



SPECIFICATION FOR APPROVAL

Customer: _____

Product Material No. : _____

Model No. LF-GLD040YA




Version : V1.1

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
0.1	Original version	Zhu Yandong	2016-8-19
1.1	Output parameters are updated.	Peng Zhutao	2016-10-20

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Model	LF-GLD040YA	Series	AC100-277V, Linear Plastic Case, IP65, Dimmable & Flicker-Free
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1. Product description



Isolated LED driver for class I and class II LED luminaires.

Category: AC100-277V, linear plastic case,
0-10V/PWM/Rx dimmable, flicker free, flicker coefficient $\leq 0.5\%$

Properties: IP 65, active PFC, high PF, high efficiency, low THD

Application: tri-proof light, grille light, flood light, plant-growth light and etc

Warranty: 5 years (please refer to the warranty condition).

Certification: UL Certification will be released soon.

2. Technical data (1)

	Full model number	LF-GLD040YA1100U	LF-GLD040YA1050U	LF-GLD040YA1000U
Output	Output voltage	20-36 VDC	20-38 VDC	20-40 VDC
	Output current	1100mA	1050mA	1000mA
	Ripple voltage	< 1V		
	Current tolerance	$\pm 5\%$		
	Time to light	100Vac < 0.75S 230Vac < 0.5S 277ac < 0.5S		
	Temperature drift	$\pm 10\%$		
	Line regulation	$\pm 5\%$		
Input	Line regulation	$\pm 5\%$		
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.6A Max		
	Power factor	$\geq 0.97/100\text{Vac}$		
		$\geq 0.95/230\text{Vac}$		
		$\geq 0.90/277\text{Vac}$		
	THD	$\leq 18\%$		
	Efficiency	$\geq 84\%/100\text{Vac}$		
		$\geq 85\%/230\text{Vac}$		
$\geq 85\%/277\text{Vac}$				
In-rush current (peak /duration)	I<60A/350uS@230Vac			
Typ. power input on stand-by	Pin<1.5W			
Protective features	No-load	Max. output voltage (no-load voltage) 55V		
	Short-circuit	Hiccup mode (auto-recovery)		
Environment condition	Working temperature	-30°C ~ +60°C		
	Working humidity	20-90%RH (no condensation)		
	Storage temperature/humidity	-40°C ~ +80°C (6 months under the class I environment); 10-90%RH (no condensation)		
	Atmospheric pressure	86-106KPa		
Safety and norms	Certifications			
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S		
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ		
	Surge level	Comply with IEC61000-4-5 (L/N:1KV)		
	EMI	Comply with EN55015, EN61000-3-2		
	EMS	Comply with EN61000-4-2,3,4,5,6,8,11; EN61547		
Others	Packing (weight)	Net weight: 155g $\pm 5\%$ /pc; 91pcs/ctn; 15KG $\pm 5\%$ /ctn; Carton size: 42.5 x 30 x 21 cm (L*W*H)		
	IP level	IP65		
	Warranty condition	5 years (Max. case temperature must not exceed 85°C)		

Model	LF-GLD040YA	Series	AC100-277V, Linear Plastic Case, IP65, Dimmable & Flicker-Free
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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°C and humidity 50%, AC input 230V and 90% DC load.
Additional Remark	<ol style="list-style-type: none"> 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. 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. 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.

Technical data (2)

	Full model number	LF-GLD040YA0950U	LF-GLD040YA0900U	LF-GLD040YA0850U
Output	Output voltage	20-42 VDC	20-44 VDC	20-47 VDC
	Output current	950mA	900mA	850mA
	Ripple voltage	< 1V		
	Current tolerance	±5%		
	Time to light	100Vac<0.75S 230Vac < 0.5S 277Vac < 0.5S		
	Temperature drift	±10%		
	Line regulation	±5%		
Input	Line regulation	±5%		
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.6A Max		
	Power factor	≥0.97/100Vac		
		≥0.95/230Vac		
		≥0.90/277Vac		
	THD	≤18% at AC230V		
	Efficiency	≥84%/100Vac		
≥86%/230Vac				
≥85%/277Vac				
In-rush current (peak /duration)	I<60A/350uS@230Vac			
Typ. power input on stand-by	Pin<1.5W			
Protective features	No-load	Max. output voltage (no-load voltage) 70V		
	Short-circuit	Hiccup mode (auto-recovery)		
Environment condition	Working temperature	-30°C ~ +60°C		
	Working humidity	20-90%RH (no condensation)		
	Storage temperature/humidity	-40°C ~ +80°C (6 months under the class I environment); 10-90%RH (no condensation)		
	Atmospheric pressure	86-106KPa		
Safety and norms	Certifications			
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S		
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ		
	Surge level	Comply with IEC61000-4-5 (L/N:1KV)		
	EMI	Comply with EN55015, EN61000-3-2		
	EMS	Comply with EN61000-4-2,3,4,5,6,8,11; EN61547		
Others	Packing (weight)	Net weight: 155g±5%/pc; 91pcs/ctn; 15KG±5%/ctn; Carton size: 42.5 x 30 x 21 cm(L*W*H)		
	IP level	IP65		
	Warranty condition	5 years (Max. case temperature must not exceed 85°C)		

Model	LF-GLD040YA	Series	AC100-277V, Linear Plastic Case, IP65, Dimmable & Flicker-Free
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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°C and humidity 50%, AC input 230V and 90% DC load.
Additional Remark	<ol style="list-style-type: none"> 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. 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. 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.

