SPECIFICATION FOR APPROVAL

Customer: _____

Product Material No.: _____

Model No. LF-GMR060YE

Version : V3.0

Manufacturer: Sichuan Ledfriend Technology Co., Ltd

Customer Approval

Tested by	Checked by	Approved by

Ledfriend Approval

Tested by	Checked by	Approved by

The full model numbers required by customers

Full model No.		**Full model No.**	
Full model No.		**Full model No.**	

E.C. List

Version	Description of change	Engineer	Date
3.0	format change	Liang Guozhu	2015-10-27

Shenzhen Ledfriend Optoelectronics Co., Ltd.
4&5/F, Bldg 14A, Taihua Wutong Island, Gushu Development Zone, Xixiang Street, Bao'an District, Shenzhen, China 518126
www.lifud.com, China service hotline: 400-096-6815 (China technical support: 13410244507)

Model	LF-GMR060YE	**Series**	AC220-240V typical metal case

1. Product description

Isolated LED driver, originally designed for class I LED luminaires and also suitable for the class II luminaires.
Category: typical AC220-240V metal case series.
Product properties: active PFC, high PF, high efficiency, low THD.
Application: tri-proof lights, grid lights and linear lights etc.
Warranty: 5 years (please refer to the warranty condition).
Certificates:

2. Technical Data(1)

	Full model number	LF-GMR060YE 1300H(U)	LF-GMR060YE 1350H(U)	LF-GMR060YE 1400H(U)	LF-GMR060YE 1450H(U)	LF-GMR060YE 1500H(U)
Output	Output voltage	27-40VDC	27-40VDC	27-40VDC	27-40VDC	27-40VDC
	Output current	1300mA	1350mA	1400mA	1450mA	1500mA
	Ripple current	≤450mA				
	Ripple voltage	≤4V				
	Current tolerance	±5%				
	Time to light	230Vac ≤0.5S				
	Temperature drift	±10%				
	Output Line regulation	±5%				
Input	Input Line regulation	±5%				
	Rated input voltage	220-240 Vac, (Max input voltage: 180-264Vac)				
	Frequency	47Hz-63Hz				
	Input current	0.6A Max				
	Power factor	≥0.95@230Vac				
	THD	≤20%@230Vac				
	Efficiency	≥87%@230Vac				≥88%@230Vac
	In-rush current (peak/duration)	I<60A/350uS@230Vac				
	Typ. power input on stand-by	Pin<1W				
Protective features	No-load	Max. output voltage (no-load voltage) 55V				
	Short-circuit	Hiccup mode (auto-recovery)				
Environment condition	Working temperature	-30℃ - +50℃				
	Working humidity	20-90%RH (no condensation)				
	Storage temperature/ humidity	-40℃～+80℃ (6 months under the class I environment); 10-90% RH (no condensation)				
	Atmospheric pressure	86-106KPa				
Safety and norms	Certifications	TUV, CE, RCM, CB				
	Hi-pot test	I/P-O/P:3.75KVac,<5mA 60S I/P-PG:1.6KVac,<5mA 60S				
	Insulation resistance	I/P-O/P:500VDC,>100MΩ				
	Surge level	Comply withIEC61000-4-5(L/N:2KV,L/PG:4KV,N/PG:4KV)				
	EMI	Comply with EN55015，EN61000-3-2				
	EMS	Comply with N61000-4-2,3,4,5,6,8,11; EN61547.				
Others	Packaging	Carton Size:385*285*210mm(L*W*H); Weight: 210g±5%/pc; Gross weight: 9.0KG±5%/ctn; 36pcs/ctn				
	IP level	/				
	Warranty	5 years (Max. case temperature must not exceed 70℃).				
Testing 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: TH9201B, flicker-free tester (flicker-free coefficient tester) 60N-01, etc.					
Test conditions	The parameters above including the power factor, THD, efficiency are all tested under the ambient temperature 25℃ and humidity 50%, AC input 230V and 90% output load.					

