

# SOSEN LED Driver, Your Smart Choice

## Specifications

### **SS-320CNL-E260\*** Series LED Driver

Model: SS-320CNL-E260\*

Description: 320W LED Driver

Rev.: V00

Release Date: 2024-11-19

# SS-320CNL-E260\* Series LED Driver

**SOSEN**  
LED DRIVER



**LED DRIVER**

**CNL-E260\***

## Features:

- Efficiency up to 96%
- Isolated dimming: 0-10V, PWM, Resistor
- Optional aux: 12V/0.2A
- Dim to off
- Protections: SCP/OTP/OVP
- IP65
- Surge protection: CM: 6kV, DM: 6kV
- Warranty: 5 years



BHB/BHD机型



BH机型



IP65

RoHS

UK  
CA

## Description:

SS-320CNL-E260\* series is 320W round non-isolated constant current driver products, this series of products for LED lighting design, specifically for industrial and mining lamps; with isolated dimming function, ultra-high efficiency, fully encapsulated thermally conductive silicone to ensure heat dissipation and waterproof performance, with high reliability, high cost-effective and other advantages.

### Applications:

High bay lighting

## Model List:

| Model           | AC Input Range | Max. Pout | Vout Range | Full Power Vo Range | Iout     | Default Current | THD(Typ.) | PF(Typ.) | Eff.(Typ.) | Max.Tc |
|-----------------|----------------|-----------|------------|---------------------|----------|-----------------|-----------|----------|------------|--------|
| SS-320CNL-E260* | 90-305Vac      | 320W      | 180-260V   | 214V-260V           | 1.1-1.5A | 1.23A           | 7%        | 0.97     | 95.5%      | 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.

# SS-320CNL-E260\* Series LED Driver

## “★” Means Additional Function

| “★” | AUX 12V<br>(suffix:H) | Dimming off<br>0-10V/PWM/Resistor | Adjust power<br>(Single DIP) | Adjust power/color<br>temperature<br>(Double DIP) | Remark |
|-----|-----------------------|-----------------------------------|------------------------------|---------------------------------------------------|--------|
| BH  | ✓                     | ✓                                 |                              |                                                   |        |
| BHB | ✓                     | ✓                                 | ✓                            |                                                   |        |
| BHD | ✓                     | ✓                                 |                              | ✓                                                 |        |

## Input Characteristics:

| Parameter                  | Min.   | Typ.    | Max.   | Remark                        |
|----------------------------|--------|---------|--------|-------------------------------|
| Rated AC Input Range       | 120Vac |         | 277Vac |                               |
| AC Input Range             | 90Vac  |         | 305Vac | Reference derating curve      |
| Input Frequency Range      | 47Hz   | 50/60Hz | 63Hz   |                               |
| Max Input Current          |        |         | 3.5A   | 120Vac, Full load             |
| Max Input Power            |        |         | 360W   | 120Vac, Full load             |
| Max Inrush Current(120Vac) |        |         | 80A    | Cold start, Full load         |
| Max Inrush Current(220Vac) |        |         | 120A   | Cold start, Full load         |
| Max Inrush Current(277Vac) |        |         | 150A   | Cold start, Full load         |
| Standby Power              |        |         | 0.5W   | 220Vac/50Hz                   |
| Power Factor               | 0.95   | 0.97    |        | 220Vac/50Hz, Full load        |
|                            | 0.90   |         |        | 120-277Vac/50Hz, 70-100% load |
| THD                        |        | 7%      | 12%    | 220Vac/50Hz, Full load        |
|                            |        |         | 20%    | 120-277Vac/50Hz, 70-100% load |

# SS-320CNL-E260\* Series LED Driver

## Dip Switches:

BHD: Dip Switch to adjust output power  
+ Dip Switch to adjust color temperature

| A                                                                                 | B          | C          |
|-----------------------------------------------------------------------------------|------------|------------|
| 320<br>(W)                                                                        | 240<br>(W) | 200<br>(W) |
|  |            |            |
| CW NW WW                                                                          |            |            |

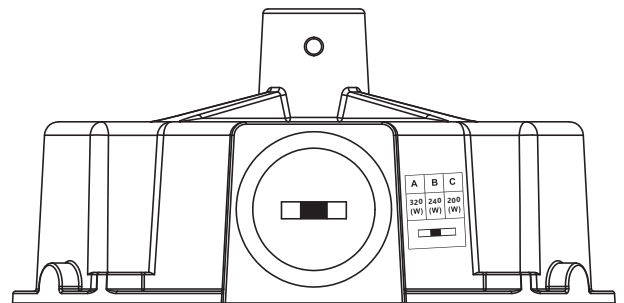
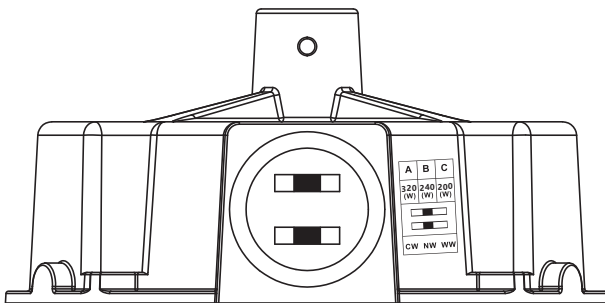
320W(A)-240W(B)-200W(C)

