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TSI BRAVO 230 VAC

2.5-225 kVA

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

MODULAR INVERTER MODULE

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

Leading AC Backup Technology

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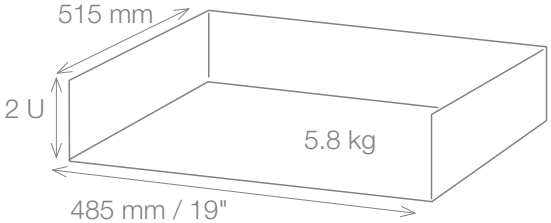
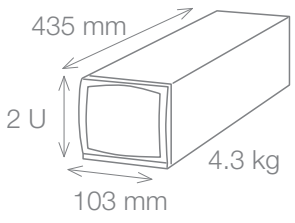
» TSI BRAVO

	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	EN62040-1				
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	Designed for installation in an IP20 or IP21 environment. When installed in a dusty or humid environment, appropriate measures (air filtering, …) must be taken.				
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)	46 A (at 48 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 AC input available only with EPC modules, REG modules do not have any ACin					
Nominal voltage (AC)	220/230/240 V 1P or 3P (Min 3 shelves for 3P)				
Voltage range (AC)	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 before transfer to DC	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*)	220/230/240 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.

** KM 621103 BS EN 50171 Central Power Supply Systems

***Bravo 220 Vdc

DNV-OS-D202 Section 4 CLASS 4

Illustrations are non-binding and may include customized fittings.

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