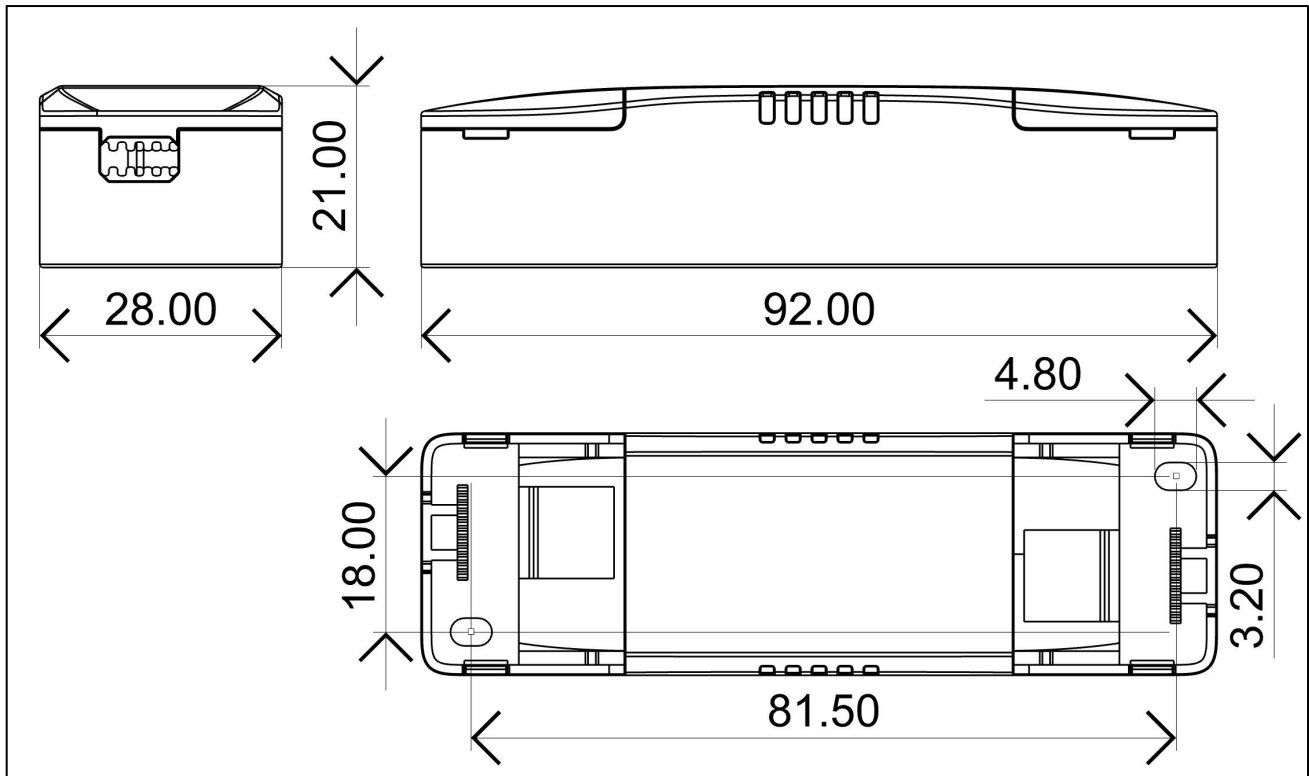
$I_{peak}$	Twidth	B10	B16	B20	C10	C16	C20
8.44A	80μs	26pcs	42pcs	53pcs	26pcs	42pcs	53pcs



