

Main Features:



- Input Voltage: 120~277Vac
- Output Wattage: Constant Current (C.C.) at 60W with Adjustable Current Setting
- Flicker-Free : Active PFC 2-Stage Switch Mode
- Programmable Method: Wire
- High Efficiency: Up to **85%**
- Dimming Function: **0-10V with Dim to off (dto)**
- Smooth & Continuous Deep Dimming : **100% to 0%**
- Lightning Protection: Built-in [Line to line 2.5kV, line to ground 2.5kV]
- Reliability Protection: **SCP, OTP, MTP, OCP, OVP**
- Safety Regulation: Complies with UL8750 & EN61347
- Complies with CA Title 24 & FCC Class A
- **Class P** UL standard for retrofit kit
- Waterproof Rating: IP65
- **Five Year** Warranty under Normal Usage Conditions



SPECIFICATION

| Model No. (*) | Output Voltage Range | C.C. or C.P. Programmable Rated Output or Range | Programming Method | Dimming Control Method | Aux |
|--|--|---|--------------------|------------------------|-------|
| LDD- www(D)vvv(P/F)ccccHH-(V/D) | (Vdc) | (mA) ⁽ⁱ⁾ | | | (Vdc) |
| LDPY060D56P1800-U-V | 12 - 56 | 300 - 1800 | Analog/Wire | 0-10V | 12 |
| (*) model name pattern: LDD-www(D)vvv(P/F)ccccHH-(V/D) LDD means, LED Driver with C.C. (D) means, 12V Aux (P/F) means, Wire/Wireless Programming method (V/D) means, Analog Voltage/Digital DALI Dimming method | ⁽ⁱ⁾ Pre-set Constant Current Value with dimming Case Temp: Tc: 90°C MTP (Module Temperature Protection) :supports thermal feedback and robust thermal manage,LED module working temperature can automatically be reduced by the driver, setting by software of the output current decrease depending on the measured NTC value to avoid decreased lifetime of the LED module. SCP (Short Circuit Protection): No Damage. Auto recovery after short is removed. OCP (Output Over Current) Constant Current Limiting circuit 110% IO. OTP (Over Temperature Protection): The temperature is reduced to 105C and the output is automatically restored. OVP (Output Over Voltage) No Damage. Auto recovery after the abnormal disappearance 110% Vo. | | | | |

| Input Spec. | Condition Description | Min. | Normal | Max. | Units |
|-----------------------|---|------|----------------|------------------|-------|
| Input Voltage Range | Universal Input | 108 | 120/277 | 305 | VAC |
| Input Frequency Range | | 47 | 50/60 | 63 | Hz |
| Input Current | At 120 VAC/277 VAC input, full load output | | | 0.42/0.25 | A |
| Power Factor | At 120 VAC/277 VAC input, 25°C full load | | >0.9 | | |
| Inrush Current | At 120 VAC input, 25°C cold start / At 277 VAC input, 25°C cold start | | | 35/72 | A |
| Leakage Current | @277Vac 60Hz | | | 750 | uA |
| Surge Protection | Differential and common mode, combination wave | | | 2.5K | V |

| Output Spec. | Condition Description | Min. | Normal | Max. | Units |
|----------------------|---|------|--------|------------|-------------|
| Current Accuracy | At 25°C, @120Vac & 277Vac, full load | | ±5 | | % |
| Ripple Current | At 25°C, full load, measured at 20MHz bandwidth. The result differs according to different LED load characteristic. | | | 5 | % Ip-p (Io) |
| Overshoot/Undershoot | % of I out max & LED load, at 25°C, measured at 20MHz bandwidth | | | 5 | % |
| Turn-On Delay | Measured at 120Vac/277Vac input and Full Load | | | 0.5 | S |
| Aux Output Voltage | Aux out current 200mA max | | 12 | | Vdc |

| General Spec. | Condition Description | Min. | Normal | Max. | Units |
|-------------------------------|---|--------------------------------|----------------|--------------|-------|
| Efficiency | 120Vac 277Vac measured at 25°C, full load | 83 84 | 84 85 | | % |
| MTBF | For 12V output model, measured at 120Vac input, 100%Load and Tc=85°C, with a failure probability of less than 10% | | ≥42500 | | Hours |
| Lifetime | at Tc < 80°C Full load and nominal input condition | | ≥50,000 | | Hours |
| Operating/Storage Temperature | 95%RH/95%RH | -40/-40 | | 50/85 | °C |
| Dimension (L x W x H) | Length x Width x High | 142 / 132 x 59.8 x32.9 | | | mm |
| | | 5.59/5.19 x 2.35 x 1.29 | | | inch |
| Weight | Net weight without package | | | | lb/kg |

