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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## SL20.100

- Input: AC 230V
- Output: 24-28V / 480W (600W)
- 91% efficiency
- Ideal for parallel operation
- Simple fusing



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



## Input

Input voltage AC 230V, +15%, - 20%  
47...63Hz  
(SL20.300/.301: 3 AC 400/480V,  
see separate data sheet)

## Rated Tolerances

- Continuous operation AC 184...264V resp.  
DC 270...370V
- Short term (1 min) at 24 V/20 A AC 170...280V resp.  
DC 250...400V

Input current 5A

Inrush current typ. 33A at AC 264V

Inrush current limiting done with a fixed 15R 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 <math><10A^2s</math>

Unit is internally fused (fuse not accessible). For external fusing of unit and for input line protection, use circuit breaker with B-characteristic 10A or slower action, or alternatively T10A HBC fuse.

Harmonic current emissions (PFC) SL20.100 on request  
SL20.101 acc. to EN61000-3-2

Transient handling Active transient filter incorporated, so transient resistance acc.to VDE 0160 / W2 (750V/1.3ms), for *all* load conditions.

Hold up time >20ms  
at AC 230V, 24V/20A

## Efficiency, Reliability etc.\*

Efficiency typ. 91% (AC 230V, 24V/20A)

Losses typ. 48W (AC 230V, 24V/20A)

MTBF 310.000h acc. to Siemensnorm SN 29500  
(24V/20A, AC 230V,  $T_{amb} = +40^{\circ}C$ )

Life cycle (electrolytics) The unit exclusively uses longlife electrolytics, specified for +105°C (cf. 'The SilverLine', p.2). High reliability, as

- only four aluminium electrolytics and
- no small aluminium electrolytics are used.

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

## Order information

## Order number

SL20.100 (Basic version\*),  
SL520.100 (Safety Cover\*),  
SLZ01

## Description

including PFC: SL20.101  
including PFC: SL520.101  
Screw mounting set, two needed per unit

## Output

Output voltage DC 24-28V adjustable by (covered) front panel potentiometer, preset: 24.0V  $\pm 0.5\%$   
Adjustment range guaranteed

Output noise suppression Radiated 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: Derating)  
Storage: -25°C...+85°C

## Rated continuous loading with convection cooling

- $T_{amb}=0^{\circ}C - 60^{\circ}C$  24V/20A (480W) resp. 28V/18A (504W)
- $T_{amb}=0^{\circ}C - 45^{\circ}C$  24V/25A (600W) resp. 28V/22A (616W)  
short-term also at 60°C

Derating typ. 12W/K (at  $T_{amb}= +60^{\circ}C...+70^{\circ}C$ )

Voltage regulation better than 2% over all

Ripple (incl. spikes (20MHz bandw.), 50Ω measurem.)

- Output charact. S <math><20mV\_{pp}</math> (<math><0.1\%</math>)
- Output charact. P <math><40mV\_{pp}</math> (In: AC 230V, Out: 24V/20A)  
<math><100mV\_{pp}</math> (In: AC 184V, Out: 24V/20A)  
(S/P: Single/Parallel Mode)

Over-voltage protection At 33V  $\pm 10\%$ : switch to hiccup mode

Front panel indicators:

- 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  $14V < V_{out} < U_T$
- Red LED flashes, when  $0V < V_{out} < 14V$

Parallel operation Yes, up to ten SL20 units

To achieve current sharing the output V/I characteristic can be altered to be 'softer' (25V at 0.4A, 24V at 20A). This is done by repositioning a bridge connection (without opening the unit).

Power Back Immunity >30V

## Construction / Mechanics \*

## Housing dimensions and Weight

- W x H x D 220mm x 124mm x 102mm (+ DIN rail)
- Free space for ventilation above/below 70mm recommended  
left/right 25mm recommended
- Weight SL20.100: 1800g SL20.101: 2400g

## Design advantages:

- 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.



