

# SOSEN LED Driver, Your Smart Choice

## Specifications

### SS-200NH-E(62) Series LED Driver

Model: SS-200NH-E260\*

Description: 200W LED Driver

Rev.: V01

Release Date: 2023-08-07

# SS-200NH-E(62) Series LED Driver

**SOSEN**  
LED DRIVER



**LED DRIVER**

**NH-E(62) Series**



## Features:

- Efficiency up to 95%
- Dimming: 0-10V,PWM,Resistor
- Isolated Dim-to-off
- AUX Power : 12V/0.2A
- Standby power<0.5W
- Protections: SCP/OTP/OVP
- Surge protection: CM: 6kV, DM: 6kV
- Warranty: 5 years



**Class P**

## Description:

SS-200NH-E(62) Series are 200W non-isolated constant current LED Driver with 90-305VAC. It has DIM to Off, high efficiency, isolated auxiliary power supply, compact housing, fully potted, high reliability, high cost performance and other advantages.

Applications:

Wall washers, Linear high bay light, Flood lighting, Wall lamp

## Model List:

| Model          | AC Input Range | Max. Pout | Vout Range | Full Power Vo Range | Iout    | THD(Typ.) | PF(Typ.) | Eff.(Typ.) | Max.Tc |
|----------------|----------------|-----------|------------|---------------------|---------|-----------|----------|------------|--------|
| SS-200NH-E260* | 90-305Vac      | 200W      | 180-260V   | 200V-260V           | 0.77-1A | 8%        | 0.97     | 95%        | 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<br>(suffix:H) | Dimming off<br>0-10V/PWM/Resistor | Adjust power<br>(Single DIP) | Optical<br>control | Remark |
|------|-----------------------|-----------------------------------|------------------------------|--------------------|--------|
| BH   | ✓                     | ✓                                 |                              |                    |        |
| BHB  | ✓                     | ✓                                 | ✓                            |                    |        |
| BHP  | ✓                     | ✓                                 |                              | ✓                  |        |
| BHBP | ✓                     | ✓                                 | ✓                            | ✓                  |        |

## Input Characteristics:

| Parameter                  | Min.   | Typ.    | Max.   | Remark                         |
|----------------------------|--------|---------|--------|--------------------------------|
| Rated AC Input Range       | 100Vac |         | 277Vac | Ref. derating curve            |
| AC Input Range             | 90Vac  |         | 305Vac | Ref. derating curve            |
| Input Frequency Range      | 47Hz   | 50/60Hz | 63Hz   |                                |
| Max Input Current          |        |         | 1.96A  | 120Vac, Full load              |
| Max Input Power            |        |         | 235W   | 120Vac, Full load              |
| Max Inrush Current(120Vac) |        |         | 60A    | Cold start                     |
| Max Inrush Current(220Vac) |        |         | 100A   | Cold start                     |
| Max Inrush Current(277Vac) |        |         | 130A   | Cold start                     |
| Standby Power              |        |         | 0.5W   | 220Vac/50Hz, Dim to off        |
| Power Factor               | 0.95   | 0.97    |        | 220Vac/50Hz, Full load         |
|                            | 0.90   |         |        | 100-277Vac/50Hz, 70%-100% load |
| THD                        |        | 8%      | 10%    | 220Vac/50Hz, Full load         |
|                            |        |         | 20%    | 100-277Vac/50Hz, 70%-100% load |

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## Output Characteristics:

| Parameter                    | Min.      | Typ.  | Max.      | Remark                                                   |
|------------------------------|-----------|-------|-----------|----------------------------------------------------------|
| O/P Voltage Range            | 180V      |       | 260V      | Power derated @180-200V                                  |
| Rated O/P Voltage            | 200V      |       | 260V      | $P_o = V_o \cdot I_o = 200W$ , Full load                 |
| Rated O/P Current            | 0.77A     |       | 1A        | 1A for 200V, 0.77A for 260V                              |
| Adj. O/P Current (AOC) Range | 0.7A      |       | 1A        |                                                          |
| No Load Voltage              |           |       | 310V      |                                                          |
| Efficiency @120Vac           | 90.0%     | 92.0% |           | Output 260V/0.77A                                        |
| Efficiency @220Vac           | 93.0%     | 95.0% |           | Output 260V/0.77A                                        |
| Efficiency @277Vac           | 93.0%     | 95.0% |           | Output 260V/0.77A                                        |
| 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                                        |
|                              |           |       | 0.5S      | 220Vac, Full load                                        |
| Line Regulation              | -2%       |       | +2%       | Full load                                                |
| Load Regulation              | -6%       |       | +6%       |                                                          |
| Temperature Coefficient      | -0.05%/°C |       | +0.05%/°C | Tc: 0°C~90°C                                             |
| OTP                          | 90°C      | 100°C | 110°C     | >Tc Typ., Current derating<br><Tc Min., Current recovery |
| Short Circuit Protection     |           |       |           | Driver will not be damaged                               |

