SOSEN

# SPECIFICATIONS

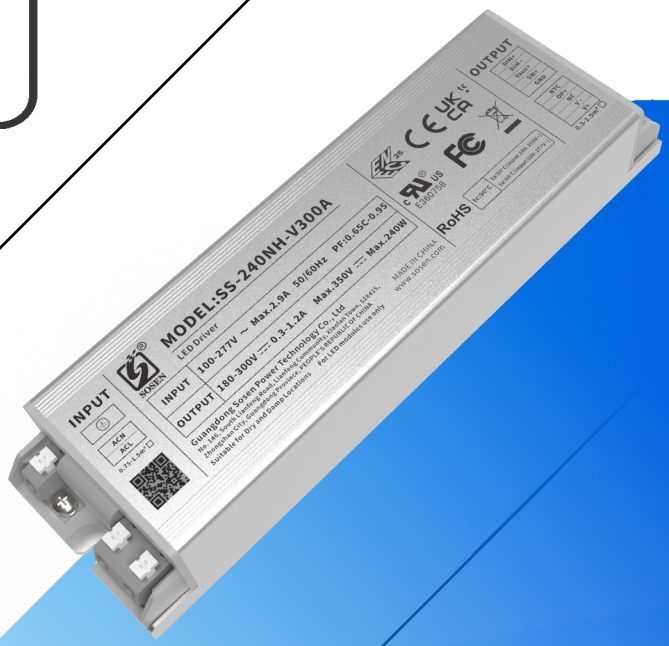
# SS-240NH-V300*
# CC DRIVER

Model: SS-240NH-V300*

Power: 240W

Rev.: V04

Release date: 2026-02-25



# SS-240NH-V300* LED DRIVER

## Features

- Efficiency up to 97%
- Isolated dimming:0-10V,PWM,Resistor
- Optional aux：12V/0.2A
- Time-controlled programmable
- Dim to off
- Standby Power<0.5W
- Protections: SCP/OTP/OVP/UVP
- Compatible with intelligent emergency controls
- Wide output voltage range
- NTC, Optical, Dial Power Range Programmable
- Surge protection: CM: 6kV,DM: 6kV
- Long lifetime
- Warranty: 5 years

E360758

## Description

SS-240NH-V300* series are 240W non-isolated constant current LED Driver with 90-305VAC. It has DIM to Off, high efficiency, isolated auxiliary power supply, Compatible with intelligent emergency controls,compact housing ,fullypotted , high reliability, high cost performance and other advantages.

Applications:

Shoebox Light, Linear high bay light, Flood lighting, Wall lamp

## Model List

| Model | AC Input Range | Max. Pout | Vout Range | Recommended Volltage | Iout Range | Default Current | THD (Typ.) | PF (Typ.) | Eff. (Typ.) | Max.Tc |
|---|---|---|---|---|---|---|---|---|---|---|
| SS-240NH-V300* | 90-305Vac | 240W | 180-300V | 260V-300V | 0.3-1.2A | 0.96A | 8% | 0.97 | 97% | 90°C |

Note:

1.Default Tested: at 220Vac, full load, Ta 25°C.

2.The performance of the LED Driver can be guaranteed within the full power Vo range.The voltage lower than full power Vo range,it is need to test the performance with the LED module.



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## "*" Means Additional Function

| "*" | AUX 12V (suffix:H) | Dimming off 0-10V/PWM/Resistor | 1-10V/PWM Resistor(suffix:B) | adjust power (Single DIP) | Photosensitive control | NTC | Remark |
|---|---|---|---|---|---|---|---|
| A | ✓ | ✓ | | ✓ | ✓ | ✓ | |
| BB | | | ✓ | ✓ | | | |
| BHB | ✓ | ✓ | | ✓ | | | |

## Input Characteristics:

| Parameter | Min. | Typ. | Max. | Remark |
|---|---|---|---|---|
| Rated AC Input Range | 100Vac | | 200Vac | ≤Ta: 50°C (conditioned use) 108V or less |
| | 200Vac | | 277Vac | Ta:60°C (conditioned use) |
| AC Input Range | 90Vac | | 305Vac | Reference derating curve |
| Input DC Voltage Range | 140Vdc | | 280Vdc | (A, BHB models) |
| Input Frequency Range | 47Hz | 50/60Hz | 63Hz | |
| Max Input Current | | | 2.9A | 100Vac, Full load |
| Max Input Power | | | 275W | 100Vac, Full load |
| Max Inrush Current(120Vac) | | | 85A | Cold start |
| Max Inrush Current(220Vac) | | | 95A | Cold start |
| Max Inrush Current(277Vac) | | | 125A | Cold start |
| Standby Power | | | 0.5W | 220Vac/50Hz, Dim-to-off (A/BHB models) |
| Power Factor | 0.95 | 0.97 | | 220Vac, Full load |
| | 0.90 | | | 100-277Vac, 70%-100% load |
| THD | | 8% | 12% | 220Vac, Full load |
| | | | 20% | 100-277Vac,70%-100% load |



