

# SPECIFICATION

## 100W LED DRIVER

Issued date: May.31.2016

Model: SS-100H

REV : V03

Description: 100W AC to DC LED DRIVER

Customer : \_\_\_\_\_

| Customer Approval<br>Signature | SHENZHEN SOSEN ELECTRONICS CO LTD |         |          |
|--------------------------------|-----------------------------------|---------|----------|
|                                | WRITTEN                           | CHECKED | APPROVED |
|                                |                                   |         |          |

**SHENZHEN SOSEN ELECTRONICS CO LTD**

## 【1. Applications】

- LED Advertising Sign
- LED Architectural Lighting
- LED Commercial Industrial Lighting
- LED General Luminaries



**Figure 1**

## 【2. Features】

- ◆ Constant Current
- ◆ Built-in Active PFC Function
- ◆ High efficiency up to 91%
- ◆ IP67 design for indoor or outdoor installations
- ◆ Protections: short circuit/over temperature/over voltage
- ◆ Aluminum housing, cooling by free air convection
- ◆ CE, TUV, UL, BIS approved

## 【3. Model Listing】

| ITEM | MODEL      | Output Voltage | Output current | output power | Output current tolerance | Output voltage (No load) | Ripple & noise | Efficiency (typ.230V) |
|------|------------|----------------|----------------|--------------|--------------------------|--------------------------|----------------|-----------------------|
| 3.1  | SS-100H-33 | 24-33V         | 3.05A          | 100.7W       | ±5%                      | 36V                      | ≤1%            | 90%                   |
| 3.2  | SS-100H-36 | 24-36V         | 2.8A           | 100.8W       | ±5%                      | 38V                      | ≤1%            | 90%                   |
| 3.3  | SS-100H-42 | 30-42V         | 2.4A           | 100.8W       | ±5%                      | 44V                      | ≤1%            | 90%                   |
| 3.4  | SS-100H-48 | 36-48V         | 2.1A           | 100.8W       | ±5%                      | 51V                      | ≤2%            | 90%                   |
| 3.5  | SS-100H-54 | 42-54V         | 1.85A          | 99.9W        | ±5%                      | 56V                      | ≤2%            | 90%                   |

## 【4. Model naming rules】

|                       |  |
|-----------------------|--|
| SS-100H-48■           | ■ : Stands for the last letter   |
| The last letter       | Based model, Through external potentiometer to adjustable output current, output current adjusting range is 70% to 100%.   |
| The last letter for C | Timing dimmer, through the preset program timing dimmer.   |
| The last letter for T | A single timing dimmer, the product internal timer, time has eight kinds of optional: such as 5 hours, 6 hours, 7 hours, 8 hours,, work mode: 24 hours implementation a cycle. |

**【5. Input characteristics】**

| ITEM | Parameter             | Min     | Typ | Max     | Remarks                                |
|------|-----------------------|---------|-----|---------|--|
| 5.1  | Rated AC input range  | 100 Vac |     | 277Vac  |  |
| 5.2  | AC input range        | 90 Vac  |     | 305 Vac |  |
| 5.3  | Input frequency range | 47Hz    |     | 63Hz    |  |
| 5.4  | Max input current     |         |     | 1.4A    | Vin=90Vac, full load                   |
| 5.5  | Inrush current        |         |     | 60A     | Vin=230Vac/50Hz, cold start            |
| 5.6  | Power factor          | 0.98    |     |         | Vin=230Vac/50Hz, full load, Ta=25°C    |
|      |                       | 0.9     |     |         | 100-277Vac, 70-100% full load, Ta=25°C |
| 5.7  | THD                   |         |     | 10%     | Vin=230Vac/50Hz,full load, Ta=25°C     |
|      |                       |         |     | 20%     | 100-277Vac, 70-100% full load, Ta=25°C |

