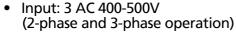
10 A 3-phase

SL10.300 SL10.309 (Conformal Coated)



- Output: 24-28V / 240W
- Power Boost up to 288W
- External primary fuse not necessary
- Switchable operating mode (single/parallel)
- Switchable overload behaviour options (Fuse Mode / Continuous Mode)









This compact power supply unit is characterised by the variety of possibilities of application and low system costs. The fact that the external fuses are no longer necessary is an advantage as it saves cost and space. The switchable Fuse Mode, the fully specified 2-phase operation and the extremely comprehensive approvals package including EN60204 make the SL10.300 the unit of choice.

Input

Data sheef

Nominal input voltage 2 AC and 3 AC 400-500V 47...63Hz, suitable for IT power systems

Rated tolerances (at 24V/10A) 2-phase and 3-phase operation Continuous operat. AC 340...576V resp. DC 450...820V

Short-term (1 min.) AC 300...620V resp. DC 400...890V Pls. ask for 'application notes' at operation with DC input voltage.

2-phase operation is specified and permissible. Connection to 3 phases is recommended due to reduced component stress.

Internally fused on each phase. External fusing is only necessary as required for input line protection.

Input current 3 x 0.8/0.7A at AC 400/500V (at 24V/10A) 2 x 1.2/1A at AC 400/500V

Inrush current (supply impedance acc. EN61000-3-3)

	AC 400V	AC 500V	AC 575V	DC 820V
Peak current	15.4A	15.4A	17.0A	17.9A
I ² t	<0.26A ² s	<0.44A ² s	<0.59A ² s	<0.72A ² s

EN 61000-3-2 (harmonic current emissions [PFC]) is fulfilled

Transient handling	Transient resistance acc. to VDE 0160/W2 (1300V/1.3ms), for all load conditions
Emissions	3-phase and 2-phase operation: acc. to EN 61000-6-3 (Class B)
Hold-up time	>24ms (3-phase operat. @ AC 400V, 24V/10A) >20ms (2-phase operat. @ AC 400V, 24V/10A)

*For further information, particularly about

- EMC, Connections
- Safety, Approvals,
- Mechanics and Mounting: see data sheet, The SilverLine" pg. 2
- Detailed dimensions: see SilverLine mechanics data sheet SL10.300

At a competitive price, it also offers **12A power boost**, 20A short circuit current, output noise suppression, optional Single Mode or Parallel Mode, small dimensions, more than 500,000h MTBF as well as easy installation. The unit can be connected to European and American power supply networks without switching.

Output

Output voltage	DC 24-28V, adjustable by (covered) front panel potentiometer, preset: 24.5V ±0.5% Adjusting range guaranteed	
Output noise suppression	Conducted EMI values below EN61000-6-3, even when using long, unscreened output cables.	
Ambient temperature range T _{amb}	Operation: 0°C+70°C (>60°C with Derating) Storage: -25°C+85°C	
Derating	6W/K (at $T_{amb} = +60^{\circ}C+70^{\circ}C$)	

Rated continuous loading with convection cooling

 $T_{amb} = 0$ °C - 60°C 24V/10A (240W) resp. 28V/8.6A (240W) $T_{amb} = 0^{\circ}C - 45^{\circ}C$ 24V/12A (288W) resp. 28V/10.3A (288W)

Output is protected against short-circuit, open circuit and overload.

Voltage regulation	<2% over all, jumper in 'Single Mode' position	
Ripple/Noise	<30mV _{PP} (20MHz bandwidth)	
Overvolt. protection	typ. 36V, max. 39V	
Power back immunity	min. 34V	
Parallel operation	Yes, up to five units.	