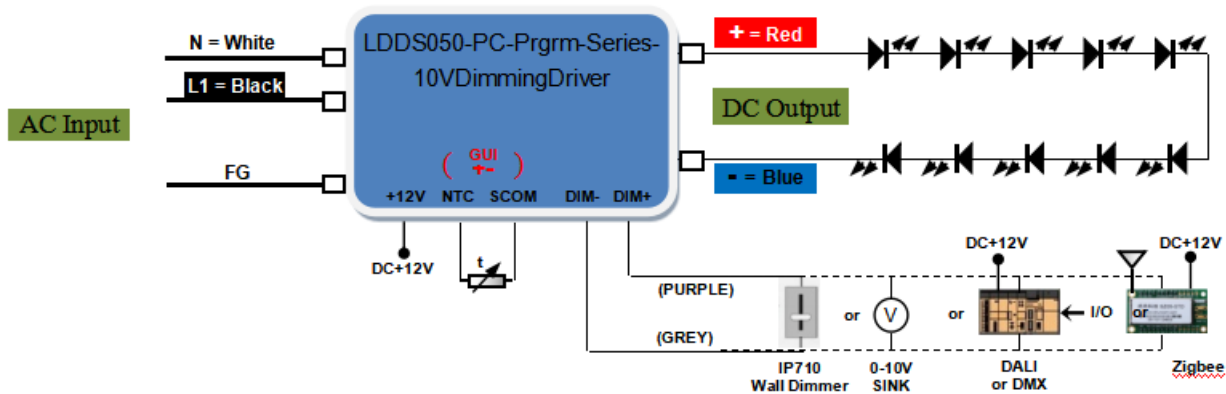
| Safety & EMC Compliance | Category | Condition Description |
|-------------------------|------------------------------|--|
| Safety Regulations | UL8750 | Light Emitting Diode (LED) Equipment for Use in Lighting Products, Class 2 |
| | CE | Europe: EN 61347-1, EN61347-2-13 |
| | Dielectric Strength (Hi-POT) | Primary to Secondary: 2000Vac /10mA max / 60 seconds (3 seconds for production) |
| | Insulation Resistance | 10M ohm min. @primary to secondary |
| EMI Standards | FCC | FCC 47CFR Part 15 Class B@ 120Vac, Class A@277Vac |
| | Energy Star | Surge Immunity Test: NEMA SSL1 – 2010Non-Roadway,100KHz ring wave, 2.5KV, common and differential mode. |
| EMS Standards | IEC 61000-4-2 | Electrostatic discharge (ESD): 8 kV air discharge, 4 kV contact discharge, criteria A |
| | IEC 61000-4-4 | Electrical fast transient (EFT)/ burst-EFT 2kV/5KHz |
| | IEC 61000-4-5 | Surge immunity test, differential and common mode, 2kV, combination wave |
| | EN 61000-4-6 | Conducted Radio Frequency Disturbances Test-CS |

| | |
|----------|---|
| EN 61547 | Electromagnetic Immunity Requirements Applies to Lighting Equipment |
|----------|---|