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## Output Characteristics

| Parameter | Min. | Typ. | Max. | Remark |
|---|---|---|---|---|
| O/P Voltage Range | 180V | | 300V | Power derated @180-200V |
| Rated O/P Voltage | 200V | | 300V | Po=Vo*Io=240W, Full load |
| Rated O/P Current | 0.8A | | 1.2A | 1.2A for 200V,0.8A for 300V |
| Adj. O/P Current (AOC) Range | 0.3A | | 1.2A | |
| No Load Voltage | | | 350V | |
| Efficiency @120Vac | 92.0% | 94.0% | | Output 300V/0.8A |
| Efficiency @220Vac | 94.0% | 96.0% | | Output 300V/0.8A |
| Efficiency @277Vac | 95.0% | 97.0% | | Output 300V/0.8A |
| O/P Current Tolerance | -5% | | +5% | |
| O/P Current Ripple(PK-AV) | | 5% | 10% | Full load |
| Start-up Current Overshoot | | | 10% | Full load |
| Start-up Time | | | 1.0S | 120Vac,Full load |
| | | | 0.75S | 220Vac,Full load |
| Line Regulation | -5% | | +5% | Full load |
| Load Regulation | -5% | | +5% | |
| Temperature Coefficient | -0.06%/°C | | +0.06%/°C | Tc:0°C~90°C |
| OTP | 90°C | 95°C | 100°C | Drop current when OTP, and it can be automatically restored after the abnormality is removed. |
| Short Circuit Protection | | | | Driver will not be damaged Constant current mode or hiccups |



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## Output Characteristics

| Parameter | | Min. | Typ. | Max. | Remark |
|---|---|---|---|---|---|
| Aux Power (A/BHB models) | O/P Voltage | 10.8V | 12V | 13.2V | |
| | O/P Current | | | 200mA | |
| 0-10V Dimming (Optional A/BHB models) | Dim Vmax | 0V | | 12V | DIM+ source current 110uA. |
| | Dim Range | 10%Iomax | | 100%Ioset | Dimming prohibits reverse connection |
| | Rec.Dim Range | 0V | | 10V | |
| PWM Dimming (Optional A/BHB models) | PWM High | 9.8V | | 10.2V | DIM+ source current 110uA. |
| | PWM Low | 0V | | 0.3V | Dimming prohibits reverse connection |
| | Frequency | 1KHz | | 2KHz | |
| | PWM Duty | 0% | | 100% | |
| Resistor Dimming (Optional A/BHB models) | Resistance | 0Kohm | | 100Kohm | DIM+ source current 110uA. |
| | Dim Range | 10%Iomax | | 100%Ioset | |
| Dim to Off (A/BHB models) | Dim off | 0.7V | 0.8V | 0.9V | Auxiliary source 12V unloaded |
| | Dim on | 0.9V | 1.0V | 1.1V | |
| Dial adjustment | Current range | 0.32A | | 1.2A | Dialing range can be set via PC software |
| Default light control (A/BHB models) | Shutdown Voltage | 0V | 1.0V | 1.2V | Default: 5S action; time/voltage on, off can be set by PC software |
| | Turn-On Voltage | 3.2V | 3.5V | 5.0V | |
| Intelligent Emergency Control (Optional, off by default A/BHB models) | Emergency switchover time | 3S | | | AC power failure switching to battery power supply time |
| | Output Current | | 8% | 10% | Emergency output current can be set via PC software |
| | Auto-exit time | | | 3H | When the sensor does not detect a signal configurable |
| | Access to emergency communications | 4Hz duty cycle 25%, high level: 4-10V, low level: 0-0.3V | | | Duration 30S |
| | Withdrawal from emergency communications | 1Hz duty cycle 25%, high level: 4-10V, low level: 0-0.3V | | | Duration 3H; configurable |
| Timing Curve(Optional A/BHB models) | | By programming | | | Set by program |



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## Output Characteristics

| Parameter | | Min. | Typ. | Max. | Remark |
|---|---|---|---|---|---|
| 1-10V Dimming (Optional, BB models) | Dim Vmax | 0V | | 12V | DIM+ source current 110uA. |
| | Dim Range | 10%Iomax | | 100%Ioset | Dimming prohibits reverse connection |
| | Rec.Dim Range | 1V | | 10V | |
| PWM Dimming (Optional, BB models) | PWM High | 9.8V | | 10.2V | DIM+ source current 110uA. |
| | PWM Low | 0V | | 0.3V | Dimming prohibits reverse connection |
| | Frequency | 1KHz | | 2KHz | |
| | PWM Duty | 10% | | 100% | |
| Resistor Dimming (Optional, BB models) | Resistance | 10Kohm | | 100Kohm | DIM+ source current 110uA. |
| | Dim Range | 10%Iomax | | 100%Ioset | |
| Dial adjustment | Current range | 0.32A | | 1.2A | Dialing range can be set via PC software |
| Lifetime(Tc≤85°C) | | ≥50,000 hours | | | 80% load |
| MTBF | | 200,150 hours | | | 220Vac,Full load, Ta=25°C (MIL-HDBK-217F) |
| Tc | | 90°C | | | |
| Warranty | | 5 years | | | Tc 85°C |
| Net Weight | | 630g | | | |
| Dimension | | 192mm*55mm*34mm | | | L x Wx H |

NOTE: All the parameters above are tested Ta 25°C and LED load, unless specified.



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## Environmental Requirements

| Parameter | Min. | Typ. | Max. | Remark |
|---|---|---|---|---|
| Operating Temperature(Tcase) | -40°C | 25°C | +90°C | |
| Storage Temperature | -40°C | 25°C | +90°C | |
| Operation Humidity | 10%RH | | 90%RH | |
| Storage Humidity | 5%RH | | 95%RH | |
| Altitude | -65m | | 4000m | |

## Safety and EMI/EMS Standards

| Certification | Standard | Status | Remark |
|---|---|---|---|
| UL/cUL | UL8750 | ✓ | |
| ENEC | EN 61347-1<br>EN 61347-2-13<br>EN IEC 62384 | ✓ | |
| RCM | AS/NZS61347.2.13 | ✓ | |
| BIS | IS15885 | | |
| CCC | GB/T 19510.1<br>GB/T 19510.213 | ✓ | |
| CE | EN 61347-2-13<br>EN61347-1 | ✓ | |

| EMI/EMS | Criterion | Remark |
|---|---|---|
| Conduction Emission | FCC Part15: Subpart B ANSI 63.4 | 120Vac,277Vac:Class B |
| | EN IEC 55015 | 230Vac |
| Radiation Emission | FCC Part15: Subpart B ANSI 63.4 | 120Vac,277Vac:Class B |
| | EN IEC 55015 | 230Vac |
| Harmonic Current Emissions | IEC/EN 61000-3-2 | Class C |
| Surge | IEC/EN61000-4-5 | DM: 6kV,CM: 6kV,Criterion B |
| Ring Wave | IEC/EN61000-4-12 | DM: 6kV,CM: 6kV,Criterion B |



