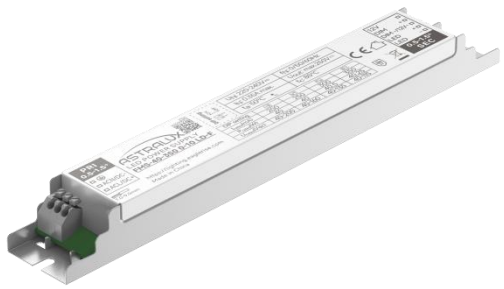
40W 0-10V Dimming power supply



■Approve

Features

- Class I, Built-in
- Input Voltage: 220-240VAC、176-280VDC
- Protections: SCP/OLP/OVP
- Power Factor : 0.6C-0.95
- Efficiency : 88%(Typ.)
- Support 0-10V Dimming
- 5 years warranty
- IP20

Applications

- LED panel light
- LED spot light

◆ Description

FMS-40-350 0-10 LD is a 40W constant current LED driver that operates from 198-264Vac input with 200 to 350mA output current and a forward voltage range from 20 to 200Vdc.The output current is adjustable by DIP Switch. With it's compact dimensions from 210 x 30 x 21mm. It is easy to integrate in LED Panel products. To ensure trouble-free operation, it provides protection against output short circuit, overload and over Voltage.

◆ Model code

FMS-40-700 0-10 LD-F

- Flicker-free
- Dimming type
- Current
- Power
- Series

Preliminary

◆ Specification

Output	Constant Current (mA)	200mA	250mA	300mA	350mA
	Voltage Range(VDC)	40-200V	40-160V	40-135V	40-115V
	Unload voltage Max.(VDC)	250V			
	Current Accuracy	±8%			
	Output HF current ripple(≥1KHz)	±5%			
	Output LF current ripple(≤120Hz)	±5%			
	Auxiliary Output Voltage	12V			
	Auxiliary Output Current	150 mA			
	SVM	≤0.4			
	Pst	≤1			
	Efficiency(Typ.)	88%@full Load,220-240V			
Input	Rated input voltage(VAC)	220-240V			
	Range of input voltage(VAC)	198-264VAC			
	Range of input voltage(VDC)	176-280VDC			
	Maximum voltage	300VAC@1 h maximum,unit might not operate in this abnormal condition			
	Frequency(Hz)	0/50/60 Hz			
	Displacement factor	⩾0.9@full load, 230Vac			
	Power Factor	>0.95@Full load,230V			
	Input Current max	0.35A			
	Start-up time	＜0.5S			
	No Load Power	≤1W			
	Standby Power	≤0.5W			
	Network standby power	≤0.5W			
	THD (Typ.)	<10%@full Load,220-240V			
Dimming	Dimming	YES			
	Dimming mode	0-10V			
	Dimming depth	2%@40-70V; 1%@＞70V;			1.5%
	Dimming current range	1-100%			1.5-100%
Protection	Over Load Protection	YES/Auto Resume			
	Over Voltage Protection	YES/Auto Resume			
	Short circuit Protection	YES/Auto Resume			
capability	Surge capability (L-N)	1KV			
	Surge capability (L/N-Ground)	2KV			
Environment	Operating Temperature	-20℃...+50℃			
	Humidity	20%-90%RH			
	Tc	85℃			
	Storage Temperature	-25℃...+60℃			

	Life time	>50000h@Tc=80℃
	Noise	≤25dB(A)@20cm
Surface	Dimension	210 x 30 x 21mm
	material	metal case
statutory	Safety Standards	GB19510. 1, GB19510. 14; IEC61347- 1, IEC61347-2- 13; EN 60598-2-22; EN61347- 1, EN61347-2- 13; AS/NAS 61347- 1, AS/NAS 61347-2- 13; EN61347- 1, EN61347-2- 13, EN62384; AS/NZS 61347.1,AS 61347.2.13
	EMC	GB/T17743, GB17625. 1; EN55015, EN61000-3-2, EN61000-3-3, EN61547; EN55015, EN61000-3-2, EN61000-3-3, 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℃ 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.	