Technical data (3)

	Full model number	LF-GLD040YA0800U	LF-GLD040YA0750U	LF-GLD040YA0700U
Output	Output voltage	20-50 VDC	20-50 VDC	20-50 VDC
	Output current	800mA	750mA	700mA
	Ripple voltage	< 1V		
	Current tolerance	±5%		
	Time to light	100Vac<0.75S 230Vac < 0.5S 277Vac < 0.5S		
	Temperature drift	±10%		
	Line regulation	±5%		
Input	Line regulation	±5%		
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.6A Max		
	Power factor	≥0.97/100Vac		
		≥0.95/230Vac		
		≥0.90/277Vac		
	THD	≤18% at AC230V		
	Efficiency	≥84%/100Vac		
		≥85%/230Vac		
≥85%/277Vac				
In-rush current (peak /duration)	I<60A/350uS@230Vac			
Typ. power input on stand-by	Pin<1.5W			
Protective features	No-load	Max. output voltage (no-load voltage) 70V		
	Short-circuit	Hiccup mode (auto-recovery)		
Environment condition	Working temperature	-30°C ~ +60°C		
	Working humidity	20-90%RH (no condensation)		
	Storage temperature/humidity	-40°C ~ +80°C (6 months under the class I environment); 10-90%RH (no condensation)		
	Atmospheric pressure	86-106KPa		
Safety and norms	Certifications			
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S		
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ		
	Surge level	Comply with IEC61000-4-5 (L/N:1KV)		
	EMI	Comply with EN55015, EN61000-3-2		
	EMS	Comply with EN61000-4-2,3,4,5,6,8,11; EN61547		
Others	Packing (weight)	Net weight: 155g±5%/pc; 91pcs/ctn; 15KG±5%/ctn; Carton size: 42.5 x 30 x 21 cm (L*W*H)		
	IP level	IP65		
	Warranty condition	5 years (Max. case temperature must not exceed 85°C)		

Model	LF-GLD040YA	Series	AC100-277V, Linear Plastic Case, IP65, Dimmable & Flicker-Free
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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°C and humidity 50%, AC input 230V and 90% DC load.
Additional Remark	<ol style="list-style-type: none"> 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. 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. 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.

Technical data (4)

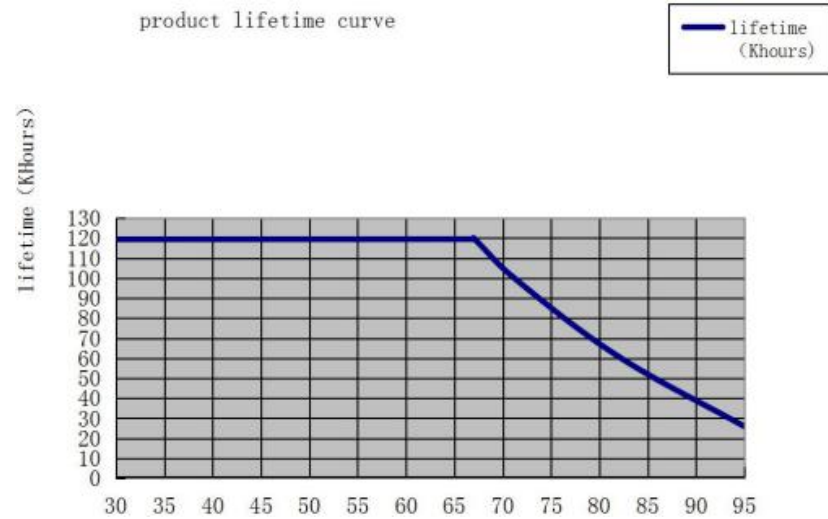
	Full model number	LF-GLD040YA0650U	LF-GLD040YA0600U	LF-GLD040YA0550U	LF-GLD040YA0500U
Output	Output voltage	20-50 VDC	20-50 VDC	20-50 VDC	20-50 VDC
	Output current	650mA	600mA	550mA	500mA
	Ripple voltage	< 1V			
	Current tolerance	±5%			
	Time to light	100Vac<0.75S 230Vac < 0.5S 277Vac < 0.5S			
	Temperature drift	±10%			
	Line regulation	±5%			
Input	Line regulation	±5%			
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)			
	Frequency	47Hz-63Hz			
	Input current	0.6A Max			
	Power factor	≥0.97/100Vac			
		≥0.95/230Vac			
		≥0.90/277Vac			
	THD	≤18% at AC230V			
	Efficiency	≥85%/100Vac	≥85%/100Vac	≥85%/100Vac	≥82%/100Vac
≥85%/230Vac		≥85%/230Vac	≥85%/230Vac	≥84%/230Vac	
≥84%/277Vac		≥84%/277Vac	≥84%/277Vac	≥83%/277Vac	
In-rush current (peak /duration)	I<60A/350uS@230Vac				
Typ. power input on stand-by	Pin<1.5W				
Protective features	No-load	Max. output voltage (no-load voltage) 70V			
	Short-circuit	Hiccup mode (auto-recovery)			
Environment condition	Working temperature	-30°C ~ +60°C			
	Working humidity	20-90%RH (no condensation)			
	Storage temperature/humidity	-40°C ~ +80°C (6 months under the class I environment); 10-90%RH (no condensation)			
	Atmospheric pressure	86-106KPa			
Safety and norms	Certifications				
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S			
	Insulation resistance	I/P-O/P: 500VDC, >100MΩ			
	Surge level	Comply with IEC61000-4-5 (L/N:1KV)			
	EMI	Comply with EN55015, EN61000-3-2			
	EMS	Comply with EN61000-4-2,3,4,5,6,8,11; EN61547			
Others	Packing (weight)	Net weight: 155g±5%/pc; 91pcs/ctn; 15KG±5%/ctn; Carton size: 42.5 x 30 x 21 cm (L*W*H)			
	IP level	IP65			
	Warranty condition	5 years (Max. case temperature must not exceed 85°C)			

