

# TOP CLASS «COMBI»

Sinewave Inverter with integrated battery-charger

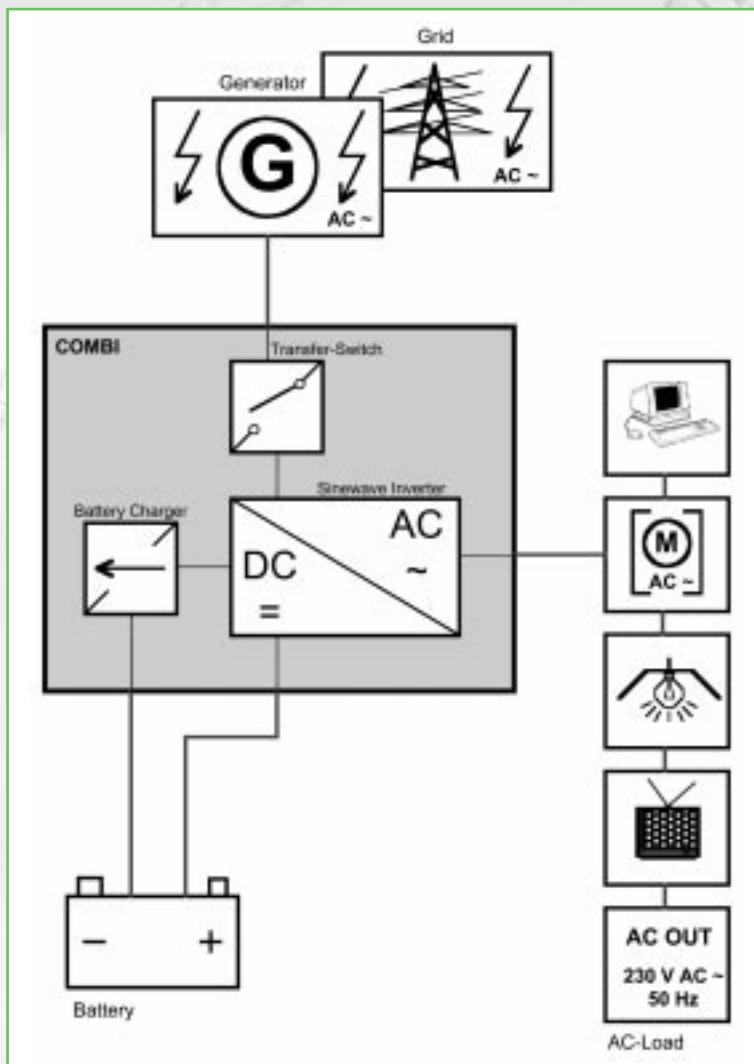
## Industrial-Line

TCNL13/12 and TCNL22/24

- ▶ Solar
- ▶ Industry
- ▶ Public Services (rescue vehicle)
- ▶ Housing
- ▶ Yachting / Boating
- ▶ Lorries / Service-vehicle
- ▶ Railway
- ▶ Camping, leisure-time activities
- ▶ Turbine DC (wind, water)
- ▶ Grid-Connection

- ▶ Integrated battery-charger
- ▶ Automatic Switch Grid / Battery
- ▶ Prozessor controlled Battery supervision
- ▶ True Sinewave
- ▶ Short circuit and overload security

## COMBI (TCNL)



TCNL13/12



TCNL22/24

**TOP CLASS «COMBI»**
**TCNL13/12**
**TCNL22/24**

<b>Inverter</b>		
Rated Voltage UDC <sub>IN</sub>	12V	24V
Input Voltage Range	10.5 ... 16.0V DC	21.0 ... 32.0V DC
Dynamic Low Voltage Cut Off (depending on load)	10.5 ... 9.0V DC	21.0 ... 18.0V DC
Rated current IDC <sub>IN</sub>	125A	100A
Current IDC <sub>IN</sub> max.	350A	290A
Rated Power P <sub>10</sub> (10 min at TA=20°C)	1400VA	2900VA
Rated Power P <sub>30</sub> (30 min at TA=20°C)	1300VA	2200VA
Continuous Power P <sub>D</sub>	1000VA	2000VA
Rated Output Voltage UAC <sub>OUT</sub>	230V AC, ± 2% (short circuit proof)	
Output Frequency	50Hz, ± 0.5% (true sinewave)	
Rated Output Current IAC <sub>OUT</sub>	5.7A	9.7A
Short Circuit Current IAC <sub>K</sub> (max. 0.5s)	16A	25A
Allowable CosPhi	0.3 ... 1	
Efficiency Factor max.	92%	93%
Adjustable Standby Level (logarithmic)	4 ... 40W	
Consumption Standby/OFF	ca. 1W (Test impulse every 800ms) / 0W	
Consumption 230V AC OK	11W	16W
Synchronization	fully automated synchronization to Grid or Generator	
Reset after Short Circuit	every 60s	
Reset after Overload	every 60s	
Reset after Overtemperature	automatically after reaching semiconductor temp. +45°C	
Reset after Battery failure	automatically after reaching UDC <sub>IN</sub>	
<b>Battery-Charger</b>		
Max. cont. Charge Power	1300W	2200W
Charge algorithm	IoU or IUoU selectable	
Charging Current (adjustable)	0 ... 90A	0 ... 90A
Efficiency Factor max.	88%	91%
CosPhi	≈1	
Input Voltage Range	196 ... 245V AC	
Input Frequency Range	45 ... 55 Hz	
Temperature compensation (sensor included)	-10mV/K per Cell (0 ... 35°C)	
Float Voltage adjustable	12.5 ... 15.0V	25.0 ... 30.0V
<b>General data</b>		
Ambient Temperature range	-25°C ... +50°C (max. 95% rH, not condensing)	
DC- Breaker / fuse	no	125A
Remote control ON / OFF	yes	yes
Status indication	LED / (optional LCD)	LED / (optional LCD)
Automatic Transfer Switch	40A / 250V	
Transfer Time	typ. 20ms / max. 50ms	
Relay Contact for Generator start up	2A / 30V DC (isolated)	
Generator Time	0 ... 255 min	
Toroidal Transformer (galvanically isolated)	IEC742, VDE0551	
Temperature and Load controlled fan	ON 55°C / OFF 45°C, PD >80%	
RS-232 Interface	yes	yes
Dimensions (L x W x H)	375 x 181 x 375 mm	456 x 320 x 211 mm
Dimensions optional remote indication (L x W x H)	110 x 90 x 30 mm	
IP Protection	IP20	
Standards	CE	
Weight	17 kg	21 kg
Warranty	2 years	

Technical changes reserved (02/2003)