

22W Constant Current power supply



■ Approve

CE CB EN CCC SELV

Features

- Class II, SELV, Built-in
- Input Voltage: 220-240VAC
- Protections: SCP/OLP/OVP
- Power Factor: 0.55C
- Efficiency: 85%
- 5 years warranty
- IP20

Applications

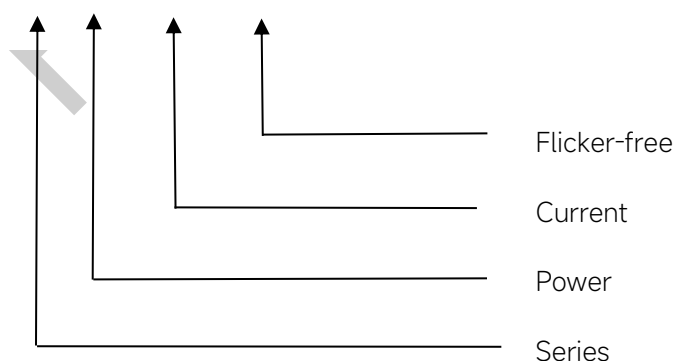
- LED panel, LED ceiling light
- LED spot light

◆ Description

CS-22-XXX SI is a 22W constant current LED driver with 350 to 550mA output current. With it's compact dimensions from $\Phi 50 \times 22 \text{mm}$. It is easy to integrate in LED Panel, spot and ceiling lights product. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

CS-22- XXX SI



◆ Specification

Output	Constant Current (mA)	350	400	450	500	550
	Voltage Range(VDC)	27-42				27-40
	Unload voltage Max.	59VDC				
	Current Accuracy	±5%				
	Output HF current ripple(≥1KHz)	±5%				
	Output LF current ripple(≤120Hz)	±5%				
	SVM	≤0.4				
	Pst	≤1				
	Efficiency(Typ.)	85%				
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	≥0.7				
	Power Factor	0.55C				
	Input Current max (mA)	0.188A	0.22A	0.24A	0.27A	0.28A
	Start-up time	< 0.5S				
	No Load Power	≤0.5W				
Protection	Over Load Protection	103-140%				
		YES/Auto Resume				
	Over Voltage Protection	59VDC				
		YES/Auto Resume				
	Short circuit Protection	YES/Auto Resume				
capability	Over Temperature Protection	YES/Auto Resume				
	Surge capability (L-N)	1KV				
Environment	Surge capability (L/N-Ground)	2KV				
	Operating Temperature	-20°C~+70°C				
	Humidity	20%-90%RH				
	Tc	100°C				
	Storage Temperature	-25°C~+80°C				
	Life time	> 50000h@Tc=85°C				
	Noise	≤20dB(A)@10cm				
Surface	Dimension	Φ50 x 22mm				
	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				
	Energy Efficiency	Erp2.0 EU 2019/2020				
	RoHS	RoHS (2011/65/EU) (EU)2015/863				

Note

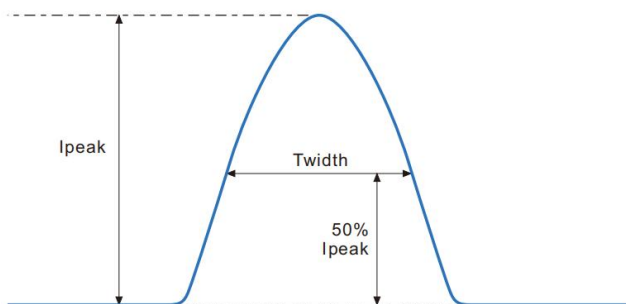
- 1.All parameters not specially mentioned are measured at 230VAC input , full load and 25°C of ambient temperature.
- 2.Ripple & Noise are measured at 20MHz of bandwidth by using a 300mm twisted pair-wire terminated with a 0.1uF & 47 uF parallel capacitor.
- 3.Switch and dimmer are not recommended to connect between this product output and luminaries.
- 4.Surge capability (L/N-Ground) was measured with a metal plate 2-3mm underlay.
- 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.

