

5 A with power boost

SL5.100

- Input: AC 230V / 115V
- Output: 24V / 5A
- Power boost up to 6A
- High overload current, no switch-off
- Quasi-Wide-Range Input
- Robust mechanics and EMC

PULS



CB
scheme
IEC60950

UL
US

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

UL
US

UL60950 E137005
CUL/CSA-C22.2
No 60950

CE

EMC and
Low Volt.
Directive

Data sheet

Input

Input voltage	AC100-120/200-240 V (switchable), 47-63 Hz (85-132 VAC / 176-264 VAC, 210-375 VDC, see also „Output: Continuous Loading“)
Quasi-Wide-Range Input: With the switch in the 230V position the power-supply unit operates at low and moderate loads (until 3 A) at any input voltage between 95 and 264 V AC (see 'Output' below). Note: At DC input, always leave the switch in the 230V position	
Input current	< 2.6 A (switch in 115V position) < 1.4 A (switch in 230V position)
• DCin at open output	typ. 5 mA (preserves battery sources)
Inrush current	typ. 15 A at 264 V AC and cold start
To be fused with a 10A, B-type 'circuit-breaker' switch based on the usual thermomagn. overload sensing principle (used anyway to fuse the input lines). In addition, the unit contains an internal fuse (not accessible)	
EN 61000-3-2 (harmonic current emissions) is fulfilled	
Transient handling	Transient resistance acc. to VDE 0160 / W2 (750 V / 1.3 ms), for all load conditions.
Hold up time	> 37 ms at 196 VAC, 24 V / 5 A (see Diagram overleaf)

Efficiency, Reliability etc.*

Efficiency	typ. 90 % (230 VAC, 24 V / 5 A)
Losses	typ. 13,3 W (230 VAC, 24 V / 5 A)
MTBF	520,000 h acc. to Siemensnorm SN 29500 (24 V/5 A, 230 VAC, T _{amb} = +40 °C)
Life cycle (electrolytics)	The unit exclusively uses longlife electrolytics, specified for +105°C (cf. 'The SilverLine', p.2).

Construction / Mechanics*

Housing dimensions and Weight	
• W x H x D	64 mm x 124 mm x 102 mm (+ DIN rail)
• Free space for ventilation	above/below 25 mm recommended left/right 15 mm recommended
• Weight	620 g
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 (Input below, output above).	

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

Output

Output voltage	24 V DC +5 % -1%			
Output noise suppression	Radiated EMI values below EN 61000-6-3, even when using long, unscreened output cables.			
Ambient temperature range T _{amb}	Operation: -10°C...+70°C (>60°C: Derating) Storage: -25°C...+85°C			
Continuous loading (at T _{amb} = -10°C...+60°C, convection cooling), see also diagram overleaf. For start at T _{amb} < 0°C and low input voltage, please contact PULS.	Switch	AC/DCin	I _{out}	
	230V	176-264 V	ACin	5 A / 6 A *
		95-176 V	ACin	3 A
		210-375 V	DCin	5 A / 6 A *
		150-210 V	DCin	3 A
		100-150 V	DCin	2 A
Output is protected against short circuit, open circuit and overload	115V	85-132 V	ACin	5 A / 6 A *
	* short-term 6 A (< 1 min), at 45°C or forced cooling even continuous			
Derating	typ. 3 W/K (at T _{amb} =+60°C...+70°C)			
Voltage regulation	better than 2% V _{out} overall			
Ripple / Noise	< 50 mV _{pp} , (20 MHz bandw., 50 Ω measurem.)			
Overvolt. protection	typ. 29 V			
Parallel operation	yes; current sharing available on request			
Power back immunity	26 V			
Front panel indicator	Green LED, goes out at V _{out} <18V			

Start / Overload Behaviour

Startup delay	typ. 0.1 s
Rise time	ca. 5-20 ms, depending on load
Overload Behaviour	• Special PULS Overload Design (see diagram overleaf) • 20% power boost
	– no disconnection, no hiccup if overloaded – high overload current (up to 1.9 I_{Nom}), V_{out} is gradually reduced with increasing current. – 6A short-term, at 45°C or forced cooling even continuous