**【6. Output】**

| ITEM | Parameter                | Min  | Typ  | Max   | Remarks  |
|------|--------------------------|------|------|-------|--|
| 6.1  | Output current tolerance | -5%  |      | +5%   |  |
| 6.2  | Ripple & noise           |      |      | 1%Vo  | Measurement is done by 20MHz bandwidth oscilloscope and the output paralleled a 0.1Uf ceramic capacitor and a 10uF electrolysis capacitor. Ta=25°C |
| 6.3  | Efficiency               | 89%  | 91%  |       | Vin=230Vac/50Hz, full load   |
| 6.4  | Overshoot / Undershoot   | -10% |      | +10%  | Test with lamp, Ta=25°C  |
| 6.5  | Rise Time                |      |      | 500mS |  |
| 6.6  | Turn - on Delay Time     |      | 1.0S | 3.0S  | Vin=120Vac   |
|      |                          |      |      | 2.0S  | Vin=230Vac   |

**【7. PROTECTION FUNCTION】**

| ITEM | Parameter                   | Min   | Typ   | Max   | Remarks                                |
|------|-----------------------------|---|-------|-------|--|
| 7.1  | Over Voltage Protection     | 108%  | 110%  | 115%  | latch off                              |
| 7.2  | Short Circuit Protection    | A long time short circuit is not damaged, Pin: ≤10W |       |       | Auto-recovery, hiccup                  |
| 7.3  | Over Temperature Protection | 90°C  | 100°C | 110°C | Case temperature; blackout and restart |

**【8. Environment requirement】**

| ITEM | Parameter             | Min         | Typ  | Max   | Remarks                           |
|------|-----------------------|-------------|------|-------|-----------------------------------|
| 8.1  | Operating Temperature | -40°C       | 25°C | +70°C | refer to Derating Curve, Figure 2 |
| 8.2  | Storage Temperature   | -40°C       | 25°C | +85°C |                                   |
| 8.3  | Operation Humidity    | 10%RH       |      | 90%RH |                                   |
| 8.4  | Storage Humidity      | 5%RH        |      | 95%RH |                                   |
| 8.5  | Altitude              | -65m        |      | 4000m |                                   |
| 8.6  | Cooling Method        | Air Cooling |      |       |                                   |

**【9. Other Requirements】**

| ITEM | Parameter               | Min             | Typ           | Max       | Remarks                                       |
|------|-------------------------|-----------------|---------------|-----------|---|
| 9.1  | Life time               |                 | 100,000 hours |           | 230Vac, 100% on load, Tc=60°C,                |
| 9.2  | MTBF Estimation         |                 | 500,000hours  |           | 230Vac, Ta=25°C, 100% on load (MIL-HDBK-217F) |
| 9.3  | Temperature coefficient | -0.03%/°C       |               | +0.03%/°C |   |
| 9.4  | Weight                  |                 | 800g          |           |   |
| 9.5  | Case temperature        |                 |               | 90°C      |   |
| 9.6  | Size                    | 195mm*63mm*40mm |               |           |   |

**【10. Safety Standards & EMI/EMS Standards】**

| 10.1 Safety Standards    |  |  |   |
|--------------------------|--|--|---|
| Certification            | Safety Standards   | State  | Remarks   |
| CE                       | EN 61347-2-13:2014<br>EN61347-1:2008+A1:2011+A2:2013                 | ■  |   |
| TUV                      | EN 61347-2-13:2014<br>EN61347-1:2008+A1:2011+A2:2013<br>EN62493:2010 | ■  |   |
| UL                       | UL8750   | ■  |   |
| CQC/CCC                  | GB 19510.14-2009   | ■  |   |
| 10.2 Safety Requirements |  |  |   |
| ITEM                     | Technical requirements   | Remarks  |   |
| Insulation strength      | Input-output   | 3200Vac/5mA Max/60 seconds                           | Reinforced insulation ;No flashover and breakdown   |
|                          | Primary- Earth   | 1600Vac/5mA Max / 60second                           | Based insulation ;<br>No flashover and breakdown    |
|                          | Secondary- Earth   | 1000Vac/5mA Max / 60second                           | Function insulation ;<br>No flashover and breakdown |
| Insulation resistance    | Input-output   | ≥10 MΩ   | Testing Voltage: 500Vdc                             |
| Ground resistor          |  | ≤0.1Ω  | 40A/2min  |
| Leakage current          |  | ≤0.75mA  | Vin=277Vac  |
| 10.3 EMC Requirements    |  |  |   |
| ITEM                     | Standards  | Criterion  |   |
| CE                       | EN55015:2006+A1:2007+A2:2009   | CLASS B  |   |
| RE                       | EN55015:2006+A1:2007+A2:2009   | CLASS B  |   |
| SURGE                    | IEC/EN61000-4-5  | Difference mode±4KV, common mode ±6KV<br>Criterion B |   |

