

230VAC TSI BRAVO SOLE CABINET SYSTEMS



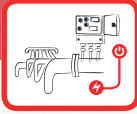
TELECOM

DATAKOM

MASS TRANSIT

OIL & GAS

POWER UTILITIES



MODULAR INVERTER SYSTEM

INPUT 24, 48, 60, 110, 220 Vdc
OUTPUT 230 Vac
or 3x400Vac+N

DESCRIPTION

The enclosure systems are designed to provide a pure sine wave AC supply as a complement to any existing DC power solution.

Compact, friendly Plug & Play installation, self standing 19" enclosures, ideal for low MTTR applications in power room. It can be used either to piggyback DC power sources or as fully integrated AC power center with built-in in and out protections. Thanks to TSI specifics it provides outstanding power conditioning and high end availability.

APPLICATIONS

Convenient for any Mission Critical Applications. A must when any glitch matters.

The solution to power up demanding AC loads at low OPEX from a combination of AC and DC sources present on site.

It reveals its full worth in harsh electrical environments and for long autonomy requirements. It handles any type of AC load including laser printers, compressors and induction motors.

Typical applications include core network infrastructure components (MSC & HLR servers, core routers, SDP/SCP...), HVAC equipments, signaling concentrators, datacenter...

MAIN FEATURES

- » Permanent AC to AC double conversion
- » VFI-SS-111 classified
- » Great disturbance rejection rate
- » Redundant AC & DC input sources
- » Source changover not visible by the load
- » Highly efficient energy conversion
- » Preserve battery life expectancy
- » Compact footprint
- » Operates until 65°C (de-rating may apply)

Illustrations are non-binding and may include customized fittings.

Leading AC Backup Technology

	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				
Performance (EN62040-3)	VFI-SS-111				
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 / RAL7024 powder coated				
AC OUTPUT POWER					
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
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				
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				
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				
AC distribution	optional, on request				
IN TRANSFER PERFORMANCE					
Max. voltage interruption / total transient voltage duration (max)	0 s / 0 s				
SIGNALING & SUPERVISION					
Display	Synoptic LED on module + LCD or touchscreen display				
Alarms output / supervision	Dry contacts / MODBUS / Candis Display / Candis TCP-IP				
Remote on / off	Terminal				

Other configurations or customizations available on demand.
Systems based on other TSI modular inverters (Media, ...) also available.
Contact your CE+T Representative for more information.

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



*** Bravo 220 Vdc
DNV-OS-D202 Section 4
CLASS 4

KM 621103
BS EN 50171
Central Power
Supply Systems



» 48VDC

	1 Phase	3 Phase		
	30kVA	30kVA	60kVA	80kVA
AC Rating				
Nominal Output power (VA) / (W) (when fully populated)	30kVA / 24kW	30kVA / 24kW	60kVA / 48kW	80kVA / 64kW
AC CURRENT SPECIFICATIONS				
Nominal AC output current (@ 230 Vac / 2500 VA per module output)	131 A	44 A per phase	88 A per phase	117 A per phase
Nominal AC input current (@ 230Vac / 2000W per module output)	110 A	37 A per phase	73 A per phase	98 A per phase
DC POWER CONNECTION				
Nominal DC current (at floating voltage and cabinet full output power)	552 A	552 A	1104 A	1472 A
Maximum input current (for 15 secomds)	1008 A	1008 A	2016 A	2688 A

» 110VDC

	1 Phase	3 Phase		
	30kVA	30kVA	60kVA	80kVA
AC Rating				
Nominal Output power (VA) / (W) (when fully populated)	30kVA / 24kW	30kVA / 24kW	60kVA / 48kW	80kVA / 64kW
AC CURRENT SPECIFICATIONS				
Nominal AC output current (@ 230 Vac / 2500 VA per module output)	131 A	44 A per phase	88 A per phase	117 A per phase
Nominal AC input current (@ 230Vac / 2000W per module output)	110 A	37 A per phase	73 A per phase	98 A per phase
DC POWER CONNECTION				
Nominal DC current (at floating voltage and cabinet full output power)	228 A	228 A	456 A	608 A
Maximum input current (for 15 secomds)	348 A	348 A	696 A	928 A

» 220VDC

	1 Phase	3 Phase		
	30kVA	30kVA	60kVA	80kVA
AC Rating				
Nominal Output power (VA) / (W) (when fully populated)	30kVA / 24kW	30kVA / 24kW	60kVA / 48kW	80kVA / 64kW
AC CURRENT SPECIFICATIONS				
Nominal AC output current (@ 230 Vac / 2500 VA per module output)	131 A	44 A per phase	88 A per phase	117 A per phase
Nominal AC input current (@ 230Vac / 2000W per module output)	110 A	37 A per phase	73 A per phase	98 A per phase
DC POWER CONNECTION				
Nominal DC current (at floating voltage and cabinet full output power)	118 A	118 A	235 A	315 A
Maximum input current (for 15 secomds)	179 A	179 A	358 A	477 A

