

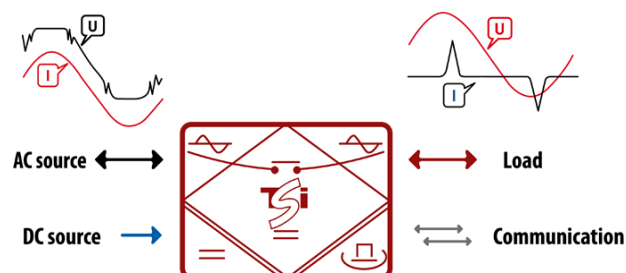
TSI BRAVO 220/230

New Energy Effective DC/AC inverter



The TSI "Twin Sine Inverter" is the very latest generation of power modules that is creating a revolution in the DC/AC inverter world.

TSI concept is a modular "hot swap" solution that eliminates all « single point of failure" such as external static switches and the limit of the number of units in parallel is only linked with the bus communication limitation (32 modules). It brings **Scalability**, **Availability**, **Footprint**, **Efficiency**. TSI is **SAFE** for your load and your operation.



- Efficiency 96% to compare to the global 83% efficiency of conventional rectifier/inverter solution
 - Reduces Energy losses by 70%
 - Positive Carbon Impact "Green solution".
- Elimination of external static switch and rectifier
 - The static switch functionalities are integrated in each TSI module EPC
 - The rectifier is needed only to charge the battery
- Expandable solution and modular architecture.
 - Up to 32 modules can be connected in parallel
 - Real Hot Swap solution
 - Simplified installation and commissioning
- AC mains filtering
 - Unity power factor at AC input
 - Wide AC input range 150Vac to 275 Vac with stabilized AC output 230VAC. Ideal for "severe" AC input environment and critical AC loads

Specifications can change without notice. New data will be updated on our Web site:

<http://www.cetamerica.com/> or <http://www.cet.be/>

The present equipment is protected by several international patents, trademarks and copyrights.

TSI BRAVO 220/230

Technical features

Version 01

GENERAL

EMC	ETSI EN 300-132-2
EMC (emission)	EN 55022 (Class B)
Safety	IEC/EN 60 950-1 & 62040-1
Cooling	Forced
Isolation	Doubled
MTBF	240000 hrs
Efficiency (Max)	
Enhanced Power Conversion	>96.5%
On Line	>92.5%
Dielectric strength DC/AC	4300Vdc
True Redundant Systems	Compliant
3 disconnection levels on AC _{out} and DC _{in} power ports	
4 disconnection levels on AC _{in} port	
RoHS	Compliant
Connection I/O	Terminal block
Protected against inversion of polarity	
Self adaptive to wide operating conditions and comprehensive table of troubleshooting codes	

AC OUTPUT POWER

Nominal Output power	2500 VA
Output power (resistive load)	2000 W
Short time overload capacity	150% 15 second
Permanent overload capacity	110%
Admissible	Full power rating from
load power factor	0 inductive to 0 capacitive
Internal temperature management and switch off	

DC INPUT SPECIFICATIONS

Nominal voltage (DC)	220 V
Voltage range (DC)	170 - 270 V
Nominal current (at 220Vdc and 2000W output)	9.8 A
Maximum input current (for 15 second)	14.9 A
Input voltage boundaries user selectable	

AC INPUT SPECIFICATIONS

Nominal voltage (AC)	230 V
Voltage range (AC)	150 – 265 V
Brownout	150 to 185 V
	1784 W @150V
Conformity range	Adjustable
Power Factor	>99%
Frequency range (selectable)	50 - 60 Hz
Synchronization range	47 – 53 Hz
	57 – 63 Hz

AC OUTPUT SPECIFICATIONS

Nominal voltage (AC) (*)	230 V
Voltage range (AC)	200 – 240 V
Voltage accuracy	2 %
Frequency	50 - 60 Hz
Frequency accuracy	0.03 %
Total harmonic distortion (resistive load)	<1.5 %
Load impact recovery time	0.4 ms
Turn on delay	20 s
Nominal current	10.87 A
Protected against reverse current	
Crest factor at nominal power	3.1
With short circuit management and protection	
Short circuit clear up capacity	10 x I _n for 20msec
Available while Mains is available at AC input port	
With magnitude control and management	
Short circuit current after clear up capacity	2,1 I _n
Short circuit current after 15 sec	1,5 I _n

