

21W Constant Current Power Supply



■ Approve

CE CB



SELV

Features

- For luminaires of protection Class II, SELV, Built-in/Independent
- Input Voltage: 220-240VAC
- Protections: SCP/OLP/OVP/OTP
- Power Factor: 0.95(Typ.)
- Efficiency: ≥85%(Typ.)
- Adjustable Output Current with dip-switch
- 5 years warranty
- IP20

Applications

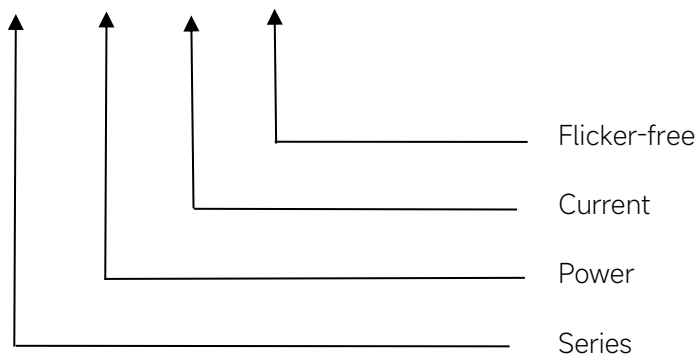
- LED panel, LED down light

◆ Description

FLS-21-500 LD1 EXC is a 21W constant current LED driver with 350 to 500mA output current and a forward voltage range from 27 to 42Vdc. The output current is adjustable by DIP Switch. With it's compact dimensions from 88 x 40 x 22 mm. It is easy to integrate in LED Panel and down light products. The side covers are available as accessories and allow to use the LED driver independent.

◆ Model code

FLS-21-500 LD1 EXC



◆ Specification

	Constant Current (mA)	350mA	400mA	450mA	500mA
Output	Voltage Range(VDC)	27-42V			
	Unload voltage Max.(VDC)	59V			
	Current Accuracy	±5%			
	Output HF current ripple(≥1KHz)	≤±5%			
	Output LF current ripple(≤120Hz)	≤±3%			
	SVM	≤0.4			
	Pst	≤1			
	Efficiency(Typ.)	≥85% @Full Load,230V			
	EOFI	100%			
Input	Rated input voltage(VAC)	220-240V			
	Range of input voltage(VAC)	198-264VAC			
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition			
	Range of input voltage(VDC)	176-280VDC			
	Frequency(Hz)	0/50/60 Hz			
	Displacement factor	≥0.95 @Full Load,230V			
	Power Factor	0.95 @Full Load,230V			
	Input Current max	0.13A Max			
	Start-up time	< 0.5S			
	No Load Power	≤0.5W			
	THD (Typ.)	<10% @Full Load,230V			
Protection	Over Load Protection	103-120%			
		YES/Auto Resume			
	Over Voltage Protection	>59V			
		YES/Auto Resume			
capability	Short circuit Protection	YES/Auto Resume			
	Over Temperature Protection	YES/Auto Resume			
	Surge capability (L-N)	1KV			
Environment	Surge capability (L/N-Ground)	NA			
	Operating Temperature	-20°C~+45°C			
	Humidity	20%-90%RH			
	Tc	85°C			
	Storage Temperature	-25°C~+60°C			
	Life time	> 50000h@Tc=80°C			
Surface	Noise	≤20dB(A)@10cm			
	Dimension	88X40X22mm (With side caps):122X40X22mm			
	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, 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.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered. 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.	

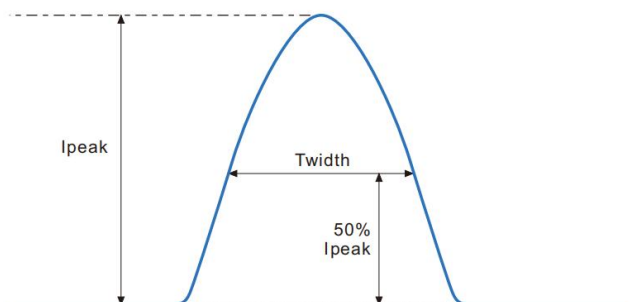
◆ Parameter

Number	Output				Switch position	
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2
1	350mA	27-42VDC	59	14.7	--	--
2	400mA			16.8	ON	--
3	450mA			18.9	--	ON
*4	500mA			21	ON	ON