【11. Characteristics of figure】

Figure 2: Derating Curve

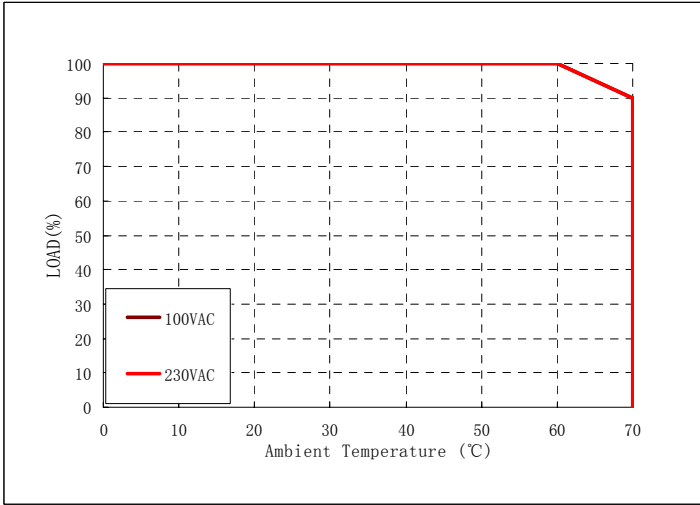


Figure 3: Static Characteristics

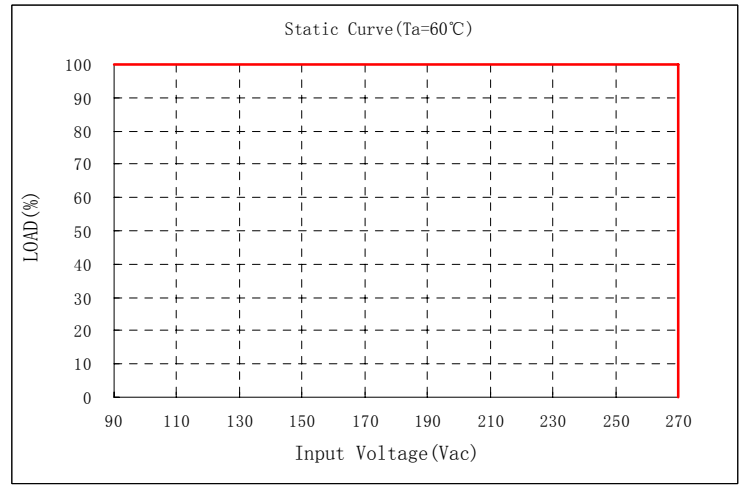


Figure 4: PF Curve(full load)