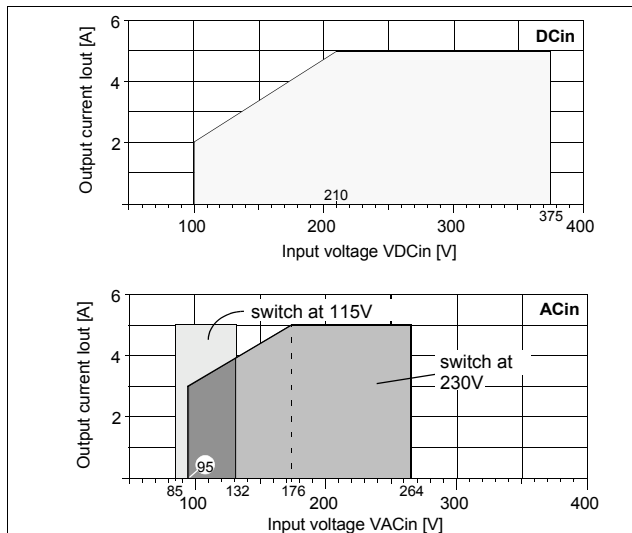
Advantages:

- High short-circuit current, giving large 'start-up window': unit starts reliably even with awkward loads (DC-DC converters, motors).
- No 'sticking' such as can occur with fold-back characteristics
- Secondary fuses operate reliably

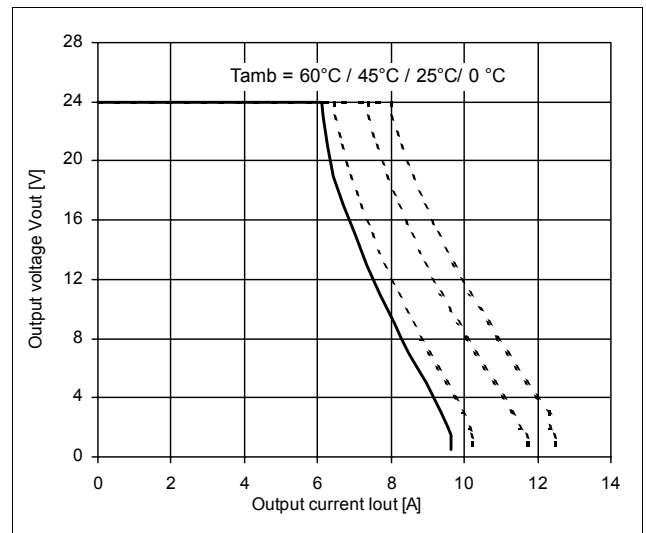
Order information

Order number	Description
SL5.100	(Basic version*)
SLR5.100	(N+1 redundancy*)
SLS5.100	(Safety Cover*)
SLZ01	Screw mounting set, two needed per unit

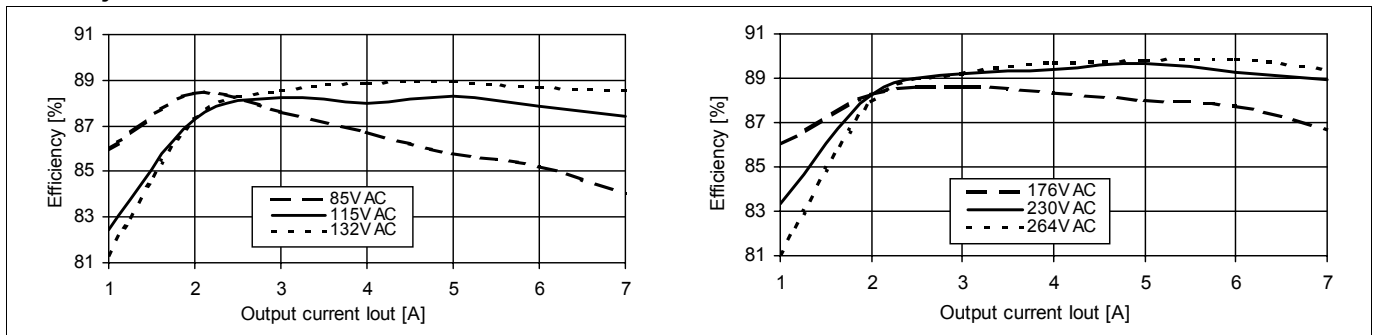
Output Current over Input Voltage (min.)



