

3-phase output
2000 up to 6000VA

3Ph-Sine Wave inverter
on 72/110VDC battery networks



for mobile applications, special technology, building machinery

- Use on mobile battery networks
- Synthetic 3-Ph sine wave output
- With f/U-control and I²t-monitoring
- Input and Output radio interference adapted
- Low rated air ventilation from TU > 50°C
- Efficiency typ. 89% (110V)
- Auxiliary voltage not necessary
- Robust 50/60Hz-transformer solution
- RS 232 / 485 Interface for changes of parameters and data check



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Series DRR 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+20db
- Reverse polarity protection
- External soft start pre-charging (relay)
- Inrush current limiting
- Integral power run-up (df/dt)
- Defined switch-on/switch-off point
- No-load power approx. 20W
- Input clamp for ring connector M5

Output

- 3Ph-sine voltage
- Low voltage intermediate circuit for output sided low frequency-transformer
- Internal output EMC-filter
- f/U-characteristic curve (zero up to max)
- I²t-over load protection of dynamical loads
- No-load proof, short circuit proof dynamically and statically
- Tolerance ± 6% = f(U_{in}/I_{out}/T_a)
- Response time Δt=50% < 2 ms
- Distortion factor <x%
- Under voltage control
- Output clamp for ring connector M5

In general:

- Signal connector: Phoenix MC 1,5
- On/Off remote (Inhibit)
- Failure signal U_{out}
- Status display LED UH okay
- Temperature control
- 3-Phase bridge with re-feeding
- Clock frequency >10 kHz
- Isolation test voltage:
Input/Output - ground: 2,5 KV_{AC} 1 min
- Ambient temperature -25°C / +70°C
- Short term 85°C / Derating 1%/°C >60°C (ventilation to be clarified)
- MTBF on request
- Shock/vibration in acc. to EN50155
- Weight: approx. 7 kg with heat sink
- Dimension: (300 x 202 x 196)mm without transformer, relay, choke, fan
- CE-Conformity on request

Input	Output UZK	Trans-former ¹⁾	Power	Model number
<u>U_{in}</u>	<u>U_{out}</u> / 3Ph	<u>U_{in}</u> / <u>U_{out}</u>	<u>P_{out}</u> stat./dyn.	
V DC	Vrms 50Hz	Vrms 50Hz	VA	
50 - 101	30	30/230	2000/3000	DRR01.U72.200/300
43 - 130 dyn.	30	30/230 bzw. 400	2500/3750	DRR01.U72.250/375
77 - 154	46	46/230	3000/4500	DRR01.U10.300/450
66 - 170 dyn.	51	51/230 bzw. 400	4000/6000	DRR01.U10.400/600

The output voltage can drop up to 5% by U_{in} min

Mechanical adaptation:

On request

One time projecting costs:

On request

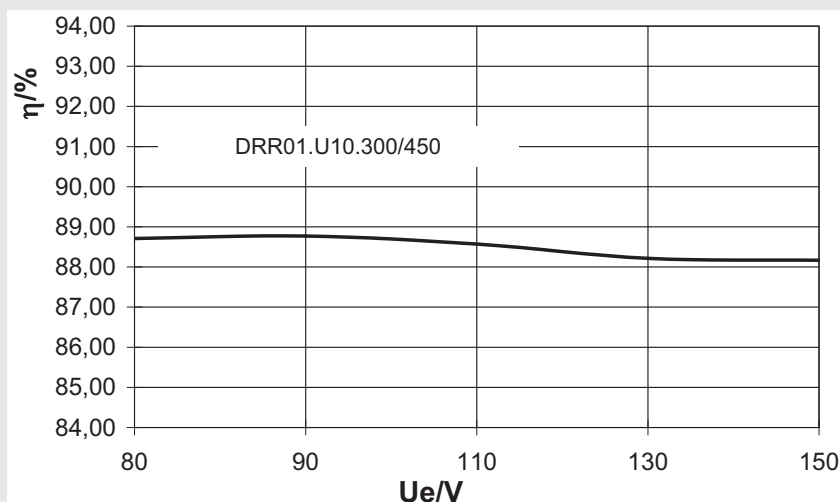
Modification costs for possible changes above values:

On request

1) customized / additional output windings available

1) Prototypes of transformer, choke, relay are delivered by SYKO, series by the manufacturer. SYKO gives a delivery manual.