Additional Remark	1. In the power supply circuit, it is recommended that the customer should install an over-under-voltage protection and surge protection device to ensure the safety of using electricity. 2. The PC cover, shell, end caps used together with the LED driver inside the LED lamp must meet the UL94V-0 fire rating level or above. 3. As a part of the LED lamp, the LED driver is not the only factor determining the EMC performance of the LED lamp. And the EMC performance is also related to the LED lamp's structure and the wire routing. Thus we strongly recommend the manufacturer of the finished LED lamp must re-confirm the EMC of the LED lamps.

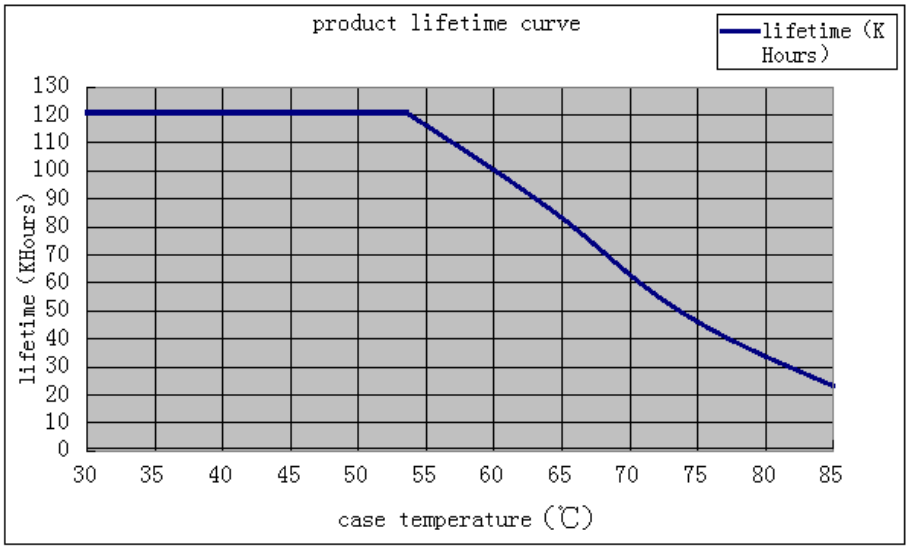
3. Technical Data (2)

	Full model number	**LF-GMR060YE 0950H(V)**	**LF-GMR060YE 1000H(V)**	**LF-GMR060YE 1050H(V)**	**LF-GMR060YE 1100H(V)**
Output	Output voltage	35-55VDC	35-55VDC	35-55VDC	35-55VDC
	Output current	950mA	1000mA	1050mA	1100mA
	Ripple current	≤330mA			
	Ripple voltage	≤6V			
	Current tolerance	±5%			
	Time to light	230Vac ≤0.5S			
	Temperature drift	±10%			
	Output Line regulation	±5%			
Input	Input Line regulation	±5%			
	Rated input voltage	220-240 Vac (Max input voltage: 180-264Vac)			
	Frequency	47Hz-63Hz			
	Input current	0.6A Max			
	Power factor	≥0.95@230Vac			
	THD	≤20%@230Vac			
	Efficiency	≥89%@230Vac			
	In-rush current (peak/duration)	I<60A/350uS@230Vac			
	Typ. power input on stand-by	Pin<1W			
Protective features	No-load	Max. output voltage (no-load voltage) 70V			
	Short-circuit	Hiccup mode (auto-recovery)			
Environment condition	Working temperature	-30℃ - +50℃			
	Working humidity	20-90%RH (no condensation)			
	Storage temperature/ humidity	-40℃~ +80℃ (6 months under the class I environment); 10-90%RH (no condensation)			
	Atmospheric pressure	86-106KPa			
Safety and norms	Certifications	TUV, CE, RCM, CB			
	Hi-pot test	I/P-O/P:3.75KVac,<5mA 60S I/P-PG:1.6KVac,<5mA 60S			
	Insulation resistance	I/P-O/P:500VDC,>100MΩ			
	Surge level	Comply withIEC61000-4-5(L/N:2KV,L/PG:4KV,N/PG:4KV)			
	EMI	Comply with EN55015，EN61000-3-2			
	EMS	Comply with N61000-4-2,3,4,5,6,8,11; EN61547.			
Others	Packaging	Carton Size:385*285*210mm(L*W*H); Weight: 210g±5%/pc; Gross weight: 9.0KG±5%/ctn; 36pcs/ctn			
	IP level	/			
	Warranty	5 years (Max. case temperature must not exceed 70℃).			
Testing 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: TH9201B, flicker-free tester (flicker-free coefficient tester) 60N-01, etc.				
Test conditions	The parameters above including the power factor, THD, efficiency are all tested under the ambient temperature 25℃ and humidity 50%, AC input 230V and 90% output load.				

