

LF-GSD020YG DALI DT8 Tunable White & Flicker-Free LED Driver with a DIP Switch

Product Description

LF-GSD020YG series is a 20W constant current LED driver with DALI DT8 dimming and push dimming functions. Not only the light can be dimmed. But also the colour temperature can be changed. The input voltage limit is 198-264VAC. Its output current can be adjusted from 250mA to 500mA via the DIP switch, in steps of 50mA.

Product Features

- IP20
- Suitable for Class II light fixtures
- Constant current output. The output current can be adjusted via the DIP switch
- Built-in active power factor correction function
- Standby power consumption <0.5W
- DALI logarithmic dimming
- Push dimming
- Adjustable CCT range: 2000K-7000K
- 5-year warranty (Please refer to the warranty condition.)

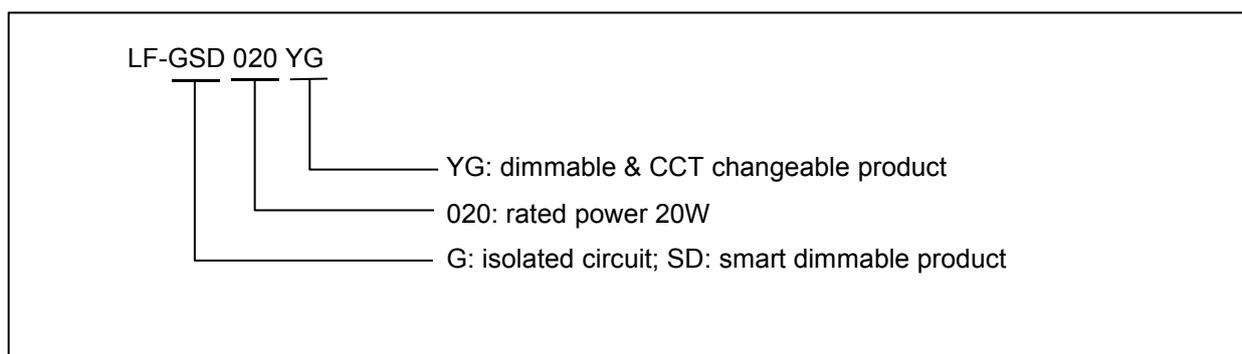


Applications

- Plant lighting
- Indoor office lighting
- Decorative lighting
- Commercial lighting
- Residential lighting