# SS-200NH-E(62) Series LED Driver

## Other Characteristics:

| Parameter         |               | Min.            | Typ. | Max.      | Remark                                        |
|-------------------|---------------|-----------------|------|-----------|-----------------------------------------------|
| Aux Power         | O/P Voltage   | 10.8V           | 12V  | 13.8V     |                                               |
|                   | O/P Current   |                 |      | 200mA     |                                               |
| 0-10V Dimming     | Dim Vmax      | 0V              |      | 12V       | DIM+ source current 100uA.                    |
|                   | Dim Range     | 10%Iomax        |      | 100%Ioset | Dimming prohibits reverse connection          |
|                   | Rec.Dim Range | 0V              |      | 10V       |                                               |
| PWM Dimming       | PWM High      | 9.8V            |      | 10.2V     | DIM+ source current 100uA.                    |
|                   | PWM Low       | 0V              |      | 0.3V      | Dimming prohibits reverse connection          |
|                   | Frequency     | 1KHz            |      | 2KHz      |                                               |
|                   | PWM Duty      | 0%              |      | 100%      |                                               |
| Resistor Dimming  | Resistance    | 0Kohm           |      | 100Kohm   | DIM+ source current 100uA.                    |
|                   | Dim Range     | 10%Iomax        |      | 100%Ioset |                                               |
| Dim to Off        | Dim off       | 0.7V            | 0.8V | 0.95V     |                                               |
|                   | Dim on        | 0.95V           | 1.1V | 1.2V      |                                               |
| Lifetime(Tc≤85°C) |               | ≥50,000 hours   |      |           |                                               |
| MTBF              |               | 200,000 hours   |      |           | 220Vac, Full load, Ta=25°C<br>(MIL-HDBK-217F) |
| Tc                |               | 90°C            |      |           |                                               |
| Warranty          |               | 5 years         |      |           | Tc: 85°C                                      |
| Net Weight        |               | 540g            |      |           |                                               |
| Dimension         |               | 220mm*45mm*31mm |      |           | L x W x H                                     |

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

# SS-200NH-E(62) Series LED Driver

## 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                                                       | ✓      |        |
| TUV           | EN 61347-2-13:2014/A1:2017<br>EN61347-1:2015<br>EN62493:2015 |        |        |
| RCM           | AS/NZS61347.2.13                                             |        |        |
| BIS           | IS15885:2012 Part 2 Sec 13                                   |        |        |
| CCC           | GB 19510.14-2009                                             |        |        |
| CE            | EN 61347-2-13:2014<br>EN61347-1:2008+A1:2011+A2:2013         |        |        |

| EMI/EMS                    | Criterion                              | Remark                           |
|----------------------------|----------------------------------------|----------------------------------|
| Conduction Emission        | FCC Part 15 Subpart B; ANSI C63.4:2014 | 120Vac: Class B, 277Vac: Class A |
| Radiation Emission         | FCC Part 15 Subpart B; ANSI C63.4:2014 | 120Vac: Class B, 277Vac: Class A |
| Harmonic Current Emissions | IEC/EN 61000-3-2:2019+A1:2021          | Class C                          |
| Surge                      | IEC/EN61000-4-5                        | DM: 6kV,CM: 6kV,Criterion B      |
| Ring Wave                  | IEC/EN 61000-4-12                      | DM: 6kV,CM: 6kV,Criterion B      |

