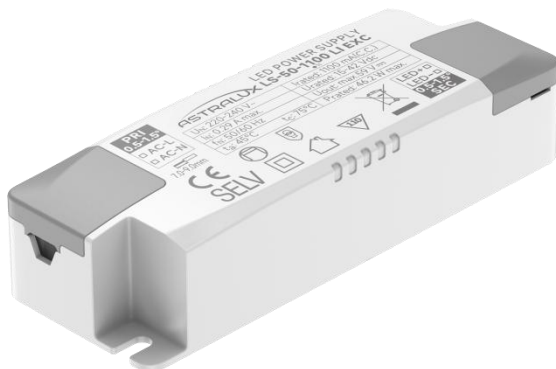


50W Constant Current power supply

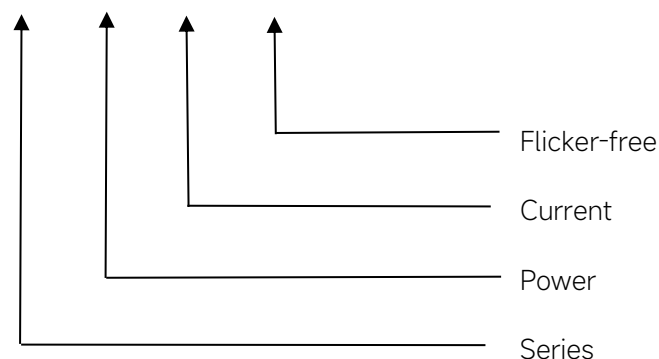


◆ Description

LS-50-XXX LI EXC is a 50W constant current LED driver with 500 to 1250mA output current. With it's compact dimensions from 116 x 41.2 x 26mm it is easy to integrate in LED Panel, spot and down lights product. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

LS-50-XXX LI EXC



Features

- Class II, SELV, independent
- Input Voltage: 220-240VAC
- Protections: SCP/OLP/OVP
- Power Factor: 0.95
- Efficiency: 91%
- 5 years warranty
- IP20

Applications

- LED panel, LED down light
- LED spot light

◆ Specification

Output	Constant Current (mA)	500	550	600	1100	1150	1200	1250
	Voltage Range(VDC)	30-84V			15-42V			15-40V
	Unload voltage Max.	100VDC			59VDC			
	Current Accuracy	±5%						
	Output HF current ripple(≥1KHz)	±3%						
	Output LF current ripple(≤120Hz)	±3%						
	SVM	≤0.4						
	Pst	≤1						
	Efficiency(Typ.)	91%@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	> 0.95						
	Power Factor	0.95@full load,230V						
	Input Current max (mA)	0.29A						
	Start-up time	< 0.5S						
	No Load Power	≤0.5W						
	THD (Typ.)	<10%@full load,230V						
Protection	Over Load Protection	103-130%						
		YES/Auto Resume						
	Over Voltage Protection	100VDC			59VDC			
		YES/Auto Resume						
	Short circuit Protection	YES/Auto Resume						
capability	Surge capability (L-N)	2KV						
	Surge capability (L/N-Ground)	2KV						
Environment	Operating Temperature	-20℃~+45℃						
	Humidity	20%-90%RH						
	Tc	80℃						
	Storage Temperature	-30℃~+80℃						
	Life time	> 50000h@Tc=80℃						
	Noise	≤20dB(A)@10cm						
Surface	Dimension	116X41.2X26(LXWXH)mm						
	material	PC						
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;EN62384						
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN61000-4-5						
	ErP	Erp2.0 EU 2019/2020						
	RoHS	RoHS (2011/65/EU) (EU)2015/863						

Note

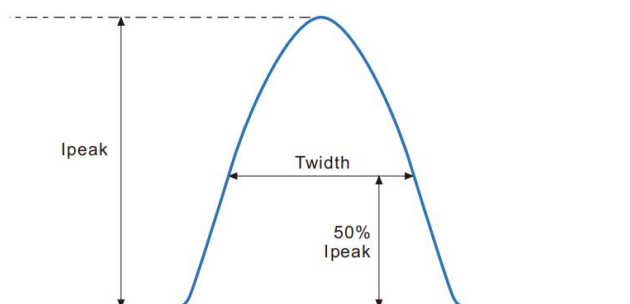
1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.
 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.
 3.All Astralux power supply are complied with 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.