Product Naming



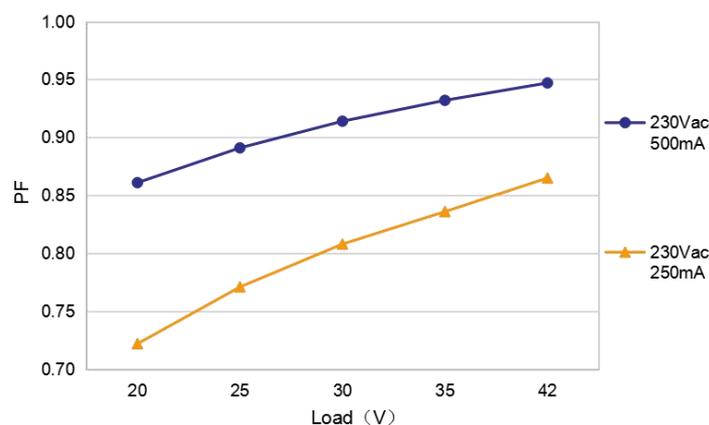
Electrical Characteristics

Model		LF-GSD020YG					
Output	Output Voltage	20-42V					
	Output Current	The output current can be adjusted via the DIP switch. Please refer to the DIP switch table.					
		250mA	300mA	350mA	400mA	450mA	500mA
	Percent Flicker (Fluctuation Depth)	<1%					
	Ripple Current	<3%					
	Current Tolerance	±3%					
	Temperature Drift	±5%					
	Start-up Time	<1S @230Vac					
Input	Input Voltage	220-240Vac (voltage limit: 198-264Vac)					
	DC Input Voltage	310-340Vdc (voltage limit: 280-374Vdc)					
	Input Frequency	47Hz-63Hz					
	Input Current	0.2A Max.					
	Power Factor	≥0.83	≥0.86	≥0.88	≥0.90	≥0.91	≥0.92
	THD	≤15%					
	Efficiency	≥80%	≥81.5%	≥82.5%	≥84%	≥84%	≥84.5%
	Inrush Current	≤60A & 50uS @230Vac					
	Load Quantity of What a Circuit Breaker can Support	Circuit Breaker Model	B10	C10	B16	C16	
		Quantity (pcs)	33	33	52	52	
	Leakage Current	≤0.7mA					
	Standby Power Consumption	≤0.5W (when the DALI signal is off)					
Protection Characteristics	Open Circuit Protection	<59V					
	Short Circuit Protection	Hiccup mode (auto-recovery)					
Environment Descriptions	Working Temperature	-30℃~+45℃					
	Working Humidity	20-90%RH (no condensation)					
	Storage Temperature/ Humidity	-30℃~+ 80℃ (six months under class I environment); 10-90%RH (no condensation)					
	Atmospheric Pressure	86KPa~106KPa					

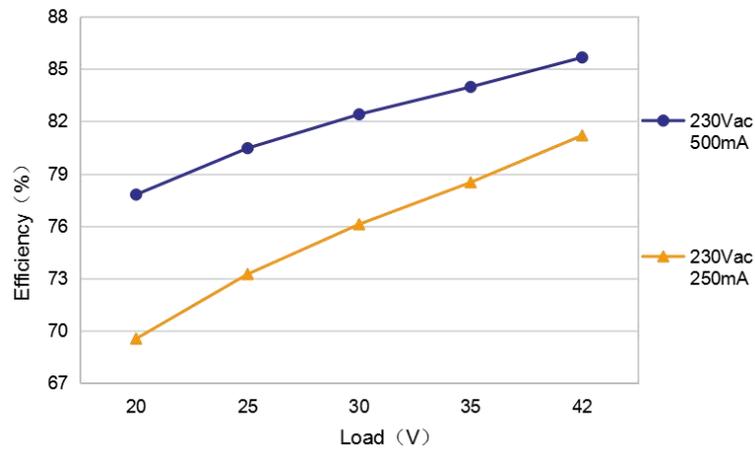
Safety and Electromagnetic Compatibility	Certifications	ENEC, CE, CB, RCM, CCC
	Withstanding Voltage	I/P-O/P: 3.75KV, 5mA, 60S
	Insulation Resistance	I/P-O/P: >100MΩ @500Vdc
	Safety Standards	ENEC: EN61347-1: 2015, EN 61347-2-13: 2014/A1:2017, EN 62384: 2016/A1: 2009 CCC: GB19510.1-2009, GB19510.14-2009 RCM: AS 61347.2-13:2018 CE-LVD: EN 61347-2-13: 2014/A1: 2017, EN 61347-1: 2015, EN 62493: 2015 CB: IEC 61347-1: 2015, IEC61347-2-3: 2014, IEC 61347-2-13: 2014/AMD1: 2016
	EMI	CE-EMC/RCM: EN55015, EN61000-3-2, EN61000-3-3 CCC: GB/T17743, GB17625.1, GB17625.2
	EMS	CE-EMC/RCM: EN61000-4-2, 3, 4, 5 (lightning strike 1KV), 6, 11 CCC: GB/T17626.2, 3, 4, 5 (lightning strike 1KV), 6, 11
Others	IP Rating	IP20
	RoHS	RoHS 2.0 (EU) 2015/863
	Warranty Condition	5 yrs (TC≤84℃)
	DALI Standard	IEC 62386-101 102 209: DALI 1.0
Remarks	<p>1. It is recommended that customer should install overvoltage and undervoltage protection devices and surge protection devices in the power supply circuits of the light fixtures to ensure safety before connecting to electricity.</p> <p>2. As an accessory, the LED driver is not the only factor determining the EMC performance of the LED light fixture. The structure and the wiring of the light fixture are also relevant. Thus it's strongly recommended the LED light fixture manufacturer should re-confirm the EMC of the whole LED light fixture.</p> <p>3. The test conditions of the circuit breaker configuration quantity are the same as that of the inrush current test.</p> <p>4. Unless otherwise stated, the parameters above are test results under the conditions of ambient temperature of 25℃, humidity of 50%, DALI signal input, 100% load, maximum output current, CCT of 3115K and input voltage of 230Vac.</p>	