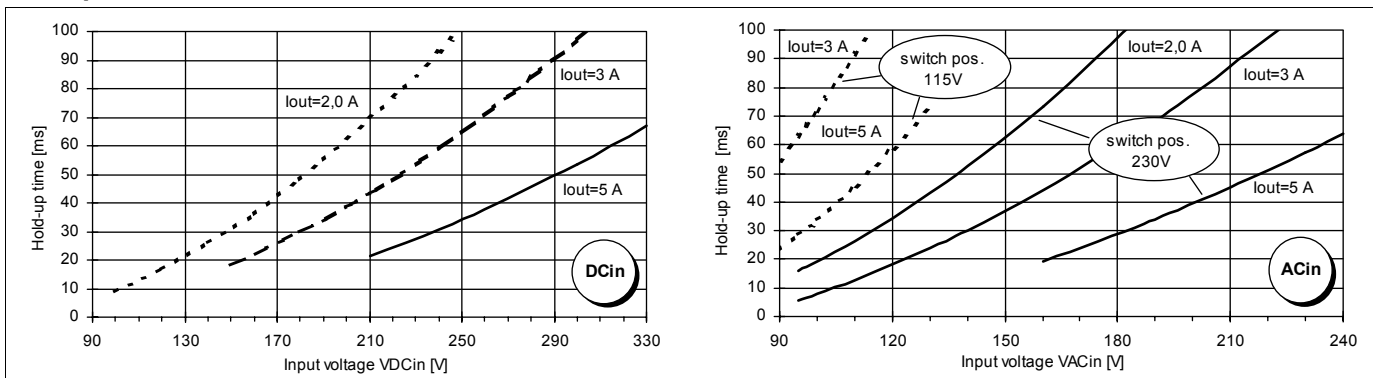
Output characteristic (min.)



Efficiency (min.)



Hold-up time (min.)



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 SL2.5/ SL5/ SL10

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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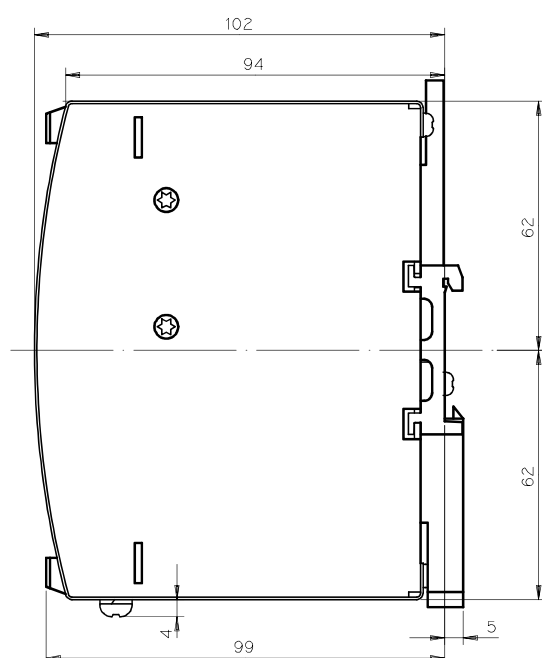
SL2.5/ SL5/ SL10

