

22W Triac Dimming power supply



■ Approve



Features

- For luminaires of protection Class II, SELV, Built-in
- Input Voltage: 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: 0.95
- Efficiency: 85%
- 5 years warranty
- IP20

Applications

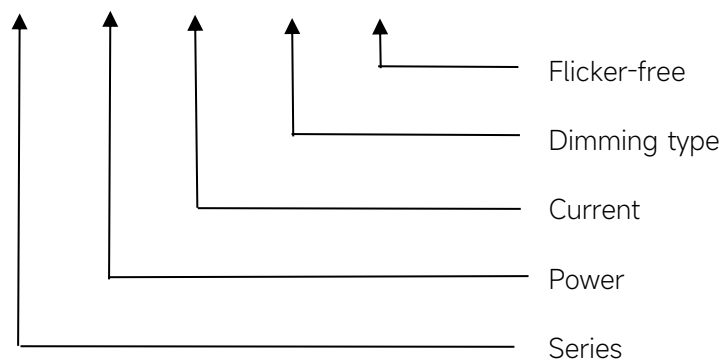
- LED panel, LED down light

◆ Description

CS-22-XXX TRIAC LI is a 22W constant current LED driver that operates from 198-264Vac input with 400-550mA output current. With it's compact dimensions from $\Phi 65 \times 25$ mm it is easy to integrate in LED panel, pendant light and down light products. To ensure trouble-free operation, protection is provided against output short circuit and over Load.

◆ Model code

CS-22-XXX TRIAC LI



◆ Specification

Output	Constant Current (mA)	400	450	500	550
	Voltage Range(VDC)	28-40			
	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	≥0.9			
	Power Factor	0.95			
	Input Current max (mA)	110	120	135	150
	Start-up time	< 0.5S			
	No Load Power	≤0.5W			
	THD (Typ.)	<20%			
Dimming	Dimming	YES			
	Dimming mode	Triac, Leading edge & trailing edge dimmable			
	Dimming depth	8%			
	Dimming current range	8 ~ 100%			
Protection	Over Load Protection	103-130%			
		YES/Auto Resume			
	Over Voltage Protection	59VDC			
		YES/Auto Resume			
capability	Short circuit Protection	YES/Auto Resume			
capability	Surge capability (L-N)	1KV			
	Surge capability (L/N-Ground)	NA			
Environment	Operating Temperature	-20°C~+60°C			
	Humidity	20%-90%RH			
	Tc	90°C			
	Storage Temperature	-25°C~+80°C			
	Life time	> 50000h@Tc=85°C			
	Ripple&Noise	≤30dB(A)@20cm			
Surface	Dimension	Φ65 x 25mm			
	material	PC			

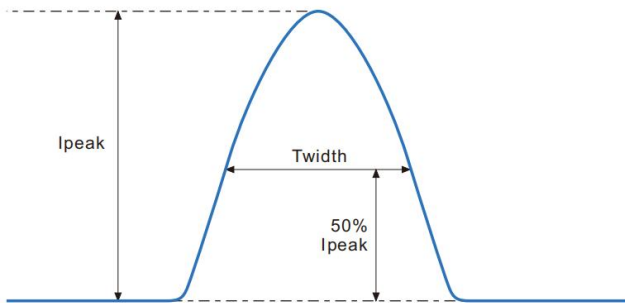
Standards	Safety	GB19510. 1, GB19510. 14;IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13; EN62384
	EMC	GB/T17743, GB17625. 1;EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN61000-4-5;EN61000-4-2,3,4,5,6,8,11, EN61547
	Energy Efficiency	Erp2.0 EU 2019/2020
	RoHS	RoHS (2011/65/EU) (EU)2015/863
Note	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.The over-temperature protection of the product is provided by the IC. 4.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-22-400 TRIAC LI	400	28-40	59	16
2	CS-22-450 TRIAC LI	450			18
3	CS-22-500 TRIAC LI	500			20
4	CS-22-550 TRIAC LI	550			22

