

Specification

Customer's Name: _____

Product Material No. : _____

Model: LF-GSD020YE

Version: V1.0

Customer Approval

| Examined by | Reviewed by | Approved by |
|-------------|-------------|-------------|
| | | |

LIFUD Approval

| Drafted by | Reviewed by | Approved by |
|-----------------|-------------|---------------|
| Huang Zhizhuang | Li Long | Zhong Chunlin |

Models Chosen by the Customer

| | | | |
|-----------------|--|-----------------|--|
| Full model name | | Full model name | |
| Full model name | | Full model name | |

E.C. List

| Version | Description of Change | R&D | Date |
|---------|-----------------------|-----------------|------------|
| 1.0 | Official release | Huang Zhizhuang | 2019-06-18 |
| | | | |
| | | | |



Product Description

LF-GSD020YE series is a 20W constant current LED power supply. Input voltage limit is 200-264VAC. Output current can be selected from 250mA to 500mA via a DIP switch, 50mA every step. Owing to the unique circuit structure, the efficiency of this series reaches up to 87%. Equipped with DALI & PUSH dimming functions, this product can be a good solution for various LED lighting system designs.

Product Feature

- 1. Constant current output. The current value can be selected via a DIP switch, 50mA every step.
- 2. Metal housing. Compatible with the Class I and Class II light fixtures
- 3. Built-in active power factor correction function
- 4. Stand-by power consumption <0.5W
- 5. DALI dimming (Logarithmic dimming curve, linear dimming curve and push dimming functions are optional.)
- 6. Warranty: 5 years (Please refer to the warranty condition.)

Application

- warm house lighting
- flood-light lighting
- indoor office lighting
- decorative lighting
- commercial lighting
- residential lighting

Technical Data

| Full Model Number | | LF-GSD020YE | | | | | |
|-------------------|-------------------|---|-------|-------|-------|-------|-------|
| Output | Output Voltage | 25-42V | | | | | |
| | Output Current | The output current is selectable via a DIP switch. Refer to the DIP switch table. | | | | | |
| | | 250mA | 300mA | 350mA | 400mA | 450mA | 500mA |
| | Ripple Voltage | <2V @ 50Hz | | | | | |
| | Percent Flicker | <0.5% @ 50Hz, 230Vac | | | | | |
| | Current Tolerance | ±5% | | | | | |
| | Temperature Drift | ±10% | | | | | |
| | Line Regulation | ±5% | | | | | |
| | Start-up Time | <1s @ 230VAC | | | | | |

