

single output  
up to 50 Watt

DC/DC converters  
with isolation



- Input voltage range 9 - 34V / 10-60V Load dump / VG 96916 part 5 <sup>1)</sup>
- Connection on vehicle-cigar-lighter and utility vehicles-terminals
- Security relevant topology
- Over voltage protection (Logic)
- Noise suppression EN 55022.B (- 10 dB)
- Input fuse
- E1-released

Mobile laptop-supply with isolation



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## Series LSV-P Car-Adapter isolated

US Pat. no. 6.094.366  
D Pat. no. 195 05 417

### General:

#### Output:

- Accuracy absolute  $\pm 1\%$
- Regulation factor  $\Sigma(U_{in} + I_{out} + T_U) \pm 1,5\%$
- Ripple  $< 40 \text{ mV}_{pp}$  constant over  $T_U$
- Spikes  $< 60 \text{ mV}_{pp}$  (T 1:1/50MHz)
- Response time  $\Delta I=50\% \leq 3 \text{ ms}$
- Current limiting  $< 1,2 I_{outmax}$  ( $U_{out} = 0 \text{ V}$ )
- Output spike filter (C - L<sup>2</sup> - C)
- Over voltage protection  $1,2 U_{outmax}$  (Thyr.)

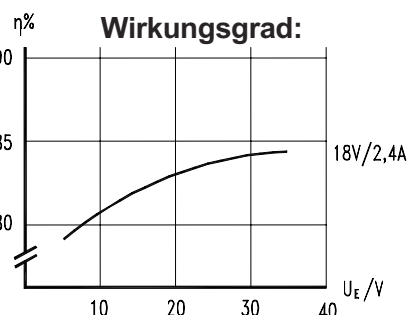
#### Input:

- No-load power approx. 0,15 Watt
- Extreme input voltage range
- Fuse internal (emergency protection)
- Input-reverse polarity protection to fuse
- Input filter EN 55022.B (-10 dB)
- Disturbances:  
EN 61 000-4-4 Level  
EN 61 000-4-5 Level 3  
DIN ISO 7637-1 and 3  
VG 96916 50V/50ms, 70V/2ms
- On-load current reduced
- Switch-on current limited / integral
- Regulation of defined transients
- Universal-input plug for cars & trucks
- EMV-limit LA01G3 according to MIL-Std on request / <sup>1)</sup> Level on request

### General:

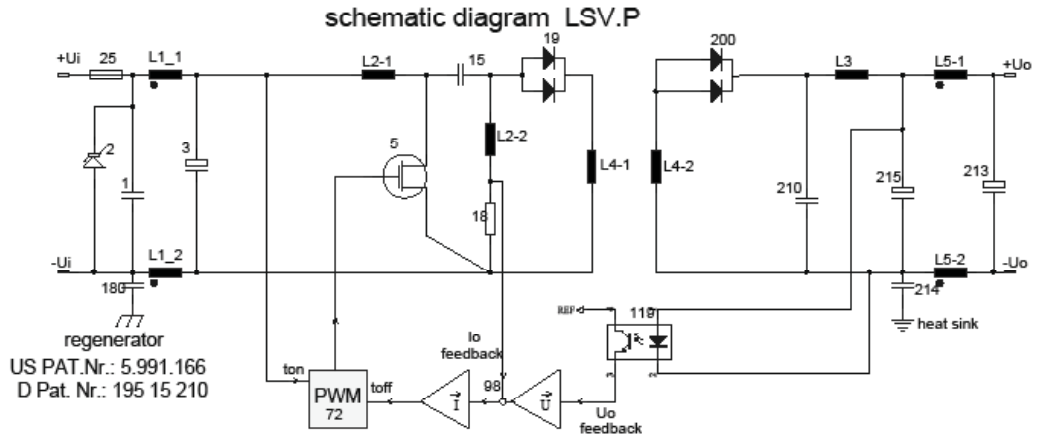
- Ambient temperature -25°C / +70°C,
- Option: -40°C / +85°C  
Derating 1% / °C ab 70°C
- Convection cooled
- Gemeinsamer 0V Eing.-Ausg. (DC)
- MTBF On request
- Weight  
approx. 200 g without cabel/housing  
approx. 560 g incl. cabel/Housing
- No break-through Input-Output possible
- Option: without housing, cabel and plug for chassis mounting

