- **Fuel cells 220V / 450V ±40%**
- **Intermediate circuits 660V ±40%**
- **Transient limited traction line 750V**
- **Dynamical over voltage proof**
- **Noise suppression EN 55022.A + 20dB**
- **11 mm air and creepage distances**
- **Increased isolation PD2 / OV2**
- **Shock/vibration EN 50155**
- **Static or adaptable output voltage**

for
- Railway
- Vehicles
- High voltage batteries

Delivery with cover

Series VHO.U

High voltage converter

On-board network system supply

Main points:

Output:

- Regulation $\Sigma (U_{in}+I_{out}+T_{\mu})<\pm 2\%$
- Accuracy absolute ± 2%
- Ripple <200 mV_{pp} (over T_{μ})
- Spikes <500 mV_{pp} (T 1:1/50MHz)
- Response time ΔI=50% ≤3 ms
- Constant current limitation < 1,2 I_{Amax}
- Output spike filter (C - L^2 - C)
- No-load, over load, short circuit proof
- Option: adjustable Uout
- LED for Ua = OK
- Optional Uout-adjustment
- Screw terminal M6

Input:

- Converter starts with high voltage-Uin
- No-load power approx. 8 Watt
- Input filter acc. to EN 55022.A+20dB
- Disturbances
  EN 61000-4-4 level 3 Burst
  EN 61000-4-5 level 3 Surge
  1,8kV on 50Ω / 50µs
- Input fuse 6x32 mm
  with adapted melt flow characteristic
- Inrush current + run-up current limitation
  with integrated, input sided choke
- Spring clamp

In general:

- Efficiency typ. 91% (750 V / 1,5kW)
- Clock frequency > 80 kHz
- Isolation test voltage 2,8 KV_{AC} 10s
- 11 mm air and creepage distances
  (PCB/transformer)
- Polution level PD2
- Over voltage category OV2
- Ambient temperature -25°C / +60°C [1)]
- Option: -40°C / +70°C [1)]
- Derating 2%/°C >60°C
- MTBF on request
- Shock/vibration acc. to EN50155
- Weight approx. 7 kg
- Dimension 385 x 250 x 80 mm³
- CE-conformity certificate on request
- Limit temperature on heat sink-✱: 95°C
- Input sided voltage ripples of >5%
  must be announced
- Option: temperature control

1) Fan operation with request to SYKO

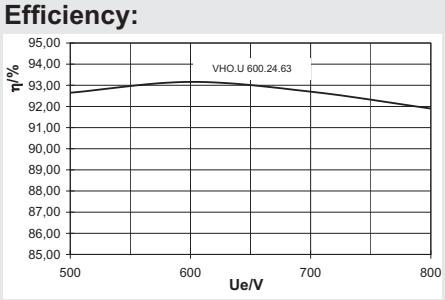
Uin	Pmax	Uout	Iout	Model
V	W	V	A	number
430 - 950	**1700**	24	70	VHO.U750.24.70
1100V / 10ms		110	15	VHO.U750.11.15
380 - 850	**1700**	12	80	VHO.U600.12.80
950V / 10ms		24	70	VHO.U600.24.70
1050 / 1ms		36	46	VHO.U600.36.46
		72	23	VHO.U600.72.23
		110	15	VHO.U600.11.15
280 - 620	**1700**	12	80	VHO.U450.12.80
850V / 10ms		24	70	VHO.U450.24.70
1050V / 1ms		36	46	VHO.U450.36.46
		72	23	VHO.U450.72.23
		110	15	VHO.U450.11.15
150 - 330	**1400**	12	80	VHO.U220.12.80
450V / 10ms		24	58	VHO.U220.24.58
550V / 1ms		36	39	VHO.U220.36.39
		72	19,5	VHO.U220.72.19
		110	12,8	VHO.U220.11.12

Version H -40°C up to 70°C (forced air converction) [1)] additional charge

Single projecting costs: on request

Modification costs for possible changes above values: on request

Efficiency:



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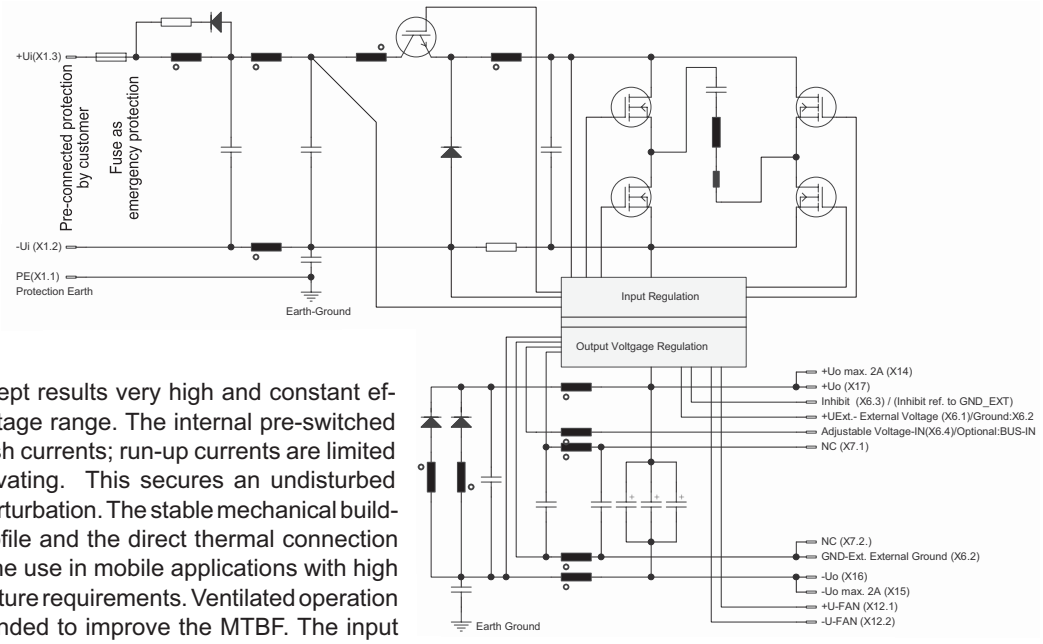
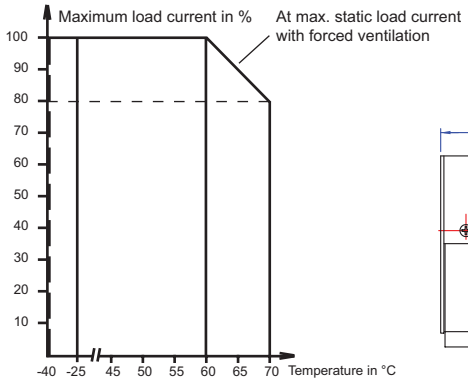
With an output power up to 1,7kW the ***VHO.U*** series is designed for the use in high voltage networks, intermediate voltage circuits, on fuel cells and transient limited traction line in railway, ship and vehicle applications. The VHO.U series generates a stable, short circuit proof output voltage.



The chosen switching concept results very high and constant efficiencies over the input voltage range. The internal pre-switched choke limits short-term inrush currents; run-up currents are limited with an integral power activating. This secures an undisturbed operation with low system perturbation. The stable mechanical build-up in a SYKO extrusion profile and the direct thermal connection to the chassis guarantees the use in mobile applications with high shock/vibration and temperature requirements. Ventilated operation is necessary and recommended to improve the MTBF. The input circuit is protected against long term transients (in closed energy systems) without current refection, radio interference suppressed and can deal with chattering overplugging and short-term power failures (auto re-start). The switching topology, the choice of components, the auto run-up with the input voltage and the interface characteristic result a high system reliability up to limit values for the customer application. The output's regulation characteristic allows parallel connection (Option).

Derating curve



With the BER option the output voltage can be adjusted by a set point value (typ. 0-5V) in a defined range.

Mechanics