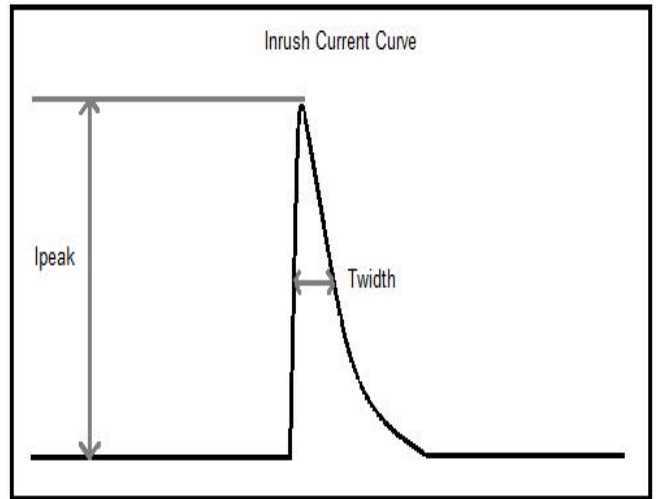
| | | |
|------------------------------|---|--|
| Input | Line Regulation | ±5% |
| | Input Voltage | 220-240VAC (voltage limit: 200-264VAC) |
| | Input Frequency | 50 / 60Hz |
| | Input Current | 0.15A Max. |
| | Power Factor | ≥0.9/230VAC, 500mA, LED load, DC42V |
| | THD | ≤15% |
| | Efficiency | ≥87% @ 230VAC, 500mA, LED load, DC42V |
| | Inrush Current | ≤80A @ 350uS @ 230VAC (Max.) |
| | Stand-by Power | ≤0.5W (when DALI's OFF signal takes into effect) |
| Protective Feature | Open Circuit Protection | <55V |
| | Short Circuit Protection | Hiccup mode (auto-recovery) |
| Environment Condition | Working Temperature | -30°C ~ +50°C |
| | Working Humidity | 20-90%RH (no condensation) |
| | Storage Temperature/Humidity | -30°C ~ 80°C (six months under class I environment); 10-90%RH (no condensation) |
| | Atmospheric Pressure | 86-106KPa |
| Safety & Norm | Certificate | CB.CE.ENEC.RCM.CCC.DALI 2.0 |
| | Withstand Voltage | I/P-O/P: 3.75KV, 5mA, 60s |
| | Insulation Resistance | I/P-O/P: 500VDC, >100MΩ |
| | Surge Rating | IEC61000-4-5 (L-N: 1KV; L-PE:2KV; N-PE: 2KV) |
| | Safety Standard | EN61347, GB19510 |
| | Electromagnetic Interference | EN55015, EN61000-3-2 |
| | Electromagnetic Susceptibility | EN61000-4-2, 3, 4, 5, 6, 8, 11; EN61547 |
| Others | IP Rating | IP20 |
| | Warranty Condition | 5 years (Tc≤73 °C) |
| | DALI Executive Standard | IEC 62386-101, 102, 207: DALI2.0 |
| 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, spectrum analyzer: KH3935, hi-pot tester: TH9201B, stroboscope (percent flicker tester) 60N-01, etc. | |
| Testing Condition | Unless otherwise stated, the parameters of the power factor, THD and efficiency are the test results under the ambient temperature of 25°C and humidity of 50%, AC input of 230V and 100% load. | |
| Additional Remark | <ol style="list-style-type: none"> 1. It is recommended that customer should install protection devices for surge and for over & under voltage to ensure safety before connecting to electricity. 2. Make sure the AC power is disconnected and there's no electricity before using the DIP switch to adjust output current. 3. The PC cover, housing, end caps and other parts of the LED driver inside the LED light fixture must conform to UL94-V0 flammability standard or above. 4. 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 re-confirms the EMC of the whole LED light fixture. | |

