

3-Phase Sinus Output
4400 VA up to 7700 VA

3-Phase Frequency Inverter
on 3 Ph-AC-network



- Use in mobile 3 Ph networks
- Synthetic 3-Ph sinus output
- With f/U control and I²t-monitoring
- Input and output radio interf. adapted
- Low rated air ventilation from T >50°C
- Efficiency typ. 94%
- No peak-value rectifying
- CAN Bus interface for changing of parameters and actually data transmitting (Optional GUI required)



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Series FUR 04

without galv. isolation

preliminary

no forced air cooling required
convection via ribbed heat sink

Main features:

Input:

- 3 Ph-sinus input DC*/rectangular*/trapeze*voltage
- external fuse (Automat)
- input EMC filter and disturbances protection acc. EN50121-3-2
- soft start-/internal pre-charging (semiconductor)
- inrush current limiting on intermediate circuit
- integral run up (df/dt)
- defined turn on/off points
- run up out of input voltage/no auxiliary voltage required
- no load power consumption ca. 15W (with inhibit)
- connector: Phoenix SPT 5/3-H max 6 mm²
- Power factor > 0,8
- * on request

Output:

- all-poles-sinusfilter against common mode distortions (allow to use of noshielded cables)
- distortion factor < 2,5 %
- internal output EMC filter
- f/U-control (zero up to max)
- I²t-overload protection of dynamic loads
- no load-, dyn./stat. short circuit protected
- accuracy ± 3% = f(U_{in}/I_{out}/T_{ambient})
- response time ΔI=50% < 2 ms >CZK
- connector power: Phoenix SPT 5/3-H max 6 mm² (3 Phase)

In general:

- signal connector / CAN / relays each Phoenix MC 1.5/8-GF—3.81
- status signaling LED: error 1 & 2 / power good / power on
- temperature turn off cooling plate 120°C
- boost-UZK-inverter
- clock frequency ca. 20 kHz
- isolation test voltage: in/out - ground: 2,5 kV_{rms} 1 min
- ambient temperature: -25°C / +70°C / derating 2%/°C >60°C
- no internal forced cooling required
- MTBF on request
- shock/vibration according EN61373
- ground connector M4 terminal
- weight: ca. 17 kg
- dimensions: (555 x 235 x 183) mm
- no external filtering system required
- CE-conformity on request

input	output		
<u>U_{in}</u> / 3 Ph Vrms	<u>U_{out}</u> / 3 Ph V _{eff} ³⁾	<u>P_{out}</u> stat./dyn. Vout	model description
340 - 552 V AC	230	3800/6600	FUR04.U400.230.380/660 ²⁾
50/60 Hz	400	4400/7700	FUR04.U400.400.440/770
400/460 V- 3 Ph network			
95 - 144 V AC	115	2200/3000	FUR04.U115.115.220/300 ²⁾
400 Hz¹⁾	230	2200/3000	FUR04.U115.230.220/300 ²⁾
115 V-3 Ph network			
160 - 275 V AC	115	3000/4500	FUR04.U200.115.300/450 ²⁾
60 Hz	230	3000/4500	FUR04.U200.230.300/450 ²⁾
220 V-3 Ph network			

U_{out} stabel over input range

mechanical adaption:

on request

one time project costs:

on request

modification charge for possible electrical adaption:

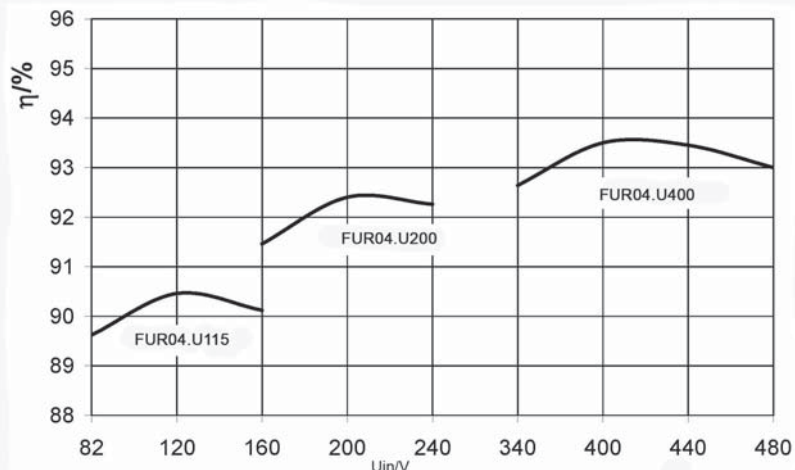
on request

galv. isolation via external 3 Ph transformer with neutral point:

on request

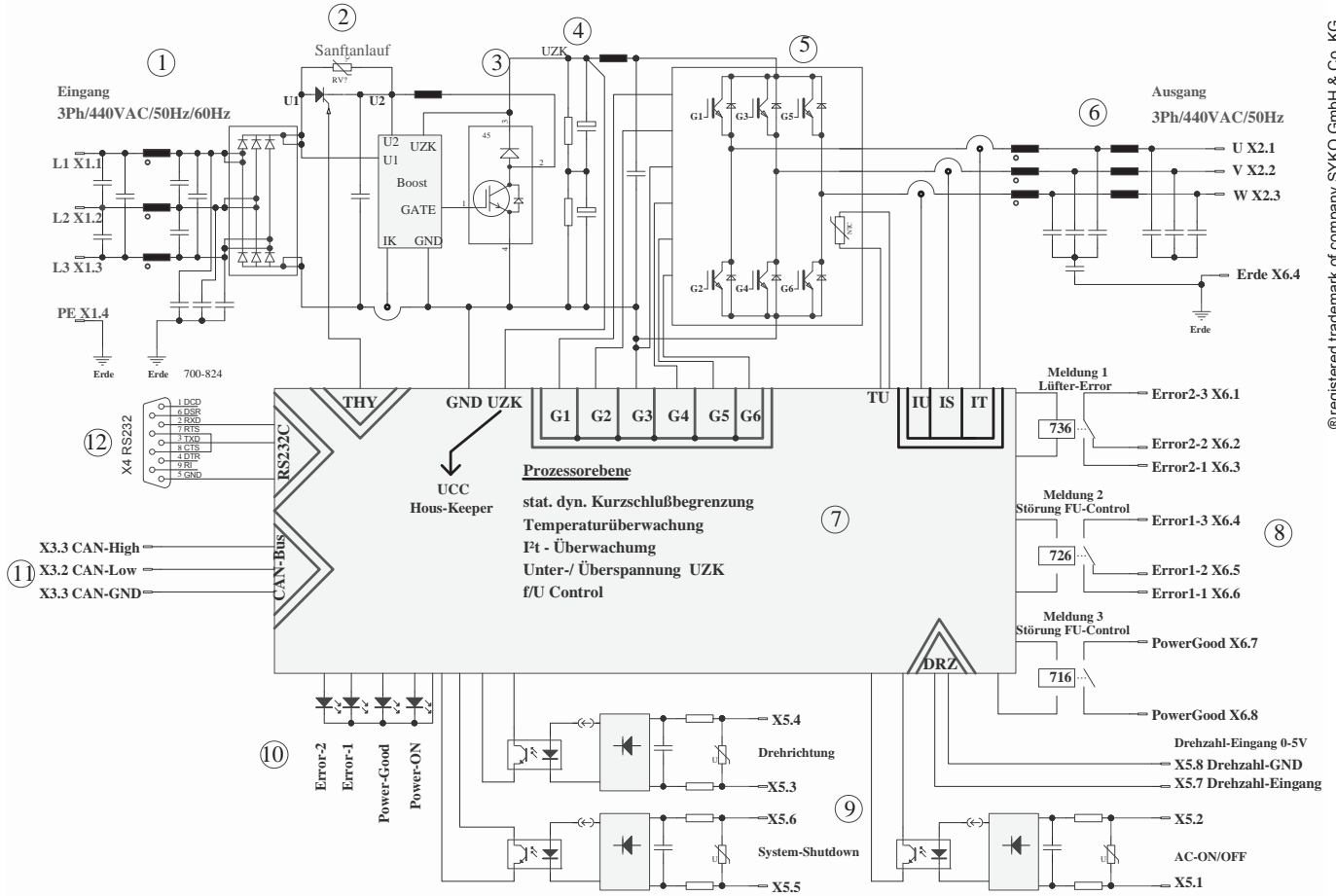
1) frequencies >65Hz and 2) :

on request



Stand: 10/16

G-46



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The new compact 3 Ph inverter model FUR 04 was designed for use in track vehicles regarding existing norms for rolling stock on 400/460 V $\pm 20\%$ and 50/60 Hz. Another applications are in hybrid vehicles to control a 3 Ph voltage on the network generator. By use of a few steps concept with booster up to > 650V DC and 3Ph-bridge with sinus chocke the output value can be controlled by a f/U run up from 0V to 400 V (460) V / 50 or 60 Hz with a rotating speed trim. A soft start prevents high inrush currents and the f/U control prevents high run up currents. Input & output EMC filters limit the EMC related to the EN50121-3-2 and generate a synthetic sine wave with a low crest factor.

A controlled run up of the booster, the delay of the 3 Ph bridge and the under- overvoltage monitoring of the intermediate circuit prevent the stress of semiconductors and the redirected energetic flow of the 3 Ph bridge.