◆ Parameter

Number	Output				Switch position	
	Current (mA)	Voltage (VDC)	Voltage No load (VDC)	Power (W)	1	2
1	200mA	40-200V	250	40W	--	--
2	250mA	40-160V		40W	ON	--
3	300mA	40-135V		40.5W	--	ON
*4	350mA	40-115V		40.25W	ON	ON

* Factory default

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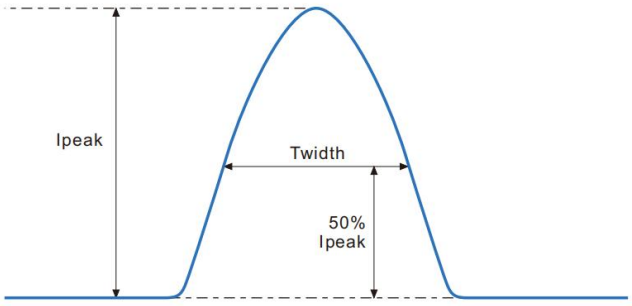
◆ Inrush Current

I^{peak}	Twidth	B10	B16	B20	C10	C16	C20
22.3A	**170μs**	21pcs	34pcs	43pcs	22pcs	36pcs	45pcs



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.

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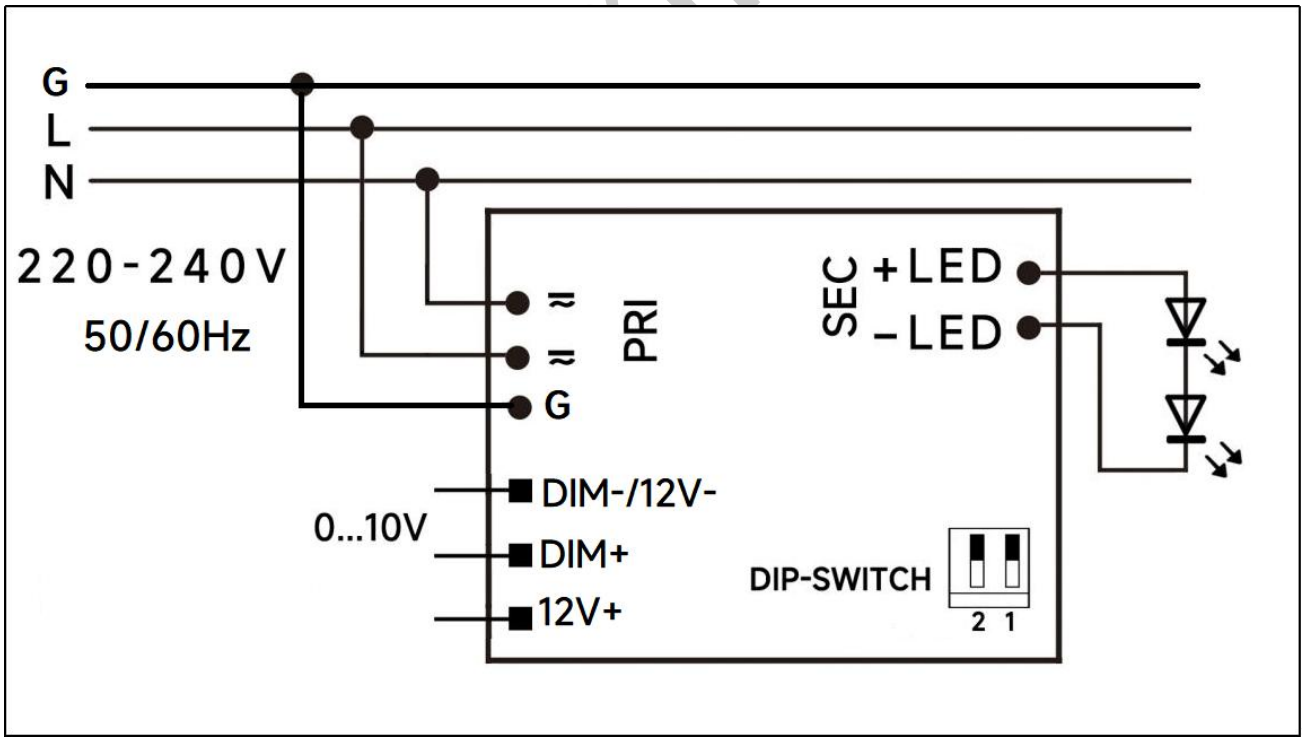
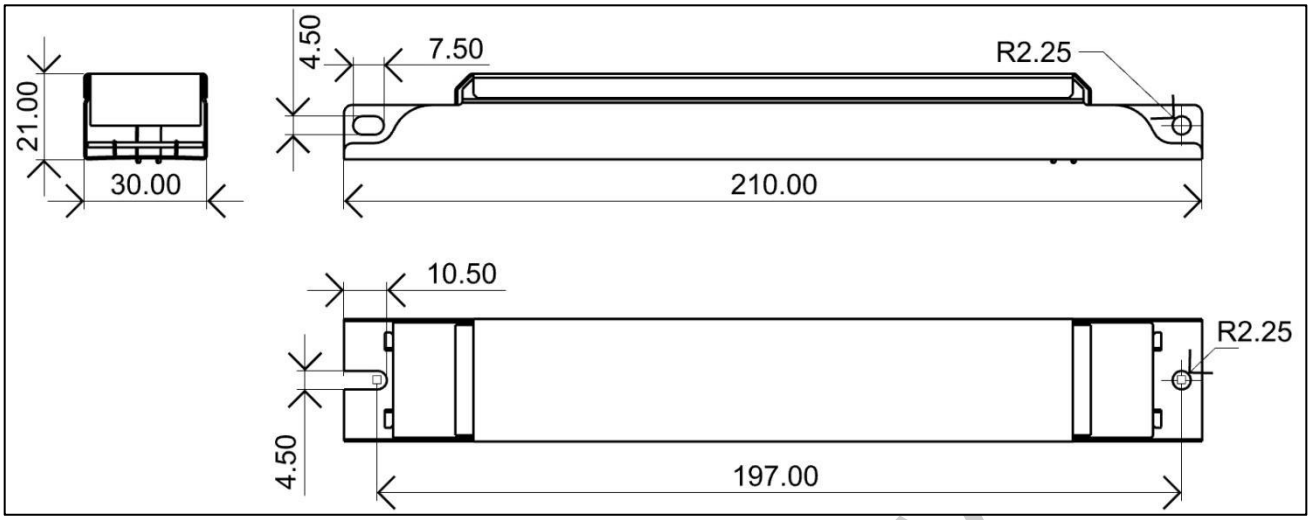
◆ Wiring diagram



◆ 2D diagram



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◆ 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.

