

Features

- Flicker free
- High efficiency; high PF
- IP20
- Suitable for Class I light fixtures
- 5-year warranty (please refer to the warranty condition)



Applications

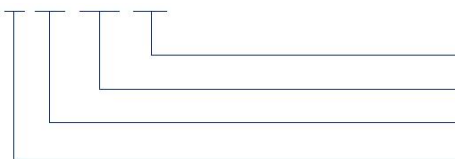
· Indoor office lighting · decorative lighting · commercial lighting

Descriptions

LF-FMR020YS is a 20W constant current LED driver. Its input voltage ranges from 220 to 240Vac and output current is adjustable from 200 to 350mA via DIP switch with every 50mA as a step. It is suitable for Class I light fixtures, including tri-proof light, linear light, etc.

Product Model

LF - F MR 020 YS



- Y: complies with certifications; S: serial number
- 020: output power: 20W
- MR: indoor metal casing tri-proof light
- F: non-isolated design

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■ Electrical Characteristics

Model		LF-FMR020YS				
Output	Output Voltage	25-57Vdc				
	Output Current	Adjustable via DIP switch				
		200mA	250mA	300mA	350mA	
	Flicker Index	Complies with IEEE Std 1789-2015				
	CIE SVM	≤0.4				
	IEC-Pst	≤1				
	Current Tolerance	±7%				
	Temperature Drift	±10%				
Start-up Time	<0.5S					
Input	Input Voltage	220-240Vac (voltage limit: 198-264Vac)				
	DC Input Voltage	220-240Vdc (voltage limit:180-264Vdc)				
	Input Frequency	0/50/60Hz				
	Input Current	0.15A max.				
	PF	≥0.9				
	THD	≤20%				
	Efficiency	≥82%	≥84%	≥85%		
	Inrush Current	≤19A&150uS@230Vac				
	Loading Quantities of Circuit Breaker	Model	B10	C10	B16	C16
		Quantity (pcs)	55	55	88	88
Leakage Current	<0.7mA					
Protection Characteristics	Open Circuit	≤150Vdc				
	Short Circuit	Auto-recovery				
Environment Descriptions	Operating Temperature	-30°C - +60°C				
	Operating Humidity	10-95%RH (no condensation)				
	Storage Temperature/ Humidity	-30°C - +80°C (6 months in Class I environment); 10-95%RH (no condensation)				
	Atmospheric Pressure	86-106kPa				

■ Electrical Characteristics

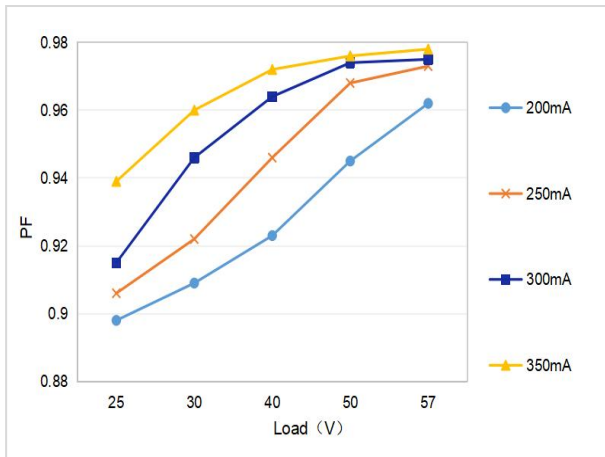
Safety & EMC	Certifications	ENEC, CE, CB, RCM, UKCA, EL, CCC
	Withstand Voltage	I/P-PG: 1.5kV&5mA&60S
	Insulation Resistance	I/P-PG O/P-PG: >100MΩ@500Vdc
	Safety Standards	ENEC:EN 61347-2-13:2014/A1:2017, EN 61347-1:2015/A1:2021 EN IEC62384:2020 CE-LVD:EN 61347-2-13:2014/A1:2017, EN 61347-1:2015/A1:2021 CB:IEC61347-1:2015, IEC61347-1:2015/AMD1:2017, IEC61347-2-13:2014 IEC61347-2-13:2014/AMD1:2016 UKCA-LVD:EN 61347-1:2015/A1:2021, EN 61347-2-13:2014/A1:2017, EN 62493:2015 EL:EN IEC 61347-2-13 Annex J CCC:GB 19510.1-2009, GB 19510.14-2009
	EMI	CE-EMC/RCM: EN55015, EN61000-3-2, EN61000-3-3 UKCA-EMC: EN IEC 55015: 2019/A11: 2020, EN 61547: 2009, EN IEC 61000-3-2: 2019/A1: 2021, EN 61000-3-3: 2013/A2: 2021 EL: EN IEC 61347-2-13 Annex J CCC: GB/T17743, GB17625.1, GB17625.2
	EMS	CE-EMC/RCM: EN61000-4-2, 3, 4, 5 (lightning strike L-N: 1kV), 6, 11 CCC: GB/T17626.2, 3, 4, 5 (lightning strike L-N: 1kV, L/N-PG: 2kV), 6, 11
Other Parameters	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Warranty	5 years (Tc≤80°C)
Test Equipment	AC power source: CHROMA6530, digital power meter: CHROMA66202, oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber, lightning surge generator: Everfine EMS61000-5B, rapid group pulse generator: Everfine EMS61000-4A, spectroanalyzer: KH3935, hi-pot tester: EEC SE7440, flicker tester (flicker-free coefficient test): Everfine LFA-3000, etc.	
Test Remark	If there are no special remarks, the above parameters are tested at the ambient temperature of 25°C, humidity of 50%, full load and input voltage of 230Vac/50Hz.	