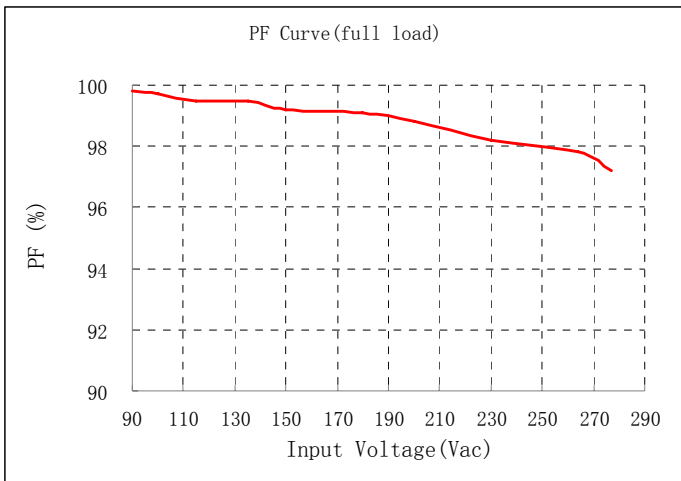
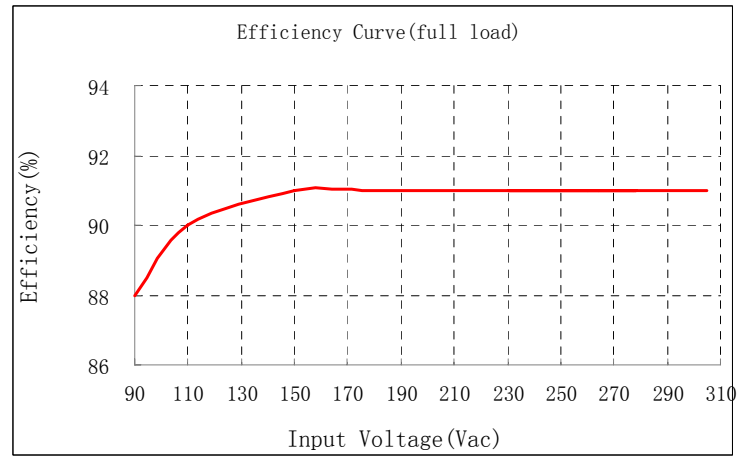
