Data sheet

More Power: 30 A

SL30.300

- Input: 3 AC 400...500V
- Output: 24...28V / 720W
- 92.5% efficiency
- Ideal for parallel operation
- Simple fusing

EMC and Low Volt. Directive

UL60950 E137006 CUL/CSA-C22.2 No. 60950

UL508 LISTED IND. CONT. EQ. 18 WM, 60°C

IEC60950

Input

Input voltage	3 AC 400...500 V, ± 15 % 47-63 Hz, Suitable for IT power systems
Rated Tolerances	
• Continuous operation	340-576 V AC resp. 450-820 V DC
• Short term (1 min) at 24 V/30 A	300-620 V AC resp. 420-890 V DC
Input current	3 x 2.0 A
Inrush current	< 17 A bei 576 V AC

Inrush current limiting done with a fixed 47R 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 < 2 A^2s

To be fused with a 3 x 10A, B-type 'circuit-breaker' switch based on the usual thermomagnetic overload sensing principle (used anyway to fuse the input lines; unit has no internal fuses).

Harmonic current emissions (PFC)	acc. EN 61000-3-2
Transient handling	Active transient filter incorporated, so transient resistance acc.to VDE 0160 / W2 (1560 V / 1.3 ms), for *all* load conditions.
Hold up time	> 10 ms at 400 V AC, 24 V / 30 A

Efficiency, Reliability etc. *

Efficiency	typ. 92.5 % (400 VAC, 24 V / 30 A)
Losses	typ. 60 W (400 VAC, 24 V / 30 A)
MTBF	425,000 h @ 400 VAC, 360,000 h @ 480 VAC (Siemensnorm SN 29500 (Release 07.97), 24 V/30 A, T_{amb} = +40 °C)
Life cycle (electrolytics)	The unit exclusively uses longlife electrolytics, specified for +105°C (cf. 'The SilverLine', p.2). High reliability and lifetime, as • only four aluminium electrolytics and • no small aluminium electrolytics are used.

Output

Output voltage	24...28 V DC, adjustable by (covered) front panel potentiometer. Adj. range guaranteed
Output noise suppression	EN 61000-6-3 (class B) is fulfilled even when using long, unscreened output cabels
Ambient temperature range T_{amb}	Operation: 0°C...+70°C (>60°C: Derating) Storage: -25°C...+85°C
Rated continuous loading with convection cooling	
at T_{amb}=0°C - 60°C	24 V / 30 A (720 W) resp. 28 V / 26 A (728 W)
Derating	typ. 18 W/K (at T_{amb}=+60°C...+70°C)
Voltage regulation	better than 2% over all
Ripple	(incl. spikes (20 MHz bandw.), 50 Ω measurem.)
• Output charact. S	< 20 mV_{PP} (< 0.1 %)
• Output charact. P	< 40 mV_{PP} (In: 230VAC, Out: 24V/30A)
(S/P **S**ingle/**P**arallel Mode)	< 100 mV_{PP} (In: 184VAC, Out: 24V/30A)
Over-voltage protection	At 32 V ± 10%: switch to hiccup mode
Front panel indicators:	• Green LED on, when $V_{out} > U_T$, where U_T is ca. 2 V below Vout adjusted (24V...28V) • Red LED on, when 10 V < V_{out}< U_T • Red LED flashes, when 0 V < V_{out} < 10 V
Parallel operation	Yes, up to ten SL30 units

To achieve current sharing the output V/I characteristic can be altered to be 'softer' (25V at 0.4A, 24V at 30A). This is done by repositioning a bridge connection (without opening the unit).

Power Back Immunity 35 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	2.0 kg

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.

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

Order information

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

Start / Overload Behaviour

Startup delay	typ. 0.2 s
Rise time	ca. 20-80 ms, depending on load
Duration of switch-on attempts at	
• Initial application on mains	ca. 1.4 s
• Subsequent attempts	ca. 0.5 s
Hiccup operation at	V_{out} < ca. 10 V
Duration between switch-on attempts	ca. 1 s

Electronic current limiting, protects against overload and short circuit:
- V_{out} < ca. 10 V: Periodical switch-on attempts (hiccup-mode).
- V_{out} > ca. 10 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.

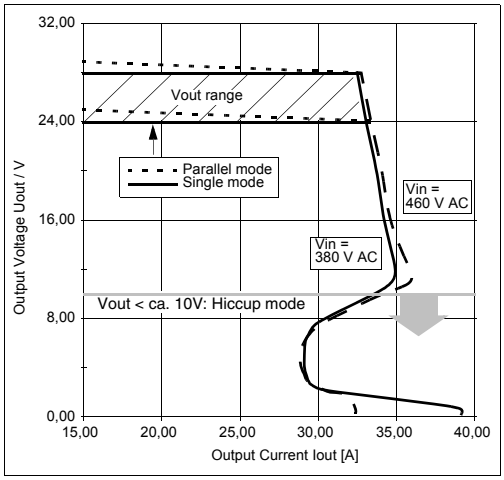
Further Information

For further information, especially about
- EMC
- Connections
- Safety, Approvals
- Mechanics und Mounting,

