

Single output
30 W stat. / 50 W dyn.

DC/DC converters
with isolation



- input voltage range up to > 1:10
- Open design / chassis mounting
- Heat conduction to Chassis heat sink
- Heat sink adaptable (customised)
- Dyn. and stat. short circuit proof
- -40/+85°C ambient temperature
- EN 50155 / EN 50121 / EN 55011.B
- Shock/vibration EN 61373

for systemes in traffic and special technology



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Series GER-U

Main points:

Output:

- Regulation factor $\Sigma(U_{in}+I_{out}+T_U) < \pm 3\%$
- Tolerance $\pm 1\%$ (nominal load)
- Ripple $< 25mV_{pp}$ (const. over T_U)
- Spikes $< 150 mV_{pp}$ (T 1:1/50MHz/50Ω)
- Current limiting approx. $1,2 I_{outmax}$
- No-load-, over-load-, short circuit proof
- No basic load necessary
- Synchronuos rectification
- Connector: SAMTEC UPT-04-01-01-L-RA

Input:

- Emergency protection
- Enable function: (on/off) $> 10V \dots U_{imax} = ON$
- Stand-by current $< 4mA$ (inhibited)
- No-load power approx. 1W (active)
- integrale power run-up (200ms)
- Active cross plug. protection / surge proof
- EMC according EN 50121-3-2, better 55022.B
- Under voltage-switch off with amplitude-hysteresis
- Connector: SAMTEC MPT-04-6.30-01-L-V

In general:

- Isolation test voltage 1,5 KV_{AC} 1 Min
- Clock frequency approx. 100kHz
- Air creepage distances:
input - output: 3mm
Input - PE: 2,5mm / output - PE: 2mm
- Ambient temperature: -25...+70°C
Option H: -40...+85°C without derating
- Heat conduction with flange heat sink
- Option: mounting on custom heat sink or derating 1%/°C > 60°C
- Flange temperature max. 95°C at *point
- MTBF on request
- Shock/vibration EN 61373 kat. 1, cl.B
- Techn. fire protection EN5510 / EN45545
- Dimension / weight:
without KK: 100x60x21mm³/approx. 120g
with KK: 100x60x30mm³/approx. 200g
- Fastening 4 x M3 + 1 x M2,5
- Ground PE screw M3

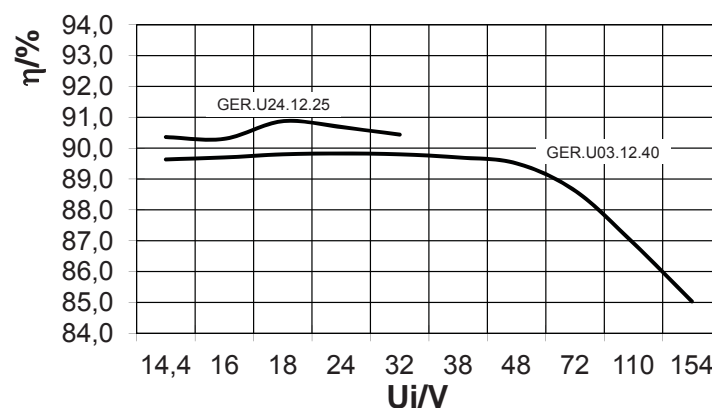
U_i V	U_o V	I_o A	dyn·dyn A	Model number
16,8 - 143	5,1	6,0	8,0	GER-U 03-05-80
14,4 - 154 dyn.	12	2,5	4,0	GER-U 03-12-40
	24	1,25	2,0	GER-U 03-24-20
14,4 - 36	5,1	6,0	8,0	GER-U 28-05-80 VG
50V / 50ms	12	3,0	4,0	GER-U 28-12-40 VG
70V / 2ms	24	1,5	2,0	GER-U 28-24-20 VG
16,8 - 47	5,1	6,0	8,0	GER-U 30-05-80
14,4 - 52 dyn.	12	3,0	4,5	GER-U 30-12-45
	24	1,5	2,3	GER-U 30-24-23
50 - 143	5,1	6,0	8,0	GER-U 80-05-80
43 - 154 dyn.	12	3,0	4,5	GER-U 80-12-45
	24	1,5	2,3	GER-U 80-24-23

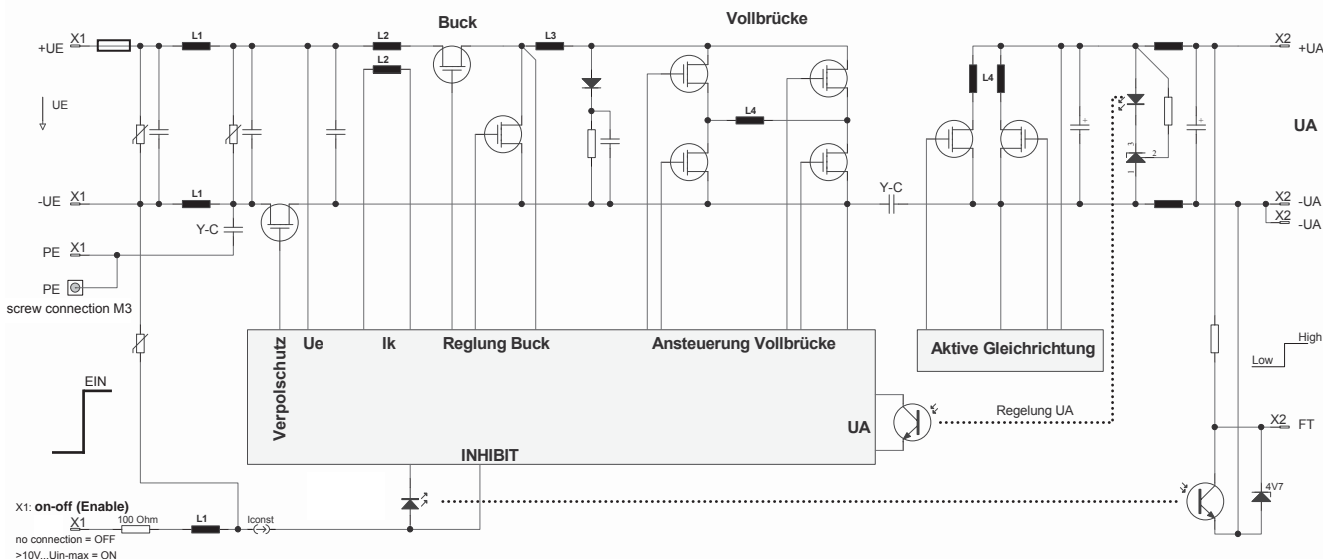
Modification costs for possible changes above values:
notice:

on request

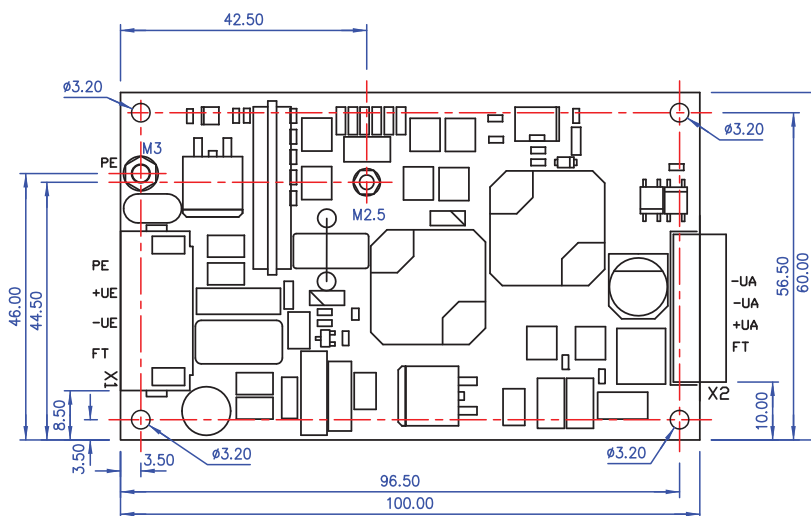
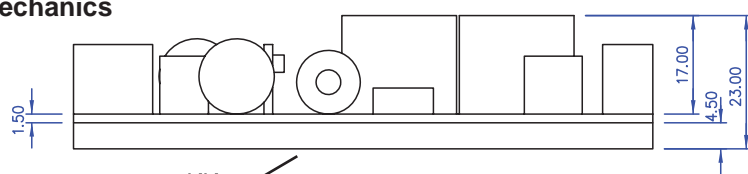
reduced input voltage ranges will improve efficiency
and improve functional characteristic (stress factors are reduced)

Efficiency

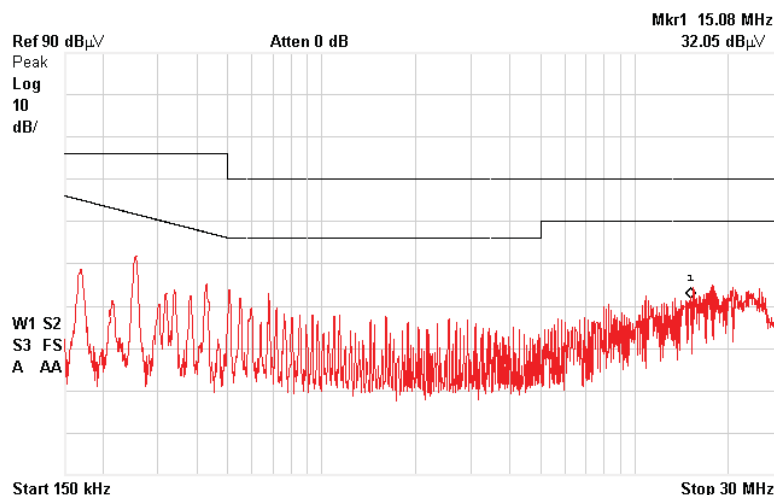




Mechanics



Measurement of radio interference



DC/DC-converter of the **GER.U** series is special designed for mobile applications with high requirements on functionality, temperature, shock/vibration, input voltage range, disturbances and EMC. The converter's power semi-conductors are directly connected to the customer's heat sink in this way for ambient temperatures up to 70 (85)°C without derating. Optionally this heat sink can fall away when the thermal connection points are directly integrated in a customer sided housing or heat sink construction (we apply the mechanical drawing on request).

The given fastening points allow highest constructive requirements at any mounting position. The standard input voltage range of 1:4 can optionally be extended to > 1:10 (1:5), which gives the logistic advance to apply all relevant railway battery networks. Over voltages, load dump, transients are absorbed system capable.

The converter is protected by a very fast active reverse polarity protection against wrong polarity.

The Protection earth or EMC ground can be made by connecting the PE-screw and PE connector contact. The ON-OFF contact turns the converter active with >10V and the return-signal FT changes from 0V to approx. 5V (1mA).