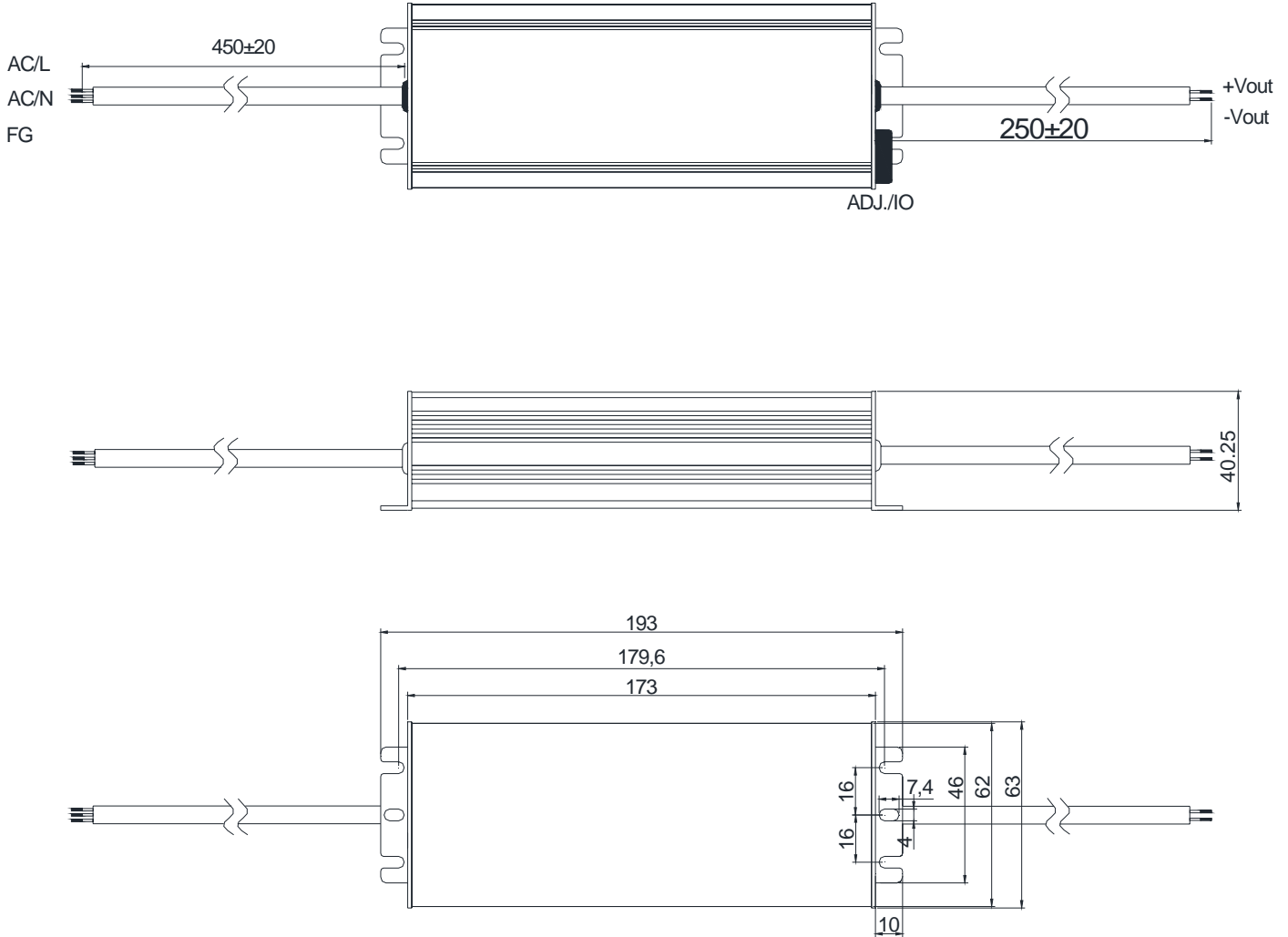