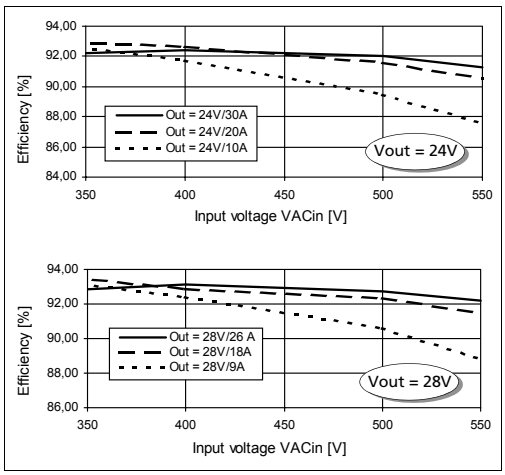
see page 2 of the „The SilverLine“ data sheet.

For detailed dimensions
see SilverLine mechanics data sheet SL30

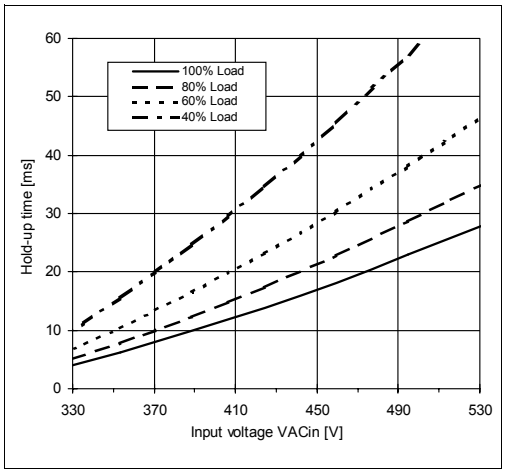
Output V/I characteristic (typ.)



Efficiency (typ.)



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



Specifications valid for 3 x AC 400V input voltage, +25°C ambient temperature, and 5 min run-in time, unless otherwise stated. They are subject to change without prior notice.

Your partner in power supply:

ISO 9000:2000 certified

EPSMA European Power Supply Manufacturers Association

AWARDED Bayerns Best 50 Czech 100 Best EuropeÖs 500

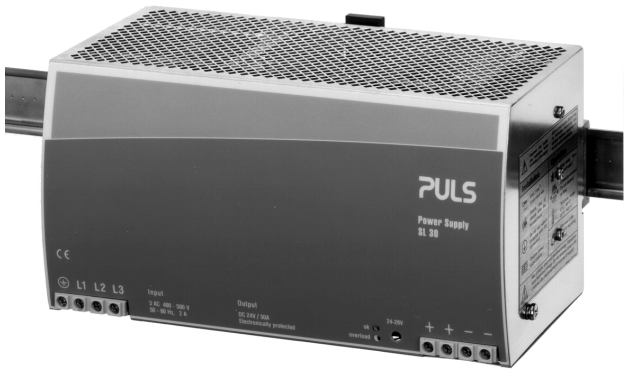
PULS GmbH
Arabellastraße 15
D-81925 München
Tel.: +49 89 9278-0
Fax: +49 89 9278-199
www.puls-power.com

