

20W Constant Current -FMS Series



■ Approve



Features

- For luminaires of protection Class I or II , Non-isolated, Built-in
- Input Voltage :220-240VAC
- Protections: OLP/OVP/OTP
- Power Factor: ≥ 0.95 (Typ.)
- Efficiency: $\geq 84\%$ (Typ.)
- Adjustable Output Current with dip-switch
- 5 years warranty
- IP20

Applications

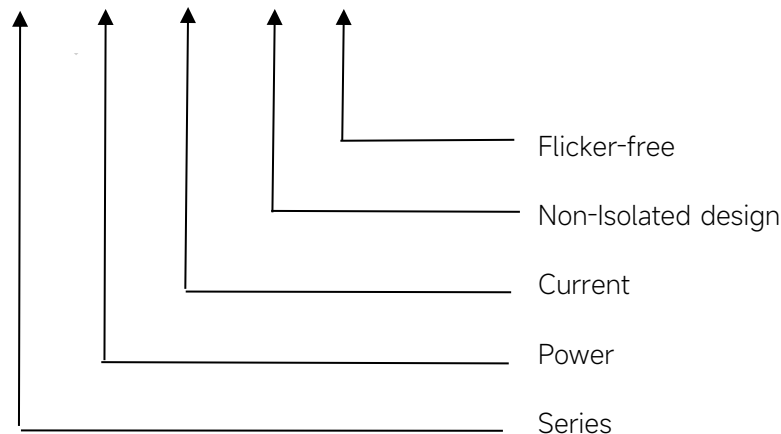
- Linear light

◆ Description

FMS-20-700 N-S LD-F is a 20W constant current LED driver that operates from 198-264Vac input with 200 to 700mA output current. The output current is adjustable by DIP Switch. With it's dimensions from 168 x 30 x 21mm. It is easy to integrate in linear light products. To ensure trouble-free operation, protection is provided against output short circuit, over voltage and over temperature.

◆ Model code

FMS-20-700 N-S LD-F



◆ Specification

Output	Constant Current	200mA	250mA	300mA	...mA	700mA
	Voltage Range	40-100VDC	40-80VDC	40-67VDC	...VDC	14-28VDC
	Unload voltage Max.(VDC)	120VDC				
	Current Accuracy	±5%				
	Output HF current ripple(≥1KHz)	±5%				
	Output LF current ripple(≤120Hz)	±5%				
	SVM	≤0.4				
	Pst	≤1				
	Efficiency(Typ.)	≥84%@Full load ,220-240V				
Input	Rated input voltage	220-240V				
	Range of input voltage	198-264VAC				
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition				
	Range of input DC voltage(VDC)	176-280VDC				
	Frequency(Hz)	0/50/60 Hz				
	Displacement factor	≥0.9				
	Power Factor	≥0.95@Full load ,220-240V				
	Input Current max	0.15A				
	Start-up time	< 0.5S				
	No Load Power	≤0.5W				
	THD (Typ.)	<10% @Full load ,220-240V				
Protection	Over Load Protection	103-130%				
		YES/Auto Resume				
	Over Voltage Protection	> 120V				
		YES/Auto Resume				
Capability	Surge capability (L-N)	1KV				
	Surge capability (L/N-Ground)	2KV				
Environment	Operating Temperature	-20°C ~+50°C				
	Humidity	20%-90% RH				
	Tc	85°C				
	Storage Temperature	-25°C ~+60°C				
	Life time	> 50000h@Tc=85°C ,230VAC				
	Noise	≤25dB(A)@20cm				
Surface	Dimension	168 x 30 x 21(LXWXH)mm				
	material	metal case				
Standards	Safety	IEC61347- 1, IEC61347-2- 13;EN61347- 1, EN61347-2- 13;EN61347- 1, EN61347-2- 13, EN62384				
	EMC	EN55015, EN61000-3-2, EN61000-3-3, EN61547;EN61000-4-2,3,4,5,6,8,11, EN61547				
	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.The DC input for this product is only used for emergency lighting and applies to functional and safety requirements, EMC is not considered. 4.EL compatible with IEC 61347-2-13 Annex J, compatible with EN 60598-2-22 emergency lighting fixtures, compatible with EN 50172 central battery system applications. 5.Switch and dimmer are not recommended to connect between this product output and luminaries. 6.The current with load range cannot exceed 130% of the maximum power at full load. 7.The over-temperature protection of the product is provided by the IC. 8.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.	