Circuit Breaker & Relevant Parameters

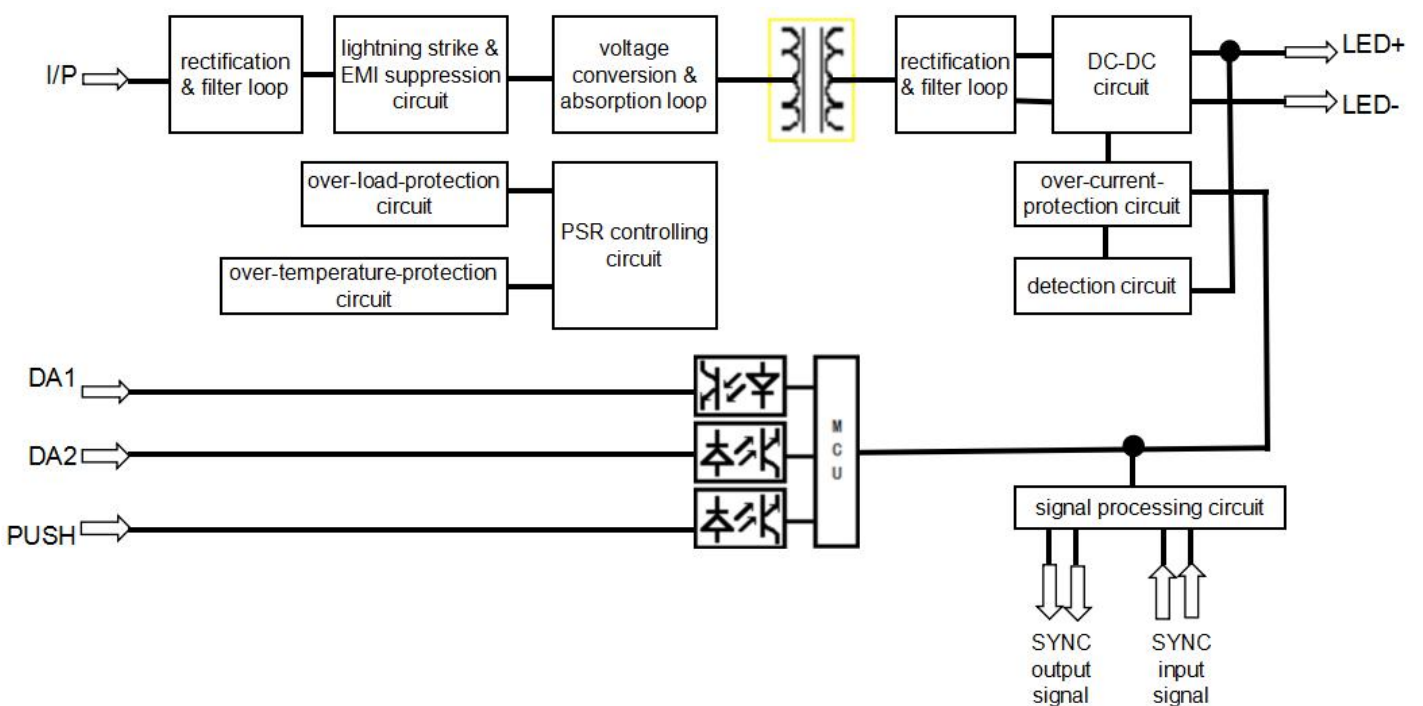
| Name | Value | Remark |
|--|----------------|---|
| Surge peak current (Ipeak) | 10.2A | Input voltage 230Vac |
| Surge half-peak time (Twidth) | 35μs | Input voltage 230Vac. Measure the time for Ipeak to drop to its half value. |
| Quantity of the same model driver that type-B 16A circuit breaker can configure. | 100 pcs (max.) | |

Driver quantities are below if use another type of circuit breaker.

| Type | Rank | Qty of accommodated drivers | Relative conversion ratio |
|------|------|-----------------------------|---------------------------|
| B | 10A | 63 pcs | 63% |
| | 13A | 81 pcs | 81% |
| | 16A | 100 pcs | 100%(benchmark) |
| | 20A | 125 pcs | 125% |
| | 25A | 156 pcs | 156% |
| C | 10A | 104 pcs | 104% |
| | 13A | 135 pcs | 135% |
| | 16A | 170 pcs | 170% |
| | 20A | 208 pcs | 208% |
| | 25A | 260 pcs | 260% |