◆ Inrush Current

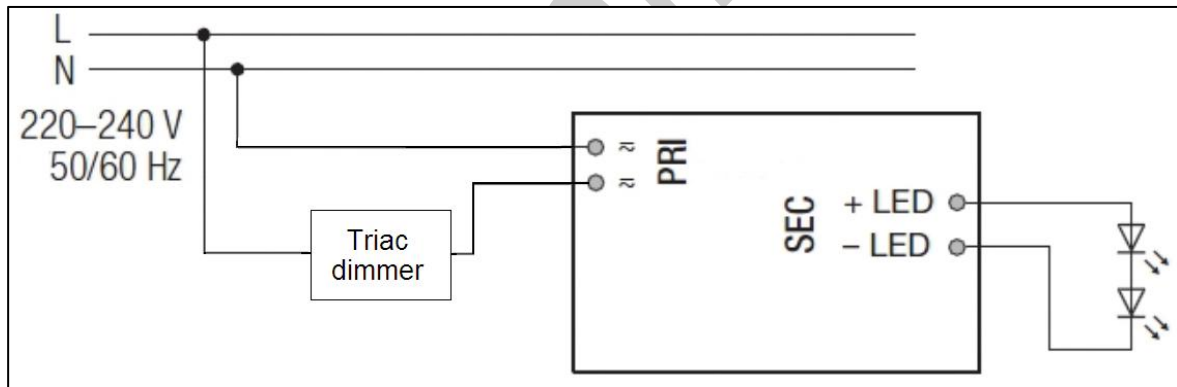
I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
2.27A	41.6 μ s	59pcs	94pcs	118pcs	59pcs	94pcs	118pcs



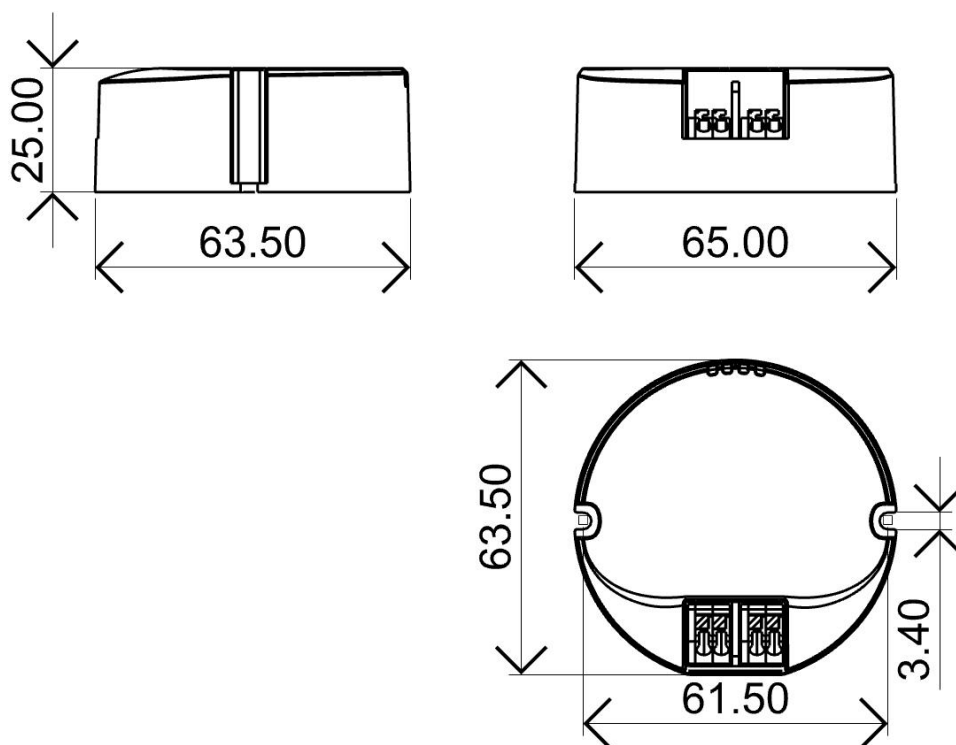
Remarks:

- 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.

