

# 30 A Single-Phase

# PULS

# SL30.100

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



Data sheet

## Input

Input voltage	AC 208-240V 47-63 Hz
Note: DC operation not permissible	
Rated tolerances	
• Continuous operat.	180-276 V AC
Input current	< 9A eff.
Inrush current	< 33A at 276 V AC
Inrush current limiting 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.	
Fuse loading	< 10 A <sup>2</sup> s
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).	
Transient handling	Active transient filter incorporated, so transient resistance acc.to VDE 0160 / W2 (750 V / 1.3 ms), for all load conditions.
Hold up time	> 20 ms at 230 VAC, 24 V / 30 A
Input voltage	AC 208-240V 47-63 Hz

## 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 <ul style="list-style-type: none"> <li>• only 5 aluminum electrolytics and</li> <li>• no small aluminum electrolytics are used.</li> </ul>
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

Output voltage	24...28 VDC, adjustable by (covered) front panel potentiometer; prest: 24V ± 0.5% Adjusting range guaranteed.
Output noise suppression	Radiated EMI values below EN50081-1, even when using long, unscreened output cables
Ambient temperature range T <sub>amb</sub>	Operation: 0°C...+70°C (> 60°C: Derating) Storage: -25°C...+85°C
Rated continuous loading with convection cooling at T <sub>amb</sub> =0°C - 60°C	24 V / 30 A (720 W) resp. 28 V / 26 A (728 W)
Derating	typ. 18 W/K (at T <sub>amb</sub> = +60°C...+70°C)
Voltage regulation	better than ±2% over all
Ripple	(incl. spikes (20 MHz bandw.), 50 Ω measurement.) <ul style="list-style-type: none"> <li>• Output charact. S &lt; 50mV<sub>pp</sub> (&lt; 0,2 %)</li> <li>• Output charact. P &lt; 100mV<sub>pp</sub> (In: 230VAC, Out: 24V/30A) &lt; 150 mV<sub>pp</sub> (In: 184VAC, Out: 24V/30A)</li> </ul>
Over-voltage protection	At 33 V ± 10%: switch to hiccup mode
Front panel indicators: <ul style="list-style-type: none"> <li>• Green LED on, when V<sub>out</sub> &gt; U<sub>T</sub>, where U<sub>T</sub> is appr. 2 V below V<sub>out</sub> adjusted (24V...28V)</li> <li>• Red LED on, when appr. 14 V &lt; V<sub>out</sub> &lt; U<sub>T</sub></li> <li>• Red LED flashes, when 0 V &lt; V<sub>out</sub> &lt; appr. 14 V</li> </ul>	
Parallel operation	Yes, up to five SL30 units
To achieve current sharing the output V/I 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	
• W x H x D	240 mm x 124 mm x 112 mm (+ DIN Rail)
• Free space for ventilation	above/below 70 mm recommended left/right 25 mm recommended
• Weight	2000 g

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

Order number	Description
SL30.100	
SLZ01	Screw mounting set, two needed per unit

**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	$V_{out} < \text{appr. } 14 \text{ V}$
Duration between switch-on attempts	appr. 1 s

Electronic current limiting, protects against overload and short circuit:

- $V_{out} < \text{appr. } 14 \text{ V}$ : Periodical switch-on attempts (hiccup-mode).
- $V_{out} > \text{appr. } 14 \text{ V}$ : 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**

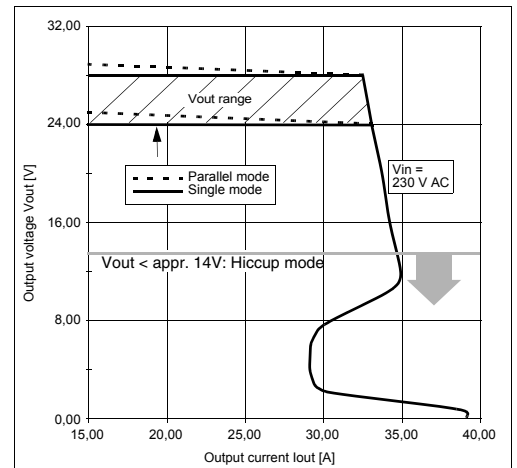
For further information, especially about

- EMC
- Connections
- Safety, Approvals
- Mechanics und Mounting,

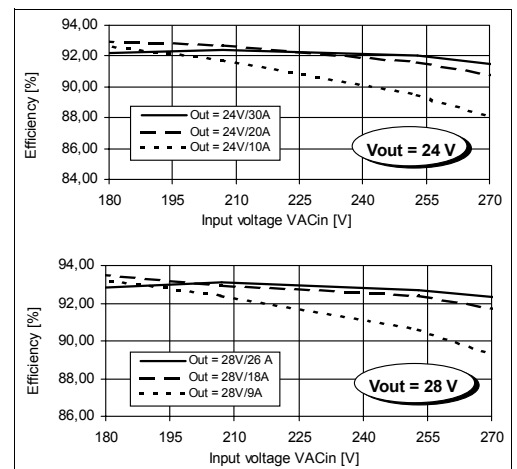
see page 2 of the „The SilverLine“ data sheet

