Data sheet

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

CB Scheme IEC60950

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

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

CE EMC and Low Volt. Directive

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.

Output is protected against short circuit, open circuit and overload

Switch	AC/DCin		Iout
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
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% Vout 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

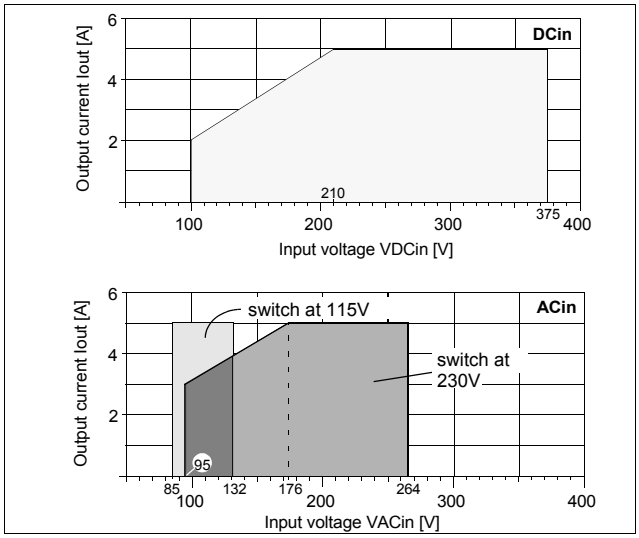
Overload Behaviour	
• Special PULS Overload Design (see diagram overleaf)	– no disconnection, no hiccup if overloaded – high overload current (up to 1.9 I_{Nom}), Vout is gradually reduced with increasing current.
• 20% power boost	– 6A short-term, at 45°C or forced cooling even continuous

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

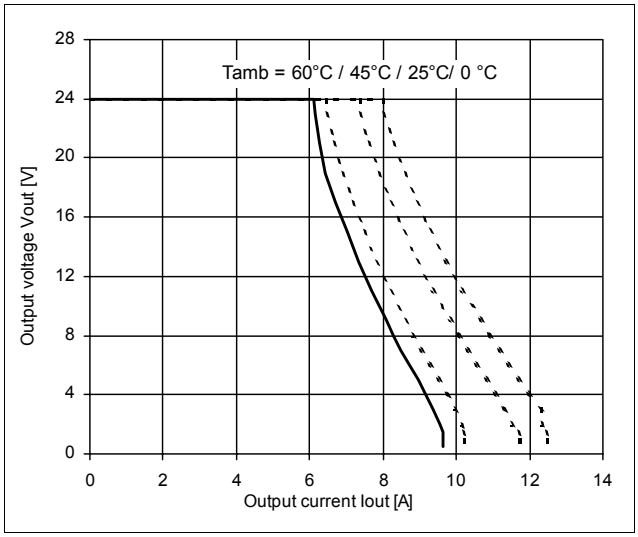
Order information

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

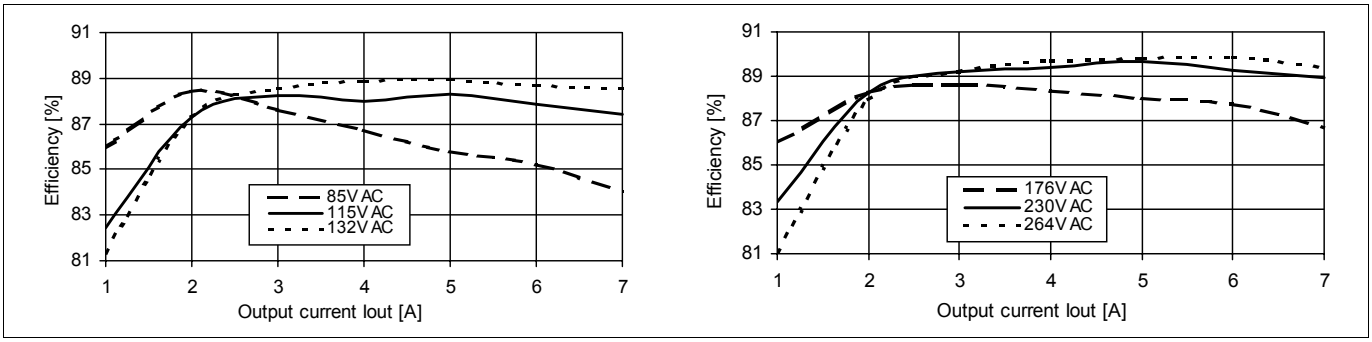
Output Current over Input Voltage (min.)



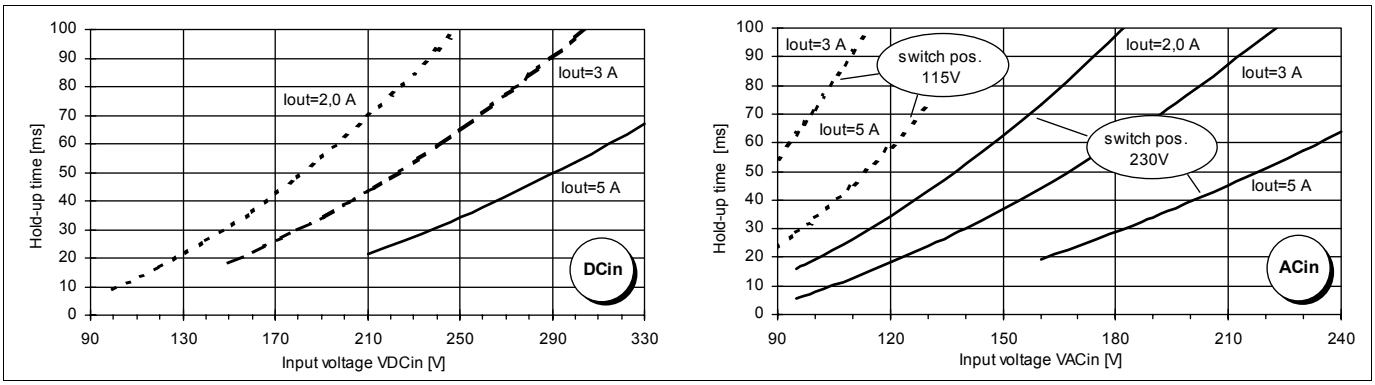
Output characteristic (min.)



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:

EPSMA European Power Supply Manufacturers Association

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