TRANSFER PERFORMANCE

Maximum voltage interruption	0 s
Total transient voltage duration (max)	0 s

ENVIRONMENT

Altitude above sea without de-rating	<1500m
De-rating slope upper than 1500m	0.8% by 100m
Ambient temperature	-20 to 50 °C
Derating from 50°C up to 70°C	
Storage temperature	-40 to 70 °C
Relative humidity	95% , non condensing

SIGNALLING & SUPERVISION

Display	Synoptic LED
Alarms output	Dry contacts on shelf
Supervision	Use optional devices
Remote on/off	On rear connector

WEIGHT & DIMENSIONS

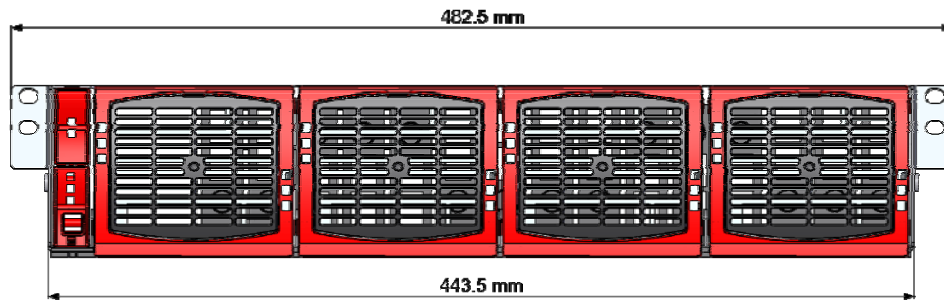
Width	102 mm
Depth	435 mm
Height	2 U
Weight	5 Kg
Material (casing)	Coated steel

(*) Operation within lower voltage networks leads to derating of power performances.

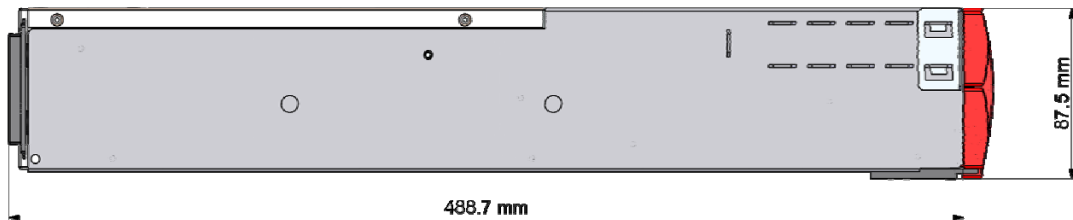
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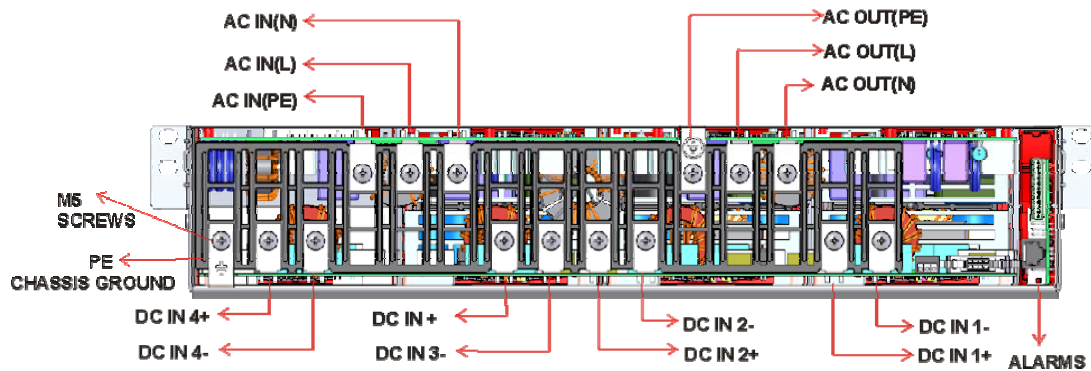
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FRONT VIEW



SIDE VIEW



REAR VIEW