

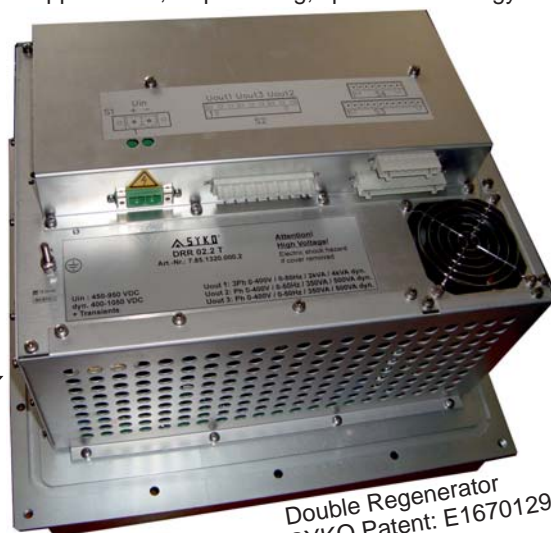
**Triplex 3ph output**  
regulated intermed. circuit UZK

**3ph sine wave inverter**  
high voltage battery 250 / 450 / 700V  
traction line 600 / 750V



for mobile applications, ship building, special technology

- for applications according EN50163
- Main inverter plus two small sine wave inverters, each with f/U-control
- Buck-Boost to intermediate level ~700V const.
- Synthetic sine wave output voltages
- Input and output EMC filter
- Ambient temp. -40/+55°C without ventilation
- Efficiency typ. 92%
- Option: CAN interface



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## Series DRR 02.2 Triplex

Three independent 3ph-sine wave inverters without isolation

Double Regenerator  
SYKO Patent: E1670129

### Main points:

#### Input

- Nominal voltage/transients EN50163
- Double Regenerator (Patent) for high input voltages and long-term transients
- Auxiliary voltage 24/110V +/-40%
- Fuse external, customer sided
- input filter EN50121-3-2
- Low input capacity
- Integral power run-up of the intermediate voltage
- Under and over voltage switch-off with delayed re-start (5s)
- Power connection 2-pin: Phoenix PC16/2-STF-10,16
- Signals, front-end and main inverter 12-pin WAGO MCS-MIDI 721-112/037-000
- no auxiliary supply necessary

#### Intermediate circuit

- No-load, short circuit proof
- interm. level regulation = f (Tu/lout/Uin) ±2%
- Optional for external loads

#### Output inverter

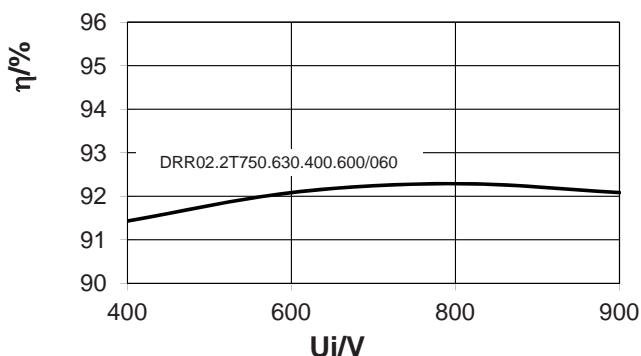
- Three functional independent outputs
- Synthetic sine wave voltages
- I<sup>2</sup>t- and dyn. over load protection each output
- Run-up with f/U-control per output
- No-load, short circuit proof dyn/stat.
- Stability ±3 % = f (lout/TU)
- Set point/Inhibit/ Failure signalling
- Acceleration df/dt each output
- Power connection 9-pin WAGO MCS-MIDI 723-609
- Signals, DRR2+DRR3: 8-pin WAGO MCS-MIDI 721-108/037-000

