



## SPECIFICATION FOR APPROVAL

**Customer:** \_\_\_\_\_

**Product Material No. :** \_\_\_\_\_

**Model No.** \_\_\_\_\_ **LF-GLD020YA** \_\_\_\_\_



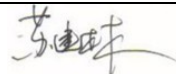
**Version :** \_\_\_\_\_ **V1.2** \_\_\_\_\_

**Manufacturer:** \_\_\_\_\_

### Customer Approval

Tested by	Checked by	Approved by

### Ledfriend Approval

Tested by	Checked by	Approved by
		

### The full model numbers required by customers

<b>Full model No.</b>		<b>Full model No.</b>	
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### E.C. List

Version	Description of change	Engineer	Date
0.1	Original version	Peng Zhutao	2016-8-19
1.0	Output parameters are updated.	Peng Zhutao	2016-10-12
1.1	The cable's color for LED- is changed, the package is changed.	Song Haiquan	2016-12-2
1.2	Cable's spec for dimming signal is changed.	Song Haiquan	2017-2-27

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[www.lifud.com](http://www.lifud.com) | China service hotline: 400-096-6815 (China technical support: 13410240457)

<b>Model</b>	LF-GLD020YA	<b>Series</b>	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 waterproof, 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 is under application.

## 2. Technical data (1)

	Full model number	LF-GLD020YA0700U	LF-GLD020YA0650U	LF-GLD020YA0600U
<b>Output</b>	Output voltage	20-29 VDC	20-31 VDC	20-33 VDC
	Output current	700mA	650mA	600mA
	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%		
<b>Input</b>	Line regulation	$\pm$ 5%		
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.4A Max		
	Power factor	$\geq$ 0.97/100Vac		
		$\geq$ 0.95/230Vac		
		$\geq$ 0.90/277Vac		
	THD	$\leq$ 20%		
	Efficiency	$\geq$ 82%/100Vac	$\geq$ 82%/100Vac	$\geq$ 83%/100Vac
$\geq$ 83%/230Vac		$\geq$ 83%/230Vac	$\geq$ 83%/230Vac	
$\geq$ 82%/277Vac		$\geq$ 82%/277Vac	$\geq$ 82%/277Vac	
In-rush current (peak/duration)	I<60A/350uS@230Vac			
Typ. power input on stand-by	Pin<1.5W			
<b>Protective features</b>	No-load	Max. output voltage (no-load voltage) 55V		
	Short-circuit	Hiccup mode (auto-recovery)		
<b>Environment condition</b>	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		
<b>Safety and norms</b>	Certifications			
	Hi-pot test	I/P-O/P: 3.75KVac, <5mA, 60S		
	Insulation resistance	I/P-O/P: 500VDC, >100M $\Omega$		
	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		
<b>Others</b>	Packing (weight)	Net weight: 140g $\pm$ 5%/pc; 70pcs/ctn; 10.5KG $\pm$ 5%/ctn; Carton size: 39 x 29 x 21 cm (L*W*H)		
	IP level	IP65		
	Warranty condition	5 years (Max. case temperature must not exceed 85°C)		

<b>Model</b>	LF-GLD020YA	<b>Series</b>	AC100-277V, Linear Plastic Case, IP65, Dimmable & Flicker-Free
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<b>Testing equipment</b>	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.
<b>Test conditions</b>	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.
<b>Additional Remark</b>	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ol>

## Technical data (2)

	Full model number	LF-GLD020YA0550U	LF-GLD020YA0500U	LF-GLD020YA0450U
<b>Output</b>	Output voltage	20-36 VDC	20-40 VDC	20-44 VDC
	Output current	550mA	500mA	450mA
	Ripple voltage	< 1V		
	Current tolerance	±5%		
	Time to light	100Vac<0.75S 230Vac < 0.5S 277Vac < 0.5S		
	Temperature drift	±10%		
	Line regulation	±5%		
<b>Input</b>	Line regulation	±5%		
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.4A Max		
	Power factor	≥0.97/100Vac		
		≥0.95/230Vac		
		≥0.90/277Vac		
	THD	≤20% at AC230V		
	Efficiency	≥83%/100Vac	≥82%/100Vac	≥81%/100Vac
		≥84%/230Vac	≥84%/230Vac	≥83%/230Vac
≥83%/277Vac		≥82%/277Vac	≥82%/277Vac	
In-rush current (peak /duration)	I<60A/350uS@230Vac			
Typ. power input on stand-by	Pin<1.5W			
<b>Protective features</b>	No-load	Max. Vout < 55V	Max. Vout < 55V	Max. Vout < 70V
	Short-circuit	Hiccup mode (auto-recovery)		
<b>Environment condition</b>	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		
<b>Safety and norms</b>	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		
<b>Others</b>	Packing (weight)	Net weight: 140g±5%/pc; 70pcs/ctn; 10.5KG±5%/ctn; Carton size: 39 x 29 x 21 cm (L*W*H)		
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### Technical data (3)