Function Diagram

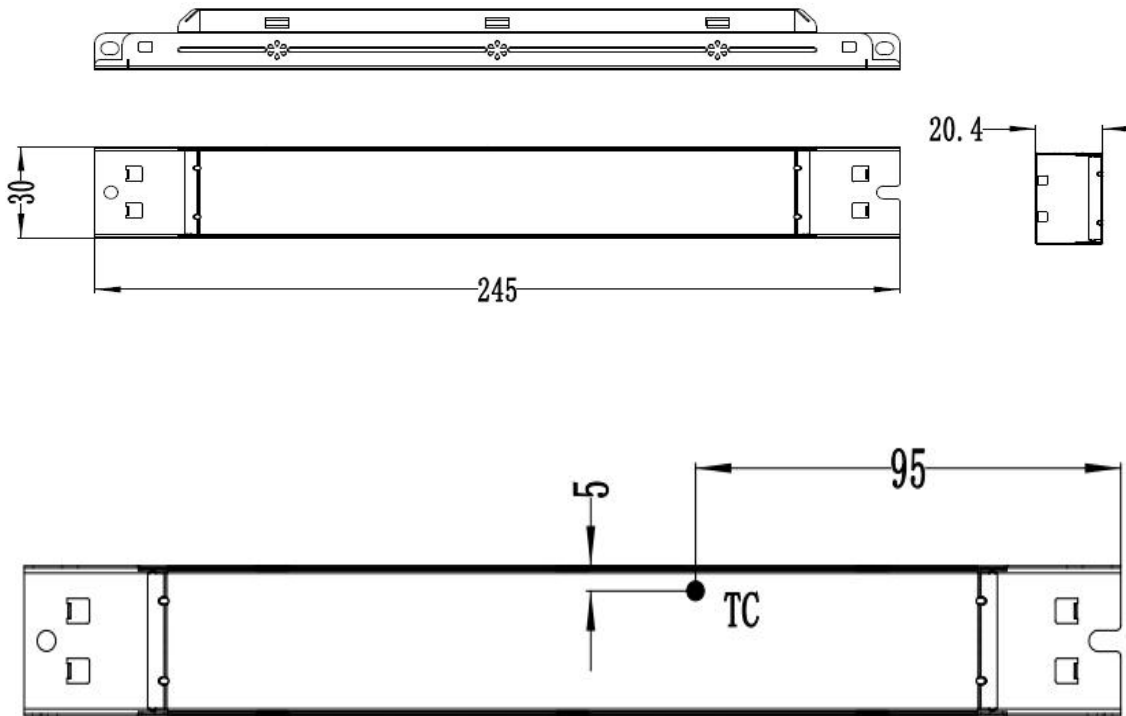


DIP Switch Table

| Ta | Vo DC | Current | 1 | 2 | 3 |
|------|--------|---------|----|----|----|
| 50°C | 25~42V | 500mA | — | — | — |
| | | 450mA | — | — | ON |
| | | 400mA | — | ON | — |
| | | 350mA | — | ON | ON |
| | | 300mA | ON | — | — |
| | | 250mA | ON | — | ON |

Remark: Apart from the noted ways of dial codes, the others are default 500mA, the maximum current.

Dimension (unit: mm, tolerance: +0.5mm) & TC Spot



Product Label

| | | | | | | | | | | | |
|--|--|------------------------|------------------|----|---|-------------|----|----|----|--|--|
| INPUT AC-L AC-N NC DALI PUSH DALI PUSH 0.75-1.5 | | Un: 220-240V ~ | In: 0.15A | | • tc LED Driver Model: LF-GSD020YE For LED modules only | 1 rated(CC) | 1 | 2 | 3 | Preparation for input and output www.lifud.com Made in China | OUTPUT LED+ LED- 0.5-1.0 |
| | | Fn: 50/60Hz | Prated: 21W(Max) | | | 250mA | ON | — | ON | | |
| | | Output Voltage: 25-42V | tc: 90°C | | | 300mA | ON | — | — | | |
| | | Uout: 55V | ta: 50°C | | | 350mA | — | ON | ON | | |
| PF: 0.9C | | 400mA | — | ON | — | | | | | | |
| | | 450mA | — | — | ON | | | | | | |
| | | 500mA | — | — | — | | | | | | |

Wiring Diagram



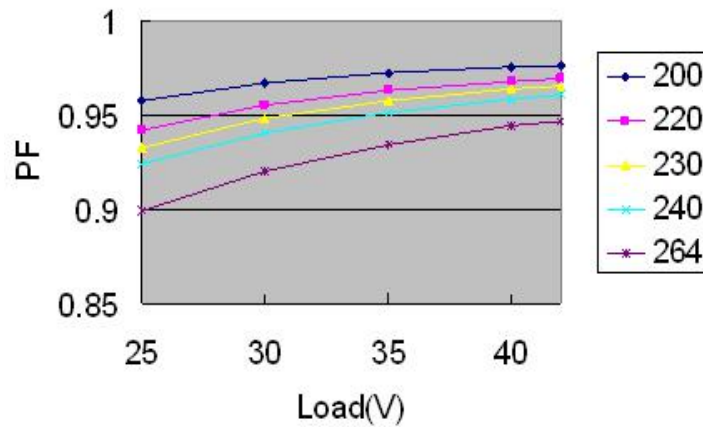
Packaging Specification

| Model | LF-GSD020YE |
|------------------|---------------------------------------|
| Carton dimension | 375*275*28mm(L*W*H) |
| Quantity | 8 pcs/layer; 7 layers/ctn; 56 pcs/ctn |
| Weight | 175g±5%/pc; 9.9Kg±5%/ctn |

