

## LF-GCV240H24-YH

SELV 24V constant voltage switching power supply Output current 10A max.



### Product family features

- Full rated power output
- No-load power consumption  $\leq 0.5W$
- Protection: short circuit/overload/overvoltage/OTP
- Operating altitude up to 5000m
- Output power adjustable via external DIP switch
- Soft-start function selectable via DIP switch
- Cooling by free air convection
- 5 years guarantee
- Lifetime up to 100,000H



### Product family benefits

- Compact size
- High efficiency
- Long lifetime and high reliability

### Typical applications

- For strip light
- For office, commercial, and decorative lighting

### Product parameters

- |                            |                      |
|----------------------------|----------------------|
| — Output current 0-10A     | — Output voltage 24V |
| — Output power 0-240W      | — Efficiency 94%     |
| — Input voltage 176-264Vac |                      |

## Electrical data

### Input data

|  |                   |
|--|-------------------|
| Nominal input voltage                      | 220 ... 240V      |
| Input voltage AC                           | 176 ... 264V      |
| Mains frequency                            | 50/60Hz           |
| Power factor                               | ≥0.4              |
| Efficiency                                 | ≥93%              |
| THD  | /                 |
| Input current                              | 3A Max            |
| Inrush current                             | 90A <sup>1)</sup> |
| Loading number on circuit breaker 25 A (B) | 3                 |
| Loading number on circuit breaker 25 A (C) | 4                 |
| Loading number on circuit breaker 32 A (B) | 4                 |
| Loading number on circuit breaker 32 A (C) | 6                 |
| Protective conductor current               | ≤3.5mA            |
| Stand-by power consumption                 | ≤0.5W             |

### Output data

|                        |                                 |
|------------------------|---------------------------------|
| Nominal output voltage | 24V                             |
| Nominal output current | 0-10A                           |
| Maximum output power   | 240W                            |
| Nominal output power   | 0... 240W                       |
| Flicker                | According to IEEE Std 1789-2015 |
| CIE SVM                | ≤0.4                            |
| IEC-Pst                | ≤1                              |
| Current tolerance      | /                               |
| Ripple voltage         | 500mV Max                       |
| Voltage tolerance      | ±2%                             |
| No-load voltage        | 24.5V Max                       |
| Start-up time          | <0.5S                           |

### Safety

|                               |  |
|-------------------------------|--|
| Withstanding voltage          | I/P-O/P -: 3.75kV&5mA&60S; I/P-PE: 1.5kV&5mA&60S<br>O/P-PE: 0.5kV&30mA&60S |
| Surge capability (L-N)        | 2 kV   |
| Surge capability (L/N-Ground) | 4 kV   |
| Insulation resistance         | I/P-O/P I/P-PE O/P-PE: > 100MΩ@500Vdc                                      |
| Lifetime                      | Up to 100,000 hours <sup>2)</sup>  |
| Guarantee                     | 5 years <sup>3)</sup>  |

1)  $t = 650 \mu s$

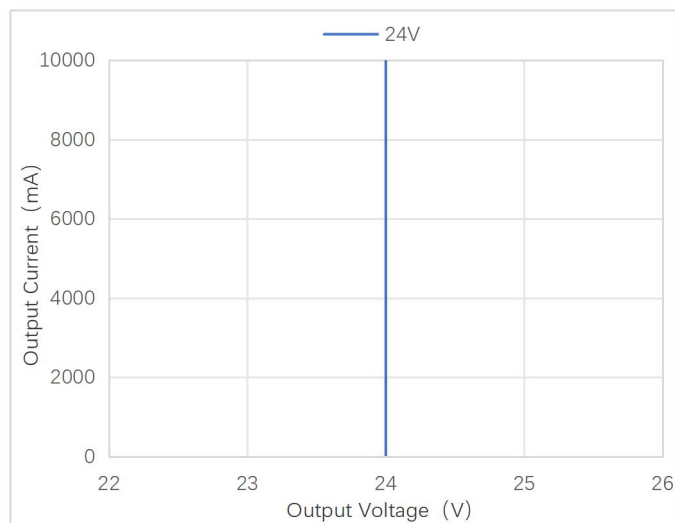
2) For details, please refer to the service life table

