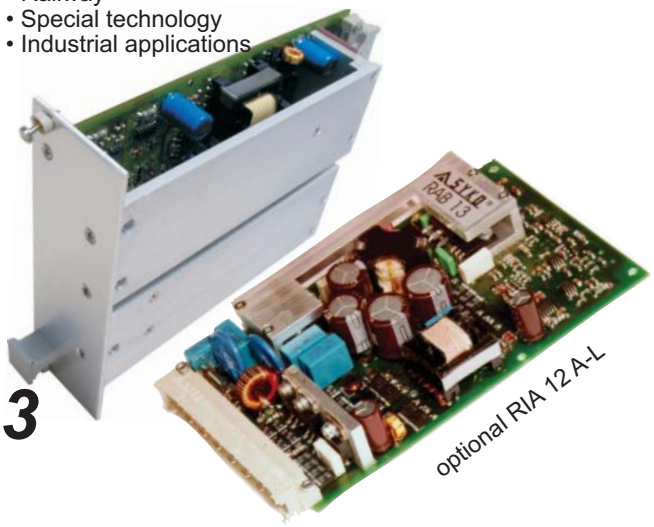
- **Euro card 3U / 6TE front panel**
- **3U- 6TE front panel (Option)**
- **Input noise suppression EN 55022.B**
- **Disturbances EN 61000-4-4/5 level 3**
- **Active hold-up time > 50ms (up to $U_{i\ min}$)**
- **Inhibit (on/off), power fail (PF)**
- **Wide input voltage range**
- **No basic load necessary**
- **Shock/vibration acc. to EN 50155**
- **Active transient protection filter**
  (SYKO-Patent no. 3804074 and 0402367)

for
- Railway
- Special technology
- Industrial applications

CE - conformity



Series RAB 1.1/1.2/1.3

(single / double / triple output)

Main points:

Output:

- Regulation $\Sigma(U_{in}+I_{out}+T_U)<\pm1,5\%$
- Accuracy absolute ± 1%
- Ripple <20 mV_{pp} over T_U
- Spikes <100 mV_{pp} (T 1:1/50MHz)
- Response time ΔI=50% ≤ 500 µs
- Short circuit current ≤ 1,2 $I_{o\ max}$
- Output spike filter
- No-load, over load, short circuit proof
- No crosswise interference
- Power fail > hold-up time
- Over voltage protection

Input:

- Stand-by power approx. 3 Watt
- ON-OFF-application (inhibit)
- On-Off switch and time hysteresis at under voltage
- Low input capacity
- Inrush current limitation
- Input filter better EN 55022.B
- Disturbances EN 61000-4-4 level 4
  EN 61000-4-5 level 3
- Option RIA 12 A-L
- Rev. polarity protection (fuse, square diode) +1V $U_{i\ min}$ by lenght diode
- Emergency protection-fuse on PCB

In general:

- Connector DIN 41612, style H15
- Topology-Cascading
- Parallel operation
- Clock frequency 100 kHz
- Isolation test voltage 1,5 KV_{AC} 1 min
- Ambient temperature -25°C / +70°C
  Option: -40°C / +85°C
- Derating 1,0 % / °C > 70°C
- MTBF 120000 h (MIL 217 F, G_F, 40°C)
- Shock testing acc. to EN 50155
- Vibration acc. to EN 50155
- Weight approx. 340g
- CE-conformity on request
- Limit temperature on KK-*: 95°C

