



# SPECIFICATIONS

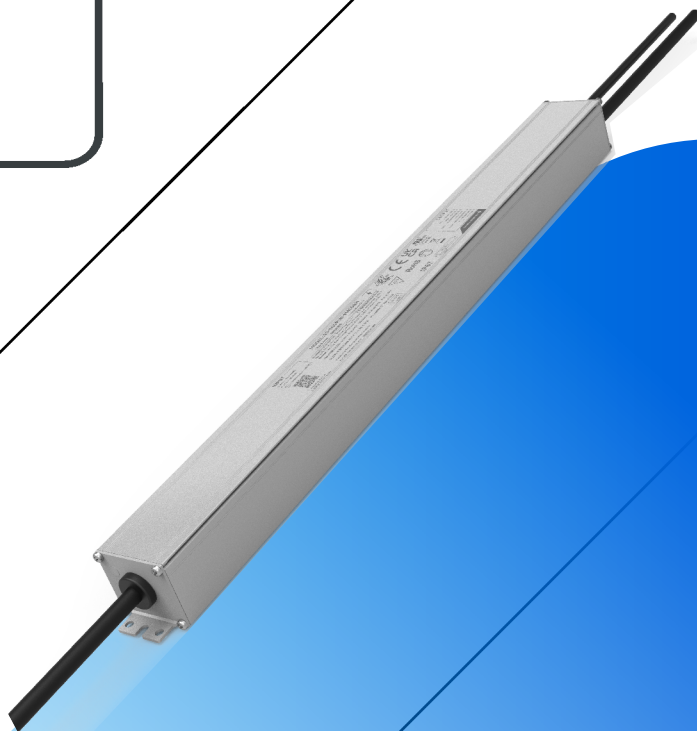
# SS-800RUN-M400BH\* CC DRIVER

Model: SS-800RUN-400BH\*

Power: 800W

Rev.: V00

Release date: 2026-04-03



# SS-800RUN-M400BH\* LED DRIVER

## Features

- Efficiency up to 97%
- Dimming: 0-10V,PWM,Resistor,Timing
- Surge protection: CM: 6kV, DM: 6kV
- AUX Power: 12V/0.2A
- Dual-live-wire input off without afterglow
- Communication with PC
- Protections: SCP/OTP/OVP
- IP67
- Warranty: 5 years



IP67 RoHS

## Description

SS-800RUN-M400BH is 800W non isolated waterproof LED constant current driver, suitable for 180-528Vac range input voltage, with wide range output characteristics, output current can be adjusted through software programming, and having isolation dimming and auxiliary power supply is beneficial for the design of LED lights and reduces the cost of LED lighting fixtures. Having all sides bit protection, including SCP and OTP.

Applications:

Horticulture lighting, High pole lighting, Fish lighting

## Model List

| Model             | AC Input Range | Max. Pout | Vout Range | Recommended Voltage | Iout       | THD (Typ.) | PF (Typ.) | Eff. (Typ.) | Max.Tc |
|-------------------|----------------|-----------|------------|---------------------|------------|------------|-----------|-------------|--------|
| SS-800RUN-M400BH* | 180-528Vac     | 800W      | 200-400V   | 230V-400V           | 0.35-3.47A | 8%         | 0.97      | 96.0%       | 90°C   |

Note:

1.Default Tested: at 347Vac, 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-800RUN-M400BH\* LED DRIVER

## “\*” Means Additional Function

| “*”   | AUX 12V<br>(suffix:H) | NTC<br>(suffix:N) | Timing | 0-10V/PWM Dim<br>/Resistor (suffix:B) | Output-<br>Ground | Dual-live-wire<br>input off | Remark       |
|-------|-----------------------|-------------------|--------|---------------------------------------|-------------------|-----------------------------|--------------|
| BH    | ✓                     |                   | ✓      | ✓                                     |                   | ✓                           | 3C DIM Cable |
| BHN   | ✓                     | ✓                 | ✓      | ✓                                     |                   | ✓                           | 5C DIM Cable |
| BH-G  | ✓                     |                   | ✓      | ✓                                     | ✓                 | ✓                           | 4C DIM Cable |
| BHN-G | ✓                     | ✓                 | ✓      | ✓                                     | ✓                 | ✓                           | 5C DIM Cable |
| BH3   | ✓                     |                   | ✓      | ✓                                     |                   | ✓                           | 3C DIM Cable |
| BH-G3 | ✓                     |                   | ✓      | ✓                                     | ✓                 | ✓                           | 3C DIM Cable |

