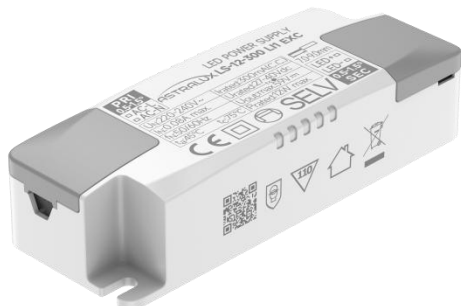


12W Constant Current power supply



■ Approve



Features

- For luminaires of protection Class II, SELV, independent
- Input Voltage 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor :0.95
- Efficiency: 81%
- 5 years warranty

Applications

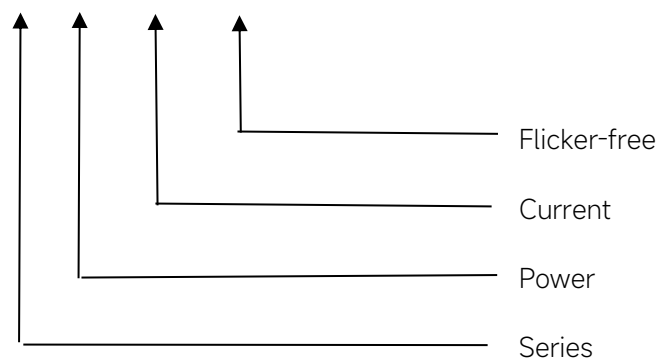
- LED panel, LED down light
- LED spot light

◆ Description

LS-12-XXX LI1 EXC is a 12W constant current LED driver that operates from 198-264Vac input with 250 to 300mA output current. With it's compact dimensions from 92 x 36 x 25mm it is easy to integrate in LED Panel, spot, down lights. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

LS-12-XXX LI1 EXC



◆ Specification

Output	Constant Current (mA)	250	280	300
	Voltage Range(VDC)	27-42		27-40
	Unload voltage Max.(VDC))	59V		
	Current Accuracy	±5%		
	Output HF current ripple(≥1KHz)	±5%		
	Output LF current ripple(≤120Hz)	±3%		
	SVM	≤0.4		
	P _{st}	≤1		
	Efficiency(Typ.)	81%		
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(Typ.)	≥0.95@Full load 230VAC		
	Power Factor	0.95@Full load 230VAC		
	Input Current max	0.07A	0.075A	0.08A
	Start-up time	< 0.5S		
	No Load Power	≤0.5W		
	THD (Typ.)	< 20%		
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°C~+45°C		
	Humidity	10%-90%RH		
	T _c	75°C		
	Storage Temperature	-25°C~+60°C		
	Life time	> 50000h@T _c =75°C		
	Noise	≤20dB(A)@10cm		
Surface	Dimension	92x36x25mm		
	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;EN61000-4-2,3,4,5,6,8,11		

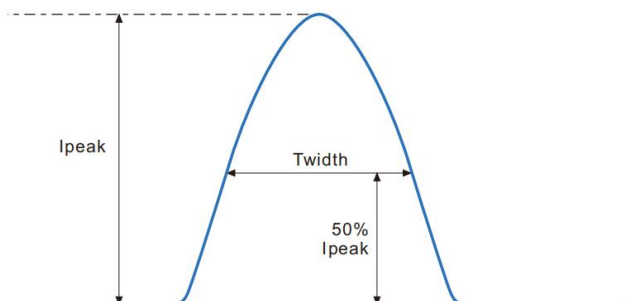
	Energy Efficiency	Erp2.0 EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	<p>1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.</p> <p>2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.</p> <p>3.Switch and dimmer are not recommended to connect between this product output and luminaries.</p> <p>4.The over-temperature protection of the product is provided by the IC.</p> <p>5.All Astralux 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>	

◆ Model list

Number	Model number	Input			Output			
		Voltage (VAC)	Current (A)	Frequency (Hz)	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	LS-12-250 LI1 EXC	220-240	0.07	50/60	250	27-42	59	10.5
2	LS-12-280 LI1 EXC		0.075		280			11.8
3	LS-12-300 LI1 EXC		0.08		300	27-40		12