3) 5 years@ $T_c \leq 83^\circ C$

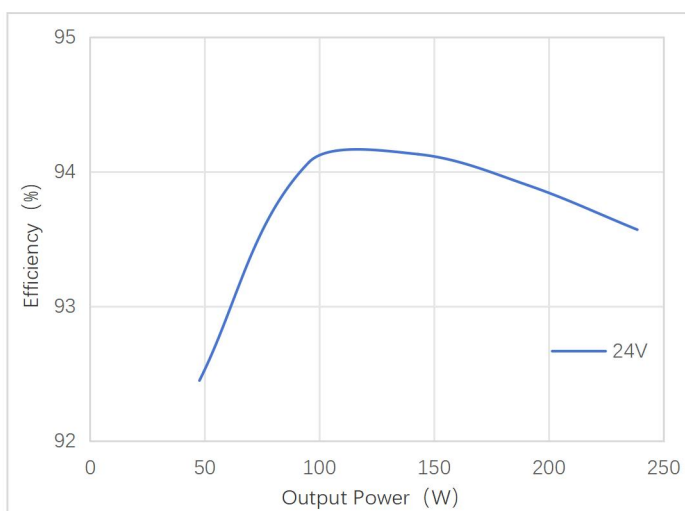
4) The ambient temperature derating of  $5^\circ C/1000m$  for operating altitude higher than 2000m