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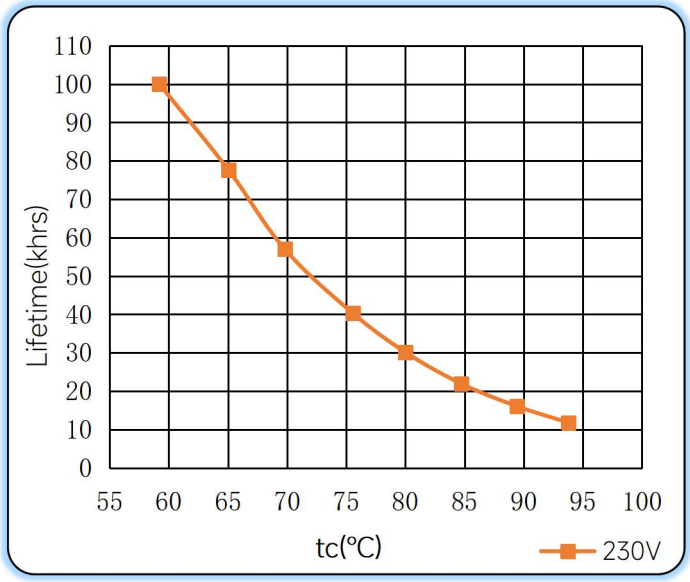
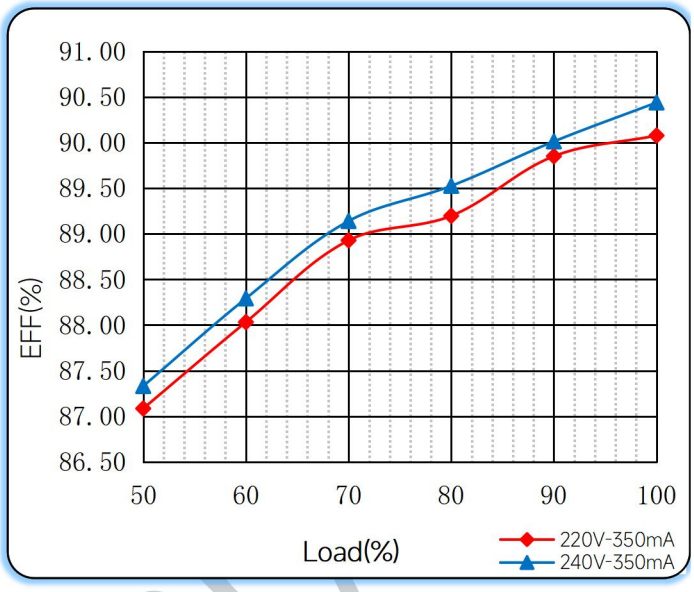
◆ Curve for FMS-40-350 0-10 LD-F, Io=350mA

