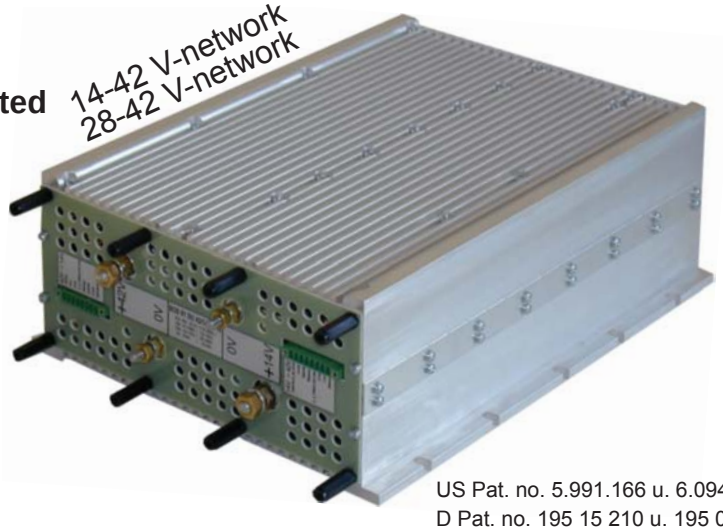
- **No static breakthrough Uin / Uout**
- **Security relevant topology**
- **Uin lower-equal-higher as Uout**
- **Dyn. and stat. short circuit protected**
- **Load dump-transient proof**
- **Wide input range >1:3**
- **Frontend / Battery charging**
- **External battery management**
- **Isolated interfaces**

Measurement / Vehicles / Railway / Industry applications



Series BOS 01/DU

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

Main points:

Output:

- No-load proof / Short circuit protected
- Sleep mode <300µA (input and output)
- Accuracy absolute ±1%
- Regulation $\Sigma(U_{in}+I_{out}+T_U)$ ±2%
- Ripple <25 mV_{pp}(konst. über T_U)
- Spikes <100 mV_{pp} (T 1:1/50MHz)
- Short circuit current <1,1I_{max}
- Regulation time ΔI=50% ≤ 3 ms
- 1500 Watt BOS 01 / BOS DU
- Double-unidirectional BOS DU
  750 Watt Step-down converter
  600 Watt Step-up converter

Input:

- Isolated set-point value for U_{out}
  0,5-4,5V / 10-90% ·10kHz / (0-10V)
- Isolated output voltage re-signalling
  0,5-4,5V (0-10V on request)
- Isolated output current re-signalling
  0,5-4,5V (0-10V on request)
- Isolated inhibit-function (on/off)
- Isolated sleep mode (SM) <300µA
- Option: Set-point value for I_{out}
- No-load power 2 W

General:

- Ambient temperature -40°C / +70°C
- Option H: -40°C / +85°C (short term)
- Derating: 2%/°C >60°C
- Fan regulation with
  temperature control (56°C)
  over temperature warning (>105°C)
- Set-point value linearity <1,5%
- Massive screw terminals for
  input and output +/- unmistakable
- Weight approx. 10 kg
- Dimension 386 x 250 x 121 mm³ (01/DU)
- Shock / Vibration
- Power section without input-output isolation

Uin / V Battery	Uout V	Iout / A at Uout	Model number	
30 - 48	10-16	110	BOS 01.42.14.110.B	
20 - 60 dyn.		14 V		
nom. 42	20-32	50	BOS 01.42.28.050.B	
		28 V		
30 - 48	14	110	BOS 01.42.14.110.F	
60 dyn.	28	55	BOS 01.42.28.055.F	
nom. 42	42	35	BOS 01.42.42.035.F	
16,8 - 34	30-48	30	BOS 01.28.42.030.B	
VG 96916 T5				
50V/50ms	14	85	BOS 01.28.14.085.F	
70V/2ms	28	55	BOS 01.28.28.055.F	
nom. 24	42	30	BOS 01.28.42.030.F	
10 - 16	16,8-34	35	BOS 01.14.28.035.B	
27 dyn.	30-48	25	BOS 01.14.42.025.B	
nom. 12	14	70	BOS 01.14.14.070.F	
	28	35	BOS 01.14.28.035.F	
	42	26	BOS 01.14.42.026.F	
10 - 48	12	70	BOS 01.26.12.070.F	
60 dyn.	24	40	BOS 01.26.24.040.F	
nom. 14/28/42				
77 - 143	24	50	on request	1)
66 - 154 dyn.	110	12	on request	1)
plus Surge level 3				
30 - 48	10-16	53		
20 - 60 dyn.			BOS DU.42/14.53/14	
10 - 16	30-48	14		
27 dyn.				
30 - 48	20-32	26		
20 - 60 dyn.			BOS DU.42/28.26/14	
16,8 - 32	30-48	14		
54 dyn.				

