Industrial Power Solutions

B8000*FXS*

10 to 40 kVA

B8031*FXS* 10-20kVA 3-ph input / 1-ph output UPS

B8033*FXS* 10-40kVA 3-ph input / 3-ph output UPS

Performance, compactness and reliability for critical applications

FleXible and Smart

DOUBLE CONVERSION DOUBLE PROTECTION

UNITY POWER FACTOR

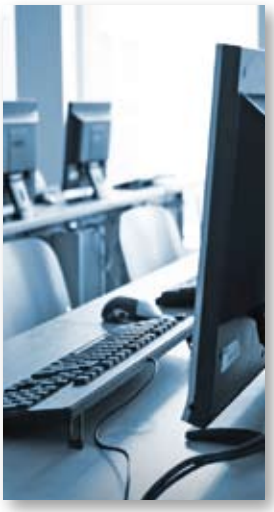
TOTAL HARMONIC DISTORTION <3% POWER SAVE TECHNOLOGY

BORRI ECO UPS

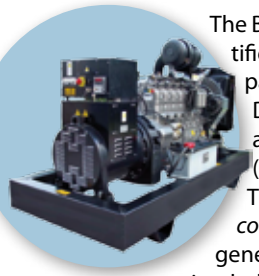
Industrial Power Solutions

The B8000FXS combines low input THD with almost unity power factor, all these features in a very small box easy to maintain!

INFORMATION AND COMMUNICATION TECHNOLOGY
• Data networks
• Server farms
• Communication rooms
• Broadcast
• Financial institutions
CRITICAL ELECTRICAL ENGINEERING
• Process controls
• Manufacturing machinery
• Office buildings
• Healthcare systems



LOW THDi and POWER FACTOR PERFORMANCE ENHANCE COMPATIBILITY with INPUT MAINS and GENERATORS



The BORRI B8000*FXS* UPS uses a modern input IGBT rectifier and Power Factor Control (PFC) technology capable of keeping the input current Total Harmonic Distortion (THDi) at a very low level (<3%), as well as keeping the input Power Factor very close to unit (0.99), even when only small loads are applied.
The main benefits to be gained are that the UPS is *compatible* with almost any input source, including generator power. Because the B8000*FXS* works so efficiently, benefits can be gained in reduced cable sizes and dramatically *reduced running costs.*

HIGH EFFICIENCY REDUCES OVERALL COST of OWNERSHIP

The B8000*FXS* has a new SOL (Smart On-Line) function which enables a total operating efficiency of between 94% and 98%. This mode referred to as '**Intelligent ECO mode**' significantly *reduces the utility costs* associated with operating a device of this type. Moreover, this increase in efficiency results in the production of less waste heat, minimising *cooling/air-conditioning costs*. This represents a double saving to the energy conscious user. Manageability and compact design further decrease the cost of ownership in terms of installation and maintenance.

The SOL function uses continual monitoring techniques to review the input characteristics of the supply. This means that if the supply line drops or fluctuates outside of acceptable conditions the UPS uses the internal inverter to support the load. This is achieved through a fast, fully static transition from VFD to VFI mode.

DOUBLE CONVERSION TOPOLOGY OFFERS DOUBLE PROTECTION for EVERY APPLICATION

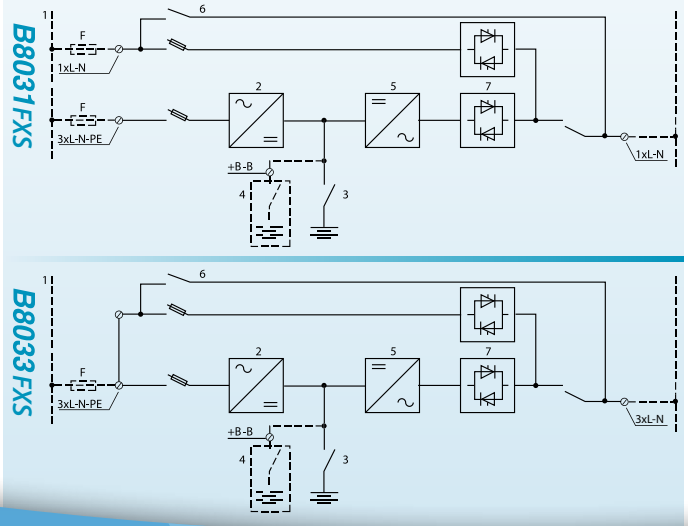
The Borri *On-line double conversion* technology (VFI classification, Voltage Frequency Independent) isolates the output from all input abnormalities and delivers a fully conditioned clean sine-wave output current.
The B8000*FXS* unit is designed to provide excellent output voltages suited to very demanding applications with either 100% step load, unbalanced, non-linear or modern IT loads. It also provides exceptional performance: with a power factor of up to 0.9 (lagging or leading), there is no requirement to de-rate the unit.