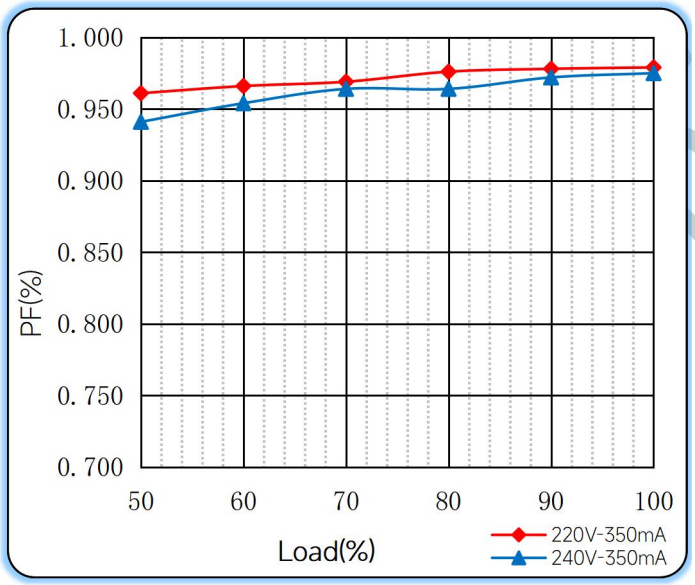
Lifetime vs. Temperature Curve



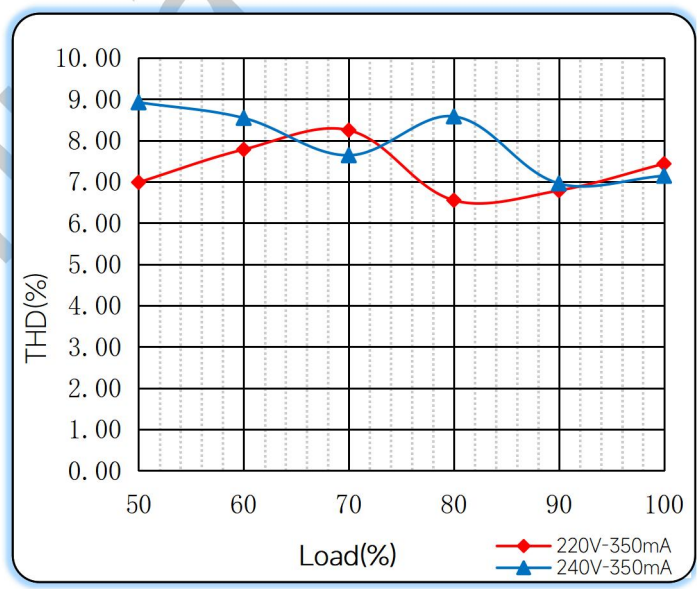
Efficiency vs. Load



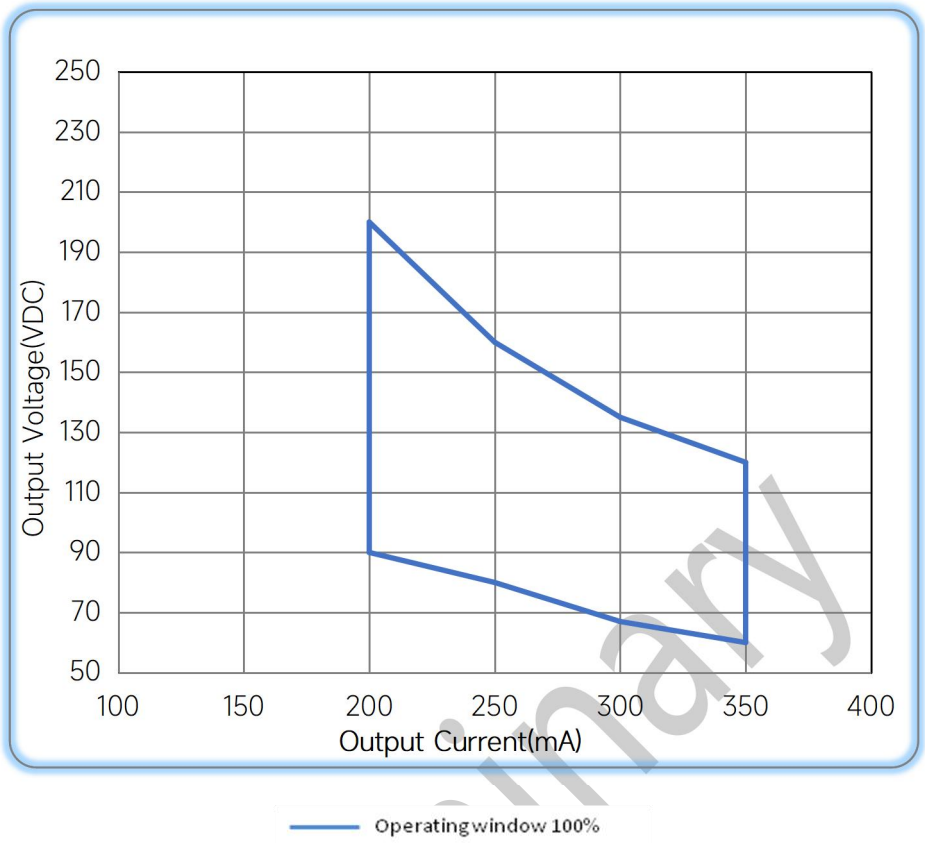
Power Factor Characteristics



THD vs. Load



◆ Operating window



◆ Revision Updates

ITEM	BEFORE	AFTER	VERSION	DATE
Initial			A	2023/05/03
Current Accuracy	±5%	±8%	B	2023/11/20
Dimming depth	1%	2%@40-70V; 1%@＞70V;	C	2024/05/14

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