# SS-200NH-E(62) Series LED Driver

## Safety Test Items:

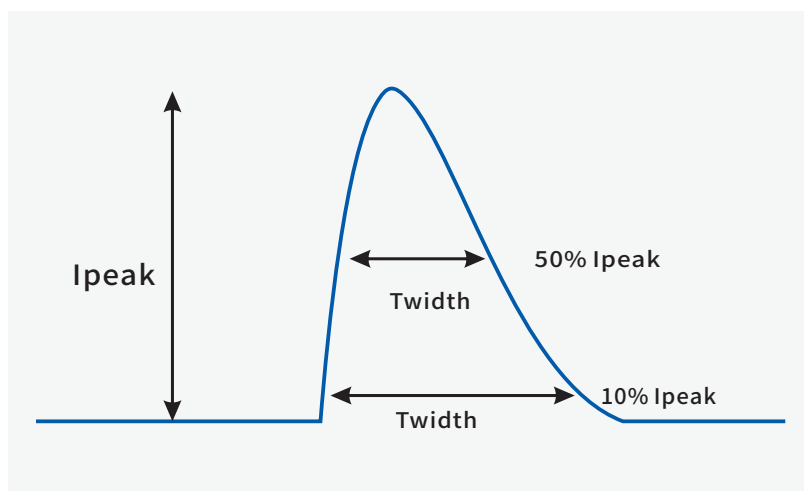
| Safety Test Items       | Technical Indicators       | Remark                          |
|-------------------------|----------------------------|---------------------------------|
| Insulation Requirements | UL Insulation Requirements |                                 |
| Input-Case              | 1600Vac                    | Basic insulation                |
| Input-Dim               | 1600Vac                    | Reinforced insulation           |
| Dim-Case                | 500Vac                     | Basic insulation                |
| Insulation Resistance   | $\geq 10\text{M}\Omega$    | Input-Dim, Test voltage: 500Vdc |
| Ground Resistance       | $\leq 0.1\Omega$           | 25A/1min                        |
| Leakage Current         | $\leq 0.75\text{mA}$       | 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. Please short (ACL and ACN), (V+ and V-), (Dim+ and Dim - and Vaux+ and Vaux-) when Hi-pot test.

## Performance Curves:

### Input Inrush Current

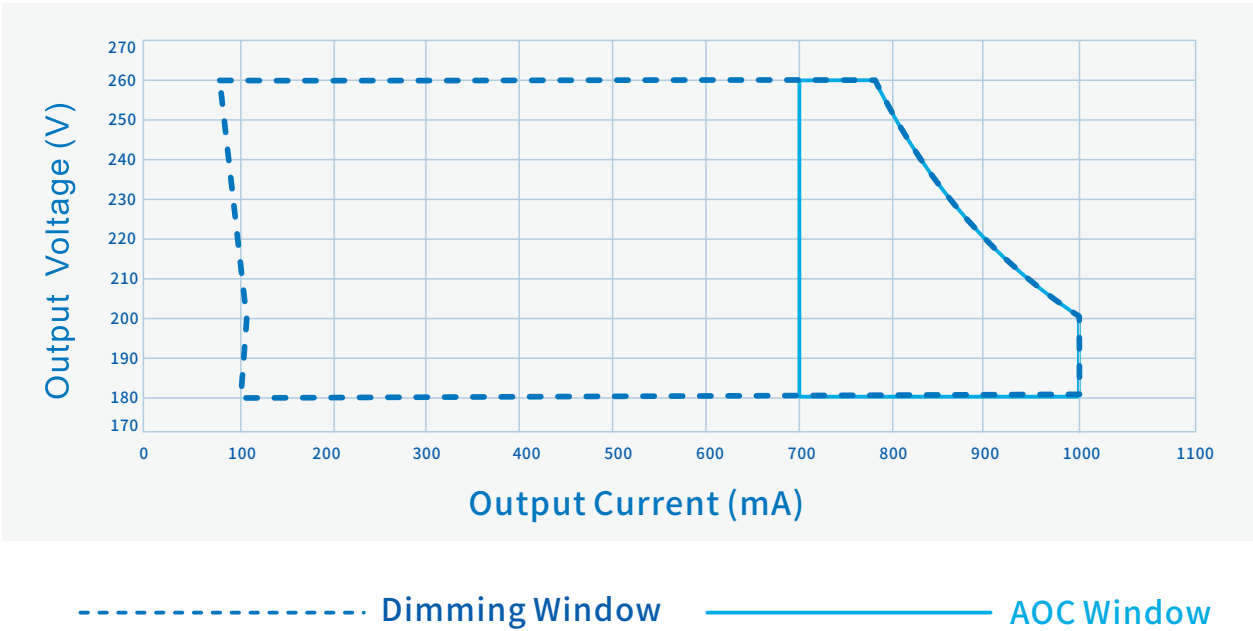


| Vin    | Ipeak | T(@10% of Ipeak) | T(@50% of Ipeak) |
|--------|-------|------------------|------------------|
| 120Vac | 60A   | 896uS            |                  |
| 220Vac | 100A  |                  | 316uS            |
| 277Vac | 130A  | 664uS            |                  |