TRIPLE INTELLIGENCE: FleXible and Smart

If the application requires extremely flexible and reliable UPS protection, the B8000*FXS* is ideal. It delivers advanced features based on state-of-the- art total digital control. This control incorporates dual DSP (Digital Signal Processing) and µC (Micro controller) technologies.
A well-designed control architecture and a simplified two-stage power conversion topology ensure that it is almost impossible to drop the load even if a fault occurs!
Status of the most critical components are constantly monitored. This allows predictive maintenance and avoids unexpected breakdowns. B8000*FXS* working state can be easily monitored by any Building Management System and via LAN/WAN.

ACCURATE BATTERY MANAGEMENT

Batteries are electro-chemical devices as such their performance gradually decreases over time. To off set battery degradation the B8000*FXS* incorporates a battery management function, *Accurate Battery Management,* operating in accordance with the battery manufacturers' specifications.
Following a UI battery characteristic curve the charger uses a *constant current* appropriate for the battery type, this control prevents detrimental over charging. In addition to the float voltage a *boost charge* can be set: this feature optimises the recharge time, in the event of consecutive power outages over a short period of time, as it is vital that as much energy can be restored to the batteries whilst the power is on.
Accurate Battery Management also reduces the residual *current ripple* which is one of the main causes of premature battery wear; the same control circuit is employed to protect batteries *against damaging deep discharges*.
Automatic *temperature compensation* can be incorporated resulting in the batteries being charged under correct thermal conditions. This feature greatly extends battery life. Further an integrated periodical function is also included which *tests and monitors battery health* providing advance notification of potential battery problems.

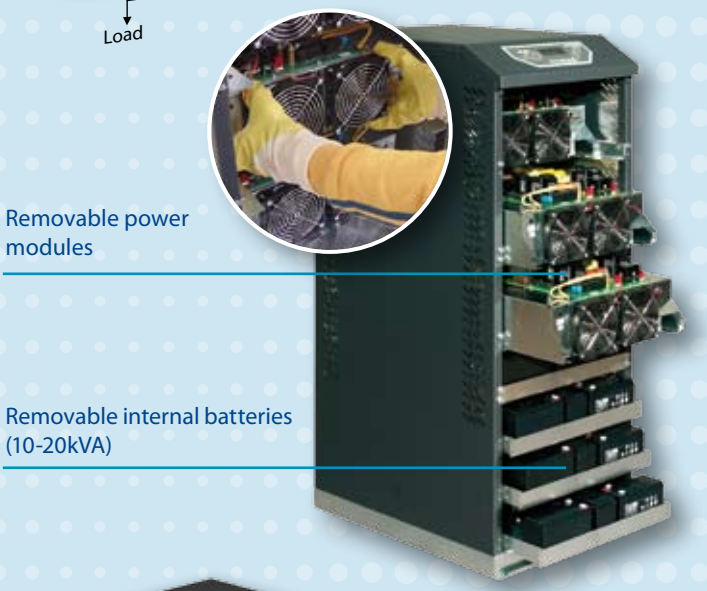


PARALLEL SYSTEMS for REDUNDANCY or CAPACITY INCREASING with "HOT SWAP" MODULARITY

The B8000*FXS* UPS solution offers parallel options in both *redundancy* and *capacity* modes, providing the possibility for both extra system resilience and increased capacity.
The parallel control circuitry associated with these units is fully digital and acts on both active and reactive power on each of the three output phases. This allows *accurate load current sharing* among the UPS units even during transient conditions.
Parallel control is distributed between all units and communication is achieved through the use of a CAN BUS connection loop. This has the effect of producing a *highly reliable* system with "no single points of failure".
Intelligent design of the system connections allow for *easy installation and easy future upgrades*, this allows for upgrading the field without difficulty.
In the **modular** arrangement, units can be added or removed "hot" without load disturbances or the need to switch to bypass.
Smart Parallel functions facilitate the automatic switching off of units where the total power requirements of the load is provided by fewer than the total number of UPS units attached. . This is commonly known as 'load based shutdown' and maximises the efficiency of the complete system by keeping the load on each module at an optimum level.
Two independent paralleled systems can be synchronized (*Sync Control*) in order to feed downstream STS' for seamless transfers.

