

Industrial & Standard UPS

from 5 to 650 KVA



... we commit
ME commit



Factory

Borri was founded in 1932 in Bibbiena, Tuscany, Italy. Borri specializes in the design and manufacturing of power electronic equipment for industrial applications. Since the 60s the main activity has been in the field of power conversion, both for domestic and export markets. Borri has a leading position in this particular market due to its expertise and continuous research of excellency in state-of-the-art equipment.

Our customised solutions will solve all problematics regarding the energy management in all the different industry markets.

Borri has over 70 years experience and thousands of UPS units installed worldwide. A team of experts from R&D, Sales-Support, Procurement, Quality Assurance, Engineering, Manufacturing, Testing, Expediting and After-sales & Service will help you to choose the best solution for your applications.



DUAL DC UPS and Distribution Board for power plant in Cote d'Avoire, 1980,



Factory Production

Our manufacturing area located in Bibbiena (Italy) offers a large production capacity; modern manufacturing processes have been implemented to satisfy the more and more demanding requirements in terms of delivery time.

- 10000 m2 production area to manage manufacturing of big projects.
- 2500 m2 testing area to fully test the units in their complete configuration before shipment, frequently witnessed by the customer
- Up to 800kW testing potential suitable for full load test of the units



Testing 3 x 48VDC Rectifier/Battery charges RTB model and 6 x 24VDC Dual Rectifier Battery charges RTB model going to North-Africa.





Custom Solutions

BORRI offers expert know-how and premium-quality, highly reliable AC&DC Industrial Solutions designed for the demands of an industrial application environment.

Our expertise in custom-designed systems for industrial plant will assist you in the different phases of your project.

- Technical and economical proposal
- Project management
- System Engineering
- Project documentation
- Expediting and inspections during manufacturing
- Witness tests
- World wide supervision for commissioning & start up (engineer for off-shore service activities, licence available)



Applications

BORRI is a leading company in the design, manufacturing and servicing of AC&DC power systems, specialised in the following industrial areas:

- Oil & Gas/Petrochemical
- Utilities & power plants
- Transportation
- Process Industries
- Telecommunications
- Information Technology



With almost 70 years experience in power conversion, BORRI offers a wide range of reliable equipment to encompass any demand:



- Rectifiers-Battery Chargers
- Static Inverters (1ph and 3ph)
- Uninterruptible Power Systems (1ph and 3ph)
- Static Transfer Switches
- Frequency Converters
- AC/AC and DC/DC voltage stabilisers
- Distribution panels
- Batteries (NiCd, Lead Acid, VRLA) can be sized and supplied together with the power systems

Secure Power for the Entire Oil & Gas Flow

BORRI 's uninterrupted power systems cover the entire oil and gas logistics chain from exploration and drilling to distribution and retail. Our presence covers the main oil and gas flows around the world. On- or off-shore, IT or electrical systems.



Upstream
Exploration, drilling,
production, storage,
offloading



Midstream
Transportation and
storage,
Pipeline compressor
stations, pressure
reduction stations, oil
& gas terminals, special
vessels



Downstream
Refining and distribution
Refineries, crackers,
aromatics units, monomer
units, polymer units, gas
processing units, storage
units, Oil&Gas products
retail

Our expertise in custom-

designed systems will assist

you in continuously supplying

and protecting your industrial

devices: motor starting, black

start, instrumentation, gas

turbine power generators, fire

& gas detection, emergency

shutdown devices (ESD), data

processing (control rooms and

SCADA systems), switchgear

tripping, emergency lighting

etc...

Reliable Power Plant

Securing comprehensive power protection and management can prove a difficult task in harsh Power Generation industrial environments. Engineered Industrial Solutions from BORRI can continuously supply and protect your industrial systems against a full range of power problems, even under the most strenuous of circumstances.