◆ Model list

Number	Model number	Output			
		Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)
1	CS-22-350 SI	350	27-42	59	14.7
2	CS-22-400 SI	400			16.8
3	CS-22-450 SI	450			18.9
4	CS-22-500 SI	500			21
5	CS-22-550 SI	550	27-40		22

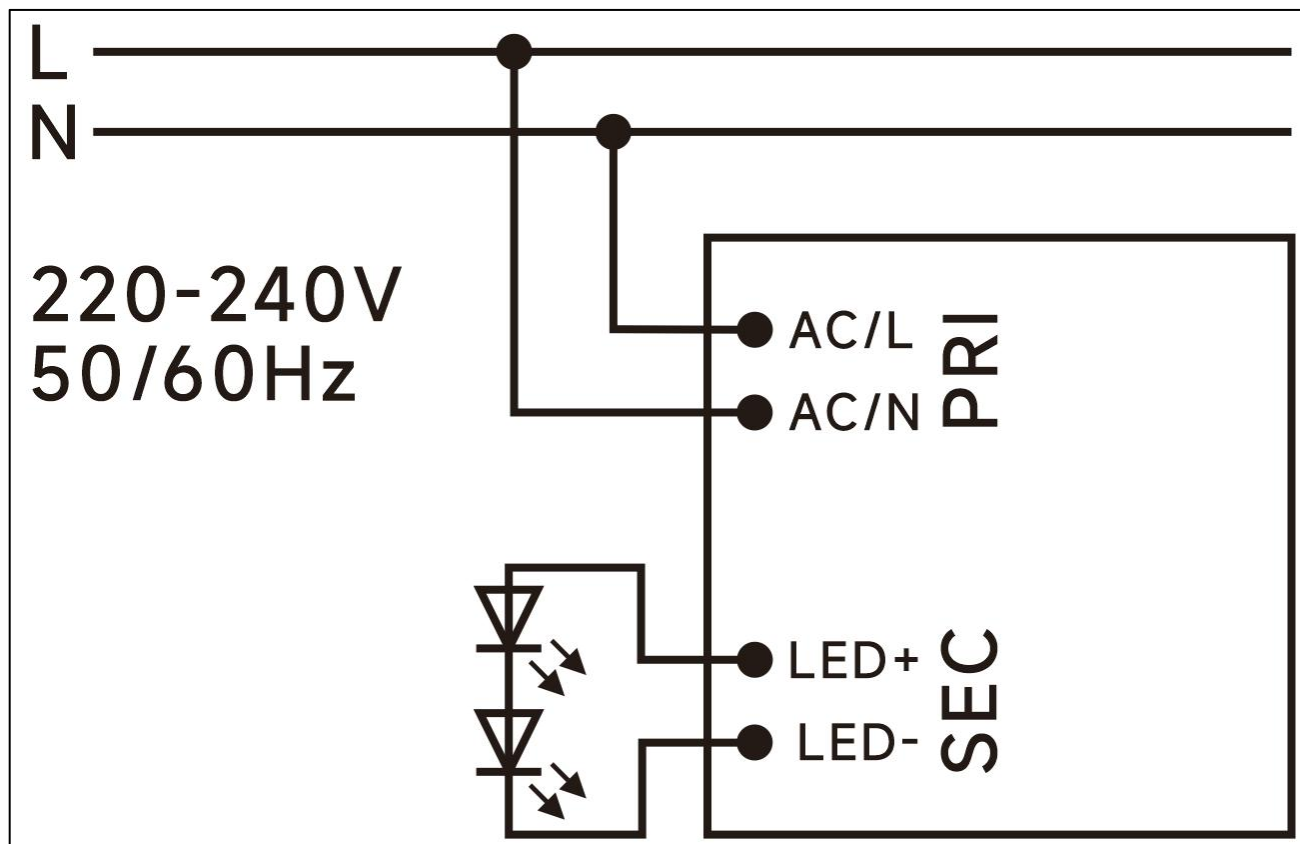
◆ Inrush Current

I _{peak}	T _{width}	B10	B16	B20	C10	C16	C20
12.1A	104μs	29pcs	47pcs	59pcs	29pcs	47pcs	59pcs