EASY INSTALLATION, OPERATION and MAINTENANCE

The B8000*FXS* has a high power to space ratio, this results in a very small footprint allowing the client to achieve maximum power in a relatively small space. The unit is fitted with wheels making it easy to move in and out of position.
The B8000*FXS* series is based on *light power modules* which can be withdrawn from the front of the machine. This feature makes for incredibly easy servicing and dramatically reduces any potential down time.

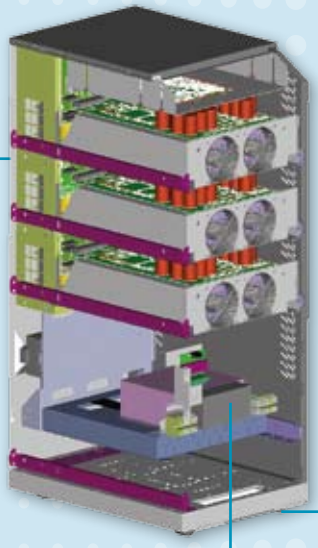


USER INTERFACE and ACCESSORIES

COMUNICAZIONE
- RS232 serial port
- USB port
- Remote EPO
- External Manual Bypass status
- Battery Switch status
- Diesel Mode

OPZIONALI
- Web/SNMP
- ModBus
- Relays
- Modem
- Remote panel


Monitoring, managing and shutdown software



OPZIONI
- Parallel capacity/redundancy
- Isolation transformer
- Sync control for dual feed systems
- External bypass
- External battery cabinets
- Battery switch box
- Battery thermal probe
- Transformers/ autotransformers for voltage adaption

B8000*FXS*

10 to 40 kVA

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MODEL	B8031*FXS*			B8033*FXS*				
Rating	10 kVA	15 kVA	20 kVA	10 kVA	15 kVA	20 kVA	30 kVA	40 kVA
Capacity (kVA)	10	15	20	10	15	20	30	40
Dimensions WxHxD (mm)	450x1200x640							
Weight (kg) w/o battery	100	110	110	100	110	110	140	140
Weight (kg) with battery	250	260	260	250	260	260		
Input/output connection	Hardwired (dual input)			Hardwired (optional dual input)				
Battery	Internal or external, 360-372 cells			External, 360-372 cells				
INPUT								
Nominal voltage	220/380, 230/400, 240/415 Vac three phase							
Voltage range	-20%, +15% from nominal							
Frequency	50/60 Hz (45–65 Hz)							
Power factor	0,99							
Current distortion (THDi)	<3%							
OUTPUT								
Nominal voltage	220, 230, 240 Vac single phase			220/380, 230/400, 240/415 Vac three phase				
Frequency	50/60 Hz							
Voltage regulation	±1% static; ± 5% dynamic 100% load change, <10 ms recovery time							
PF acceptable without de-rating	Lagging to leading 0,9							
Overload capacity	101–125% for 10 mins (on-line), 126–150% for 30 secs (on-line), 1000% for 1 cycle (bypass)							
Efficiency SOL Eco-mode	94%-98% >98%							
OPTIONS	Parallel capacity/redundancy, sync control, isolation transformer, external bypass, external battery cabinets, battery switch box, battery thermal probe, transformers/ autotransformers for voltage adaption							
USER INTERFACE								
Front panel	Graphical LCD display, mimic with LED's and keyboard							
Standard communication ports	RS232 serial, USB, (Remote Emergency Power Off input, Battery Switch status monitoring, External Manual Bypass status monitoring, Diesel Mode)							
Optional	Web/SNMP, ModBus, relay, modem cards; remote panel; monitoring, managing and shutdown software							
ENVIRONMENTAL								
Operating temperature	0°C – +40°C							
Storage temperature	-10°C – +70°C							
Altitude	<1000 m							
Audible noise at 1 meter (dBA)	<52							
STANDARDS AND CERTIFICATIONS								
Marking and Certifications	CE, GOST, ECA, ETL							
Safety	IEC EN 62040 -1							
EMC	IEC EN 62040 -2							
Test and Performance	IEC EN 62040 -3							
Quality, Environment, Health and Safety	ISO9001:2008, ISO 14001:2004, BS OHSAS 18001:2007							

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