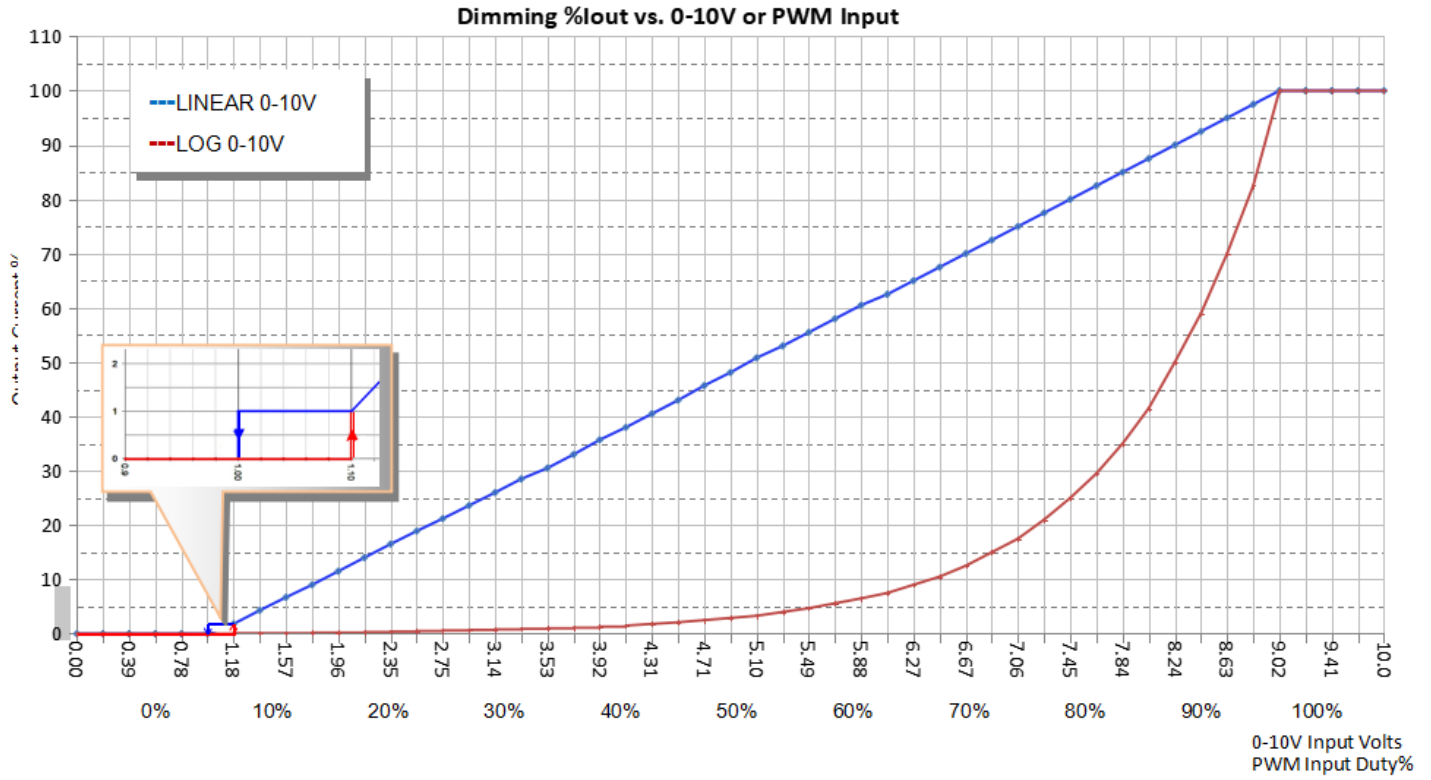
■ Dimming Curve

| Items | Parameter | Min. | Typ. | Max. | Notes /Conditions |
|---------------------|---|-------|--------|-------|---|
| 0-10V Dimming | Input Absolute Voltage | -2.0V | 10V | 15V | GRAY |
| | Output Source Current | --- | 180uA | 200uA | GRAY |
| | Output Current Range in 0-10V Dimming | 0% | --- | 100% | CCR output |
| | Output Current in 0-10V Pin Open | --- | Normal | --- | It's a constant current output with active PFC. |
| | Output Current in 0-10V Pin Short Circuit | --- | 0 | --- | CCR output |
| PWM Dimming | Input Absolute Voltage | -2.0V | 10V | 15V | |
| | Input Current on PWM pin | --- | 180uA | 200uA | |
| | PWM Frequency | 200Hz | --- | 2KHz | |
| | PWM Duty | 0 % | --- | 100% | |
| | Output Current Range in PWM Dimming | 0% | --- | 100% | CCR output |
| | Output Current in PWM Pin Open | --- | Normal | --- | It's a constant current output with active PFC. |
| | Output Current in PWM Pin Short Circuit | --- | 0 | --- | CCR output |
| 0-10V & PWM Dimming | Compatible dimming function: 0-10V and PWM dimming. | | | | |