CW: White light NW: Neutral light WW: Warm light

BHB: Dip Switch to adjust output power

| A                                                                                   | B          | C          |
|-------------------------------------------------------------------------------------|------------|------------|
| 320<br>(W)                                                                          | 240<br>(W) | 200<br>(W) |
|  |            |            |

320W(A)-240W(B)-200W(C)



Note: 1、 To adjust the output power and color temperature, you need to operate after AC OFF.

2、 When dialing the code to adjust the power, you need to pay special attention to whether the switch is dialed in place to hear a clear sound.

# SS-320CNL-E260\* Series LED Driver

## Output Characteristics:

| Parameter                    | Min.      | Typ.  | Max.      | Remark                                                                                        |
|------------------------------|-----------|-------|-----------|-----------------------------------------------------------------------------------------------|
| O/P Voltage Range            | 180V      |       | 260V      | 180-214V derated use                                                                          |
| Rated O/P Voltage            | 214V      |       | 260V      | $P_o = V_o \cdot I_o = 320W$ , Full load                                                      |
| Rated O/P Current            | 1.23A     |       | 1.5A      | 1.5A for 214V, 1.23A for 260V                                                                 |
| Adj. O/P Current (AOC) Range | 1.1A      |       | 1.5A      | A                                                                                             |
|                              | 0.84A     |       | 1.2A      | B                                                                                             |
|                              | 0.75A     |       | 1.05A     | C                                                                                             |
| No Load Voltage              |           |       | 310V      |                                                                                               |
| Efficiency @120Vac           | 91.0%     | 93.0% |           | O/P 260V/1.23A                                                                                |
| Efficiency @220Vac           | 94.0%     | 96.0% |           | O/P 260V/1.23A                                                                                |
| Efficiency @277Vac           | 94.0%     | 96.0% |           | O/P 260V/1.23A                                                                                |
| O/P Current Tolerance        | -5%       |       | +5%       |                                                                                               |
| O/P Current Ripple(PK-AV)    |           | 10%   | 15%       |                                                                                               |
| Start-up Current Overshoot   |           |       | 10%       | Full load                                                                                     |
| Start-up Time                |           |       | 1.0S      | 120Vac, Full load                                                                             |
|                              |           |       | 0.5S      | 220Vac, Full load                                                                             |
| Line Regulation              | -3%       |       | +3%       | Full load                                                                                     |
| Load Regulation              | -3%       |       | +3%       |                                                                                               |
| Temperature Coefficient      | -0.05%/°C |       | +0.05%/°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                                                                    |

# SS-320CNL-E260\* Series LED Driver

## Other Characteristics:

| Parameter                   |               | Min.          | Typ. | Max.      | Remark                                    |
|-----------------------------|---------------|---------------|------|-----------|-------------------------------------------|
| AUX Power (Optional)        | O/P Voltage   | 10.8V         | 12V  | 13.5V     |                                           |
|                             | O/P Current   |               |      | 200mA     |                                           |
| 0-10V Dimming (Optional)    | Dim Vmax      | 0V            |      | 12V       | DIM+ source current 100uA.                |
|                             | Dim Range     | 10%loset      |      | 100%loset | Dimming prohibits reverse connection      |
|                             | Rec.Dim Range | 0V            |      | 10V       |                                           |
| PWM Dimming (Optional)      | 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 (Optional) | Resistance    | 0Kohm         |      | 100Kohm   | DIM+ source current 110uA.                |
|                             | Dim Range     | 10%lomax      |      | 100%loset |                                           |
| Dim to Off                  | Dim off       | 0.7V          | 0.8V | 0.9V      | Afterglow(Standard)                       |
|                             | Dim on        | 0.9V          | 1.0V | 1.1V      | Without afterglow(Optional)               |
| Life Time(Tc≤85°C)          |               | 50,000 hours  |      |           |                                           |
| MTBF                        |               | 198,000 hours |      |           | 220Vac,Full load, Ta=25°C (MIL-HDBK-217F) |
| IP Grade                    |               | IP65          |      |           |                                           |
| Tc                          |               | 90°C          |      |           |                                           |
| Warranty                    |               | 5 years       |      |           | Tc: 85°C                                  |
| Net Weight                  |               | 1142g         |      |           |                                           |
| Dimension                   |               | Φ146mm*61.8mm |      |           | D x H                                     |