Preliminary

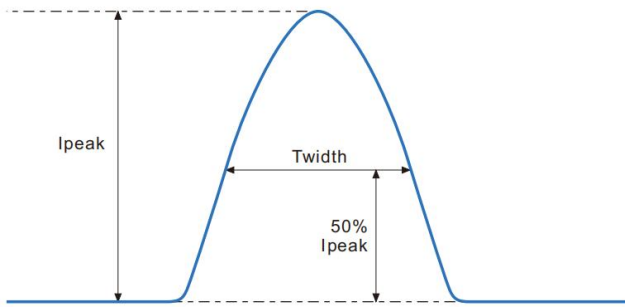
◆ Parameter

Number	Output				Switch position			
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2	3	4
1	200mA	40-100	120V	20	--	--	--	--
2	250mA	40-80		20	ON	--	--	--
3	300mA	40-67		20.1	--	ON	--	--
4	350mA	14-57		19.95	ON	ON	--	--
5	400mA	14-50		20	--	--	ON	--
6	450mA	14-44.5		20	ON	--	ON	--
7	500mA	14-40		20	--	ON	ON	--
8	550mA	14-36.4		20	ON	ON	ON	--
9	600mA	14-33.4		20	--	--	ON	ON
10	650mA	14-31		20.1	ON	--	ON	ON
*11	700mA	14-28		19.6	--	ON	ON	ON

* Factory default

◆ Inrush Current

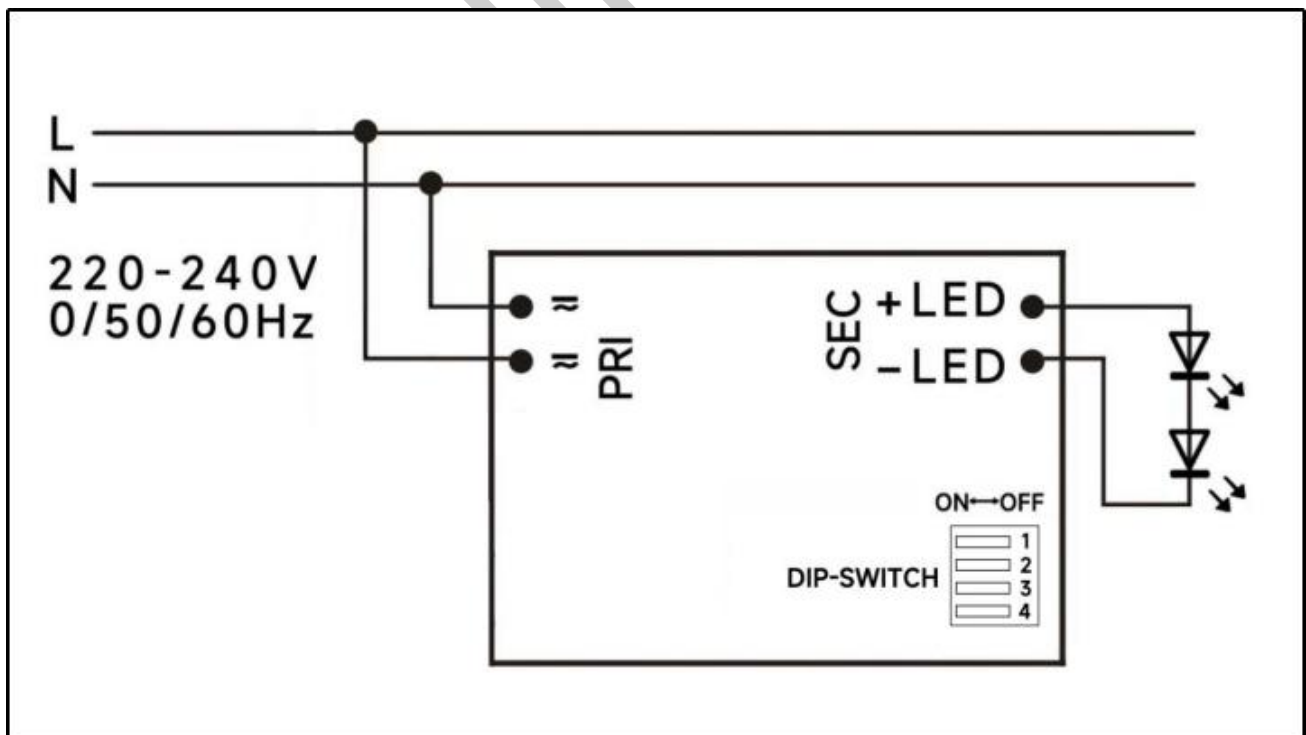
I_{peak}	Twidth	B10	B16	B20	C10	C16	C20
12A	208 μ s	53pcs	85pcs	106pcs	53pcs	85pcs	106pcs