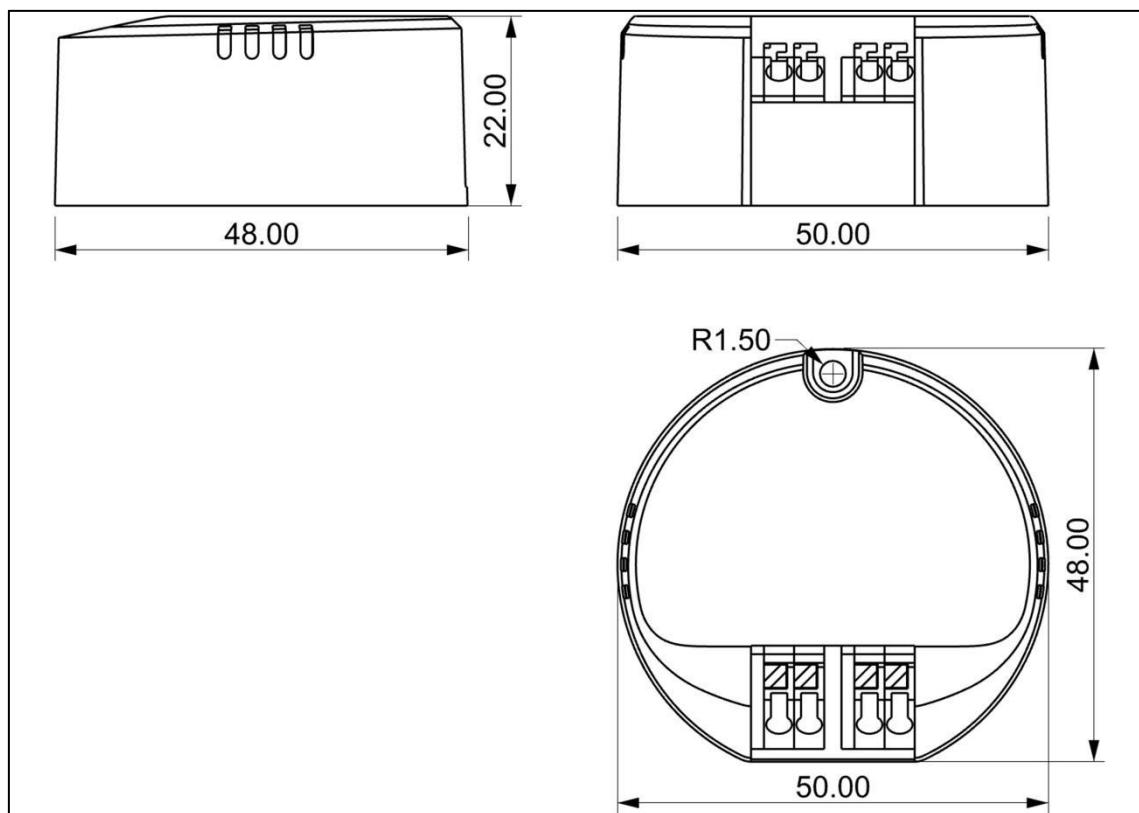

Remarks:

- 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.