◆ Inrush Current

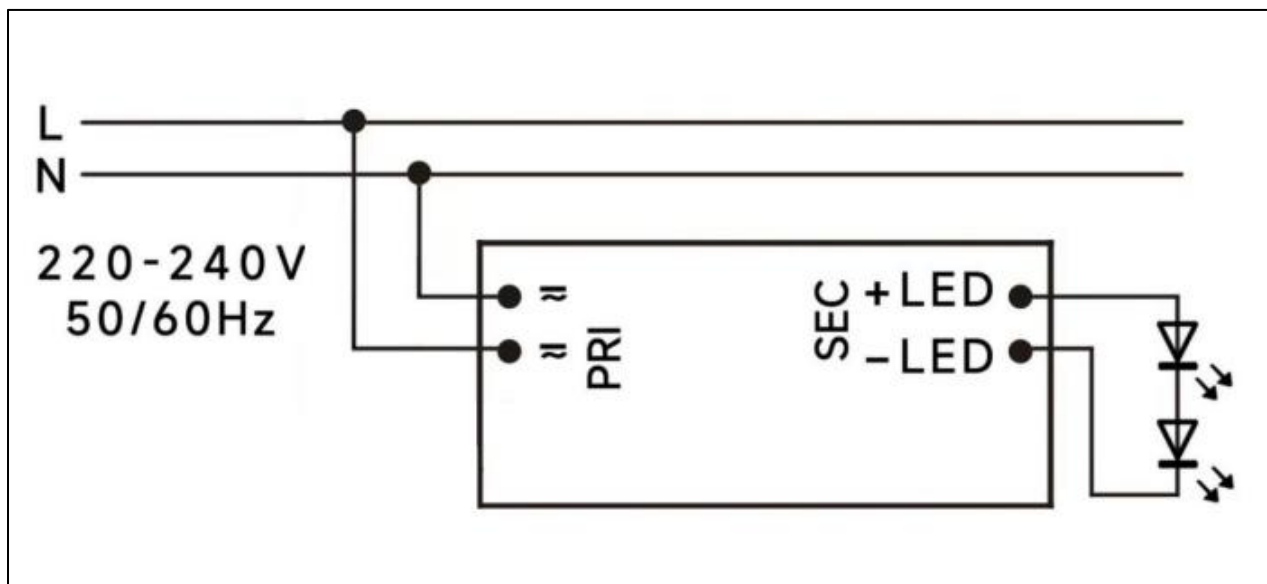
I _{peak}	T _{width}	B10	B16	B20	C10	C16	C20
7.04A	122μs	100pcs	157pcs	196pcs	100pcs	160pcs	200pcs



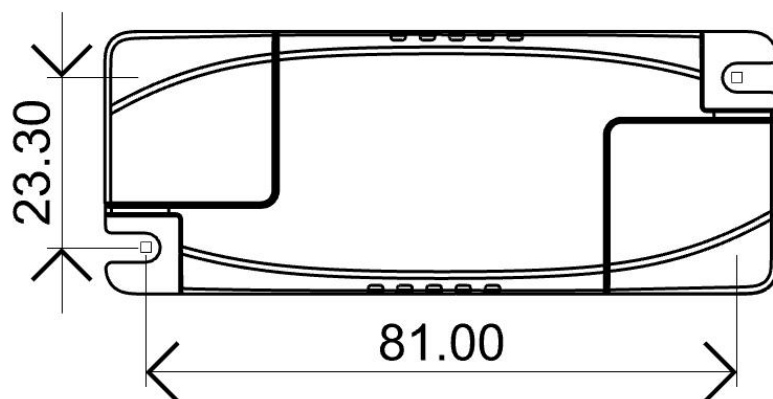
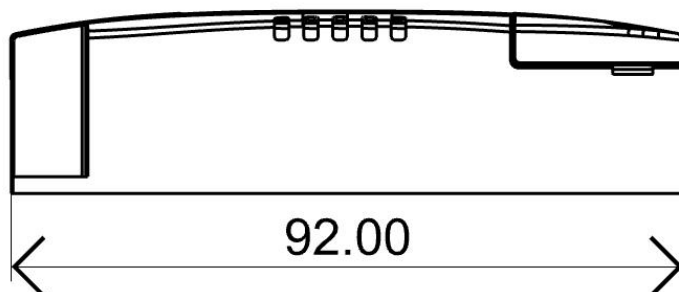
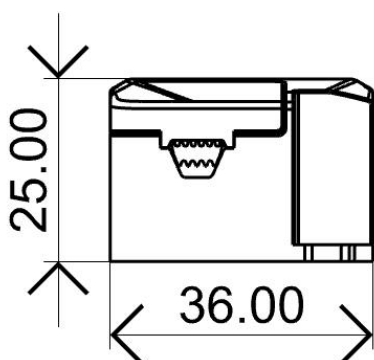
Remarks:

- 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.