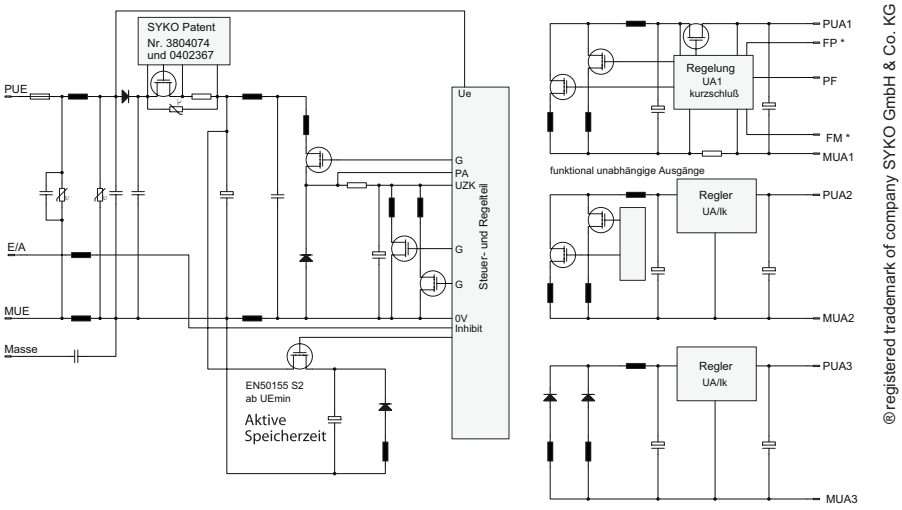
Uin 1)	Pout	Uout1·2	Iout1·2	Model number
V	W	V	A	
8 - 38	**25**	5,1	5,0	RAB 1.120·05·50
50V50ms		24	1,0	RAB 1.120·24·10
70V2ms		5,1·12	4,0·0,4	RAB 1.220·05·12·40·04
VG 96 916 T5		12·12	1,6·0,4	RAB 1.220·12·12·16·04
ISO 7637 T1/3		5,1·±12	3,0·±0,4	RAB 1.320·05·12·30·04
		5,1·±15	3,0·±0,3	RAB 1.320·05·15·30·03
14,4 - 52	**30/25**	5,1	6,0	RAB 1.130·05·60
surge proof		24	1,2	RAB 1.130·24·12
1 kV / 2Ω		5,1·12	4,0·0,4	RAB 1.230·05·12·40·04
1,8 kV / 5Ω		12·12	1,6·0,4	RAB 1.230·12·12·16·04
		5,1·±12	3,0·±0,4	RAB 1.330·05·12·30·04
		5,1·±15	3,0·±0,3	RAB 1.330·05·15·30·03
14,4 - 158	**25/20**	5,1	5,0	RAB 1.103·05·50
surge proof		24	1,0	RAB 1.103·24·10
1 kV / 2Ω		5,1·12	3,0·0,4	RAB 1.203·05·12·30·04
1,8 kV / 5Ω		12·12	1,3·0,4	RAB 1.203·12·12·13·04
		5,1·±12	3,0·±0,2	RAB 1.303·05·12·30·02
		5,1·±15	3,0·±0,2	RAB 1.303·05·15·30·02
19 - 80	**30/25**	5,1	6,0	RAB 1.150·05·60
surge proof		24	1,2	RAB 1.150·24·12
1 kV / 2Ω		5,1·12	4,0·0,4	RAB 1.250·05·12·40·04
1,8 kV / 5Ω		12·12	1,6·0,4	RAB 1.250·12·12·16·04
		5,1·±12	3,0·±0,4	RAB 1.350·05·12·30·04
		5,1·±15	3,0·±0,3	RAB 1.350·05·15·30·03
45 - 158	**30/25**	5,1	6,0	RAB 1.180·05·60
surge proof		24	1,0	RAB 1.180·24·10
1 kV / 2Ω		5,1·12	4,0·0,4	RAB 1.280·05·12·40·04
1,8 kV / 5Ω		12·12	1,6·0,4	RAB 1.280·12·12·12·04
		5,1·±12	3,0·±0,4	RAB 1.380·05·12·30·04
		5,1·±15	3,0·±0,3	RAB 1.380·05·15·30·03
RAB 1.1/1.2/1.3 (H)			-40°C up to +85°C	additional charge
Modification costs of possible changes above values:				on request
Front panel 3U / 6TE				additional charge

1) adapted Uin-ranges lead to higher efficiencies and functional security

The ***RAB 1.1/1.2/1.3*** series with an output power up to 30 W is developed for mobile applications and high operational reliability. The converter's stand-by mode (inhibit-function) requires a current consumption of just typically 3 mA, which is ideal for the use in battery networks.