Thermoelectric & Hydroelectric Generation
Transmission lines, HV substations
Converter Stations and Distributions

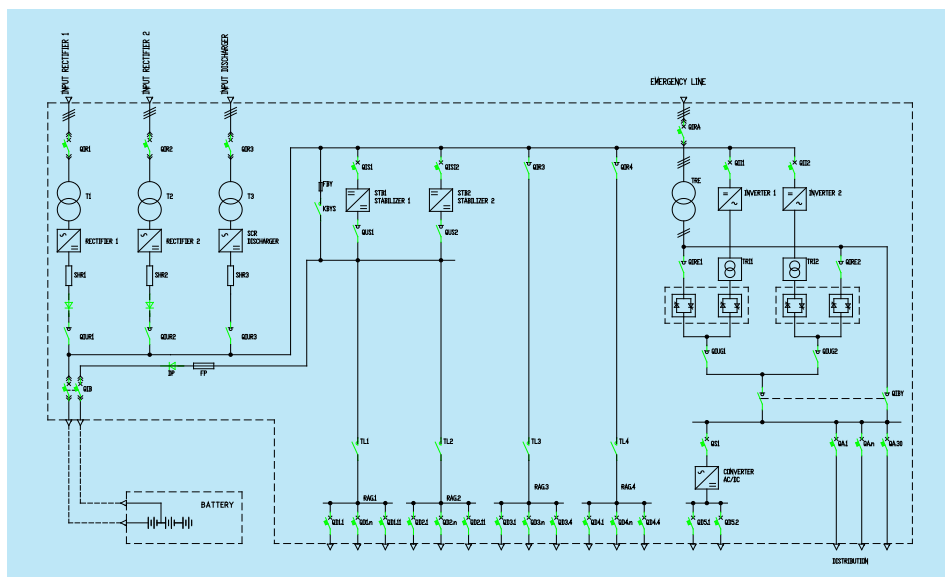




Technology & Specialized UPS Solutions

Our R&D department is experienced with "state of the art" technology in the field of power conversion. Our vast experience in semiconductor switching technology is combined with the most advanced electronic technology: IGBT power technology, microprocessor control, software for remote monitoring & supervision, teleservice.

Our engineering department works to fulfill the job technical requirements, providing custom solutions and always supporting the client along the project, from the tender stage to the final commissioning and start-up.



UPS & DC System with Emergency Line and Distribution Panels



References

Partnerships with the most significant engineering companies contributed to the successful finalisation of many great projects for the oil & gas and energy companies worldwide:

ABB AUTOMATION LTD	HEZE II & LIAOCHENG POWER STATION	China	FOSTER WHEELER GROUP	TAMOIL REFINERY COLLOMBAY	Switzerland
ABB LUMMUS GLOBAL	OH3 HASSY BERKINE PIPELINE	Algeria	FOXBORO	ENPPI EL ARISH POWER PLANT	Egypt
ABB NETWORK PART.	LDC PROJECT	Abu Dhabi	MITSUBISHI HEAVY IND.	BU PROJECT	Bahrain
ABB SAE SADELM	ACAJUTLA POWER PLANT	Salvador	MITSUBISHI HEAVY IND.	MCC PTA PROJECT	China
ABB SAE SADELM	GHOM COGENERATION POWER PLANT	Iran	NUOVO PIGNONE	GAZPROM GAS-METERING STATIONS	Russia
AEG INDUSTRI	BERMUDA POWER PLANT	Bermuda	NUOVO PIGNONE	KASHAGAN PROJECT	kazakhstan
A.E.M.	CASSANO D'ADDA POWER PLANT	Italy	PARSONS International	IBN ZAHR PPII Plant - AL JUBAIL	S. Arabia
A.E.M.	GROSIO POWER PLANT	Italy	PETROFAC	EPI/DOROOD PROJECT	Iran
AGIP KCO	KASHAGAN PROJECT	kazakhstan	PIETRO FIORENTINI	KOHRB METERING STATION	Armenia
ALSTOM POWER	DRIN RIVER CASCADE EXTENSION	Albania	S.C.O.G.A.T.	CAP BON GAS STATION	Tunisie
AKERKVAERNER	KASHAGAN PROJECT	kazakhstan	S.C.O.G.A.T.	FERIANA PUMP STATION	Tunisie
ANSALDO ENERGIA	RADES POWER PLANT	Tunisie	SAIPEM	BONACCIA GAS FIELD OFF-SHORE	Italy
ANSALDO ENERGIA	MAPNA POWER PLANT	Iran	SAIPEM	NNPC BET OMPADEC	Nigeria
ANSALDO TRASPORTI	METROPOLITANA NAPOLI	Italy	SAIPEM/CAT/TEKFEN	ASSIR W.T.F.	S. Arabia
BECHTEL-SNAMPROGETTI	KARACHAGANAK DEVELOP. PRJ	kazakhstan	SAMSUNG Engineering	SIDPEC - ALEXANDRIA	Egypt
BOUYEGUES OFFSHORE	BLUE STREAM PROJECT	Russia	SARAS	SARROCH REFINERY	Italy
DRESSER-RAND	SHANJHING PIPELINE	China	SARPOM	EXXON TRECATE REFINERY	Italy
EDISON	MARGHERA LEVANTE POWER PLANT	Italy	SK ENGINEERING	KOC REBUILDING GC-15	Kuwait
EDIPOWER	BRINDISI POWER PLANT	Italy	SK ENGINEERING	KNPC MINA AL-HAMADY REFINERY	Kuwait
ENDESA	TAVAZZANO POWER PLANT	Italy	SNAM RETE GAS	MELIZZANO PIPELINE STATION	Italy
ENEL GROUP	MEDINAT YANBU AL SINAIYAH	S. Arabia	SNAM RETE GAS	MONTESANO PIPELINE STATION	Italy
ENEL GROUP	LARDERELLO GEO-THERMIC POWER PLANT	Italy	SNAMPROGETTI	MELLITAH PLANT	Lybia
ENEL GROUP	SULCIS POWER PLANT	Italy	SNAMPROGETTI	BANDAR IMAM	Iran
ENEL GROUP	LA CASELLA POWER PLANT	Italy	LIPSA	PEMEX COMANERO REFINERY	Mexico
POLIMERI EUROPA	MANTOVA REFINERY	Italy	SPIE CAPAG	PORT HARTCOURT REFINERY	Nigeria
POLIMERI	PRIOLO REFINERY	Italy	SNAMPROGETTI/TECHNIP	OMAN INDIA FERTILIZER PROJECT	Oman
ENPPI	ASORC NEW CDU	Egypt	TECHNIP	MIDOR REFINERY - ALEXANDRIA	Egypt
ERG PETROLI	PRIOLO GARGALLO REFINERY	Italy	TECHNIP	CORINTH REFINERY	Greece
ESSO ITALIANA	AUGUSTA REFINERY	Italy	TECHNIP	SINOPEC CAPROLACTAM POWER PLANT	China
FIAT AVIO	ZAYZOUN TURBOGAS POWER STATION	Syria	TOYO Engineering Co.	BASF CHEMICAL- OXO Complex	Malaysia
FINCANTIERI	CASTELLAMARE DI STABIA	Italy	TOYO Engineering Co.	PETROBAS REFAP 2 REFINERY	Brasil
FISIA	ENEL FUSINA POWER STATION	Italy			
FOSTER WHEELER GROUP	TUPRAS IZMIR REFINERY	Turkey			
FOSTER WHEELER GROUP	ISAB ENERGY PRIOLO	Italy			



Main Industrial Products

Full set of optional items is available for each of the following products. Main technical characteristics and overall dimensions can be changed to meet customer requirements according to the project technical specifications.



RMB series 1Ph Rectifier - Battery Charger

Simple, robust and highly reliable charger, designed for applications requiring DC supply less than 10kW.

- diode/thyristor rectifier bridge
- full set of battery charging methods
- free standing cabinet
- 230Vac 1Ph 50Hz input (other as option)
- 24/48/110Vdc Output, 50A to 100A



RTB.e series - Rectifier Battery Charger

Industrial, heavy duty rectifier, designed for all applications requiring DC power supply.

