



SOSEN LED Driver, Your Smart Choice

Specifications

SS-300CA Series LED Driver

Model: SS-300CA-XX*

Description: 300W LED Driver

Rev.: V04

Release Date: 2020-04-27

SS-300CA Series LED Driver

SOSEN
LED DRIVER



LED DRIVER

CA Series



Features:

- Efficiency up to 94%
- Dimming: DALI-2, 0-10V, PWM, Resistor, Timing
- Dim-to-Off
- Surge protection: CM: 4kV, DM: 4kV
- Auxiliary Power : 12V/0.3A
- Optional Standby(STB) Function
- Standby Power < 0.5W
- IP65
- TYPE HL, suitable for hazardous locations
- Protections: SCP/OTP/OPP
- Warranty: 5 years



CE IP65 Class P

Description:

SS-300CA series are constant current waterproof LED Driver in round shape with 90-305Vac and high efficiency, supporting multiple dimming modes, dim-to-off, auxiliary power, suitable for industrial and High bay lights, plant lights and other lighting occasions.

Model List:

| Model | AC Input Range | Max. Pout | Vout Range | Full Power Vo Range | Iout | THD(Typ.) | PF(Typ.) | Eff.(Typ.) | Max.Tc |
|--------------|----------------|-----------|------------|---------------------|----------|-----------|----------|------------|--------|
| SS-300CA-56* | 90-305Vac | 302.4W | 28-56V | 36-56V | 4.2-8.4A | 8% | 0.98 | 94% | 90°C |

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

SS-300CA Series LED Driver

“*” Means Additional Function

| “*” | DALI (suffix:D) | AUX 12V (suffix:H) | Timing (suffix:T) | 0-10V/PWM /Resistor (suffix:B) | Remark |
|-----|--------------------|-----------------------|----------------------|-----------------------------------|--------|
| BH | | ✓ | | ✓ | |
| DH | ✓ | ✓ | | | |

Input Characteristics:

| Parameter | Min. | Typ. | Max. | Remark |
|----------------------------|--------|---------|--------|---------------------------------------|
| Rated AC Input Range | 100Vac | | 277Vac | |
| AC Input Range | 90Vac | | 305Vac | |
| Input Frequency Range | 47Hz | 50/60Hz | 63Hz | |
| Max Input Current | | | 3.8A | 100Vac, Full load |
| Max Input Power | | | 340W | 100Vac, Full load |
| Max Inrush Current(120Vac) | | | 40A | Cold start |
| Max Inrush Current(220Vac) | | | 80A | Cold start |
| Max Inrush Current(277Vac) | | | 120A | Cold start |
| No Load Power | | | 0.5W | 220Vac/50Hz, Dim to off or STB Enable |
| Power Factor | 0.95 | 0.98 | | 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 | 28V | | 56V | Power derated @28-36V |
| Rated O/P Voltage | 36V | | 56V | $P_o=V_o \cdot I_o=302.4W$, Full load |
| Rated O/P Current | 5.4A | | 8.4A | 8.4A for 36V,5.4A for 56V |
| Adj. O/P Current (AOC)Range | 4.2A | | 8.4A | |
| No Load Voltage | | | 60V | |
| Efficiency @120Vac | 91.0% | 92.3% | | Output 46V/6.5A |
| Efficiency @220Vac | 92.0% | 94.0% | | Output 46V/6.5A |
| Efficiency @277Vac | 92.5% | 94.2% | | Output 46V/6.5A |
| 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 |
| Load Regulation | -2% | | +2% | |
| Temperature Coefficient | -0.03%/°C | | +0.03%/°C | Tc:0°C~90°C |
| OTP | 90°C | 100°C | 110°C | >Tc Typ., Current derating <Tc Min., Current recovery |
| Short Circuit Protection | | | 10W | Driver not be damaged, In constant current mode |

