



# MODULAR INVERTER SYSTEM

INPUT 48 Vdc  
OUTPUT 120 Vac  
or 120/240 Vac  
or 120/208 Vac



## DESCRIPTION

The BPC is a readymade inverter package 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 open relay rack 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
- » 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
- » Offers space for AC distribution or integration with 3rd party equipments
- » Operates until 65°C (de-rating may apply)
- » Can be provided with 120Vac, 120/240 Vac and 120/208 Vac system configurations

**GENERAL**

Applicable standards	IEC 61000-4 / FCC part 15 / cULus 1778 Listed / ROHS
MTBF (each module)	240,000 hrs
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 5-100Hz 0,5g 100 to 500hz-1,5g Drop test
Altitude above sea	< 1500m; no derating >1500m; 0,8 % / 100 m derating
Operating temperature measured at both room and inlet levels	-20 to 40 °C; -4°F to 104°F for rated power <sup>(7)</sup> 40 °C to 65°C with 2%/°C derating <sup>(1)</sup> 104°F to 149°F with 1%/°F derating <sup>(1)</sup>
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 <sup>(2)</sup>
Material (casing)	Coated steel-ALU ZINC

**DC INPUT SPECIFICATIONS**

Nominal voltage (DC) / Voltage range	48 V / (40 -60 V)
Voltage ripple	<2 mV Psopho
Input voltage boundaries	Adjustable from 40V to 57V
DC input protections	No1 60 A MCB per module

**AC INPUT SPECIFICATIONS**

Voltage range (AC) (Full power rating)	104 – 138 Vac
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 OUTPUT SPECIFICATIONS**

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 second
Long duration overload capacity	110% permanent
Crest factor at nominal power With short circuit management and protection	3.1
Short circuit clear up capacity <sup>(3)</sup>	10 x I <sub>n</sub> for 20 ms
Short circuit clear up capacity when AC is not present	1.5 x I <sub>n</sub> for 15 second

**ENERGY SOURCE CHANGEOVER**

Total transient voltage duration (max) (as seen from the load)	0 s (and no glitch)
Maintenance Bypass (MBP)	Yes

**SIGNALING & SUPERVISION**

Display	LED w/module status and power bargraph + CATENA Display
Alarms output / supervision	No3 Dry Contacts (Maj, Min, User adjustable)
Remote Monitoring	TCP-IP with SNMP V1
Remote on / off	via T2S controller

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1 Operation beyond 40°C (104°F) and derating are not UL certified

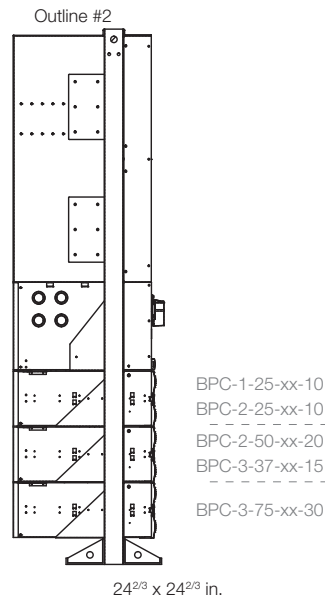
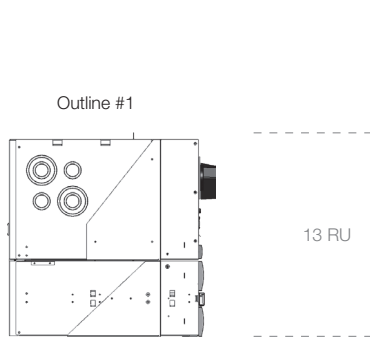
2 Specific execution can be provided on request

