



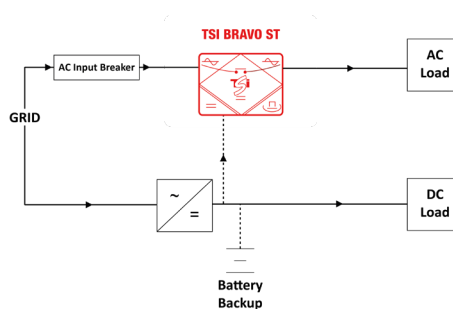
The most efficient stand-alone inverter, providing superior energy efficiency in a compact size!

 Telecom
  Datacom
  Mass transport
  Industry
  Power Utilities
  Renewable



Description

BRAVO-ST is a compact inverter providing a pure sine wave AC supply. It uses the latest inverter technology, providing superior energy efficiency in a compact size.



The “Twin Sine Inverter” (TSI) technology allows 3 operations mode (EPC double conversion AC to AC, ON LINE DC to AC from battery and off line by-pass to AC).

Applications

All business critical applications and all types of AC loads. The solution is design for highest AC output availability. The inverter modules are hot-swappable which ensures low Mean Time to Repair (MTTR), reduction in service costs.

Main Features

- Permanent AC to AC double conversion
- 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 form factor with short depth
- Operates until 65°C (de-rating may apply)

Illustrations are non-binding and may include customized fittings.

Bravo ST 120 Vac

ST-48-5-xx-02

ST-125-5-xx-02

General		
Applicable standards	IEC 61000-4 / FCC part 15 / cULus 1778 Listed / ROHS	
MTBF (each module)	240,000 hrs	
Nominal Output power (VA) / (W) ⁽⁶⁾	5 kVA / 4 kW	
Efficiency (Typical): Enhanced Power Conversion / On Line	95% / 91%	
Dielectric strength DC/AC	4,300 Vdc	
True Redundant Systems 3 Disconnection levels on AC out and DC in power ports 4 Disconnection levels on AC in port	Compliant	
Vibration	GR63 office vibration: 0 to 100Hz - 0.1g Transport vibration: 5 to 100Hz - 0.5g, 100 to 500Hz - 1.5g Drop test	
Altitude above sea	< 1500m; no derating, >1500m; 0.8 % / 100 m derating	
Operating temperature (Ambient & measured @ air inlet)	-20 to 40 °C; -4°F to 104°F for rated power ⁽¹⁾ 40 °C to 65°C with 2%/°C derating ⁽²⁾ 104°F to 149°F with 1%/°F derating ⁽²⁾	
Ambient / storage temperature / relative humidity	-40 to 70 °C (-40°F to 158°F)	
Relative humidity	95%, non-condensing	
Operating ambience / Ingress Protection	Free from dust and corrosive materials / NEMA 1	
Material (casing)	Coated steel-ALU ZINC	
Power		
AC Output Data		
Nominal voltage (AC)	120 Vac L-N	
Nominal AC output current. Protected against reverse current ⁽⁶⁾	41.66 A	
Admissible load power factor	Full VA power rating from 0 inductive to 0 capacitive Limited to W power rating from Pf 0.8 to 1	
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	30 s	
Short duration overload capacity	150% - 15 seconds	
Long duration overload capacity	110% permanent	
Crest factor at nominal power with short circuit management and protection	3.1	
Short circuit clear up capacity ⁽⁵⁾	10 x In for 20 ms	
Short circuit clear up capacity when AC is not present	1.5 x In for 15 seconds	
Short circuit current after clear up capacity ⁽⁶⁾	62.5 A	
DC Input Data		
Nominal voltage (DC) / Voltage range	48 Vdc (40 – 60 Vdc*)	125V / (90 - 160V)
Nominal DC current (at floating voltage and 2000W per module output) ⁽⁶⁾	92.6 A No1 feeder	40.40 A No1 feeder
Voltage ripple	<2 mV Psopho	<200 mV rms
Input voltage boundaries	Adjustable from 40V to 57V	Adjustable from 90V to 160V
DC input connection ⁽⁴⁾	Terminal block	
DC input protections	None	
AC Input Data		
Nominal voltage (AC)	120 Vac L-N	
Voltage range (AC) (Full power rating)	104 – 138 Vac	
Nominal AC input current ^{(3) (6)} (at 120Vac and 2000W per module output)	35.08 A	
Brownout range and behavior	80 – 104 Vac use DC source contribution if need be (can be disabled)	
Conformity range before transfer to DC	Adjustable from 80 to 138Vac	
Power factor	>99%	
Frequency range (selectable) / synchronization range	50 – 60 Hz / 47 – 53 Hz or 57 – 63 Hz	
AC input connection / protection ⁽⁴⁾	Terminal block / none	
Energy Source Changeover		
Total transient voltage duration (max) (as seen from the load)	0 s (and no glitch)	
Signaling & Supervision		
Display	LED w/module status and power bar graph + CANDIS Display (1/ph) (optional)	
Alarms output / supervision	3 Dry Contacts (Major, Minor, User adjustable)	
Remote Monitoring	TCP-IP with SNMP V1 (optional)	
Remote on / off	via T2S controller	