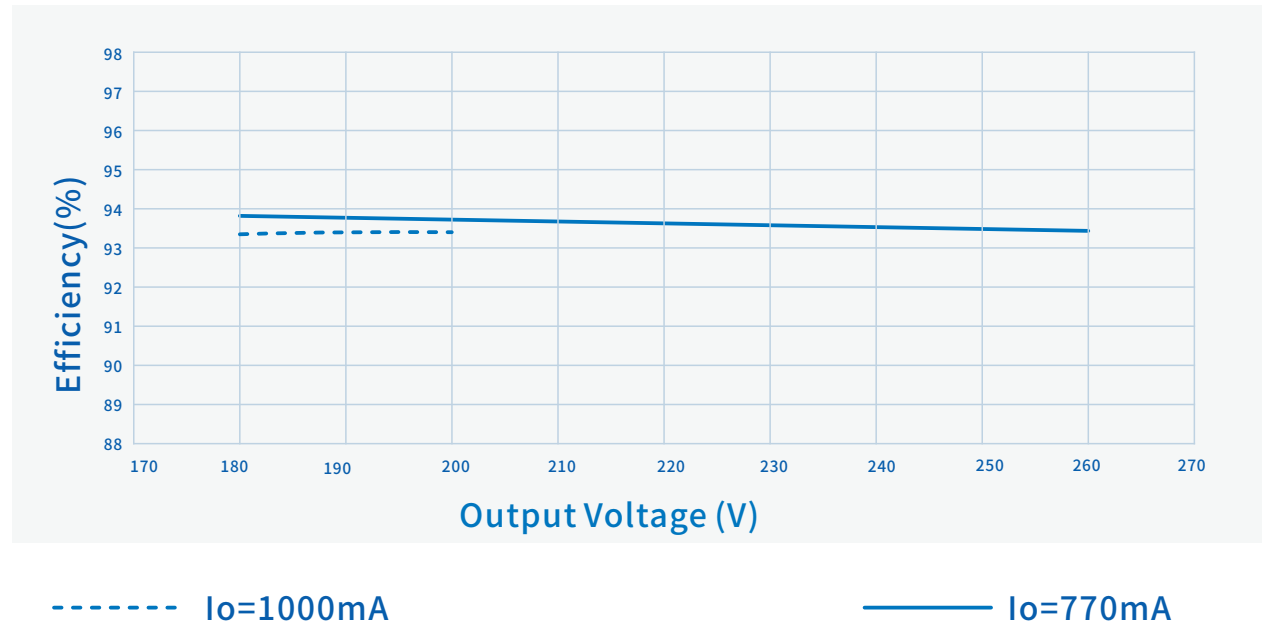
# SS-200NH-E(62) Series LED Driver

## Performance Curves:

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



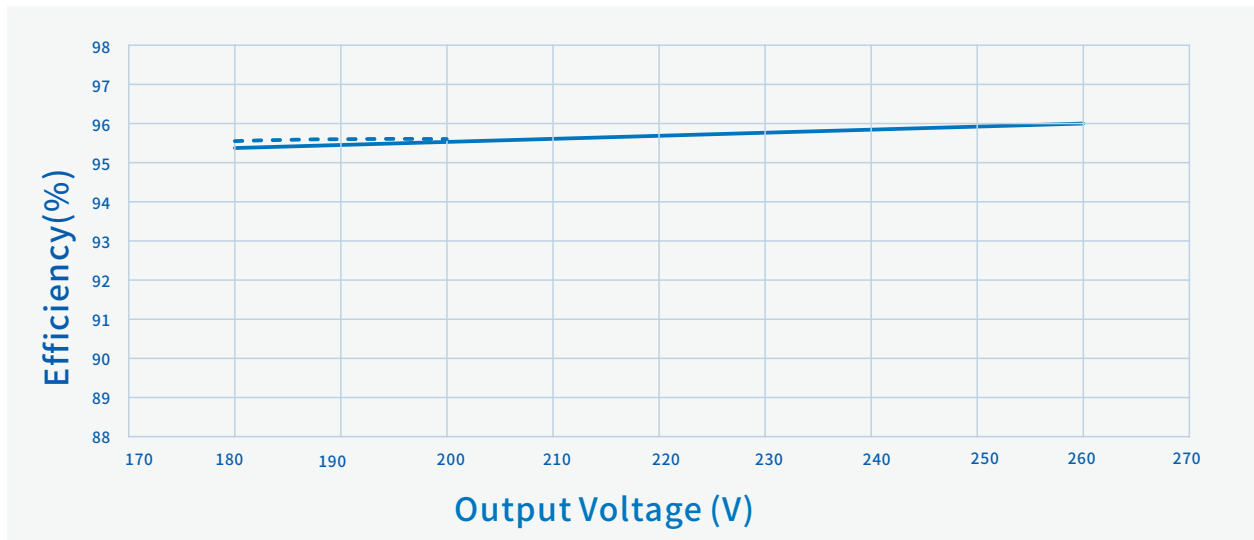
Efficiency Vs. Output Voltage (Vin=120Vac)