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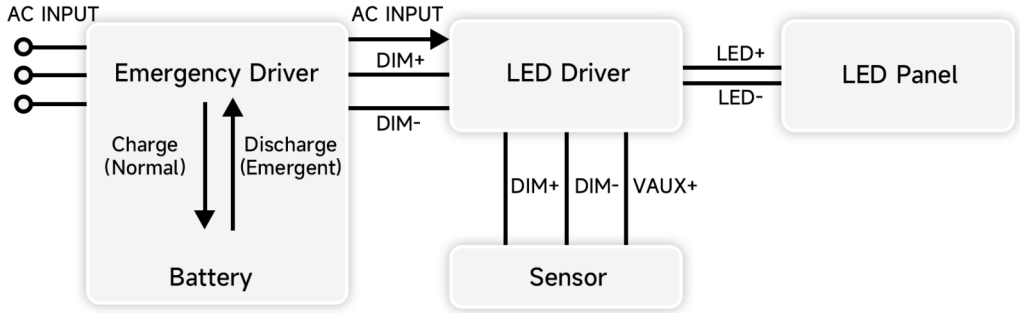
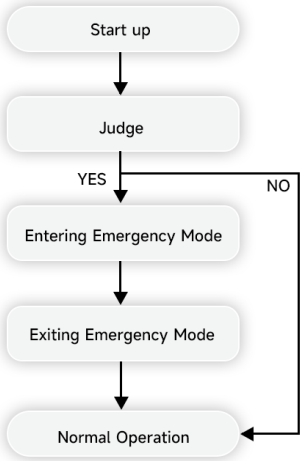
# IEC (Intelligent Emergency Control) Description:

## Connection Diagram




## Emergency control logical diagram




## Technical Specifications for Emergency Lighting Communication Protocol

(1) Definition of Communication Levels:Active High Level: 4V - 10V (ON); Active Low Level: 0V - 0.3V (OFF).
(2) Positive Duty Cycle of Communication Signal: 25%.
(3) Entering Emergency Mode:The emergency driver supply will send a signal with 4Hz and a duty cycle of 25% after entering the emergency state. The LED diver supply must continuously detect this signal four times (signal duration of 30 seconds) before entering the emergency mode.
(4) Exiting Emergency Mode:
Scenario 1: Upon restoration of AC driver, the emergency driver supply sends a signal with 1Hz and a duty cycle of 25%, The LED driver supply must continuously detect this signal four times to exit the emergency mode.
Scenario 2: If it's timeout in the emergency state, the LED driver supply automatically exits the emergency mode after a default period of 3 hours can be set .
Notes:
In the absence of a detected signal from the sensor (dimming line is a short circuit), the LED driver supply automatically exits the emergency mode after 3 hours.To ensure timely exit from the emergency mode, upon sensor signal detection (releasing the short circuit on the dimming line), the emergency driver supply continues to send the 1Hz exit signal for 3 hours after detecting the restoration of AC driver.
The LED driver supply is equipped with an emergency function switch that can be enabled through our proprietary PC software (default setting is "off"). For obtaining relevant emergency certifications, compatibility with the emergency driver supply system during certification is required.
When the emergency function is used, and the system is operating under no-load conditions or with the "Dim-off" function enabled, the system should delay switching to battery for 15 seconds after AC power loss.



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## Safety Test Items

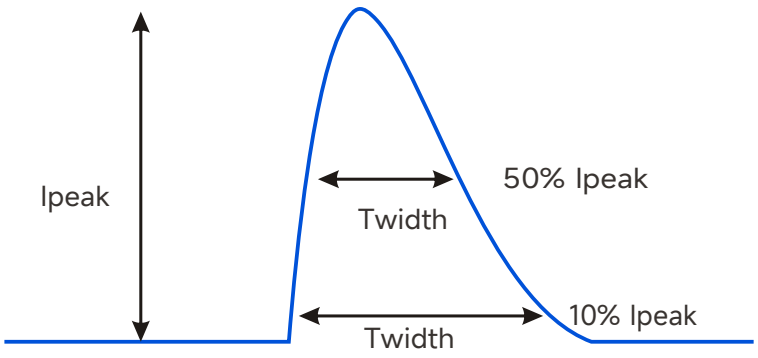
| Safety Test Items | Technical Indicators | | | Remark |
|---|---|---|---|---|
| Insulation Requirements | UL Insulation Requirements | ENEC Insulation Requirements | CCC Insulation Requirements | |
| Input-Case | 2U+1000Vac | 2U+1000Vac | 2U+1000Vac | Basic insulation |
| Input-Dim | 2U+1000Vac | 4U+2000Vac | 4U+2000Vac | Reinforced insulation |
| Dim-Case | 500Vac | 500Vac | 500Vac | Basic insulation |
| Insulation Resistance | ≥10MΩ | | | Input-Dim,Test voltage:500Vdc |
| Ground Resistance | ≤0.1Ω | | | 25A/1min |
| Leakage Current | ≤0.75mA | | | 277Vac |

NOTE:

1. SOSEN warrants the LED Driver itself complies with EMC standard. However, LED Driver's EMC should be re-checked when integrated into lighting systems due to unexpected interference of components.
2. For voltage withstand test, short-circuit between L/N, short-circuit between output line positive/negative, short-circuit between dimmer line and VPP or between dimmer line and auxiliary source positive/negative.

