



# MODULAR INVERTER SYSTEM

INPUT 125 Vdc  
OUTPUT 120 Vac  
or 120/240 Vac  
or 120/208 Vac



## DESCRIPTION

The RBS 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 standalone inverters and most of industrial applications currently covered by UPS ...

## MAIN FEATURES

- » Permanent AC to AC double conversion
- » Great disturbance rejection rate
- » Redundant AC & DC input sources
- » Source chngover not visible by the load
- » Highly efficient energy conversion
- » Preserve battery life expectancy
- » Compact footprint
- » 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 (Ambient & measured @ air inlet)	-20 to 50°C; -4°F to 122°F for rated power <sup>(1)</sup> 50°C to 65°C with 2%/°C derating <sup>(2)</sup> 122°F to 149°F with 1%/°F derating <sup>(2)</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
Material (casing)	Coated steel-ALU ZINC
DC INPUT SPECIFICATIONS	
Nominal voltage (DC) / Voltage range	125V / (90 - 160 V)
Voltage ripple	<200 mV rms
Input voltage boundaries	Adjustable from 90V to 160V
AC INPUT SPECIFICATIONS	
Voltage range (AC) (Full power rating)	104 – 140 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)	No
SIGNALING & SUPERVISION	
Display	LED w/module status and power bargraph, and 7" touchscreen <sup>1</sup>
Alarms output / supervision	No3 Dry Contacts (Maj, Min, User adjustable)
Remote Monitoring	TCP-IP with SNMP V1 (Modbus on request)
Remote on / off	via T2S controller

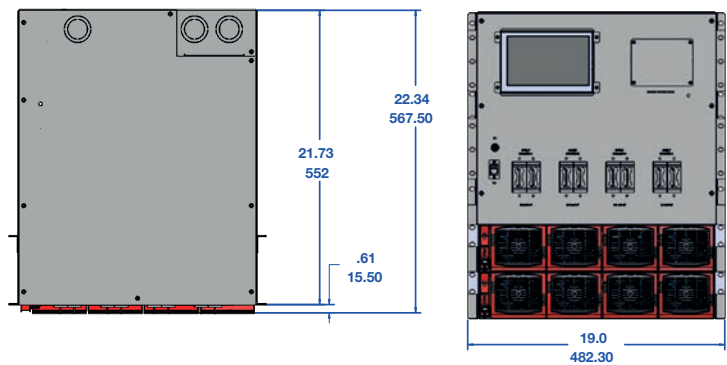
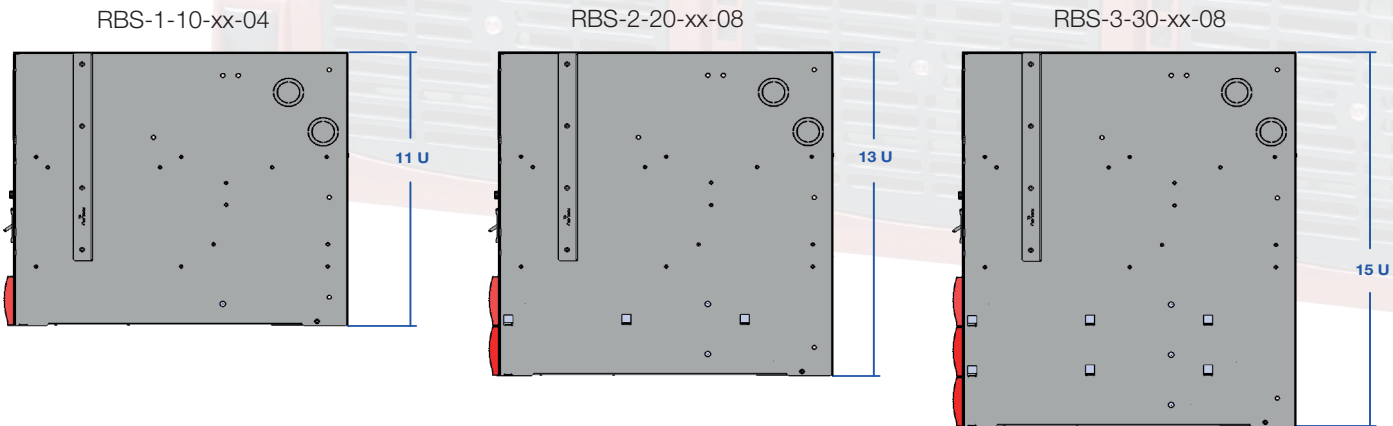
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- (1) Internal temperature management and switch off  
 (2) Operation beyond 40°C (104°F) and derating are not UL certified  
 (3) While the boost function is enabled and AC source present

	RBS-1-10-xx-04	RBS-2-20-xx-08	RBS-3-30-xx-08
<b>GENERAL</b>			
Nominal voltage (AC) Input & Output	120 Vac L-N	120Vac L-N 240Vac L-L	120 Vac L-N 208 Vac L-L
Nominal Output power (VA) / (W) (when fully populated)	10 kVA / 8 kW	20 kVA / 16 kW	30 kVA / 24 kW
<b>AC OUTPUT CONNECTIONS</b>			
AC output connection / protection <sup>(1)</sup>	Terminal block / none	Terminal block / none	Terminal block / none
Nominal AC output current. Protected against reverse current	83.36 A	83.36 A per phase	83.36 A per phase
Short circuit current after clear up capacity	125 A	125 A per phase	125 A per phase
<b>DC INPUT CONNECTIONS</b>			
DC input connection <sup>(1)</sup>	Common feed or one feed per row of modules		
Nominal DC current (at floating voltage and 1200W per module output)			
Common feed	84 A	168 A	252 A
Two feed	42 A per feed	84 A per feed	126 A per feed
Four feed	21 A per feed	42 A per feed	63 A per feed
Internal DC input protections	4x30 A (No1 per column of module)	4x60 A (No1 per column of module)	4x80 A (No1 per column of module)
<b>AC INPUT CONNECTIONS</b>			
AC input connection / protection <sup>(1)</sup>	Terminal block / none	Terminal block / none	Terminal block / none
Nominal AC input current <sup>(2)</sup> (at 120Vac and 2000W per module output)	70.16 A	70.16 A per phase	70.16 A per phase
<b>SELECTABLE OPTIONS</b>			
External Manual Bypass			

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(1) Refer to specific document for NEC compliance for external protections and cable sizing  
 (2) Inverter module current consumption only. Use output current for circuit sizing while MBP is present,



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