

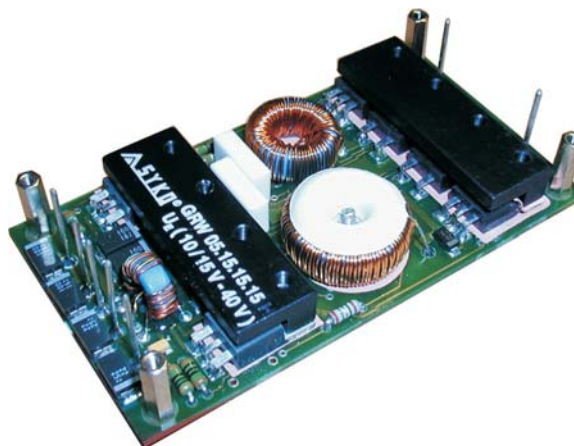
single/double/triple
up to 20 Watt

Switching Regulators
without isolation



- Isolated auxiliary outputs
- Four screw-on bolts
- Height 18 mm
- Over voltage protection (Thyristor)
- Very high life time
- Suitable for mobile applications
- Open design (for thermal stress)
- 100% functional tests of all parameters

The functionality is controlled in all operational situations and characteristics.



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Series GRW / GRK

Main points:

Output:

Main output [Auxiliary outputs]

- Accuracy absolute $< \pm 1\%$
- Regulation $\Sigma(U_{in} + I_{out} + T_U) < \pm 1,5\%$
- Ripple $< 30 \text{ mV}_{\text{rms}}$ [$< 10 \text{ mV}_{\text{rms}}$]
- Spikes $< 40 \text{ mV}_{\text{rms}}$ (T 1:1/50MHz)
- Response time $\Delta I = 50\% \leq 250 \mu\text{s}$
- No-load-, static over load- and static short circuit protected
- Short circuit current $\leq 1,2 I_{o,max}$
- Auxiliary outputs isolated
- Reference $5\text{V} \pm 1,5\% / 2\text{mA}$ (REF)

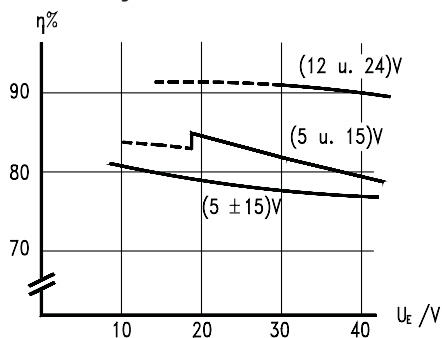
Input:

- No-load power consumption approx. 0,4 Watt
- ON-OFF-control (Inhibit)
- Transient adapted
- Do not use without CE (chopper current)
- Simply noise-suppressible

General:

- Ambient temperature $-25^\circ\text{C} / +70^\circ\text{C}$, Option: $-40^\circ\text{C} / +85^\circ\text{C}$
- Derating $1\%/^\circ\text{C} > 60^\circ\text{C}$
- Free air convection
- Common 0V input-output
- MTBF on request
- Open design with soldering connection
- Dimension $95 \times 51 \times 18 \text{ mm}^3$

Efficiency:



<u>U_{in}</u>	<u>U_{out1-2}</u>	<u>I_{out1-2}</u>	<u>CE</u>	Model number
V	V	A	μF/V	
8,5 - 42	5,1±12	2,0±0,15	330/50	GRK 05-12-20-015
	5,1±15	2,0±0,15	330/50	GRK 05-15-20-015
15 - 42	12±05	1,0±0,20	330/50	GRK 12-05-15-020
	12±12	1,0±0,15	330/50	GRK 12-12-15-015
	12±15	1,0±0,15	330/50	GRK 12-15-15-015
8/15 - 40	5,1-12	1,5-1,5	330/50	GRW 05-12-15-15
8/18 - 40	5,1-15	1,5-1,5	330/50	GRW 05-15-15-15
15/28 - 40	12-24	1,2-1,2	330/50	GRW 12-24-12-12
(H)	-40°C up to +85°C			Additional charge
Modification costs for possible changes above values				on request

Stand: 11/06

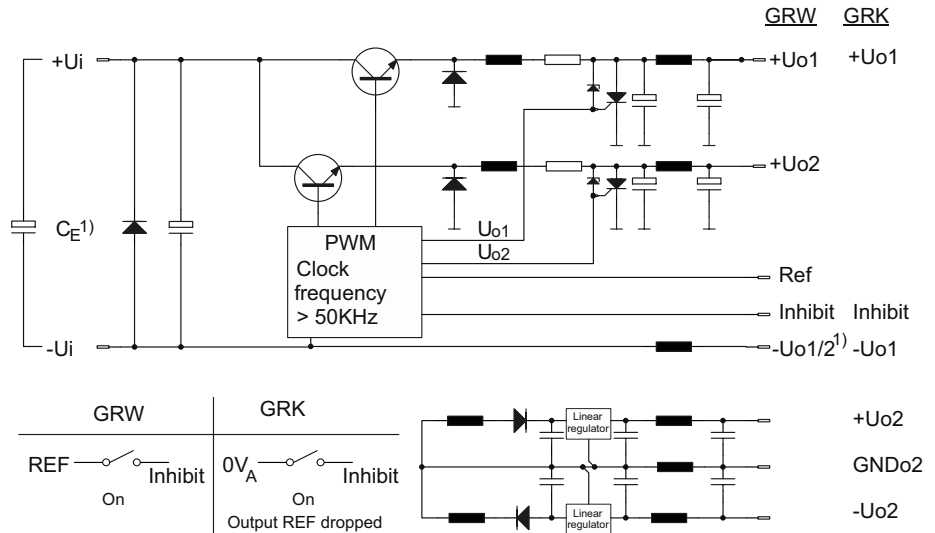
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The regulators of the **GRW / GRK** series are available with a non-isolated, regulated and short circuit protected main output as well as a single output or bipolar auxiliary output, which is also regulated and short circuit proof.

