- **Use on 14/28/42 V-networks**
- **Input voltage range 1:8**
- **No breakthrough of input - output**
- **Use in double voltage networks**
- **Extreme transient protection**
- **Buck/Boost-Regenerator-topology**
- **U_{in}-lower-equal-higher as U_{out}**
- **Noise suppression EN 55022.A**
- **Controlled parallel operation (COM)**
- **Resistent against long term transients**

for Vehicle applications / Installation technology / Railway technology

Series ESR.V

US Pat. no. 5.991.166 u. 6.094.366
D Pat. no. 195 15 210 u. 195 05 417

Main points:

Output:

- Regulation $\Sigma(U_{in}+I_{out}+T_U) \pm 1,5\%$
- Accuracy absolute ± 1%
- Short circuit protected / no-load stable
- Ripple <20 mV_{pp}(const. over T_U)
- Spikes <100 mV_{pp} (T 1:1/50MHz)
- Regulation time ΔI=50% 25 ms
- Temperature controlled (fan)
- Controlled parallel operation (max. 5 converters) up to max. 600W
- Option BER: U_{out}-adjustment 0-$U_{out\ max}$

Input:

- Burst/Surge EN61000-4-4/5 level 3
- VG 9696916 T5 / EN7637 T1/3
- No-load power 0,6 Watt
- Fuse (emergency protection)
- Transient protection load dump VG 96916
- Low input capacity
- EMC conducted EN 55022.A
- Under voltage control with hysteresis and timed re-start delay

General:

- Ambient temperature -25°C/+70°C
- Optional H: -40°C/+85°C
- Derating 2%/°C > 70°C
- Forced air convection with "fan"
- MTBF on request
- Plug for rack style
  Input SUB-D high current
  Output H15
- Thermal contacting chassis mounting
  Input screw terminal Würth
  Output Phönix
- CE Conformity on request
- Limit temperature at KK-✱ 95°C
- No breakthrough U_{in} to U_{out} / U_{out} to U_{in}
- Isolation voltage to ground: 500 V_{AC}
- Weight approx. 600 g

Uin	Uout	Iout	Model
V	V	A	number
9 - 18	12	10	ESR.V 12.12.100
6 - 27 dyn	24	5	ESR.V 12.24.050
DIN / ISO 7637-1/3	42	3	ESR.V 12.42.030
14,4 - 34	12	9	ESR.V 24.12.090
8 - 36 dyn	24	5	ESR.V 24.24.050
Diesel-cold start	42	2,7	ESR.V 24.42.027
Surge level 3			
DIN / ISO 7637-1/3			
10 - 48	12	8	ESR.V 26.12.080
9 - 60 dyn	24	4,5	ESR.V 26.24.045
DIN / ISO 7637-1/3	42	2,2	ESR.V 26.42.022
16,8 - 34	12	8	ESR.V 30.12.080.MIL
8 - 36 dyn	24	4	ESR.V 30.24.040.MIL
VG 96 916 T5	42	2	ESR.V 30.42.020.MIL
50V/50ms			
70V/2ms			
30 - 48	12	10	ESR.V 42.12.100
20 - 60 dyn	24	6	ESR.V 42.24.060
Surge level 3	42	3	ESR.V 42.42.030
DIN / ISO 7637-1/3			
Front panel			Additional charge
(H)	-40°C up to +85°C		Additional charge
Burn-in incl. (H)			Additional charge
Option BER			Additional charge
Modification costs for possible changes above values:			on request
Optional: regulated constant-current-output with clamping voltage to $U_{out\ max}$			
Modification costs:			on request