**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**

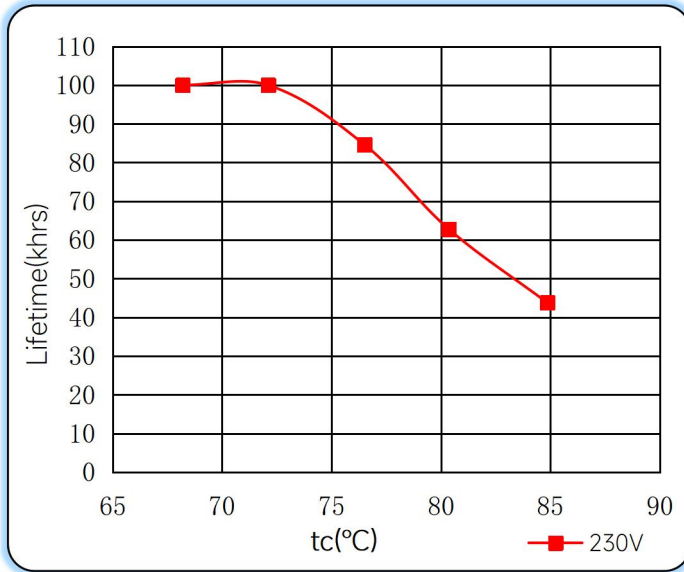
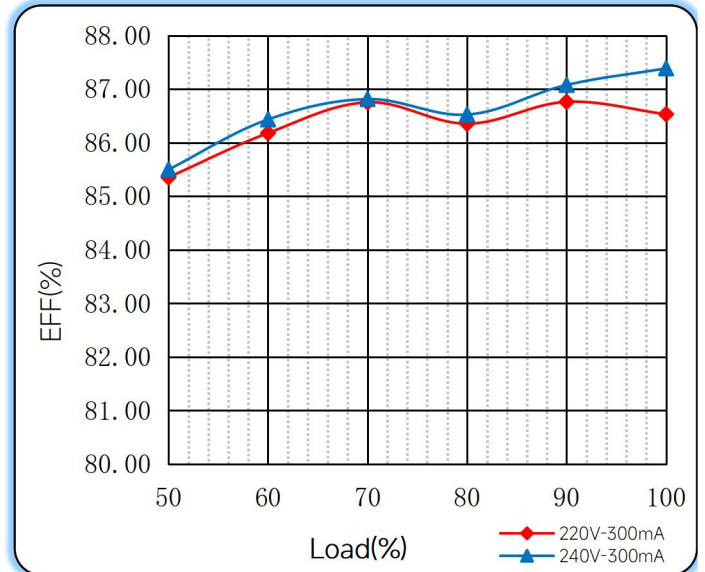
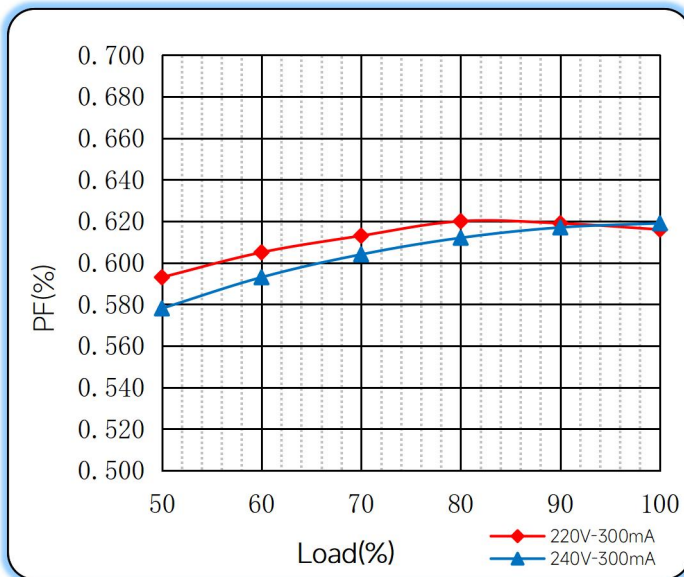
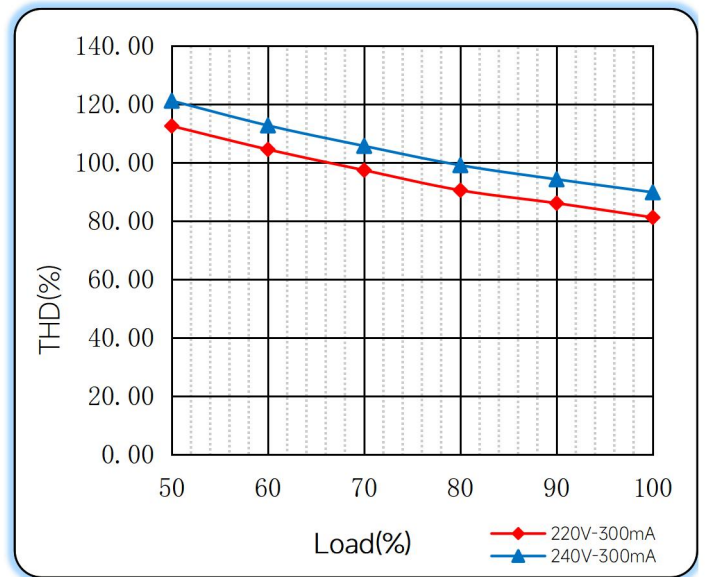
**◆ 2D diagram**

