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INV-TCBC

Sinewave Inverter with battery charger

Description

This series of DC/AC Inverters are designed for power distribution systems that also have an AC Input available. The Inverter is usually supplied from a DC Source such as a battery. The input voltage is continually monitored. The INV-TCBC will automatically disconnect the DC Source should the voltage fall out of tolerance. This ensures that batteries are not damaged by a deep discharge. In the event of DC disconnection the inverter will automatically switch over and pass through the connected AC Input. The transfer time is typically 20ms. The INV-TCBC can be preset to also provide a DC Output when being supplied from the AC Mains or generator. This is intended to recharge the battery. The charge current and float voltage can be adjusted. The charger section also features the ability to compensate for temperature providing the user connects the supplied sensor to the battery. An RS232 interface allows for remote control and monitoring.



- Grid Synchronisation with Automatic Transfer
- Integrated Battery Charger
- True Sinewave Output
- Battery Protection
- RS232 Interface

Selection Table

Part Number	Max Continuous Power	Input Voltage	Output Voltage	Output Current
INV-TCBC 13-12	1000VA	12VDC	230VAC	5.7A
INV-TCBC 22-24	2000VA	24VDC	230VAC	9.6A

Options Table

Code	Description
/19".....	Unit built into a 19" rack
/LCD.....	Standard LED display replaced with LCD



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Technical Data

Inverter

	INV-TCBC 13-12	INV-TCBC 22-24
Rated Voltage UDC _{IN}	12V	24V
Input Voltage Range	10.5 - 16.0VDC	21.0 - 32.0VDC
Dynamic Low Voltage Cut Off	10.5 - 9.0VDC	21.0 - 18VDC
Rated Current IDC _{IN}	125A	100A
Current IDC _{IN} max.	350A	290A
Rated Power P ₁₀	1400VA (10min at TA = 20°C)	2900VA (10min at TA = 20°C)
Rated Power P ₃₀	1300VA (30min at TA = 20°C)	2200VA (30min at TA = 20°C)
Continuous Power PD	1000VA	2000VA
Rated Output Voltage UAC _{OUT}	230 VAC ±2% (short circuit proof)	
Output Frequency	50Hz ±0.5% (true sinewave)	
Rated Output Current IAC _{OUT}	5.7A	9.6A
Short Circuit IAC _K (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	
Synchronisation	Fully automated synchronisation to grid or generator	
Consumption 230VAC OK	11W	16W
Reset after Short Circuit	Every 60s	
Reset after Overload	Every 60s	
Reset after Overtemperature	Automatically after reaching semiconductor temperature +45°C	
Reset after Battery Failure	Automatically after reaching UDC _{IN}	

Battery Charger

	INV-TCBC 13-12	INV-TCBC 22-24
Max Continuous Charge Power	1300W	2200W
Charge Algorithm	IoU or IUoU selectable	
Charge Current (Adjustable)	0 - 75A	0 - 75A
Efficiency Factor max	88%	91%
Cos Phi	~1	
Input Voltage Range	196 - 245Vac	
Input Frequency Range	45 - 55Hz	
Built in Temperature Compensation	-10mV/K per cell (0 - 35°C)	
Float Voltage Adjustable	12.5 - 15V	25 - 30V

General

	INV-TCBC 13-12	INV-TCBC 22-24
Ambient Temperature Range	-25°C to +50°C (max. 95% rH, non 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	Typically 20ms / Maximum 50ms	
Relay Contact for Generator Start	2A / 30Vdc (Isolated)	
Generator Time	No	0 - 255 min
Toroidal Transformer	EN61558 (IEC61558)	
Temp and Load Controlled Fan	ON 55°C/OFF 45°C, PD >80%	
RS232 Interface	Yes	
Dimensions (WxDxH)	181x375x375mm	320x456x211mm
IP Protection	IP20	
Standards	CE	
Weight	1.8kg	2.5kg
Warranty	2 Years	