## Input Characteristics

| Parameter                  | Min.   | Typ.    | Max.   | Remark                     |
|----------------------------|--------|---------|--------|----------------------------|
| Rated AC Input Range       | 200Vac |         | 480Vac | Ref. derating curve        |
| AC Input Range             | 180Vac |         | 528Vac | Ref. derating curve        |
| Input Frequency Range      | 47Hz   | 50/60Hz | 63Hz   |                            |
| Max Input Current          |        |         | 4.8A   | 200Vac, Full load          |
| Max Input Power            |        |         | 960W   | 200Vac, Full load          |
| Max Inrush Current(220Vac) |        |         | 30A    | Cold start                 |
| Max Inrush Current(347Vac) |        |         | 40A    | Cold start                 |
| Max Inrush Current(480Vac) |        |         | 50A    | Cold start                 |
| Power Factor               | 0.95   | 0.97    |        | 220Vac/50Hz, Full load     |
|                            | 0.90   |         |        | 200-480Vac, 70%-100% load  |
| Standby Power              |        |         | 0.5W   | 230Vac/50Hz, Dim to Off    |
| THD                        |        |         | 10%    | 220Vac/50Hz, 70%-100% load |
|                            |        |         | 20%    | 200-480Vac, 70%-100% load  |

# SS-800RUN-M400BH\* LED DRIVER

## Output Characteristics

| Parameter                                | Min.      | Typ.  | Max.      | Remark  |
|--|-----------|-------|-----------|---|
| O/P Voltage Range                        | 200V      |       | 400V      | Power derated @200-230V   |
| Rated O/P Voltage                        | 230V      |       | 400V      | $P_o=V_o \cdot I_o=800W$ , Full load  |
| Rated O/P Current                        | 2.0A      |       | 3.47A     | 3.47A for 230V, 2.0A for 400V   |
| Adj. O/P Current (AOC) Range             | 0.35A     |       | 3.47A     | Adjustable by program   |
| No Load Voltage                          |           |       | 440V      | O/P V+ to V-  |
| Output the maximum voltage to the ground |           |       | 600V      |   |
| Efficiency @220Vac                       | 93.0%     | 94.5% |           | O/P 400V/2.0A   |
| Efficiency @347Vac                       | 95.0%     | 96.5% |           | O/P 400V/2.0A   |
| Efficiency @480Vac                       | 95.0%     | 97.0% |           | O/P 400V/2.0A   |
| O/P Current Tolerance                    | -5%       |       | +5%       |   |
| O/P Current Ripple(PK-AV)                |           | 5%    | 10%       | Full load   |
| Start-up Current Overshoot               |           |       | 10%       | Full load(The Current value in the current stable state)  |
| Start-up Time                            |           |       | 0.5S      | 220Vac, Full load   |
|  |           |       | 0.5S      | 480Vac, Full load   |
| Line Regulation                          | -2%       |       | +2%       | Full load   |
| Load Regulation                          | -2%       |       | +2%       |   |
| Temperature Coefficient                  | -0.03%/°C |       | +0.03%/°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<br>Reference over-temperature protection curve |
| Short Circuit Protection                 |           |       |           | Driver will not be damaged, Constant current mode   |

# SS-800RUN-M400BH\* 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       |
|                             | Dim Range         | 10%loset |      | 100%loset                                 | DIM+ source current 110uA .           |
|                             | Rec.Dim Range     | 0V       |      | 10V                                       | Dimming prohibits reverse connection. |
| PWM Dimming (Optional)      | PWM High          | 9.8V     |      | 10.2V                                     | Negative dimming by programming       |
|                             | PWM Low           | 0V       |      | 0.3V                                      | DIM+ source current 110uA .           |
|                             | Frequency         | 1KHz     |      | 2KHz                                      | Dimming prohibits reverse connection. |
|                             | PWM Duty          | 0%       |      | 100%                                      |                                       |
| Resistor Dimming (Optional) | Resistance        | 0Kohm    |      | 100Kohm                                   |                                       |
|                             | Dim Range         | 10%loset |      | 100%loset                                 | DIM+ source current 110uA .           |
| Dim to Off                  | Dim-off           | 7%       | 8%   | 9%  | By DC voltage, PWM,dimming ratio      |
|                             | Dim-on            | 9%       | 10%  | 12%                                       | By DC voltage, PWM,dimming ratio      |
| Timing Curve(Optional)      | By programming    |          |      | Set by program                            |                                       |
| Constant Lumen(Optional)    | By programming    |          |      | Set by program                            |                                       |
| Life Warning(Optional)      | By programming    |          |      | Set by program                            |                                       |
| Life Time(Tc≤75°C)          | 50,000 hours      |          |      | 220Vac,80% Load                           |                                       |
| MTBF                        | 198,970 hours     |          |      | 347Vac,Full load, Ta=25°C (MIL-HDBK-217F) |                                       |
| IP Grade                    | IP67              |          |      |   |                                       |
| Tc                          | 90°C              |          |      |   |                                       |
| Warranty                    | 5 years           |          |      | Tc:75°C                                   |                                       |
| Net Weight                  | 1.72Kg            |          |      |   |                                       |
| Dimension                   | 508mm*43.5mm*38mm |          |      | L x W x H                                 |                                       |