- 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

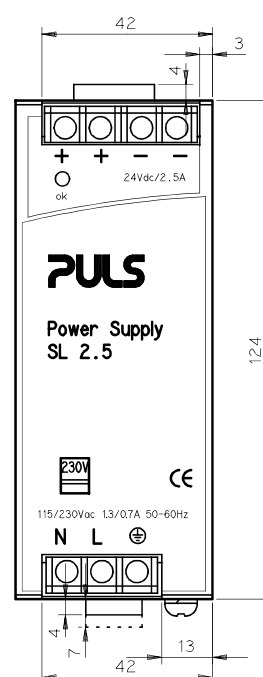


Data sheet

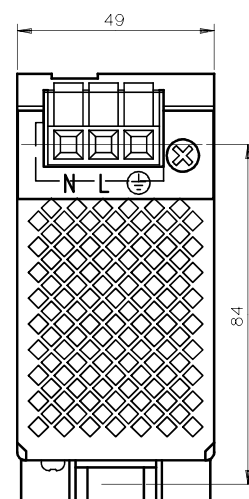
Side view SL2.5



Front view SL2.5



Bottom view SL2.5



Construction / Mechanics

Housing dimensions and Weight			Free space for ventilation		
Unit	W x H x D [mm]	weight	left	above/below right	
• SL2.5	49 x 124 x 102	460 g	0 mm	25 mm each	10 mm
• SL5.10x	64 x 124 x 102	620 g	15 mm	25 mm each	15 mm
• SL5.300	73 x 124 x 117	730 g	15 mm	50 mm each	15 mm
• SL10	120 x 124 x 102	980 g	15 mm	25 mm each	15 mm

Overall depth = depth value as mentioned + DIN rail depth

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

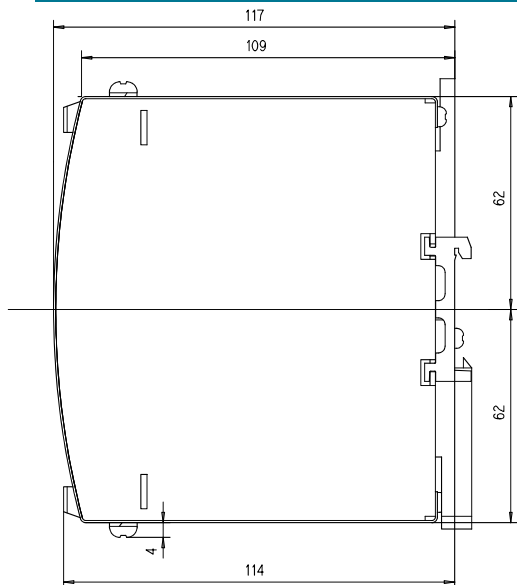
Mounting	on DIN-Rail (TS35/7.5 or TS35/15, 1...1.5 mm thick), thus
	• Simple snap-on system
	• Sits safely and firmly on the DIN-Rail
	• No tools required to remove
	or backplane-mounted
	(two optional screw mounting sets SLZ01 required)

Connections

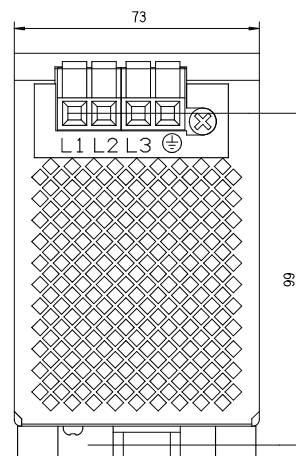
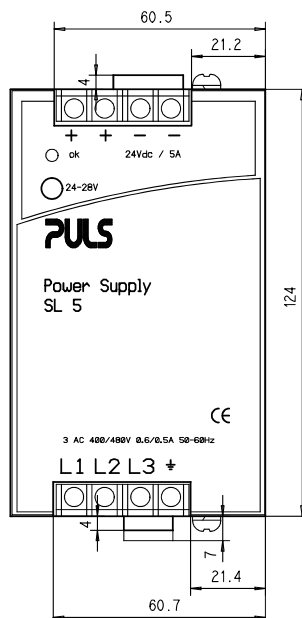
Connections	Screw terminals, connector size range: solid 0.5- 6 mm ² / flexible 0.5- 4 mm ²
	30 A per output
• Input/Output	Two connectors per output, 9 mm distance between adjacent connectors
	• Current handling capacity
• Grid	Design advantages:
	• All connection blocks are easy to reach as mounted at the the front panel.
	• Input and output are strictly apart from each other and so cannot be mixed up