◆ Model list

Number	Model number	Output			
		Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	LS-50-500 LI EXC	500	30-84	100	42
2	LS-50-550 LI EXC	550			46.2
3	LS-50-600 LI EXC	600			50.4
4	LS-50-1100 LI EXC	1100	15-42	59	46.2
5	LS-50-1150 LI EXC	1150			48.3
6	LS-50-1200 LI EXC	1200			50.4
7	LS-50-1250 LI EXC	1250	15-40		50

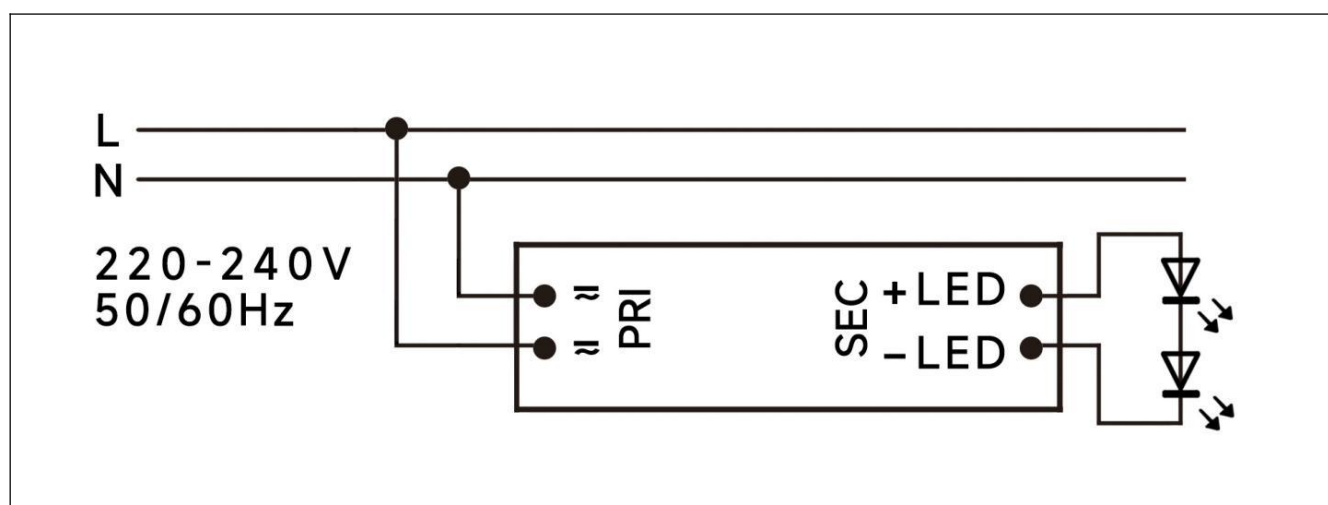
◆ Inrush Current

I _{peak}	T _{width}	B10	B16	B20	C10	C16	C20
33.6A	148μs	16pcs	26pcs	33pcs	27pcs	44pcs	55pcs

