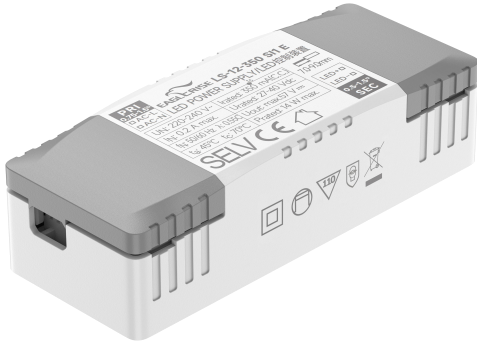


# 12W Constant Current power supply



■ 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

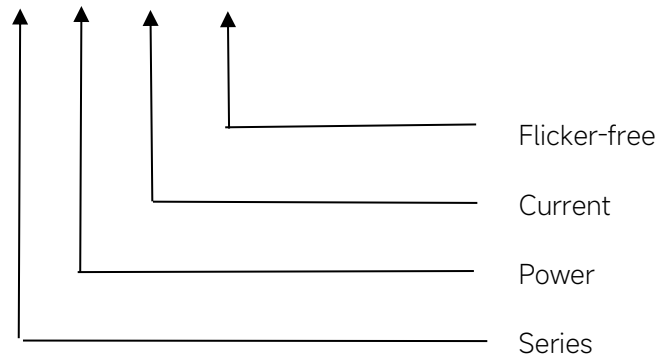
- LED panel, LED down light  
LED spot light

## ◆ Description

LS-12-XXX SI1 E is a 12W constant current LED driver with 250 and 300mA output current. With it's 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-12-XXX SI1 E



## ◆ Specification

	Constant Current	250mA	280mA	300mA	350mA
Output	Voltage Range	30-40V			
	Unload voltage Max.	59VDC			
	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	180mA
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			
	Storage Temperature	-25°C~+60°C			
	Life time	> 50,000h@T <sub>c</sub> =80°C			
	Noise	≤20dB(A)@10cm			
Surface	Dimension	92X36X25 (LXWXH)mm			
	material	PP			
statutory	Safety Standards	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

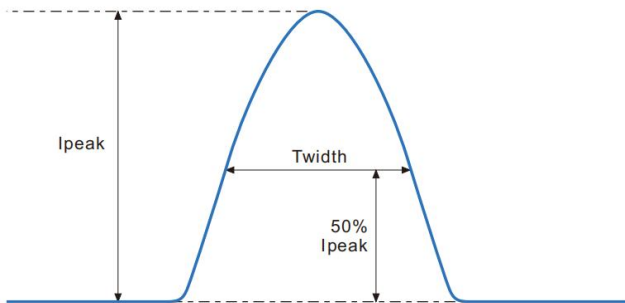
- 1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.
- 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.
- 3.Data are typical values obtained from test 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 S11 E	250	30-40	59	10
2	LS-12-280 S11 E	280			11.2
3	LS-12-300 S11 E	300			12
4	LS-12-350 S11 E	350			14

### ◆ Inrush Current

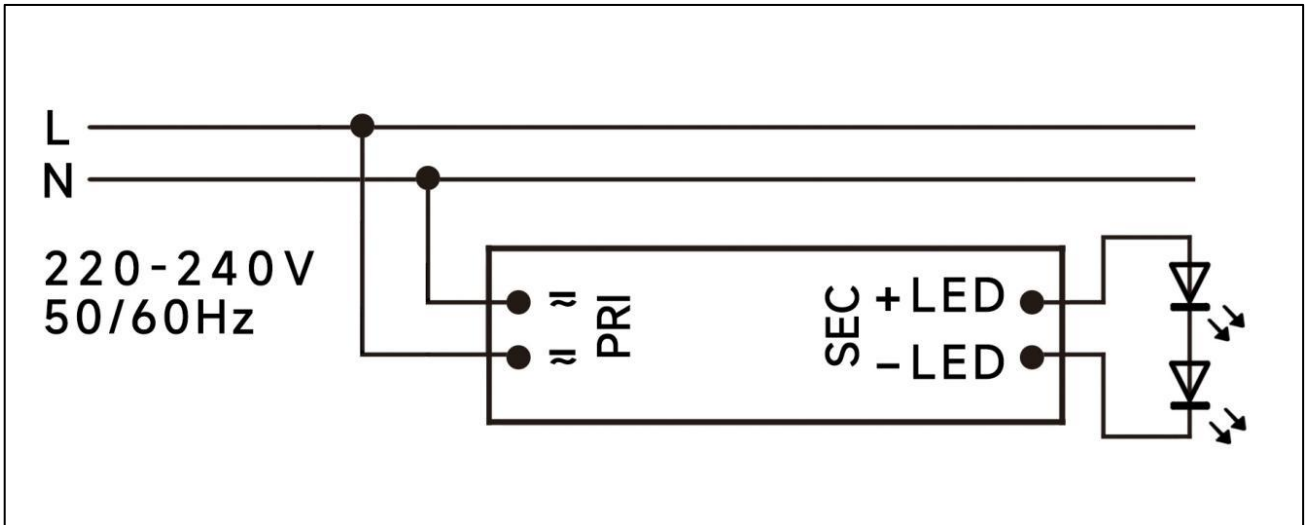
$I_{peak}$	Twidth	B10	B16	B20	C10	C16	C20
8.44A	80μs	26pcs	42pcs	53pcs	26pcs	42pcs	53pcs