* Factory default

◆ Inrush Current

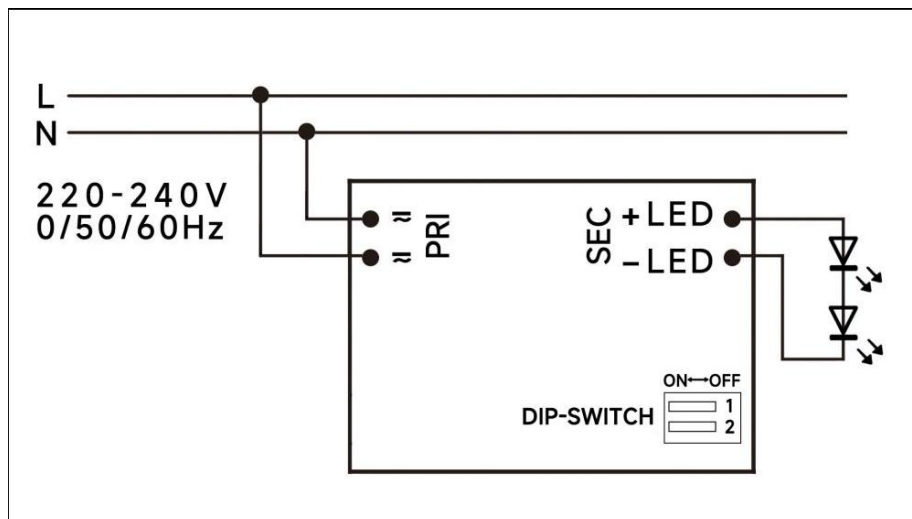
I_{peak}	T_{width}	B10	B16	B20	C10	C16	C20
14.9A	120 μ s	47pcs	75pcs	94pcs	61pcs	98pcs	123pcs



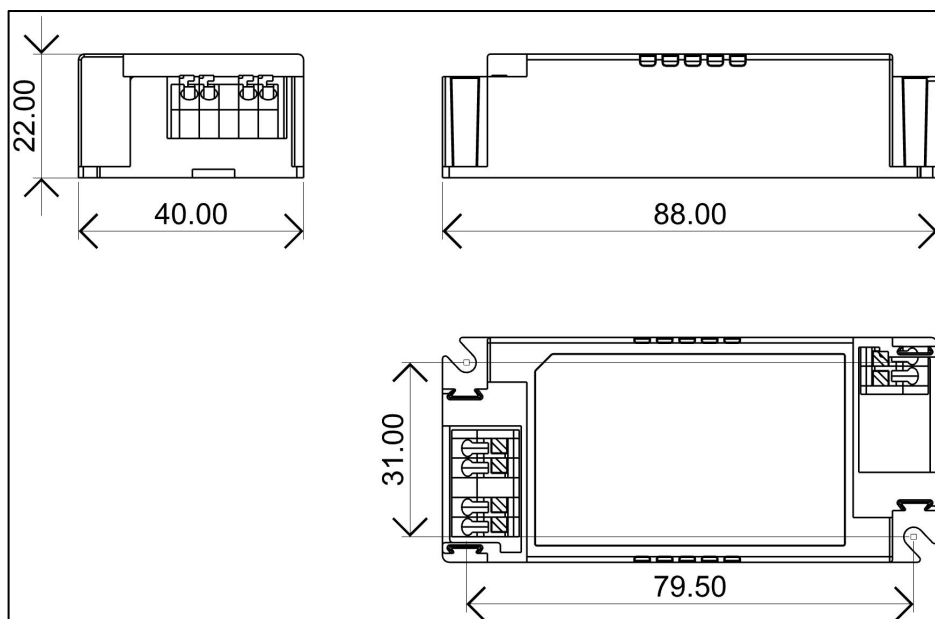
Remarks:

- 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.

