

B9000FXS - B9600FXS

Transformer based 3-PHASE UPS
from 60 to 800 kVA



English





B9000FXS - B9600FXS BROCHURE

YOUR CRITICAL POWER SOLUTION PARTNER.

The Borri Group has been developing and building uninterruptible power systems since 1932 and is a global provider of power electronics systems and solutions for harsh industrial and demanding critical power requirements.

— Borri's R&D vast expertise in all facets of firmware, power electronics and mechanical design provides innovative solutions for tomorrow's problems in Industrial and Critical Power applications.

— The company prides itself on its first-class service and superior engineering disciplines. To ensure sustained quality, Borri manages all its processes in house from feed studies to design, production and after sales service technology.

— Based in Bibbiena, Italy with over 15,000 m² production area, Borri operates across all five continents with subsidiaries in USA, Canada, Germany, UAE, India and Malaysia.

— It has also established a strong distributor network, able to deliver on site support and technical guidance indicative of our own capabilities.



Critical Power Solutions

Designing and building mission critical UPS's 1- and 3-Phase up to 21 MW.



Industrial Power Solutions

Designing, engineering and building customised AC and DC power supply systems for harsh industrial applications.



Service

Borri team of experts support you to the highest standards no matter where you are in the world.



UPS 3-PHASE

B9000FXS

from **60 kVA** ———— to **300 kVA**

Applications



Small
data centre



Medium
data centre



Network
& Server



Industrial
controls & process
automation



Medical
equipment



Building
automation

Rugged design and high reliability

Customisable UPS for
specific process industry
applications.

Minimum maintenance costs

Full front accessibility to
all components and high
material quality extremely
reduce servicing.

Transformer based design

Reliable design with output
isolation transformer for
DC/AC galvanic protection.

Transformer-based UPS designed for safety and emergency systems, process control devices and machine tooling, critical infrastructures, medical equipment, small and medium data centres monolithic power protection.

B9000FXS: reliable, rugged transformer based power solution.

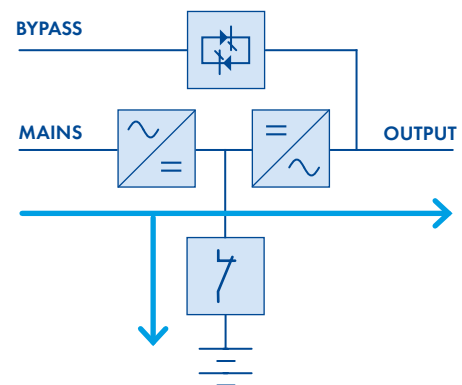


Features and benefits

- Built-in inverter transformer for DC/AC galvanic protection of industrial type loads.
- Full IGBT technology and electronic PFC, ensuring 0.99 input PF and THDi<3% for maximum upstream sources compatibility.
- Front access to all critical components for easy maintenance.
- Hot connection/disconnection of parallel units for easy system resizing.
- Accurate battery management providing ripple current minimization charge current/voltage control as per batteries manufacturers' specifications and automatic/manual battery test for maximum battery expected life preservation.
- Dynamic Charging Mode (DCM) for maximum versatility in long autonomy and low charging time applications.
- Smart parallel management in load sharing, load synchronization of single UPS systems and load synchronization of two paralleled systems for optimum protection.
- Dual DSP plus microcontroller logics for top performance and reliability.
- CAN-bus based distributed parallel control ensuring high load sharing accuracy and no single point of failure in parallel systems.
- Comprehensive set of communication options for total remote monitoring of equipment operation.
- Fully compliant with all international product standards for maximum quality guarantee.

Dynamic Charging Mode (DCM)

The battery charging current can be set above the nominal, up to the DCM limit, in order to manage high capacity battery packs. The extra charging power is fed to the battery, as long as the load does not requires it. This is a firmware enabled feature.



Main options

- Backfeed protection bypass contactor.
- Bypass isolation transformer.
- Transformers/autotransformers for voltage adjustment.
- Battery voltage temperature compensation.
- External maintenance bypass wall-mounted box.
- Battery fuse switch wall-mounted box.
- Associated battery cabinets for long autonomy times.
- Parallel redundant up to 6 units or system redundancy.
- Load-sync option.
- Top cable entry.