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

# SS-320CNL-E260\* 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                                                                                                                                                    | ✓      |        |
| ENEC          | EN 61347-1:2015<br>EN 61347-2-13:2014<br>EN 61347-2-13:2014/A1:2017                                                                                       | ✓      |        |
| UKCA          | EN 61347-1:2015+A1:2021<br>EN 61347-2-13:2014+A1:2017<br>EN 62493:2015<br>BS EN 61347-1:2015+A1:2021<br>BS EN 61347-2-13:2014+A1:2017<br>BS EN 62493:2015 | ✓      |        |
| RCM           | AS/NZS61347.2.13                                                                                                                                          | ✓      |        |
| 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        | EN IEC 55015:2019+A11:2020           | Class B 4dB                   |
| Radiation Emission         | EN IEC 55015:2019+A11:2020           | Class B 4dB                   |
| Harmonic Current Emissions | IEC/EN 61000-3-2:2019+A1:2021        | Class C                       |
| Surge                      | IEC/EN 61000-4-5                     | DM: 6kV,CM: 6kV,Criterion B   |
|                            | ANSI/C82.77-5-2017                   | DM: 6kV,CM: 6kV,Criterion B ① |
| Ring Wave                  | IEC/EN 61000-4-12;ANSI/C82.77-5-2017 | DM: 6kV,CM: 6kV,Criterion B   |

Note: ①ANSI/C82.77-5-2017 surge standard is optional.

# SS-320CNL-E260\* Series LED Driver

## Safety Test Items:

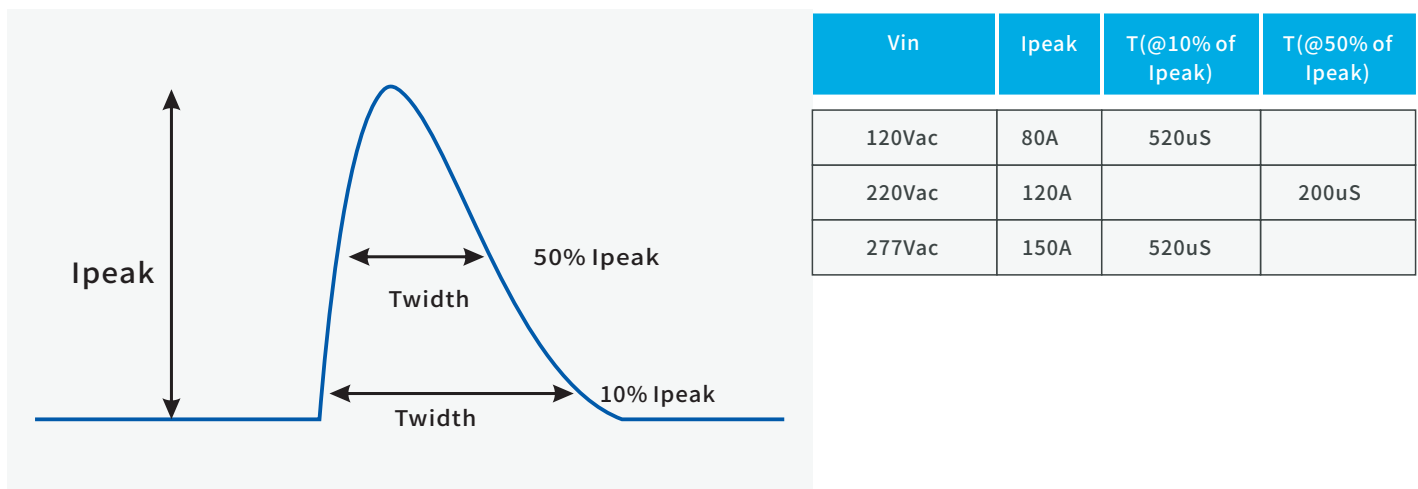
| Safety test items       | Technical Indicators       |                             |                             | Remark                        |
|-------------------------|----------------------------|-----------------------------|-----------------------------|-------------------------------|
| Insulation Requirements | UL Insulation Requirements | TUV Insulation Requirements | CCC Insulation Requirements |                               |
| Input-Case              | 1600Vac                    | 1500Vac                     | /                           | Basic insulation              |
| Input-Dim               | 1600Vac                    | 3000Vac                     | /                           | Reinforced insulation         |
| O/P-Dim                 | 1600Vac                    | 3000Vac                     | /                           | Reinforced insulation         |
| Dim-Case                | 500Vac                     | 500Vac                      | /                           | Basic insulation              |
| Insulation Resistance   | $\geq 10M\Omega$           |                             |                             | Input-Dim,Test voltage:500Vdc |
| Ground Resistance       | $\leq 0.1\Omega$           |                             |                             | 25A/1min                      |
| Leakage Current         | $\leq 0.75mA$              |                             |                             | 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. Please short (ACL and ACN), (V+ and V-), (Dim+ and Dim - and Vaux+ and Vaux-)when Hi-pot test.
3. The CCC withstand voltage test needs to disconnect the built-in lightning protection tube.According to the IEC 60598-1:14 standard section 10.2, the “built-in lightning protection tube” can be marked on the nameplate to disconnect the discharge tube on testing.