<u>U<sub>in</sub></u> V	<u>U<sub>out</sub></u> V	<u>I<sub>out</sub></u> A	Model- number
<b>9-34</b>	7,5	4,0	LSV-P 20.7,5.040
50V 50ms	12	3,7	LSV-P 20.12.037
70V 2ms	15	3,0	LSV-P 20.15.030
	18	2,4	LSV-P 20.18.024
	24	1,8	LSV-P 20.24.018
<b>10-48</b>	12	3,7	LSV-P 26.12.037
60 dyn.	15	3,0	LSV-P 26.15.030
	24	1,8	LSV-P 26.24.018
<b>Option</b>			LSV.P 20.XX.XXX O
			LSV.P 26.XX.XXX O
without housing, plug and cabel with screw terminal for chassis mounting			
Output adjustment to any laptop-voltage/current with modification possible The needed plug depending on the laptop must be defined.			
(H)	-40°C up to +85°C		Additional charge
Andere Outputsplug			Additional charge
Modification costs for possible changes above values			On request



The series **LSV.P** is designed for the supply of notebooks and laptops for mobile applications. Extreme climatic and mechanical conditions with the achievement of the known EMC- and disturbance-requirements for automotive applications at the same time, make the use possible in automotive-measurement equipment or special technology.

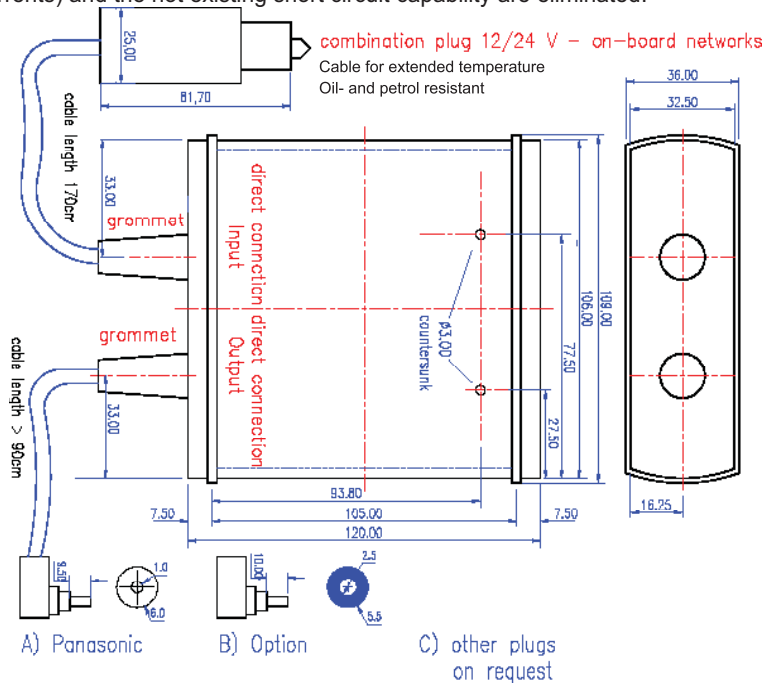
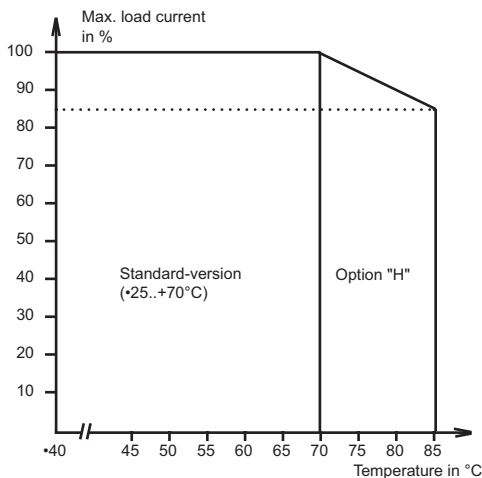
The universal input voltage range allows the use in cars or utility vehicles including the bridging of the motor's start-operation. Additionally the series LSV.P can deal with the 42V-on-board network.



Especially for Extreme security relevant requirements at high input voltages the break through of the input voltage to the output side - like normal buck topologies do by a defect of the switching transistor- is not possible. Also the disadvantages of the Booster-topology, the break through to the blocking capacitor (high inrush currents) and the not existing short circuit capability are eliminated.

Input sided are used just small filter capacitors for the noise suppression EN55022.B (-10dB). An active over voltage protection prevents an output sided over voltage in the case of a defect control loop. The output is over load protected and short circuit proof. The low no-load current of < 12 mA allows the stand-by operation without a separation relay.

**Derating-curve**



**Measurement of radio interference**  
(with housing)

