

## Indoor LED Power Supply

### Features



- . European AC input / (220-240VAC)
- . Built-in active PFC function
- . IP20
- . Suitable for dry environment
- . Protections: Short circuit / Over voltage / Over temperature
- . Adopt plastic shell and internal glue potting
- . Compliance to worldwide safety regulations for lighting
- . 5 years warranty



### Description :

SS60 series is an indoor constant voltage power supply. Its input voltage range is 220-240Vac, with the high efficiency up to 89%, fanless design, working in the temperature range of - 20 ° C to + 45 ° C under free air convection. It has ultra-high power factor, ultra-low total harmonic distortion, low standby power consumption, with all-round protection functions , which not only greatly improves the reliability of the product, but also ensures the life cycle of product. This series of products is designed for LED lighting used in indoor applications. The product designed completely in accordance with world's lighting equipment safety regulations to ensure the safety of both user and luminaire system during installation.

### Model

| Model     | Output voltage | Output current | Max. Output power | Current tolerance | Power factor (Typ.) | Efficiency (Typ.) |
|-----------|----------------|----------------|-------------------|-------------------|---------------------|-------------------|
| SS60-12VF | 12V            | 0-5A           | 60W               | ±5%               | 0.95                | 87%               |
| SS60-24VF | 24V            | 0-2.5A         | 60W               | ±5%               | 0.95                | 88%               |
| SS60-48VF | 48V            | 0-1.25A        | 60W               | ±5%               | 0.95                | 89%               |

**Remark:** All parameters NOT specially mentioned are measured at 230VAC input, full load and 25 °C of ambient temperature.

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### Input

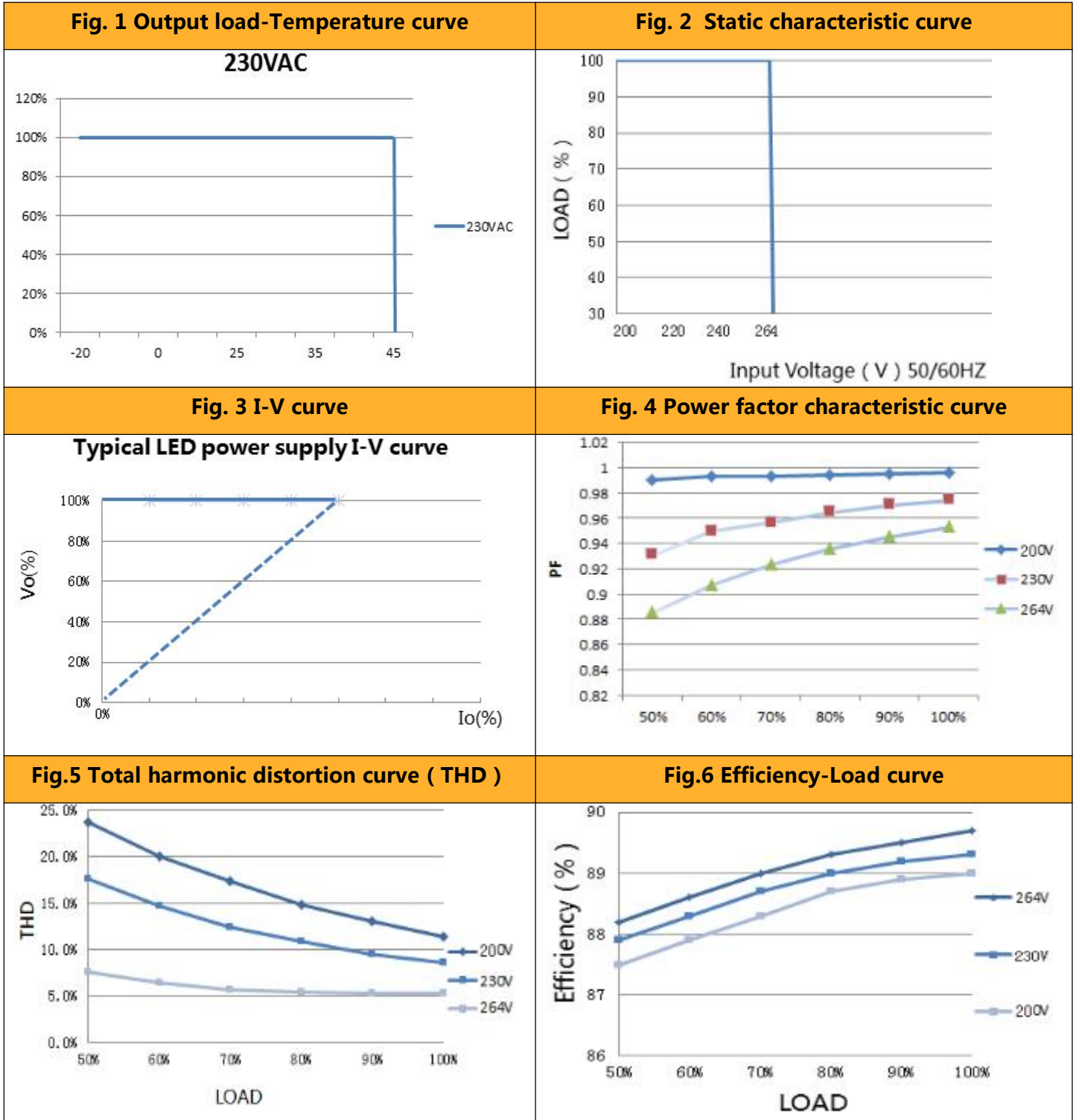
| Parameter                  | Min. value | Typical value | Max. value | Note                                      |
|----------------------------|------------|---------------|------------|---|
| Rated input voltage        | 220 Vac    |               | 240Vac     | The derating curve is shown in the figure |
| Input voltage              | 198 Vac    |               | 264Vac     |   |
| Input frequency            | 47Hz       |               | 63Hz       |   |
| Max. Input current         |            |               | 0.35A      | 230Vac , Full Load                        |
| Input inrush current       |            |               | 30A        | 230Vac/50Hz , Cold Start                  |
| Power factor               | 0.96       | 0.97          |            | 230Vac , Full Load                        |
| Total harmonic input       |            | 6%            | 8%         | 230Vac , Full Load                        |
| Leakage current            |            |               | 0.7mA      | 230Vac/50Hz , Full Load                   |
| Stand-by power consumption |            | 0.4W          | 0.5W       | 230Vac/50Hz , No Load                     |

