# 30 A Single-Phase

**SL30.100**

- Input: AC 208-240V
- Output: 24...28V / 30A
- 92.5% efficiency
- Ideal for parallel operation
- Simple fusing

## Data sheet

### Input

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>AC 208-240V 47-63 Hz</td>
</tr>
<tr>
<td>Rated tolerances</td>
<td>Continuous operat. 180-276 V AC</td>
</tr>
<tr>
<td>Input current</td>
<td>&lt; 9A eff.</td>
</tr>
<tr>
<td>Inrush current</td>
<td>&lt; 33A at 276 V AC</td>
</tr>
<tr>
<td>Inrush current limiting</td>
<td>done with a fixed 15R resistor (not a thermistor) which is bridged after the unit is running, so losses are minimised. That means no reset time even at a warm-start.</td>
</tr>
<tr>
<td>Fuse loading</td>
<td>&lt; 10 A²s</td>
</tr>
</tbody>
</table>

To be fused with a 10A, B-type ‘circuit-breaker’ switch based on the usual thermomagnetic overload sensing principle (used anyway to fuse the input lines). In addition, the unit contains an internal fuse (not accessible).

### Efficiency, Reliability etc.*

**Efficiency**

typ. 92.5% (230 VAC, 24 V / 30 A)

**Losses**

typ. 60 W (230 VAC, 24 V / 30 A)

**Life cycle (electrolytics)**
The unit exclusively uses longlife electrolytics, specified for +105°C (cf. ‘The SilverLine’, p.2). High reliability and lifetime, as:
- only 5 aluminum electrolytics and
- no small aluminum electrolytics are used.

**Efficiency**
typ. 92.5% (230 VAC, 24 V / 30 A)

Note: S/P = **Single/Parallel Mode**

* For further information see data sheets „The SilverLine“, „SilverLine Family Branches“ and mechanics data sheet

### Output

<table>
<thead>
<tr>
<th>Parameter</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Output voltage</td>
<td>24...28 VDC, adjustable by (covered) front panel potentiometer; prest: 24V ± 0.5%</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>$T_{amb}$</td>
</tr>
<tr>
<td>Operation: 0°C...+70°C (&gt; 60°C: Derating)</td>
<td></td>
</tr>
<tr>
<td>Storage: -25°C...+85°C</td>
<td></td>
</tr>
<tr>
<td>Rated continuous loading with convection cooling at $T_{amb}$=0°C - 60°C</td>
<td>24 V / 30 A (720 W) resp. 28 V / 26 A (728 W)</td>
</tr>
<tr>
<td>Derating</td>
<td>typ. 18 W/K (at $T_{amb}$ = +60°C...+70°C)</td>
</tr>
<tr>
<td>Ripple</td>
<td>(incl. spikes (20 MHz bandw.), 50Ωmeasurem.)</td>
</tr>
<tr>
<td>- Output charact. S</td>
<td>&lt; 50mVpp (&lt; 0.2 %)</td>
</tr>
<tr>
<td>- Output charact. P (see Note)</td>
<td>&lt; 100mVpp (In: 230VAC, Out: 24V/30A)</td>
</tr>
<tr>
<td>- Voltage regulation better than ±2% over all</td>
<td></td>
</tr>
<tr>
<td>Over-voltage protection</td>
<td>At 33 V ± 10%; switch to hiccup mode</td>
</tr>
</tbody>
</table>

### Parallel operation

Yes, if more than three units are connected in parallel, a decoupling diode or fuse is required on each output.

To achieve current sharing the output VI characteristic can be altered to be 'softer' (24.7 V at 0.4 A, 24.3 V at 30 A). This is done by repositioning a bridge connection (without opening the unit).

### Power Back Immunity

max. 30 V

### Construction / Mechanics *

**Housing dimensions and Weight**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
<td>W x H x D</td>
<td>240 mm x 124 mm x 112 mm (+ DIN Rail)</td>
</tr>
<tr>
<td>Free space for ventilation</td>
<td>above/below 70 mm recommended</td>
</tr>
<tr>
<td>Weight</td>
<td>2000 g</td>
</tr>
</tbody>
</table>

### Design advantages:

- All connection blocks are easy to reach as mounted at the front panel.
- PVC insulated cable can be used for all connections, as the connection blocks are mounted in the cooler area on the underside of the unit.

## Order information

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL30.100</td>
<td>Screw mounting set, two needed per unit</td>
</tr>
<tr>
<td>SLZ01</td>
<td>Screw mounting set, two needed per unit</td>
</tr>
</tbody>
</table>

*For further information, please contact the manufacturer.*
Start / Overload Behaviour

- **Startup delay**: typ. 0.3 s
- **Rise time**: appr. 10 ms, depending on load
- **Duration of switch-on attempts at**
  - Initial application on mains: appr. 1.4 s
  - Subsequent attempts: appr. 0.5 s
- **Hiccup operation at**: $V_{\text{out}} < \text{appr. 14 V}$
- **Duration between switch-on attempts**: appr. 1 s

Electronic current limiting, protects against overload and short circuit:
- $V_{\text{out}} < \text{appr. 14 V}$: Periodical switch-on attempts (hiccup-mode).
- $V_{\text{out}} > \text{appr. 14 V}$: The output current is continuous.

The V/I characteristic of the supply is straight.

Advantages of the switch-on/overload behaviour:
- Safer switch-on into highly non-linear loads with large starting currents.
- Short-term overloads result in current limiting and not in an immediate shut-down.
- Parallel operation of several units possible.

Proper switch-on performance is obtained.

Further Information

For further information, especially about
- EMC
- Connections
- Safety, Approvals
- Mechanics und Mounting,
see page 2 of the „The SilverLine“ data sheet

For detailed dimensions
see SilverLine mechanics data sheet SL30

Output V/I characteristic (typ.)

Efficiency (typ.)

Hold-up time (min., at $V_{\text{out}}=24\text{V}$)

Unles otherwise stated, specifications are valid for AC 230V input voltage, +25°C ambient temperature, and 5 min. run-in time. They are subject to change without prior notice.

Your partner in power supply:
SL30

• Innovative DIN-Rail mount, unit holds even at vibration or lateral pressure
• Clearly arranged and user oriented
• Large, robust screw terminals
• Sealed metal housing
• Fine ventilating grid

Connections

Screw terminals, connector size range:
• Input/Output solid 0.5-6 mm² / flexible 0.5-4 mm²
• Current handling 30 A per output
Two connectors per output,
• Grid 9 mm distance between adjacent connectors

Design advantages:
• All connection blocks are easy to reach as mounted at the front panel. Input and output are strictly apart from each other and so cannot be mixed up
• PVC insulated cable can be used for all connections, no thermal protection is needed

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<tbody>
<tr>
<td>SL30.100</td>
<td>Screw mounting set, two needed per unit</td>
</tr>
<tr>
<td>SL30.300</td>
<td></td>
</tr>
<tr>
<td>SLZ01</td>
<td></td>
</tr>
</tbody>
</table>
This ‘mechanics data sheet’ exclusively deals with the mechanical properties of the product. For further information (especially concerning electrical properties), please refer to the generic data sheet of the SL20 and to the basic data sheet „The SilverLine“ dealing with common features of all SilverLine units. This data sheet is subject to change without prior notice.

Your partner in power supply:

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