To achieve current sharing:

- Plug jumper into pos. 'Output parallel use'. This alters the output V/I characteristic to be 'softer' (25V at 1A, 24V at 10A). The output voltage can still be adjusted.
- Missing jumper = 'Single Use', i.e. 'hard' characteristic

Front panel indicator:

- Green LED on, when V_{out} > 18V Red LED flashes after switch-off in the Fuse Mode

Construction / Mechanics*

Housing dimensions and Weight

WxHxD 89mm x 124mm x 117mm (+ DIN rail) Free space for conabove/below 50mm recommended vection cooling left/right 20mm recommended Weight

Design advantages:

- All connection blocks are easy to reach as mounted on the front
- PVC insulated cable can be used for all connections, as the connection blocks are mounted on the cooler area on the underside of the unit.

Order information

Order number	Description
SL10.300/	SLZ13 (adapter for S7-300 rail)
SL10.309	SLZ02 (wall mounting set; contains 2 pcs.)

sl10e300 /SL10 309 / 061020 1/2



Efficiency, Reliability etc.

Efficiency / Power loss:

3-phase operation

typ. 91.2% / P_{loss} = 23.6W (400V) typ. 92% / P_{loss} = 21.4W (500V) typ. 90.9% / P_{loss} = 24.5W (400V)

2-phase operation

MTBF acc. to Siemensnorm SN 29500 at 24V/10A, AC 400V, $T_{amb} = +40$ °C

3-phase operation 543.000h 525,000h 2-phase operation

Life cycle (electrolytics) The unit exclusively uses longlife electrolytics,

specified for +105°C

Start Behaviour

Startup delay typ. 100ms

Rise time appr. 5-20ms, depending on load

Overload Behaviour

Two different operating mode options, switchable by plugging the frontpanel jumper. If the jumper is missing, the unit is in the Fuse Mode. The unit is delivered preset in Continuous Mode.

a) Continuous Mode (continuous current):

- Jumper is in the 'OVL cont. mode' position.
- When overload or short-circuit occurs, the unit continuously supplies current (see. diag. 1), no Hiccup.

Advantage: The unit starts reliably even with heavy, non-linear loads (high capacities, DC-DC converters, motors). The high short-circuit current triggers downstream fuses, and allows for selective configuration of electrical installations

b) Fuse Mode (Switch-off after typ. 5s):

- Jumper is in the 'OVL fuse mode' position.
- When overload or short-circuit occurs for more than typ. 5s, the unit switches off the output.
- Definition of overload or short-circuit: The set output voltage in each case can no longer be maintained.
- The capacity to deliver current (PULS Overload Design™) (see diag. 1)
 - remains unchanged during the typ. 5s delay time.
- Red LED flashes at switch-off.

Feature: With some applications, the Fuse Mode can replace the usual fusing on the secondary side. The Fuse Mode has closer tolerances than thermal trips. The release delay time of typ. 5s ensures that motors can be reliably operated.

Re-start:

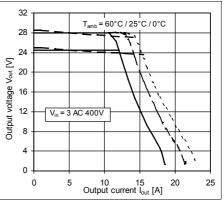
- by pushing the reset button on the unit's front panel
- by disconnection from mains and re-start of the unit after > 1 min. or as soon as the red LED stops flashing

Overtemperature Protection

Continuous Mode Switch-off and automatic re-start after cooling. Fuse Mode Unit remains switched off after overheating until restart (also see 'Re-start' above).

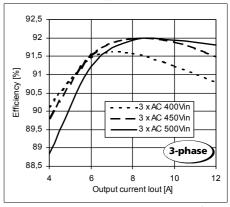
Functional diagrams

Output characteristic (min.)



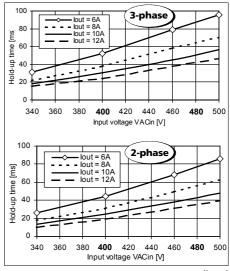
diag. 1

Efficiency (typ., @ Vout=24.5V)



diag. 2

Hold-up time (typ., @ V_{out}=24.5V)



diag. 3

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

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European Power Supply Manufacturers Association



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