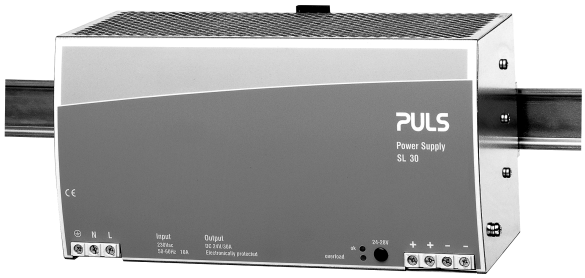
Data sheet

30 A Single-Phase

SL30.100

- Input: AC 208-240V
- Output: 24...28V / 30A
- 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

CB scheme
IEC60950

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^2s

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

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 = **S**ingle/**P**arallel 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.
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 • Output charact. S • Output charact. P (see Note)	(incl. spikes (20 MHz bandw.), 50 Ωmeasurem.) < 50mV_{PP} (< 0,2 %) < 100mV_{PP} (In: 230VAC, Out: 24V/30A) < 150 mV_{PP} (In: 184VAC, Out: 24V/30A)
Over-voltage protection	At 33 V ± 10%: switch to hiccup mode

Front panel indicators:
- Green LED on, when $V_{out} > U_T$, where U_T is appr. 2 V below V_{out} adjusted (24V...28V)
- Red LED on, when appr. 14 V < $V_{out} < U_T$
- Red LED flashes, when 0 V < V_{out} < appr. 14 V

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 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} < appr. 14 V
Duration between switch-on attempts	appr. 1 s

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

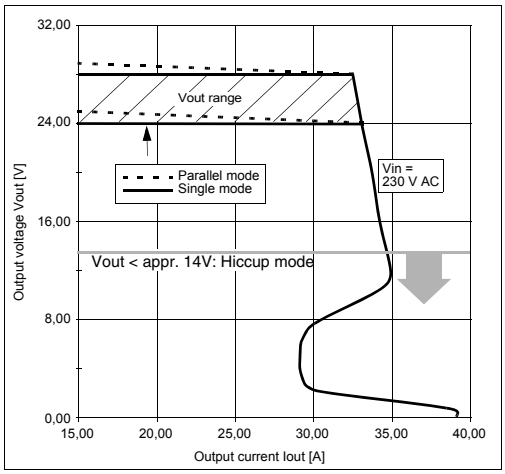
Further Information

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

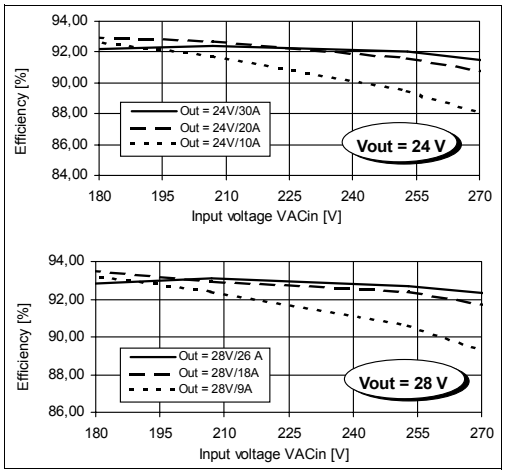
see page 2 of the „The SilverLine“ data sheet

For detailed dimensions
see SilverLine mechanics data sheet SL30

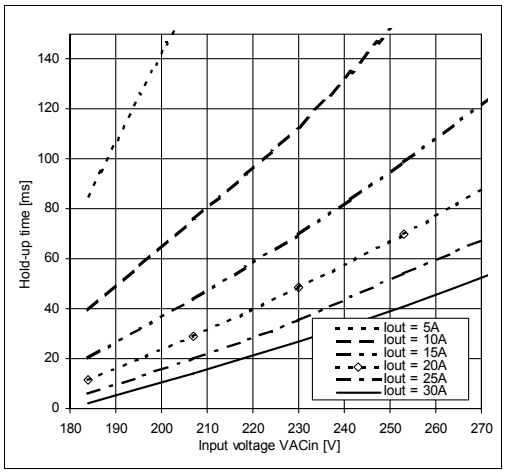
Output V/I characteristic (typ.)



Efficiency (typ.)



Hold-up time (min., at V_{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:

ISO 9000:2000 certified

EPSMA European Power Supply Manufacturers Association

AWARDED Bayerns Best 50 Czech 100 Best EuropeÕs 500

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