

SPECIFICATIONS

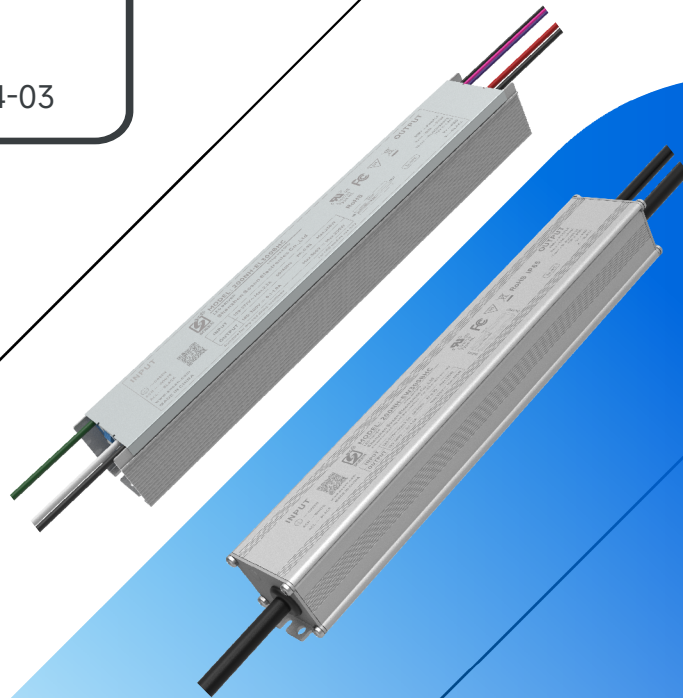
200NH-E*300BHC CC DRIVER

Model: 200NH-E*300BHC

Power: 200W

Rev.: V00

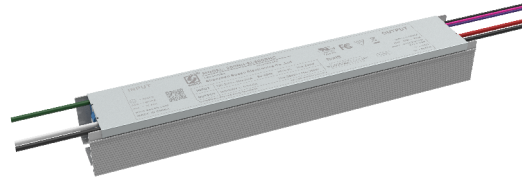
Release date: 2026-04-03



200NH-E*300BHC Series LED Driver

Features

- Efficiency up to 96%
- Dimming: 0-10V,PWM,Resistor,Timing
- Isolated Dim-to-off
- AUX Power: 12V/0.2A
- Soft-start, Constant Lumen, Life Warning
- Standby power<0.5W
- Protections: SCP/OTP/OVP
- Surge protection: CM: 6kV, DM: 6kV
- Dual-live-wire input off without afterglow
- Warranty: 5 years



200NH-EL300BHC



200NH-EW300BHC(IP65)



RoHS

Description

200NH-E* series are 200W non-isolated constant current LED Driver with 108-305VAC. It has DIM to Off, high efficiency, isolated auxiliary power supply, compact housing, high reliability, high cost performance and other advantages.

Applications:
Plant lighting

Model List:

| Model | AC Input Range | Max. Pout | Vout Range | Full Power Vo Range | O/P current | THD(Typ.) | PF(Typ.) | Eff.(Typ.) | Max.Tc |
|-----------------|----------------|-----------|------------|---------------------|-------------|-----------|----------|------------|--------|
| 200NH-E*300 BHC | 108-305Vac | 200W | 170-300V | 200V-300V | 0.66-1.0A | 8% | 0.97 | 96% | 90°C |

- Note:
- 1.Default Tested: at 230Vac, 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.

200NH-E*300BHC Series LED Driver

“*” Means Additional Function

| “*” | AUX 12V (suffix:H) | Dimming off 0-10V/PWM/Resistor | Timing | Dual-live-wire input off | IP65 | Remark |
|-----|-----------------------|-----------------------------------|--------|-----------------------------|------|--------|
| L | ✓ | ✓ | ✓ | ✓ | | |
| W | ✓ | ✓ | ✓ | ✓ | ✓ | |

Input Characteristics:

| Parameter | Min. | Typ. | Max. | Remark |
|----------------------------|--------|---------|--------|---------------------------|
| Rated AC Input Range | 120Vac | | 277Vac | Full load |
| AC Input Range | 108Vac | | 305Vac | Ref. derating curve |
| Input Frequency Range | 47Hz | 50/60Hz | 63Hz | |
| Max Input Current | | | 2.3A | 120Vac, Full load |
| Max Input Power | | | 230W | 120Vac, Full load |
| Max Inrush Current(120Vac) | | | 60A | Cold start |
| Max Inrush Current(220Vac) | | | 130A | Cold start |
| Max Inrush Current(277Vac) | | | 130A | Cold start |
| Standby Power | | | 0.5W | 230Vac/50Hz, Dim-to-off |
| Power Factor | 0.95 | 0.97 | | 220Vac/50Hz, Full load |
| | 0.90 | | | 120-277Vac, 70%-100% load |
| THD | | 8% | 10% | 220Vac/50Hz, Full load |
| | | | 20% | 120-277Vac,70%-100% load |

200NH-E*300BHC Series LED Driver

Output Characteristics:

| Parameter | Min. | Typ. | Max. | Remark |
|-----------------------------|-----------|-------|-----------|--|
| O/P Voltage Range | 170V | | 300V | Power derated @170-200V |
| Rated O/P Voltage | 200V | | 300V | $P_o=V_o \cdot I_o=200W$, Full load |
| Rated O/P Current | 0.66A | | 1.0A | 1.0A for 200V,0.66A for 300V |
| Adj. O/P Current (AOC)Range | 0.1A | | 1.0A | |
| No Load Voltage | | | 350V | |
| Efficiency @120Vac/60Hz | 91.0% | 93.0% | | Output 300V/0.66A |
| Efficiency @230Vac/50Hz | 94.0% | 96.0% | | Output 300V/0.66A |
| Efficiency @277Vac/50Hz | 94.0% | 96.0% | | Output 300V/0.66A |
| 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 | | | 0.5S | 120Vac,Full load |
| | | | 0.5S | 220Vac,Full load |
| Line Regulation | -2% | | +2% | Full load(Low temperature±5%) |
| Load Regulation | -6% | | +6% | |
| Temperature Coefficient | -0.03%/°C | | +0.03%/°C | T _c :0°C~90°C |
| OTP | 90°C | 95°C | 100°C | >T _c Typ., Current derating <T _c Min., Current recovery |
| Short Circuit Protection | | | | Driver will not be damaged |