# SS-200NH-E(62) Series LED Driver

## Performance Curves:

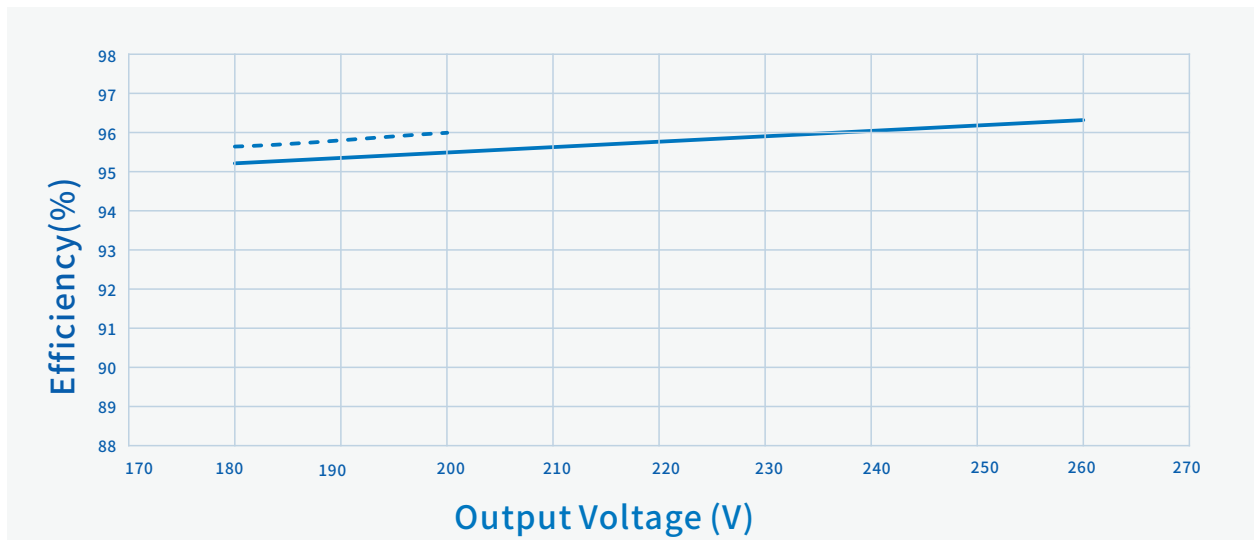
### Efficiency Vs. Output Voltage ( $V_{in}=220V_{ac}$ )