## Performance Curves

### Input Inrush Current




| Vin | Ipeak | T(@10% of Ipeak) | T(@50% of Ipeak) |
|---|---|---|---|
| 120Vac | 85A | 970uS | 500uS |
| 220Vac | 95A | 970uS | 500uS |
| 277Vac | 125A | 970uS | 500uS |



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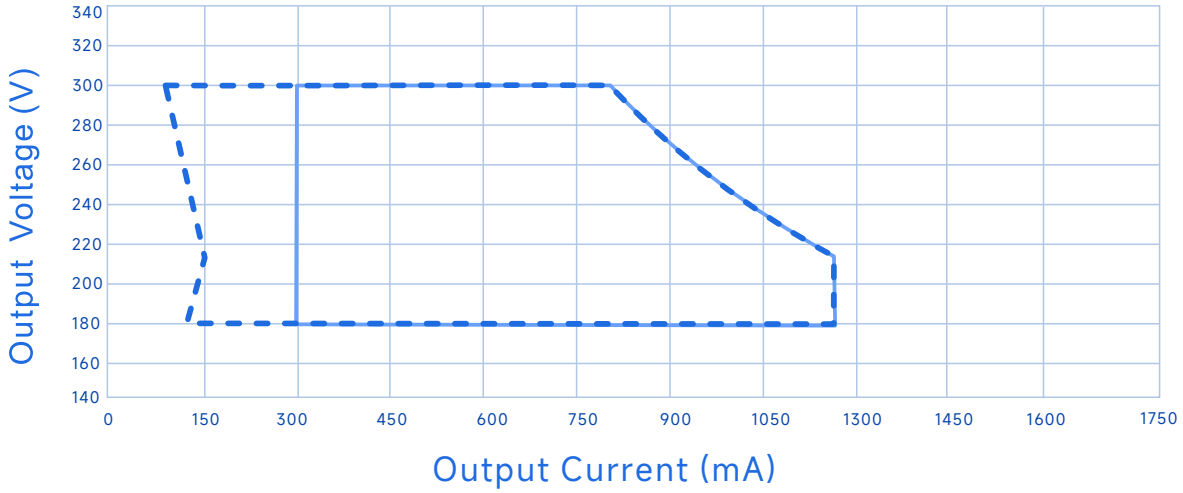
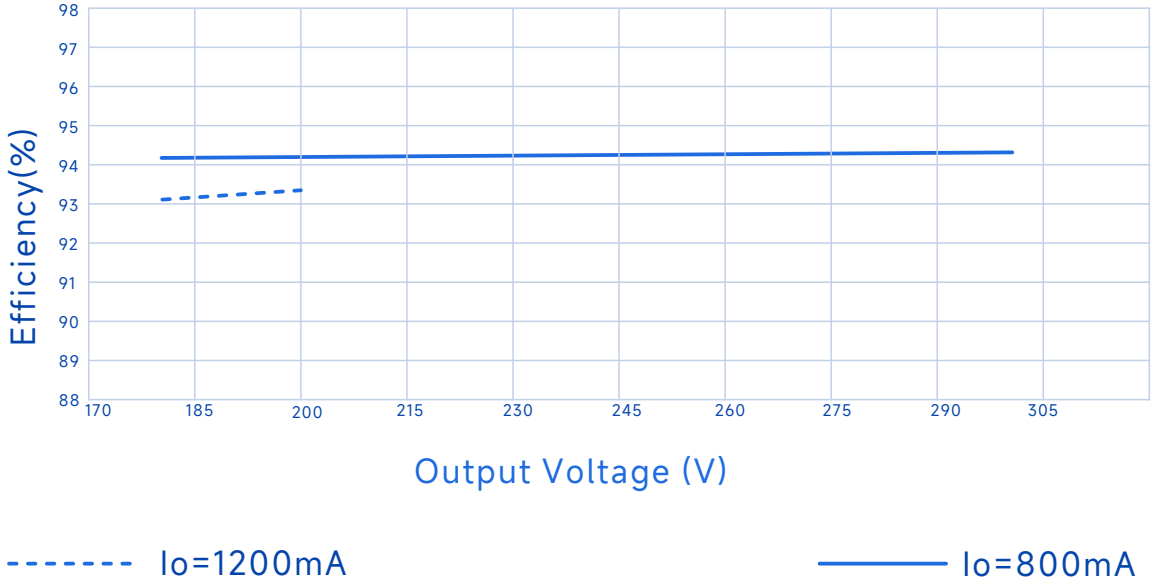
## Performance Curves