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Other Characteristics:

| Parameter | | Min. | Typ. | Max. | Remark |
|---|------------------|---------------|-------|-----------|--|
| AUX Power (Optional) | 12V | 10.5V | 12V | 12.5V | |
| | 12V | | | 300mA | Operate max 15min at 400mA |
| 0-10V Dimming (Optional) | Dim Vmax | 0V | | 12V | DIM+ can output 100uA current. |
| | Dim Range | 10%Iomax | | 100%loset | |
| | Rec.Dim Range | 0V | | 10V | |
| PWM Dimming (Optional) | PWM High | 9.8V | | 10.2V | DIM+ can output 100uA current. |
| | PWM Low | 0V | | 0.3V | |
| | Frequency | 1KHz | | 2KHz | |
| | PWM Duty | 0% | | 100% | |
| Resistor Dimming (Optional) | Resistance | 0Kohm | | 100Kohm | |
| | Dim Range | 10%Iomax | | 100%loset | DIM+ can output 100uA current. |
| DALI Dimming(Optional) | | Meet DALI-2 | | | |
| Dim to Off (Optional) | Dim-off | 0.5V | 0.7V | 0.9V | |
| | Dim-on | 0.5V | 0.75V | 0.9V | |
| STB function enabled voltage (Optional) | Enabled voltage | 0V | | 0.5V | Standby power < 0.5W |
| | Disabled voltage | 3.5V | | 12V | Disconnect STB wire if not necessary |
| Lifetime(Tc≤65°C) | | 100,000 hours | | | 80% load |
| Lifetime(Tc≤75°C) | | 62,000 hours | | | 80% load |
| MTBF | | 200,600 hours | | | 220Vac, Full load, Ta=25°C (MIL-HDBK-217F) |
| IP Grade | | IP65 | | | |
| Tc | | 90°C | | | |
| Warranty | | 5 years | | | Tc : 75°C |
| Net Weight | | 2100g | | | |
| Dimension | | Φ182mm*71.5mm | | | D x H |

NOTE: All the parameters above are tested Ta 25°C, 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 61347-1:2015 EN 61347-2-13:2014 EN 61347-2-13:2014/A1:2017 | ✓ | |
| RCM | AS/NZS61347.2.13 | | |
| BIS | IS15885:2012 Part 2 Sec 13 | | |
| CCC | GB 19510.14-2009 | ✓ | |
| CE | EN 61347-2-13:2014 EN61347-1:2008+A1:2011+A2:2013 | ✓ | |

| EMI/EMS | Criterion | Remark |
|----------------------------|--|-----------------------------|
| Conduction Emission | EN55015:2013+A1:2015 FCC Part 15 Subpart B; ANSI C63.4:2014 | Class B |
| Radiation Emission | EN55015:2013+A1:2015 FCC Part 15 Subpart B; ANSI C63.4:2014 | Class B |
| Harmonic Current Emissions | IEC/EN 61000-3-2 | Class C |
| Surge | IEC/EN61000-4-5 | DM: 4kV,CM: 4kV,Criterion B |
| Ring Wave | IEC/EN 61000-4-12 | DM: 6kV,CM: 6kV,Criterion B |

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Safety Test Items:

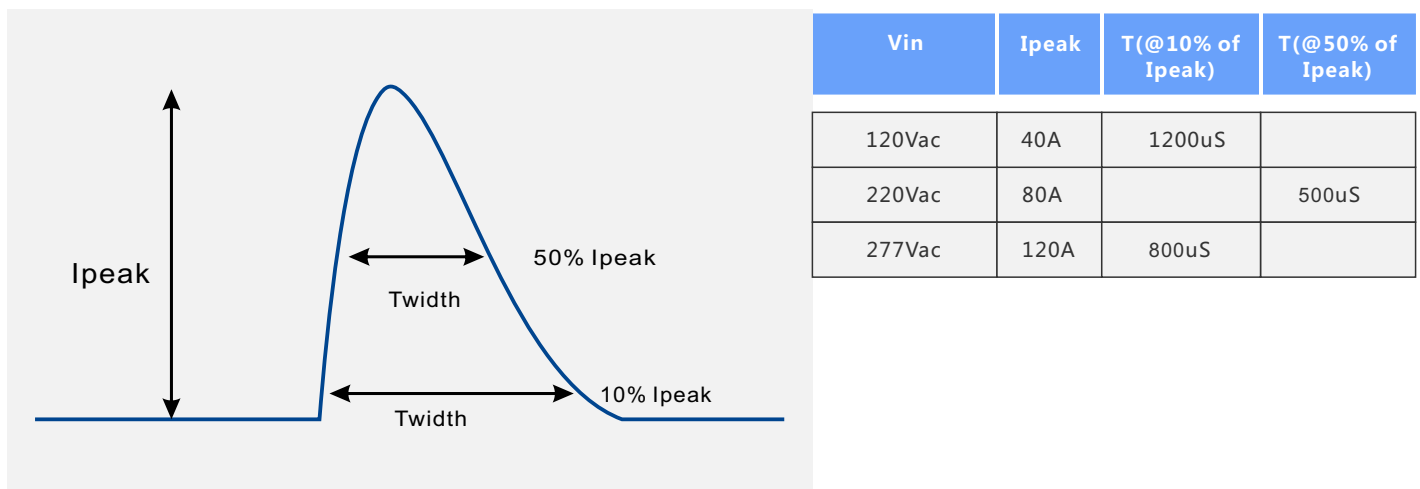
| Safety Test Items | Technical Indicators | | | Remark |
|-------------------------|----------------------------|------------------------------|-----------------------------|-----------------------------------|
| Insulation Requirements | UL Insulation Requirements | ENEC Insulation Requirements | CCC Insulation Requirements | |
| Input-Output | 1600Vac | 3000Vac | 3750Vac | Reinforced insulation |
| Input-Case | 1600Vac | 1500Vac | 1875Vac | Basic insulation |
| Input-Dim | 1600Vac | 3000Vac | 3750Vac | Reinforced insulation |
| Output-Dim | 1600Vac | 1000Vac | 1000Vac | Basic insulation |
| Output-Case | 500Vac | 1000Vac | 1000Vac | Basic insulation |
| Dim-Case | 500Vac | 250Vac | 500Vac | Basic insulation |
| Insulation Resistance | ≥10MΩ | | | Input-Output, Test voltage:500Vdc |
| Ground Resistance | ≤0.1Ω | | | 25A/1min |
| Leakage Current | ≤0.75mA | | | 277Vac |

NOTE:

1. SOSEN warrants the LED drivers 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- and STB) 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:

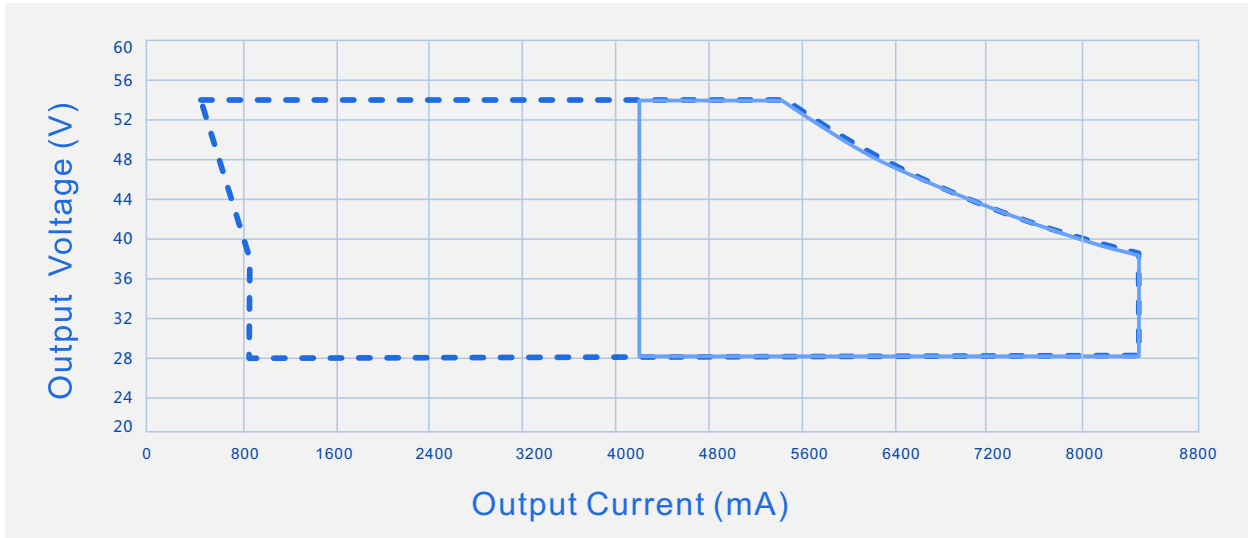
Input Inrush Current



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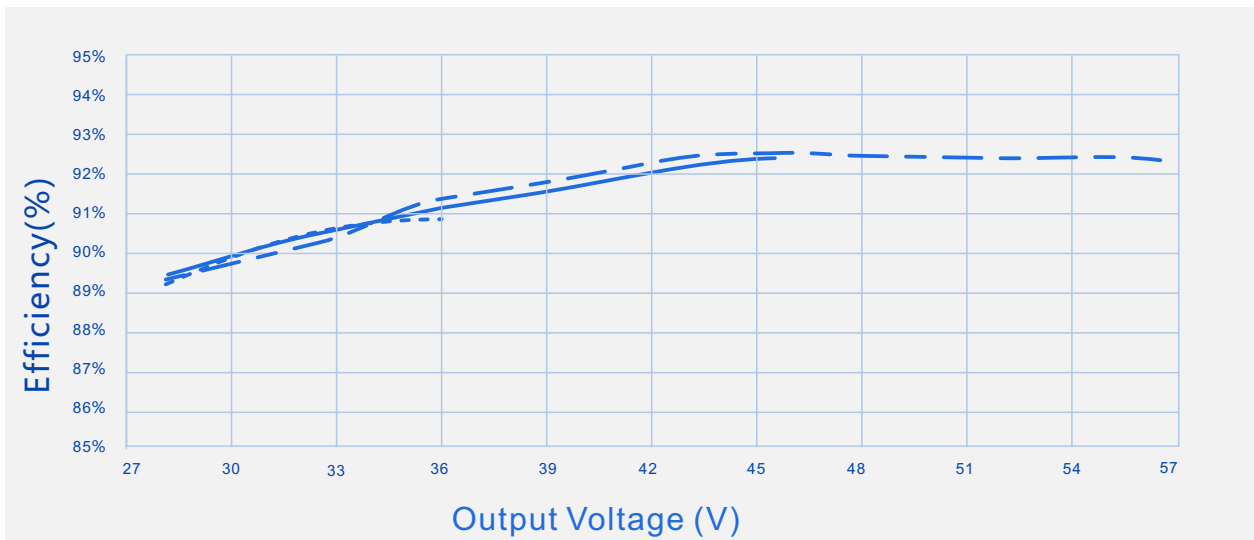
Performance Curves:

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



----- Dimming Window ————— AOC Window

Efficiency Vs. Output Voltage (Vin=120Vac)