For the bi-/tripolar isolated auxiliary outputs, no basic-load at the main output is necessary. The kind of mounting results high mechanically reliability.

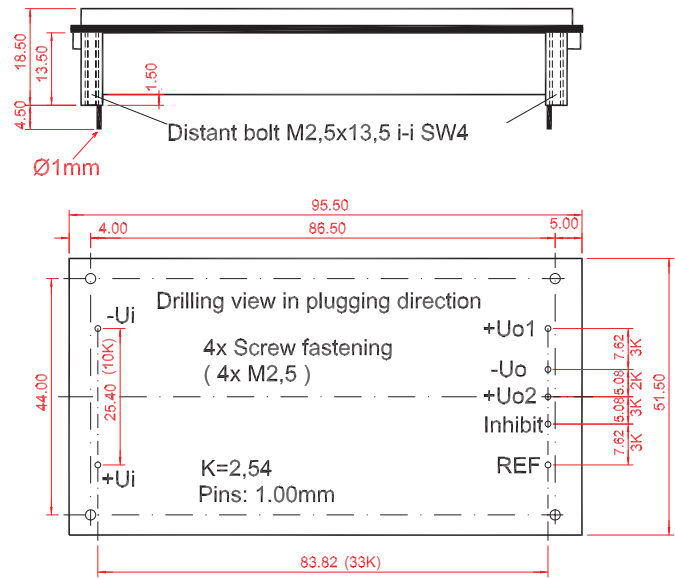
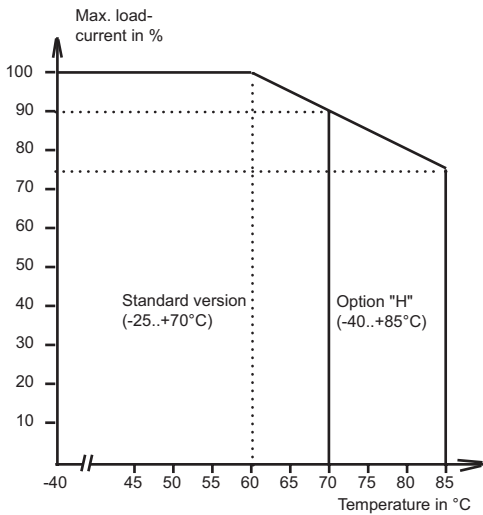
All electrical parameters (voltages, currents, frequencies, efficiency, ripple, spikes etc.) are 100%-tested at all internal points as well as on all customer interface points. The result is that the modules can guarantee a very high quality level, which has been displayed in several thousand applications within our customer's systems. The choice of components and the manufacturing technology lead to this regulator's especially high functional life time and reliable security.



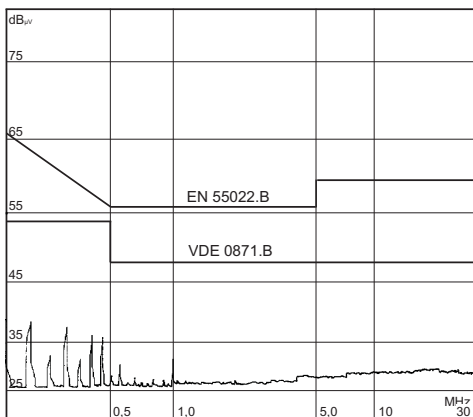
2) Reference all potentials to -Uout

1) Do not use without CE
See product line M
for special capacitors and filters

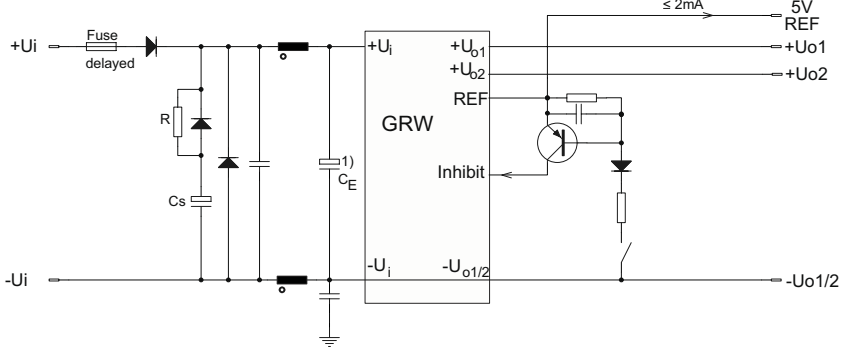
Derating curve



Measurement of radio interference



Application noise suppression



$$C_s = \frac{2 \cdot P_A}{\eta} \cdot \frac{T_s}{U_E^2 - U_{E_{min}}^2} \cdot 2$$

Hold-up capacitor