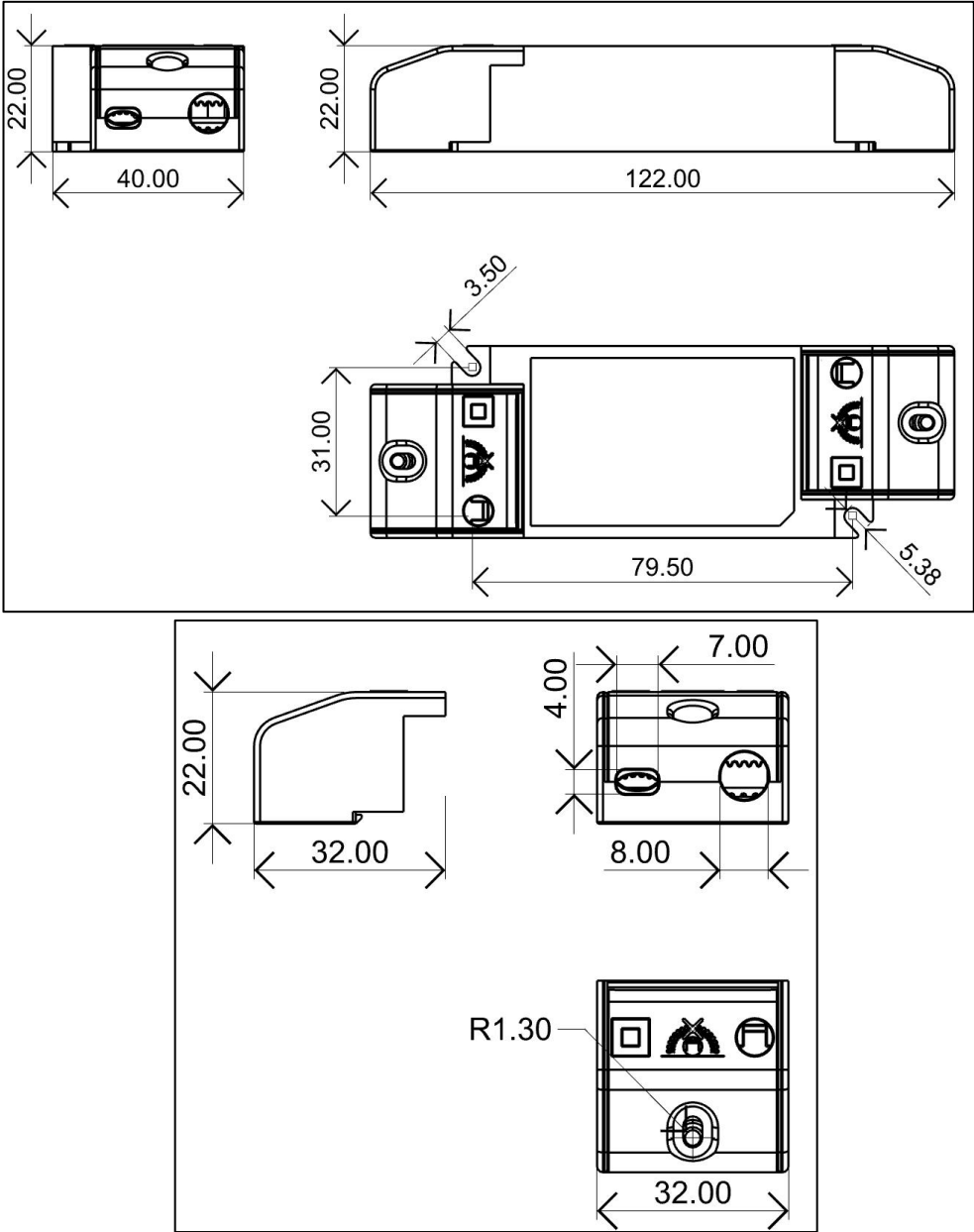
◆ Wiring diagram



◆ 2D diagram



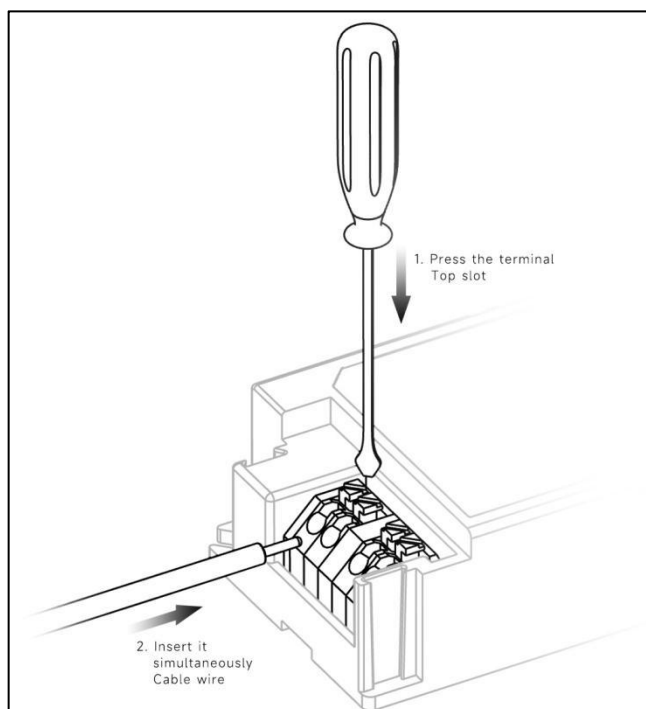
With side caps



B caps

132021T0256	Small, Grey ,with "Don't Cover" mark
1270100280	Screws

Terminal



◆ Wiring & Connections

Specification item		Value (Unit)
Input	Input wire cross-section	0.5...1.5 mm ² (With side caps: 0.75...1.5 mm ²)
	Input wire gauge.	16...20 AWG (With side caps: 16...22 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