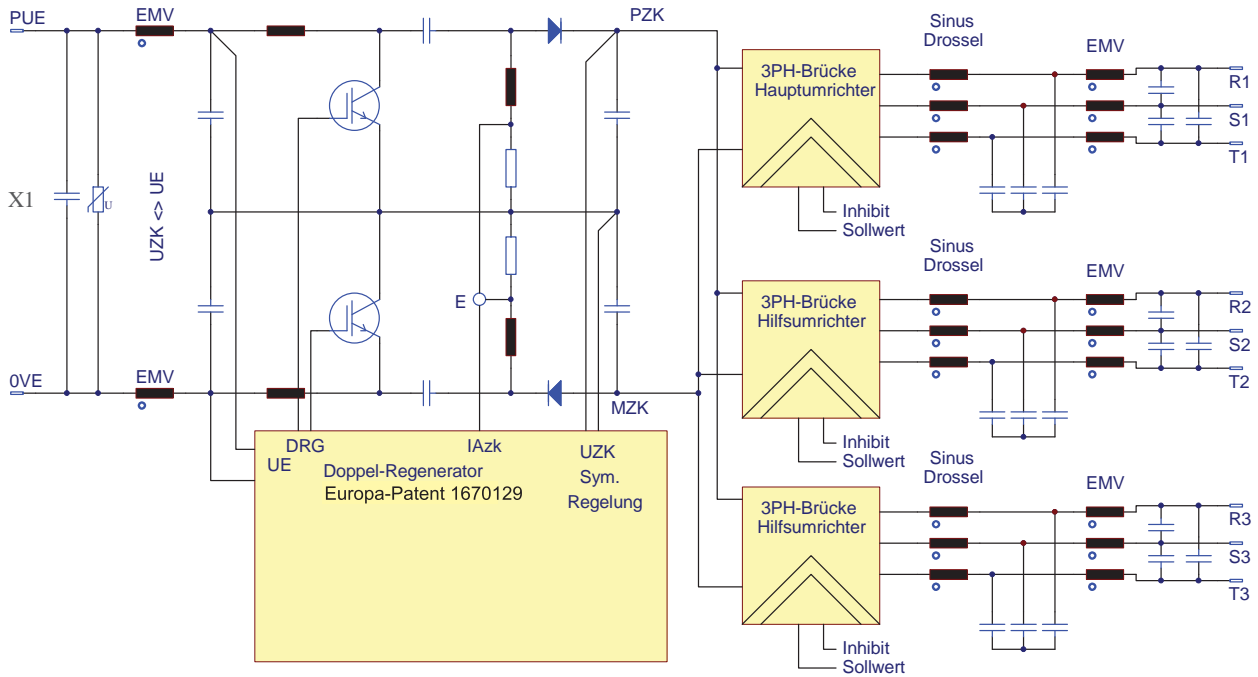
#### In general

- Inhibit for interm. level, DRR1, DRR2, DRR3
- Set point value 0-5 V / 0-100 % PWM
- Status display
- Test voltage to Ground: 2,5kV AC
- Ambient temperature -25/+70°C
- Derating 1,5 %/°C >55°C
- Cooling / ventilation to be clarified
- Dimension: (400 x 420 x 263)mm
- Weight approx. 40kg
- CE-Conformity on request

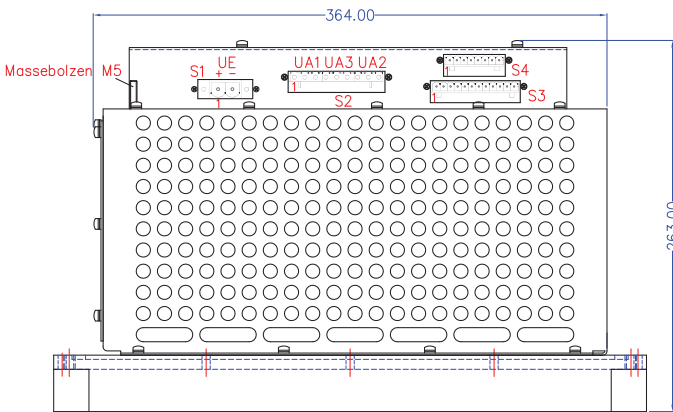
Input	Output				Model number
	U <sub>in</sub> V DC	UZK VDC	U <sub>out</sub> Vrms	P <sub>out</sub> stat./dyn. KVA	
<b>150-380</b> 550 / 10ms <b>220V-battery</b>	360	230	2,0/3,0	0,35/0,6	DRR02.2T220.360.230.300/060 <b>auf Anfrage</b>
<b>310 - 585</b> 800 dyn. <b>450V fuel cell</b>	360 630	230 400	2,0/3,0 2,5/5,0	0,35/0,6 0,35/0,6	DRR02.2T450.360.230.300/060 DRR02.2T450.630.400.500/060 <b>auf Anfrage</b>
<b>460 - 900</b> 1060 dyn. <b>660V intermediate circuit</b>	630	400	3,0/6,0	0,35/0,6	DRR02.2T660.630.400.600/060
<b>430 - 1050</b> 1950V / 10ms <b>750V traction line</b>	630	400	3,0/6,0	0,35/0,6	DRR02.2T750.630.400.600/060
Modification costs for possible changes above values:					On request
One time projecting costs:					On request
In the Boost-Mode optionally the intermediate circuit's UZK is 1,2 x U <sub>nom</sub> higher and the 3Ph-voltage rises up to 1,2 x U <sub>out</sub> / up to 60 Hz.					