## Performance Curves:

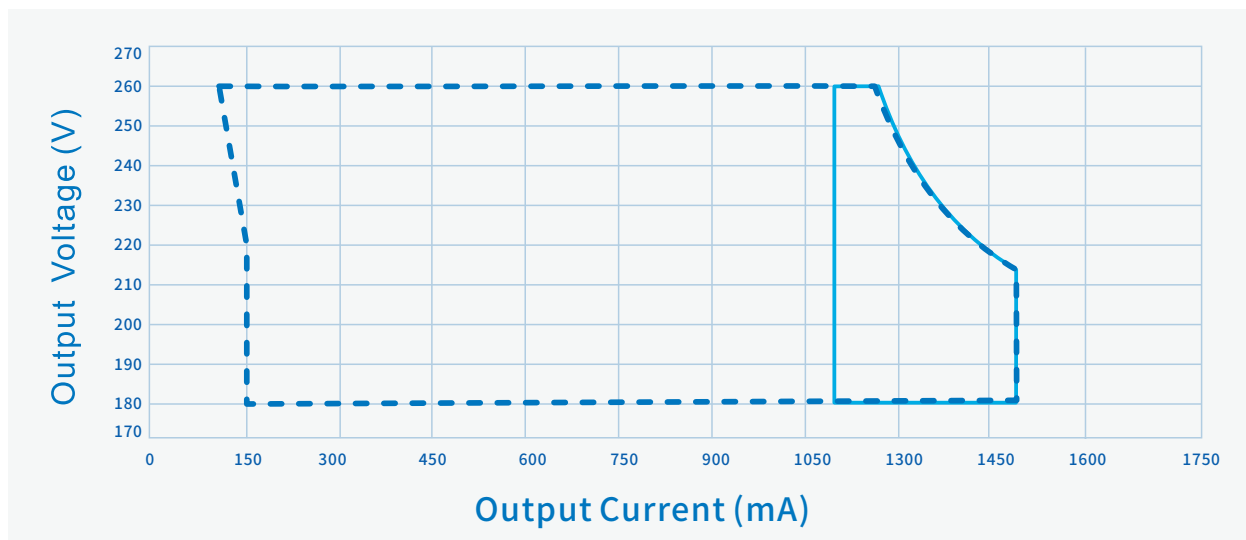
### Input Inrush Current



# SS-320CNL-E260\* Series LED Driver

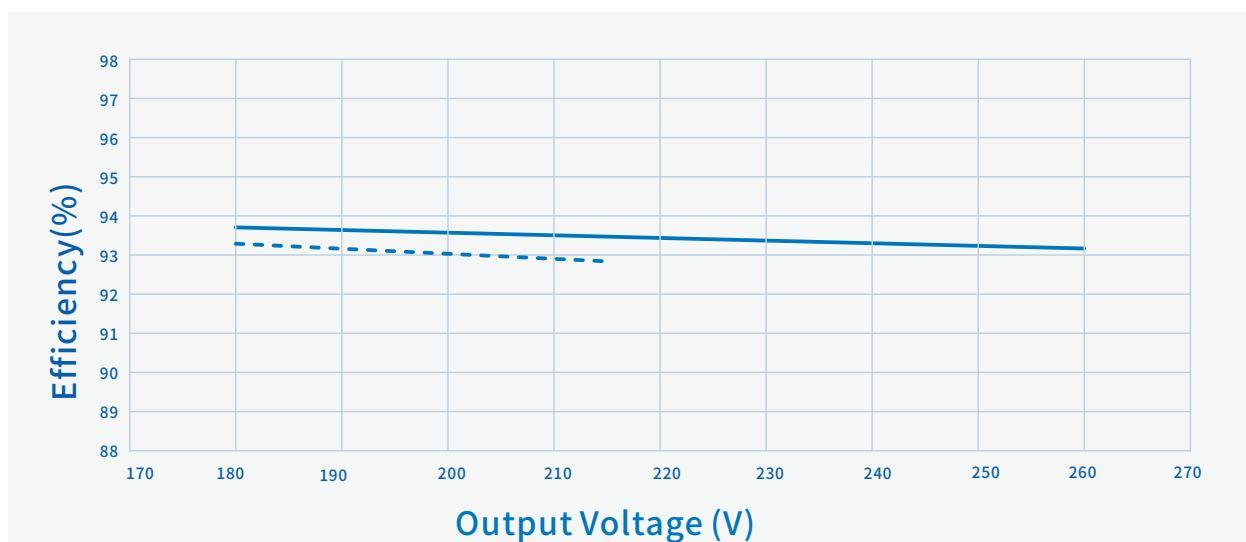
## Performance Curves:

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



----- Dimming Window      ————— AOC Window

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

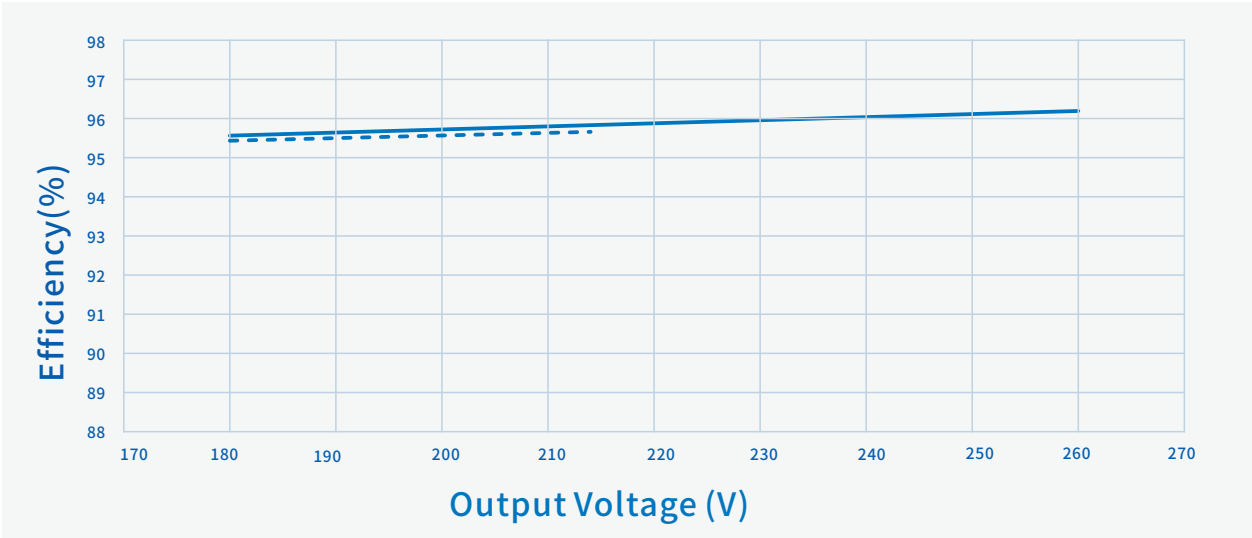


----- Io=1500mA      ————— Io=1230mA

# SS-320CNL-E260\* Series LED Driver

## Performance Curves:

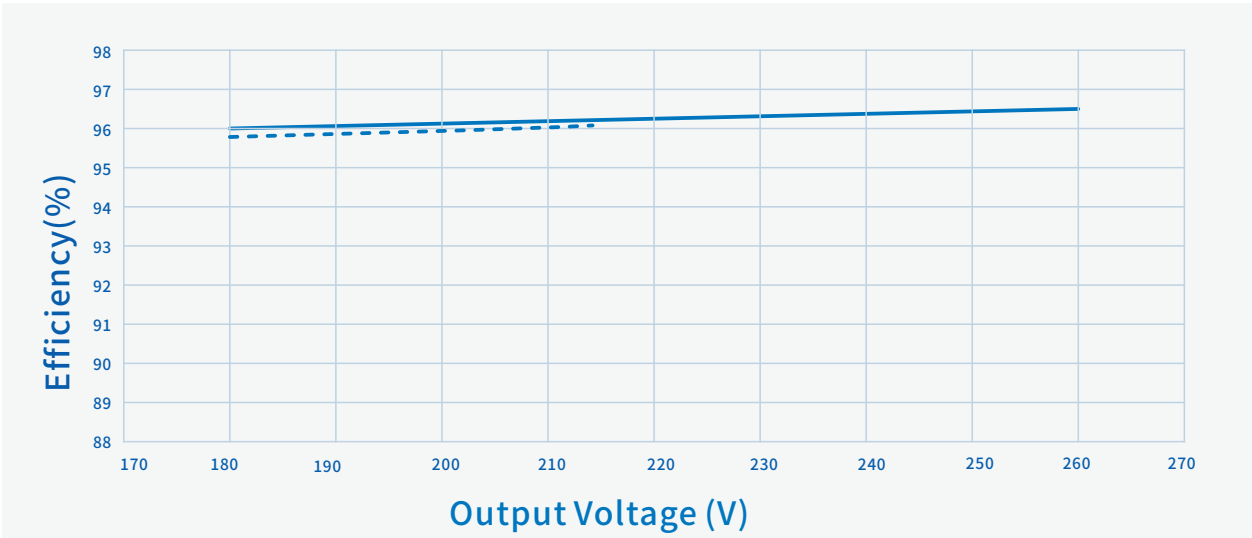
Efficiency Vs. Output Voltage (Vin=220Vac)



----- Io=1500mA

———— Io=1230mA

Efficiency Vs. Output Voltage (Vin=277Vac)