Selectable Options

Bulk output

AC output connection / protection ⁽⁴⁾	Terminal block / none
Mechanical	Figure 1

15R output

AC output connection / protection ⁽⁴⁾	12 x 15R receptacle / 6 x 20A breakers
Mechanical	Figure 2

20R output

AC output connection / protection ⁽⁴⁾	6 x 20R receptacle / 6 x 20A breakers
Mechanical	Figure 3

15R-20R mix output

AC output connection / protection ⁽⁴⁾	4 X 15R + 4 x 20R receptacle / 6 x 20A breakers
Mechanical	Figure 4

- (1) Internal temperature management and switch off
- (2) Operation beyond 40°C (104°F) and derating are not UL certified
- (3) Inverter module current consumption only. Use output current for circuit sizing as bypass is present.

- (4) Refer to specific document for NEC compliance for external protections and cable sizing
- (5) While the boost function is enabled and AC source present
- (6) When fully populated

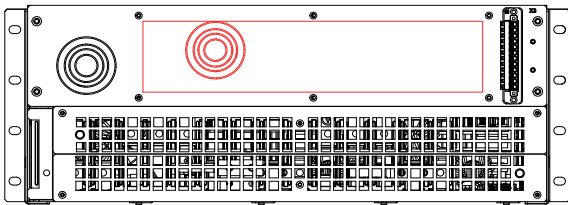


Figure 1

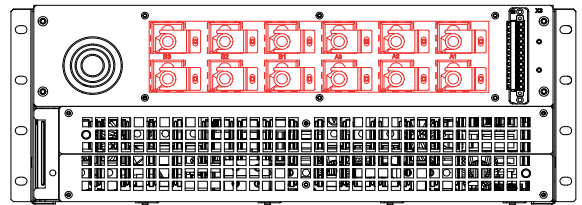


Figure 2

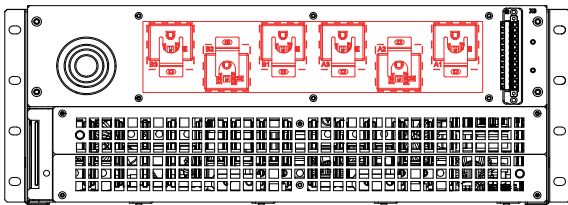


Figure 3

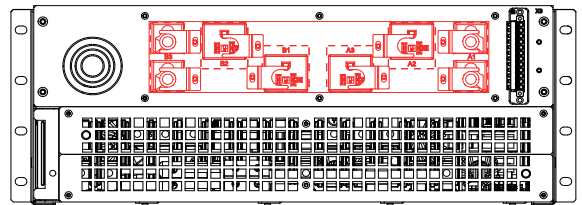


Figure 4

