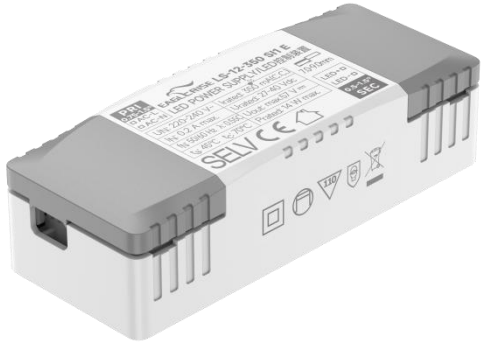
12W Constant Current power supply



■Approve

CB SELV

Features

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

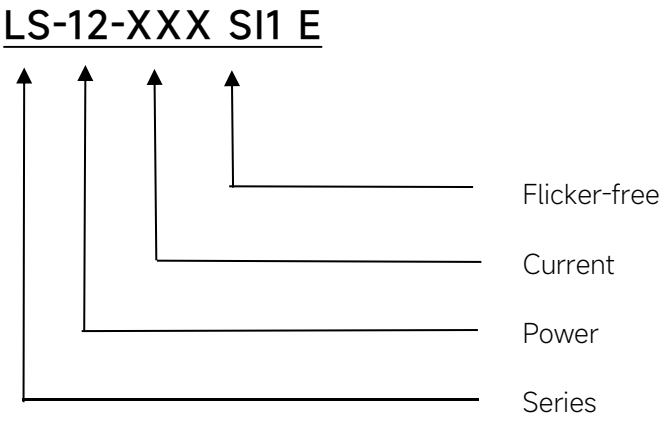
Applications

- LED panel、LED down light
  LED spot light

◆ Description

LS-12-XXX SI1 E is a 12W constant current LED driver with 250 to 350mA 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 , over load, over voltage and over temperature.

◆ Model code



◆ Specification

Output	Constant Current	250mA	280mA	300mA	350mA
	Voltage Range	30-40V			
	Unload voltage Max.	59VDC			
	Current Accuracy	±5%			
	Output HF current ripple(≥1KHz)	±5%			
	Output LF current ripple(≤	±5%			
	SVM	≤0.4			
	P_{st}	≤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			
Capability	Surge capability (L-N)	1KV			
	Surge capability (L/N-Ground)	NA			
Environment	Operating Temperature	-20℃~+45℃			
	Humidity	20%-90%RH			
	Tc	80℃			
	Storage Temperature	-25℃~+60℃			
	Life time	＞50,000h@Tc=80℃			
	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			

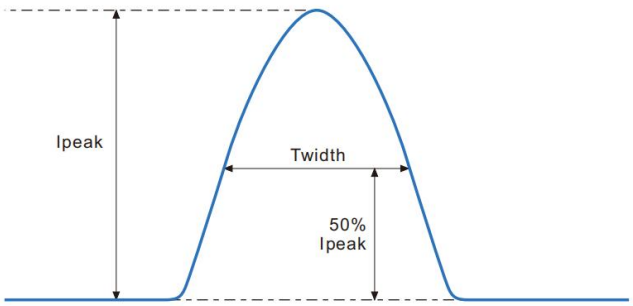
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	1.All parameters not specially mentioned are measured at 230VAC input , full load and 25℃ of ambient temperature. 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor. 3.Data are 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 SI1 E	250	30-40	59	10
2	LS-12-280 SI1 E	280			11.2
3	LS-12-300 SI1 E	300			12
4	LS-12-350 SI1 E	350			14