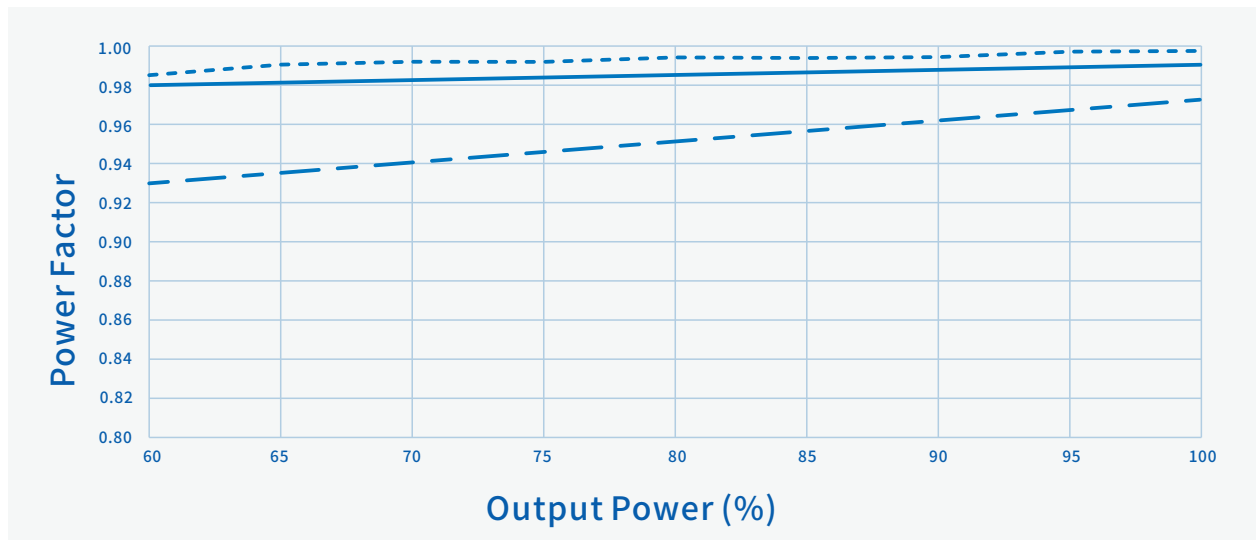
----- Io=1500mA

———— Io=1230mA

# SS-320CNL-E260\* Series LED Driver

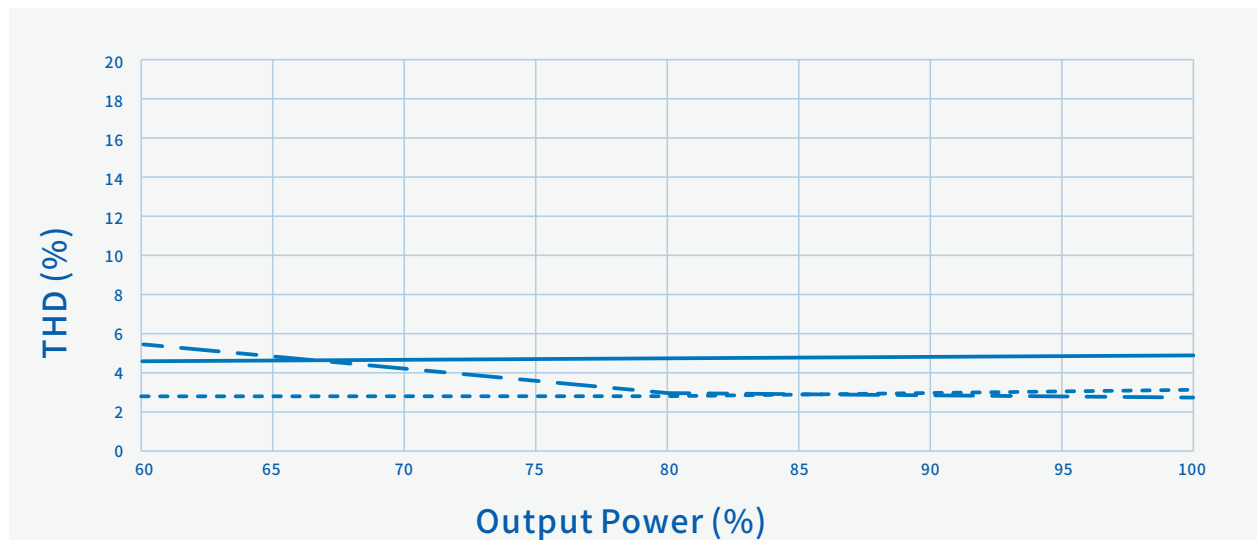
## Performance Curves:

### Power Factor Vs. Output Power



----- Vin=120Vac      ————— Vin=220Vac      - - - - Vin=277Vac

### THD Vs. Output Power

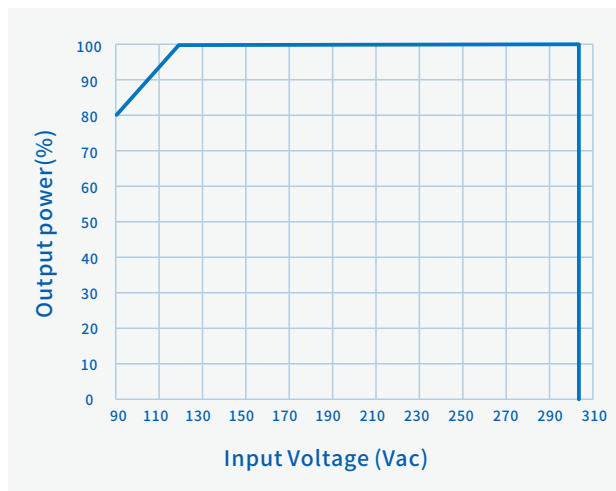


----- Vin=120Vac      ————— Vin=220Vac      - - - - Vin=277Vac

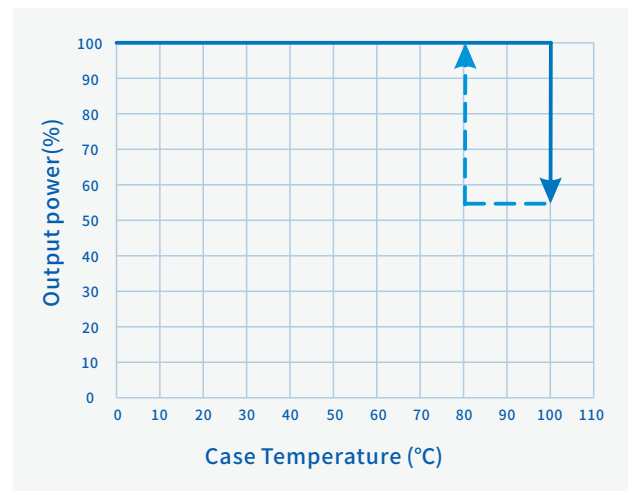
# SS-320CNL-E260\* Series LED Driver

## Performance Curves:

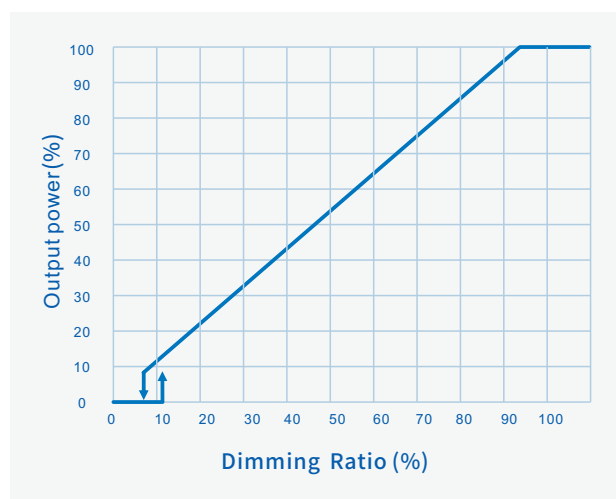
### Output power Vs. Input Voltage



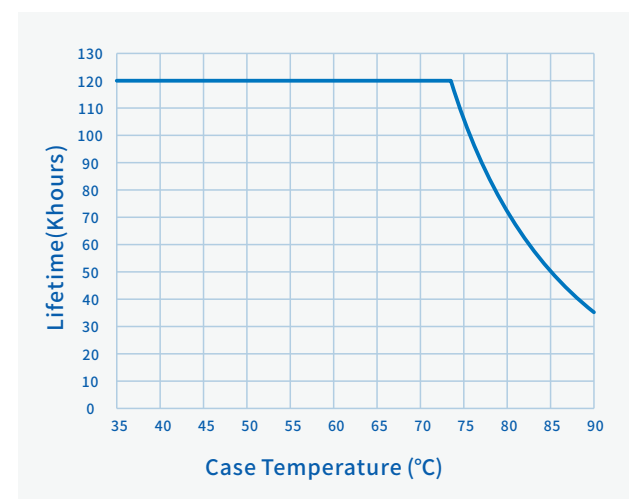
### Output power Vs. Case Temperature



### Output Power Vs. Dimming

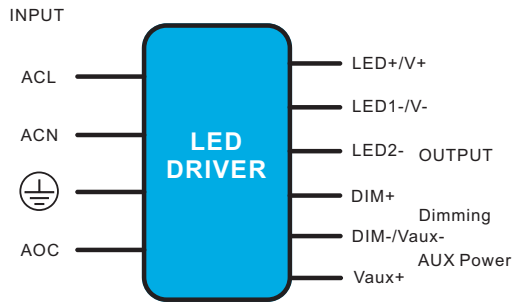


### Lifetime Vs. Case Temperature



# SS-320CNL-E260\* Series LED Driver

## Mechanical Characteristics:



### AC Input Cable(Exposed Length $300 \pm 10\text{mm}$ ):

Global model: SJOW,3\*17AWG ,O.D:8.0mm,Brown:ACL, Blue:ACN,Yellow/Green:⏏

### DC Output Cable(Exposed Length $300 \pm 10\text{mm}$ ):

Global model(BH/BHB): SJOW,2\*17AWG ,O.D:7.7mm, Brown:V+, Blue:V-

Global model(BHD): SJOW,3\*17AWG ,O.D:8.0mm, Brown: LED+, Blue: Warm light(LED1-)Black: White light(LED2-)