200NH-E*300BHC 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 (Optional) | Dim Vmax | 0V | | 12V | Negative dimming by programming Dimming prohibits reverse connection. DIM+ source current 110uA . |
| | Dim Range | 10%loset | | 100%loset | |
| | Rec.Dim Range | 0V | | 10V | |
| PWM Dimming | 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 | Resistance | 0Kohm | | 100Kohm | DIM+ source current 110uA. |
| | Dim Range | 10%loset | | 100%loset | |
| Dim to Off | Dim off | 0.7V | 0.8V | 0.9V | |
| | Dim on | 0.8V | 0.9V | 1.0V | |
| Timing Curve(Optional) | | By programming | | | Set by program |
| Constant Lumen(Optional) | | By programming | | | Set by program |
| Life Warning(Optional) | | By programming | | | Set by program |
| Lifetime(Tc≤75°C) | | ≥50,000 hours | | | 220Vac,80% load |
| MTBF | | 190,100 hours | | | 220Vac,Full load, Ta=25°C (MIL-HDBK-217F) |
| IP Grade | | IP65 | | | 200NH-EW300BHC |
| Tc | | 90°C | | | |
| Warranty | | 5 years | | | Tc:75°C |
| Net Weight | | 650g | | | 200NH-EL300BHC |
| Net Weight | | 900g | | | 200NH-EW300BHC |
| Dimension(L x Wx H) | | 262mm*36mm*30.5mm | | | 200NH-EL300BHC |
| Dimension(L x Wx H) | | 260mm*42mm*31mm | | | 200NH-EW300BHC |

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

200NH-E*300BHC 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 | | 90%RH | |
| Altitude | -65m | | 4000m | |

Safety and EMI/EMS Standards

| Certification | Standard | Status | Remark |
|---------------|---|--------|---------------------------|
| UL | UL8750 | ✓ | |
| CUL | CAN/CSA C22.2 No.250.13 | ✓ | |
| ENEC | EN 61347-1 EN 61347-2-13 EN IEC 62384 | | |
| RCM | AS/NZS61347.2.13 | | |
| CCC | GB/T 19510.1 GB/T 19510.213 | | |
| CE | EN 61347-1 EN 61347-2-13 EN 62493 | | |
| | EN 301 489-1 EN 301 489-3 EN 300 330 EN 62479/EN 50663/EN 50665/EN 50364 | | For NFC wireless products |

200NH-E*300BHC Series LED Driver

Safety and EMI/EMS Standards

| EMI/EMS | Standard | Status | Remark |
|----------------------------|----------------------------------|--------|-----------------------------|
| Conduction Emission | FCC Part 15 Subpart B;ANSI C63.4 | ✓ | 120Vac/277Vac:Class A |
| Radiation Emission | FCC Part 15 Subpart B;ANSI C63.4 | ✓ | 120Vac/277Vac:Class A |
| Harmonic Current Emissions | EN IEC 61000-3-2 | ✓ | ClassC |
| Surge | IEC/EN61000-4-5 | ✓ | DM: 6kV,CM: 6kV,Criterion B |
| | ANSI/C82.77-5 | ✓ | DM: 6kV,CM: 6kV,Criterion B |
| Ring Wave | IEC/EN 61000-4-12 | ✓ | DM: 6kV,CM: 6kV,Criterion B |
| | ANSI/C82.77-5 | ✓ | DM: 6kV,CM: 6kV,Criterion B |

200NH-E*300BHC Series LED Driver

Safety Test Items:

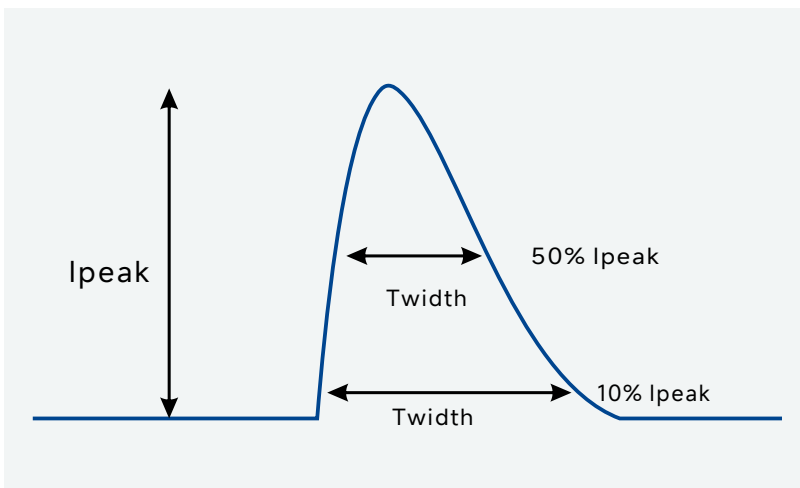
| Safety Test Items | Technical Indicators | Remark |
|-------------------------|----------------------------|---------------------------------|
| Insulation Requirements | UL Insulation Requirements | |
| Input-Case | 2U+1000Vac | Basic insulation |
| Input-Dim | 2U+1000Vac | UL Basic insulation |
| Dim-Case | 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.During the HI-POT, the built-in GDT and the ground connection terminal wire shall be disconnected.

