

GV6-150 series

150W Waterproof Constant Voltage LED Driver

Features:

- European AC input voltage: 176-264VAC
- Constant voltage design
- Built-in active PFC function (PF > 0.97)
- Protections: Short Circuit / Over Current / Over Temperature / Input Under voltage
- Cooling by free air convection
- Surge immunity: Differential Mode - 6kV, Common Mode - 10kV
- IP67 design for indoor and outdoor applications
- Suitable for dry/damp/wet locations

Application:

- Landscape Lighting



    **IP67 PFC SELV**

DESCRIPTION

The GV6-150 series is constant voltage led driver, designed for lighting used for landscape illumination. The driver has built-in active PFC, multiple protections, and 10KV surge immunity. It's an excellent design with high reliability and long lifetime.

MODEL INFORMATION

| MODEL NUMBER | OUTPUT POWER [W] | OUTPUT VOLTAGE [VDC] | OUTPUT CURRENT RANGE [A] | TYPICAL EFFICIENCY | TYPICAL PF | TYPICAL THD |
|--------------|------------------|----------------------|--------------------------|--------------------|------------|-------------|
| GV6-150B012 | 150 | 12 | 0 ÷ 12.5 | 90% | 0.97 | 10% |
| GV6-150B024 | 150 | 24 | 0 ÷ 6.3 | 92% | 0.97 | 10% |
| GV6-150B036 | 150 | 36 | 0 ÷ 4.2 | 92% | 0.97 | 10% |

Notes:

1. All performance parameters are measured at 25°C ambient temperature, 230VAC input, full load conditions if no specific note.

INPUT SPECIFICATIONS

| Parameter | Min. | Typ. | Max. | Notes |
|------------------|--------|--------------|--------|-----------------------------------|
| INPUT VOLTAGE | 176VAC | 200 ÷ 240VAC | 264VAC | - |
| INPUT FREQUENCY | 47Hz | 50/60Hz | 63Hz | - |
| LEAKAGE CURRENT | - | - | 0.7mA | 240VAC/60Hz |
| INPUT AC CURRENT | - | - | 1A | 220-240VAC, full load |
| INRUSH CURRENT | - | - | 75A | 230VAC, full load |
| POWER FACTOR | 0.96 | 0.98 | - | 230VAC, 50-60Hz, full load |
| | 0.95 | 0.96 | - | 230VAC, 50-60Hz, 75% load |
| | 0.90 | 0.92 | - | 230VAC, 50-60Hz, 50% load |
| THD | - | - | 10% | 220-240VAC, 50-60Hz, 50-100% load |

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OUTPUT SPECIFICATIONS

| Parameter | Min. | Typ. | Max. | Notes |
|-------------------------------------|-------|------|------|---|
| OUTPUT CURRENT TOLERANCE | -5% | - | +5% | - |
| TOTAL OUTPUT CURRENT RIPPLE (PK-PK) | -2% | - | 2% | Full load, measured by 20MHz bandwidth oscilloscope and the output paralleled a 0.1μF ceramic capacitor and 47μF electrolytic capacitor |
| TURN-ON VOLTAGE OVERSHOOT | -5% | - | 5% | 220-240VAC, full load |
| LINE REGULATION | -0.5% | - | 0.5% | 25°C ± 10°C ambient temperature, input voltage changes from 176VAC to 264VAC |
| LOAD REGULATION | -1% | - | 1% | 25°C ± 10°C ambient temperature, 230 VAC input, load changes from 0% to 100% |
| TURN-ON DELAY TIME | - | 0.5s | 1s | 230VAC, full load |

GENERAL SPECIFICATIONS

| Parameter | Min. | Typ. | Max. | Notes |
|--|---------------------|---------------|---------|---|
| EFFICIENCY AT 230VAC | | | | |
| GV6-150B024 | 91% | 92% | - | 25°C ambient temperature, full load |
| GV6-150B036 | 91% | 92% | - | |
| DIELECTRIC STRENGTH | INPUT-OUTPUT | - | 3750VAC | - |
| | INPUT-PE | - | 1875VAC | - |
| | OUTPUT-PE | - | 1600VAC | - |
| | | | | Max 5mA/60s |
| GROUNDING RESISTANCE | - | - | 0.1Ω | 25A/60s, 25°C ± 10°C ambient temperature |
| INSULATION RESISTANCE | 10MΩ | - | - | Input-Output, Input-PE, Output-PE, 500VDC/60s/25°C/70%RH |
| MTBF | - | 200 000 hours | - | 25°C ± 10°C ambient temperature, 230VAC, 80% load (MIL-HDBK-217F) |
| LIFETIME | - | 50 000 hours | - | 230VAC, 100% load, tc=75°C (refer to Lifetime Curve) |
| OPERATING CASE TEMPERATURE FOR SAFETY T _{C_S} | -40°C | - | +90°C | - |
| OPERATING CASE TEMPERATURE FOR SAFETY T _{C_W} | -40°C | - | +75°C | 5 years warranty, humidity 10% to 100% RH |
| STORAGE TEMPERATURE | -40°C | - | +90°C | Humidity 10% to 100% RH |
| DIMENSIONS (L x W x H) | 162.5 x 67.2 x 37mm | | | - |
| NET WEIGHT | TBD | | | - |
| PACKAGE (L x W x H) | TBD | | | - |