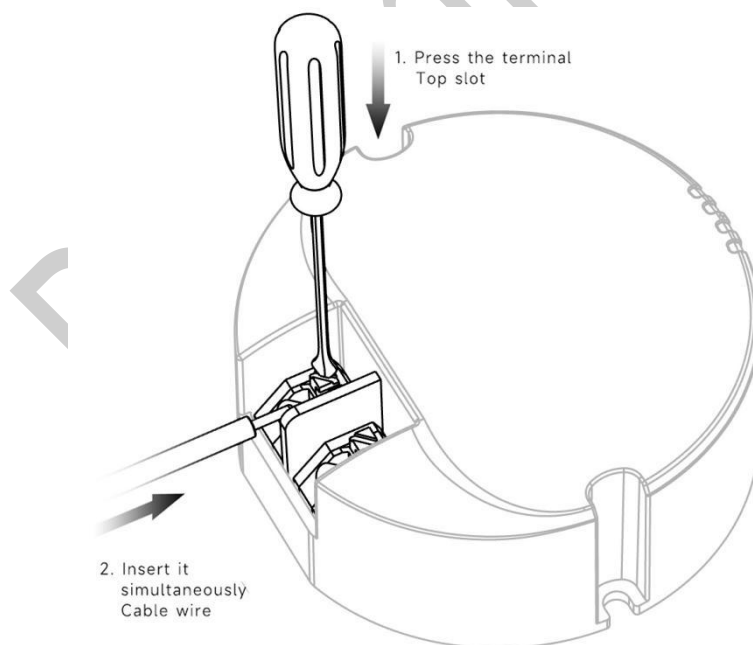
◆ Wiring diagram



◆ 2D diagram



Terminal



◆ Wiring & Connections

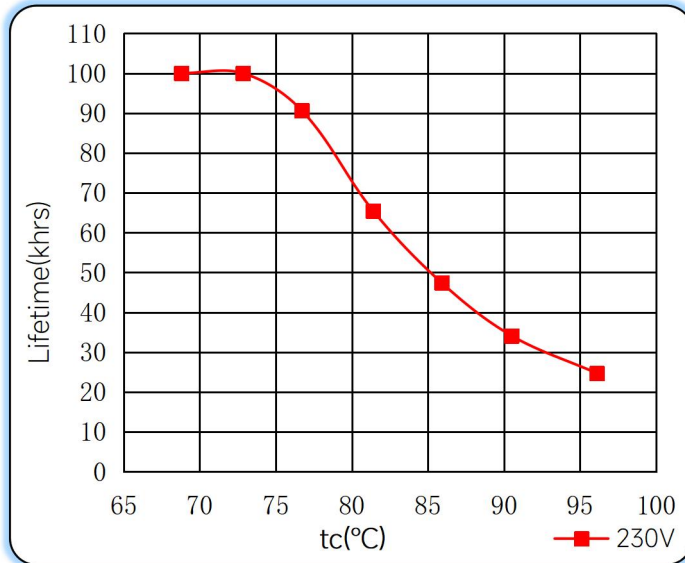
	Specification item	Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm ²
	Input wire gauge.	16...20 AWG
	Input wire strip length	7...9mm
Output	Output wire cross-section	0.5...1.5 mm ²
	Output wire gauge.	16...20 AWG
	Output wire strip length	7...9mm