## Characteristic diagrams

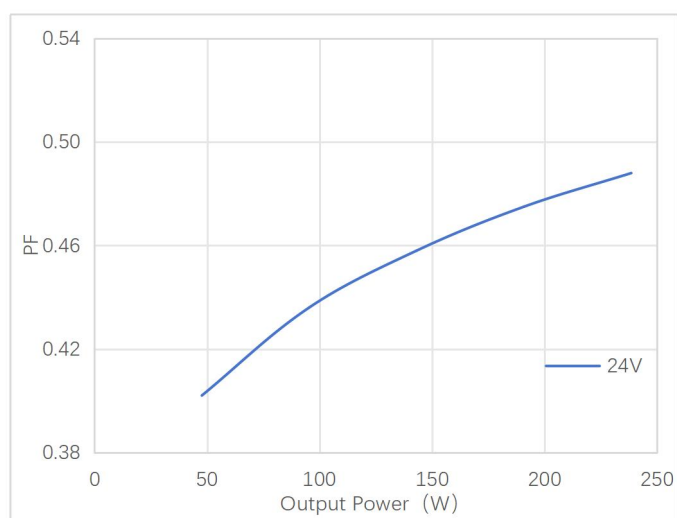
Operating Window



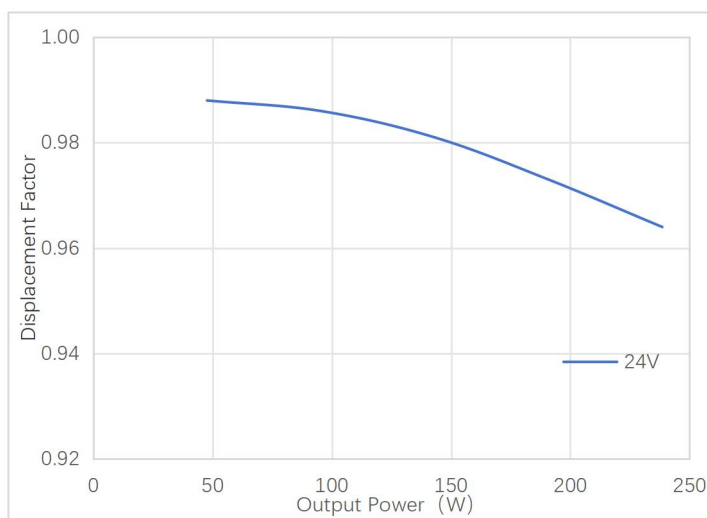
Typical Efficiency vs Load



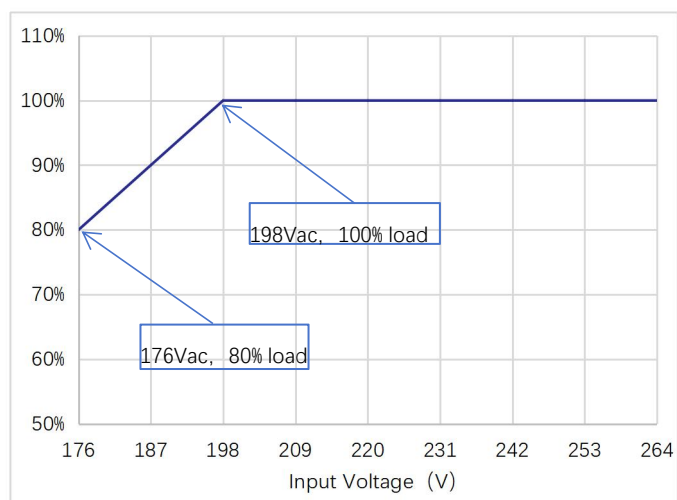
Typical Power Factor vs Load



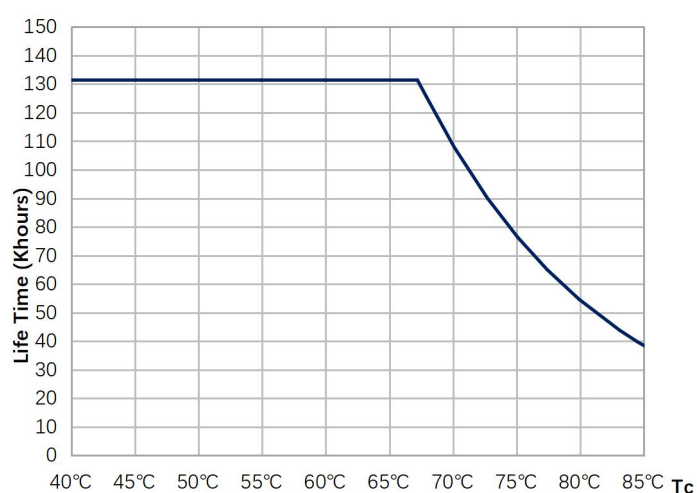
Displacement Factor vs Load



Derating Curve



Lifespan



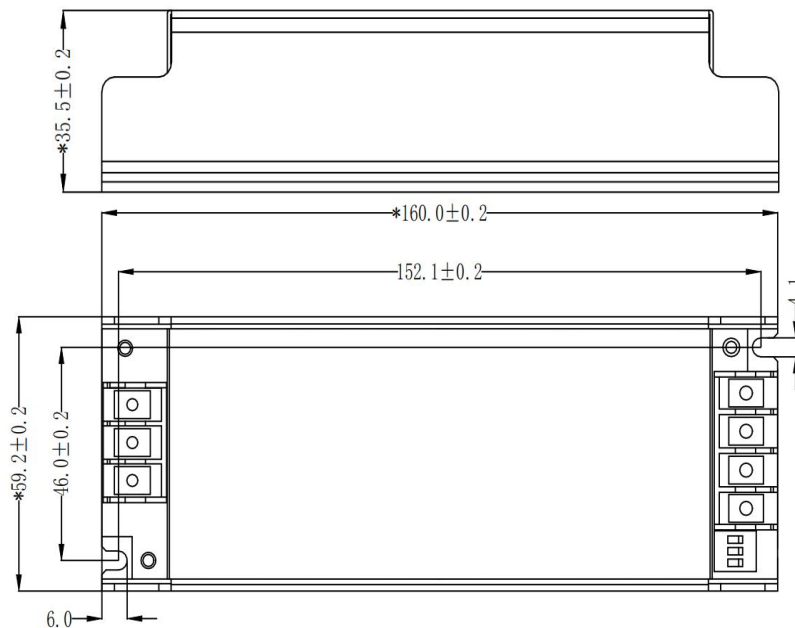
## Service life

| Model           | I <sub>out</sub> | P <sub>out</sub> | T <sub>a</sub> | 40°C      | 50°C     |
|-----------------|------------------|------------------|----------------|-----------|----------|
| LF-GCV240H24-YH | 10000mA          | 240W             | T <sub>c</sub> | 70°C      | 80°C     |
|                 |                  |                  | Lifetime       | >100,000h | >50,000h |