Product Feature Curve

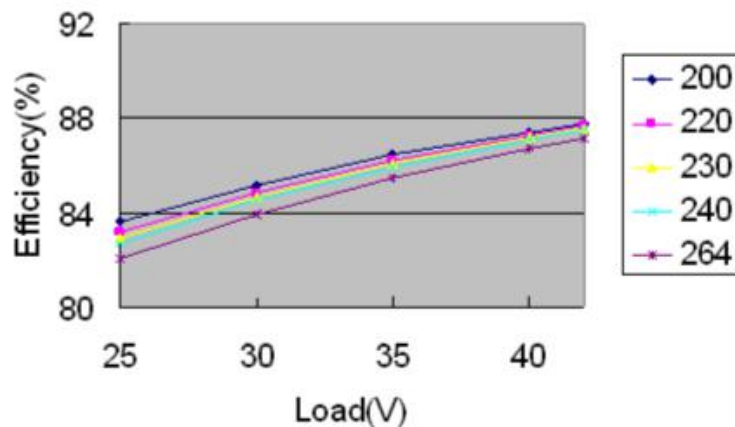
1. PF curve

The diagram below is about 500mA load voltage and PF.



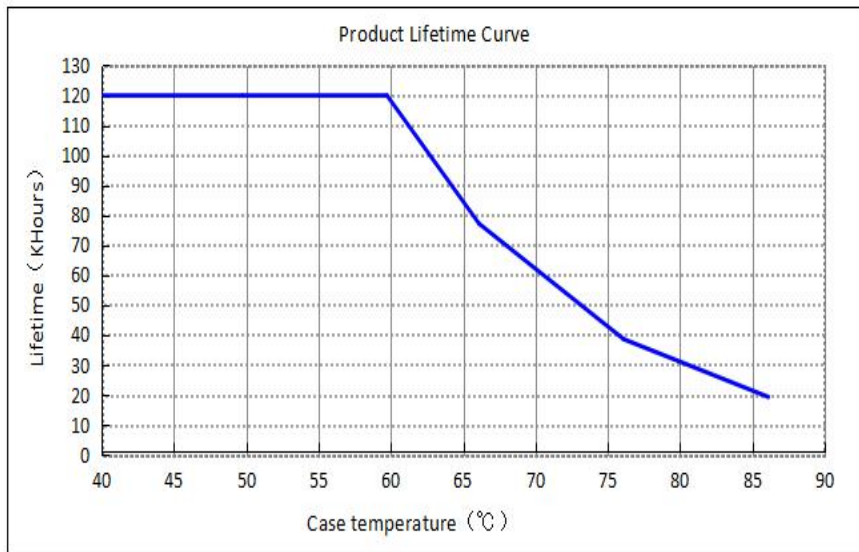
2. Efficiency curve

The diagram below is about 500mA load voltage and efficiency value.



3. Lifetime curve

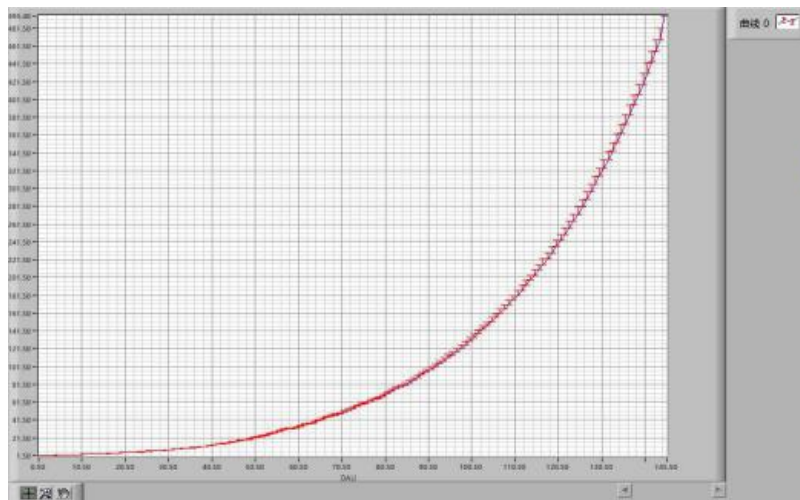
The curve below illustrates the driver's lifetime data when its case temperature in an airtight space reaches 40°C, 50°C, 60°C, 70°C, 80°C and 90°C.