Note:

- 1,All the parameters above are tested Ta 25°C and LED load, unless specified.
2. When using resistor dimming (parallel connection of dimming wires), if the number of parallels is: N, the dimming resistor should be realized 0-100% dimming range, resistance value: 91KΩ/N.

# SS-800RUN-M400BH\* 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            | UL8750  | ✓      |        |
| CUL           | CAN/CSA C22.2 No.250.13   | ✓      |        |
| ENEC          | EN 61347-1<br>EN 61347-2-13<br>EN IEC 62384                                       | ✓      |        |
| RCM           | AS/NZS61347.2.13  |        |        |
| CCC           | GB/T 19510.1<br>GB/T 19510.213  |        |        |
| CE            | EN 61347-1<br>EN 61347-2-13<br>EN 62493   | ✓      |        |
|               | EN 301 489-1<br>EN 301 489-3<br>EN 300 330<br>EN 62479/EN 50663/EN 50665/EN 50364 |        |        |

# SS-800RUN-M400BH\* LED DRIVER

## Safety and EMI/EMS Standards

| EMI/EMS                    | Standard                         | Status | Remark                      |
|----------------------------|----------------------------------|--------|-----------------------------|
| Conduction Emission        | EN IEC 55015                     | ✓      |                             |
|                            | FCC Part 15 Subpart B;ANSI C63.4 | ✓      | ClassA                      |
| Radiation Emission         | EN IEC 55015                     | ✓      |                             |
|                            | FCC Part 15 Subpart B;ANSI C63.4 | ✓      | ClassA                      |
| 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 |

# SS-800RUN-M400BH\* LED DRIVER

## Safety Test Items

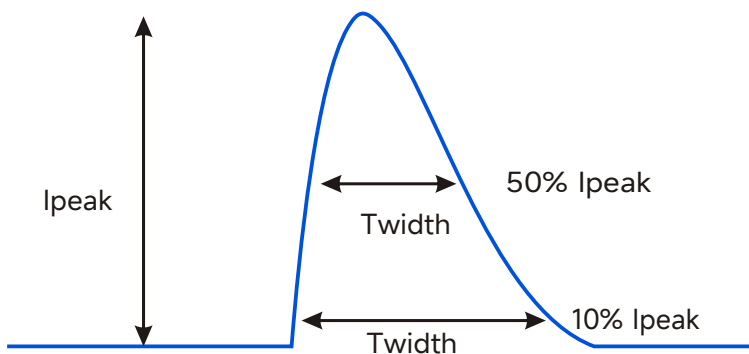
| Safety Test Items       | Technical Indicators       |                              | Remark                           |
|-------------------------|----------------------------|------------------------------|----------------------------------|
| Insulation Requirements | UL Insulation Requirements | ENEC Insulation Requirements |                                  |
| Input-Case              | 2U+1000                    | 2U+1000                      | Basic insulation                 |
| Input-Dim               | 2U+1000                    | 4U+2000                      | Reinforced insulation            |
| Dim-Case                | 500Vac                     | 500Vac                       | Basic insulation                 |
| Insulation Resistance   | ≥10MΩ                      |                              | Primary-DIM, Test voltage:500Vdc |
| Ground Resistance       | ≤0.1Ω                      |                              | 25A/1min                         |
| Leakage Current         | ≤0.75mA                    |                              | 480Vac                           |

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 as component.
2. Please short (ACL and ACN and V+ and V- ), (Dim+ and Dim - and Vaux+ )when Hi-pot test.