- 6-pulse or 12-pulse thyristors rectifier bridge
- full set of battery charging methods
- 110/220 Vdc output (other as option), 50A to 1000A
- 400Vac 3ph 50Hz input (other as option)
- microprocessor control
- LCD multifunctional mimic panel
- software for remote monitoring



IMB.e series Single Phase Inverter

Industrial Inverter, designed for critical applications requiring stabilized AC power supply.

- IGBT power conversion bridge
- pulse width modulation (PWM)
- reduced output harmonic distortion with non linear load
- 110/220Vdc input (other as option)
- 5kVA to 100kVA
- 115/230Vac 1ph 50Hz output (other as option)
- microprocessor control
- LCD multifunctional mimic panel
- software for remote monitoring
- Also available with 3Ph output (ITB.e model)



E2001.e series 1Ph Uninterruptible Power System

Industrial UPS is designed to provide continuous power supply to critical 1ph AC loads.

- IGBT power conversion bridge/PWM
- microprocessor control
- LCD multifunctional mimic panel
- software for remote monitoring
- 110/220/400Vdc battery voltage
- 5kVA to 150kVA
- 115Vac/230Vac 1ph 50Hz output (other as option)
- 400Vac 3ph 50Hz input (other as option)
- Also available with 3Ph output (E3001.e model)



GMB.e series UPS

The GMB.e is a compact industrial UPS designed to provide continuous power supply to critical 1ph AC loads with cost effective solution.

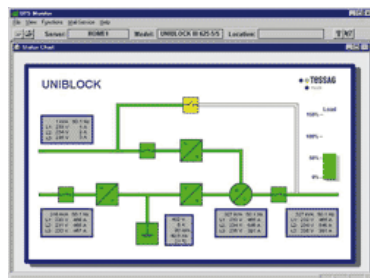
- IGBT power conversion bridge/PWM
- microprocessor control
- LCD multifunctional mimic panel
- software for remote monitoring
- 110/220/400Vdc battery voltage
- 5kVA to 100kVA
- 115Vac/230Vac 1ph 50Hz output (other as option)
- 400Vac 3ph 50Hz input (other as option)
- Also available with 3Ph output (GTB.e model)



Other products

Borri also design and produces other products to provide a complete and integrated solution for the power conversion applications:

- 400 Hz Frequency Converters
- Static transfer Switchers
- dc/dc Converters
- AC & DC LV distribution panels.



Software, connectivity for remote monitoring

Large variety of optional connectivity kits are available for local or remote monitoring (relay cards/SPDT contact, remote mimic panel, SNMP adapter, Modbus adapter or other protocol, monitoring & control software)

Main Commercial Products

BORRI also design and produces single phase and three phase UPSs for industry's largest selection of power management and protection solutions to meet the different needs of large corporations. From desktop to the data center, from AC-powered to DC-powered equipment, from hardware to software and services, these products are the answer to all your power management and protection needs.

SERIES ADVANCED

This series is an advanced solution of online double conversion UPS and provides robust protection for your computer or industrial application. A large variety of sizes, configurations and options allows you to satisfy all your power protection requirements

B1031 - 15-20-30 kVA 3/1
Threephase in
380÷415 V
Singlephase out
220-240 V selectable 50-60 Hz

B4033 - 20-30-40-60-80-100-120-160 kVA 3/3
Threephase in
380÷415 V
Threephase out
380-415 V selectable 50-60 Hz

B6033 - 400-500-650 kVA 3/3
Threephase in
380÷415 V
Threephase out
380-415 V selectable 50-60 Hz



B8031 - 10-15-20 kVA 3/1
B8033 - 10-15-20-30-40 kVA 3/3



B1031 - 15-20-30 kVA 3/1
B4033 - 20-30-40-60-80 kVA 3/3

SERIES FULL SINE WAVE

This incomparable range of product with IGBT technology and high frequency commutation is the most advanced power technology on the market today. It guarantees superior protection performances for critical loads in the worst condition of mains. It has a wide variety of options to satisfy all customer needs.