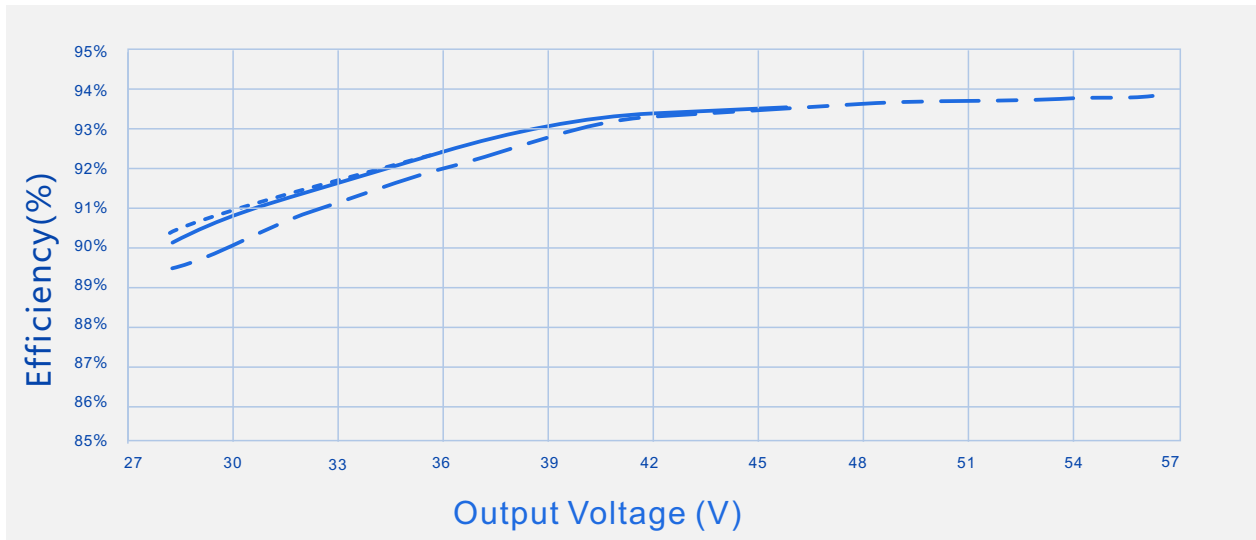


----- Io=8400mA ————— Io=6500mA - . - . Io=5400mA

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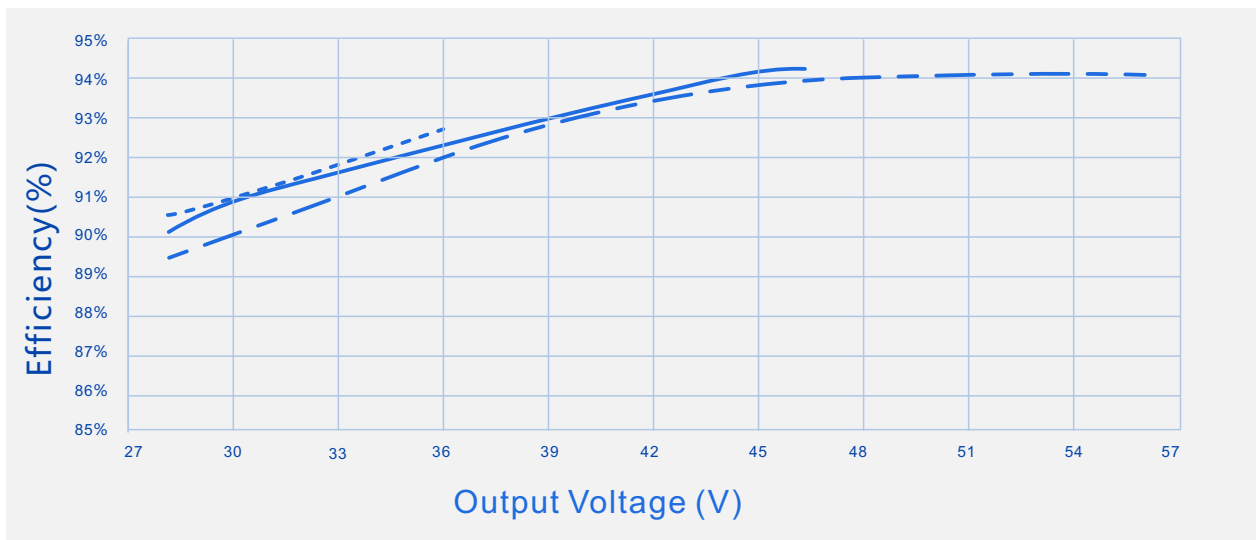
Performance Curves:

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



----- Io=8400mA ——— Io=6500mA - - - Io=5400mA

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

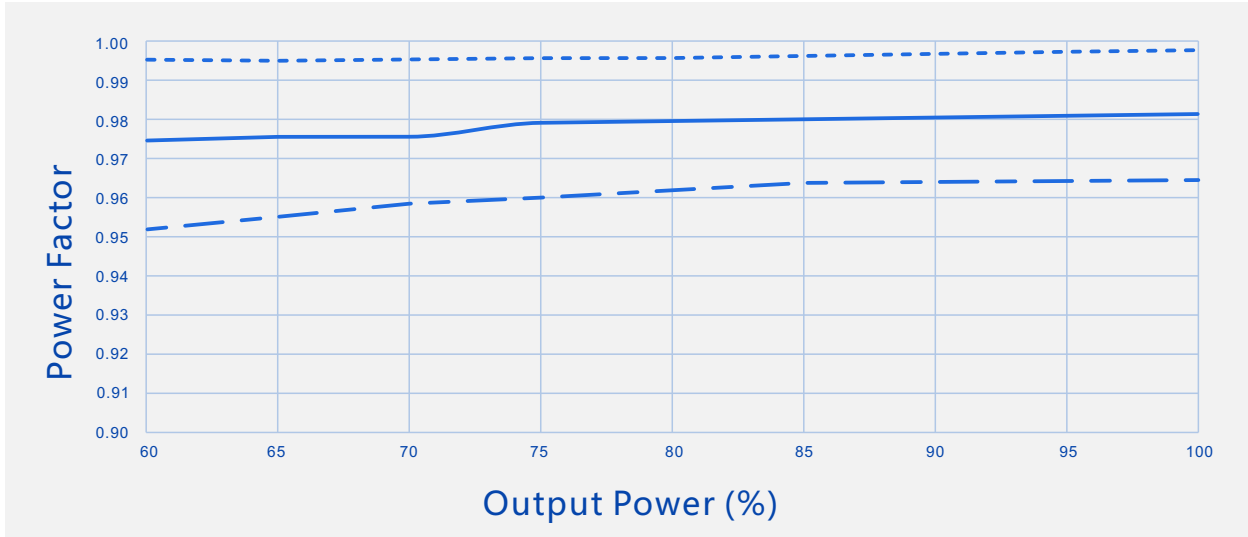


----- Io=8400mA ——— Io=6500mA - - - Io=5400mA

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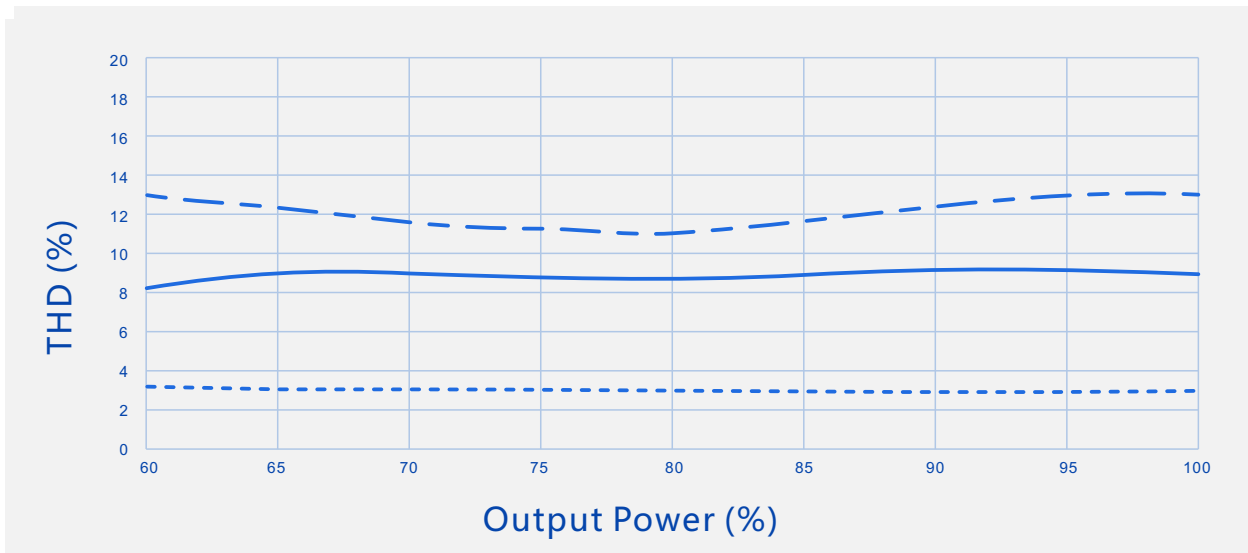
Performance Curves:

Power Factor Vs. Output Power



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

THD Vs. Output Power

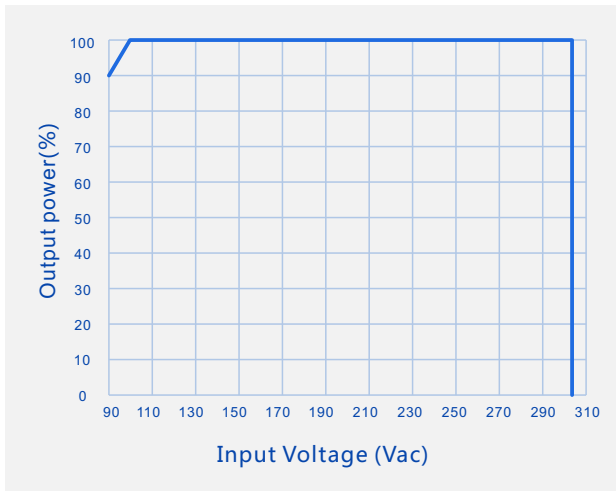


----- Vin=120Vac ————— Vin=220Vac - . - . Vin=277Vac

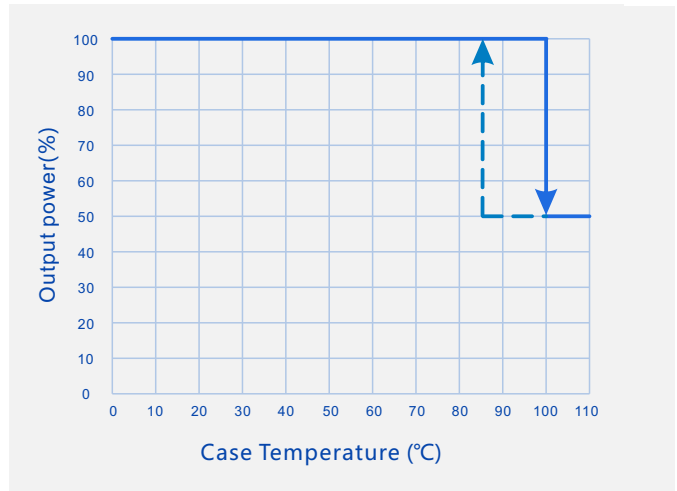
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Performance Curves:

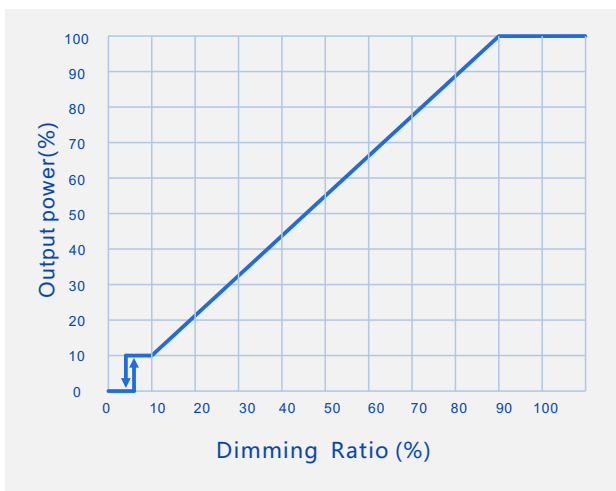
Output Power Vs. Input Voltage (Ta Max.50°C)