Order information

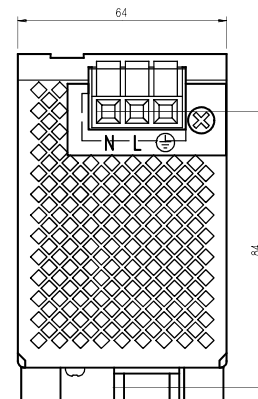
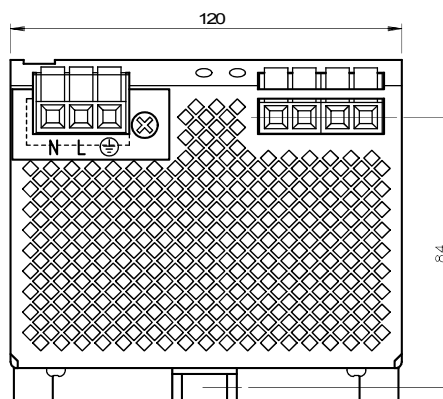
Order number	Description
SL2.100	24V/2.5A
SL2.103	12-15V/40W
SL5.100	24V/5A
SL5.102	24-28V/120W
SL5.105	24-28V/120W
SL5.300	24-28V/120W, 3AC400-500V input
SL10.100 and SL10.105	24-28V/240W
SL10.101	48-56V/240W
SLZ01	Screw mounting set, two needed per unit



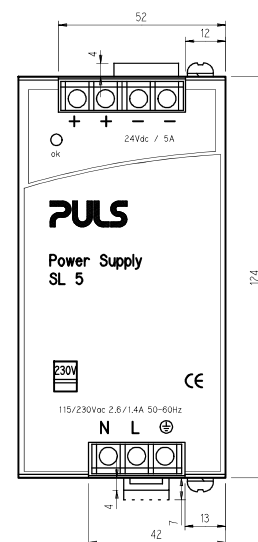
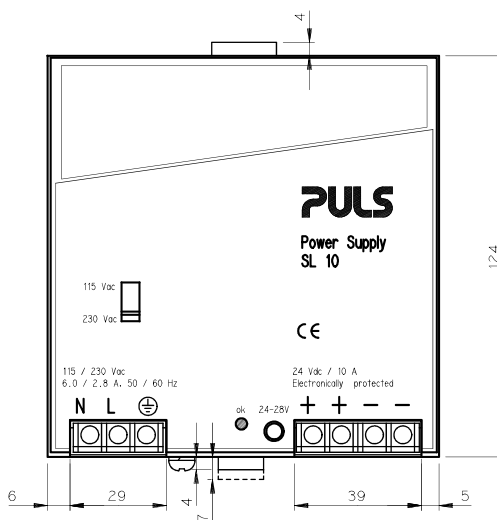
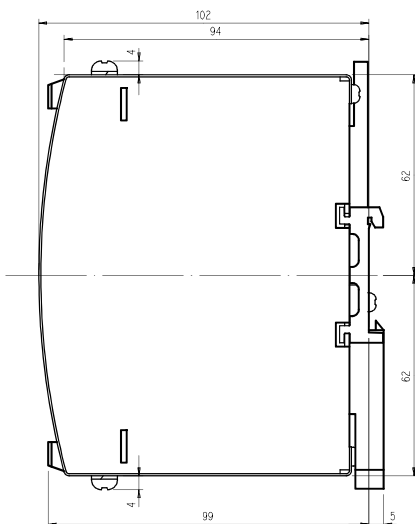
All views SL5.300



**Bottom view
SL10 SL5.10x**



**Side view and front view
SL10, SL5.10x**



his '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 SL2.5, SL5 and SL10 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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