

- No static breakthrough  $U_{in} / U_{out}$
- Security relevant topology
- $U_{in}$  lower-equal-higher as  $U_{out}$
- 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



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## Series BOS 02

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 <300 $\mu$ A (input and output)
- Accuracy absolute  $\pm 1\%$
- Regulation  $\Sigma(U_{in} + I_{out} + T_U) \pm 2\%$
- Ripple <25 mV<sub>pp</sub> (const. over  $T_U$ )
- Spikes <100 mV<sub>pp</sub> (T 1:1/50MHz)
- Short circuit current <1,1I<sub>max</sub>
- Regulation time  $\Delta I = 50\% \leq 3$  ms

#### 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) <300 $\mu$ A
- 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. 6 kg  
Dimension 386 x 250 x 65 mm<sup>3</sup>
- Shock / vibration
- Power section without input-output isolation

$U_{in} / V$	$U_{out}$	$I_{out}$	Model
Battery	V	A	number
<b>30 - 48</b>	10-16	55 at 14V	BOS 02.42.14.55.B
20 - 60 dyn.			
nom. 42	20-32	25 at 28V	BOS 02.42.28.25.B
<b>30 - 48</b>	14	55	BOS 02.42.14.55.F
60 dyn.	28	25	BOS 02.42.28.25.F
nom. 42	42	17	BOS 02.42.42.17.F
<b>16,8 - 34</b>	30-48	15 at 48V	BOS 02.28.42.15.B
VG 96916 T5			
50V/50ms	14	42	BOS 02.28.14.42.F
70V/2ms	28	27	BOS 02.28.28.27.F
nom. 24	42	15	BOS 02.28.42.15.F
<b>10 - 16</b>	16,8-34	17 at 34V	BOS 02.14.28.17.B
27 dyn.	30-48	13 at 48V	BOS 02.14.42.13.B
nom. 12	14	35	BOS 02.14.14.35.F
	28	17	BOS 02.14.28.17.F
	42	13	BOS 02.14.42.13.F
<b>10 - 48</b>	12	35	BOS 02.26.12.35.F
60 dyn.	24	20	BOS 02.26.24.20.F
nom. 14/28/42			
<b>77 - 143</b>	24	25	on request 1)
66 - 154 dyn.	110	6	on request 1)
plus surge level 3			

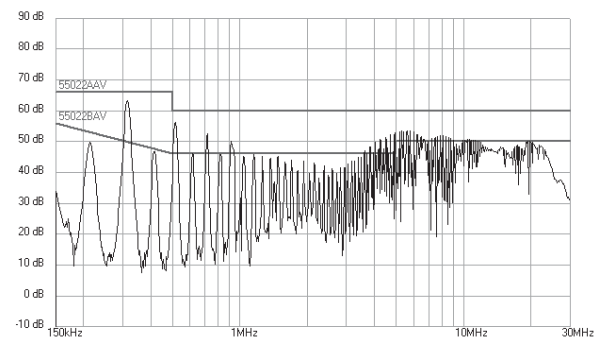
Can-Bus-Interface on request  
0,5-4,5V is the standard value for the set-point-value and actual-value signalling  
Interface adaptation on request  
First sample-/ modification costs for possible changes above values on request