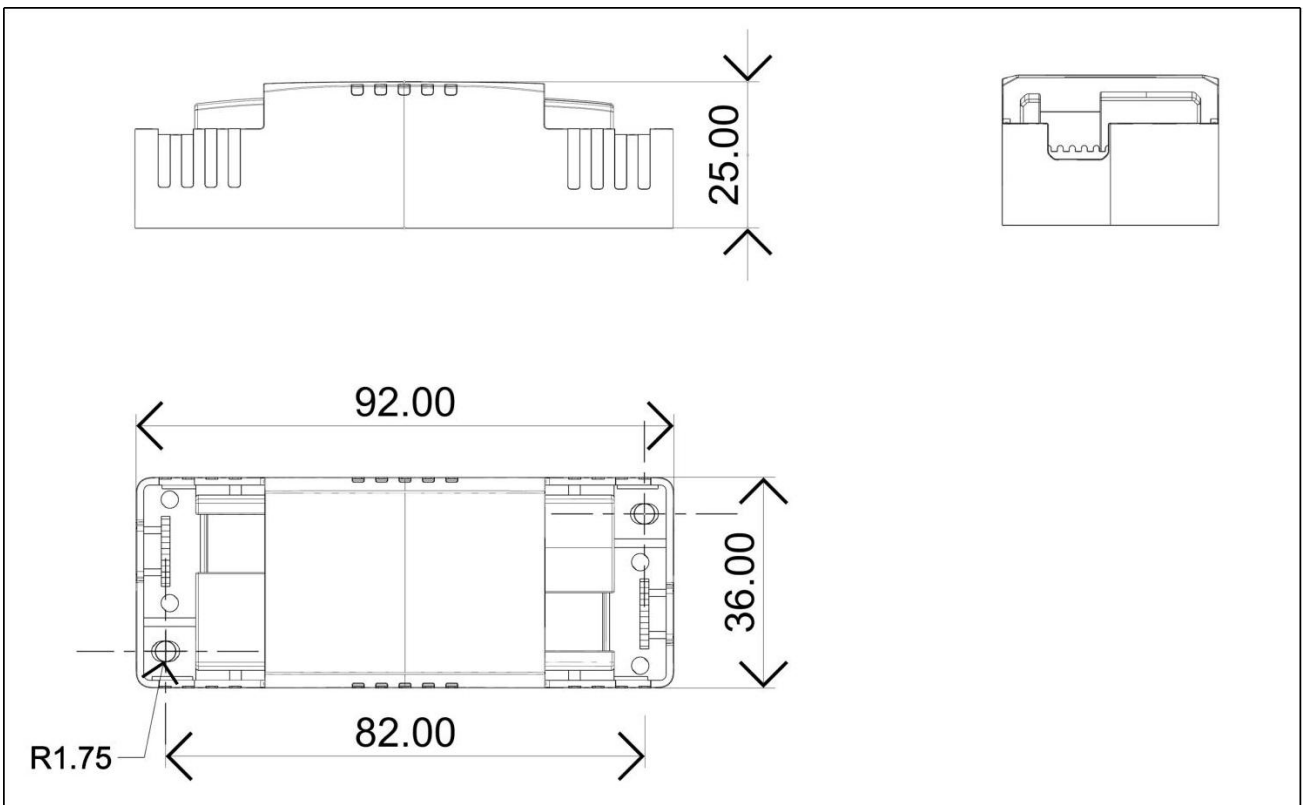
Remarks:

- 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>
	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

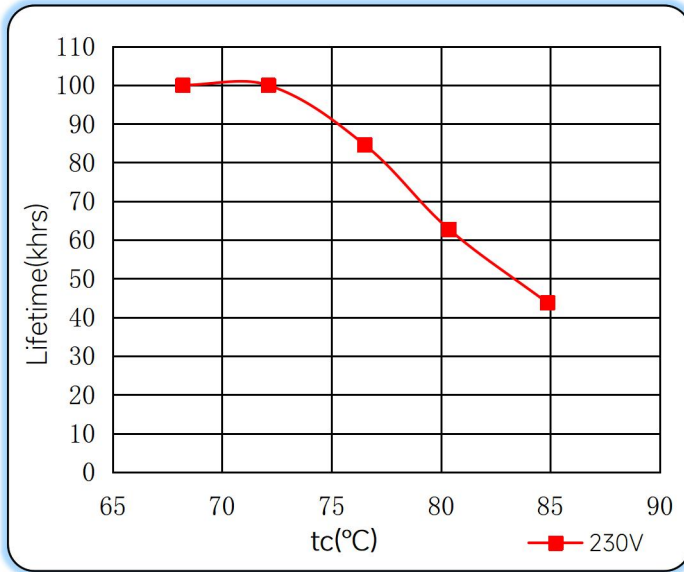
## ◆ Recommended wire

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

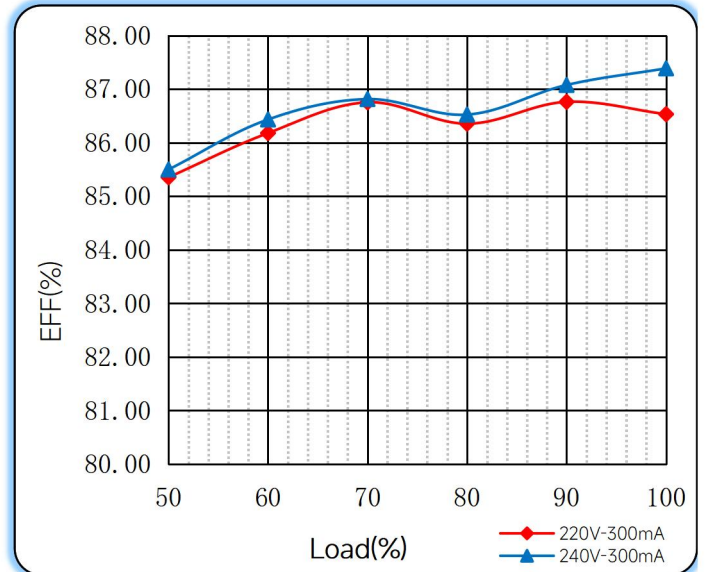
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for LS-12-300 S11 E, I<sub>o</sub>=300mA