### Efficiency

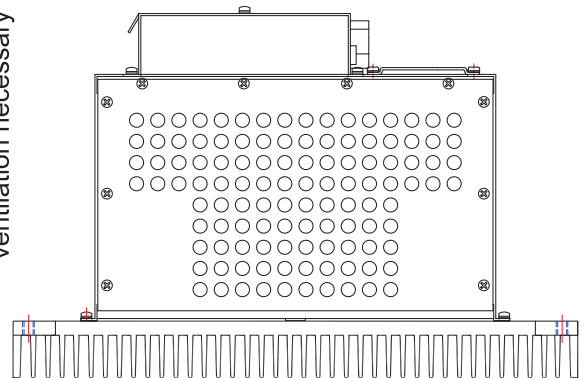




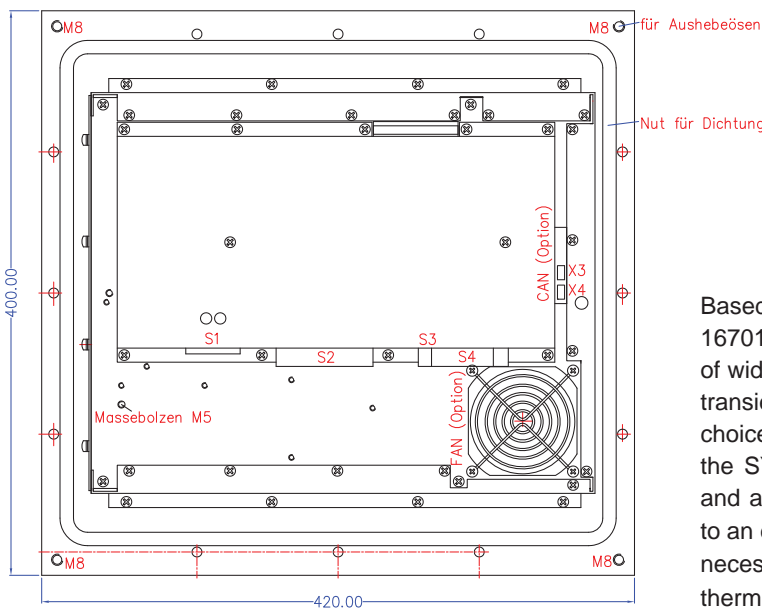
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Forced air convection/  
ventilation necessary



**Mechanics**



The **DRR02.T** series (TRIPLEX-3ph-sine wave inverter) has been developed for the supply of three functional independent motors out of traction line voltage, rectified intermediate circuits or high voltage batteries. In different seasonal times different operating situations can be regulated independently, so as cold air dryer/circulating air/compressor or incoming/outgoing/circulation air respectively. A typical use of the Triplex-System is the de-central supply of driver's cab air conditioning systems.

Based on the European Patented Double-Regenerator (Patent 1670129) a stable operational use is given with the processing of wide tolerance ranges, input voltage ranges and long-term transients. The high efficiency, modern semiconductors, the choice of components and corresponding monitoring functions, the SYKO operating-soft ware for f/U-control, I<sup>2</sup>t-monitoring and a pulse for pulse-current limitation for each output lead to an extreme high functionality. A forced air convection is not necessary in the most cases - but it belongs to the heat sink's thermal connection.

Isolated interfaces for each output with set-point value for f/U and different signalling inputs and outputs are available. The soft start (f/U-Control) results that the supplying input power can clearly be reduced in compare to three times hard switched motors. An additionally auxiliary voltage is not necessary. All internal auxiliary voltages are generated in the DRR02 with the corresponding isolation for the main and additional inverters.