Product Feature Curves

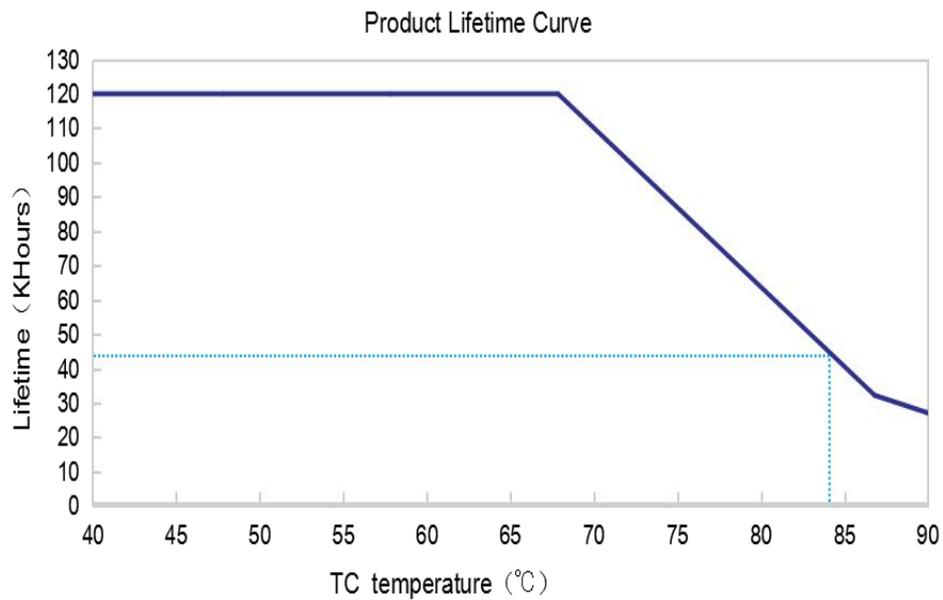
1. PF curve



2. Efficiency curve



3. Lifetime curve



Instructions of Dimming Operation

■ Terminals

INPUT

AC-L	AC live wire input
AC-N	AC neutral wire input
PUSH	PUSH dimming signal input
DA1	DA1 dimming signal input
DA2	DA2 dimming signal input

OUTPUT

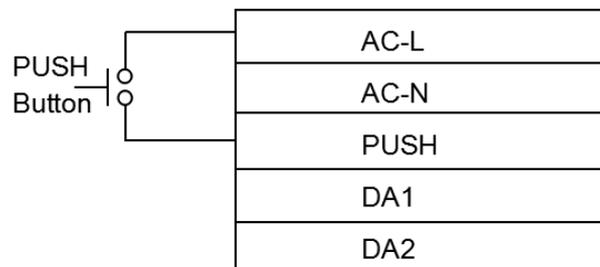
WW+	Positive electrode output of warm white light
WW-	Negative electrode output of warm white light
CW+	Positive electrode output of cool white light
CW-	Negative electrode output of cool white light

■ DIP Switch Table

I rated (CC)	1	2	3	4
500mA	OFF	OFF	OFF	OFF
450mA	OFF	OFF	ON	OFF
400mA	OFF	ON	ON	OFF
350mA	ON	OFF	OFF	OFF
300mA	ON	OFF	ON	OFF
250mA	ON	ON	OFF	OFF

Remark: All settings are default to be 500mA, the maximum current, except the mentioned settings above.

■ Wiring diagram for dimming & CCT changing in the push dimming mode



In the push dimming mode, double click (Each click is not less than 100ms. The interval of two clicks is not more than 200ms.) the push button and the dimming mode or the CCT changing mode will be switched to each other.