■ **Electrical Characteristics**

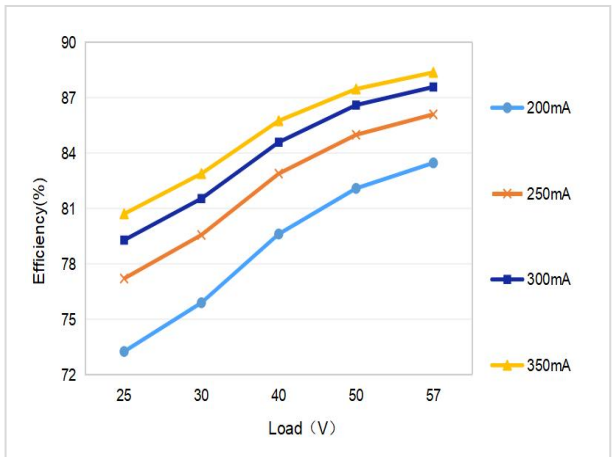
Additional Remarks	<ol style="list-style-type: none"> 1. It is recommended that user install the over voltage protection, under voltage protection and surge protection devices in the power supply circuits of light fixtures to ensure electricity safety. 2. The LED driver used in combination with the end device is one of the accessories of the whole light fixture, and the EMC of the whole light fixture is not only susceptible to the driver itself, but to the LED light fixture and the whole light fixture's wiring. Thus, the manufacturer of LED light fixture should re-confirm the EMC of the whole light fixture before the whole light fixture is finished. 3. The test conditions of the circuit breaker configuration quantity are the same as those of the inrush current. 4. The PC cover, casing and end cap for assembling the LED driver in the light fixture must meet the fire rating of UL94-V0 or above. 5. It is well-advised that the withstanding voltage of LEDs and aluminum substrates >3kV. 6. It is recommended to install double-pole switch at AC input terminal. If user uses the single-pole switch, make sure to connect it to wire L (live wire), otherwise the afterglow of light fixture would be incurred after the AC is disconnected. 7. There exists stray capacitance between LED light fixture and aluminum substrate, and the light fixture will have transient slight brightness the moment the mains is connected and the aluminum substrate is connected to the earth (the whole light fixture connected to the earth). This is of no abnormalities for a non-isolated LED driver. And if the above issue needs to be avoided, please replace the non-isolated with the isolated.
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■ **Product Characteristic Curves**

PF Curve

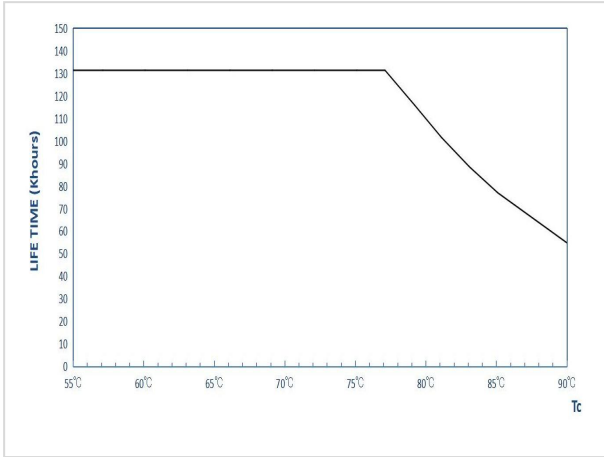


Efficiency Curve

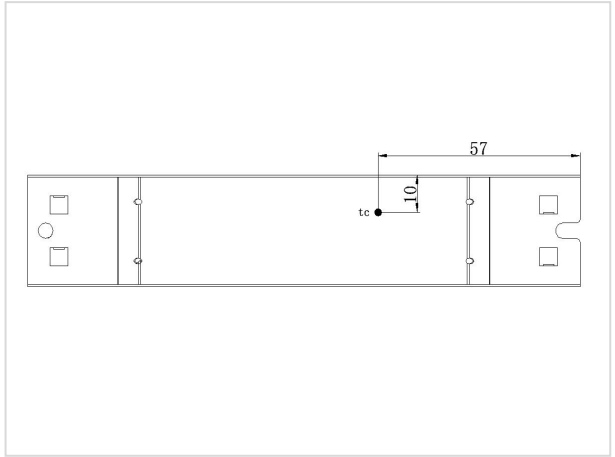


■ **Product Characteristic Curves**

Lifetime Curve



Tc Point Testing Diagram



■ **Product Definitions**

Product Terminal

INPUT	
AC-L	AC live wire input
AC-N	AC neutral wire input
	Earth wire

OUTPUT	
LED+	Positive electrode output of LED driver
LED-	Negative electrode output of LED driver