Can-Bus-Interface	on request
0,5-4,5V is the standard value for the set-point-value and actual-value re-signalling	
Schnittstellenanpassung	on request
Erstmuster-/ Modification costs for possible changes above values	on request

Option: Combination with a fixed voltage and battery-management is possible
1) also available with output-battery-management

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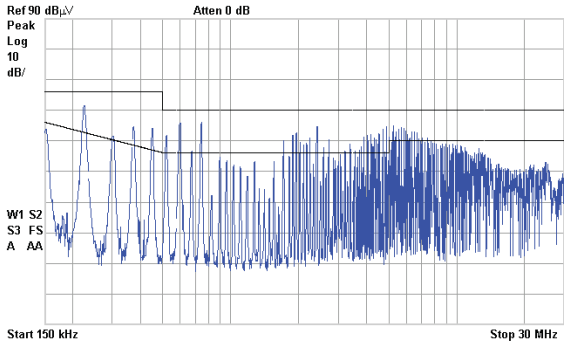
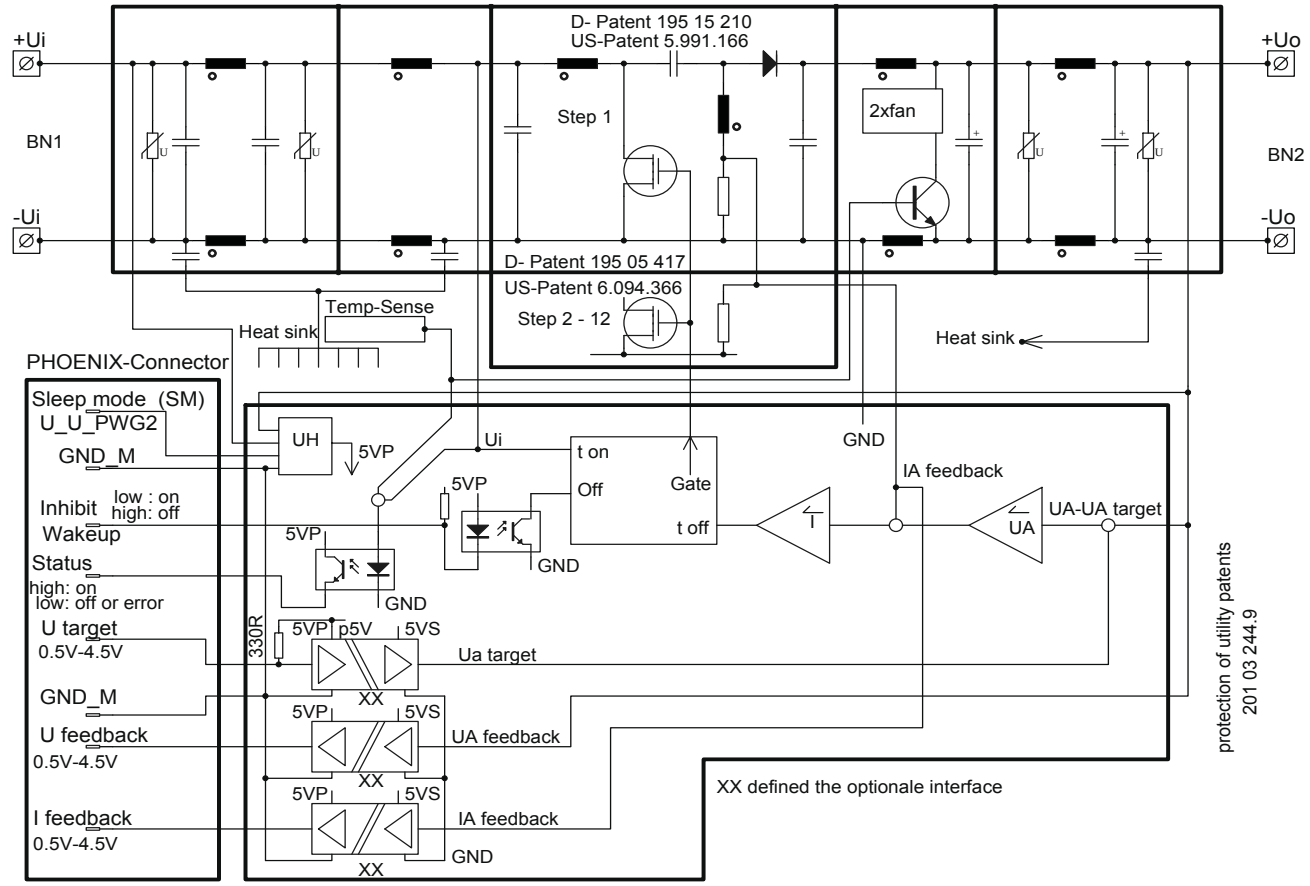
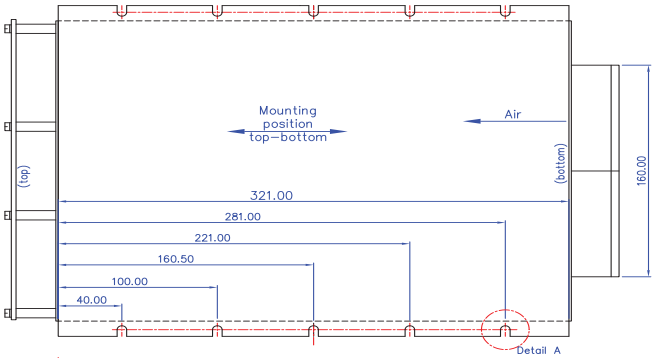
The Regenerator topology in general and the ***BOS 01/DU*** series are ideal for the use in double voltage on-board networks. The floating capacitor Cs prevents the battery's break through to the other side. (Protection of utility patents 201 03 244.9). At the same time this topology is security relevant, because in the case of a defect transistor, a defect floating capacitor or a defect diode the one voltage level can not break through to the other level. The converter is simply noise-suppressible because of the choke valuated topology.

With the isolated function interfaces the set-point values for the output voltage can be given. In the same way the actual output voltage and the output current are given back as an analogue value. With this interface the intelligence of an interfered battery-management can be done in the customer's processor. Optionally a CAN-Bus-interface is in preparation. The input and output sided sleeping-currents are limited to <300µA with the sleep-mode (SM)-signal. The Inhibit (on/off) switches the set-points to zero at low no-load power.

Measurement of radio interference







The fans must be placed in the bottom position to realise sufficient ventilation when the BOS Series is mounted.