B9000FXS technical data

Rating (kVA)	60	80	100	125	160	200	250	300
Nominal Power (kW)	54	72	90	112.5	144	180	225	270
Dimensions WxDxH (mm)	815x825x1670					1217x853x1900		
UPS weight (kg)	570	600	625	660	715	970	1090	1170
Battery configuration	External, 300 to 312 cells, VRLA (other options)							
Input								
Connection type	Hardwired 3w (rectifier), 4w (bypass)							
Nominal voltage	400 Vac 3-phase (rectifier) ; 380/400/415 Vac 3-phase with neutral (bypass)							
Voltage tolerance	-20%, +15% (rectifier); ±10% (bypass)							
Frequency and range	50/60 Hz, 45 to 65 Hz							
Power factor	0.99							
Current distortion (THDi)	<3%							
Output								
Connection type	Hardwired 4w							
Nominal voltage	380/400/415 Vac 3-phase with neutral							
Frequency	50/60 Hz							
Voltage regulation	Static: ±1% ; Dynamic: IEC/EN 62040-3 Class 1							
Power factor	Up to 0.9, without power derating							
Overload capacity	Inverter: 125% for 10 min, 150% for 1 min, 199% for 10 s; bypass: 150% continuous, 1000% for 1 cycle							
Efficiency (AC/AC)*	Up to 98%							
Classification by IEC/EN 62040-3	VFI-SS-11							
Connectivity and function extensions								
Front panel	Graphic display, mimic LED panel and keyboard, local EPO							
Remote communication	Included: serial RS232 and USB; input terminal block for: remote emergency power off (REPO), battery circuit breaker aux. cont., external maintenance bypass circuit breaker aux. cont., diesel mode aux. contact. Optional: SNMP adapter (Ethernet), Web interface (Ethernet), ModBus-TCP/IP (Ethernet); ModBus-RTU (RS485); ModBus-RTU to PROFIBUS DP adapter; SPDT contact relay board; remote system monitoring panel; UPS managing and server shutdown software							
Optional function extensions	Isolation transformer; transformers/autotransformers for voltage adjustment; external maintenance bypass; custom battery cabinets; wall-mounted battery fuse switch box; battery thermal probe; parallel kit, top cable entry; load-sync for single UPS and load-sync box (2 UPS systems); backfeed protection; other options on request							
System								
Protection degree	IP 20 (other options)							
Colour	RAL 7016 (other options)							
Installation layout	Wall, back to back and side by side installation allowed							
Accessibility	Front and top access, bottom cable entry							

* according to IEC/EN 62040-3

Other features

Environmental	
Operating temperature range	0°C to +40°C
Storage temperature range	-10°C to +70°C
Altitude (AMSL)	< 1000 m without power reduction, > 1000 m with reduction of 0.5% per 100 m
Audible noise at 1 m (dBA)	< 62
Standards and certifications	
Quality assurance, environment, health and safety	ISO 9001:2015, ISO 14001:2015, BS OHSAS 18001:2007
Safety	IEC/EN 62040-1
EMC	IEC/EN 62040-2
Environment aspects	IEC/EN 62040-4
Test and performance	IEC/EN 62040-3
Protection degree	IEC 60529
Marking	CE

UPS 3-PHASE

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from **400** kVA ——— to **800** kVA





Applications



Medium
data centre



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Industrial
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Medical
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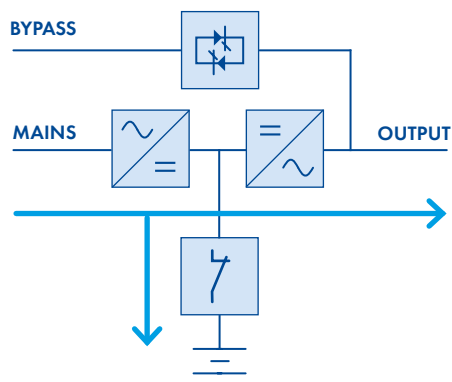
Features and benefits

- Built-in inverter transformer for DC/AC galvanic protection of industrial type loads.
- Full IGBT technology and electronic PFC, ensuring 0.99 input PF and THDi<3% for maximum upstream sources compatibility.
- Front access to all critical components for easy maintenance.
- Included backfeed bypass contactor for complete protection and operators' safety without additional installation costs.
- Hot connection/disconnection of parallel units for easy system resizing.
- Accurate battery management providing ripple current minimization charge current/voltage control as per batteries manufacturers' specifications and automatic/manual battery test for maximum battery expected life preservation.
- Dynamic Charging Mode (DCM) for maximum versatility in long autonomy and low charging time applications.
- Smart parallel management in load sharing, load synchronization of single UPS systems and load synchronization of two paralleled systems for optimum protection.
- Dual DSP plus microcontroller logics for top performance and reliability.
- CAN-bus based distributed parallel control ensuring high load sharing accuracy and no single point of failure in parallel systems.
- Comprehensive set of communication options for total remote monitoring of equipment operation.
- Fully compliant with all international product standards for maximum quality guarantee.