### Output Voltage Vs. Output Current(Dim/AOC Window)




### Efficiency Vs. Output Voltage (Vin=120Vac)



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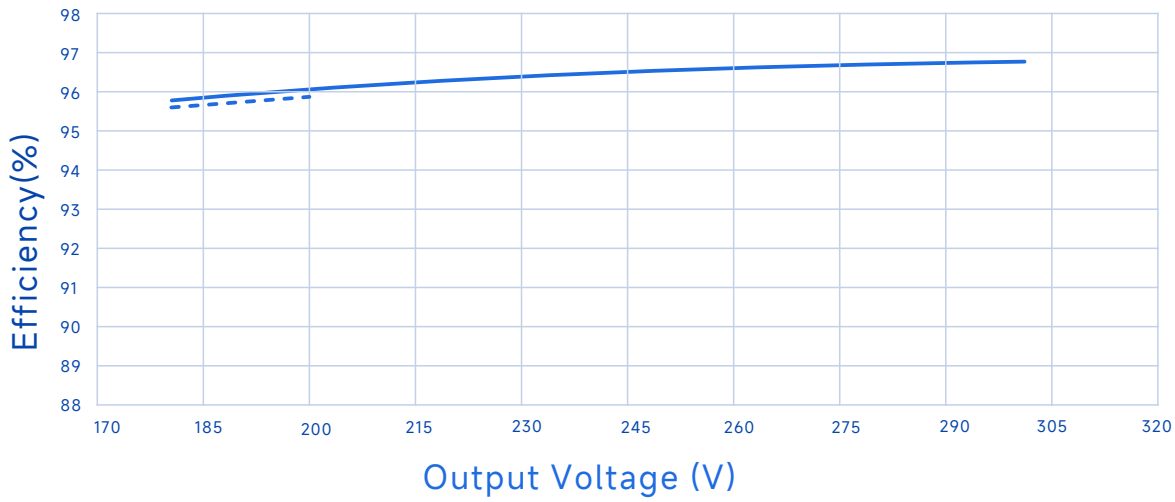
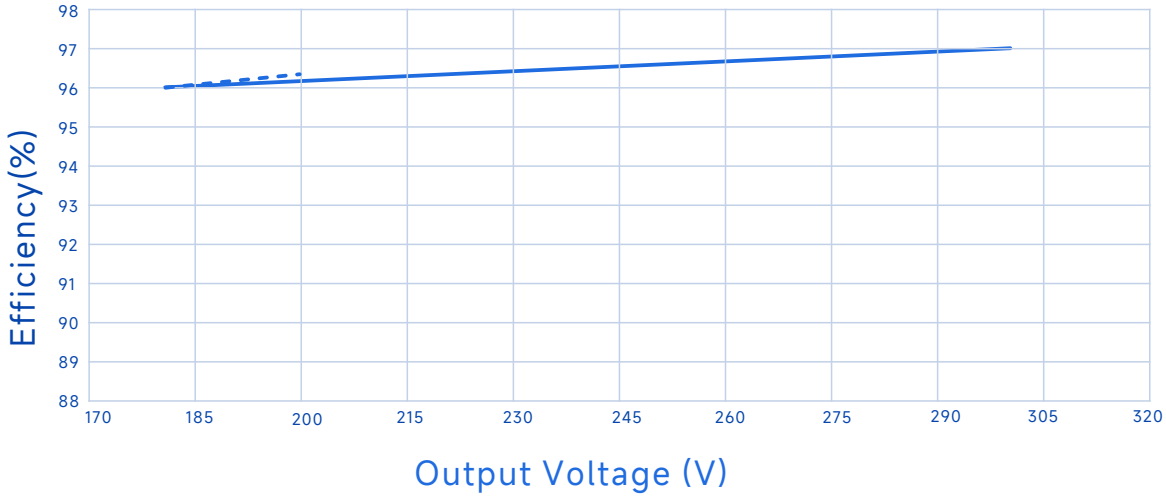
## Performance Curves

Efficiency Vs. Output Voltage (Vin=220Vac)




------- Io=1200mA ——— Io=800mA

Efficiency Vs. Output Voltage (Vin=277Vac)




------- Io=1200mA ——— Io=800mA



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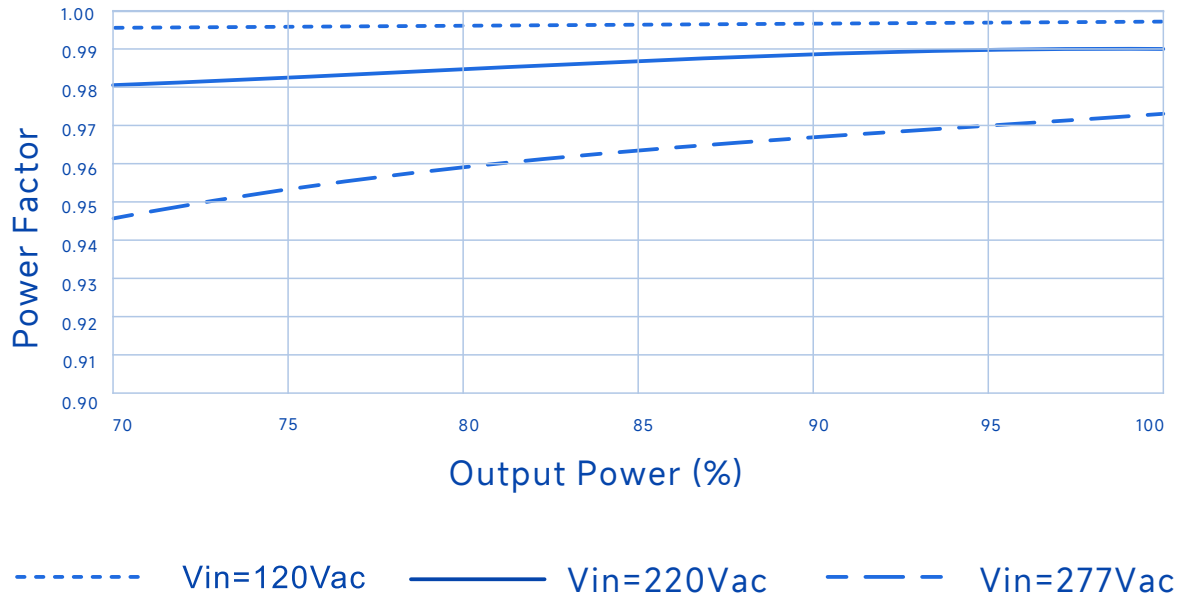
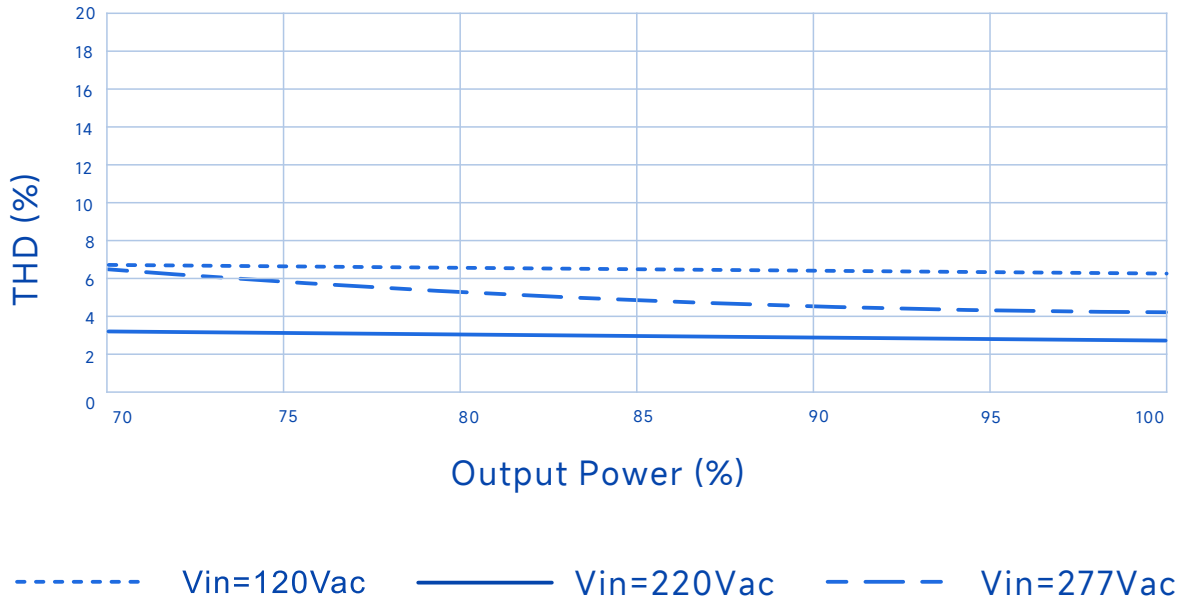
## Performance Curves