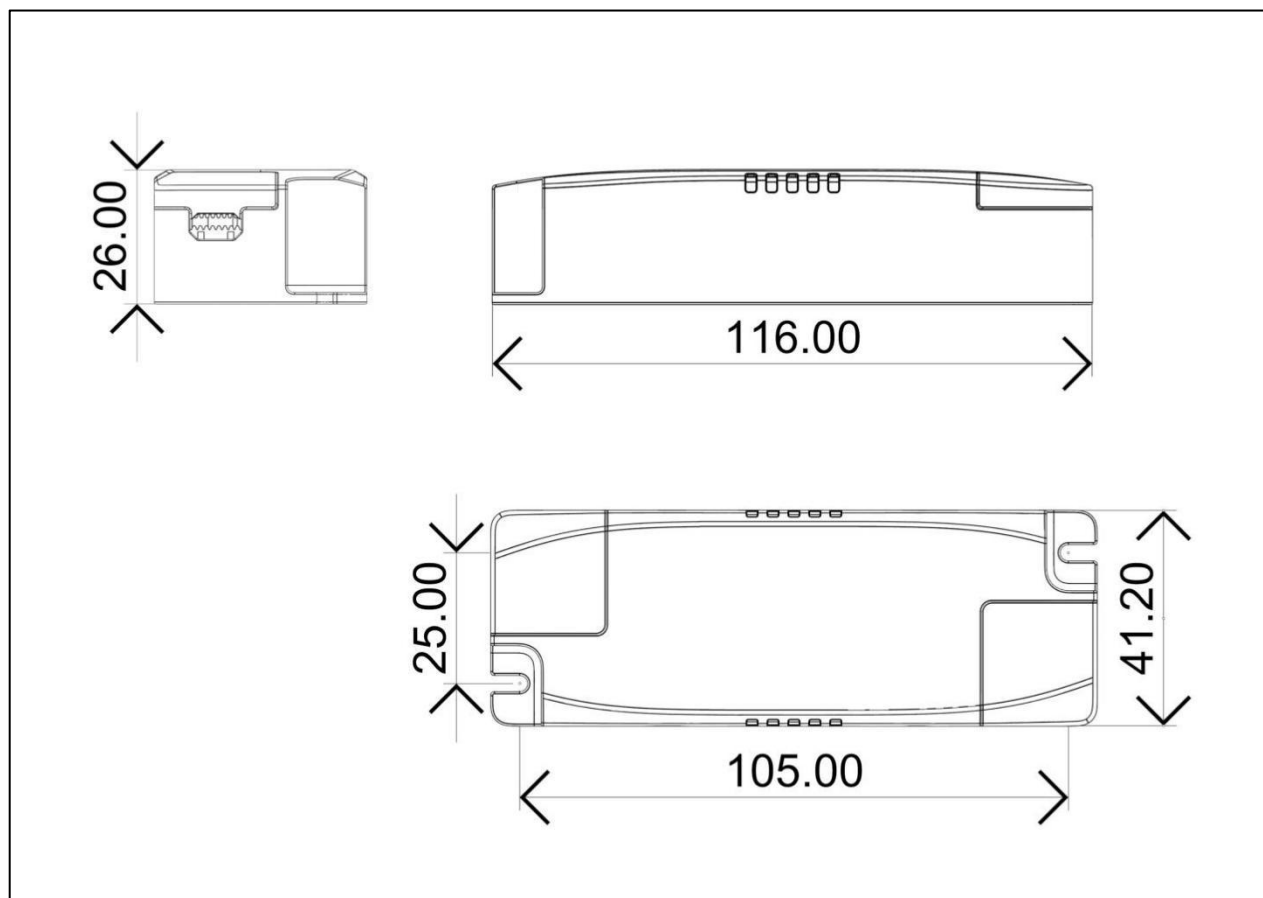

Remarks:

- 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.