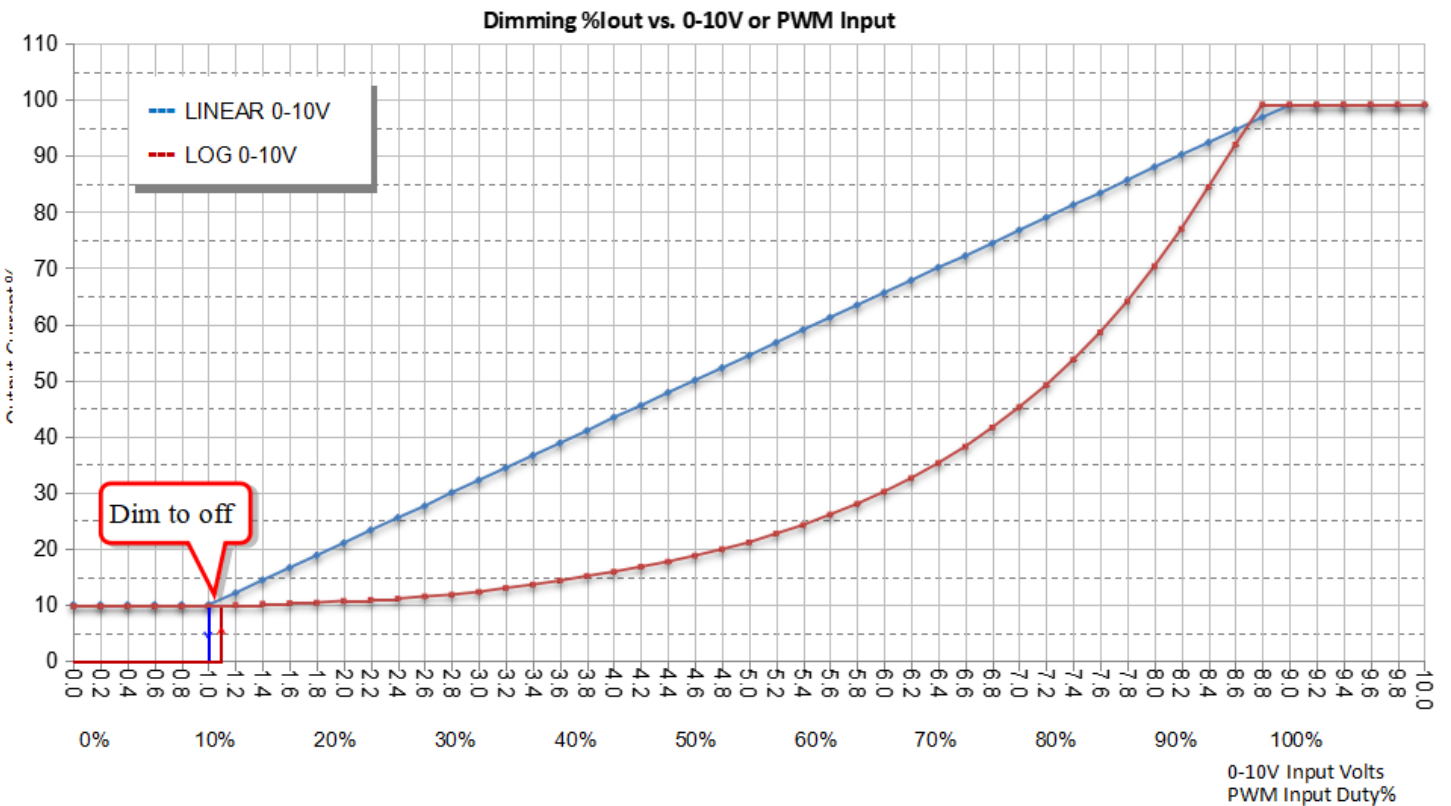
Dimming Wire



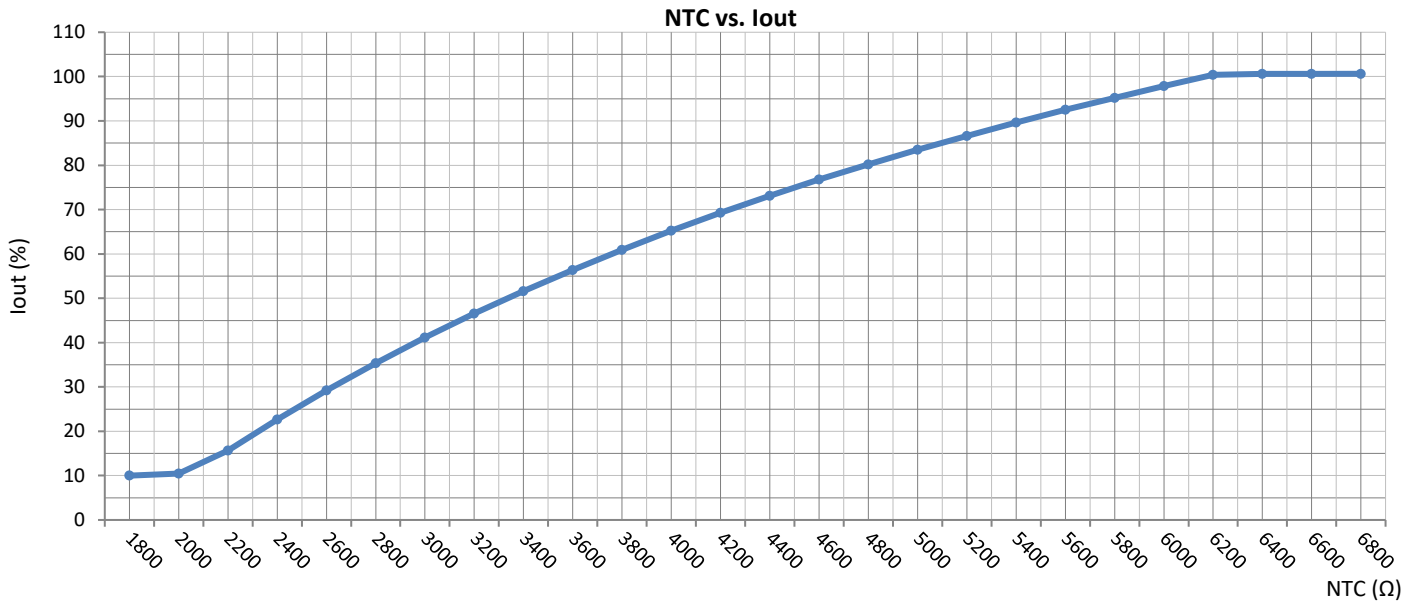
0-10V Dimming Curve @ Minimum dimming set to 0:



0-10V Dimming Curve @ Minimum dimming set to 10% and dim to off :