Note: The design life of the LED driver is as described above under reference conditions. The failure probability is less than 10%.

The relationship between T<sub>c</sub> and T<sub>a</sub> also depends on the design of the luminaire.

## Dimensions (unit:mm)



|                                      |                  |
|--------------------------------------|------------------|
| Mounting hole spacing, length        | 152.1±0.2mm      |
| Diameter of positioning hole         | 4.1mm            |
| Product weight                       | 325g±5%          |
| Cable cross-section, input side      | 0.75 ... 2.5 mm² |
| Cable cross-section, output side     | 1.0 ... 2.5 mm²  |
| Wire preparation length, input side  | 6 ... 7mm        |
| Wire preparation length, output side | 6 ... 7mm        |
| Length                               | 160±0.2mm        |
| Width                                | 59.2±0.2mm       |
| Height                               | 35.5±0.2mm       |

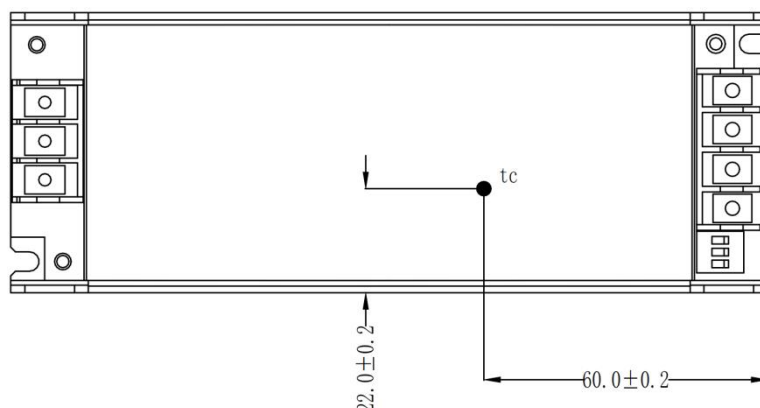
## Colors & materials

|                 |                 |
|-----------------|-----------------|
| Casing material | Aluminium alloy |
| Casing color    | Silver gray     |

## Temperature & operating conditions

|                                      |   |
|--------------------------------------|---|
| Ambient temperature range            | -30 ... +50°C                                   |
| Maximum temperature at tc test point | 85°C  |
| Temperature range at storage         | -30 ... +80°C (6 months in Class I environment) |
| Humidity range at storage            | 20-95%RH (no condensation)                      |
| Humidity during operation            | 20-90%RH  |
| RoHS                                 | RoHS 2.0 (EU) 2015/863                          |

## Tc test point (unit: mm)



Note: The picture is a front view, and the Tc point is on the front of the product.

## Product terminal

| Input |                       | Output |  |
|-------|-----------------------|--------|--|
| L     | AC live wire input    | V+     | Positive terminal output of LED driver |
| N     | AC neutral wire input | V+     | Positive terminal output of LED driver |
| ⊕     | Earth wire            | V-     | Negative terminal output of LED driver |
|       |                       | V-     | Negative terminal output of LED driver |

## DIP switch definition

| Output power | DIP switch 1 | DIP switch 2 | DIP switch 3                         |
|--------------|--------------|--------------|--------------------------------------|
| *100%        | -            | -            | ON (Soft-start function activated)   |
| 75%          | -            | ON           |                                      |
| 50%          | ON           | -            | *- (Soft-start function inactivated) |
| 35%          | ON           | ON           |                                      |

Note:

1. Factory default: 100% output power, soft-start function OFF;
2. The soft-start time is 3 to 8S (vary due to different light strips being connected in series or parallel and their different Vf levels).
3. The output power will vary due to different light strips being connected in series or parallel and their different Vf levels.