The push dimming function has a memory function in case of power failure. Connect to the power supply again and the light will recover to the status before the power failure.

■ Push dimming operations

Operation	Operation Time	Function
Instant Push	0.1 - 0.5 sec	LED Light on / off
Long Push	0.6 - 4.6 sec	Dim up / down
Reset Push	> 9 sec	Reset to the 50% luminance

The push operation won't cause any variation if it's less than 0.1 sec.

- The minimum dimming depth of push dimming is 1% (lout).
- When entering to the push dimming mode for the first time, it's default to be in the dimming mode. (100% luminance; 50% luminance for each of the warm light output and cool light output)
- For the first long press on the push button, the CCT remains the same and the luminance dims.
- In the push dimming mode, the current dimming direction (dimming up or down) is opposite to the previous one.

■ CCT changing in the push dimming mode

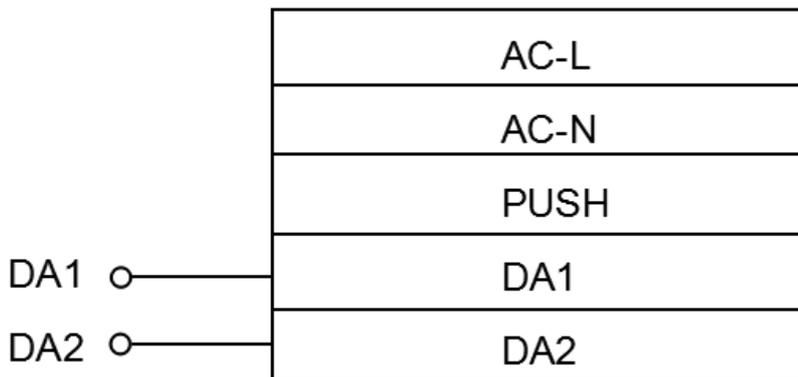
Operation	Operation Time	Function
Instant Push	0.1 - 0.5 sec	LED Light on / off
Long Push	0.6 - 4.6 sec	CCT changing
Reset Push	> 9 sec	Reset to the 50% luminance for each of the warm-light output and cool-light output

The push operation won't cause any variation if it's less than 0.1 sec.

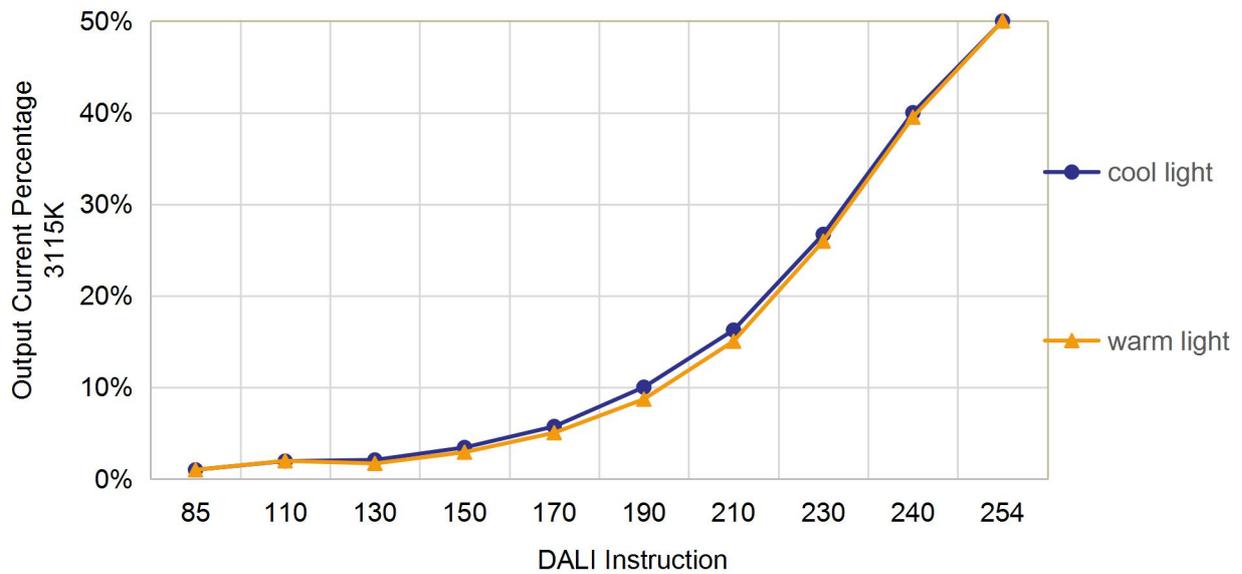
- The minimum CCT is warm light and the maximum is cool light.
- When entering to the CCT changing mode of the push dimming for the first time, it's default to be 50% luminance for each of the warm-light output and cool-light output.
- For the first long press on the push button, the luminance remains the same and the CCT begins to be cooler.
- In the push dimming mode, the current direction (becoming warmer or cooler) is opposite to the previous one.