Product DIP Switch

I rated (CC)	1	2
200mA	-	-
250mA	ON	-
300mA	-	ON
350mA	ON	ON

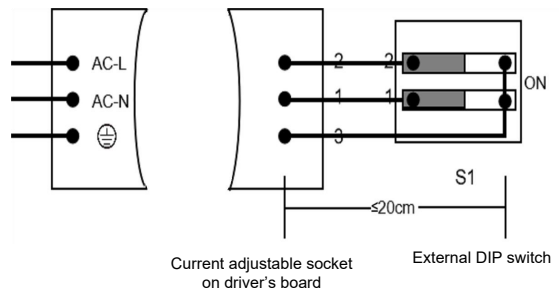
Remark: "-": shift OFF

■ **Product Definitions**

Remark of External DIP Switch

- Pin pitch of 3PIN terminal for user's external DIP switch at driver's output port: 2.54mm;
- PIN3: common terminal;
- Max. distance between output 3pin terminal and user's external DIP switch: 20cm (if it exceeds 20cm, the current tolerance would be inaccurate)

Wiring Diagram of External DIP Switch

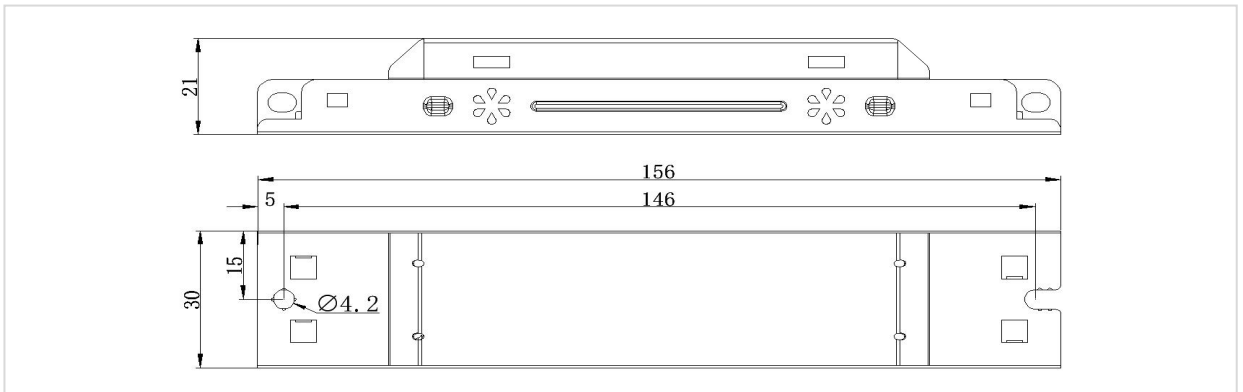


■ **Structure & Dimensions (unit: mm)**

Product Dimensions

Model	Overall Appearance (L*W*H)	Distance Between 2 Positioning Holes (L)	Diameter of Positioning Hole (D)
LF-FMR020YS	156*30*21mm	146mm	4.2mm

Structure Diagram



■ Packaging Specifications

Model	LF-FMR020YS
Carton Size	385*285*210mm (L*W*H)
Quantity	12 pcs/layer; 6 layers/ctn; 72 pcs/ctn
Weight	0.09 kg/pc; 7.16 kg/ctn

■ Transportation and Storage

1. Transportation

- Suitable transportation means: vehicles, boats and aeroplanes.
- In transit, it is necessary to prepare awnings for rain or sun protection. Moreover, please keep civilized loading and unloading to prevent the vibration or impact of LED driver as much as possible.

2. Storage

- The storage of LED driver shall conform to the standard of Class I environment. When using LED drivers which have been stored for more than 6 months, please re-test them firstly. Do not use them unless they are tested to be qualified.

Cautions

- Please use Lifud LED driver according to its parameters in the specification, otherwise the LED driver may malfunction.
- Using any incompatible light fixtures or those that have not been certified may cause fire, explosion or other risks.
- Man-made damage is beyond the scope of Lifud warranty service.

Remark: Lifud Tecnology Co., Ltd. reserves the right to interpret any contents of this specification.