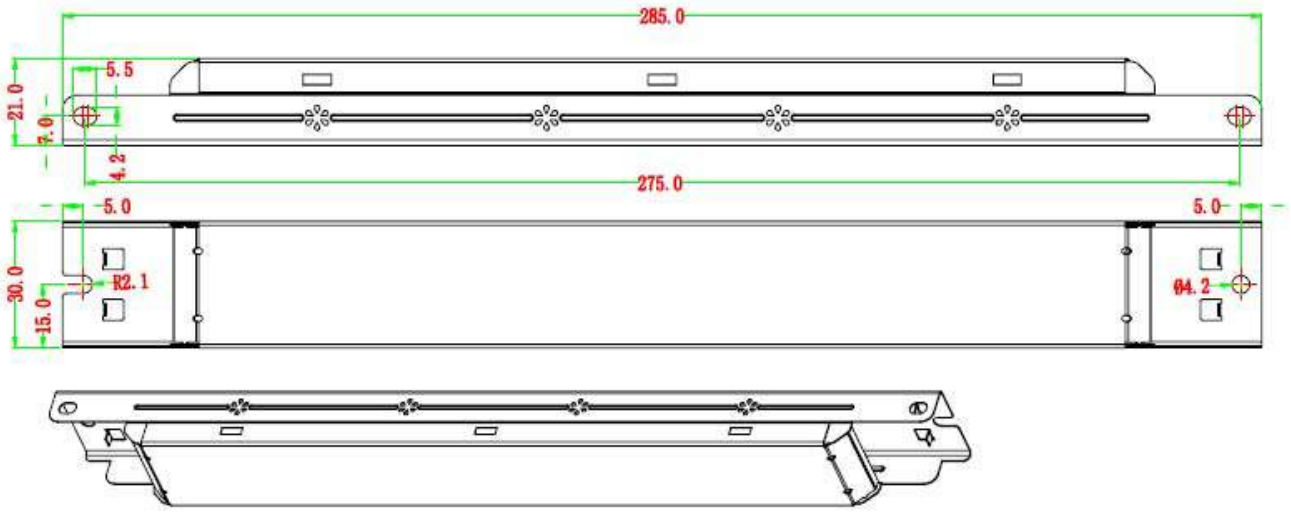
Additional Remark	1. In the power supply circuit, it is recommended that the customer should install an over-under-voltage protection and surge protection device to ensure the safety of using electricity. 2. The PC cover, shell, end caps used together with the LED driver inside the LED lamp must meet the UL94V-0 fire rating level or above. 3. As a part of the LED lamp, the LED driver is not the only factor determining the EMC performance of the LED lamp. And the EMC performance is also related to the LED lamp's structure and the wire routing. Thus we strongly recommend the manufacturer of the finished LED lamp must re-confirm the EMC of the LED lamps.

4. Product Referenced Lifetime Curve

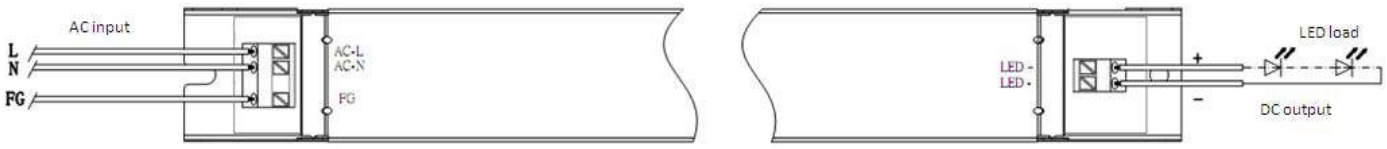
The curve below illustrates the driver's lifetime data when the LED driver's Max. case temperature reaches 40℃, 50℃, 60℃, 70℃, 80℃.



5. Dimensional Drawing(mm)



6. Wire connection Diagram



Model	LF-GMR060YE	**Series**	AC220-240V typical metal case