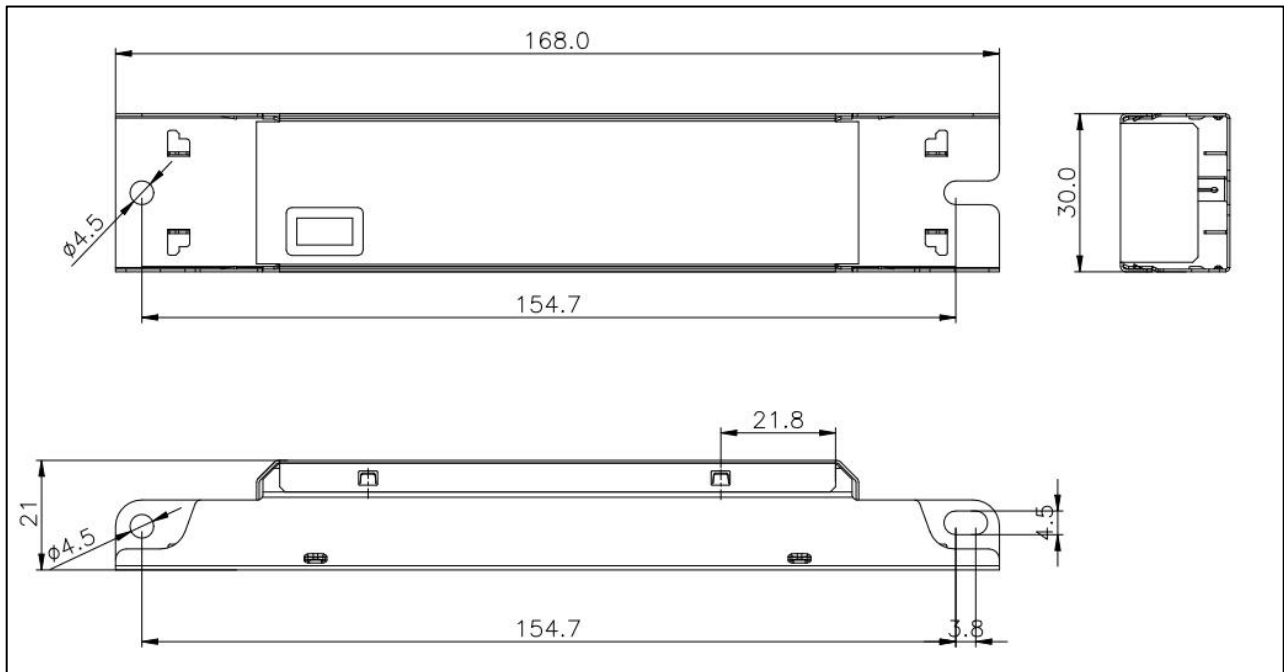
Remarks:

- 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



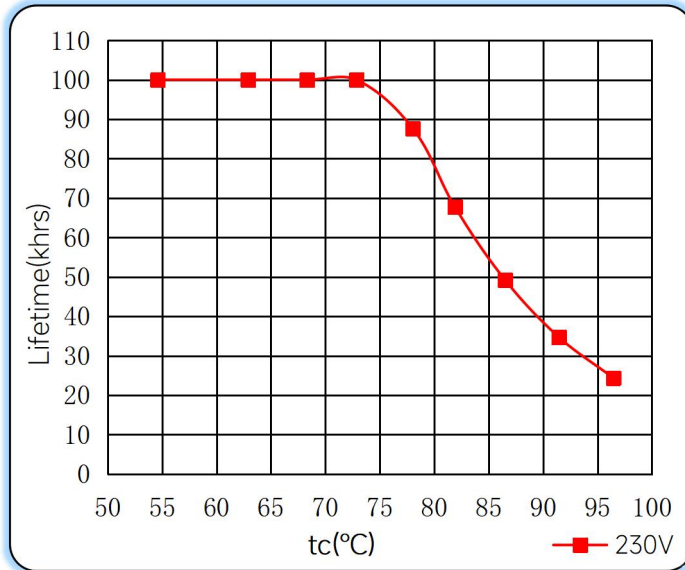
◆ Wiring & Connections

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

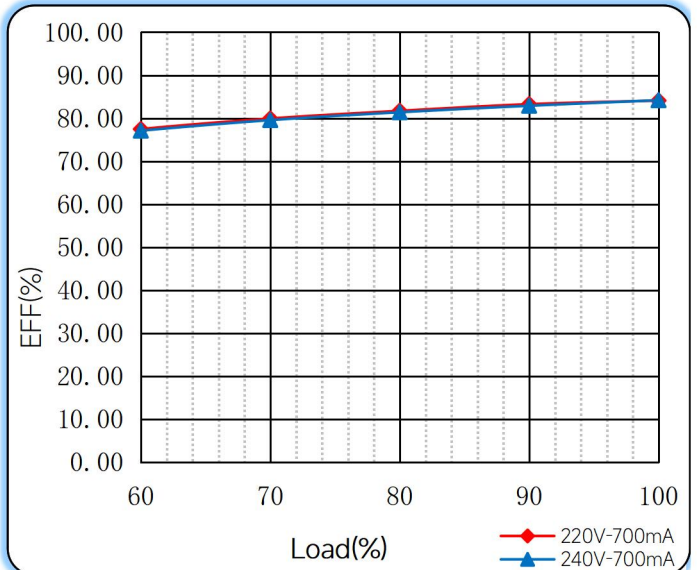
Note: Solid wire is risky to use on an angled terminal. Stranded wire is recommended for this kind of use.