**For detailed dimensions**  
see SilverLine mechanics data sheet SL30

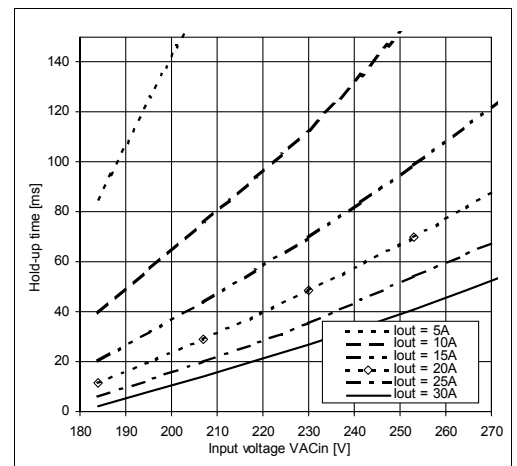
**Output V/I characteristic (typ.)**



**Efficiency (typ.)**



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



Unless 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:**



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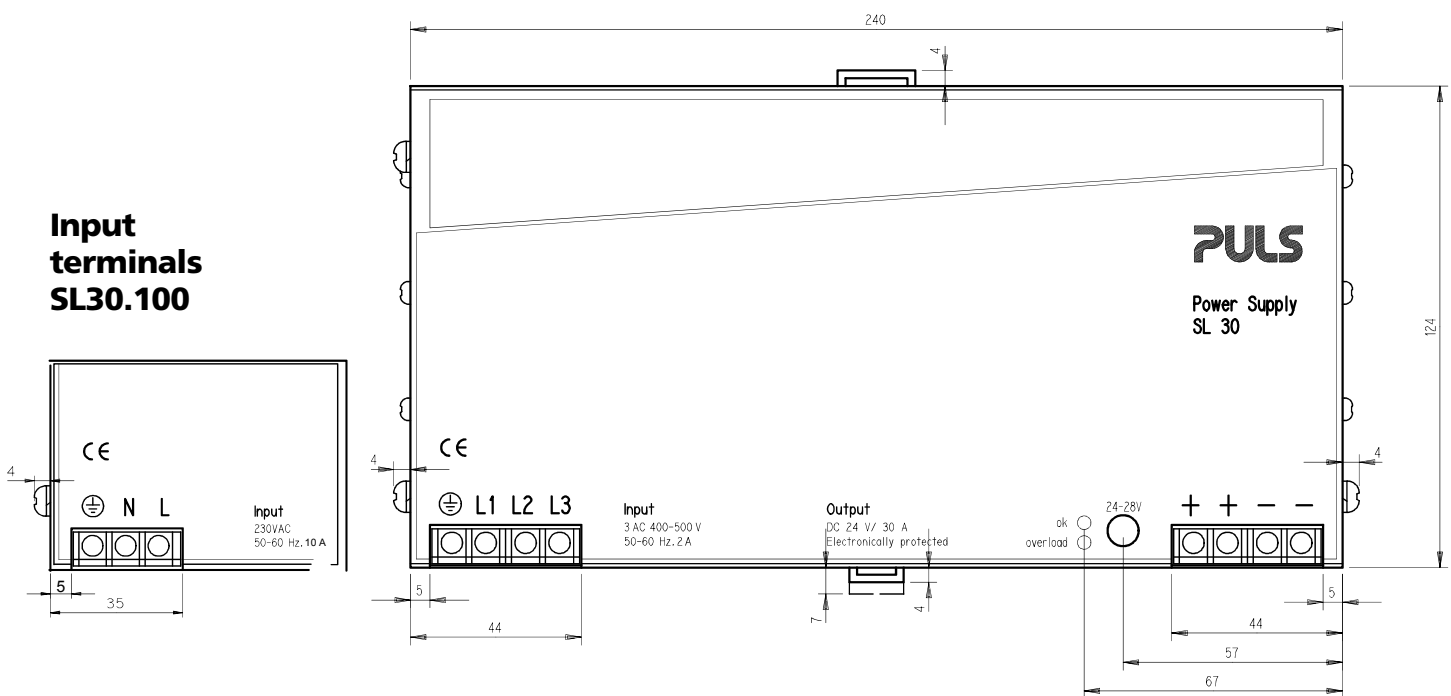
## SL30