### Output

| Parameter                       | SS60-12VF | SS60-24VF | SS60-48VF | Note   |
|---------------------------------|-----------|-----------|-----------|--|
| Output voltage                  | 12.0VDC   | 24.0VDC   | 48.0VDC   | The maximum output power shall meet<br>$P_o = V_o \cdot I_o = 30W$ |
| Rated output current            | 5A        | 2.5A      | 1.25A     |  |
| Output current                  | 0-5A      | 0-2.5A    | 0-1.25A   |  |
| Rated output power              | 60W       | 60W       | 60W       |  |
| Rated output efficiency         | 87%       | 88%       | 89%       | 230Vac   |
| Output current tolerance        |           | ±5%       |           |  |
| Output voltage ripple ( PK-PK ) |           | ±3%       |           | Full load (Test under 20M bandwidth)                               |
| Output current ripple ( PK-PK ) |           | ---       |           | Full load (Test under 20M bandwidth)<br>230Vac                     |
| Rise time                       |           | 100mS     |           |  |
| Startup time                    |           | 300mS     |           | 230Vac   |
| Line regulation                 |           | ±1%       |           | full load  |
| Load regulation                 |           | ±1%       |           |  |
|                                 |           |           |           |  |



### Characteristic curve





### Protection

| Parameter  |                  | Conditions                        | Note  |
|------------|------------------|-----------------------------------|---|
| Protection | Over load        | 1.1 ~ 1.6 times rated load        | Recover automatically when cancel overload                  |
|            | Short circuit    | Short circuit power $\leq$ 0.5W   | Hiccup mode, auto-recovery after short circuit removed      |
|            | Over voltage     | 1.5 times of rated output voltage | Turn off input voltage and restart                          |
|            | Over temperature | 110°C                             | Turn off input voltage and restart when temp drop to normal |

### Environment Requirement

| Parameter        | Min.            | Typ. | Max.  | Note      |
|------------------|-----------------|------|-------|-----------|
| Working temp.    | -20°C           | 25°C | +45°C | See Fig.2 |
| Storage temp.    | -40°C           | 25°C | +85°C |           |
| Working humidity | 10%RH           |      | 90%RH |           |
| Storage humidity | 5%RH            |      | 95%RH |           |
| IP grade         |                 |      | IP20  |           |
| Cooling mode     | Natural cooling |      |       |           |