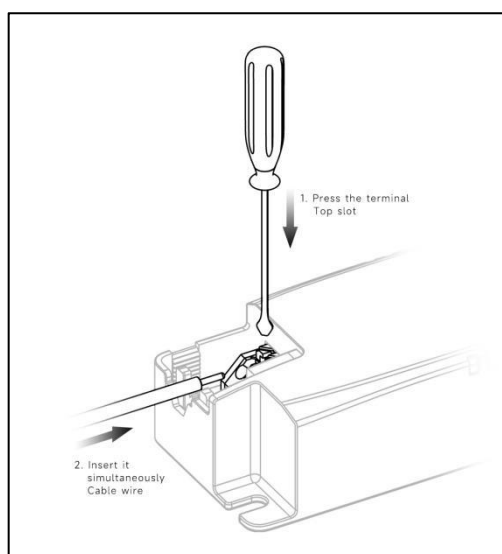
◆ Wiring diagram



◆ 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

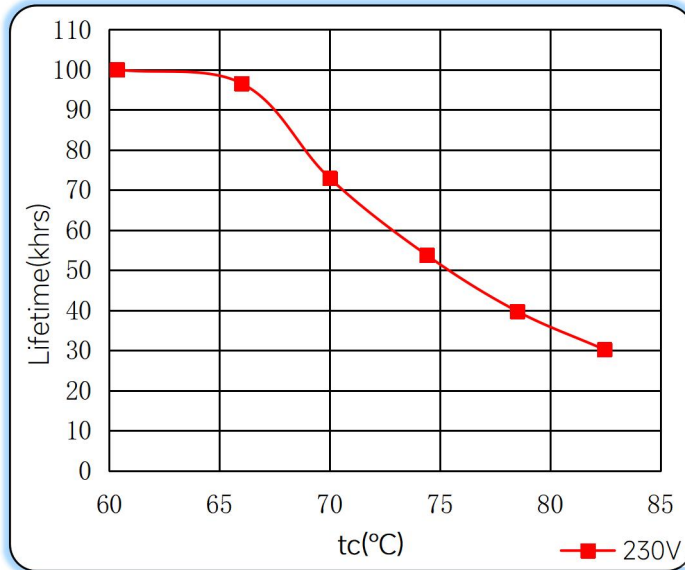
◆ Recommended wire

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

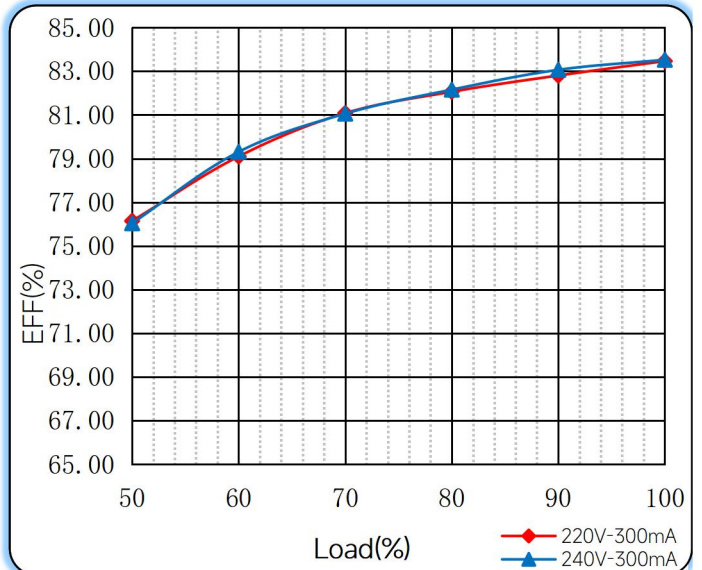
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for LS-12-300 LI1 EXC, $I_o=300mA$

