48-56V adjustable, PFC

**SL10.106**

- **Input:** AC 230/115V, DC 240...375V
- **Output:** 48-56V/240W
- **PULS Overload Design™:** Power boost up to 288W; high overload current, no switch-off
- **Robust mechanics and EMC**

### Input

- **Input voltage:** AC100-120/220-240V (switchable), 47-63 Hz (AC 85...132/176...264V, DC 240...375V)
- **Input current** $I_n$:
  - $<6$A (switch in 115V position)
  - $<2.8$A (switch in 230V position)
- **Inrush current** $I_{pk}$:
  - $<37$A at AC 264V ($T_{amb} = +25^\circ C$, cold start)
  - $<62$A at AC 264V ($T_{amb} = +50^\circ C$, cold start)
- **Fuse loading $P_t$**:
  - $<2.5A^2s$ ($T_{amb} = +25^\circ C$, cold start)
  - $<6A^2s$ ($T_{amb} = +50^\circ C$, cold start)
- **DCin at open output:** 8mA (preserves battery sources)

### Output

- **Output voltage:** DC 48-56V, adjustable by (covered) front panel potentiometer; preset: 48 V ±0.5%
- **Ambient temperature range** $T_{amb}$:
  - Operation: 0°C...+70°C (>60°C: Derating)
  - Storage: -25°C...+85°C
- **Rated continuous loading with convection cooling**:
  - $T_{amb}=0^\circ C$ - 60°C: 48V/5A (240W) resp. 56V/4.3A (240W)
  - $T_{amb}=0^\circ C$ - 45°C: 48V/6A (288W) resp. 56V/5.1A (288W)
  - short-term also at 60°C
- **Output is protected against short-circuit, open circuit and overload**
- **Derating** typ. 6W/K ($T_{amb} = +60^\circ C...+70^\circ C$)
- **Voltage regulation** better than 2% $V_{out}$ overall
- **Ripple / Noise** $<50mV_{pp}$, (20MHz bandw., 50Ω measurement)
- **Parallel operation** possible; however, no equal load sharing
- **Overvolt. protection** typ. 59V
- **Power back immunity** 60V
- **Front panel indicator** Green LED on front panel

### Construction / Mechanics

- **Efficiency, Reliability etc.**
  - **Efficiency** $>90\%$ (AC 230V, 48V/5A)
  - **Losses** $<26.7W$ (AC 230V, 48V/5A)
  - **MTBF** 425.000h acc. to Siemensnorm SN 29500 (48V/5A, AC 230V, $T_{amb} = +40^\circ C$)
  - **Life cycle (electrolytics)** The unit uses longlife electrolytics, specified for +105°C (cf. ‘The SilverLine’, p.2).

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

### Ordering information

<table>
<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>SL10.106</td>
<td>SilverLine switched-mode power supply</td>
</tr>
<tr>
<td>SLZ14</td>
<td>Adapter for S7-300 rail</td>
</tr>
<tr>
<td>SLZ02</td>
<td>Wall mounting set</td>
</tr>
</tbody>
</table>
Start / Overload Behaviour

Startup delay: typ. 0.1s
Rise time: ca. 5-20ms, depending on load

Overload Behaviour:
- Special PULS Overload Design (see diagram overleaf)
- No disconnection, no hiccup if overloaded
- High overload current (up to 1.6 $I_{\text{Nom}}$), $V_{\text{out}}$ is gradually reduced with increasing current.
- 20% power boost
- 6A short-term, at 45°C or forced cooling even continuous

Advantages:
- High short-circuit current, giving large ‘start-up window’: unit starts reliably even with heavy loads (DC-DC converters, motors).
- No ‘sticking’ such as can occur with fold-back characteristics
- Secondary fuses operate more reliably

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 SL2.5/ SL5/ SL10

Efficiency

with 50% Load = 120W /
Mechanics

SL2.5/ SL5/ SL10

- 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

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<tr>
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</tr>
<tr>
<td>SL5.100</td>
<td>24V/5A</td>
</tr>
<tr>
<td>SL5.102</td>
<td>24-28V/120W</td>
</tr>
<tr>
<td>SL5.105</td>
<td>24-28V/120W, 3AC400-500V input</td>
</tr>
<tr>
<td>SL10.100</td>
<td>24-28V/240W</td>
</tr>
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<td>48-56V/240W</td>
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<td>SLZ01</td>
<td>Screw mounting set, two needed per unit</td>
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Connections

- Input/Output
- Current handling capacity
- Grid

Design advantages:
- All connection blocks are easy to reach as mounted at the the front panel.
- Input and output are strictly apart from each other and so cannot be mixed up

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his ‘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 SL2.5, SLS and SL10 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.

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