

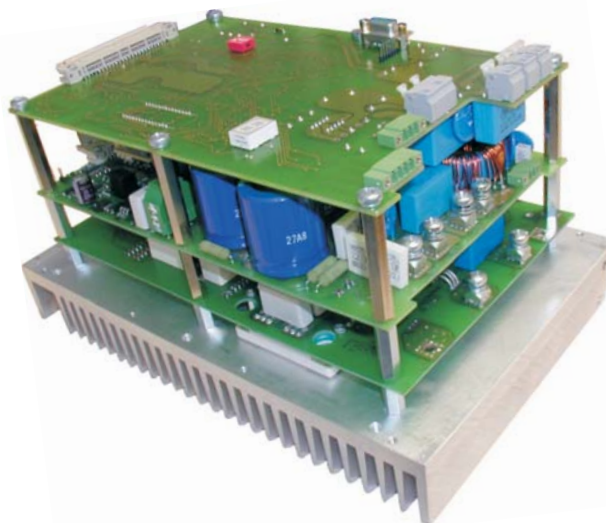
1-phase output  
0,75 up to 2,2 kVA

**1Ph-Sine Wave inverter**  
on 72/110VDC battery networks



- Use in rolling stock
- Extreme stable control loop
- Any kind of load (capacitive, inductive, one-way-rectifying, phase control)
- Synthetic sinus, Distortion factor <1%
- RS 232 / 485 Interface for changes of parameters and data check
- Processor controlled
- Multiple sine output voltages
- Voltage-time area symmetry (Patent pending)

for railway, special technology, building machinery



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## Series WER 01

with low-frequency transformer

### Main points:

#### Input:

- Input voltage range up to >1 : 2,5
- External fuse (emergency protection)
- Disturbance proof EN61000-4-4/5 level 3
- Input filter in acc. to EN55011.A
- Reverse polarity protection
- External soft start pre-charging (relay)
- Inrush current limiting
- Integral power run-up
- Defined switch-on/switch-off point
- No-load current 650mA (110V)
- Input connector X1: Ring connector M5

#### Output

- Low voltage intermediate circuit
- 1Ph-sine voltage
- output sided low-frequency transformer with voltage-time area symmetry
- Internal output EMC-filter
- I<sup>2</sup>t-over load protection of dynamical loads
- U- or f/U-run-up (standard: U-run-up)
- No-load proof, short circuit proof dynamically and statically
- Tolerance ± 2% = f(U<sub>in</sub>/I<sub>out</sub>/TU)
- Response time ΔI=50% < 3 ms
- Distortion factor <1%
- Under voltage control
- Output connector X8: Wago-255-402

#### In general:

- Signal connector X2/X17: Phoenix MC1,5...3,81
- On/Off remote (Inhibit)
- Σ-failure signal
- Status display LED UH okay
- Temperature control
- Optional fan control
- Full bridge with re-feeding
- Clock frequency >10 kHz
- Isolation test voltage:  
Input/Output - ground: 2,5 KV<sub>AC</sub> 1 min
- Ambient temperature -25°C / +70°C
- Short term 85°C / Derating 2%/°C >70°C (ventilation to be clarified)
- MTBF on request
- Shock/vibration in acc. to EN50155
- Weight: approx. 7 kg (plus transformer, choke, relay, heat sink)
- Dimension: (260 x 160 x 120) (without transformer, relay, choke, heat sink)
- CE-Conformity on request

Input	Output UZK	Trans-former <sup>1)</sup>	Power	Model number
<u>U<sub>in</sub></u>	<u>U<sub>out</sub></u> / 1Ph	<u>U<sub>in</sub> / U<sub>out</sub></u>	<u>P<sub>out</sub></u> stat./dyn.	
V DC	V <sub>rms</sub> /50Hz	V <sub>rms</sub> /50Hz	VA	
<b>50 - 101</b>	30	30/230	750/1100	WER01.U72.075/110
43 - 130 dyn.	30	30/230	1200/1500	WER01.U72.120/150
<b>77 - 154</b>	46	46/230	1200/1500	WER01.U10.120/150
66 - 170 dyn.	51	51/230	1500/2000	WER01.U10.150/200