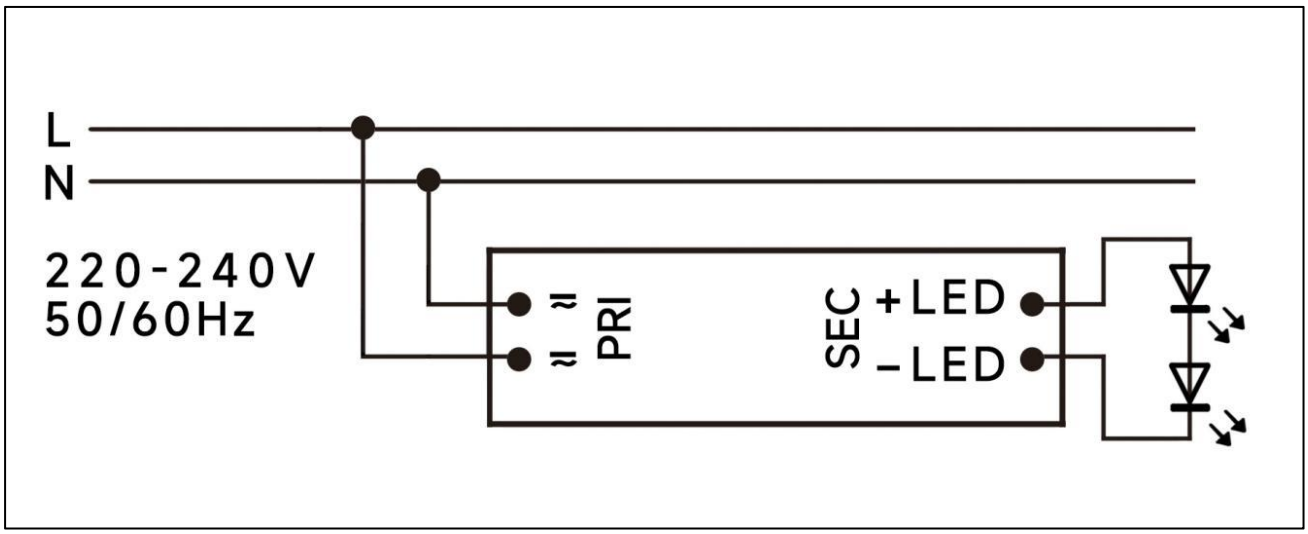
◆ Inrush Current

I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
10.1A	92μs	44pcs	71pcs	88pcs	44pcs	71pcs	88pcs

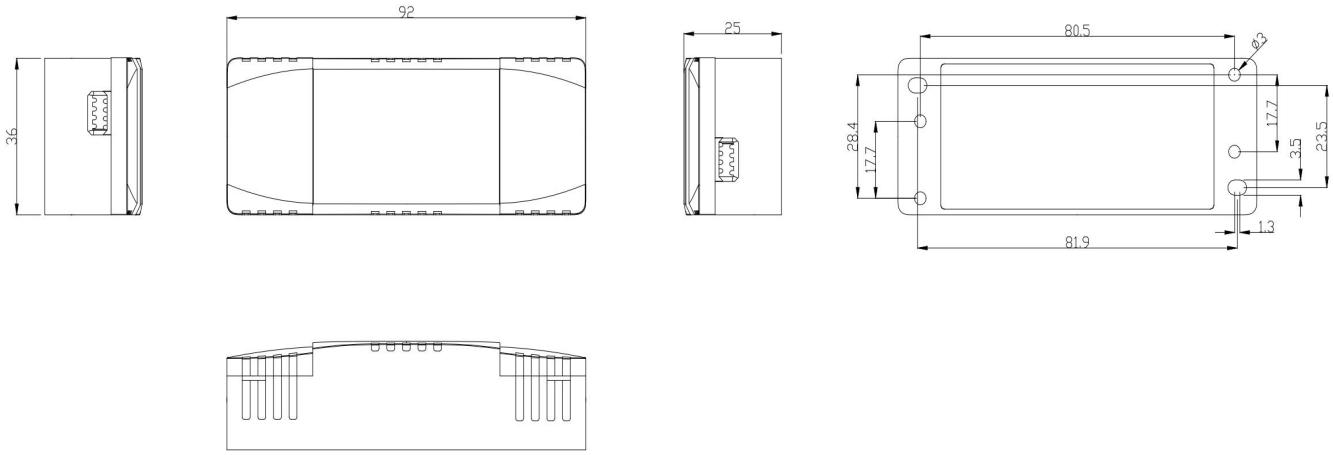


Remarks:
1.The number of drives mounted under different MCBs in the table is the maximum value. Please do not exceed this number during installation.
2.Different brands and models of miniature circuit breakers, the number of drives mounted will be slightly different.