## Performance Curves

### Input Inrush Current



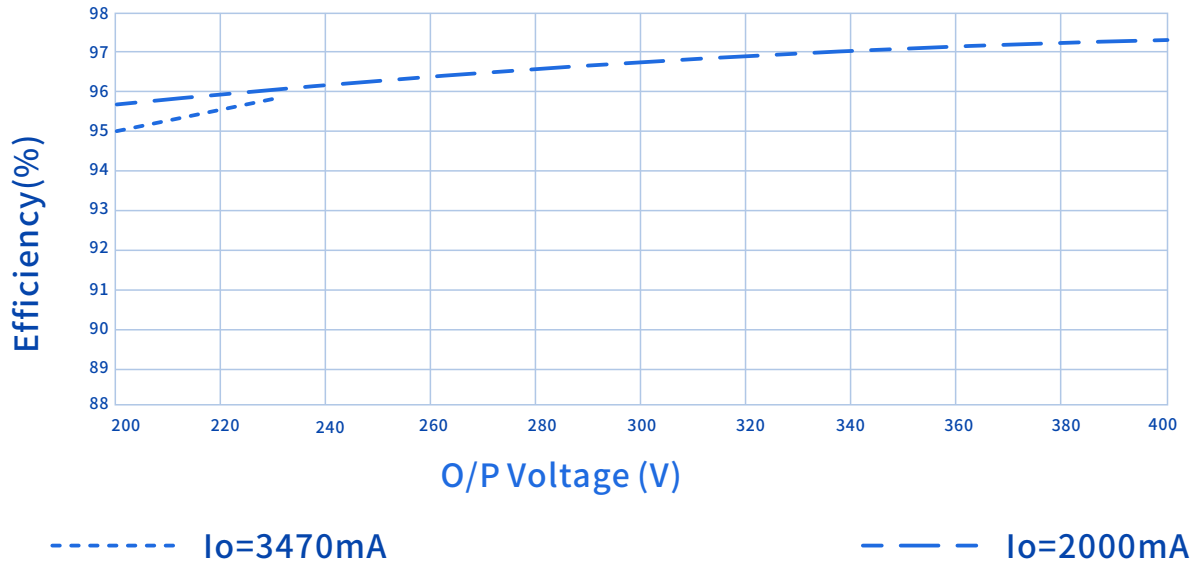
| Vin    | Ipeak | T(@10% of Ipeak) | T(@50% of Ipeak) |
|--------|-------|------------------|------------------|
| 220Vac | 30A   | 5.28mS           | 2.12mS           |
| 347Vac | 40A   | 5.0mS            | 1.92mS           |
| 480Vac | 50A   | 5.28mS           | 1.92mS           |



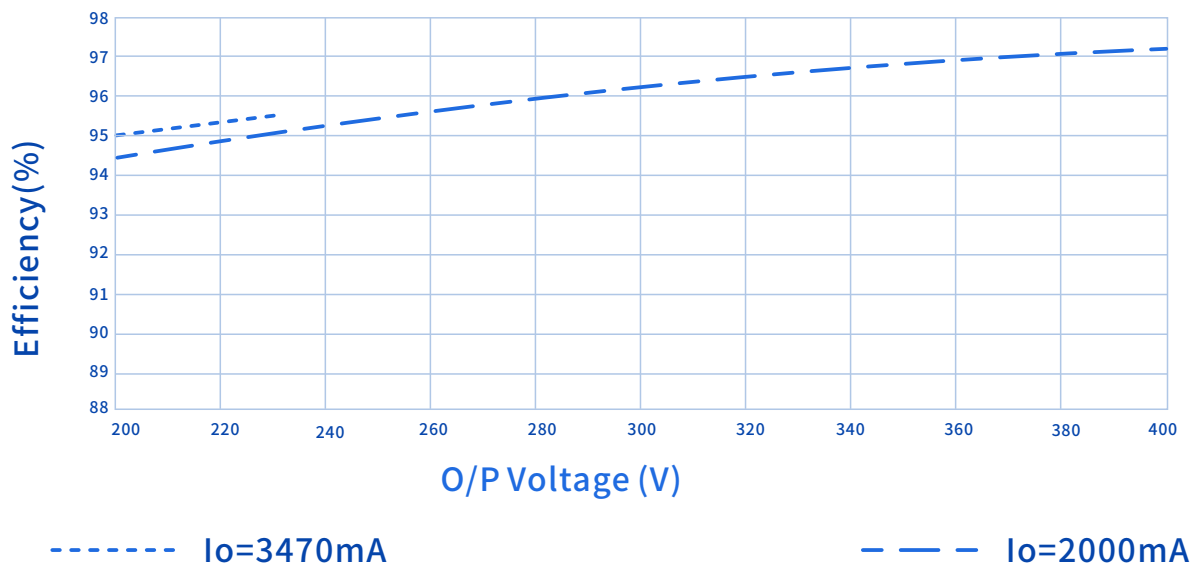
# SS-800RUN-M400BH\* LED DRIVER

## Performance Curves

Efficiency Vs. Output Voltage ( $V_{in}=347V_{ac}$ )