## Capabilities

|  |  |
|--|--|
| Dimmable                               | -  |
| Over-temperature protection            | It resumes normal operation after the output voltage is turned off and temperature drops |
| Overload protection                    | 110-200% (self-recovery)   |
| Short circuit protection               | Hiccup mode (self-recovery)  |
| Overvoltage protection                 | Hiccup mode. It resumes normal operation after fault condition is removed                |
| Suitable for fixtures with prot. class | I/ II  |
| Control interface                      | -  |
| Output interface                       | 2 channels   |

## Programming

|                       |   |
|-----------------------|---|
| Programming device    | - |
| DALI control software | - |
| APP                   | - |

## Certificates & standards

|                           |   |
|---------------------------|---|
| Approval marks – approval | CQC, CE   |
| Standards                 | EN 62368 GB 4943.1  |
| EMC                       | EN 55032, EN 55035, EN61000-3-2, EN 61000-3-3 GB/T 9254.1 |
| Type of protection        | IP20  |

## Logistical data

| Product         | Packaging way           | Packaging unit<br>(Pieces/Unit) | Dimensions (L*W*H) | Volume                | Gross weight |
|-----------------|-------------------------|---------------------------------|--------------------|-----------------------|--------------|
| LF-GCV240H24-YH | Overall packaging       | 40                              | 410mm*390mm*230mm  | 36.77 dm <sup>3</sup> | 13.6kg±5%    |
|                 | SP in a small white box | 48                              | 338mm*312mm*204mm  | 21.51 dm <sup>3</sup> | 16.3kg±5%    |

## Test equipment & condition

|                |   |
|----------------|---|
| Test equipment | AC power source: CHROMA6530, digital power meter: CHROMA66205, 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: EEC SE7440, flicker tester (flicker-free coefficient test): Everfine LFA-3000, etc. |
|----------------|---|

If there are no special remarks, the above parameters are tested at the ambient temperature of 25℃, humidity of 50%, full load and input voltage of 230Vac/50Hz.

## Additional information

1. It is recommended that user install the over voltage protection, under voltage protection and surge protection devices in the power supply circuits of light fixtures to ensure electricity safety.

2. The LED driver used in combination with the end device is one of the accessories of the whole light fixture, and the EMC of the whole light fixture is not only susceptible to the driver itself, but to the LED light fixture and the whole light fixture's wiring. Thus, the manufacturer of LED light fixture should re-confirm the EMC of the whole light fixture before the whole light fixture is finished.

3. The number of LED drivers that can be connected to a circuit breaker and the inrush current are tested under the same conditions.

4. The PC cover, casing and end cap for assembling the LED driver in the light fixture must meet the fire rating of UL94-V0 or above.

5. Ripple and noise are measured at 20MHz of bandwidth by connecting a 0.1uf and 10uf parallel capacitor at the terminal.

## Transportation & storage

Suitable transportation means: vehicles, boats and aeroplanes.

In transit, it is necessary to prepare awnings for rain or sun protection. Moreover, please keep civilized loading and unloading to prevent the vibration or impact on LED driver as much as possible.

The storage of LED driver shall conform to the standard of Class I environment. When using LED drivers which have been stored for more than 6 months, please re-test them firstly. Do not use them unless they are tested to be qualified.

## Cautions

Please use Lifud LED driver according to its parameters in the specification, otherwise the LED driver may malfunction.

Using any incompatible light fixtures or those that have not been certified may cause fire, explosion or other risks.

Man-made damage is beyond the scope of Lifud warranty service.

## Disclaimer

Subject to change without notice. Errors and omissions excepted. Always make sure to use the most recent release.

Lifud Technology Co., Ltd. reserves the right to interpret any content of this specification.