NTC Current Control



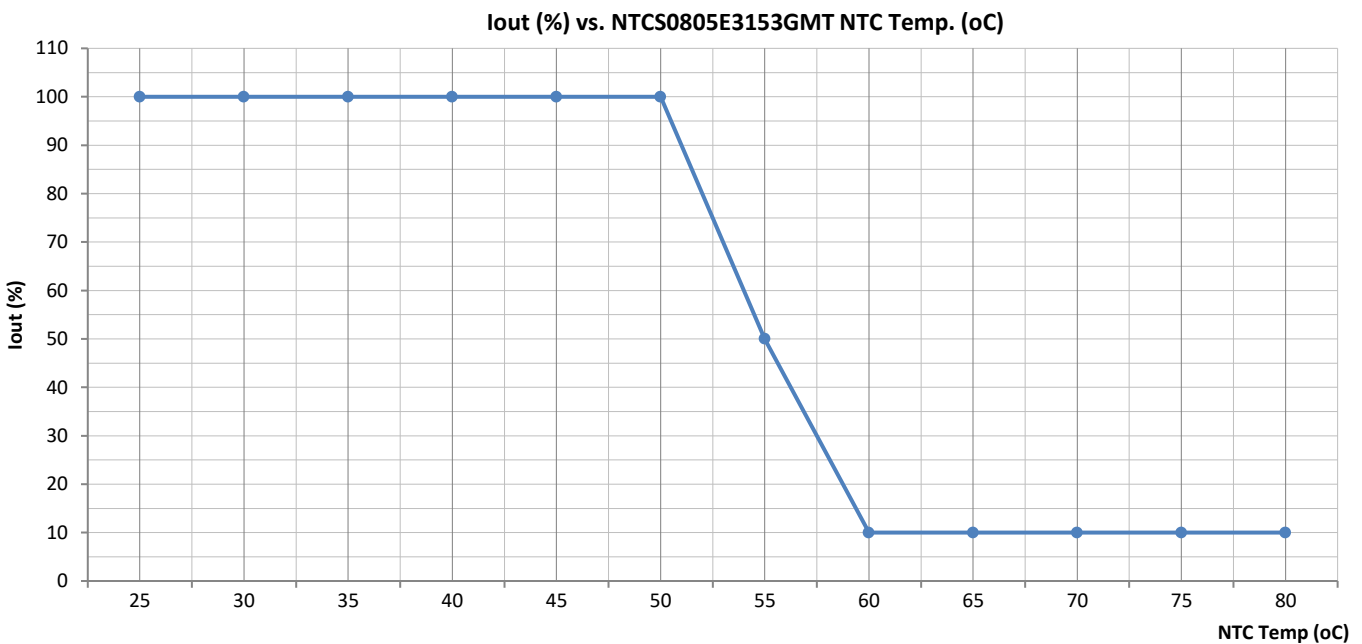
Note: Maximum dimming current is limited by NTC.

NTC values, NTC High, NTC Low and NTC Minimum Iout can be programmed.

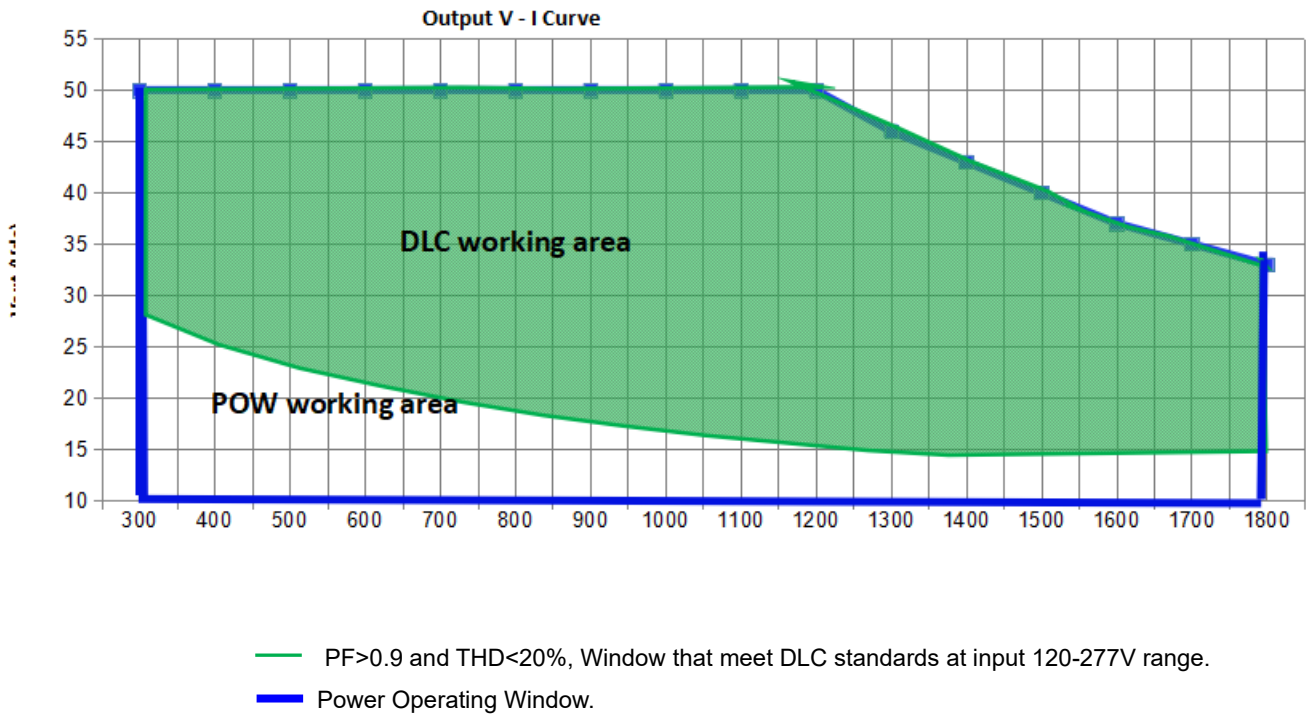
Using Programmer USB interface & PC based GUI Software.