-----  $I_o=1000mA$

—————  $I_o=770mA$

### Efficiency Vs. Output Voltage ( $V_{in}=277V_{ac}$ )



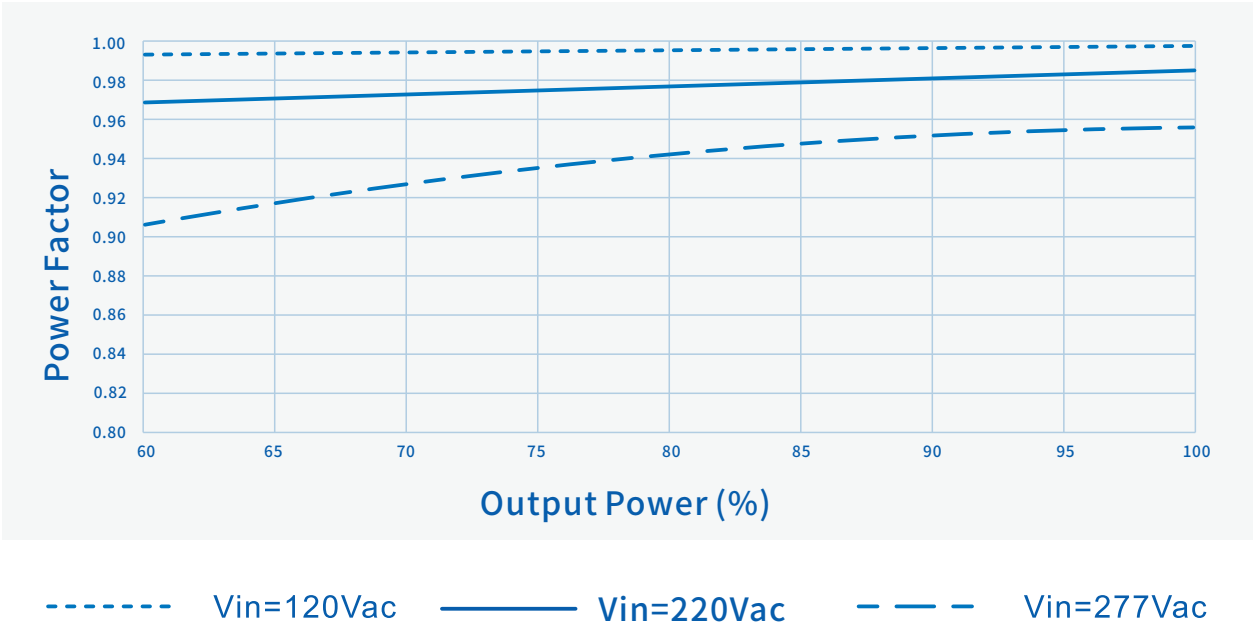
-----  $I_o=1000mA$

—————  $I_o=770mA$

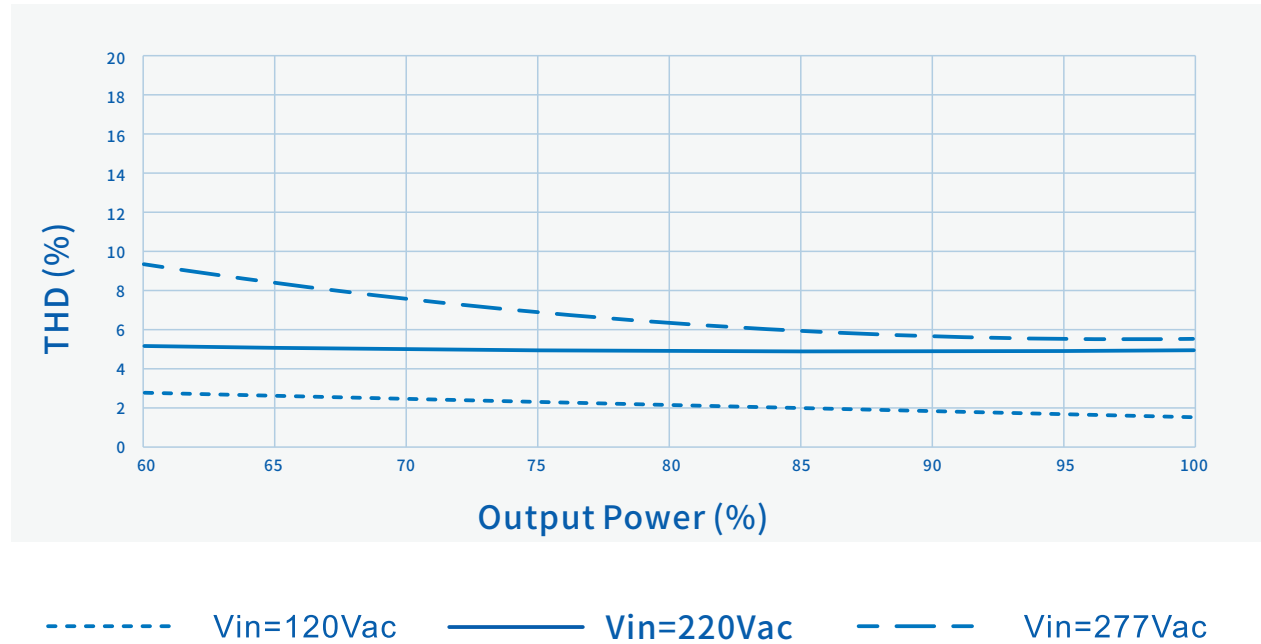
# SS-200NH-E(62) Series LED Driver

## Performance Curves:

Power Factor Vs. Output Power



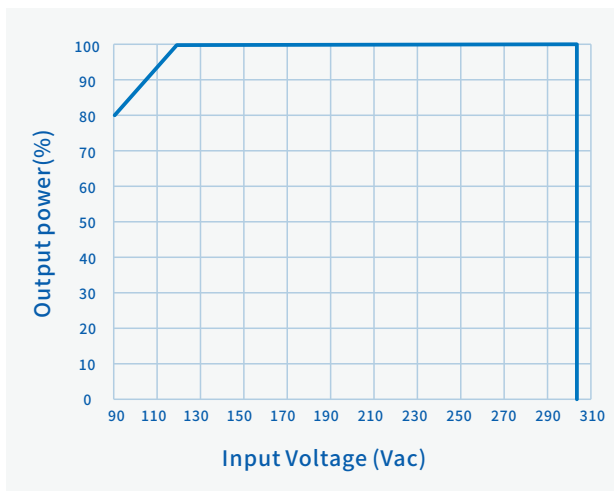
THD Vs. Output Power



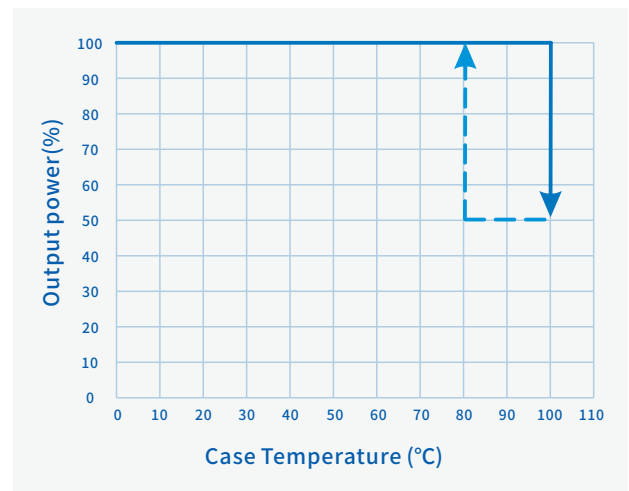
# SS-200NH-E(62) Series LED Driver

## Performance Curves:

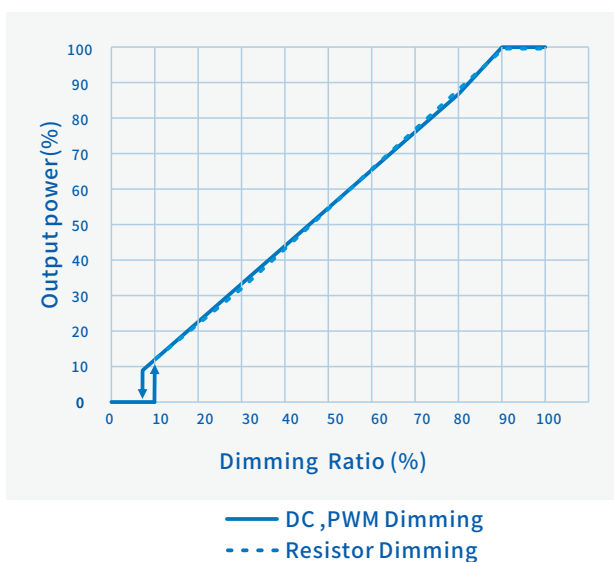
### Output Power Vs. Input Voltage



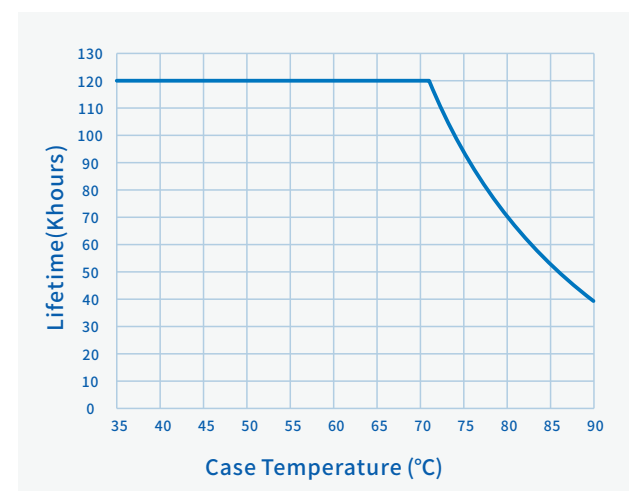
### Output Power Vs. Case Temperature



### Output Power Vs. Dimming

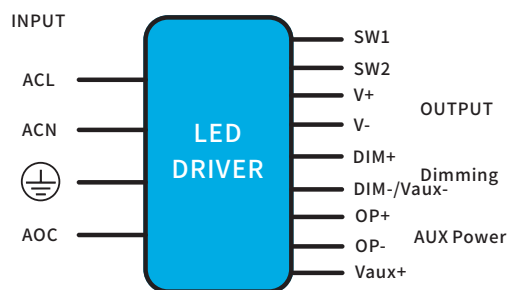


### Lifetime Vs. Case Temperature



# SS-200NH-E(62) Series LED Driver

## Mechanical Characteristics



**AC Input Cable(Exposed Length 300±10mm):**

UL/EU model: 18AWG 105°C 600V O.D: 2.77mm,Black:ACL,White:ACN,Green:⊕

**DC Output Cable(Exposed Length 300±10mm):**

UL/EU model: 18AWG 105°C 300V O.D: 1.95mm,Red:V+, Black:V-

**Resistance power regulating line with terminal Cable:**

UL/EU model: 24AWG 150°C 300V O.D: 1.6mm,Orange: SW1,SW2

**Optical control line with terminal:**

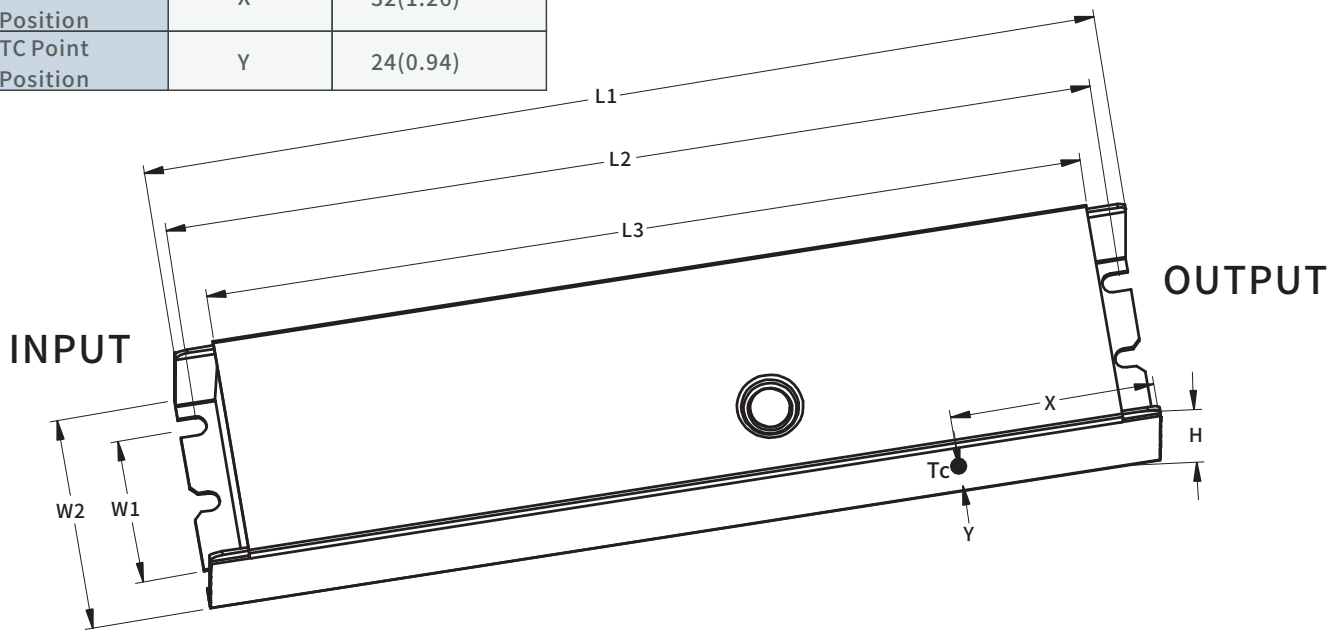