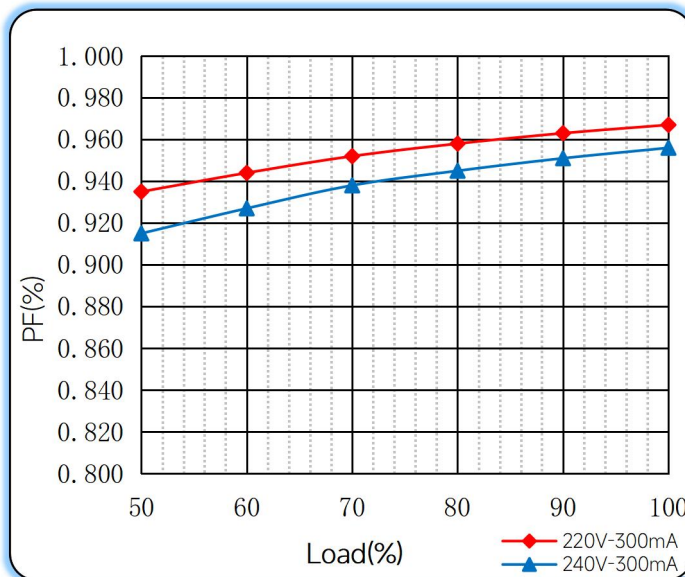
Lifetime vs. Temperature Curve



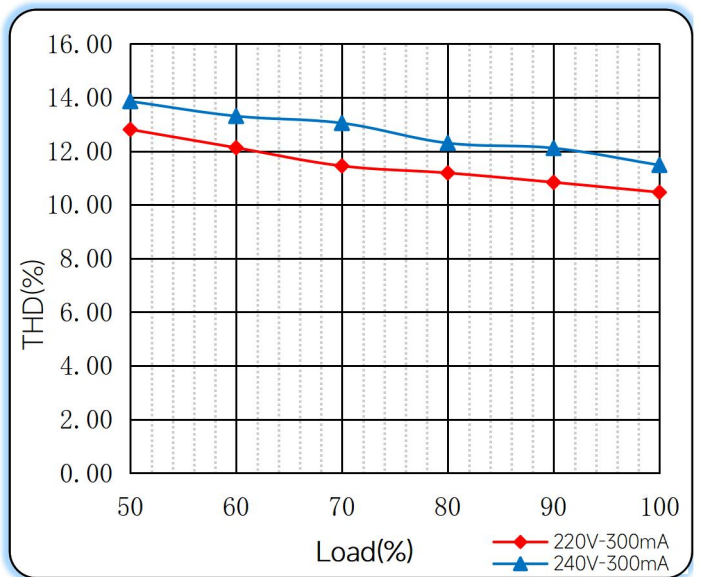
Efficiency vs. Load



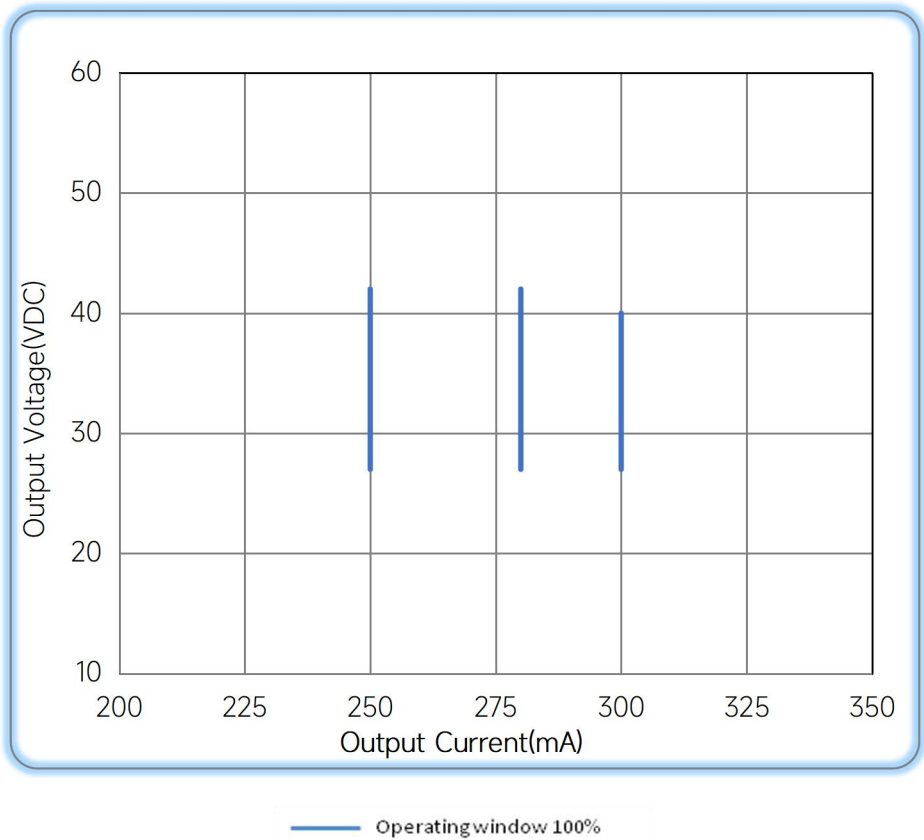
Power Factor Characteristics



THD vs. Load



◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2024/01/09

Remark:The final interpretation of the contents of the specification belongs to Astralux.

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