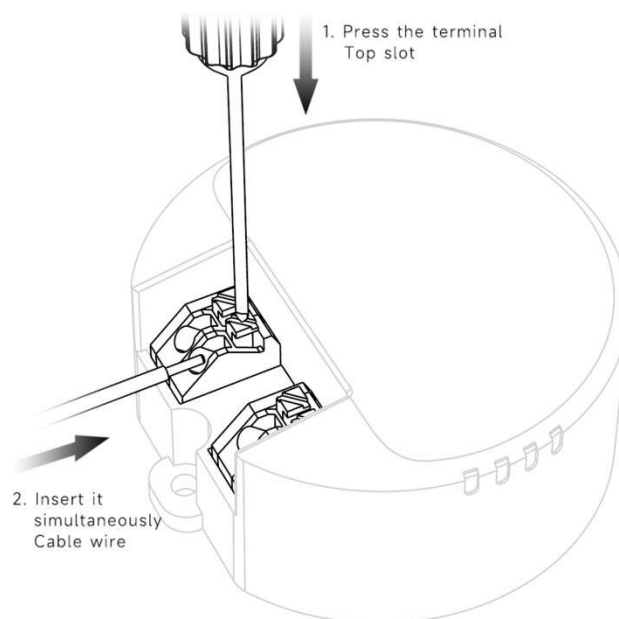
◆ Wiring diagram



◆ 2D diagram



Termina



◆ Wiring & Connections

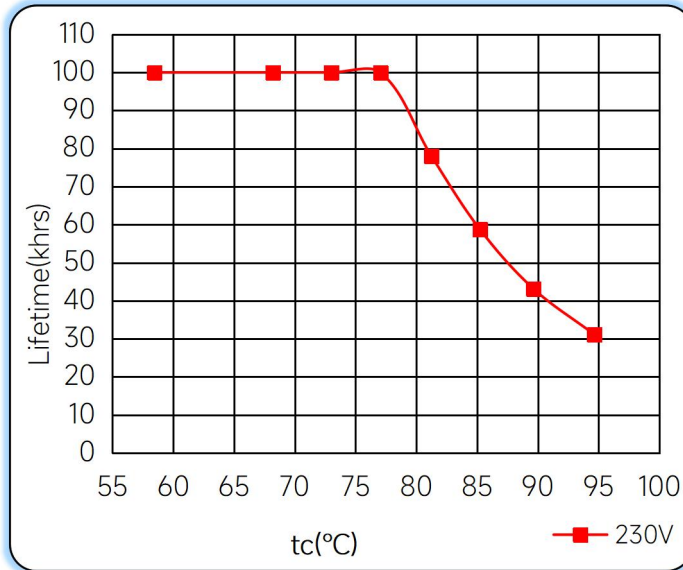
Specification item		Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm ²
	Input wire gauge.	16...20 AWG
	Input wire strip length	7...9mm
Output	Output wire cross-section	0.5...1.5 mm ²
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