Performance Curves:

Input Inrush Current

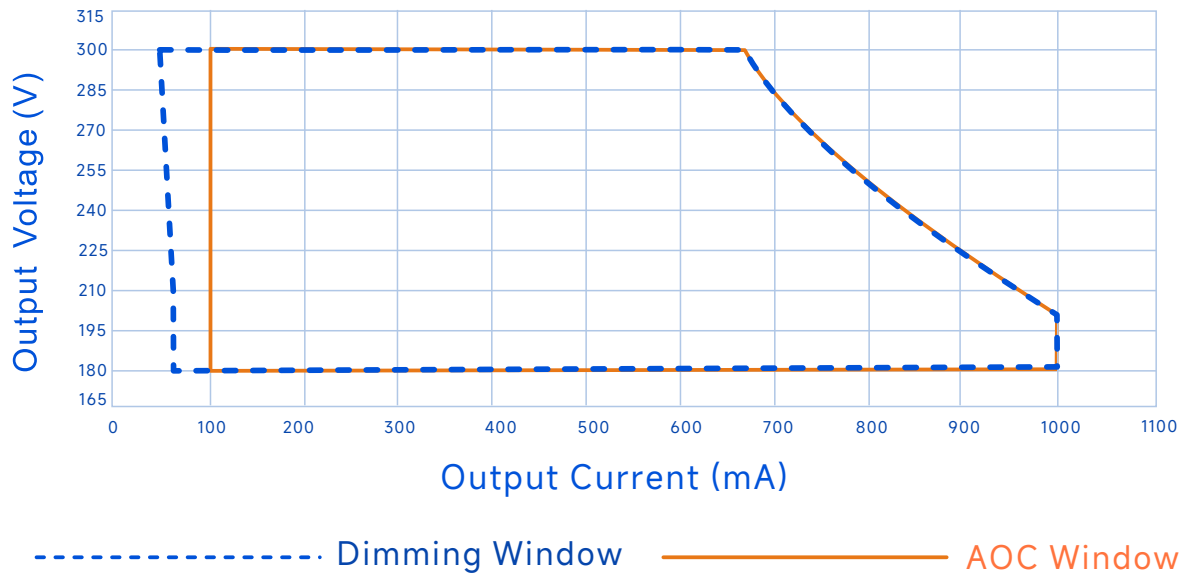


| Vin | Ipeak | T(@10% of Ipeak) | T(@50% of Ipeak) |
|--------|-------|------------------|------------------|
| 120Vac | 60A | 800uS | 250uS |
| 220Vac | 130A | 650uS | 230uS |
| 277Vac | 130A | 600uS | 230uS |

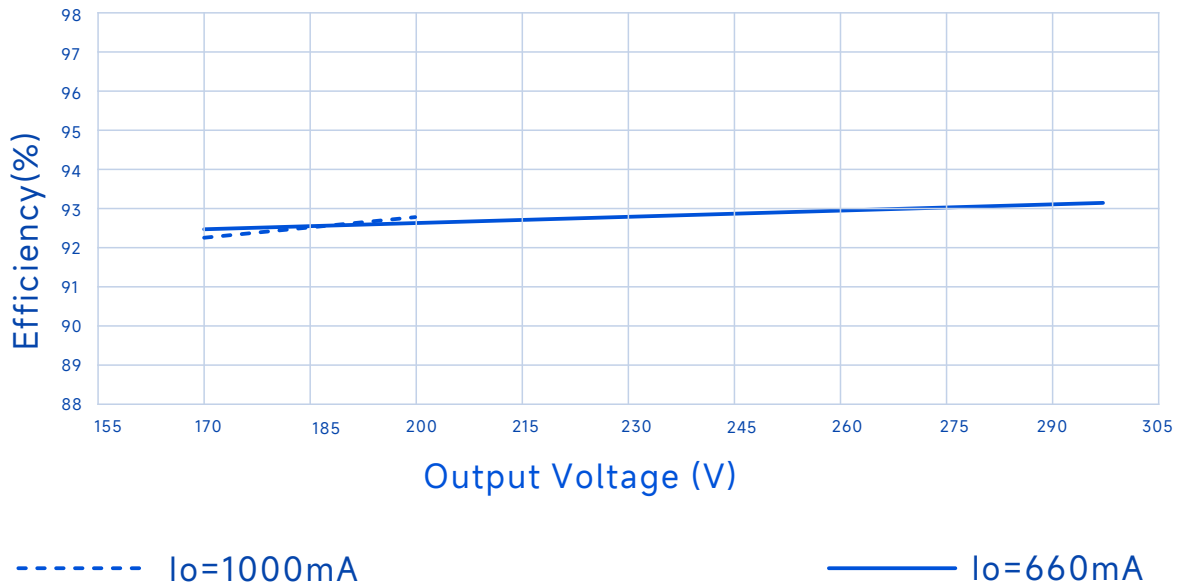
200NH-E*300BHC Series LED Driver

Performance Curves:

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



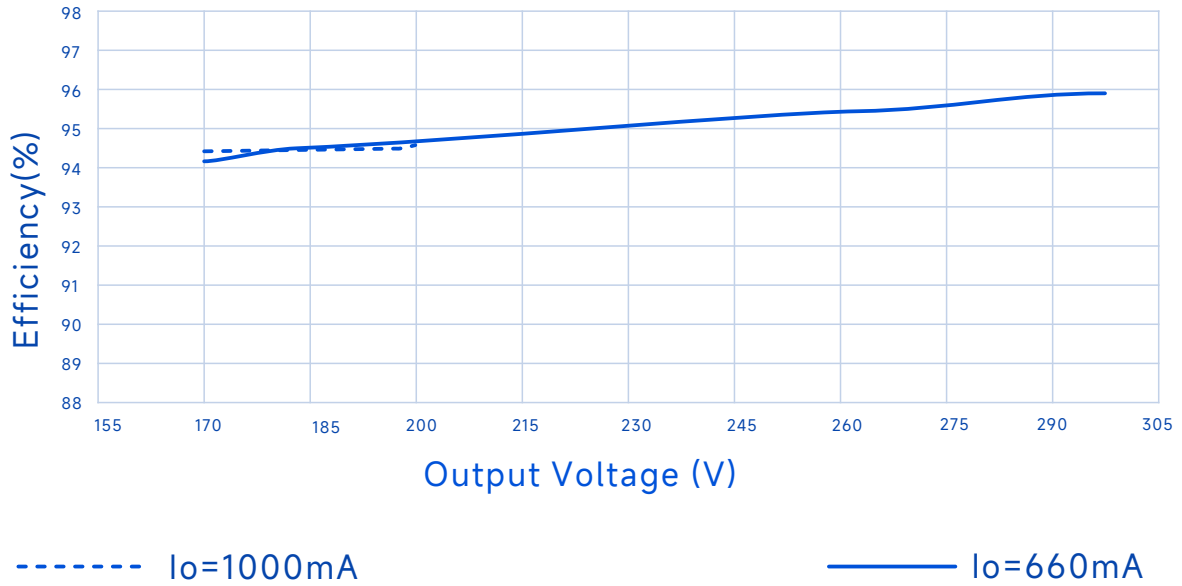
Efficiency Vs. Output Voltage (Vin=120Vac)



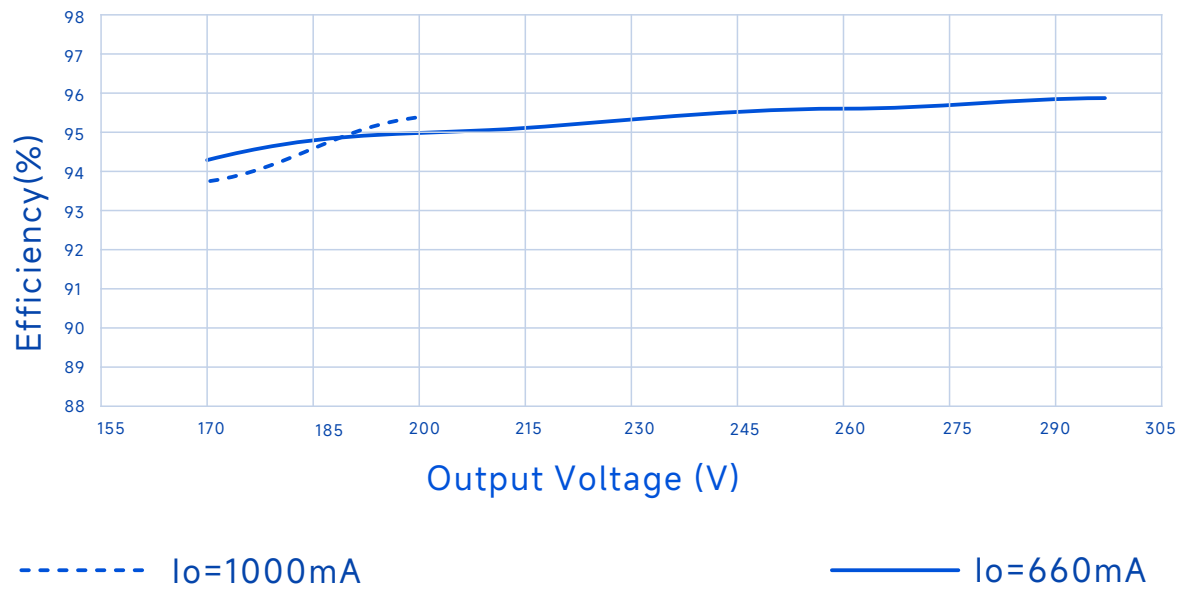
200NH-E*300BHC Series LED Driver

Performance Curves:

Efficiency Vs. Output Voltage ($V_{in}=230V_{ac}$)



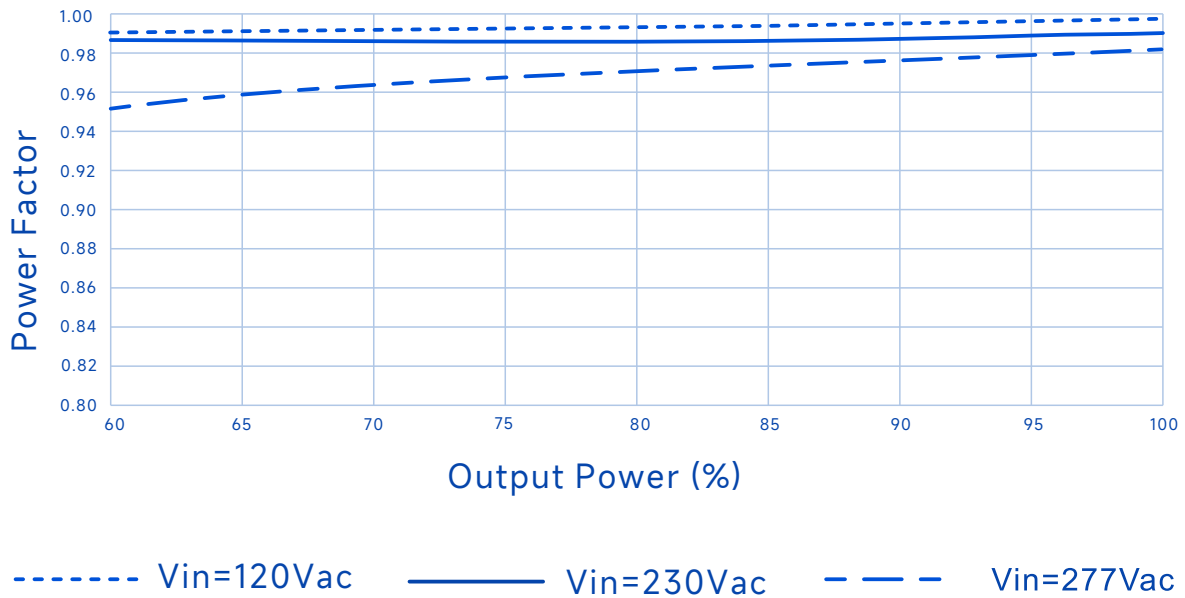
Efficiency Vs. Output Voltage ($V_{in}=277V_{ac}$)