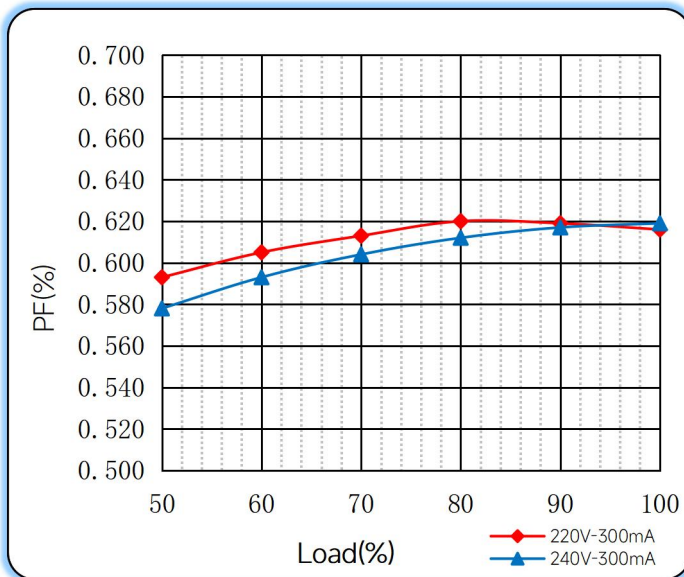
Lifetime vs. Temperature Curve



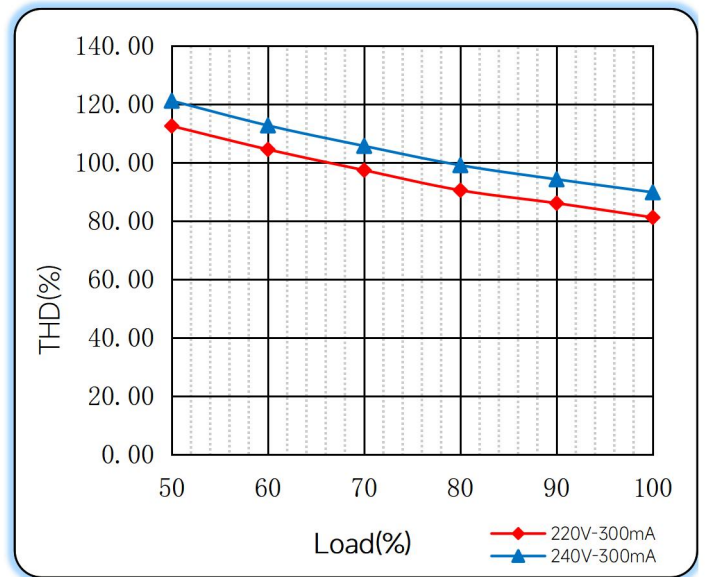
Efficiency vs. Load



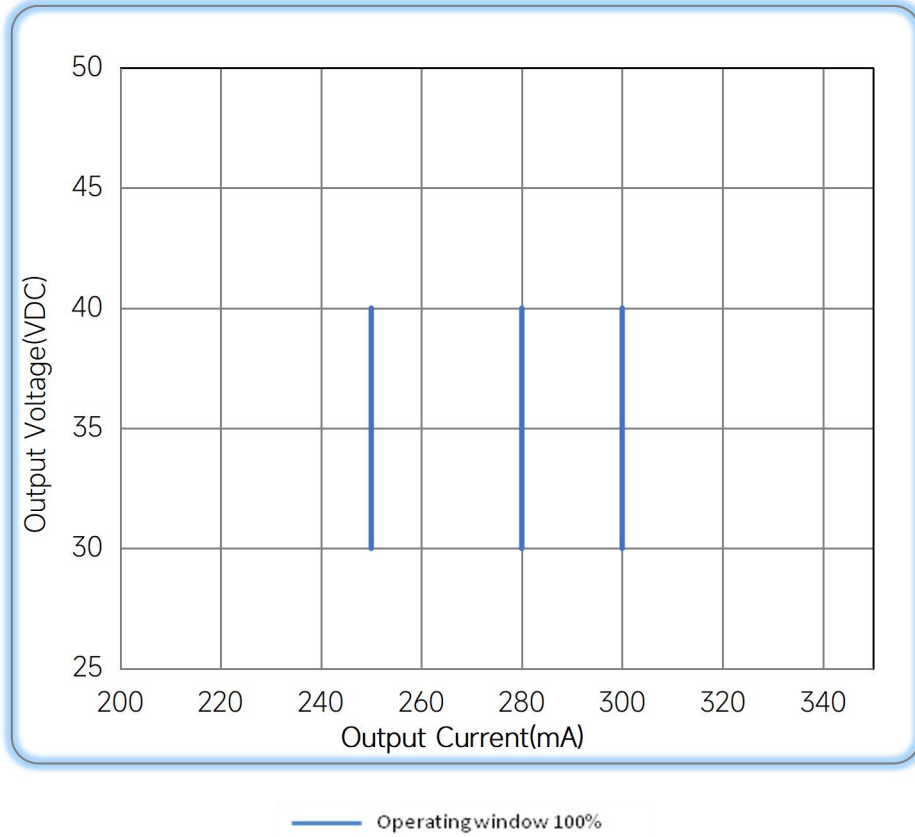
Power Factor Characteristics



THD vs. Load



◆ **Operating window**



◆ **Revision Updates**

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2024/04/11

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

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