Default: NTC Low = 2.0K ~ 10% Iout, NTC High = 6.3K, 100% Iout.

Module Temperature Protection Example

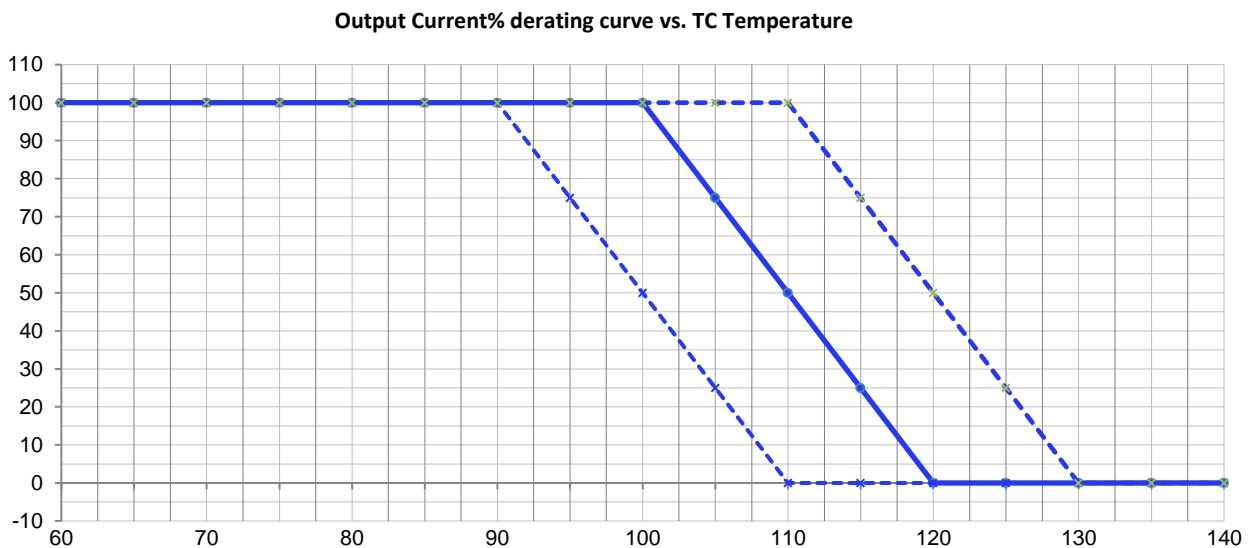


■ Power Operating Window & DLC Window:



Note: When the output current is set, the output voltage is automatically limited within the curves.

■ Output Current derating vs. TC Temperature Curve :

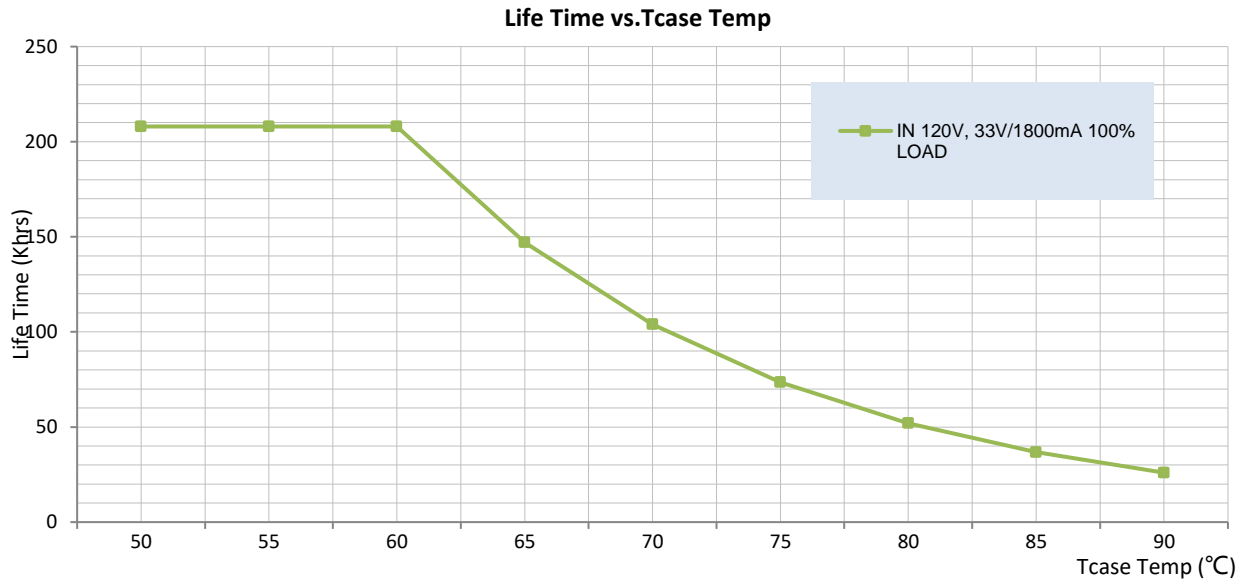


Note:

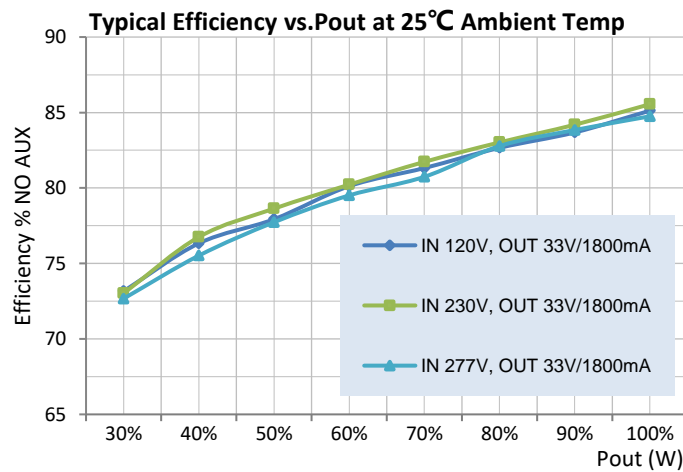
The temperature control curve is the test result of the technical sample, and the product is not tested.

Affected by the internal temperature distribution of the shell, the test temperature has a large error corresponding to the TC temperature.

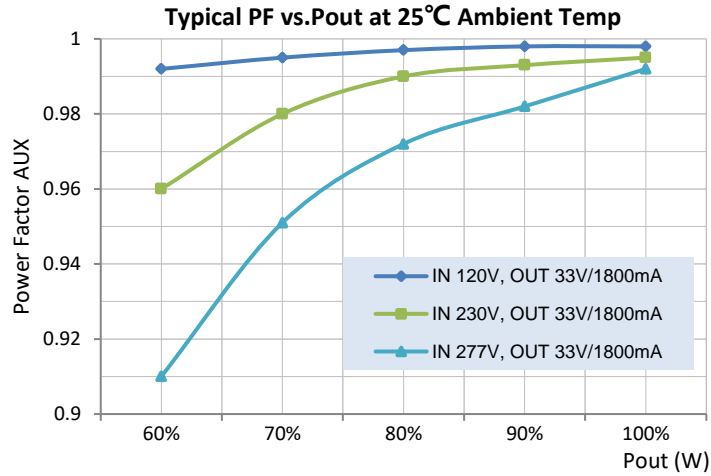
■ **Lifetime vs. Case Temperature**



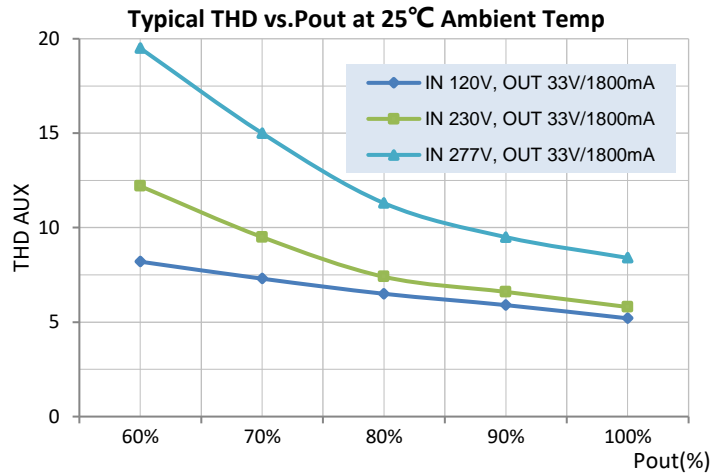
■ **Efficiency vs. Load**



■ Power Factor vs. Load



■ THD vs. Load



■ Programming:

Programmable Output Current (POC): Programmable I_{out} from 300mA to 1800mA.

Programmable Minimum Dim Level: 1% (OFF) to 100% I_{out} programmed value.

Programming Tool:

The programmer is a programming and configuration tool for intelligent programmable LED drivers. It consists of the programmer which is connected between the USB port of a computer and the LED driver being programmed, and the programmer software. The programmer software is a PC based graphical user interface that allows the user to program and configure the operating parameters of a programmable LED Driver. This interface allows the operator to set the LED drivers output current within its specified range. In the increments specified. It also provides the ability to enable/disable and control features like “Dimming”, “Constant Lumen Module” & “End-of-life indicator” when available in the intelligent LED driver being programmed.

Programmer:

Is the physical USB unit connected between the USB port of a computer and the LED driver being programmed? This unit also provides all power required to the LED driver being programmed. No connection to an AC power source is required for programming the LED driver.

Programmer Software:

The programmer software is the windows based GUI that allows the user to assign custom part number(s) to the LED driver being programmed. The user can then save the profile to a computer disk and recall as need. The user can then use the “Auto Program” feature to quickly program as many LED drivers with the saved profile as is required. Each driver programming simply requires a click of the mouse to program in a single step.

The programmer software supports bar code scanners. The barcode scanner can be used to automate the programming of the attached LED driver. The barcodes scanner interface also provides an option to either enable or disable logging of the parameters to an excel file.

Note: The programming of the LED driver does not require the input be connected to an AC power connection. The programmer and the required LED driver circuitry will be powered from the programmer module via the USB connection to a computer.