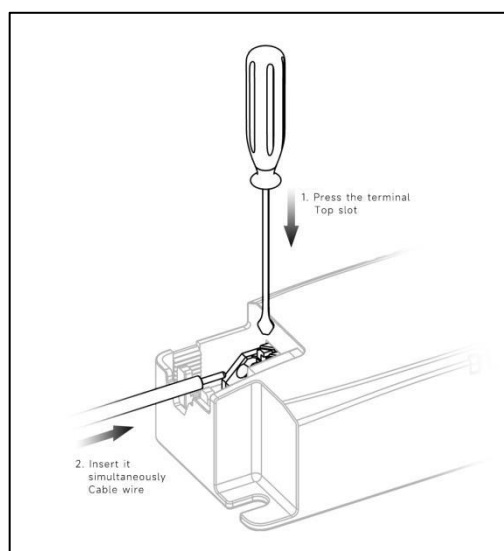
◆ Wiring diagram



◆ 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

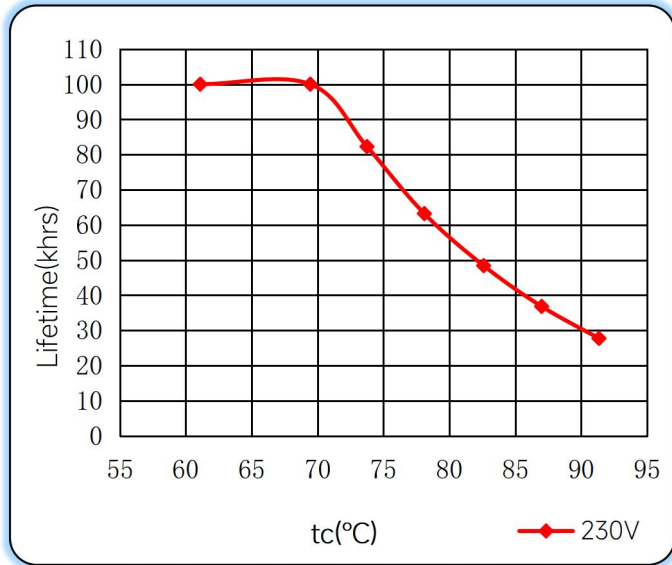
◆ Recommended wire

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

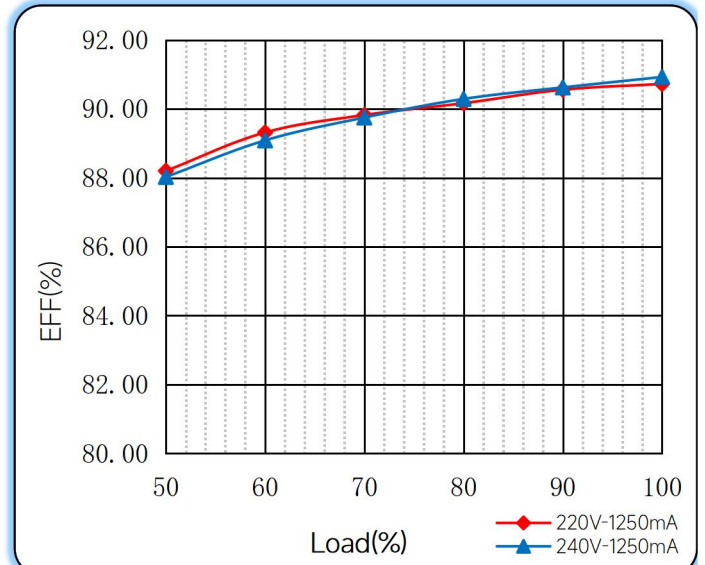
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for LS-50-1250 LI EXC, $I_o=1250\text{mA}$