UL/EU model: 24AWG 150°C 300V O.D: 1.6mm,Red: OP+,Black: OP-

**DIM/AUX Power Cable(Exposed Length 220±10mm):**

UL/EU model: 22AWG 105°C 300V O.D: 1.52mm, Purple: DIM+, Pink: DIM-/Vaux-, Black/White: Vaux+

| Name<br>Description     | Standard<br>Code | mm(In.)   |
|-------------------------|------------------|-----------|
| Case Length             | L3               | 205(8.07) |
| Case Width              | W2               | 45(1.77)  |
| Case Height             | H                | 31(1.22)  |
| Overall Length          | L1               | 220(8.66) |
| Mounting Hole<br>Length | L2               | 213(8.39) |
| Mounting Hole<br>Width  | W1               | 32(1.26)  |
| TC Point<br>Position    | X                | 32(1.26)  |
| TC Point<br>Position    | Y                | 24(0.94)  |

Note:  
1,Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.  
2,AC Input Cable,DC O/P Cable,DIM Cable:  
Tinned length of wire:10±2mm



# SS-200NH-E(62) Series LED Driver



## Assembly Tips

1. Highly recommended to seal the adjustable hole with silicon glue(#704 preferred) after adjusting the Driver's output current. Avoid permanent damage to adjust the potentiometer with suitable strength.
2. Dimming or AUX Power tinned connectors should be capped if not used to avoid dimming or AUX Power parts damage from external signals.
3. In order to meet the requirements of the power derating and the maximum ambient temperature of 55°C, an auxiliary heat sink must be added. It is recommended that the heat sink has a heat dissipation area of 380cm<sup>2</sup> and volume of 115cm<sup>3</sup>. Thermal grease should be applied between led driver and the auxiliary heat sink to ensure the bottom of housing is in close contact with the heat sink.
4. Safety space between aluminum base and LED coppers >5mm.
5. Safety space/coppers between LED+ and LED- >1.8mm.
6. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
7. It is recommended to design LED beads in parallel first and then in series.
8. The insulation level of LED light panels should meet the reliability design requirements.
9. For other precautions, please refer to the "LED Driver User Manual" .
10. SOSEN reserves the right of final interpretation of the above parameters.

## Package

- Outside carton dimension: L×W×H=495mm×385mm×162mm;
- 24PCS/Carton;
- Net weight/Piece: 0.54kg;Gross weight/Carton: 14.5kg;
- 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.

## Revision History

[illegible]