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

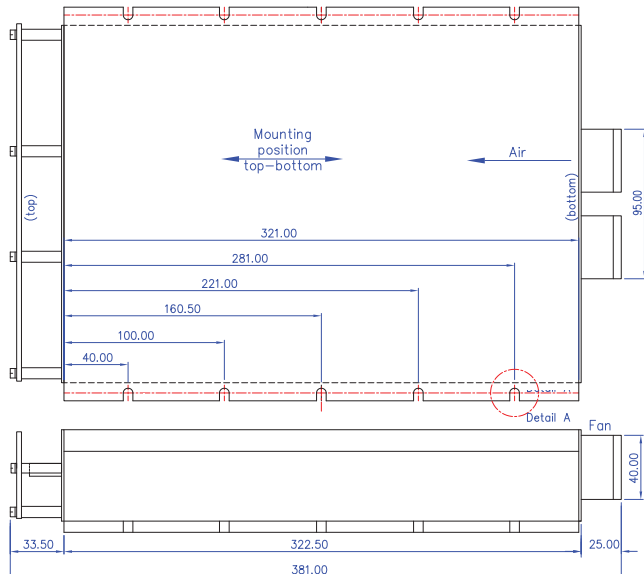
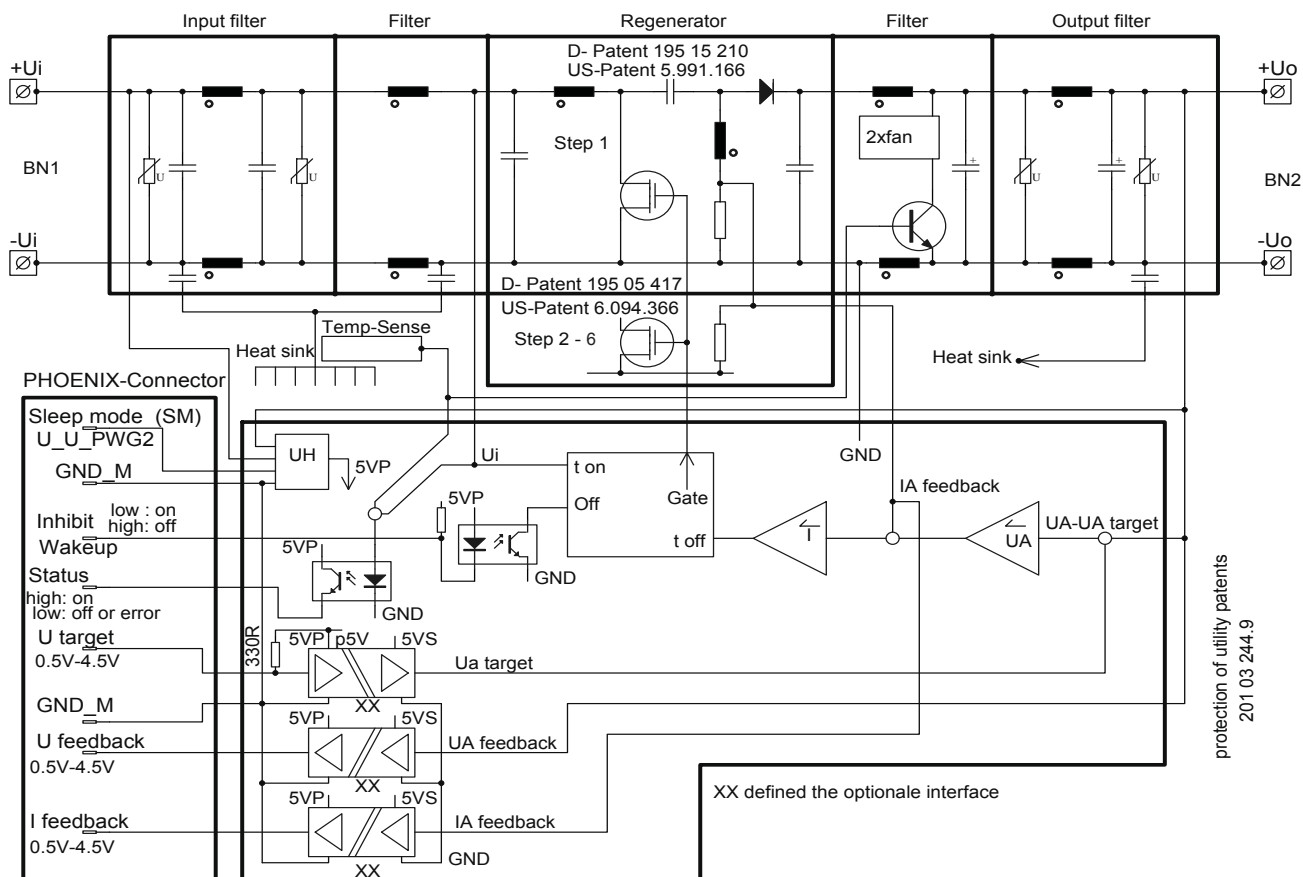
The Regenerator topology in general and the **BOS 02** series are ideal for the use in double voltage on-board networks. The floating capacitor Cs prevents the battery's break through to the other side. (Protection of utility patents 201 03 244.9). At the same time this topology is security relevant, 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  $<300\mu\text{A}$  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



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