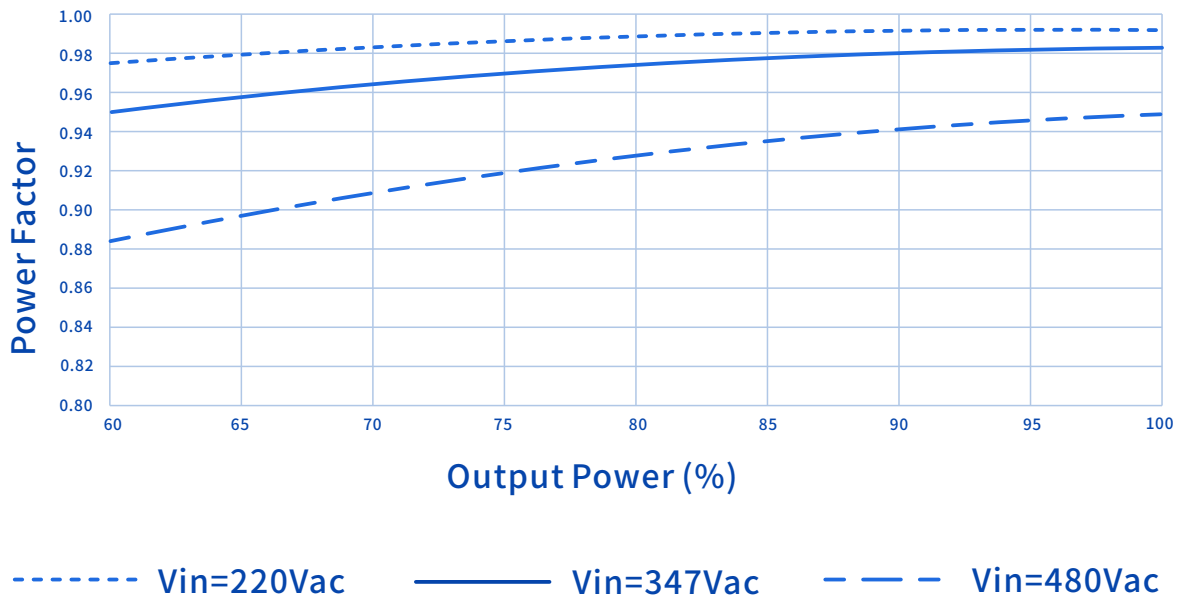
Efficiency Vs. Output Voltage ( $V_{in}=480V_{ac}$ )