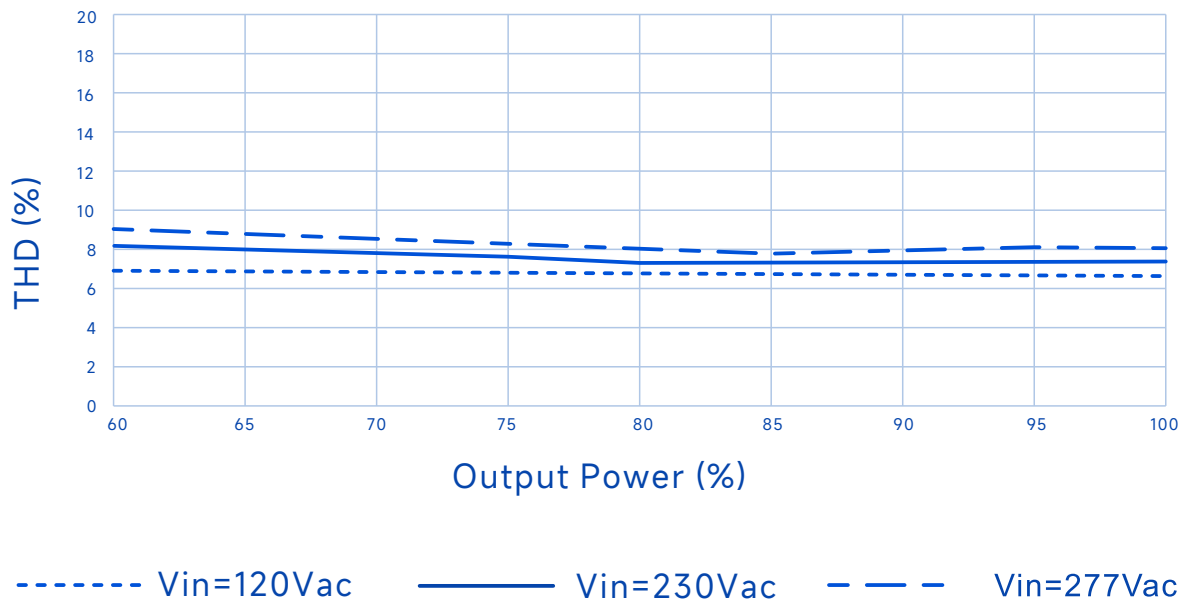
200NH-E*300BHC Series LED Driver

Performance Curves:

Power Factor Vs. Output Power



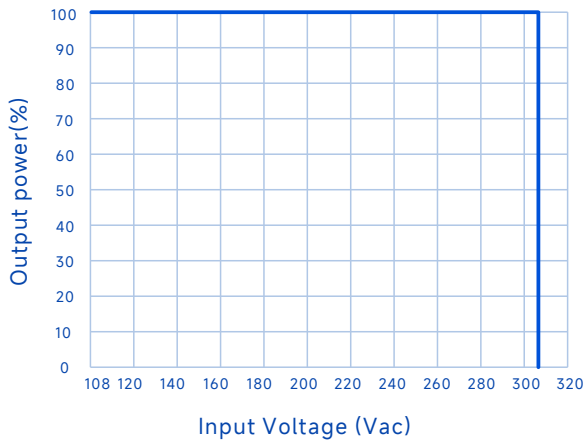
THD Vs. Output Power



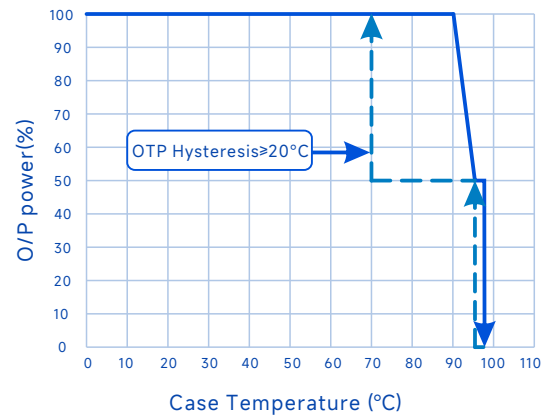
200NH-E*300BHC Series LED Driver

Performance Curves:

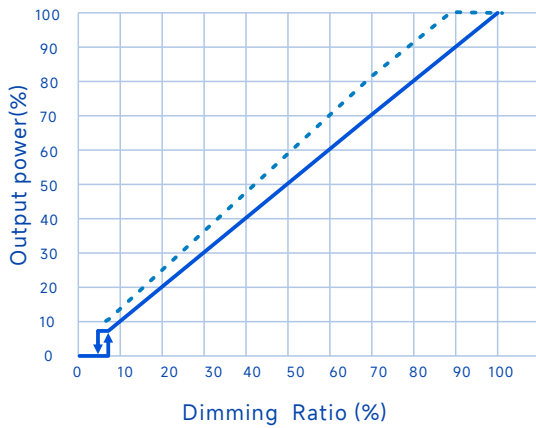
Output Power Vs. Input Voltage



Output Power Vs. Case Temperature

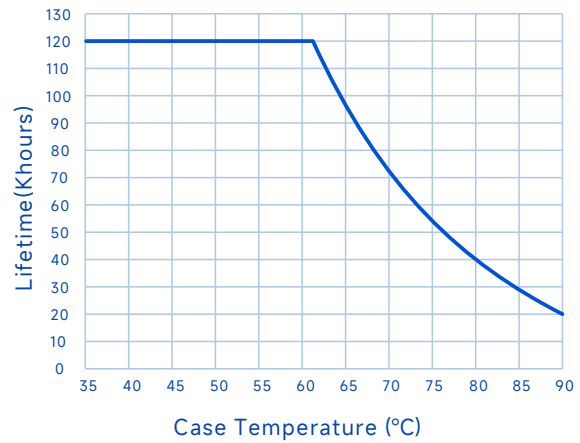


Output Power Vs. Dimming



- 0-10V, PWM
- Resistor Dimming

Lifetime Vs. Case Temperature



200NH-E*300BHC Series LED Driver

Software TOP function

The software OTP is an optional feature, and the OTP parameters can be set through the software page.

Timer Dimming

Automatic conversion between DST and Standard Time. Traditional Timer Dimming, Self-Adapt-Midnight Timer, Self-Adapt-Percentage Timer. The time dimming percentage can be set by setting 8 curves.

Traditional timer: After power-on, it works according to the set timing curve (Increasing fade time allows for slow changes between different dimming levels, preventing sudden changes in brightness and causing dazzle)

Self Adapting-Midnight: Automatically save power-on times and use 2 valid timers to assume that the center point of the dimming curve is local midnight time.

Self Adapting-Percentage: Runs the initially set dimming curve according to an automatically calculated adaptive cycle time.

CLO Constant Lumen Output

Light failure compensation function, in the Luminaire life cycle, by gradually increasing the output current, to achieve a constant output of LED luminous flux, the overall luminous effect remains unchanged.

ELA End-of-Life Alert

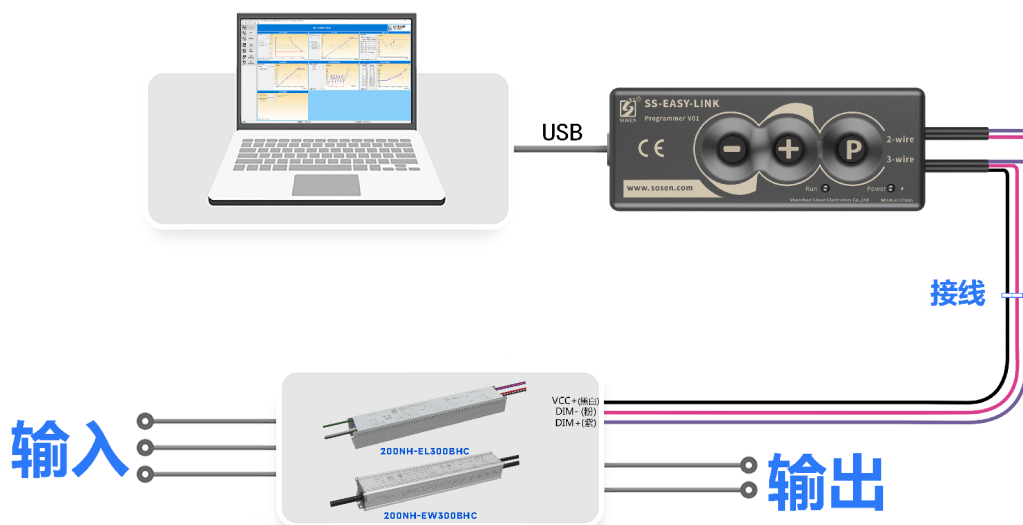
By presetting a LED driver life time, such as 50KH, after the luminaire has accumulated 50KH of light-up time, every time the luminaire is powered on, it will blink 4 times to remind the user to replace the LED driver.

SSA software startup

By setting the soft start time, the lamp gradually lights up slowly within the set time, thus achieving the purpose of protecting the lamp.

Programming connection diagram

1. During programming, the driver does not need to be powered on to achieve all programming functions.
2. For a driver that is powered on and in use, all programming functions can be performed without needing to disconnect the power.
3. It can operate independently of a PC to achieve offline programming.



