

INGENIO PLUS

3-PHASE UPS
from 30 to 160 kW



English





INGENIO PLUS 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

INGENIO PLUS

from **30 kW** ————— to **160 kW**





Applications



Small data centre



Medium data centre



Network & Server



Industrial controls & process automation



Medical equipment



Building automation

Power factor 1

No costs related to electrical infrastructure oversizing and power factor correction.

Compact footprint

Efficient compact UPS with transformer free design.

Continuous savings

Patented Green Conversion technology provides high efficiency and extended life on UPS critical components and batteries.

The ideal power protection solutions for a range of critical applications, including networking and small to medium data centres, health, finance, industrial processing, building and transportation. Featuring Green Conversion patented technology, Ingenio Plus provides high efficiency even at light loads.

Ingenio Plus: compact and very high efficient solution perfect for supplying reliable uninterrupted quality power to all critical applications.



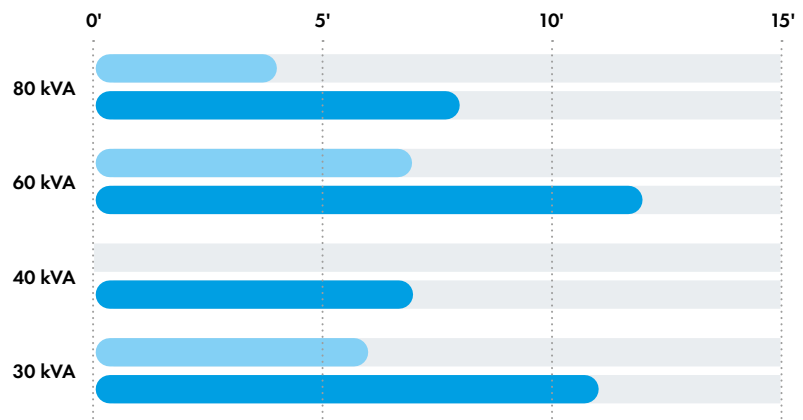
Features and benefits

- Green Conversion technology, high efficiency even at light load and the lowest TCO in its category.
- Full rated output power (pf=1), ensuring optimal UPS sizing and utilization.
- Transformer free design for compact, light and sustainable systems.
- Full IGBT technology and electronic PFC, ensuring 0.99 input PF and THDi<3% for maximum upstream sources compatibility.
- Internal battery configurations up to 80 kVA for less floor space and maximum flexibility.
- Dynamic Charging Mode (DCM) for maximum versatility in long autonomy and low charging time applications.
- Green Conversion Battery Care (GCBC), for extended battery service life.
- Comprehensive set of communication options for total remote monitoring of equipment operation.
- Fully compliant with all international product standards for maximum quality guarantee.
- Backfeed protection contact.
- Lithium Battery compatible on selected models.



*Optional touch screen display (on 60-160 kW UPS)

Back up time with internal batteries



Main options

- Isolation transformer.
- Transformers/autotransformers for isolation or voltage adjustment.
- Battery voltage temperature compensation.
- External maintenance bypass wall-mounted box.
- Battery fuse switch wall-mounted box.
- Battery cabinets for long autonomy times.
- Parallel redundant up to 8 units for system redundancy.
- Load-sync option.
- Common battery (on 60-160 kVA range).
- Backfeed protection trip coil.
- Separate rectifier and bypass input for INGENIO PLUS 30-40 kVA.
- Colour touch screen 7" display on 60-160 kVA UPS (*)

INGENIO PLUS technical data

Rating (kVA)	30	40	60	80	100	125	160
Nominal Power (kW)	30	40	60	80	100	125	160
UPS dimensions WxDxH (mm)	465x650x1230		560x940x1500		560x940x1800		
UPS weight (kg)	120	140	190	215	320	360	380
UPS weight with internal battery (kg)	365	385	770	785	-	-	-
Battery configuration	Internal or external, 360 to 372 cells, VRLA (other options)				External 360 to 372 cells, VRLA (other options)		
Max autonomy with int. battery 70% load (min)	11	7	12	8	-	-	-
Input							
Connection type	Hardwired 4w		Hardwired 4w (rectifier), 4w (bypass)				
Nominal voltage	400 Vac 3-phase with neutral (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 1, without power derating						
Overload capacity*	Inverter: 110% for 10 min, 125% for 5 min, 150% for 30 s ; Bypass: 150% continuous, 1000% for 1 cycle						
Efficiency (AC/AC)**	Up to 99%						
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: (30 to 160 kVA): backfeed protection monitoring contact. Included (60 to 160 kVA): serial RS232 and USB; input terminal block (remote emergency power off, battery circuit breaker aux. cont. external maintenance bypass circuit breaker aux. cont., diesel mode aux. cont.). Optional: SNMP adapter (Ethernet), Web interface (Ethernet), ModBus-TCP/IP (Ethernet), ModBus-RTU (RS485), from 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, load-sync for single UPS and load-sync box (2 UPS systems); other options on request						
System							
Protection degree	IP 20						
Colour	RAL 9005						
Installation layout	10 cm wall-gap, side by side installation allowed	Wall and side by side installation allowed, 80 cm side clearance (with internal battery)					
Accessibility	Front and top access, bottom cable entry	Front and top access, side access (with internal battery) bottom cable entry	Front access, side access (with internal battery) bottom cable entry				
*conditions apply **according to IEC/EN 62040-3							
Other features							
Environmental							
UPS operating temperature range	0°C to +40°C						
UPS 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)	< 60						
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						

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

**BORRI HEADQUARTERS
AND FACTORY**

Borri S.p.A

Via 8 Marzo, 2
52011 Bibbiena (AR)
Italy
Tel. +39 0575 5351
Fax +39 0575 561811
info.borri.it@legrand.com

**BORRI SUBSIDIARIES
AND SERVICE CENTRES**

Americas

Borri Power (US) Inc.
9000 Clay Road, Suit 104
Houston, Texas, 77080
USA
Tel. +1 346 212 2686
Fax +1 346 980 8875
info.borripower@legrand.com

Asia Pacific

Borri Asia Pacific
Engineering Sdn. Bhd.
No.13, Jalan Serendah 26/41,
Sekitar 26, Seksyen 26,
40400 Shah Alam, Selangor
Malaysia
Tel. +60 3 5191 9098
Fax +60 3 5103 8728
sales@borri-asia.com

India

Borri Power India Pvt. Ltd.
Plot No. 69, Ground Floor
Nagarjuna Hills, Panjagutta
Hyderabad, 500 082
India
Tel. +91 40 2335 4095
info.borri.it@legrand.com

Middle East and Africa

Borri Power
Middle East FZCO
1-151, Techno Hub
PO Box: 342036
Dubai Silicon Oasis, Dubai UAE
Tel. +971 4 3200528
Fax +971 4 3200529
info.borri.it@legrand.com