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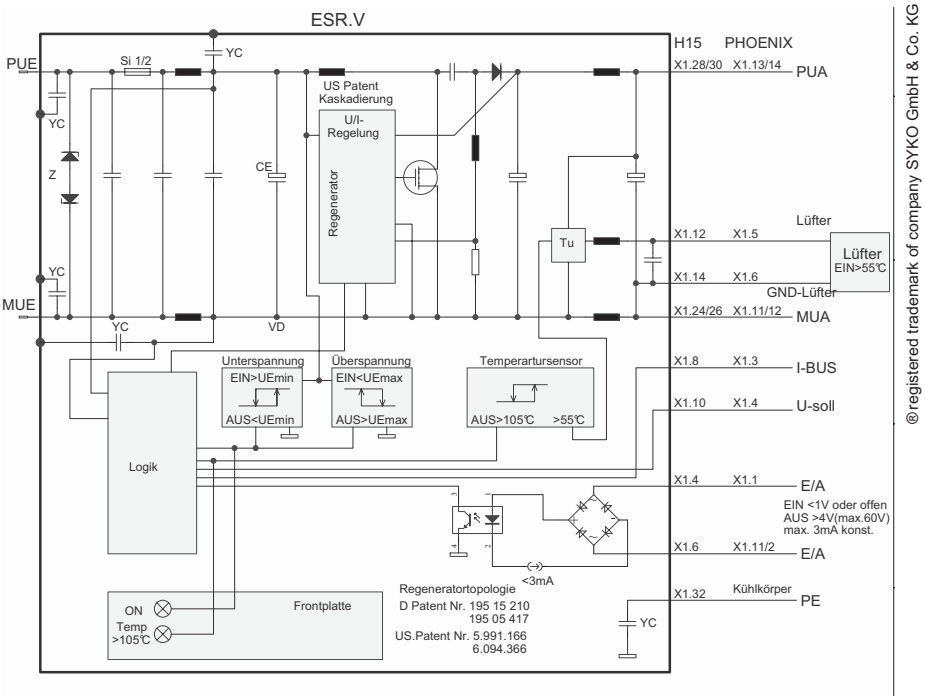
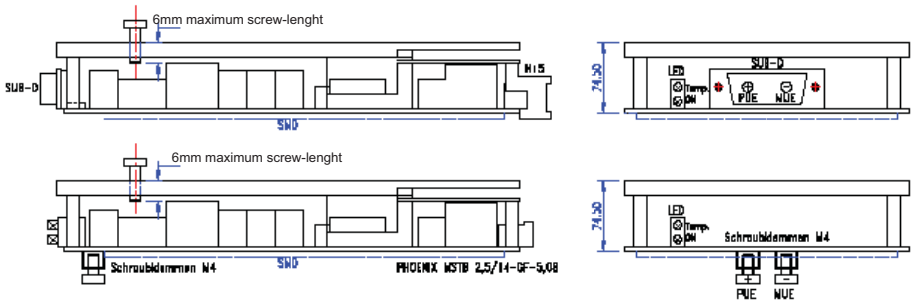
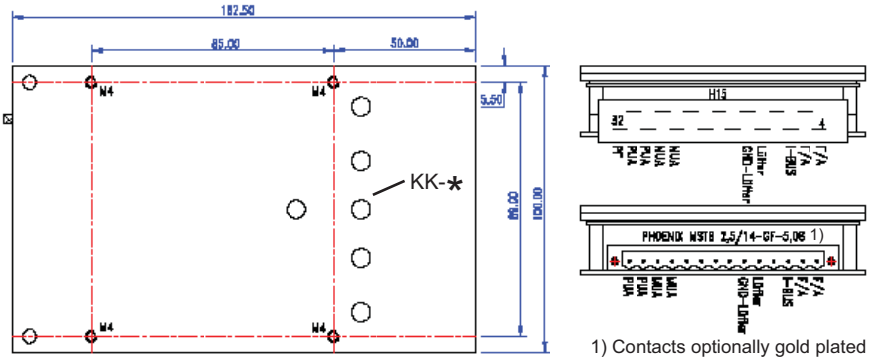
With the logistic advance to be able to work on different battery voltages, the ***ESR.V*** series (Euro card 6TE front) has been developed for the use in mobile battery-applications. This converter works with the patented / cascaded Regenerator-Topology. 14/28/42 V-networks are regenerated in a power range up to 120W to any voltage without isolation. The converter can handle the diesel-cold-start operation with a voltage fluctuating of 0,35 up to 1,6 times the nominal voltage. High long term transients are controlled.
The dynamic and static short circuit protected and regulated output is generated out of the input voltage. The input voltage can be lower, equal or higher than the output voltage.
An internal temperature sensor controls the converter's temperature and supplies an external fan via FAN.
The input voltage at the rack-version (chassis version) is connected to a 2-pol. SUB-D plug (screw terminal M4).
The output at the rack-version (chassis version) is defined as a H15-connector (screw terminal).
Up to 5 parallel operating converters can be connected with the COM-Pin to result >90% current sharing.



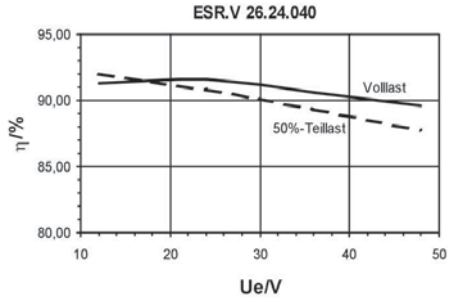


The combination of the available connectors H15-connector, Phönix, Sub-D or screw-terminal is possible.

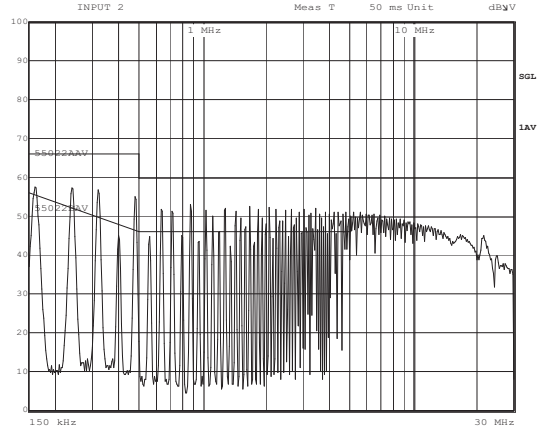


1) Contacts optionally gold plated

Efficiency



Measurement of radio interference



Temperature-derating with forced ventilation

Uin	Ambient temperature / max. load in %			
	50°	60°	70°	85°
6V	90%	80%	75%	70%
7V	100%	90%	80%	75%
8V	100%	100%	90%	80%
9V	100%	100%	100%	90%
10V	100%	100%	100%	100%
12V	100%	100%	100%	100%
24V	100%	100%	100%	100%
32V	100%	100%	100%	100%