■ Mechanical Outline (Unit: mm)

Metal shell. This product has two $\Phi 5.0$ mm mounting holes.

AC input for connection the three core ANSI/UL1015/AWG18 temperature 105 ° C core copper wire connection. Cable Length: 155mm, stripping on the tin: 10mm.

Where: L — Black wire, N — White wire, GND-Green wire.

DC output for connection the two core ANSI/UL1569/AWG18 temperature 105 ° C core copper wire.

Cable Length: 155mm, stripping on the tin: 10mm.

Where: DC+ — Red, DC- — Black.

The dimmer control input is the three copper wires, ANSI/UL1569/AWG22 & temperature 105 ° C.

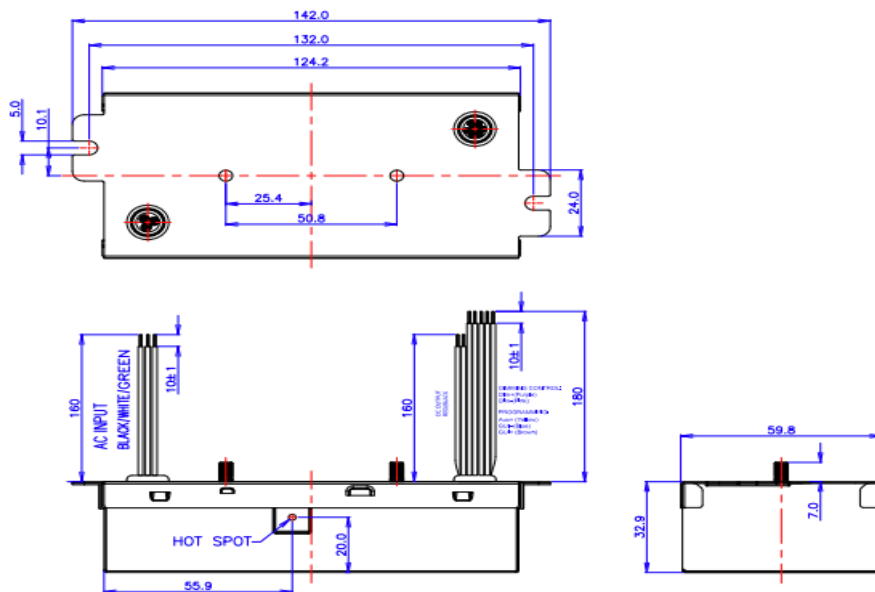
Cable Length: 175mm, stripping on the tin: 10mm.

Where: Dim+ (0-10V) input — Purple wire, Dim- (0-10V) — Pink wire.

GUI programmable, ANSI/UL1569/AWG22 & temperature 105 ° C.

Cable Length: 175mm, stripping on the tin: 10mm.

Where: GUI+ — Brown wire, GUI- — Blue wire, .Aux+—Yellow wire



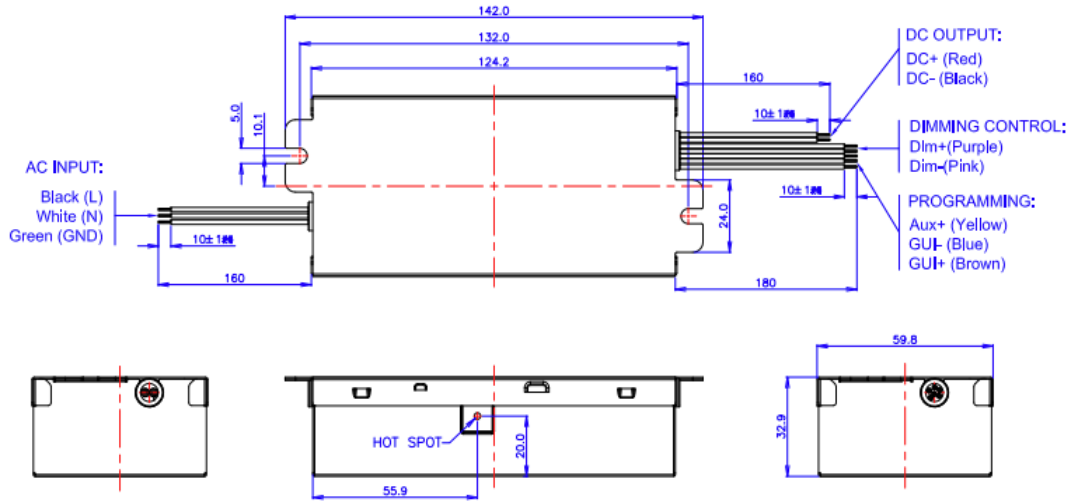


Figure 29, MR06YG

Note:

The independent LED drive conforms to the EMC standard. But it is not guaranteed to be qualified, when the drive is mounted in the LED fixture.

Please forgive us for any discrepancy due to the update of the specifications or the upgrade of the product. If you need the latest information, please contact our marketing department.

Revision

| Date | Rev. | Description of Change | | |
|-----------|------|-----------------------|--|--|
| | | Item | | |
| 5/22/2023 | V1a | | | |