1) customized / additional output windings available

The output voltage can drop up to 10% by U<sub>in</sub> min

Mechanical adaptation: On request

One time projecting costs: On request

Modification costs for possible changes above values: On request

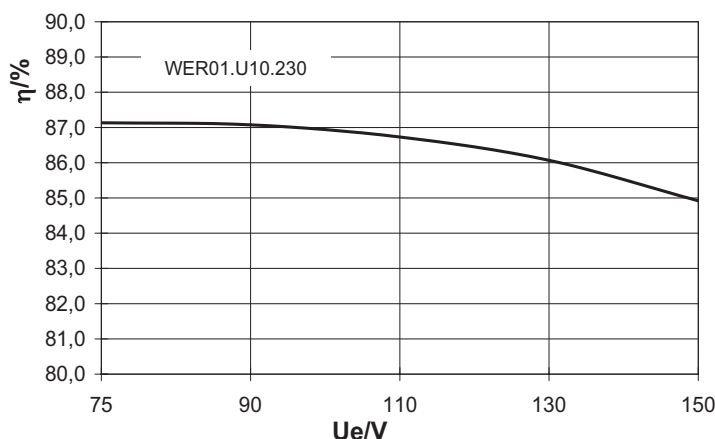
Output frequency 60Hz / 400Hz / 115V<sub>rms</sub>: On request

Higher power and voltages: On request

1) Transformer prototypes are delivered by SYKO, series by the manufacturer. SYKO gives a delivery manual.

### Efficiency

WER01.U10.230



1-phase output  
0,75 up to 2,2 kVA

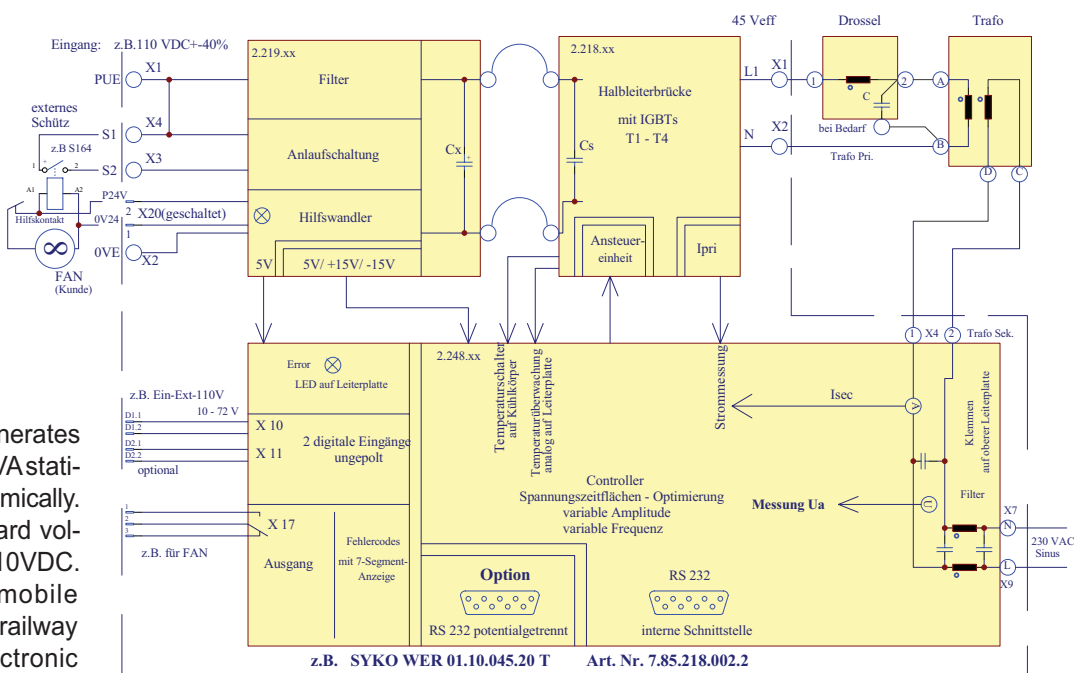
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Many mobile applications need a 1phase/50Hz/230V-alternating voltage to supply kitchen-devices, pumps, computers, control systems, measurement equipment and tools etcetera out of the on-board network or UPS-battery.