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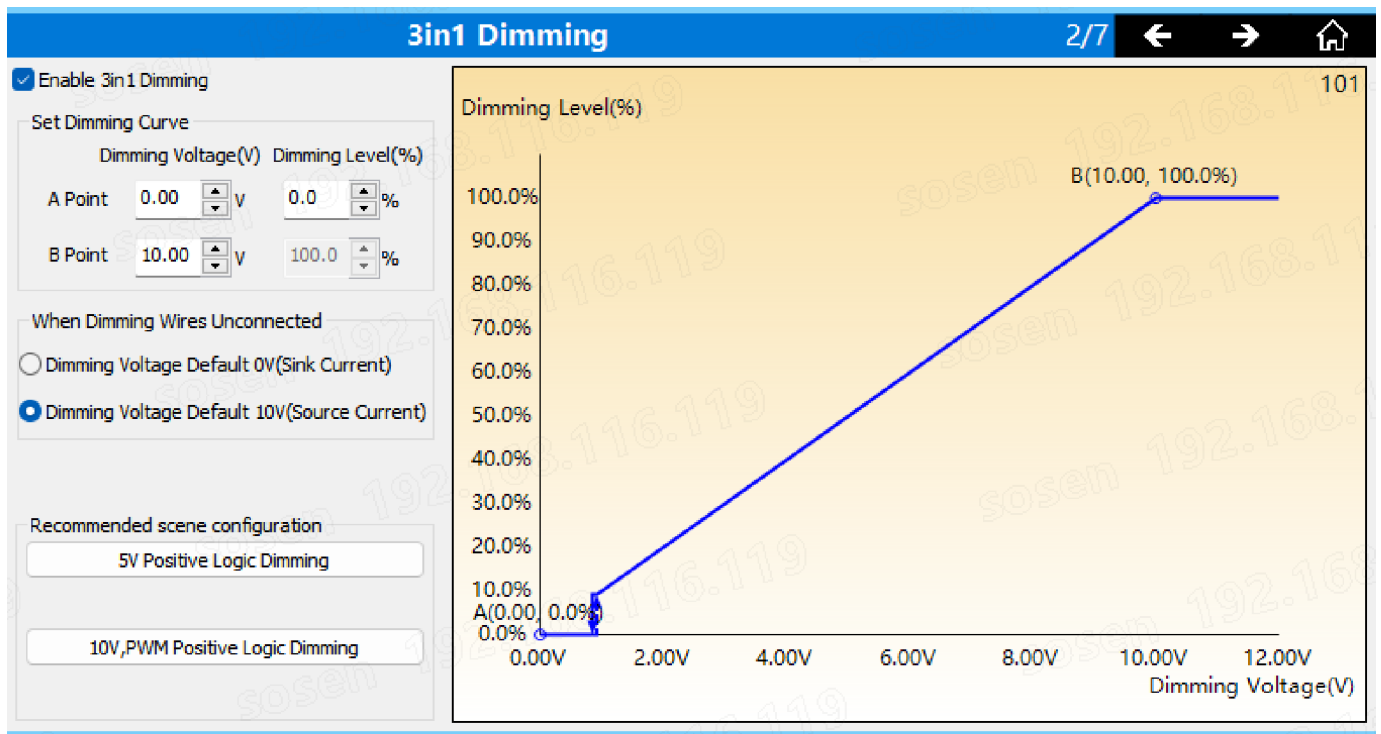
200NH-E*300BHC Series LED Driver

| Parameter | | | Remark |
|---------------------------|---|---|--|
| Default setting | Positive logic dimming (0-10V) | Dimming voltage default 10V (source current) | Factory Default Model |
| Dimming optional function | Positive logic dimming (0-10V) Turn off the Constant current source | Dimming voltage default 0V (sink current) Resistance dimming not available | When the dimming wire is not connected, the LED driver output is in the DIMOFF state |

Note:

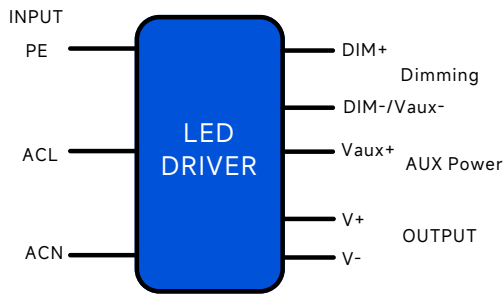
Select "Dimming voltage defaults to 10V (source current)" / "Dimming voltage defaults to 0V (sink current)", which needs to be set according to the dimmer used by the end user.

Settings Interface



200NH-E*300BHC Series LED Driver

Mechanical Characteristics(200NH-EL300BHC)



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

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

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

UL model: 18AWG 105°C 600V O.D: 2.77mm,Red:V+ Black:V-

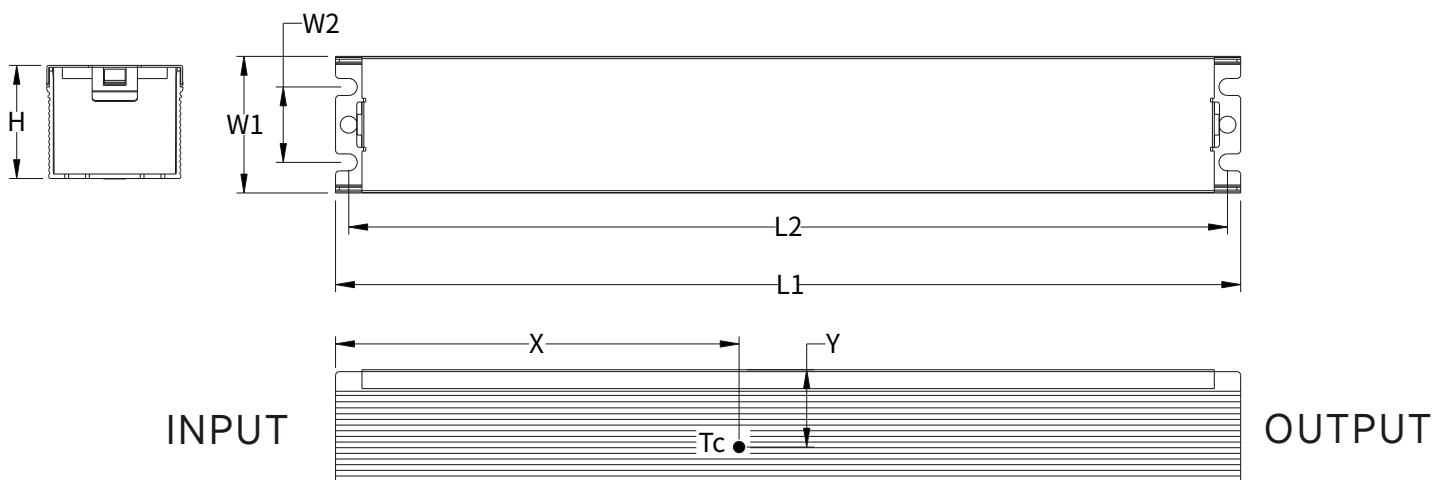
DIM/AUX Power Cable (Exposed Length 220±10mm):