B8031 - 10-15-20 kVA 3/1
Threephase in
380÷415 V
Singlephase out
220-240 V selectable 50-60 Hz

B8033 - 10-15-20-30-40 kVA 3/3
Threephase in
380÷415 V
Threephase out
380-415 V selectable 50-60 Hz

B9000 - 60-80-100-120-160-200-250-300 kVA
Threephase in
380÷415 V
Threephase out
380-415 V selectable 50-60 Hz



B9000 - 200-250-300 kVA 3/3
B6033 - 400-500-650 kVA 3/3



B4033 - 100-120-160 kVA 3/3
B9000 - 60-80-100-120-160 kVA 3/3

Quality & Standards

Customer satisfaction is our main objective: to meet technical specification requirements with cost effective solutions, guaranteeing on time delivery and global post-sales service and support. This is achieved by means of a quality management system(*) which covers all the phases of any job: from quotation stage to engineering and technical documentation issue, from purchasing to production, from testing to commissioning and service support.

* Our quality system is certified as compliant to ISO9001:2000 standard.



Project Management is active to monitor and continuously control the job status and to give "real time" answers to customers.

Recognised reliability and availability of our equipment is the result of continuous efforts to improve the quality of our design and manufacturing processes.

STANDARDS

Equipment standards

Low voltage assemblies	IEC EN 60439-1, IEC EN 60439-2, IEC EN 60439-3
Semiconductors convertors	IEC EN 60146-1-1, IEC EN 60146-1-3, IEC EN 60146-2
Degree of protection	IEC EN 60529
Safety (CE marking)	IEC EN 62040-1, EN 50178
Electromagnetic compatibility (CE marking)	IEC EN 62040-2, IEC EN 61000-6-2, IEC EN 61000-6-4
Performance and test	IEC EN 62040-3

Components standards

Power transformers	IEC EN 60076
Circuit breakers	IEC EN 60947-2
Switches	IEC EN 60947-3
Contactors	IEC EN 60947-4-1
Fuses	IEC EN 60269-1
Measuring instruments	IEC EN 60051-1
Capacitors	IEC EN 60384
Semiconductors	IEC EN 60747

Service

The after-sale support supplied by the manufacturer is one of the most critical factors in the selection of a power system. This is why our company has made a choice to provide qualified and certified continuous assistance on its products, maximising their performance and minimising costs throughout the UPS life-cycle, while maintaining and adding value to the customer's power protection solutions.

This service gives Customers an opportunity to get qualified technician visits, assistance during commissioning, technical assistance including systems' repairs on site, training and supply of original spare parts. The company guarantees that services are provided by skilled personnel trained on system maintenance and repair methods, in order to ensure the reliability and safety of the products supplied over time. Our technicians are also updated about applicable safety legislation.

Assistance during commissioning

This service ensures the installation of systems in compliance with BORRI's technical requirements and offers customers an opportunity to get highly skilled technicians on-site. If BORRI is in charge with commissioning, the company will see to the first start-up and carry out function tests on the system based on the installation technical specifications.

Technical assistance aftersales

This service ensures that, in case of system faults, a skilled technician will go to the Customer's premises in order to perform the necessary corrective actions to reset the system's operation. This service gives Customers an opportunity to avail themselves of a constant, expert technical assistance service drawing on BORRI's experience.



Maintenance contracts

An UPS is a key installation aimed at ensuring a continuous power supply to the systems it is connected to. In order to minimise the risks of power failures, it is vital to perform regular preventive maintenance. This kind of maintenance cannot be considered as a cost, as the cost of a maintenance contract is quite negligible compared to the cost that one would incur in case of a failure that would entail a system downtime, the loss of data and money, without considering the cost of repair.

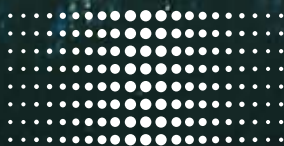
Supply of original spare parts

This service grants the Customer the supply of original spare parts, previously tested to ensure that they perfectly match the original equipment components installed.

Customer training

An adequate level of training is always needed to ensure that systems are properly used. This service will help the user get acquainted with the system's operating principles and maintenance/troubleshooting procedures. On specific request by the customer, BORRI will develop customized technical specifications based on the Customer's system and needs.





BORRI®
Industrial Power Solutions

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