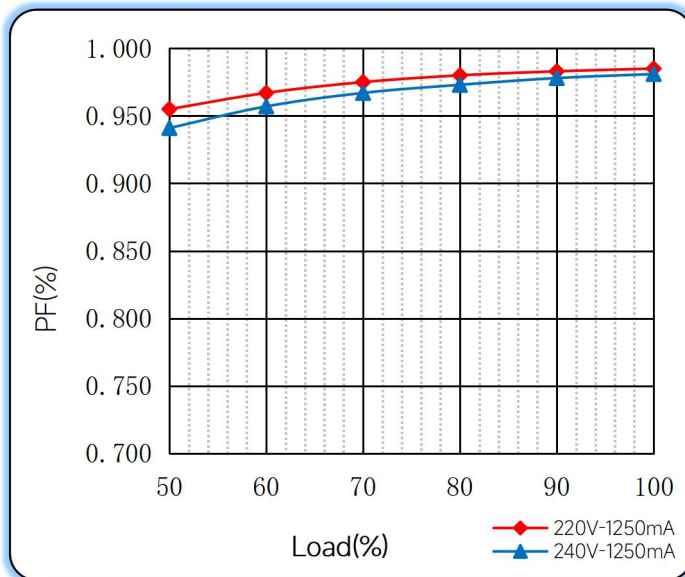
Lifetime vs. Temperature Curve



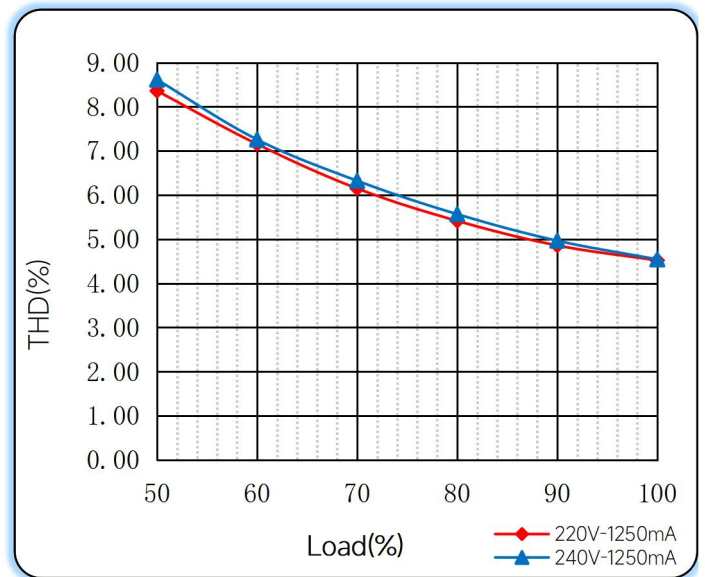
Efficiency vs. Load



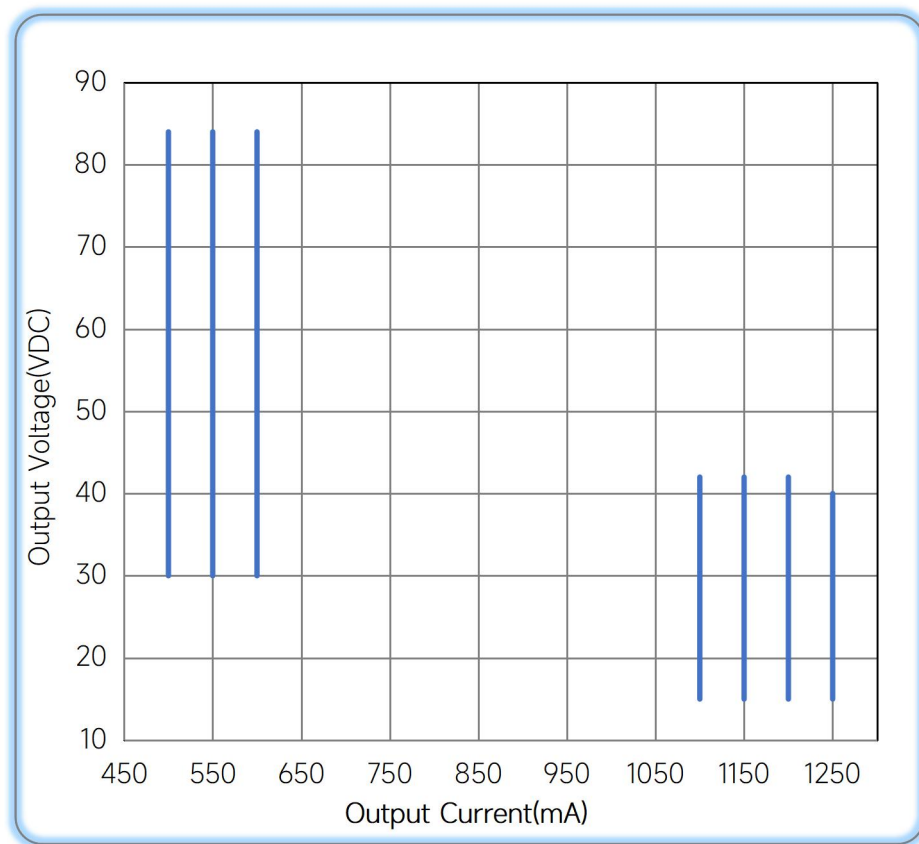
Power Factor Characteristics



THD vs. Load



◆ Operating window



— Operating window 100%

◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/10/13
PF,Tc		update	B	2023/11/23

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

E-mail: sales@astralux-driver.com
 Website : www.astralux-driver.com