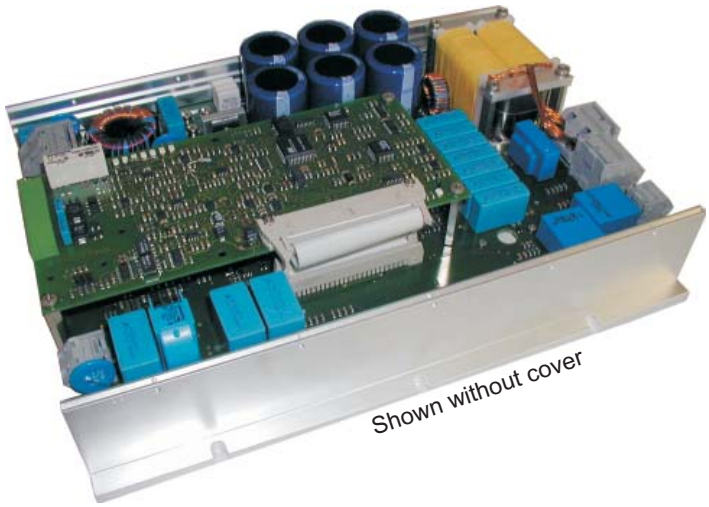
- **Use in rolling stock**
- **Extreme stable control loop**
- **Any kind of load (capacitive, inductive, one-way-rectifying, phase control)**
- **Synthetic Sinus, Distortion factor <1%**
- **RS 232 / 485 Interface for changes of parameters and data check**
- **Processor controlled**
- **Multiple Sine-output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

for railway, special technology, building machinery



Series WER 50/51

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+20db
- No reverse polarity protection
- Soft start/internal pre-charging
- Inrush current limiting
- Integral power run-up
- Defined switch-on/switch-off point
- No-load current 650mA (110V)
- Input plug X3: Wago-745-603
- Rejection of 2xf low frequency current Option 2)

Output:
- Low voltage intermediate circuit
- 1Ph-sine voltage
- output sided low-frequency transformer
- Internal output EMC-filter
- I²t-over load protection of dynamical loads
- U- or f/U-run-up (standard: U-run-up)
- No-load proof, short circuit proof dynamically/statically
- Tolerance ± 2% = f(Uin/Iout/TU)
- Response time ΔI=50% < 3 ms
- Distortion factor <1%
- Under voltage control
- Over load capable up to 1,5 x Pout
- Output connector X9: Wago-745-202

In general:
- Signal connector X15: Phoenix MSTB 2,5/8GF
- On/Off remote (Inhibit)
- Failure signal Uout (Relay contact)
- Status display LED (7 segment display)

- Temperature control
- Fan (Temperature regulated) X4: Phoenix MSTB 2,5/26F
- H-Full bridge with re-feeding
- Clock frequency approx. 20 kHz
- Isolation test voltage: 1,5 KV_{AC} 1 min Input/Output: 2,5 KV_{AC} 1 min
- Ambient temperature -25°C / +70°C
- Short term 85°C / Derating > 50°C (ventilation to be clarified)
- MTBF On request
- Shock/vibration in acc. to EN50155
- Weight: approx. 5,5 kg (transformer approx. 12,5 kg)
- Dimension: (340 x 250 x 90)mm without transformer
- CE-Conformity On request

Input	Output UZK	Trans-former[1)]	Power	Model number
Uin	Uout / 1Ph	Uin / Uout	Pout stat./dyn.	
V DC	Vrms 50Hz	Vrms 50Hz	VA	
18 - 34	9	9/230	400/500	WER51.U24.040/050
25 - 52	14	14/230	550/700	WER51.U36.055/070
50 - 101	30	30/230	500/700	WER50.U72.050/070
43 - 130 dyn.	30	30/230	800/1000	WER51.U72.080/100
77 - 154	46	46/230	800/1000	WER50.U10.080/100
66 - 170 dyn.	51	51/230	1000/1400	WER51.U10.100/140
150 - 308	95	95/230	1200/1400	WER51.U22.120/140
132 - 330 dyn.				

1) customized / available with additional output windings / optional 115V/60Hz

The output voltage can drop up to 10% by Uin min

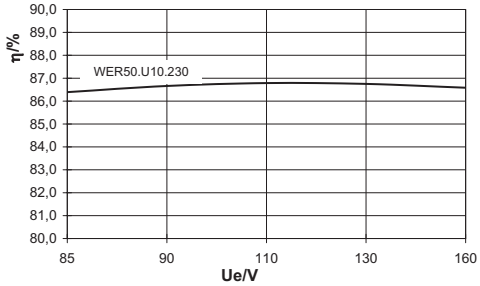
Mechanical adaptation:	On request
One time projecting costs:	On request
Modification costs for possible changes above values:	On request
Output frequency 60Hz / 400Hz / 115Vrms:	On request
Higher power and voltages:	On request