◆ Curve for FMS-20-700 N-S LD-F, $I_o=700\text{mA}$

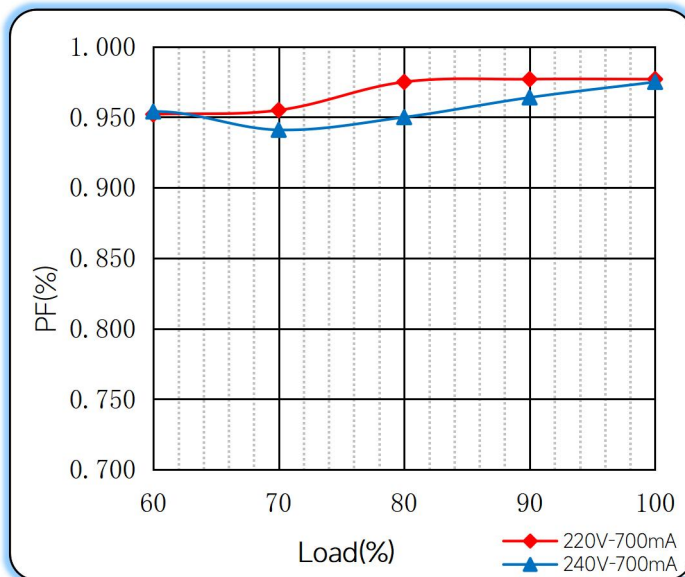
Lifetime vs. Temperature Curve



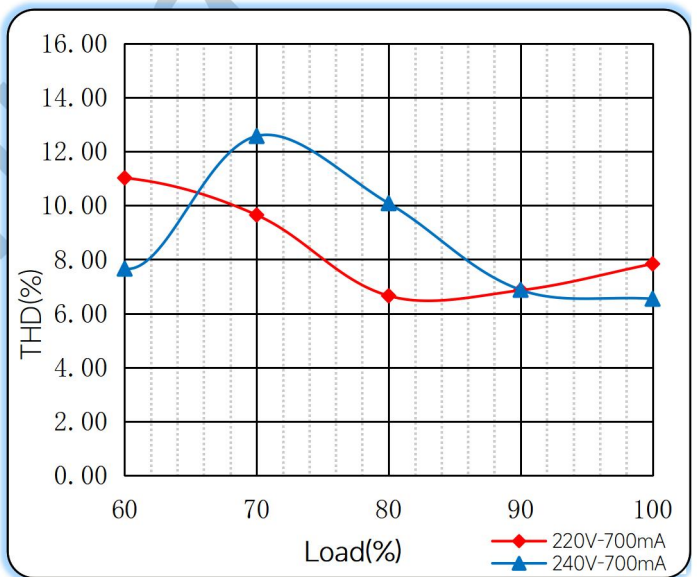
Efficiency vs. Load



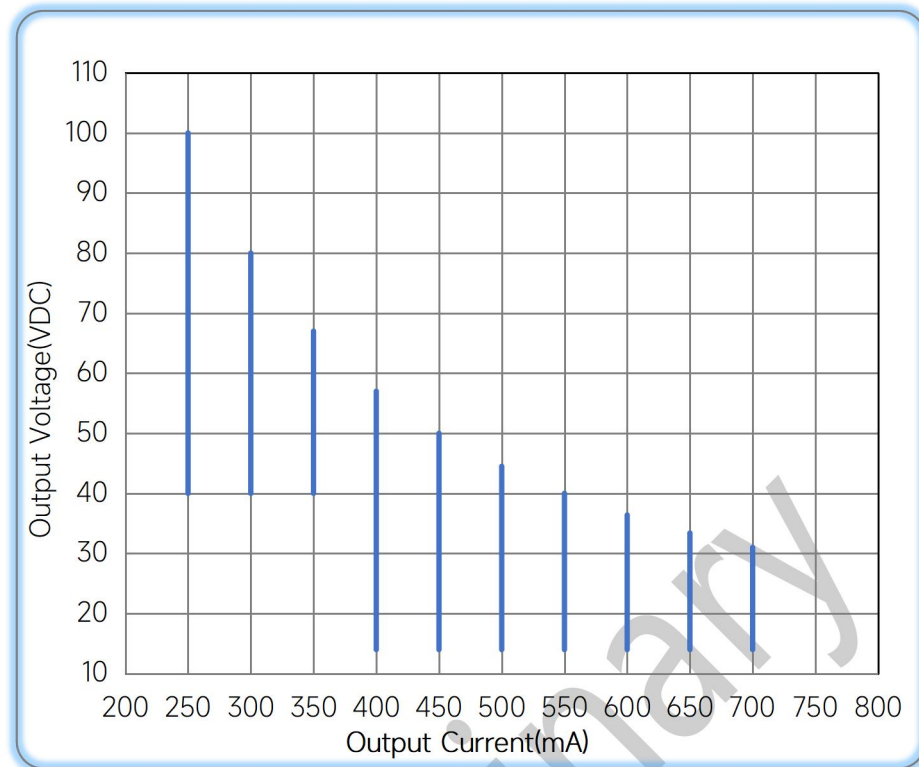
Power Factor Characteristics



THD vs. Load



◆ Operating window



— Operating window 100%

◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2024/03/07
SCP		delete	B	2024/06/28

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

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