◆ Wiring diagram



◆ 2D diagram



◆ Wiring & Connections

Specification item		Value （Unit ）
Input	Input wire cross-section	0.5...1.5 mm^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

◆ Recommended wire

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

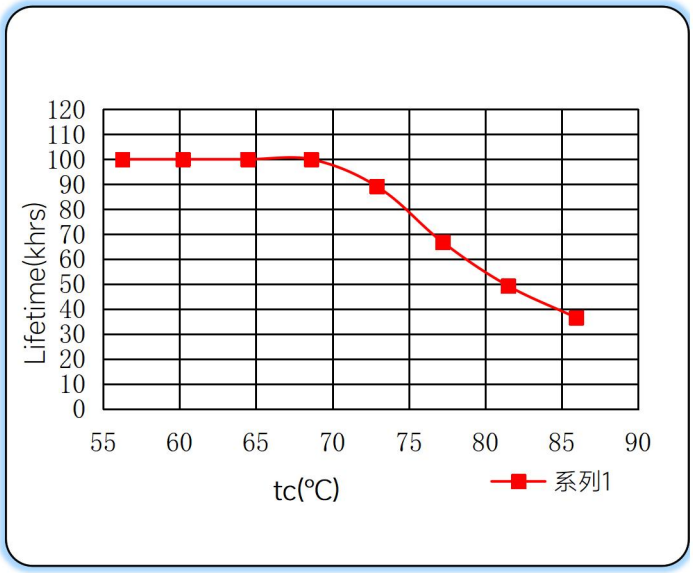
Note:Solid wire is risky to use on an angled terminal.Stranded wire is recommended for this kind of use.

◆ Packaging

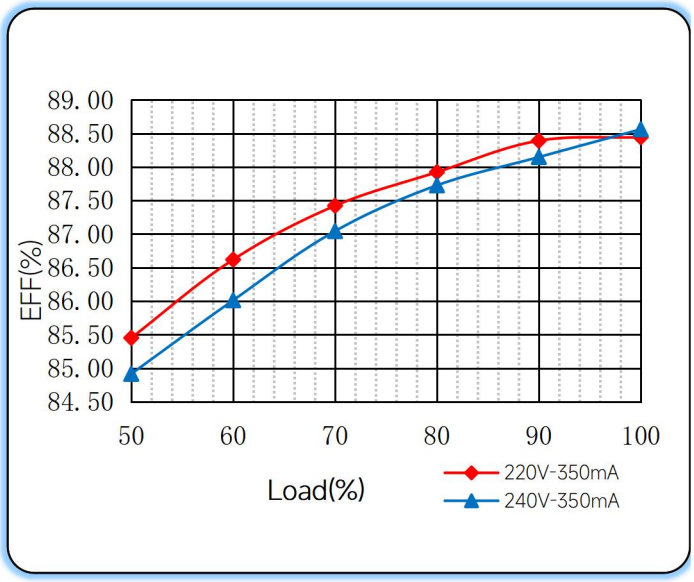
Model	Product Dimensions(mm)	weight/piece	Outer carton dimension(mm)	Quantity/carton	Net weight/carton(Kg)	Gross weight/carton(Kg)
LS-12-XXX SI1 E	92X36X25	0.038	370X275X215	180	6.8	7.5