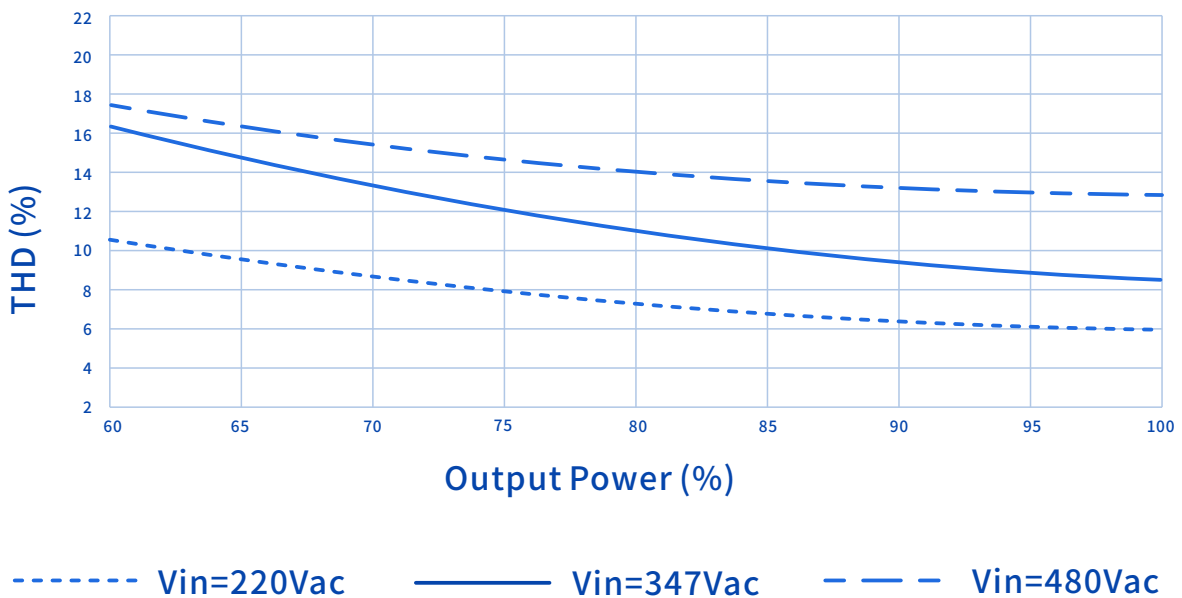
# SS-800RUN-M400BH\* LED DRIVER

## Performance Curves

### Power Factor Vs. Output Power



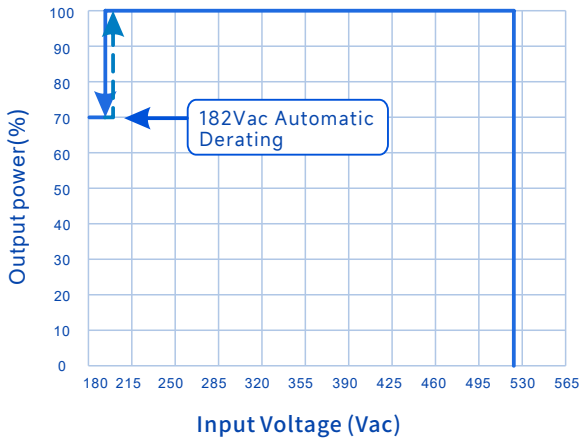
### THD Vs. Output Power



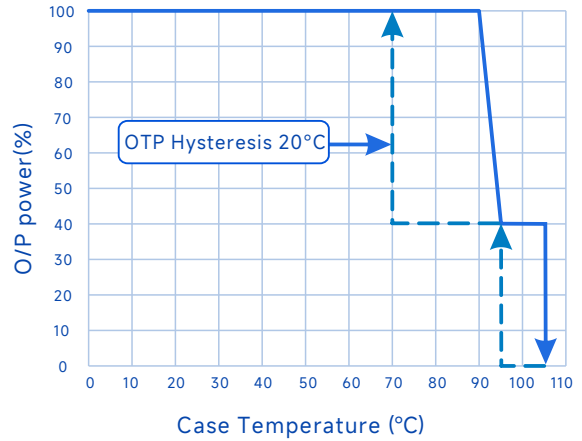
# SS-800RUN-M400BH\* LED DRIVER

## Performance Curves

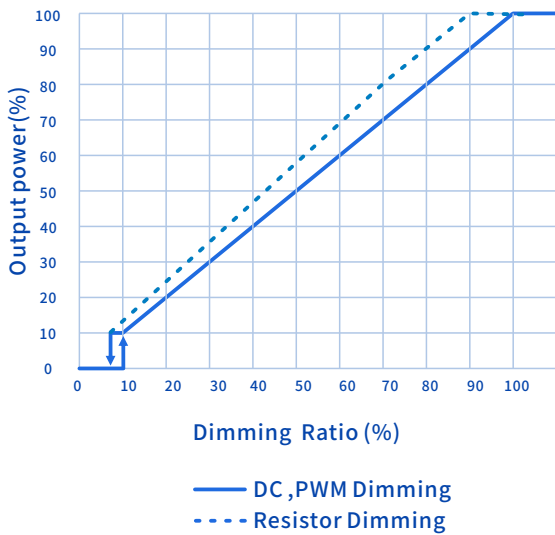
### Output Power Vs. Input Voltage



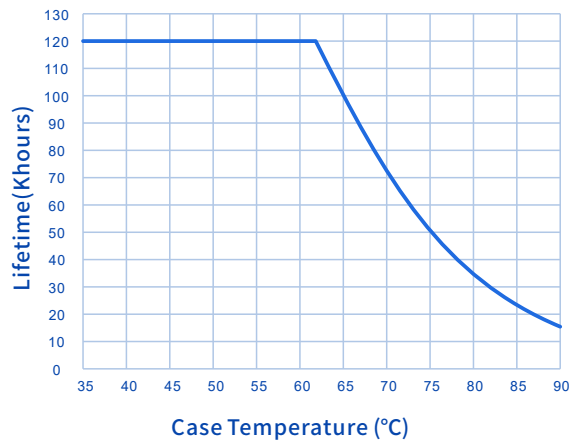
### Output Power Vs. Case Temperature



### Output Power Vs. Dimming



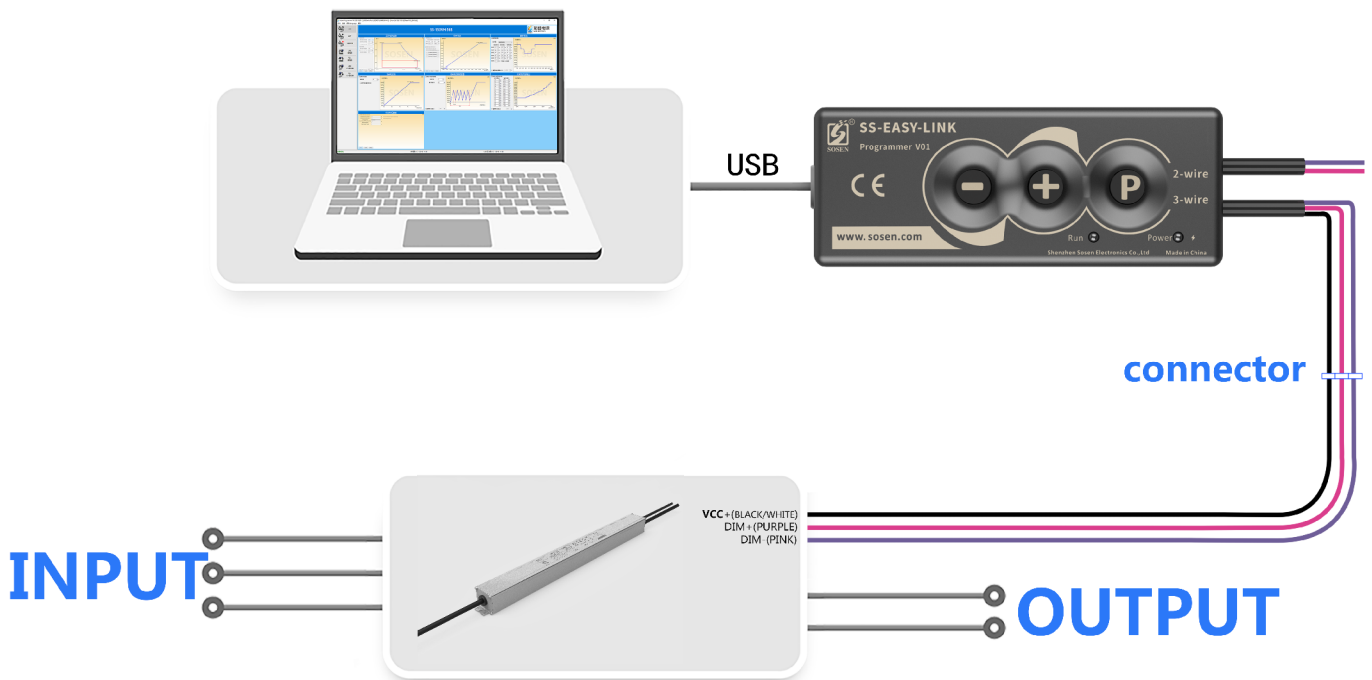
### Lifetime Vs. Case Temperature



# SS-800RUN-M400BH\* LED DRIVER

## 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.



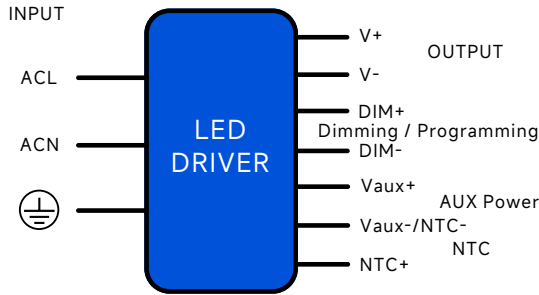
1. During programming, the driver does not need to be powered on to achieve all programming functions.
2. For a driver that is powered on and in use, all programming functions can be performed without needing to disconnect the power.
3. It can operate independently of a PC to achieve offline programming.

## Constant Lumen Output

Constant Lumen Output are design to maintain fixture's stable output lumen by increasing driver's output current within driver's life span to counteract LED lumen degradation.