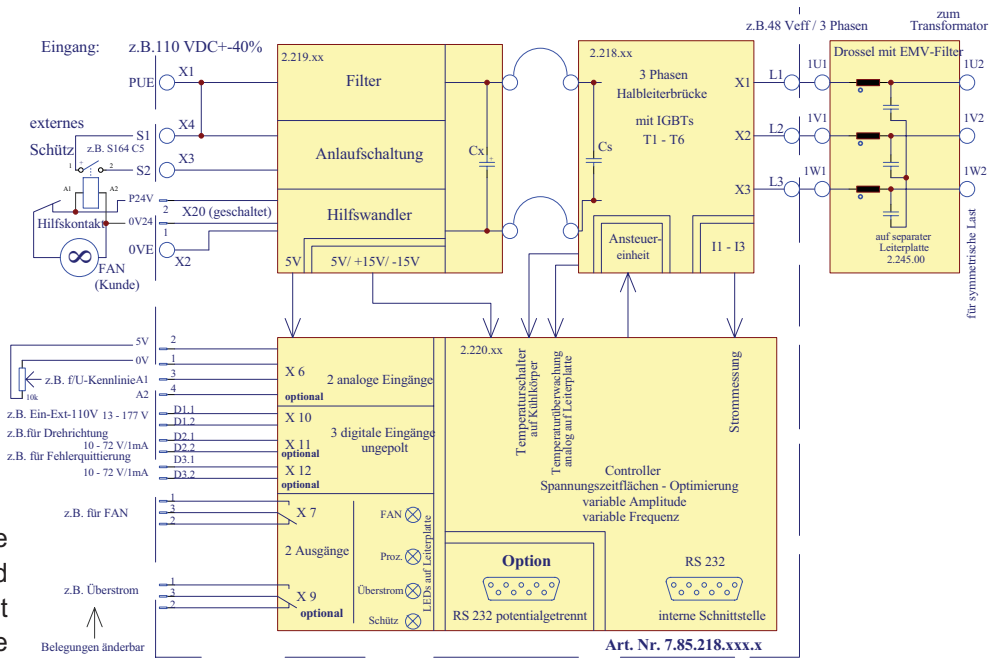
Efficiency



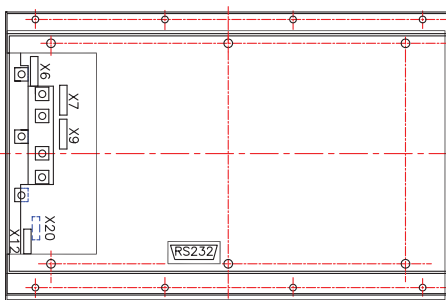
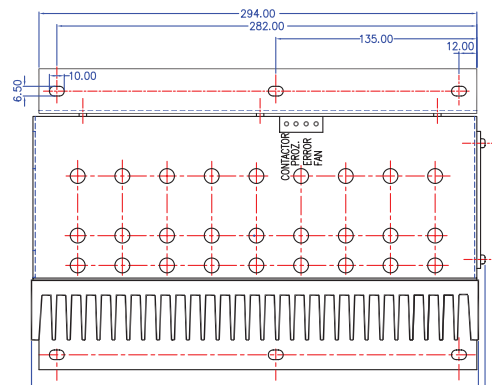
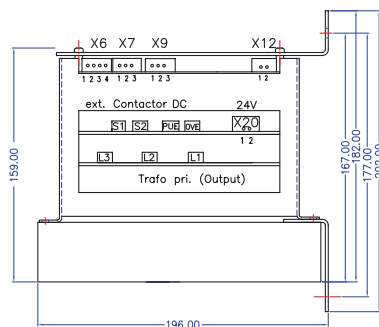
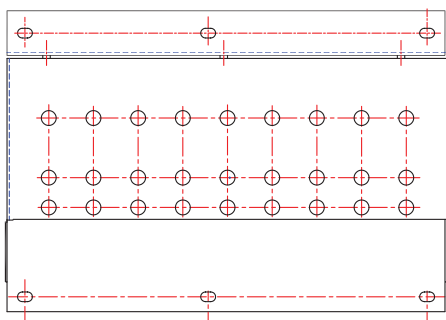
3 phase Inverters of the **DRR50** series have been modified for mobile applications. These inverters are used for the regulated/controlled supply of 3ph-motors with dynamical run-up of compressors, fans, pumps and tools etcetera. The components can run in air conditioning applications, interior ventilation, emergency ventilation and compressed air generation etcetera.

The inverter is build up with three main PCB, which is mounted without cabling on a ribbed-heat sink with cover. The access to the interface and connecting clamps on the PCB is possible through corresponding openings.

The unit can be adapted with flange angles and 6 x M6 screws to a chassis. For the normal operation an external relay (not part of the delivery) is necessary to bridge the soft start circuit after the intermediate capacitors are charged. The switching concept generates a 3ph/50Hz low voltage output. This intermediate voltage $UZK(V_{rms})$ is always lower $(U_{in}-5V) \times 0,707$ as the lowest static input voltage. To be able to result an isolated 3-phase 230/400 V / 50 Hz alternating current, a low frequency transformer (option) is connected output sided in series. A 3ph-sine-choke is connected in between the inverter's output and the transformer to filter the PWM-sine-voltage's HF-interference and to reduce steep dU/dt -values. The external low frequency transformer is a railway capable 3ph special transformer with primary sided Δ connection and secondary sided star connection with $3 \times 400V_{rms}$ (230 Vrms). For the normal use the secondary part can be build up as an autotransformer. An unsymmetrical phase load to the neutral point is limited possible.



Mechanics



Customized complete solution
DRR01.U10.400.400.600

Forced air convection
necessary