Figure 5: Efficiency Curve (full load)



【12. Mechanical characteristics】

图 6: Based model



Remarks:

|                 |   |
|-----------------|---|
| AC input cable  | <ol style="list-style-type: none"> <li>1. American standard cable: UL SJTW #18AWG <math>3 \times 0.824 \text{mm}^2</math>, Outer diameter: 7.8mm; Green: PE, Black: L, White: N</li> <li>2. European standard cable: VDE H05RN-F <math>3 \times 1.0 \text{mm}^2</math>, Outer diameter: 7.4mm, Brown: L, Blue: N, Yellow &amp; Green: PE</li> </ol> |
| DC output cable | <ol style="list-style-type: none"> <li>1. American standard cable: UL SJTW #18AWG <math>2 \times 0.824 \text{mm}^2</math>, Outer diameter: 7.3mm; Red: V+, Black: V-</li> <li>2. European standard cable: VDE H05RN-F <math>2 \times 1.0 \text{mm}^2</math>, Outer diameter: 7.0mm; Brown: V+, Blue: V-</li> </ol>                                  |

【13. Label】

| CCC  |  |
|--|--|
| <p>○ ACL --- BROWN (棕) INPUT (输入端)</p> <p>○ ACN --- BLUE (蓝)</p> <p>○  --- GREEN/YELLOW (绿黄)</p> <p>HTTP://www.szsofen.com<br/>MADE IN CHINA 制造地: 中国</p> | <div style="text-align: center;"> <b>MODEL (型号): SS-100H-33</b><br/> <b>SOSEN LED DRIVER (LED模块用交流电子控制装置)</b> </div> <hr/> <p>MANUFACTURERS: SHENZHEN CITY SOSEN ELECTRONICS CO.,LTD<br/>                 制造商: 深圳市崧盛电子有限公司</p> <p>INPUT (输入): 100-240V~ 1.4A 50/60Hz <span style="float: right;">t<sub>c</sub>: 90°C</span><br/>                 277V~ 0.45A 50/60Hz <span style="float: right;">t<sub>a</sub>: 60°C</span><br/>                 (277V~只适用于北美)</p> <p>OUTPUT (输出): 24-33V  3.05A Max.35V 输出功率: 100W (LED模块)</p> <p style="text-align: right;">V+ --- BROWN ○ (棕)<br/>V- --- BLUE ○ (蓝)</p> <p style="text-align: right;">Io ADJ. (电流可调) ○</p> <div style="text-align: center;"> </div>                   |
| TUV  |  |
| <p>○ ACL --- BROWN INPUT</p> <p>○ ACN --- BLUE</p> <p>○  --- GREEN/YELLOW</p> <p>MADE IN CHINA</p>   | <div style="text-align: center;"> <b>MODEL:SS-100H-33</b><br/> <b>SOSEN Constant Current LED Driver</b> </div> <hr/> <p>MANUFACTURERS: SHENZHEN CITY SOSEN ELECTRONICS CO.,LTD<br/>                 HTTP://www.szsofen.com</p> <p>INPUT: 100-277V~ 1.4A 50/60Hz <span style="float: right;">•t<sub>c</sub> t<sub>c</sub>: 90°C</span><br/>                 OUTPUT: 24-33V  3.05A Max.35V Max.100.7W <span style="float: right;">t<sub>a</sub>: 60°C</span></p> <p>Suitable for use in Dry, Damp and Wet Locations</p> <p style="text-align: right;">V+ --- BROWN ○<br/>V- --- BLUE ○</p> <p style="text-align: right;">Io ADJ. (电流可调) ○</p> <div style="text-align: center;"> </div>                                     |
| UL   |  |
| <p>○ ACL --- BLACK INPUT</p> <p>○ ACN --- WHITE</p> <p>○  --- GREEN</p> <p>MADE IN CHINA</p>   | <div style="text-align: center;"> <b>MODEL:SS-100H-33</b><br/> <b>SOSEN Constant Current LED Driver</b> </div> <hr/> <p>MANUFACTURERS: SHENZHEN CITY SOSEN ELECTRONICS CO.,LTD<br/>                 HTTP://www.szsofen.com</p> <p>INPUT: 100-277V~ 1.4A 50/60Hz <span style="float: right;">•t<sub>c</sub> t<sub>c</sub>: 90°C</span><br/>                 OUTPUT: 24-33V  3.05A Max.35V Max.100.7W <span style="float: right;">t<sub>a</sub>: 60°C</span><br/>                 Type TL 90/70°C</p> <p>Suitable for use in Dry, Damp and Wet Locations</p> <p style="text-align: right;">V+ --- RED ○<br/>V- --- BLACK ○</p> <p style="text-align: right;">Io ADJ. (电流可调) ○</p> <div style="text-align: center;"> </div> |



## **【14. Installation Precautions】**

- 14.1 If the driver is output current adjustable, please seal the adjustable hole by 704 silicon glue and cover the waterproof of rubber plug after adjusting the current
- 14.2 Lightning protection meet the IEC61000-4-5 standard requirements. If the driver is used in the lighting active areas or relatively complex power grid environment, it is suggested that the power supply of the AC input terminal shall be equipped with a professional lightning protection module.

## **【15. Package,Transportation & Storage】**

### 15.1 Package

- a、Package outside carton dimension:  $L \times W \times H = 502 \times 279 \times 200$  (unit: mm);
- b、Each carton: 20PCS;
- c、Net weight of each driver: 0.8kg; Gross weight of a carton: 17kg;
- d、There are product name, model, mark of manufacturer, certificate of safety approval and manufacturing date on the carton and packing list inside.

### 15.2 Transportation

Packaging is designed suitable for transportation by truck, ship, and plane. The products should be shielded from sunshine, and loaded and unloaded carefully.

### 15.3 Storage

The storage of products shall meet the standard of GB 3873—83.

Product should be rechecked of the period of storage is over 1 year before install.