**◆ Wiring & Connections**

Specification item		Value (Unit )
Input	Input wire cross-section	0.5...1.5 mm <sup>2</sup> (With side caps: 0.75...1.5 mm <sup>2</sup> )
	Input wire gauge.	16...20 AWG (With side caps: 16...22 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

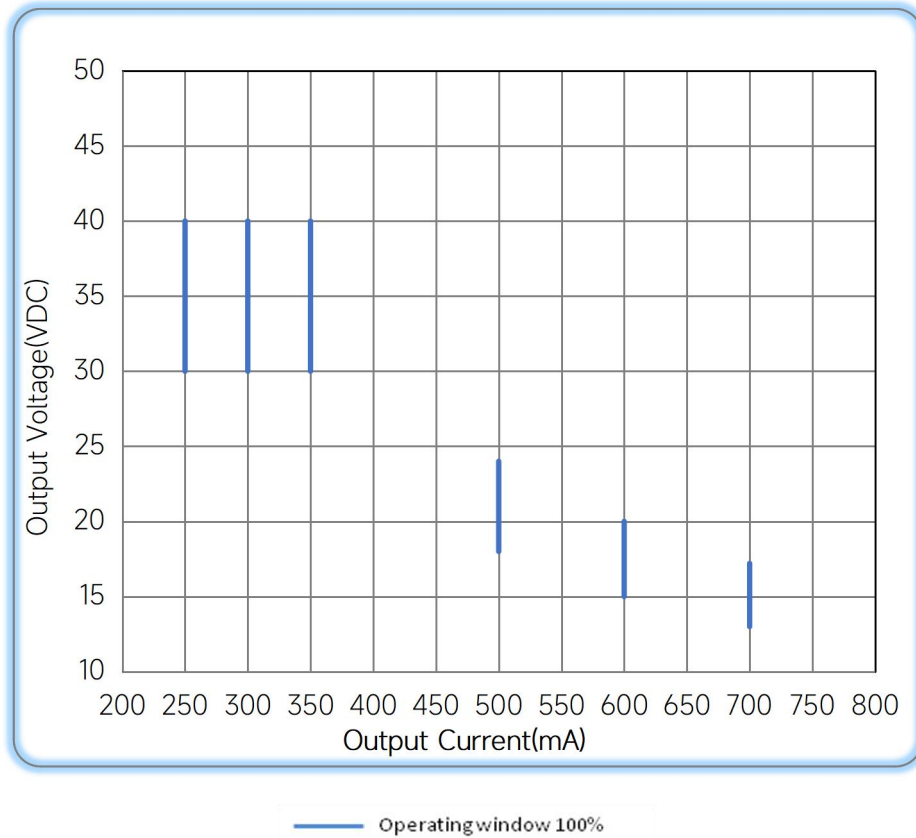
**◆ Recommended wire**

Wire cross-section	Wire type
2*0.5mm <sup>2</sup>	H03VVH2-F 2core
2*0.75mm <sup>2</sup>	H03VVH2-F 2core
1.5mm <sup>2</sup>	CCC 08(RV-90)
16AWG(1.25mm <sup>2</sup> )	UL1015

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

**◆ Curve for LS-12-300 SI2 E, I<sub>o</sub>=300mA**
**Lifetime vs. Temperature Curve**

**Efficiency vs. Load**

**Power Factor Characteristics**

**THD vs. Load**


### ◆ Operating window



### ◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/08/23
Over Load Protection	103-120%	103-130%	B	2023/09/22
Current Accuracy		update	C	2023/11/20

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

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