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

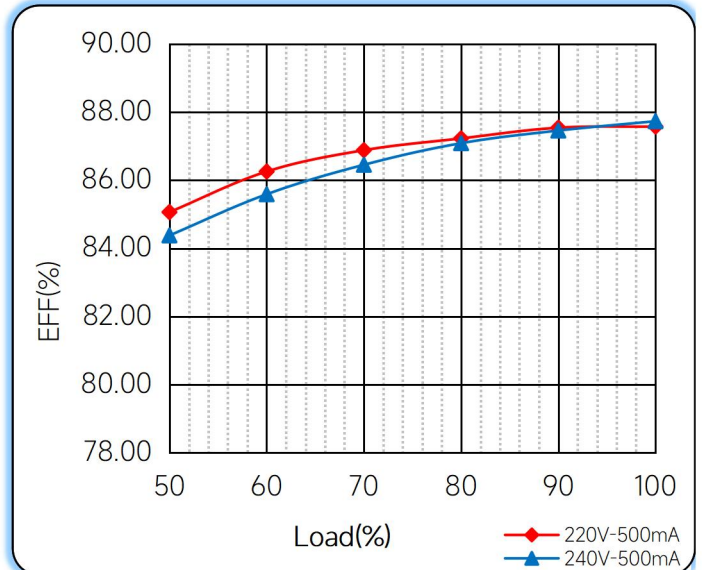
Preliminary

◆ Curve for CS-22-XXX SI, $I_o=500\text{mA}$

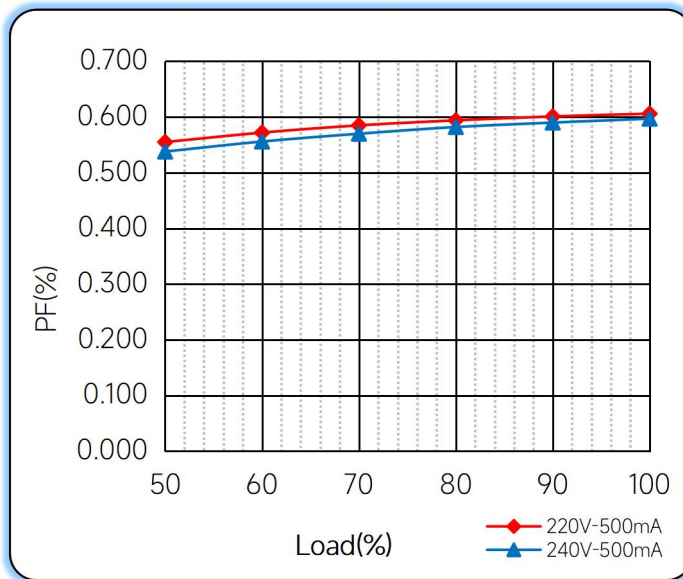
Lifetime vs. Temperature Curve



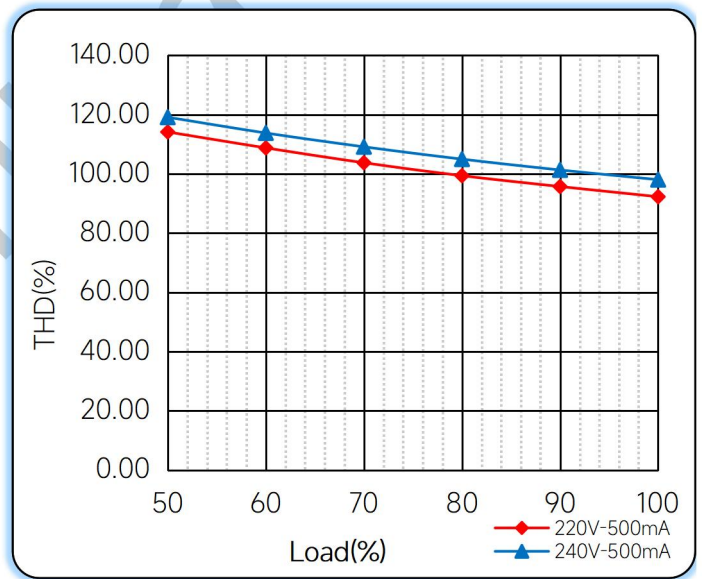
Efficiency vs. Load



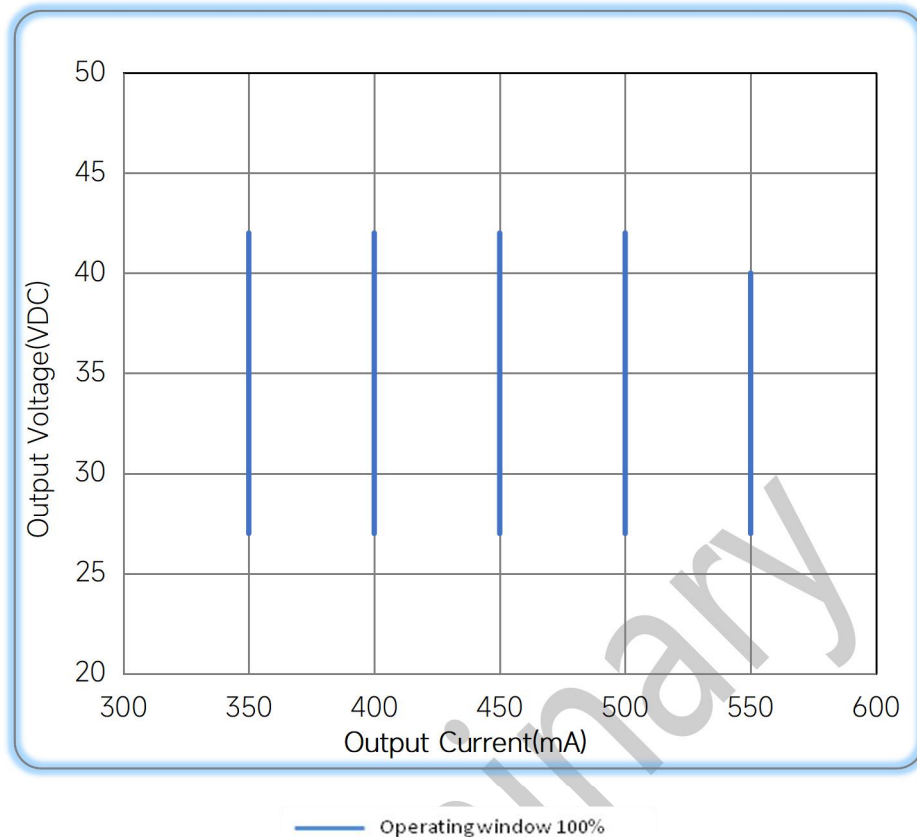
Power Factor Characteristics



THD vs. Load



◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/10/13
Life time	> 50000h@Tc=90°C	> 50000h@Tc=85°C	B	2023/12/18
Ta/TC	60°C/90°C	70°C/100°C	C	2024/04/10

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

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