# SS-800RUN-M400BH\* LED DRIVER

## Mechanical Characteristic



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

Global model: SOOW,3\*17AWG,O.D: 9.8mm,Brown: ACL,Blue: ACN, Yellow/Green:  $\oplus$

### DC O/P Cable(Exposed Length 250±10mm):

Global model: SOOW,2\*17AWG,O.D: 9.3mm,Brown: V+ Blue: V-  
Global model: SOOW,2\*17AWG,O.D: 9.8mm,Brown: V+ Blue: V-  
Yellow/Green:  $\oplus$

### BH Model

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

UL model: 21996, 3\*22AWG,O.D: 5.1mm,Purple: DIM+, Pink: DIM-, Black/White: Vaux+

UL model: 21996, 4\*22AWG , O.D: 5.6mm Purple: DIM+, Pink: DIM-, Black/White: Vaux+, Blue/White: Vaux-

### BHN Model

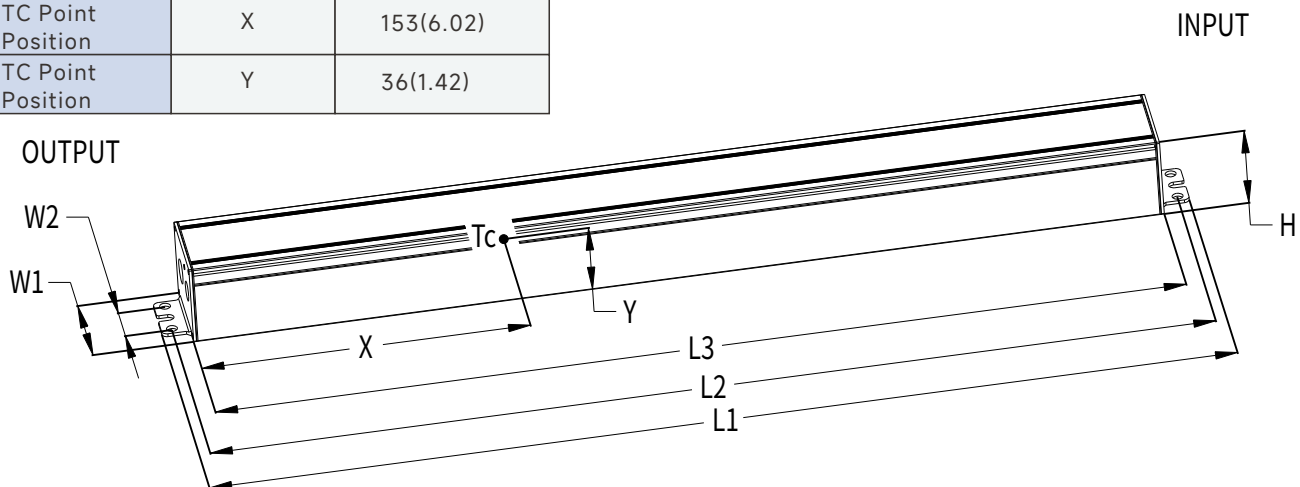
### DIM/AUX Power/Programming/NTC Cable (Exposed Length 220±10mm):

UL model: 21996, 5\*22AWG ,O.D: 6.0mm,Purple: DIM+, Pink: DIM-, Black/White: Vaux+, Blue/White: Vaux-/NTC-,Red/White: NTC+

| Name Description     | Standard Code | mm(in.)    |
|----------------------|---------------|------------|
| Case Width           | W1            | 43.5(1.71) |
| Mounting Hole Width  | W2            | 20(0.79)   |
| Overall Length       | L1            | 508(20)    |
| Mounting Hole Length | L2            | 498(19.60) |
| Case Length          | L3            | 482(19)    |
| Case Height          | H             | 38(1.5)    |
| TC Point Position    | X             | 153(6.02)  |
| TC Point Position    | Y             | 36(1.42)   |

### Note

- Please follow the "LED Driver User Manual" obtained from SOSEN's official website for assembly.
- AC Input Cable,DC O/P Cable,DIM/AUX Power/Programming Cable: Peeled length of cable:43±5mm, Tinned length of wire:10±2mm.



# SS-800RUN-M400BH\* LED DRIVER



## Assembly Tips

1. Please take isolation and waterproof measures if the dimming cable is not in use.
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. The insulation level of LED light panels should meet the reliability design requirements.
6. For other precautions, please refer to the "LED Driver User Manual".
7. It's recommended to add resistors or capacitors in parallel with the LED on PCB to reduce the risk of surge when a non isolated LED driver is used for the luminaire
8. It is recommended to design LED beads in parallel first and then in series.

## 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 =610mm×385mm×162mm;
- 8PCS/Carton;
- Net weight/Piece: 1.72kg;Gross weight/Carton: 15.72kg;
- 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

| Version | Description of Update | Updated Date | Remark |
|---------|-----------------------|--------------|--------|
| V00     | Original Release      | 2026/04/03   |        |
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