The wide input voltage range allows the use on weak and transient flawed networks. The mechanically stable and ordered build up can be used in mobile applications.

The functionality is secured in the whole operational range up to limit values based on the chosen components, filters, security circuits, dynamical and statically current limitation and over voltage protection.

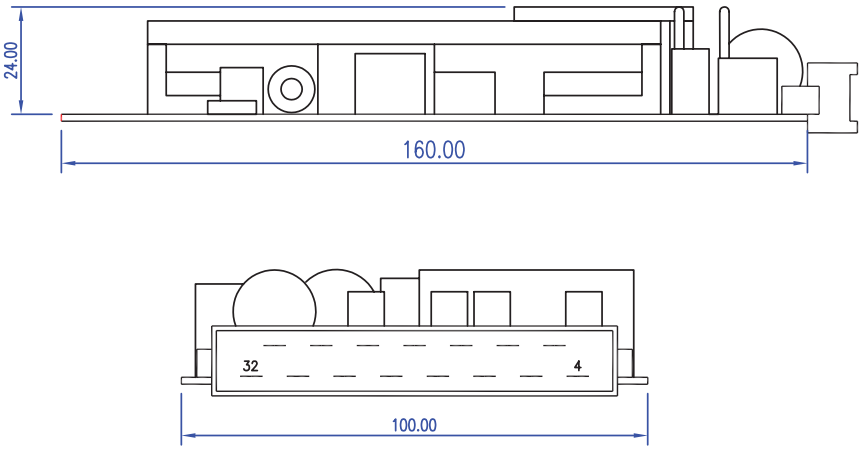


A new developed switching topology guaranties a hold-up time of > 50 ms which is constant from the minimum input voltage. The power fail signal (PF) is signalling the interruption of the supplying voltage.

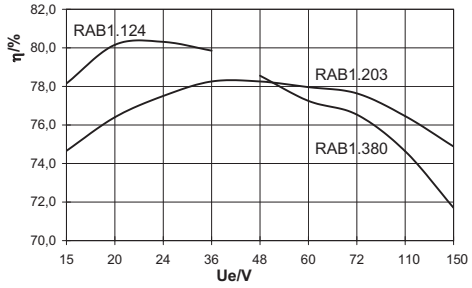
Pin assignment

	RAB 1.1	RAB 1.2	RAB 1.3
4	+Uo	+Uo1	+Uo1
6	+Uo	+Uo1	+Uo1
8	-Uo	-Uo1	-Uo1
10	-Uo	-Uo1	-Uo1
12	PF	PF	PF
14	NC	NC	NC
16	+sense	-UA2	-Uo2
18	- sense	+UA2	+Uo2
20	NC	NC	+Uo3
22	NC	NC	-Uo3
24	NC	NC	NC
26	+Ui	+Ui	+Ui
28	inhibit	inhibit	inhibit
30	-Ui	-Ui	-Ui
32	Ground	Ground	Ground

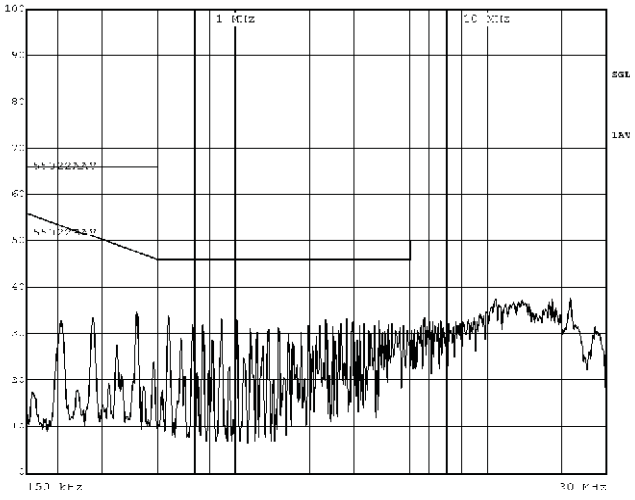
Mechanics



Efficiency



Measurement of radio interference



Derating curve