3 While the boost function is enabled and AC source present

7 Internal temperature management and switch off

	BPC-1-25-xx-10	BPC-2-25-xx-10	BPC-2-50-xx-20	BPC-3-37-xx-15	BPC-3-75-xx-30
<b>GENERAL</b>					
Nominal voltage (AC) Input & Output	120 Vac L-N	120 Vac L-N / 240 Vac L-L (120 Vac / 208 Vac ORQ)	120 Vac L-N / 240 Vac L-L (120 Vac / 208 Vac ORQ)	120 Vac L-N / 208 Vac L-L	120 Vac L-N / 208 Vac L-L
Nominal Output power (VA) / (W) (when fully populated)	25 kVA / 20 kW	25 kVA / 20 kW	50 kVA / 40 kW	37.5 kVA / 30 kW	75 kVA / 60 kW
<b>CURRENT SPECIFICATIONS</b>					
Nominal AC output current. Protected against reverse current	208 A	104 A per phase	208 A per phase	104 A per phase	208 A per phase
Short circuit current after clear up capacity	229 A	115 A per phase	229 A per phase	115 A per phase	229 A per phase
Nominal DC current (at floating voltage and 2000W per module output)	232 A No2 feeder	232 A No2 feeder	232 A No4 feeder	232 A No3 feeder	232 A No6 feeder
Nominal AC input current <sup>(4)</sup> (at 120Vac and 2000W per module output)	176 A per phase	88 A per phase	176 A per phase	88 A per phase	176 A per phase
<b>SELECTABLE OPTIONS</b>					
<b>Piggyback</b>					
DC input connection <sup>(5)</sup>	2 x 2 500 Kc mil double hole lug	2 x 2 500 Kc mil double hole lug	n/a	n/a	n/a
AC input connection / protection <sup>(5)</sup>	Terminal block / none		n/a	n/a	n/a
AC output connection / protection <sup>(5)</sup>	Terminal block / none		n/a	n/a	n/a
Mechanical	Outline #1		n/a	n/a	n/a
<b>Bulk protected in&amp;out</b>					
DC input connection <sup>(5)</sup>	Connecting plate single or double lug				
AC input connection / protection <sup>(5)</sup>	Supplementary breaker 225 A	Supplementary breaker 125 A 2 pole	Supplementary breaker 250 A 2 pole	Supplementary breaker 125 A 3 pole	Supplementary breaker 250 A 3 pole
AC output connection / protection <sup>(5)</sup>	Branch Circuit Protection 250 A	Branch Circuit Protection 125 A 2 pole	Branch Circuit Protection 250 A 2 pole	Branch Circuit Protection 125 A 3 pole	Branch Circuit Protection 250 A 3 pole
Mechanical	Outline #2				
<b>Bulk protected out <sup>(6)</sup></b>					
DC input connection <sup>(5)</sup>	n/a	n/a	Connecting plate single or double lug	n/a	Connecting plate single or double lug
AC input connection / protection <sup>(5)</sup>	n/a	n/a	Terminal block / none	n/a	Terminal block / none
AC output connection / protection <sup>(5)</sup>	n/a	n/a	No2 Branch Circuit Protection 2 x 250 A 2 pole	n/a	No2 Branch Circuit Protection 2 x 250 A 3 pole or 2 x 125 A 3 pole
Mechanical	Outline #2				
<b>Built-in distribution</b>					
DC input connection <sup>(5)</sup>	n/a	Connecting plate single or double lug	Connecting plate single or double lug	Connecting plate single or double lug	Connecting plate single or double lug
AC input connection / protection <sup>(5)</sup>	n/a	Terminal block / none	Terminal block / none	Terminal block / none	Terminal block / none
AC output connection / protection <sup>(5)</sup>	n/a	Square-D panel QO 125 A 20-Space	Square-D panel QO 125 A 42-Space	Square-D panel QO 125 A 42-Space	Square-D panel QO 225 A 42-Space
Mechanical	Outline #2				

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- 4 Inverter module current consumption only. Use output current for circuit sizing while MBP is present.
  - 5 Refer to specific document for NEC compliance for external protections and cable sizing
  - 6 Available options with No2 output breaker full or 1/2 rating and no input breaker
  - 7 Piggyback version in 50kVA and 75kVA to be phased out
- n/a Option not available

Illustrations are non-binding and may include customized fittings.