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» TSI BRAVO

2.5-225 kVA

TELECOM | DATACOM | MASS TRANSIT | OIL & GAS | POWER UTILITIES

MODULAR INVERTER

POWER 2.5 kVA (1.5 kVA*)
INPUT 24* / 48 / 60 / 110 / 220 Vdc
OUTPUT 230 Vac

DESCRIPTION

BRAVO is a compact and scalable modular inverter providing a pure sine wave AC supply. In conjunction with a DC Power system, it provides an excellent AC backup solution. It uses the latest inverter technology, providing superior energy efficiency in a compact size.

The “Twin Sine Innovation” (TSI) technology eliminates all single points of failure with full scalability; up to 32 modules in parallel and high efficiency of up to 96 % reducing operating costs.

APPLICATIONS

All business critical applications and all types of AC loads. The design is modular and scalable with hot- swappable inverter modules which ensures low Mean Time to Repair (MTTR), reduction in service costs and meets the changing needs for future expansion.

MAIN FEATURES

- Dual input sources (AC & DC) with wide AC input range 150 Vac to 265 Vac
- Compact design
- High efficiency
- Transfer time reduced to 0
- up to 10kVA in 2 U
- up to 225kVA in 3 enclosures of 75kVA each

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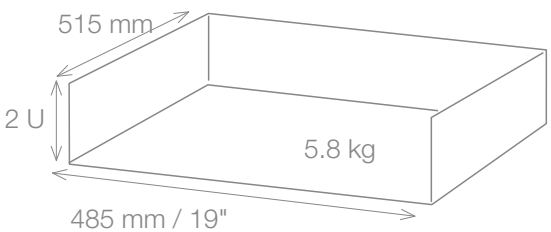
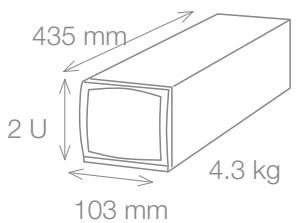
	24 / 230	48 / 230	60 / 230	110 / 230	220 / 230
GENERAL					
EMC (immunity)	EN 61000-4-2 / EN 61000-4-3 / EN 61000-4-4 / EN 61000-4-5 / EN 61000-4-6 / EN 61000-4-8				
EMC (emission) (class)	EN 55022 (A)	EN 55022 (B)	EN 55022 (A)	EN 55022 (B)	
Safety	IEC 60950 / EN62040-1 / EN62040-2				
Cooling / Isolation	Forced / Doubled				
MTBF	240 000 hrs (MIL-217-F)				
Efficiency (Typical): Enhanced power conversion / on line	> 95.5% / > 89.5%	96% / 91%			96.5% / 92.5%
Dielectric strength DC/AC	4300 Vdc				
True Redundant Systems – compliant	3 disconnection levels on AC out and DC in power ports 4 disconnection levels on AC in port				
RoHS	Compliant				
Vibration	GR63 office vibration 0 to 100 hz-0.1 g / transport vibration 5-100 Hz 0.5 g 100 to 500 hz-1.5 g / Drop test				
Operating conditions	Self adaptive to wide operating conditions and comprehensive table of troubleshooting codes				
Altitude above sea without de-rating	< 1500 m / derating > 1500 m – 0.8 % per 100 m				
Ambient / storage temperature / relative humidity	-20 to 50 ° C / -40 to 70 ° C / 95 %, non-condensing				
Material (casing)	Coated steel-ALU ZINC				
AC OUTPUT POWER					
Nominal Output power (VA) / (W)	1500 / 1200	2500 / 2000			
Short time overload capacity	150 % (15 seconds) 110 % permanent within T° range				
Admissible load power factor	Full power rating from 0 inductive to 0 capacitive				
Internal temperature management and switch off	Yes				
DC INPUT SPECIFICATIONS					
Nominal voltage (DC)	24 V	48 V	60 V	110 V	220 V
Voltage range (DC)	19 – 35 V	40 - 60 V	48 - 72 V	90 - 160 V	170 - 300 V
Nominal current	56 A (at 24 Vdc and 1200 W output)	56 A (at 40 Vdc and 2000 W output)	35 A (at 60 Vdc and 2000 W output	19 A (at 110 Vdc and 2000 W output)	9.8 A (at 220 Vdc and 2000 W output
Maximum input current (for 15 second) / voltage ripple	84 A / < 100 mV rms	84 A / < 2 mV Psopho	52 A < 100 mV rms	29 A / < 200 mV rms	14.9 A / < 200 mV rms
Input voltage boundaries	User selectable with T2S interface				
AC INPUT SPECIFICATIONS					
Nominal voltage (AC)	230 V 1P or 3P (Min 3 shelves for 3P)				220 V
Voltage range (AC)	150-265 V	150-265 V			
Brownout	150 to 185 V linear derating 150 VA/120 Watts per 10 Vac				
	1200 VA / 960 W @ 150 Vac	2000 VA/1600 W @ 150 Vac			
Conformity range	Adjustable				
Power factor	> 99%				
Frequency range (selectable) / synchronization range	50 – 60 Hz / range 47 – 53 Hz / 57 – 63 Hz				
AC OUTPUT SPECIFICATIONS					
Nominal voltage (AC*)	230 V				
Frequency / frequency accuracy	50 - 60 Hz / 0.03 %				
Total harmonic distortion (resistive load)	< 1.5 %				
Load impact recovery time	0.4 ms				
Turn on delay	20 s to 40 s depending on the number of module installed				
Nominal current. Protected against reverse current	6.6 A	10.9 A			
Crest factor at nominal power	2.8 : 1	3 : 1			
With short circuit management and protection					
Short circuit clear up capacity	10 x I_n for 20 msec - 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 during 15 s and 1.5 I_n after 15 s				
IN TRANSFER PERFORMANCE					
Max. voltage interruption / total transient voltage duration (max)	0 s / 0 s				
SIGNALING & SUPERVISION					
Display	Synoptic LED				
Alarms output / supervision	Dry contacts on shelf / Standard USB port and MODBUS on T2S, optional : Candis Display / Candis TCP-IP				
Remote on / off	on rear terminal of the shelf via T2S				





*Operation within lower voltage networks leads to de-rating of power performances.

Leading AC Backup Technology

CET POWER