### DIM/AUX Cable(Exposed Length $220 \pm 10\text{mm}$ ):

UL/EU/Global Model:

UL 21996 3\*22AWG , O.D: 4.9mm, Purple: DIM+, Pink: DIM-/Vaux-,

Black/White: Vaux+

UL 21996 2\*22AWG , O.D: 4.7mm, Purple: DIM+, Pink: DIM-

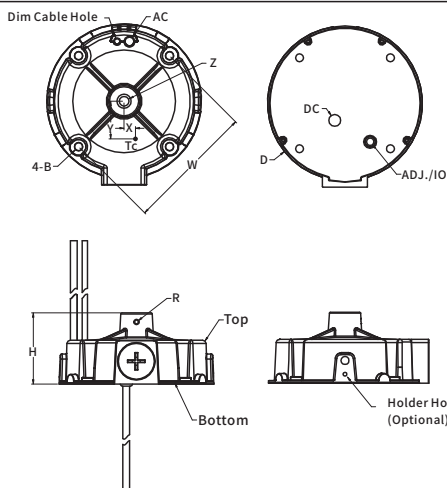
| Name Description        | Standard code | mm(In.)                                 |
|-------------------------|---------------|-----------------------------------------|
| Input line hole         | A             | 13(0.51)                                |
| Mounting Screw Diameter | 4-B           | $\Phi 7.0(0.28)$                        |
| Case Diameter           | D             | $\Phi 146(5.75)$                        |
| Height                  | H             | 61.8(2.43)                              |
| Ring Hole               | Z             | M10*1.5(Depth 18mm)<br>G1/2(Depth 17mm) |
| Ring Fixed Hole         | R             | M4*0.7                                  |
| Mount Size              | W             | 132(5.2)                                |
| TC Point Position       | X             | 10(0.39)                                |
| TC Point Position       | Y             | 33(1.3)                                 |

### Note:

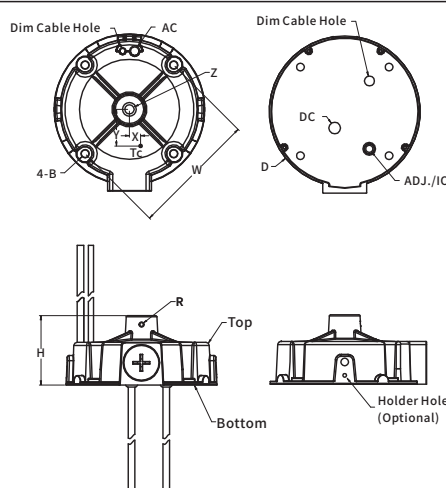
1,Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.

2,AC Input Cable,DC O/P Cable,DIM/AUX Power/Programming Cable:  
Peeled length of cable: $43 \pm 5\text{mm}$ , Tinned length of wire: $10 \pm 2\text{mm}$

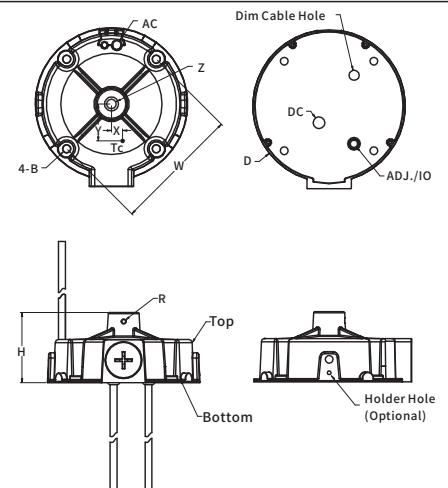
### DIM cable from the top



### DIM cable from the bottom and top



### DIM cable from the bottom



# SS-320CNL-E260\* 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. Safety space between aluminum base and LED coppers >5mm.
4. Safety space/coppers between LED+ and LED- >1.8mm.
5. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
6. It is recommended to design LED beads in parallel first and then in series.
7. The insulation level of LED light panels should meet the reliability design requirements.
8. For other precautions, please refer to the "LED Driver User Manual" .

## Package

- Outside carton dimension: L×W×H=495mm×385mm×162mm;
- 9PCS/Carton;
- Net weight/Piece: 1.142kg;Gross weight/Carton: 11.495kg;
- 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]