◆ Curve for LS-12-350 SI1 E, Io=350mA

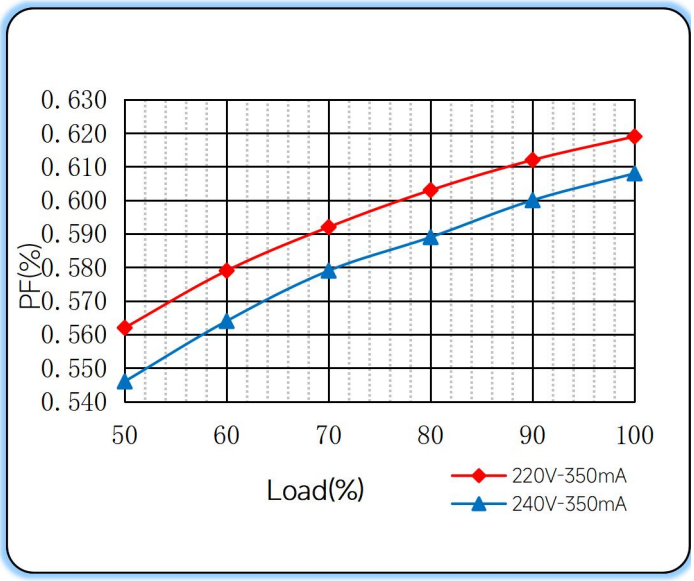
Lifetime vs. Temperature Curve



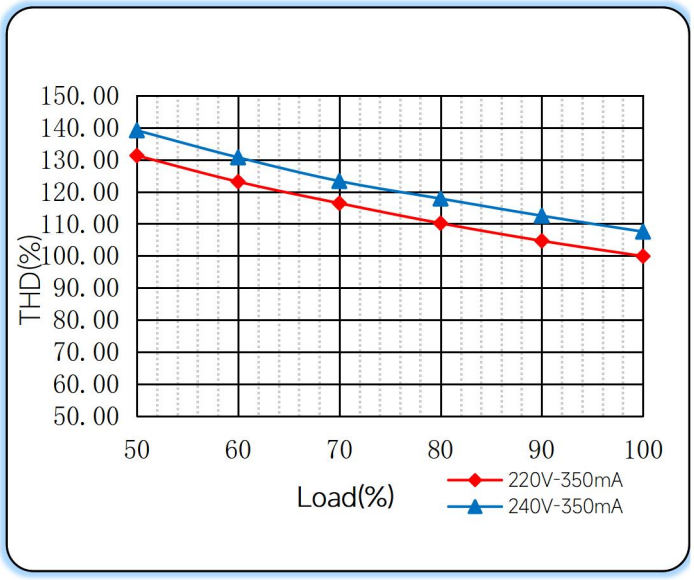
Efficiency vs. Load



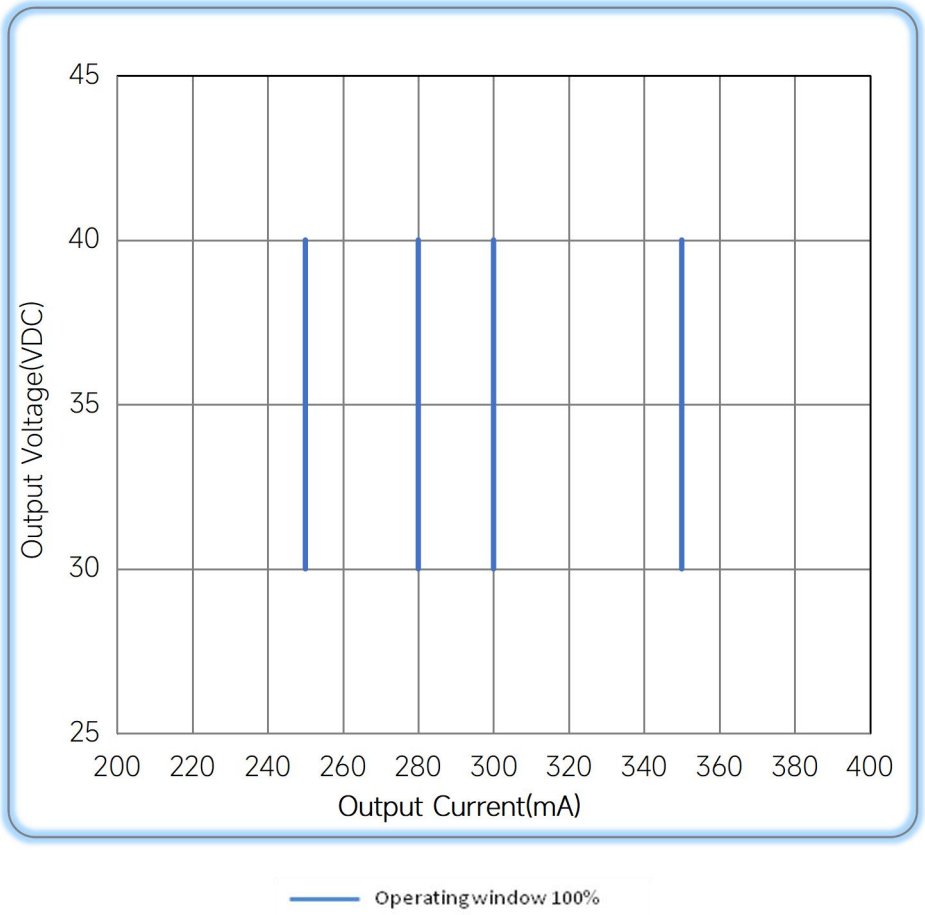
Power Factor Characteristics



THD vs. Load



◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2025/09/29
2D diagram		Update	B	2026/04/24

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