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

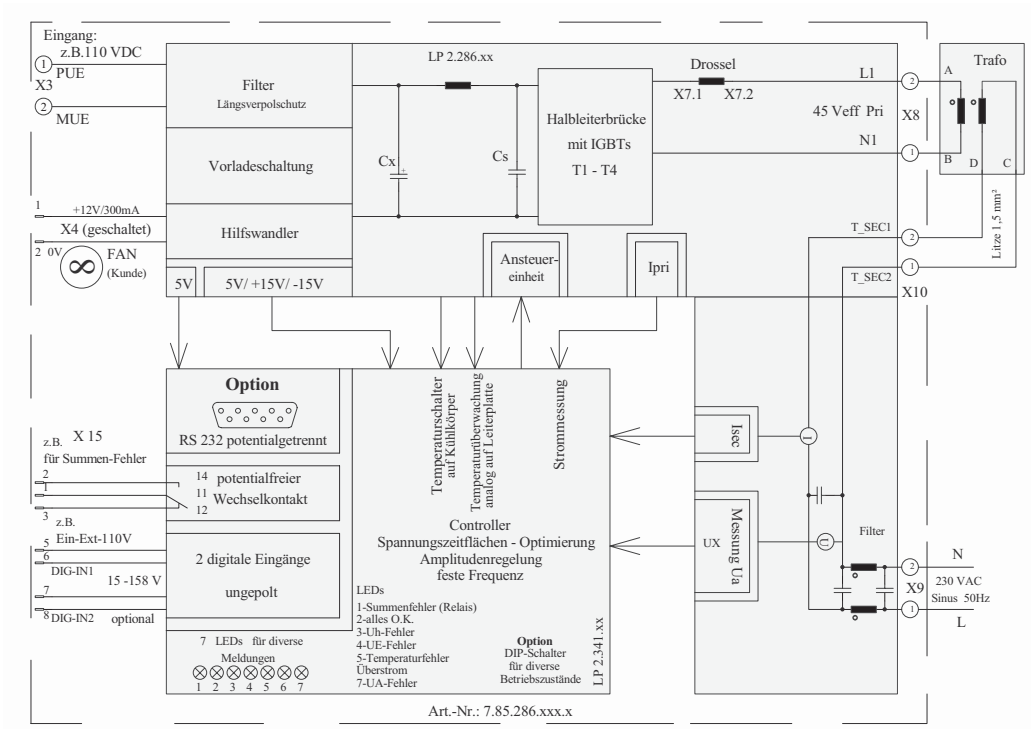
2) The input AC-current can be minimized by an external choke. The power is supported by/based on the internal capacitors.

Efficiency

WER50.U10.230



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

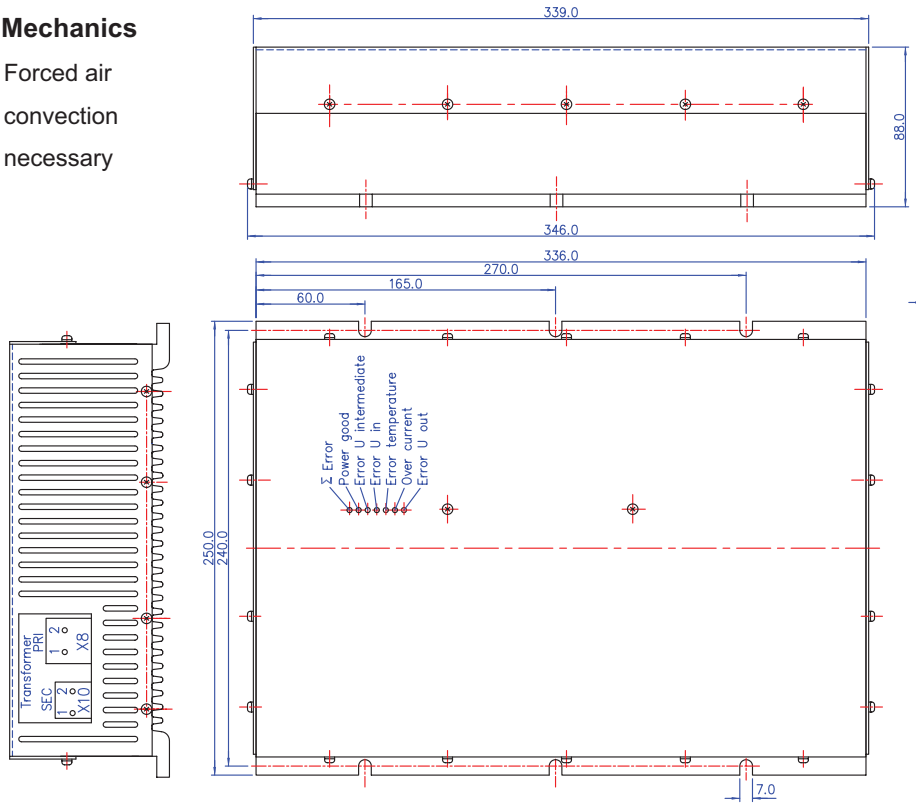


The ***WER50/51*** series generates an output power of 400kVA statically up to >1,4kVA dynamically. It is supplied by on-board voltages from 24V up to 110V (220V) DC. Developed for the mobile use in rolling stock / railway applications this „electronic power block“ is equipped with corresponding connectors for periphery, optional components as (input choke), 50 Hz-transformer, display unit and functional inputs for different signalling applications.

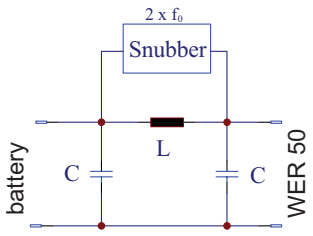
The power block is build up/developed with the following features: no cabling, modern semiconductors, very wide input voltage range, over voltage and transient strength, simply mechanical mounting, very high efficiency, transformer‘s voltage-time area symmetry (Patent pending), filter capacitors dimensioned 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.

Mechanics

Forced air convection necessary



2) Input current-Smoothing Option (On request)



To smooth down the input sine current (2xf0), which is caused by very high input capacity a choke can be connected input sided.