Data sheet

5 V output

SLD2.100

- DC/DC converter for the SilverLine
- Input: DC 18...36 V
- Output: 5.1 V / 8 A
- MOSFET inverse battery protection
- Active in-rush current limiting



PULS

CE
EMC and Low Volt. Directive

Input

Inpt voltage	18...36 VDC, short term 16...40 V DC (min. 18 V for start)
Inverse battery protection	via low-loss MOSFET, no fuse replacement necessary
Input current	< 2.9 A (at Vin=18 V, nominal load) < 1.5 A (at Vin=36 V, nominal load)
• with open output	typ. 19 mA (preserves battery sources)
In-rush current	typ. < 5.1 A

Inrush current limiting done with a fixed 4.7R 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.

Hold-up time	> 10 ms at Vin=24 VDC, Vout=5.1 V/8 A

Efficiency, Reliability etc.*

Efficiency	typ. 82 %	(24 VDC, 5 1 V/8 A)
Losses	typ. 8.5 W	(24 VDC, 5.1 V/8 A)
MTBF	510.000 h acc. to Siemensnorm 29500 (5.1 V/8 A, 24 VDC, T_U = +40 °C)	
Electrolytics (lifecycle)	The unit exclusively uses longlife electrolytics, specified for +105°C (cf. 'The SilverLine', p.2).	

Start / Overload Behaviour

Startup delay	typ. 0.3 s
Overload Behaviour	Almost straight charact., see diagram overleaf

Construction / Mechanics*

Housing dimensions and Weight

• W x H x D	49 mm x 124 mm x 102 mm (+ DIN rail)
• Free space for ventilation	above/below 25 mm recommended right 10 mm recommended (front view)
• Weight	470 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).

Output

Output voltage	5.1 V DC ± 1%, adjustable 4.5 ... 5.5 V (at front panel)
Ambient temperature range T_{amb}	Operation: 0°C...+70°C (>60°C: Derating) Storage: -25°C...+85°C
Continuous loading	8 A (at T_{amb}=0°C ... 60°C, convection cooling)
Derating	typ. 1.5 W/K (at T_{amb}=+60°C...+70°C)
Voltage regulation	better than 1% Vout overall
Ripple / Noise	< 50 mV_{PP}, incl . spikes (20 MHz bandwidth, 50 Ω measurem.)
Overvolt. protection	typ. 6 V
Parallel operation	yes
Power back immunity	10 V
Front panel indicator	Green LED

Electromagnetic Compatibility (EMC)

Emissions	Class B (EN 55011, EN 55022) radiated noise Class A (EN 55011, EN 55022) line-bound noise
Immunity	EN 61000-6-2 (includes EN 61000-6-1)
• Static Discharge (ESD)	EN 61000-4-2, Level 4 (withstands 8 kV direct discharge, 15 kV air discharge)
• Electromagnetic radiated fields	EN 61000-4-3, Level 3 (10 V/m)
• Burst, coupled to: – DCin lines – DCout lines	EN 61000-4-4, Level 3 (2 kV) Level 3 (2 kV)
• Surge transients – Differential (±Vin → PE) – Common mode (+Vin → –Vin)	EN 61000-4-5, Isolation class 3 (2 kV) Isolation class 3 (1 kV)
• Conducted noise immunity	EN 61000-4-6, Level 3 (10V, 150 kHz-80 MHz)

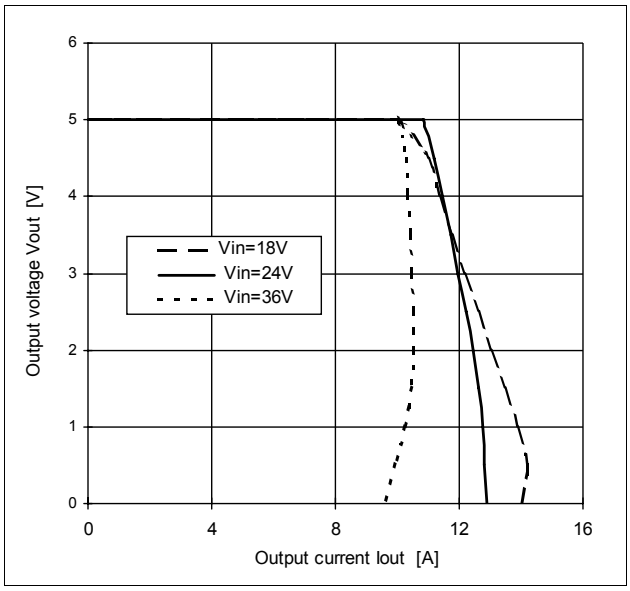
* *For further information see data sheets „The SilverLine" and „SilverLine Family Branches"

Order information

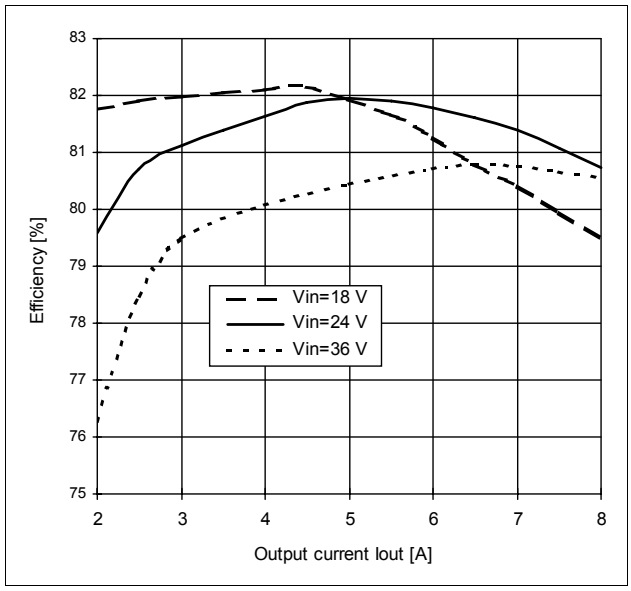
Order number	Description
SLD2.100	
SLZ02	Screw mounting set

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V/I Output characteristic (typ.)



Efficiency (typ.)



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.

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