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

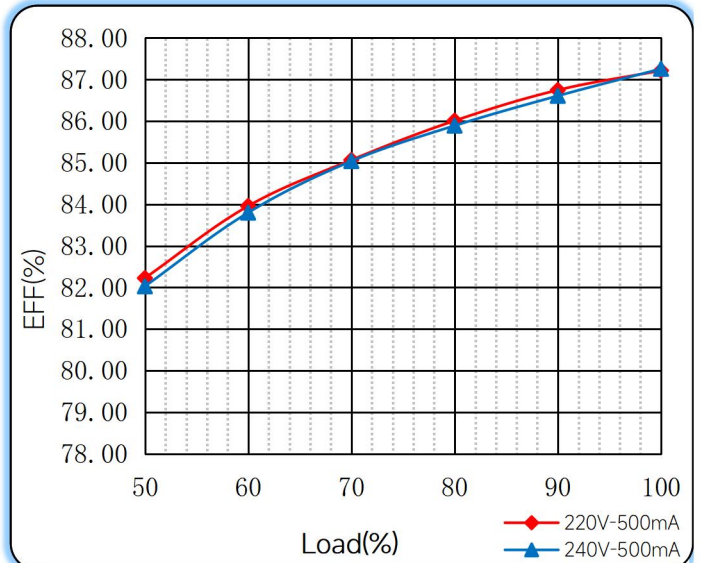
Preliminary

◆ Curve for CS-22-XXX TRIAC LI, $I_o=500mA$

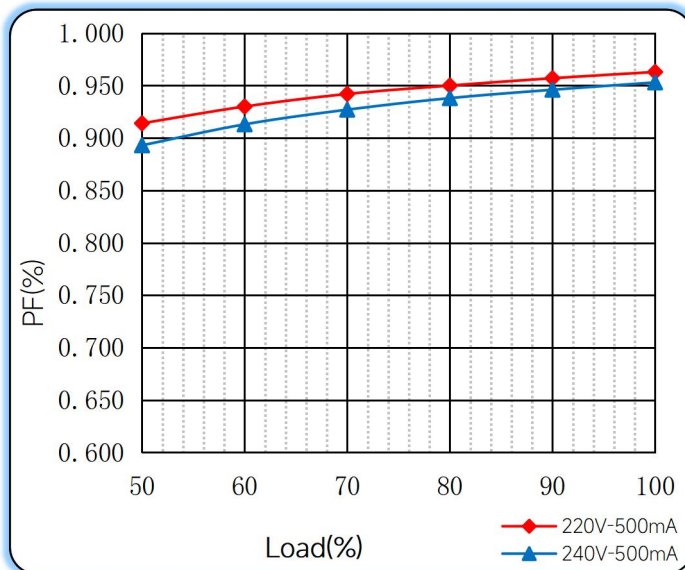
Lifetime vs. Temperature Curve



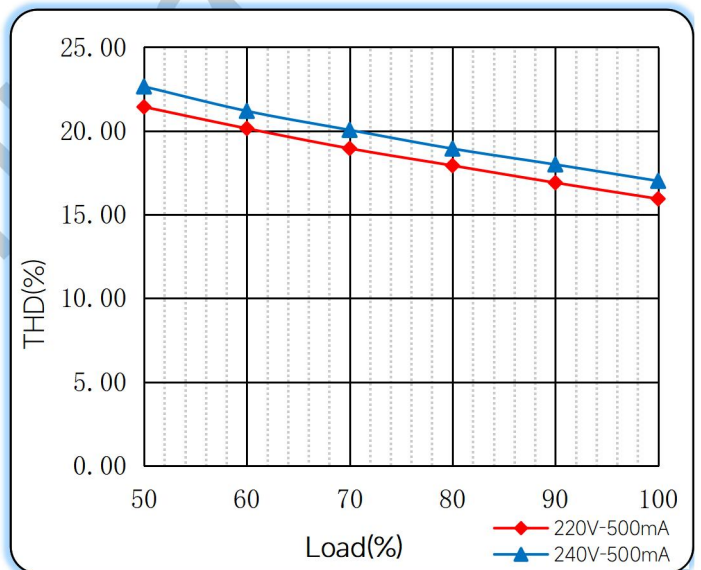
Efficiency vs. Load



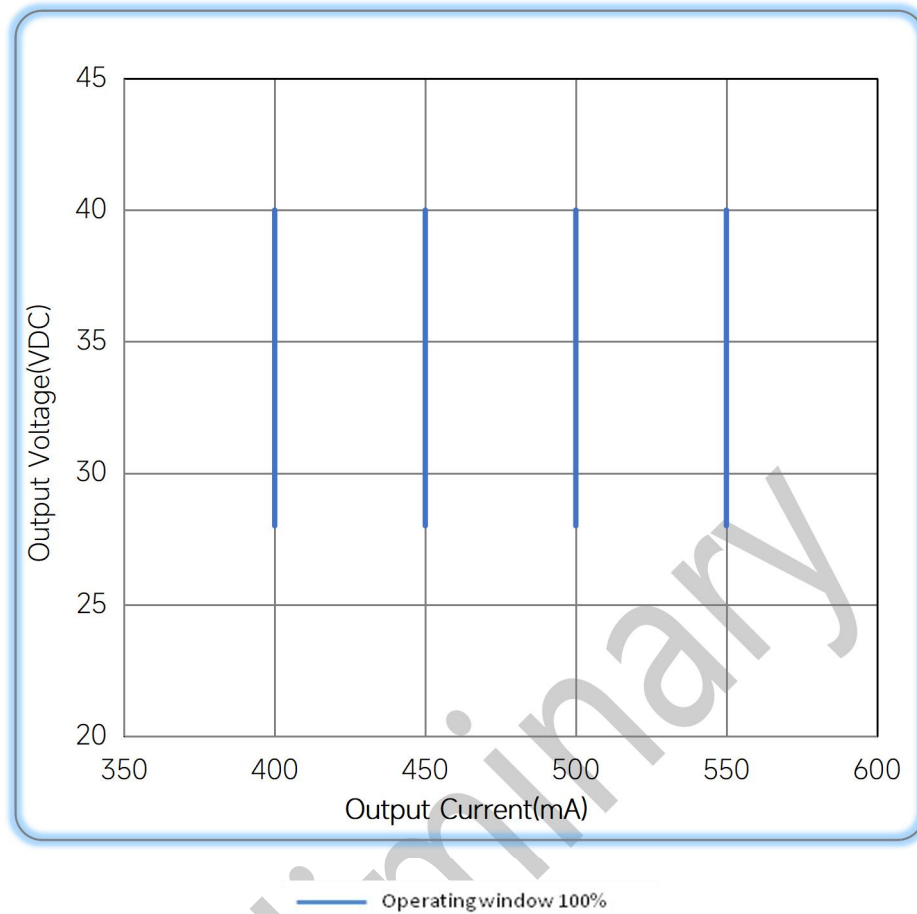
Power Factor Characteristics



THD vs. Load



◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/07/15
Power Factor	≥ 0.95	0.95	B	2024/07/26

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

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