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

| Name Description | Standard Code | mm(in.) |
|----------------------|---------------|------------|
| Overall Length | L1 | 262(10.31) |
| Mounting Hole Length | L2 | 251(9.88) |
| Case Width | W1 | 36(1.42) |
| Mounting Hole Width | W2 | 20(0.79) |
| Case Height | H | 30.5(1.20) |
| TC Point Position | X | 112(4.41) |
| TC Point Position | Y | 18(0.71) |

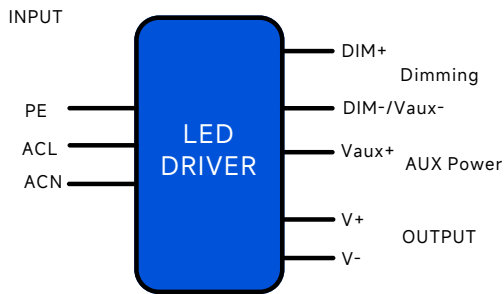
Note

- 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



200NH-E*300BHC Series LED Driver

Mechanical Characteristics(200NH-EW300BHC)



AC Input Cable(Exposed Length 450±10mm):

UL/EU model:3C PVC SJTW 3*18AWG 105°C 300V O.D: 7.8mm
Black:ACL,White:ACN,Green:⊕

DC Output Cable(Exposed Length 250±10mm):

UL/EU model: 2C PVC SJTW 2*18AWG 105°C 300V O.D: 7.3mm
Red:V+ Black:V-

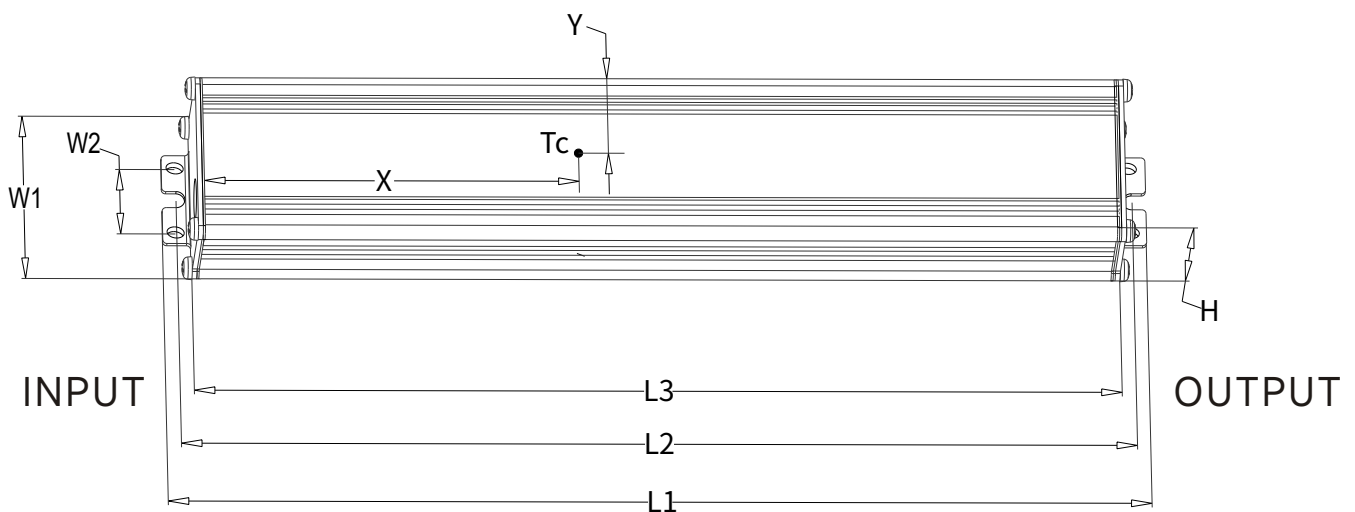
DIM/AUX Power Cable (Exposed Length 220±10mm):

UL model: PVC UL21996 3*22AWG 105°C 300V O.D: 4.9mm Purple DIM+
Pink: DIM-/Vaux-,Black/White: Vaux+

| Name Description | Standard Code | mm(in.) |
|----------------------|---------------|-------------|
| Overall Length | L1 | 260(10.24) |
| Mounting Hole Length | L2 | 253(9.96) |
| Case Length | L3 | 246.4(9.70) |
| Case Width | W1 | 42(1.65) |
| Mounting Hole Width | W2 | 28.5(1.12) |
| Case Height | H | 31(1.22) |
| TC Point Position | X | 110(4.33) |
| TC Point Position | Y | 21(0.83) |

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
- 3.The dimensional characteristics of the shell height: (unit: mm (in.), tolerance +1 mm (0.039 in.), -0.5 mm (-0.019 in.)
- 4.The maximum dimensions of L1, L2, and L3 are shown in the table on the left for reference only.



200NH-E*300BHC Series LED Driver



Assembly Tips

1. When the adjusting light or auxiliary power line is not in use, please seal the adjusting light connector with an insulating sleeve to prevent interference signals from entering. This causes damage to the dimming line or auxiliary power line, affecting the normal operation of the power supply.
2. The trace routing on aluminum substrates is designed in compliance with creepage distance requirements specified by relevant certification regulations.
3. The creepage distance between LED+ and LED- on the aluminum substrate is designed in compliance with the relevant certification regulations.
4. Minimize the copper area on the aluminum PCB to reduce parasitic capacitance and leakage current.
5. It is recommended to design LED beads in parallel first and then in series.
6. The insulation level of LED light panels should meet the reliability design requirements.
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 = 495×385mm×162mm; 16PCS/Carton;(200NH-EL300BHC)
- Outside carton dimension: L×W×H = 577×385mm×162mm; 24PCS/Carton;(200NH-EW300BHC)
- Net weight/Piece: 0.65kg; Gross weight/Carton: 13.0kg;(200NH-EL300BHC)
- Net weight/Piece: 0.90kg; Gross weight/Carton: 17.0kg;(200NH-EW300BHC)
- 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.