Dynamic Charging Mode (DCM)

The battery charging current can be set above the nominal, up to the DCM limit, in order to manage high capacity battery packs. The extra charging power is fed to the battery, as long as the load does not requires it. This is a firmware enabled feature.



Main options

- Manual bypass.
- Bypass isolation transformer.
- Transformers/autotransformers for voltage adjustment.
- Battery voltage temperature compensation.
- Battery fuse switch wall-mounted box.
- Associated battery cabinets for long autonomy times.
- Parallel redundant up to 6 units for system redundancy.
- Load-sync option.
- Top cable entry.

B9600FXS technical data

Rating (kVA)	400	500	600	800
Nominal Power (kW)	360	450	540	720
Dimensions WxDxH (mm)	1990x950x1920	2440x950x2020		3640x950x1920
UPS weight (kg)	1955	2482	2535	3600
Battery configuration	External, 300 to 312 cells, VRLA (other options)			
Input				
Connection type	Hardwired 3w (rectifier), 4w (bypass)			
Nominal voltage	400 Vac 3-phase (rectifier); 380/400/415 Vac 3-phase with neutral (bypass)			
Voltage tolerance	-20%, +15% (rectifier); ±10% (bypass)			
Frequency and range	50/60 Hz, 45 to 65 Hz			
Power factor	0.99			
Current distortion (THDi)	<3%			
Output				
Connection type	Hardwired 4w			
Nominal voltage	380/400/415 Vac 3-phase with neutral			
Frequency	50/60 Hz			
Voltage regulation	Static: ±1% ; Dynamic: IEC/EN 62040-3 Class 1			
Power factor	Up to 0.9, without power derating			
Overload capacity	Inverter: 125% for 10 min, 150% for 1 min, 199% for 10 s; bypass: 150% continuous, 1000% for 1 cycle			
Efficiency (AC/AC)*	Up to 98%			
Classification by IEC/EN 62040-3	VFI-SS-11			
Connectivity and function extensions				
Front panel	Graphic display, mimic LED panel and keyboard, local EPO			
Remote communication	<p>Included: serial RS232 and USB; input terminal block for: remote emergency power off (REPO), battery circuit breaker aux. cont., external maintenance bypass circuit breaker aux. cont., diesel mode aux. contact.</p> <p>Optional: SNMP adapter (Ethernet), Web interface (Ethernet), ModBus-TCP/IP (Ethernet); ModBus-RTU (RS485); ModBus-RTU to PROFIBUS DP adapter; SPDT contact relay board; remote system monitoring panel; UPS managing and server shutdown software</p>			
Optional function extensions	Isolation transformer; transformers/autotransformers for voltage adjustment; maintenance bypass switch in extended cabinet or wall-mounted box; custom battery cabinets; wall-mounted battery fuse switch box; battery thermal probe; parallel kit; top cable entry; load-sync for single UPS and load-sync box (2 UPS systems); other options on request			
System				
Protection degree	IP 20 (other options)			
Colour	RAL 7016 (other options)			
Installation layout	Wall, back to back and side by side installation allowed			
Accessibility	Front and top access, bottom cable entry			

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Environment aspects	IEC/EN 62040-4
Test and performance	IEC/EN 62040-3
Protection degree	IEC 60529
Marking	CE

SERVICE

Customer's expectation defines Borri's priority from the early analysis of the project requirements to a worldwide commissioning and service. Many thousands of systems have been successfully installed and maintained globally, with continuous support from a highly trained team of expert, certified technicians and engineers. From the professional set-up of Borri's training centre or on site, the training and service team stand ready to provide support and contribute to tailored training at Borri or on site. You can be assured of Borri support to the highest standards no matter where in the world you are.



Planning, installation, commissioning

Borri assist you in every single step of your project. Our R&D team can analyse and develop solutions to a wide range of edge system requirements.



Analytical tests

Borri undertakes a series of analytical tests in order to guarantee higher efficiency and continuity to your system operation.



Repair & spare parts

All spare parts supplied by Borri are original, tested and guaranteed to be fully compliant with Borri solutions.



Remote monitoring

Guardian Net remote monitoring system allows you to detect any deviation from optimum operation and trigger proper and immediate response, so that anomalies don't evolve into issues.



Maintenance

Preventive maintenance guarantees uninterrupted operations and optimised system efficiency.



Battery tests

Batteries have a limited time life and their proper maintenance is of high importance to guarantee efficiency to the UPS and avoid potential failures. Borri delivers high quality and performing batteries to assure smooth operations.



Training

Borri offers distributors and customers a service training structured in 3 levels. Courses can be held in Borri training centres or on-site.

Since 1932,
securing your
power with passion
and commitment.





www.borri.it

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AND FACTORY**

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