**Start / Overload Behaviour**

Startup delay	typ. 0.5s
Rise time	ca. 20-80ms, depending on load
Duration of switch-on attempts at	
• Initial application on mains	ca. 1.4s
• Subsequent attempts	ca. 0.5s
Hiccup operation at	$V_{out} < \text{ca. } 14V$
Duration between switch-on attempts	ca. 4s

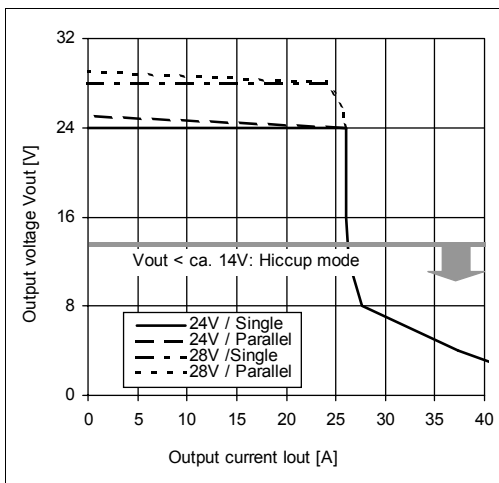
Electronic current limiting, protects against overload and short circuit.  
 •  $V_{out} < \text{ca. } 14V$ : Periodical switch-on attempts (hiccup-mode).

Advantages of the switch-on/overload behaviour:

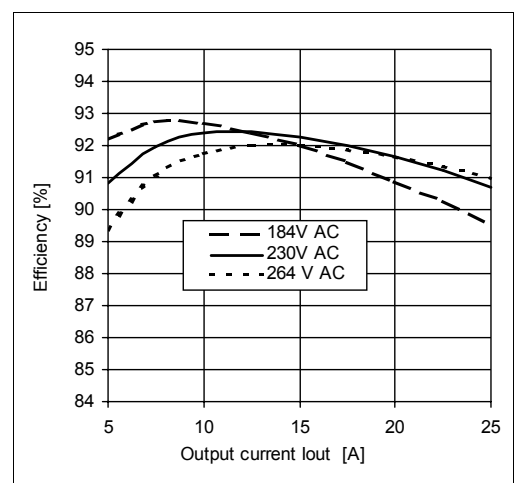
- Safer switch-on into highly non-linear loads with large starting currents
- Short-term overloads result in current limiting and not in an immediate shut-down.
- Parallel operation of several units possible. Proper switch-on performance is obtained.

**Functional diagrams**

**Output characteristic (typ.)**



**Efficiency (typ., at  $V_{out}=24V$ )**



**Further information**

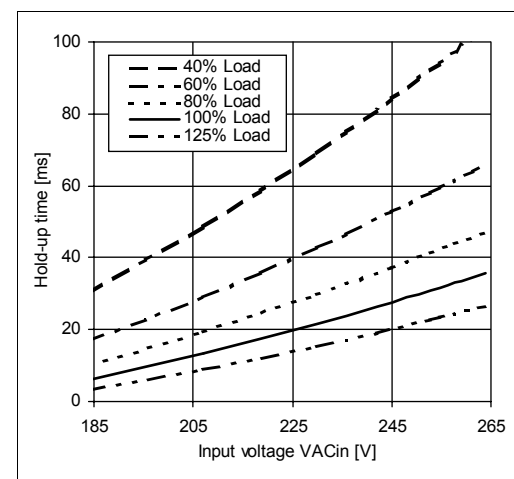
For further information, especially about

- EMC
- Connections
- Safety, Approvals
- Mechanics und Mounting,

see page 2 of the „The SilverLine“ data sheet

**For detailed dimensions**  
 see SilverLine mechanics data sheet SL20

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



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.  
**All data is valid for SL20.100. Regarding the SL20.101 (including PFC) some values may differ.**

**Your partner in power supply:**



European Power Supply Manufacturers Association



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