■ DALI dimming operations

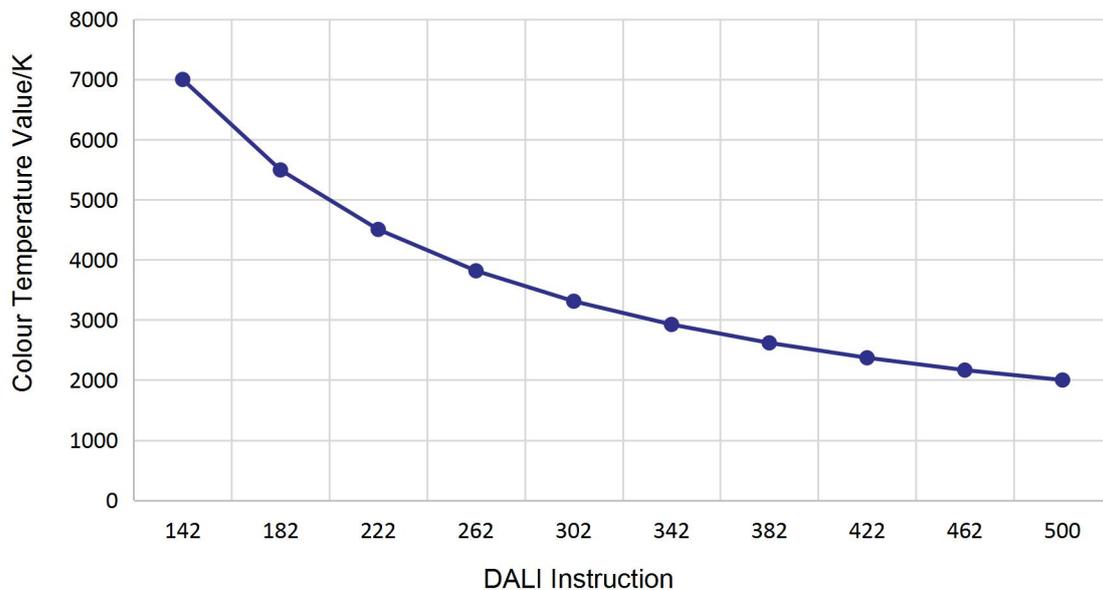
- Factory default is 100% luminance with 50% luminance of each of the warm-light output and cool-light output.
- Connect the DALI signal to the DA1 and DA2 terminals.
- DALI protocol includes 16 groups and 64 IP addresses.
- The minimum dimming depth of the DALI dimming is 1% (lout).



DALI Logarithmic Dimming Curve



Colour Temperature Curve



■ Instructions of switching dimming modes

- For the first time being powered on, it's default to be in the DALI dimming mode at 100% luminance with 50% luminance of each of the warm-light output and cool-light output.
- Switching between the DALI dimming and the push dimming modes:
 - ◆ Switch to the push dimming mode: Long press the push button for over 0.6 sec and then it's switched to the push dimming mode. The current output status is the same as the previous one.
 - ◆ Switch to the DALI dimming mode: Receiving any DALI instruction will switch to the DALI dimming mode. If it's a non-dimming instruction, the output status remains the same. If it's a dimming instruction, the light will be dimmed as the instruction tells.