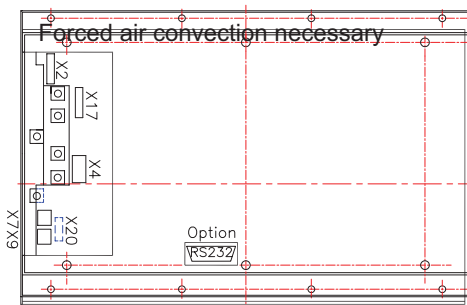
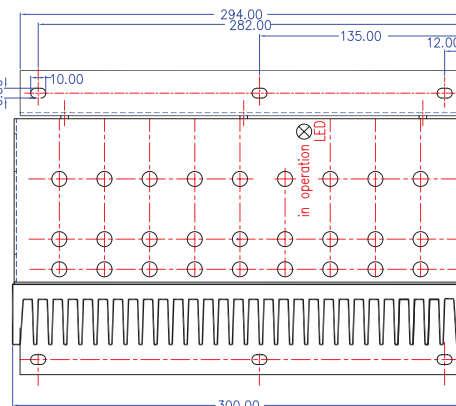
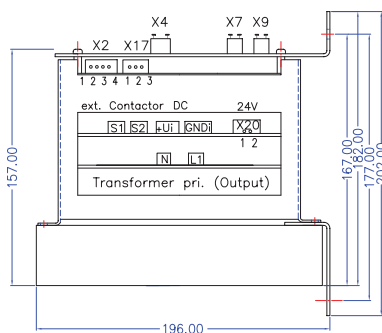
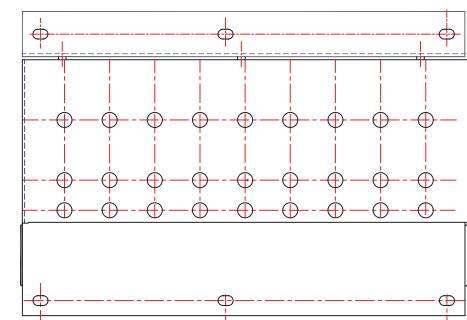
The **WER 01** series generates an output power of 750VA statically up to >2,0kVA dynamically. It is supplied by on-board voltages from 72V up to 110VDC. Developed for the mobile use in rolling stock / railway applications this „electronic power block“ is equipped with corresponding connectors for periphery, optional components as (input filter choke), input relay, sine filter choke (low voltage side), 50 Hz-transformer, display unit and functional inputs for different signalling applications.

The power block is build up/developed with the following features: no cabling, modern semiconductors, very wide input voltage range, over voltage and transient strength, simply mechanical mounting, very high efficiency, transformer's voltage-time area symmetry (Patent pending), filter capacitors dimensioned for extreme low frequency 100 Hz and high frequent chopping currents, input and output sided EMC-filters, monitoring functions, quartz stable frequency, distortion factor of <1%, regulated/controlled/short circuit proof output voltage and a wide ambient temperature range. These functions lead to a flexible and unproblematic usable power component.



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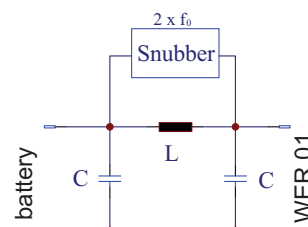
### Mechanics



Phoenix-plug:

- Mating plug X2 MC1,5/4-STF-3,81  
Nr. 18 27 729
- X17 MC1,5/3-STF-3,81  
Nr. 18 27 716
- X20 MC1,5/2-STF-3,81  
Nr. 18 27 703

### Input current-Smoothing Option (On request)



To smooth down the input sine current ( $2 \times f_0$ ), which is caused by very high input capacity a ch<sub>0</sub>ke can be connected input sided.