### Power Factor Vs. Output Power




### THD Vs. Output Power



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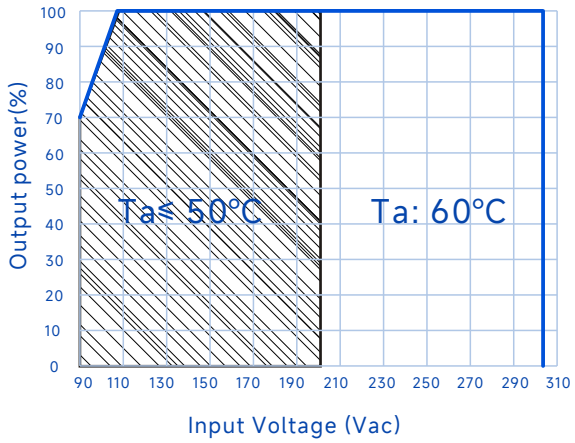
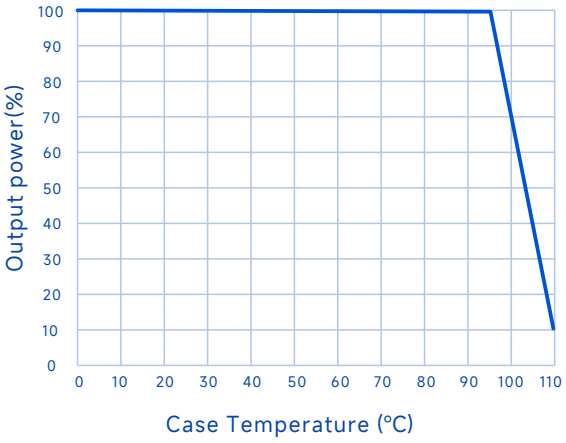
## Performance Curves