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SAFETY STANDARDS

| SAFETY CATEGORY | COUNTRY / TERRITORY | STANDARDS |
|-----------------|---------------------|--------------|
| CE | Europe | EN61347-1 |
| | | EN61347-2-13 |

EMC STANDARDS

| EMC CATEGORY | COUNTRY / TERRITORY | STANDARDS |
|--------------|---------------------|-------------|
| CE | Europe | EN55015 |
| | | EN61000-3-2 |
| | | EN61000-3-3 |
| | | EN61547 |

Note: This LED driver meets the EMC specifications above, but EMC performance of luminaire that contains it depends also on the other devices connected to the driver and on the fixture itself.

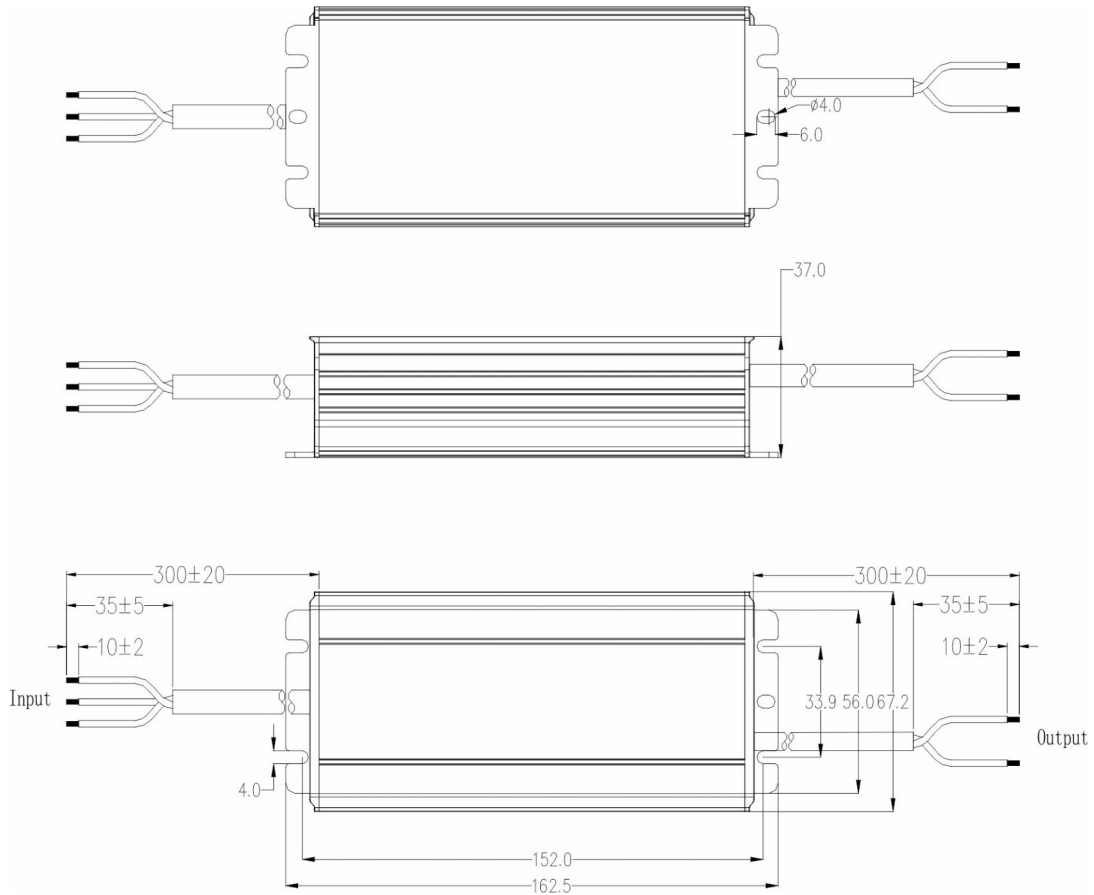
PROTECTIONS

| PARAMETER | Min. | Typ. | Max. | NOTES |
|--------------------------------|---|------|--------|---|
| INPUT UNDER VOLTAGE PROTECTION | 156Vac | - | 176Vac | Turn off the output when the input voltage falls below protection voltage. Auto-recovery. |
| OVER TEMPERATURE PROTECTION | Turn off the output. Returning to normal after over temperature is removed. | | | |
| SHORT CIRCUIT PROTECTION | Hiccup mode. The output shall return to normal when the fault condition is removed. | | | |
| OVER CURRENT PROTECTION | Hiccup mode. The output shall return to normal when the fault condition is removed. | | | |