Data sheet

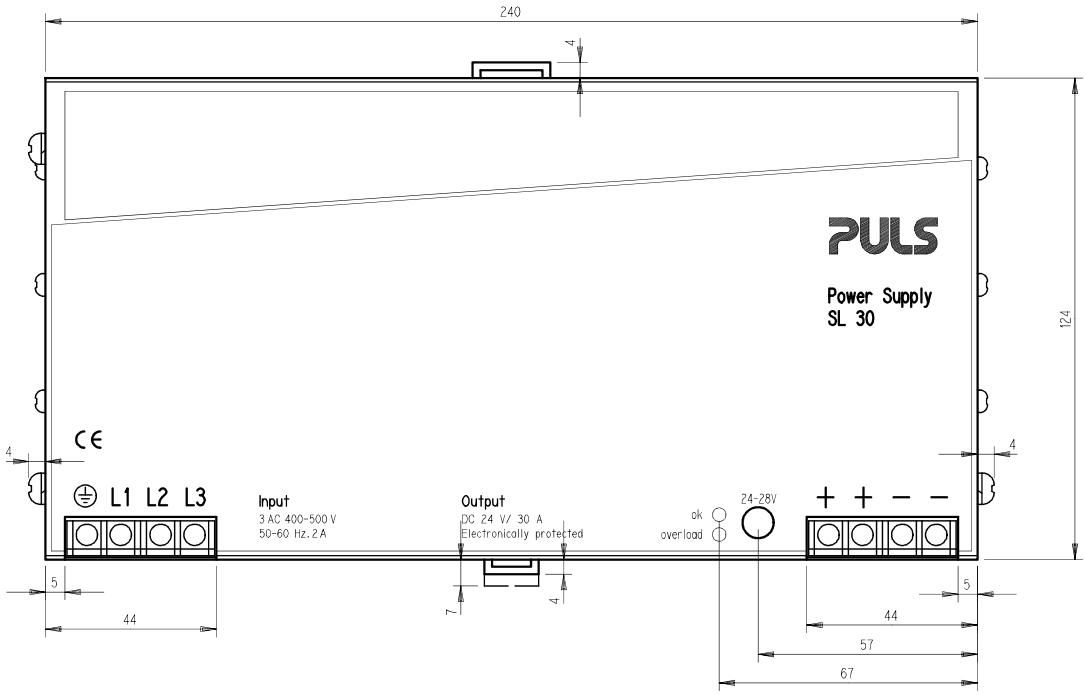
Mechanics

SL30

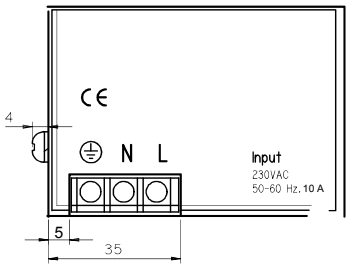
- Innovative DIN-Rail mount, unit holds even at vibration or lateral pressure
- Clearly arranged and user oriented
- Large, robust screw terminals
- Sealed metal housing
- Fine ventilating grid



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 ventilation	above/below 70 mm recommended 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:
• Input/Output	solid 0.5-6 mm^2 / flexible 0.5-4 mm^2
• Current handling capacity	30 A per output Two connectors per output,
• Grid	9 mm distance between adjacent connectors

Design advantages:

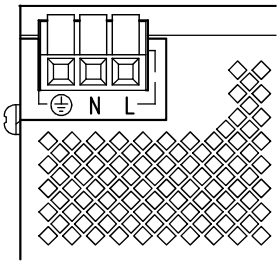
- All connection blocks are easy to reach as mounted at the front panel. Input and output are strictly apart from each other and so cannot be mixed up
- PVC insulated cable can be used for all connections, no thermal protection is needed

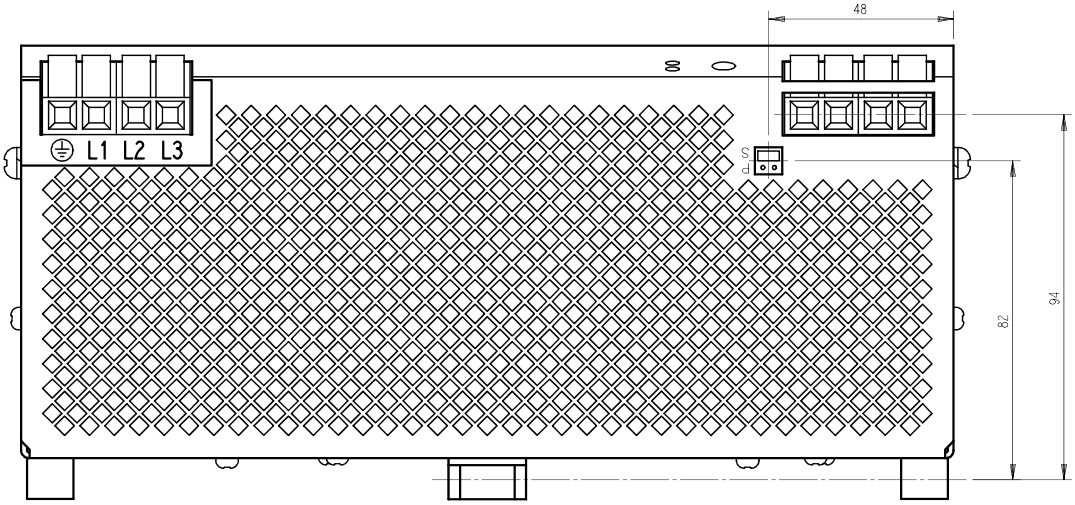
Order information

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

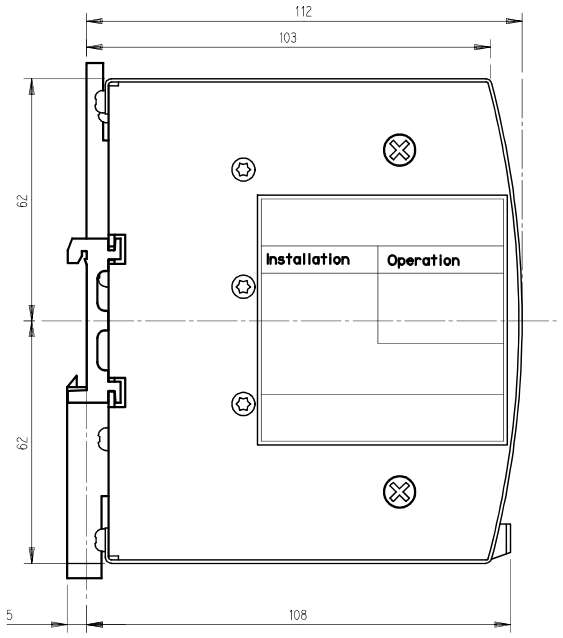
Bottom view SL30.300

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

Your partner in power supply:

ISO 9000:2001 certified

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PULS GmbH
Arabellastraße 15
D-81925 München
Tel.: +49 89 9278-0
Fax: +49 89 9278-199
www.puls-power.com