- 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



Data sheet

Front view SL30.300



Input terminals SL30.100

### Construction / Mechanics

#### Housing dimensions and Weight

- W x H x D 240 mm x 124 mm x 112 mm (+ DIN rail)
- Free space for above/below 70 mm recommended ventilation left/right 25 mm recommended
- Weight 2 kg

Robust metal housing with fine ventilat. grid (◇ 3,5 mm, IP20), to keep out small parts (e.g. screws)

- Mounting
- on DIN-Rail (TS35/7.5 or TS35/15, 1...1.5 mm thick) therefore
    - Simple snap-on system
    - Sits safely and firmly on the DIN-Rail
    - No tools required to remove
  - or backplane-mounted (two optional screw mounting sets SLZ01 required)

### Connections

- |                             |   |
|-----------------------------|---|
| Connections                 | Screw terminals, connector size range: solid 0.5-6 mm <sup>2</sup> / flexible 0.5-4 mm <sup>2</sup> |
| • Input/Output              | 30 A per output   |
| • Current handling capacity | Two connectors per output, 9 mm distance between adjacent connectors                                |
| • Grid                      |   |

#### Design advantages:

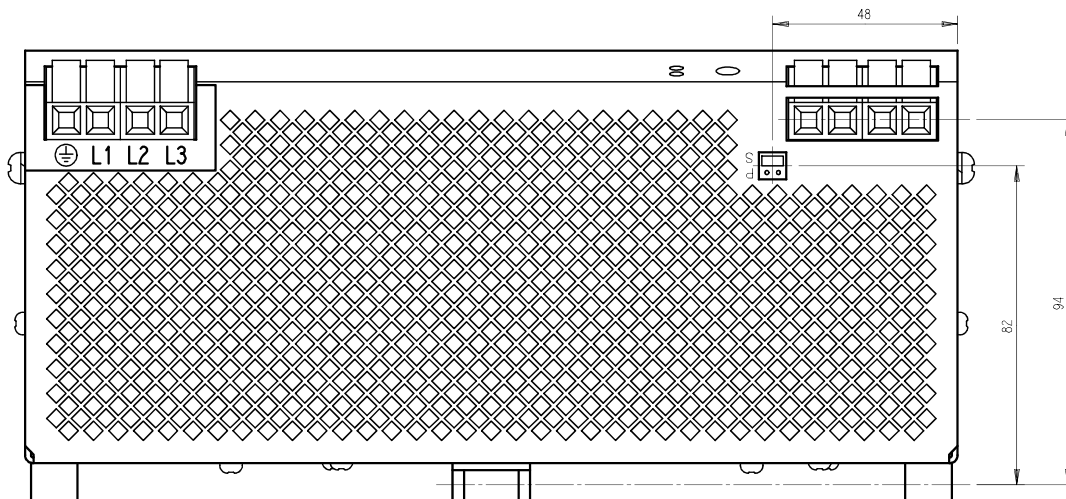
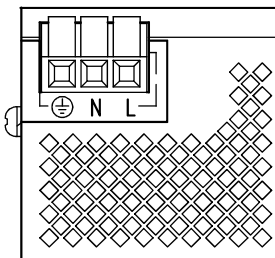
- All connection blocks are easy to reach as mounted at the front panel. Input and output are strictly apart from each other and so cannot be mixed up
- PVC insulated cable can be used for all connections, no thermal protection is needed

### Order information

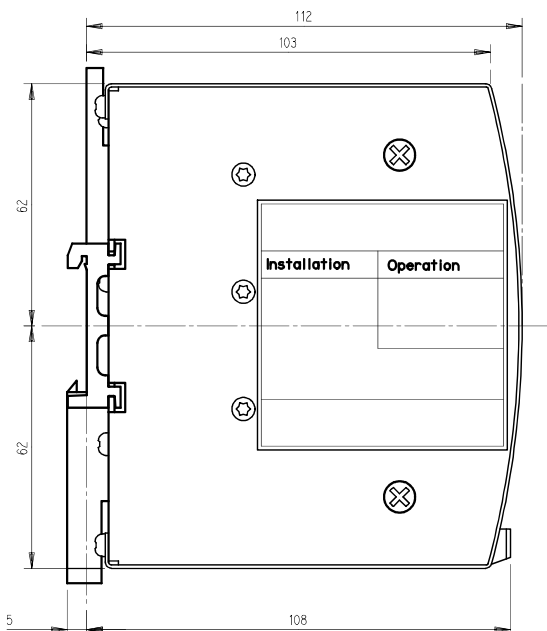
Order number	Description
SL30.100	
SL30.300	
SLZ01	Screw mounting set, two needed per unit

**Bottom view SL30.300**

Input terminals  
SL30.100  
bottom view



**Side view  
SL30.100, 30.300**



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

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