4. Dimming curve

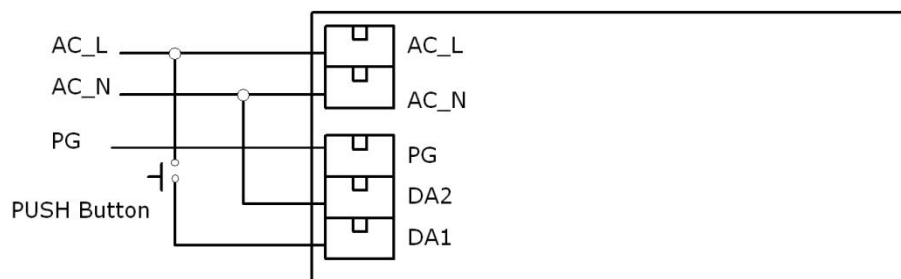
The diagram below is about 500mA full load DC42V.

Output Current & Standard Error




Statement of Dimming Operation

1. Wiring diagram for PUSH dimming

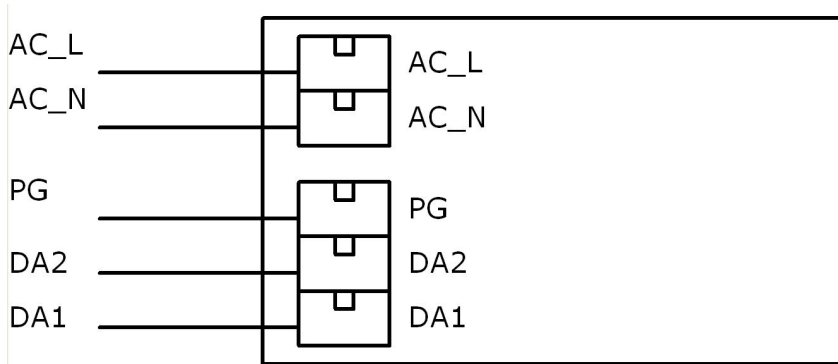


(1) PUSH dimming

| Operation | Operation Time | Function |
|--------------|-------------------|-----------------------|
| Instant Push | 0.1 sec ~ 0.5 sec | Light On / Off |
| Long Push | 0.5 sec ~ 10 sec | Brighter / Dimmer |
| Reset Push | > 11 sec | Back to the Brightest |

- (2) Factory default setting is of 100% brightness.
- (3) The push operation won't cause any variation if it's less than 0.05 sec.
- (4) In DALI & PUSH mode, up to 64 pcs of power supplies can be connected in parallel.
- (5) The max. length of the wire from the button to the furthest LED power supply is 135m. Wire diameter: 16-22AWG.
- (6) The button can only be connected to the AC-L and DA1 terminals of LF-GSD020YE. Connecting to AC-N will cause short circuit. 
- (7) The minimum dimming depth of PUSH is 3%*Iout.

2. DALI dimming



- (1) Connect DALI signal to DA1 and DA2 terminals.
- (2) DALI protocol includes 16 group and 64 IPs.
- (3) The minimum dimming depth of DALI is 3%*Iout.

3. Dimming mode option

- (1) DALI dimming function and push dimming function cannot be executed at the same time, otherwise the DALI dimmer will be damaged.
- (2) After choosing push dimming function, connect the parts according to the relative wiring diagram. Disconnect DALI wires otherwise high voltage will go through DALI dimming system and burn DALI devices.
- (3) After choosing DALI dimming function, connect the parts according to the relative wiring diagram. Disconnect push dimming wires otherwise high voltage will go through DALI dimming system and burn DALI devices.

Attention

- 1. Use this product according to the specifications. Otherwise there may be malfunction.
- 2. Use luminaires that have not been certified or are not compatible with the drivers may cause fire, explosion or other hazards.
- 3. Man-made damage is not covered by warranty.

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