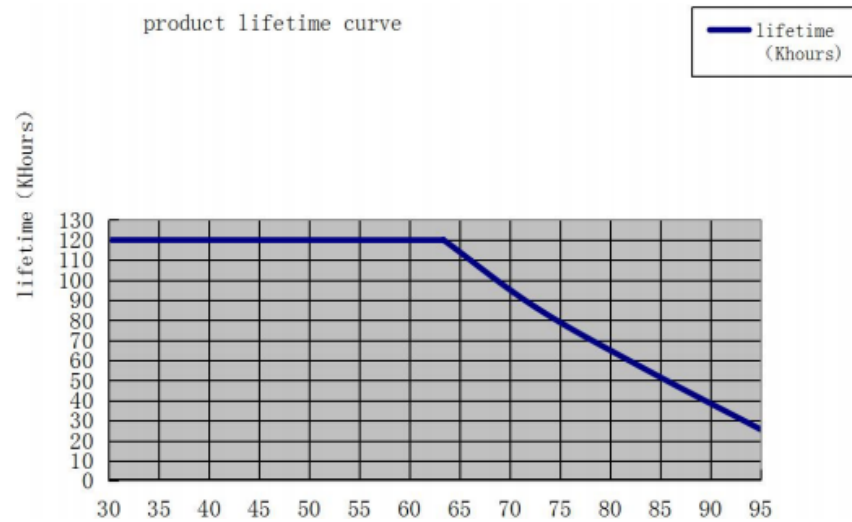
	Full model number	LF-GLD020YA0400U	LF-GLD020YA0350U	LF-GLD020YA0300U
<b>Output</b>	Output voltage	20-50 VDC	20-50 VDC	20-50 VDC
	Output current	400mA	350mA	300mA
	Ripple voltage	< 1V		
	Current tolerance	±5%		
	Time to light	100Vac<0.75S 230Vac < 0.5S 277Vac < 0.5S		
	Temperature drift	±10%		
	Line regulation	±5%		
<b>Input</b>	Line regulation	±5%		
	Rated input voltage	100-240 Vac, 277 Vac (Max input voltage: 90-305Vac)		
	Frequency	47Hz-63Hz		
	Input current	0.4A Max		
	Power factor	≥0.97/100Vac	≥0.97/100Vac	≥0.97/100Vac
		≥0.95/230Vac	≥0.94/230Vac	≥0.94/230Vac
		≥0.90/277Vac	≥0.90/277Vac	≥0.90/277Vac
	THD	≤20% at AC230V		
	Efficiency	≥81%/100Vac	≥81%/100Vac	≥81%/100Vac
		≥83%/230Vac	≥82%/230Vac	≥81%/230Vac
≥82%/277Vac		≥82%/277Vac	≥81%/277Vac	
In-rush current (peak /duration)	I<60A/350uS@230Vac			
Typ. power input on stand-by	Pin<1.5W			
<b>Protective features</b>	No-load	Max. output voltage (no-load voltage) 70V		
	Short-circuit	Hiccup mode (auto-recovery)		
<b>Environment condition</b>	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		
<b>Safety and norms</b>	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)		
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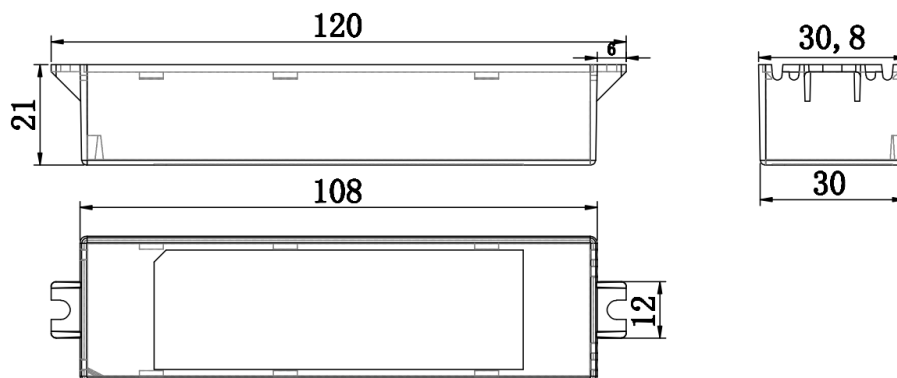
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<b>Test conditions</b>	The parameters above including the power factor, THD, efficiency are all tested under the ambient temperature 25°C and humidity 50%, AC input 230V and 90% DC load.
<b>Additional Remark</b>	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ol>

### 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 lead wire AWG#18, single core, black, 250mm
- AC\_N: PVC UL 1015 lead wire AWG#18, single core, white, 250mm
- LED+: PVC UL 1015 lead wire AWG#18, single core, red, 250mm
- LED-: PVC UL 1015 lead wire AWG#18, single core, blue, 250mm
- DIM +: PVC UL 1015 lead wire AWG#22, single core, purple, 250mm
- DIM-: PVC UL 1015 lead wire AWG#22, 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	5%	17%	25%	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	4%	10%	17%	27%	36%	44%	53%	60%	68%	76%	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	5%	17%	25%	40%	50%	60%	70%	80%	90%	100%	95%-105%

Remark: the output current percentages above are typical values.

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