Label

INPUT **LED Driver (LED 控制装置)**

Model: LF-GSD020YG Preparation for input and output

AC-L Input: 220-240V~50/60Hz Max.0.2A

AC-N U out: 59V == PF: >0.9C Prated:21W(Max) 7.5mm

PUSH

DA1 For 2 -Channel LED Driver

DA2 For Australia and New Zealand,the marking label with

0.75-1.5 □

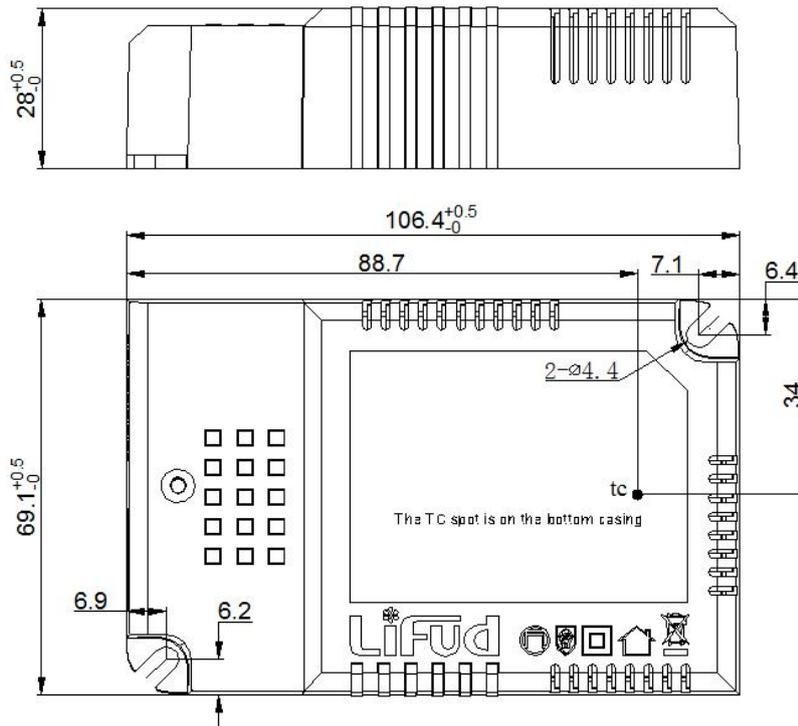
OUTPUT

ta	Vo DC	I rated(CC)	1	2	3	4	tc:90°C
45°C	20V-42V	500mA	OFF	OFF	OFF	OFF	
		450mA	OFF	OFF	ON	OFF	
		400mA	OFF	ON	ON	OFF	
		350mA	ON	OFF	OFF	OFF	
		300mA	ON	OFF	ON	OFF	
		250mA	ON	ON	OFF	OFF	

www.lifud.com Made in China (中国制造)

ON OFF 1 2 3 4

Dimensions (unit: mm)



Packaging Specifications

Model	LF-GSD020YG
Packaging dimensions	385*285*210 mm (L*W*H)
Quantities	9 pcs/layer; 6 layers/ctn; 54 pcs/ctn
Weights	0.125 kg/pc; 7.7 kg/ctn

Transportation & Storage

■ Transportation

- Suitable transportation means: vehicles, boats and aircraft.
- During transportation, there should be awnings for rain protection and sun protection. Civilized loading and unloading are required. There should be no severe vibration or impact.

■ Storage

- Storage in accordance with the provisions of the Class I environment. For products which have been stored for more than six months, they mustn't be used until they pass the re-inspection.

Attention

- Please use this product according to its specifications otherwise there may be malfunction.
- Use light fixtures that have not been certified or are not compatible with the LED drivers may cause fire or other hazards.
- Man-made damage, any use beyond the specification and non-original-factory modification are not covered by warranty.

Remark: The final interpretation right of the contents of this data sheet belongs to Lifud Technology Co., Ltd.

Change Resume

Version	Content of Change	Date	Remark
V1.0	Formal release	19 JUN 2020	