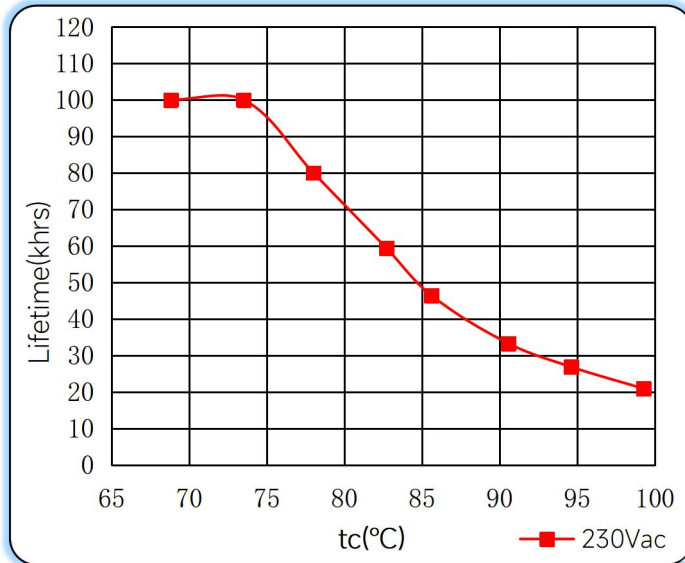
Small side cap of small hole	Wire type
0.5mm ²	H03VVH2-F 2 core&3 core
	H03VV-F 2 core&3 core
0.75mm ²	H03VVH2-F 2 core&3 core
	H03VV-F 2 core&3 core
	H05VV-F 2 core
1.0mm ²	H05VVH2-F 2 core
1.5mm ²	CCC 08(RV-90)

Small side cap of big hole	Wire type
0.75mm ²	H05VV-F 2 core&3 core&4 core
1.0mm ²	H05VV-F 2 core&3core
1.5mm ²	H05VV-F 2 core&3core

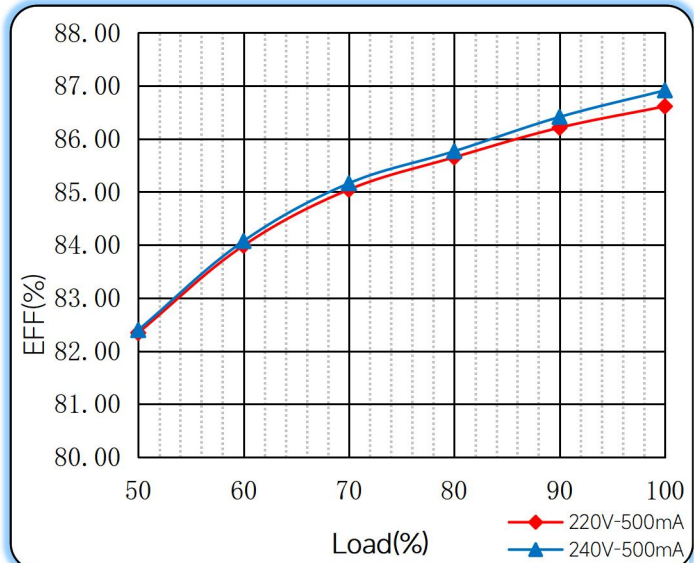
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for FLS-21-500 LD1 EXC, $I_o=500mA$

