

More Power: 30 A

PULS

SL30.300

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



CE
EMC and
Low Volt.
Directive

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

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

CB
scheme
IEC60950

Data sheet

Input

Input voltage	3 AC 400...500 V, $\pm 15\%$ 47-63 Hz, Suitable for IT power systems
Rated Tolerances	<ul style="list-style-type: none"> • 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 ² s
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 <ul style="list-style-type: none"> • only four aluminium electrolytics and • no small aluminium electrolytics are used.

Order information

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

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 cables
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.) <ul style="list-style-type: none"> • Output charact. S < 20 mV_{pp} (< 0.1 %) • Output charact. P < 40 mV_{pp} (In: 230VAC, Out: 24V/30A)
(S/P Single/Parallel Mode)	< 100 mV _{pp} (In: 184VAC, Out: 24V/30A)
Over-voltage protection At 32 V $\pm 10\%$: switch to hiccup mode	
Front panel indicators:	<ul style="list-style-type: none"> • Green LED on, when V_{out} > U_T, where U_T is ca. 2 V below V_{out} 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	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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

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	$V_{out} < \text{ca. } 10 \text{ V}$
Duration between switch-on attempts	ca. 1 s

Electronic current limiting, protects against overload and short circuit:

- $V_{out} < \text{ca. } 10 \text{ V}$: Periodical switch-on attempts (hiccup-mode).
- $V_{out} > \text{ca. } 10 \text{ V}$: 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

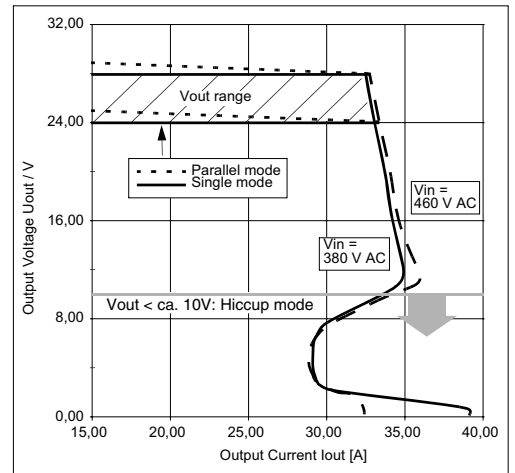
For further information, especially about

- EMC
 - Connections
 - Safety, Approvals
 - Mechanics und Mounting,
- see page 2 of the „The SilverLine“ data sheet.

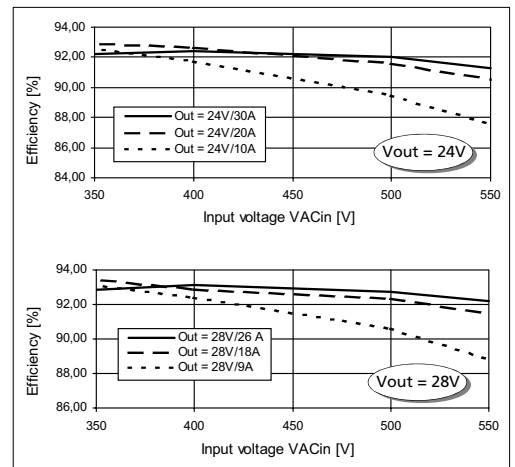
For detailed dimensions

see SilverLine mechanics data sheet SL30

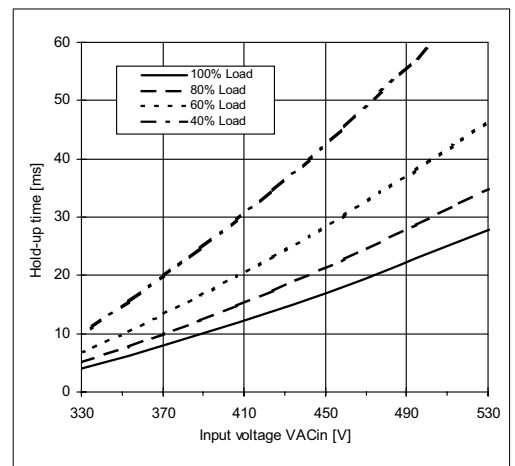
Output V/I characteristic (typ.)



Efficiency (typ.)



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



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.