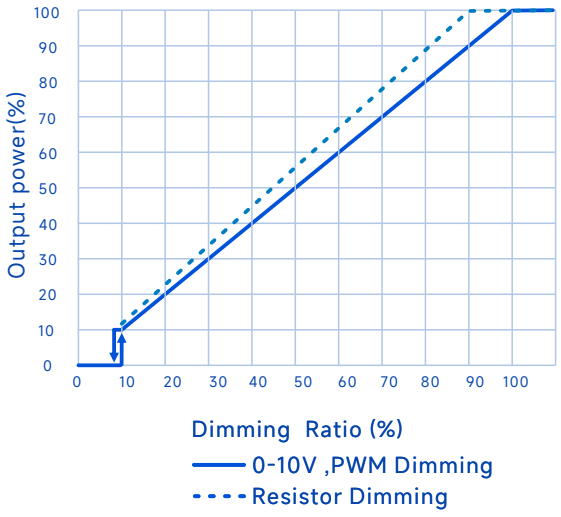
### Output Power Vs. Input Voltage



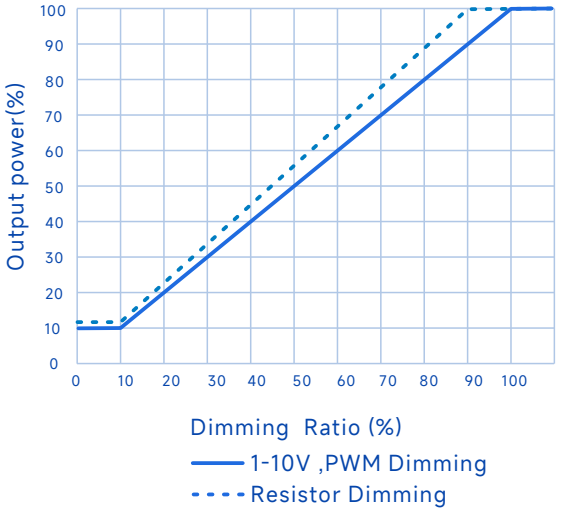

### Output Power Vs. Case Temperature




### Output Power Vs. Dimming (A/BHB models)




### Output Power Vs. Dimming (BB models)



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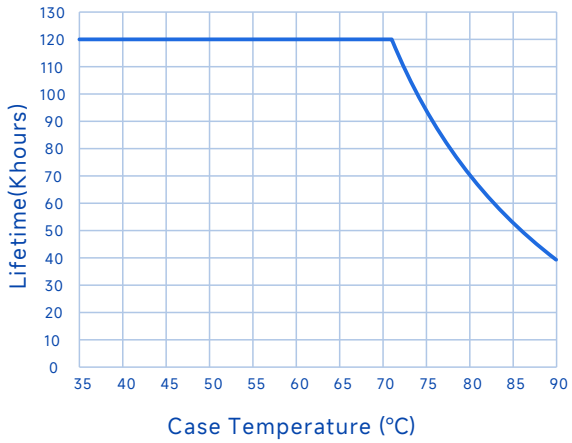
## Performance Curves

Lifetime Vs. Case Temperature



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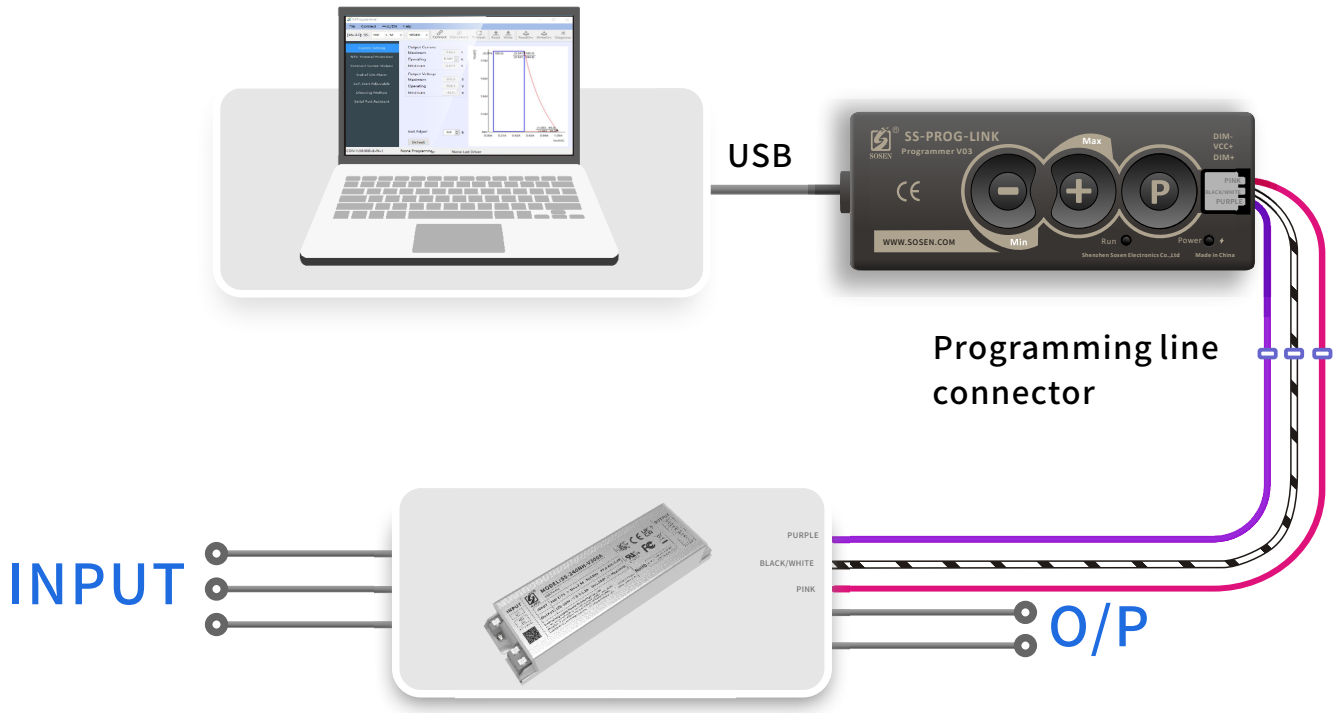
## Programming connection diagram

Legacy Timer: Driver's O/P follows the pre-programmed timing curve after turn-on.
Auto-Adjust by Percentage: Driver's O/P will be adjusted by automatically changed dimming curve by the period percentage based on the latest 5 dimming curve.
Auto-Adjust by Mid-point: Driver's O/P will be adjusted by automatically changed dimming curve by mid-point based on the latest 5 dimming curve.




**Note:**

For details, please refer to the Sosen SS-PROG-LINK Programmer Manual.