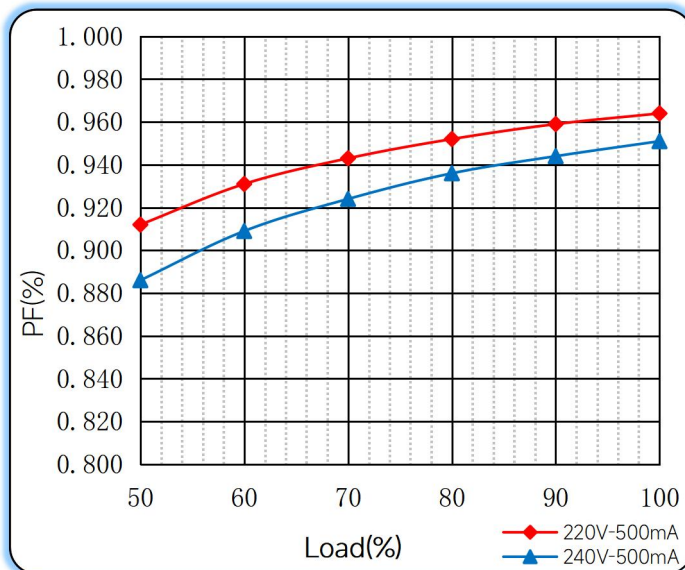
Lifetime vs. Temperature Curve



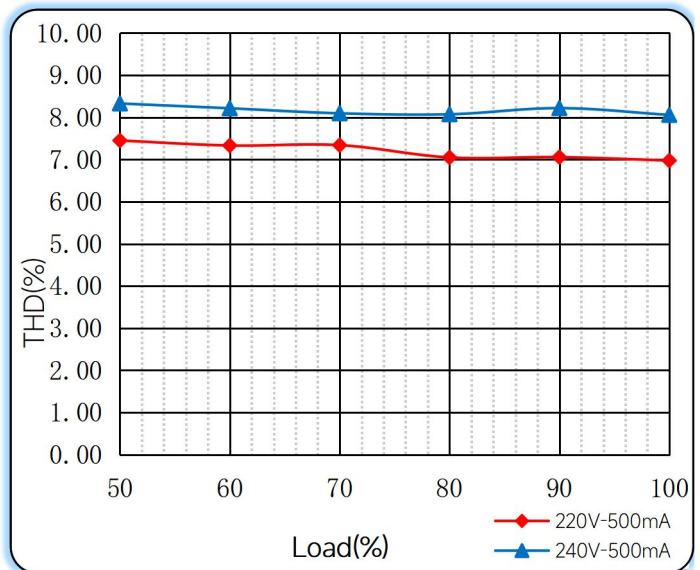
Efficiency vs. Load



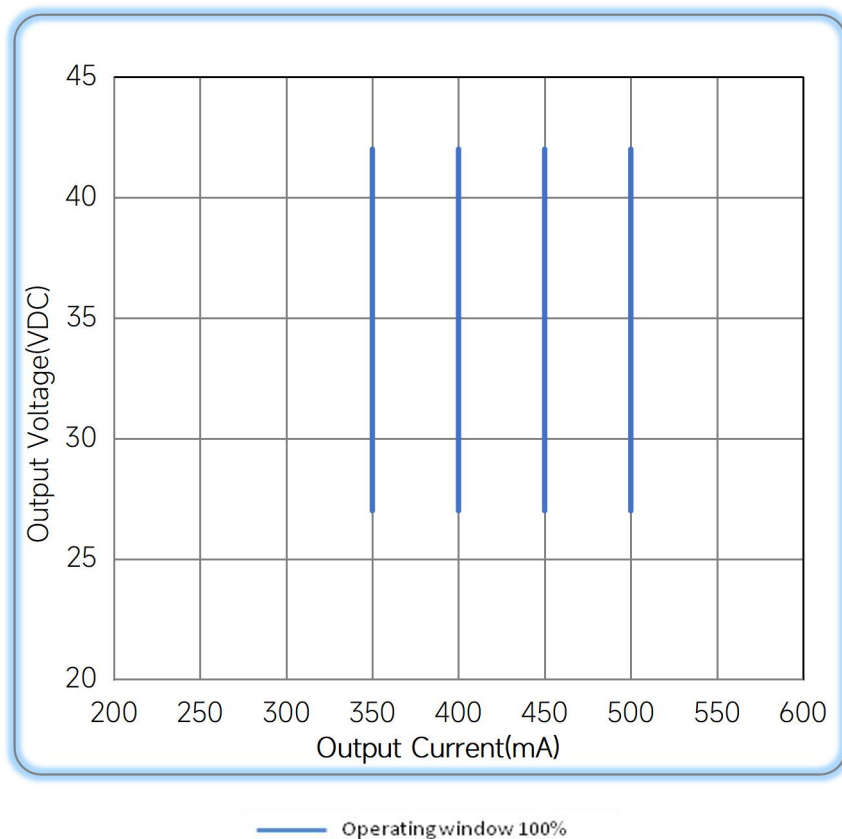
Power Factor Characteristics



THD vs. Load



◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2024/02/23
Tc	85°C	90°C	B	2024/12/16

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

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