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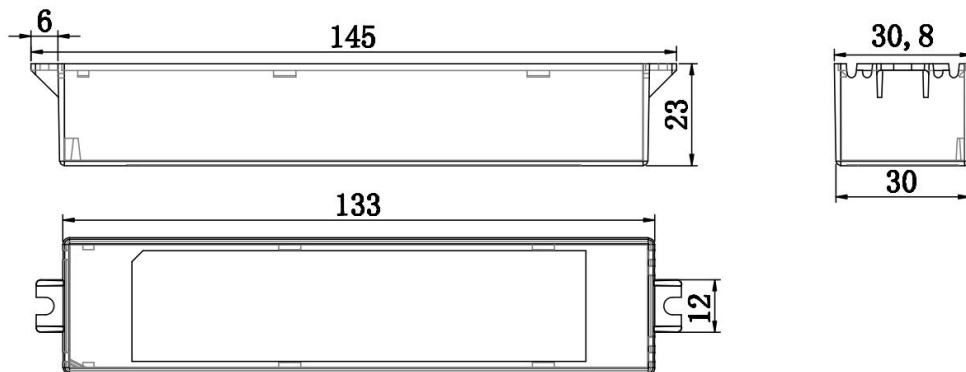
Testing equipment	AC power source: CHROMA6530, digital power meter: CHROMA66202, Oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber, lightning surge generator: Everfine EMS61000-5B, rapid group pulse generator: Everfine EMS61000-4A, spectroanalyzer: 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°C and humidity 50%, AC input 230V and 90% DC load.
Additional Remark	<ol style="list-style-type: none"> 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. Product Referenced Lifetime Curve

The curve below illustrates the driver's lifetime data when the LED driver's Max. case temperature reaches 40°C, 50°C, 60°C, 70°C, 80°C and 90°C.



4. Dimensional Drawing (unit: mm)



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5. Wire Connection Diagram:



Remark:

AC L: PVC UL 1015 hoop-up wire, AWG#18, single core, black, 250mm

AC N: PVC UL 1015 hoop-up wire AWG#18, single core, white, 250mm

LED +: PVC UL 1015 hoop-up wire AWG#18, single core, red, 250mm

LED -: PVC UL 1015 hoop-up wire AWG#18, single core, black, 250mm

DIM +: PVC UL 1015 hoop-up wire AWG#18, single core, purple, 250mm

DIM -: PVC UL 1015 hoop-up wire AWG#18, single core, gray, 250mm

6. Dimmable feature

6.1 0-10V dimmable, dimming range 0%~100%.

voltage signal	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Output current percentage	Off	6%	17%	28%	40%	50%	60%	70%	80%	90%	100%	95%-105%

6.2 Resistor dimmable, dimming range 10%~100%, resistance value range 10kΩ~100kΩ.

Resistance value	10kΩ	20kΩ	30kΩ	40kΩ	50kΩ	60kΩ	70kΩ	80kΩ	90kΩ	100kΩ	OPEN
Output current percentage	5%	15%	23%	30%	42%	51%	61%	69%	78%	88%	95%-105%

6.3 PWM dimmable, dimming range 10%~100%, 10V voltage amplitude, frequency of PWM signal 500Hz~5KHz.

PWM signal	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Output current percentage	6%	17%	28%	40%	50%	60%	70%	80%	90%	100%	95%-105%

Remark: the output current percentages above are typical values.

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