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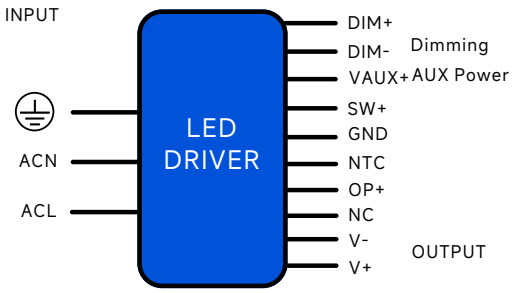
# Mechanical Characteristic

## A,BHB models




### AC Input Terminal

ACL: connect to L wire, ACN: connect to N wire,
⏚ :connect to earth wire

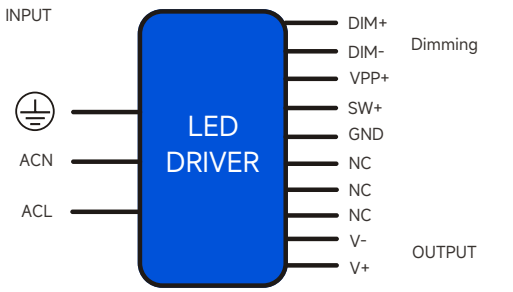
### DC Input Terminal

V+: light source board positive, V-: light source board negative

### Function Terminal

DIM+:Dimming Positive, DIM-:Dimming Negative, VAUX+:Auxiliary Source, SW+:Dialing Power, GND:Negative, NTC:LED Over-temperature Protection, OP+:Light Sensing Function

## BB models




### AC Input Terminal

ACL: connect to L wire, ACN: connect to N wire,
⏚ :connect to earth wire

### DC Input Terminal

V+: light source board positive, V-: light source board negative

### Function Terminal

DIM+:Dimming Positive, DIM-:Dimming Negative, SW+: power dialing, GND: negative, VPP+: offline burning power supply



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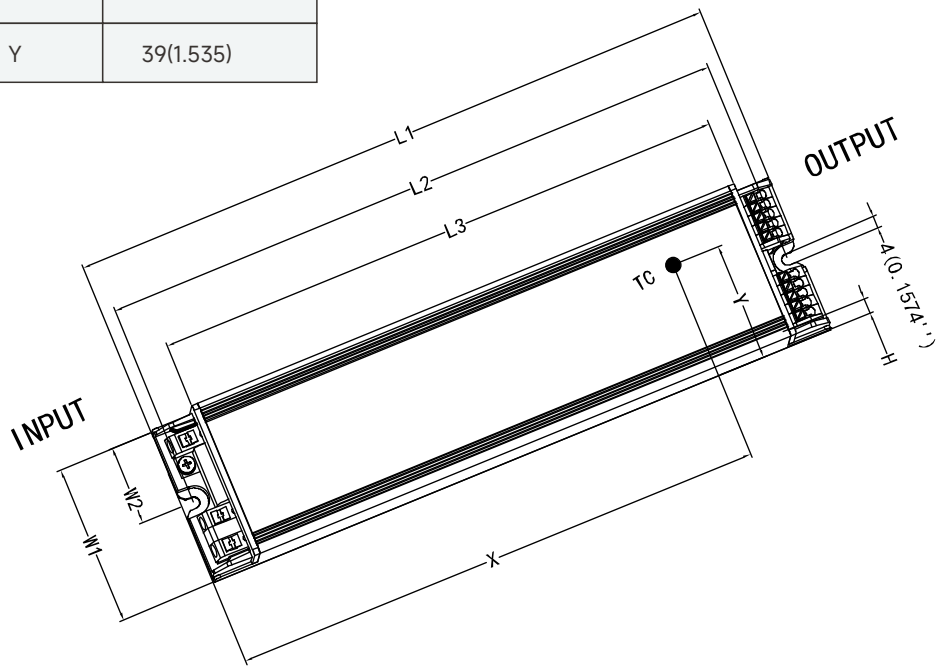
## Mechanical Characteristic

| Name Description | Standard Code | mm(In.) |
|---|---|---|
| Case Width | W1 | 55(2.165) |
| Mounting Hole Width | W2 | 27.5(1.083) |
| Overall Length | L1 | 192(7.559) |
| Mounting Hole Length | L2 | 184(7.224) |
| Case Length | L3 | 165(6.496) |
| Case Height | H | 34(1.338) |
| TC Point Position | X | 153(6.023) |
| TC Point Position | Y | 39(1.535) |

Note
1,Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.



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## Assembly Tips

1. The trace routing on aluminum substrates is designed in compliance with creepage distance requirements specified by relevant certification regulations.
2. The creepage distance between LED+ and LED- on the aluminum substrate is designed in compliance with the relevant certification regulations.
3. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
4. It is recommended to design LED beads in parllel first and then in series.
5. The insulation level of LED light panels should meet the reliability design requirements.
6. It is recommended not to exceed the parameters used in the specification, otherwise it may lead to a higher risk of power supply reliability.
7. For other precautions, please refer to the "LED Driver User Manual".
8. SOSEN reserves the right of final interpretation of the above parameters.

## Warning

Insufficient or compromised insulation voltage resistance in LED light panels may cause breakdown and short circuits to earth, resulting in damage to the luminaire and LED driver, and posing significant safety hazards. It is recommended to install a residual current device (RCD) during application.

## Package

- Outside carton dimension: L×W×H =325mm×315mm×165mm;
- 20PCS/Carton;
- Net weight/Piece: 0.63kg;Gross weight/Carton: 13.6kg;
- Please refer to the product name, model number, manufacturer identification, QC PASS, manufacturing date on the package.

## Transportation

Packaging is designed suitable for transportation by trucks, vessels and flights. The products should be avoided direct sunlight and rain, loaded/unloaded with caution.

## Storage

The product storage meets the standard of the GB 3873—83.
Products should be rechecked if stored for over 1 year before assembly.

## RoHS

Products comply with RoHS Directive (2011/65/EU) and amendment 2015/863/EU.



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# Revision History

| Version | Description of Update | Updated Date | Remark |
|---|---|---|---|
| V00 | Original Release | 2024/09/08 | |
| V01 | Updated intelligent emergency controls | 2024/11/23 | |
| V02 | Increase in BB models | 2025/06/24 | |
| V03 | Increase CCC certification | 2025/07/30 | |
| V04 | Add a warning notice | 2026/02/25 | |
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