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### Safety&EMC standard

| Certificate           |                     | Safety standards  | Certification                                     | Note |
|-----------------------|---------------------|---|---|------|
| UL/CUL                |                     | ---   |   |      |
| TUV                   |                     | EN61347-1:2015<br>EN 61347-2-13:2014+A1<br>EN62493:2015 | √   |      |
| SAA                   |                     | AS/NZS 61347.2.13                                       |   |      |
| CCC                   |                     | ---   |   |      |
| CE                    |                     | EN 61347-2-13:2014 +A1<br>EN61347-1:2015                | √   |      |
| Safety test           |                     | Technical indexes                                       | Note  |      |
| Dielectric strength   | Input to output     | 3750Vac/5mA<br>Max/60s                                  | Reinforced insulation, no breakdown, no flashover |      |
|                       | Primary to ground   | --  | Basic insulation, no breakdown, no flashover      |      |
|                       | Secondary to ground | --  | Functional insulation, no breakdown, no flashover |      |
| Insulation resistance | Input to output     | ≥10MΩ   | Test voltage : 500Vdc                             |      |
| Grounding resistance  |                     | --  | 25A/1min  |      |
| Leakage current       |                     | ≤0.75mA   | 264Vac  |      |
| EMI/EMS item          |                     | Standards   | Basis   |      |
| Conduction CE         |                     | EN55015   |   |      |
| Radiation RE          |                     | EN55015   |   |      |
| Harmonics             |                     | EN IEC 61000-3-2  | Class C   |      |

### Others

| Parameters | Condition             | note                                   |
|------------|-----------------------|--|
| Lifetime   | 30,000 hours          | 230Vac , full load, TC. 75°C           |
| MTBF       | 200,000hours          | 230Vac, full load, 25°C(MIL-HDBK-217F) |
| TC         | 90°C                  |  |
| Warranty   | 5 years               |  |
| Weight     | 250g                  |  |
| Dimensions | 159mm * 57.8mm * 18mm | L x Wx H                               |



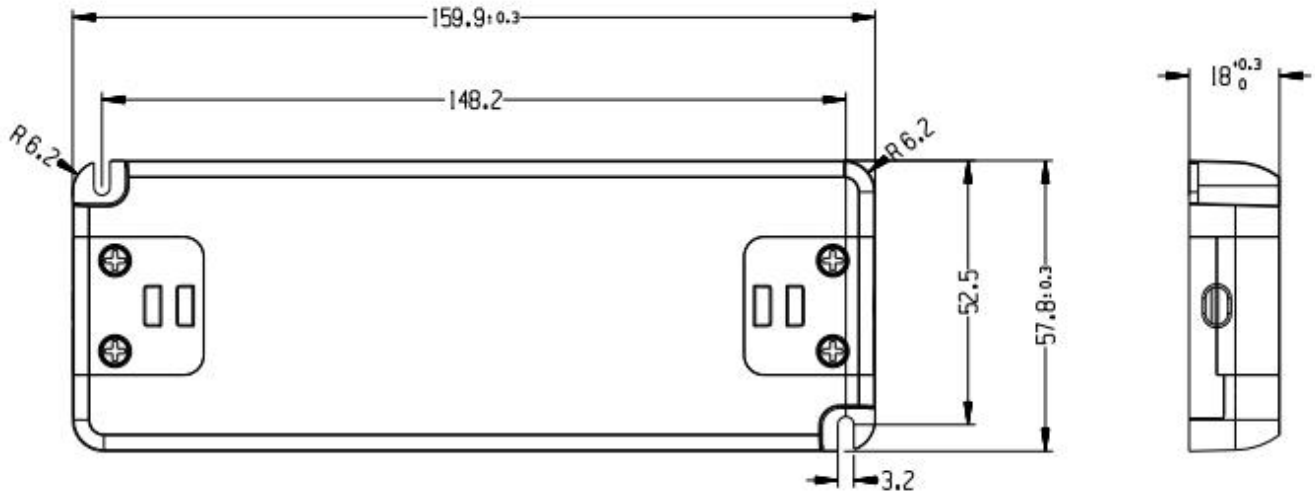
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### Mechanical Specification ( Unit : mm )



**Remark :**

|                 |  |
|-----------------|--|
| AC input cable  | Terminal block , H03VVH2-F 2×0.75mm <sup>2</sup> |
| DC output cable | Terminal block, H05VVH2-F 2×1.0mm <sup>2</sup>   |