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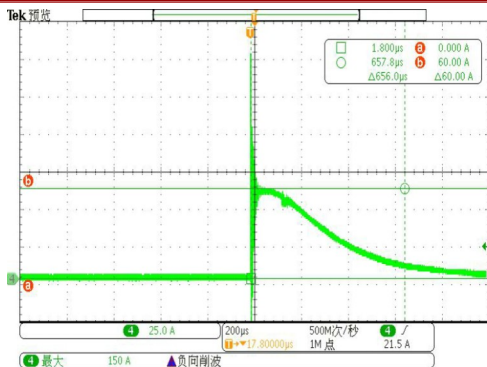
MECHANICAL SPECIFICATIONS



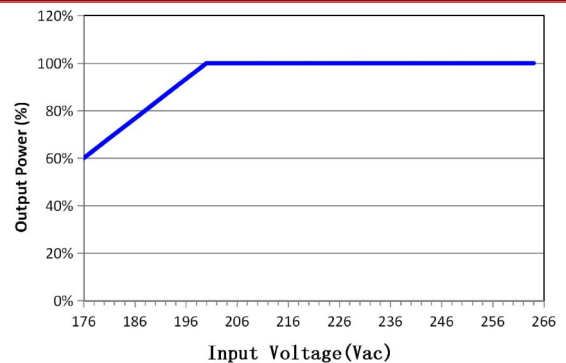
| Wire | Specification | Note |
|--------|--|------------|
| INPUT | CCC + VDE, 3x1.0mm ² , length = 300 ± 20mm, peel-length = 35 ± 5mm, Tin-Dip length = 10 ± 2mm | For CCC/CE |
| | AC/L: brown, AC/N: blue, FG: green/yellow | |
| OUTPUT | CCC + VDE, 2x1.0mm ² , length = 300 ± 20mm, peel-length = 35 ± 5mm, Tin-Dip length = 10 ± 2mm | For CCC/CE |
| | V ₀₊ : brown, V ₀₋ : blue | |

CHARACTERISTICS

INRUSH CURRENT WAVEFORM



DERATING CURVE

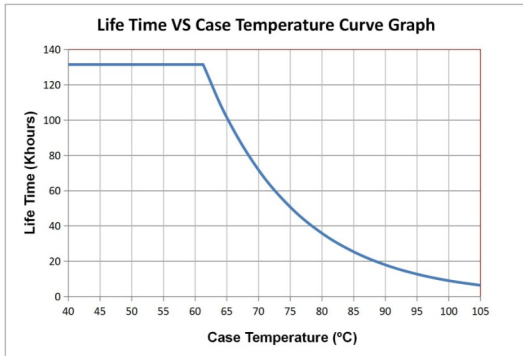


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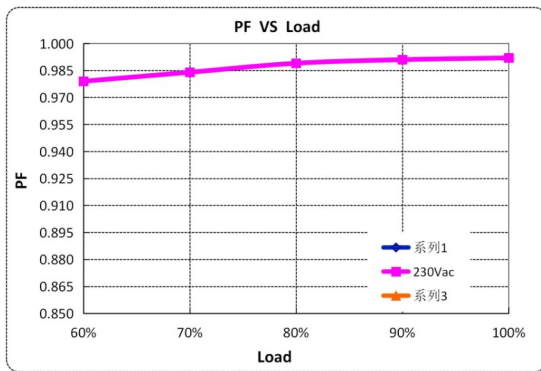
150W Waterproof Constant Voltage LED Driver



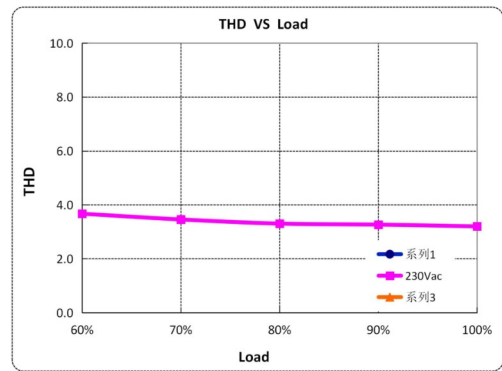
LIFETIME vs. CASE TEMPERATURE CURVE



POWER FACTOR vs. LOAD CURVE

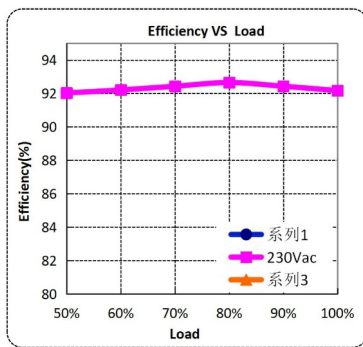


THD vs. LOAD CURVE



EFFICIENCY vs. LOAD CURVE

GV6-150B024



GV6-150B036