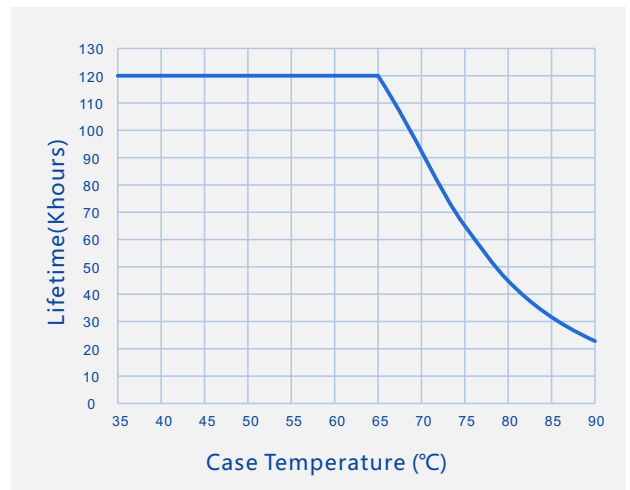
Output Power Vs. Case Temperature



Output Power Vs. Dimming

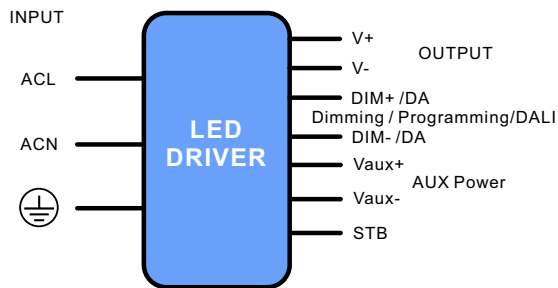


Lifetime Vs. Case Temperature



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Mechanical Characteristics



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

UL model: SJTW,3*18AWG,O.D: 7.8mm,Black:L,White:N,Green:⊕

EU model: H05RN-F,3*1.0mm², O.D:7.4mm,Brown:L, Blue:N, Yellow/Green:⊕

Global model: SJOW,3*17AWG ,O.D:8.0mm,Brown:L, Blue:N, Yellow/Green:⊕

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

UL model: SJTW,2*14AWG,O.D: 9.0mm,Red:V+ , Black:V-

EU model: H05RN-F,2*1.5mm², O.D:9.0mm, Brown:V+, Blue:V-

Global model: SJOW,2*14AWG, O.D:8.8mm, Brown:V+ , Blue:V-

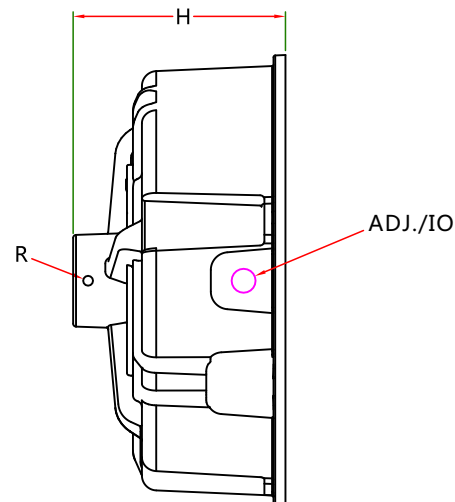
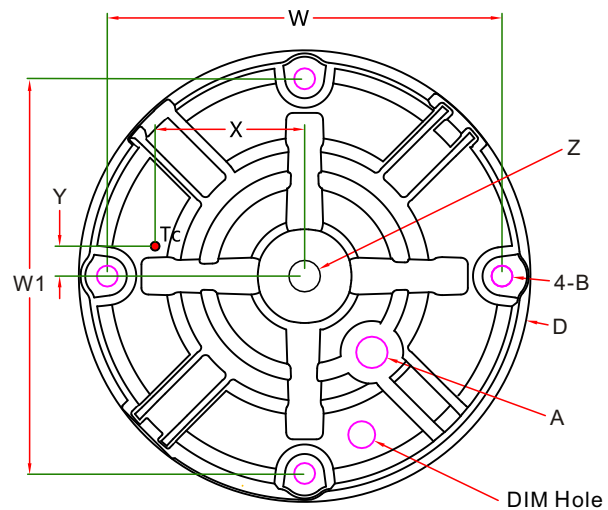
DIM /AUX Cable(Exposed Length 220±10mm):

UL/EU/Global model: UL 21996, 3*22AWG , O.D: 4.9mm , Purple : DIM+, Gray: DIM-/Vaux-, Pink:Vaux+,Blue/White:STB(Optional)

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

UL/EU/Global model: UL 21996, 4*22AWG , O.D: 6.0mm , Purple : DA, Gray: DA, Pink:Vaux+,Black/White:Vaux-,Blue/White:STB(Optional)

| Name Description | Standard Code | mm(In.) |
|----------------------|---------------|--|
| PG Size | A | M12*1.5 |
| Fixed Screw Diameter | 4-B | Φ8.5(0.33) |
| Case Diameter | D | Φ182.0(7.17) |
| Height | H | 71.5(2.82) |
| Ring Hole | Z | M12*1.75(Depth 20mm) G1/2(Depth 17mm) |
| Ring Fixed Hole | R | M4*0.7 |
| Fixed Size | W | 162.0(6.38) |
| TC point position | X | 50(1.97) |
| TC point position | Y | 10(0.39) |



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

SS-300CA 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.

Package

- Outside carton dimension: L×W×H =580mm×433mm×217mm;
- 8PCS/Carton;
- Net weight/Piece: 2.1kg;Gross weight/Carton: 17.8kg;
- 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 stock for over 1 year before installation.

RoHS

Products comply with European Directive 2011/65/EC.

REVISION HISTORY

| Version | Description of Update | Updated Date | Remark |
|---------|--|--------------|--------|
| V00 | Original release | 2018/10/18 | |
| V01 | Remove 24V auxiliary power supply function | 2019/07/16 | |
| V02 | Update CCC insulation requirements | 2019/10/29 | |
| V03 | Update Structure Dimension Characteristics | 2020/04/07 | |
| V04 | Update cable length | 2020/04/27 | |

