

ITB Industrial 3-Ph Inverter

From 5 to 600 kVA

Borri AC Industrial 3-Ph Inverter ITB is designed and manufactured to withstand harsh environment and operating conditions of industrial applications with state-of-the-art technology, providing reliable and customizable AC power backup solutions.

Borri's ITB is a heavy-duty AC Industrial Inverter with output galvanic isolation. The Inverter design ensures very high reliability, safe operations, full front access for easy maintenance and a very low mean time to repair (MTTR), achieving the highest possible availability.

The design flexibility allows it to meet almost any customer specification. ITB Inverter is an industrial solution delivering reliability, availability and maintainability in almost any environmental conditions.

With decades of experience in industrial power solutions, Borri offers stand alone systems with robust quality and a long design life.



INVERTER

Industrial Power

Applications

- Oil & Gas.
- Power Generation.
- Transportation.
- Water Desalination.
- Chemical Industries.
- Marine.
- Other Heavy Industries.

Main features

- Large LCD panel with mimic diagram and history.
- Wide selection of alarms, indications and measurements.
- Built-in inverter transformer.
- PWM IGBT Inverter Bridge.
- Built-in manual bypass.
- Flexible in-built features.
- Highly customizable.
- Easy maintenance and serviceability.

ITB technical data

Rating (kVA)* @ P.F. 0.8 vs DC Rated Voltage

110 Vdc	5	10	15	20	30	40	50	60	80	100	-	-	-	-	-	-	-	-
220 Vdc	5	10	15	20	30	40	50	60	80	100	120	160	200	250	300	-	-	-
400 Vdc	-	-	-	-	-	-	-	-	-	100	120	160	200	250	300	400	500	600
Nominal power (kW)	4	8	12	16	24	32	40	48	64	80	96	128	160	200	240	320	400	480

Input

DC voltage	110 Vdc (90÷160 Vdc range) / 220 Vdc (180÷300 Vdc range) / 400 Vdc (320÷480 Vdc range)
Bypass input voltage	200/208/220 or 380/400/415 Vac 3-phase ±20% (adjustable according to inverter output voltage)

Output

Nominal voltage	200/208/220/380/400/415 Vac 3-phase
Frequency	50/60 Hz (selectable), ±0.001 Hz free running, ±2 Hz synchronized with mains
Voltage regulation	±1% static; ±5% dynamic (80% load change), <40 ms recovery time
Overload capacity	125% for 10 min; 150% for 1 min; 200% for 100 ms
Harmonic Distortion THDv	<2% linear load; <5% non-linear load

System

Dimensions	From 600 mm to 2400 mm width, 800/1000 mm depth, 2100 height
Cooling	Forced ventilation (optional redundant fans)
Colour	RAL 7035 (optional other colours)
Protection degree (IEC 60529)	IP 20 (optional up to IP 54)

Environmental

Operating temperature	-10° C to 40° C (up to 55° C with de-rating) / Storage: -20° C to 70° C
Altitude	< 1000 m (up to 2000 m de-rating according to EN 62040-3)
Audible noise at 1 meter (dBA)	65 to 70 (depending on rating and options)

User Interface

Front panel	Graphic display, mimic LED panel, function keys, local EPO
Connectivity	Included: USB, alarm relay card, terminal block for auxiliary contacts

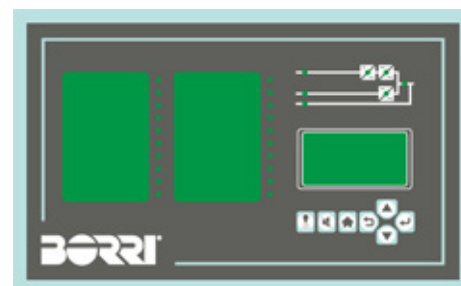
Standards

Quality assurance, environment, health and safety: ISO 9001:2008, ISO 14001:2004, BS OHSAS 18001:2007;
 Safety: IEC EN 62040-1;
 EMC: IEC EN 62040-2;
 Environmental aspects: IEC EN 62040-4;
 Test and performance: IEC EN 62040-3 VFI-SS-111;
 Protection degree: IEC 60529;
 Marking: CE; Optional: UL Certified

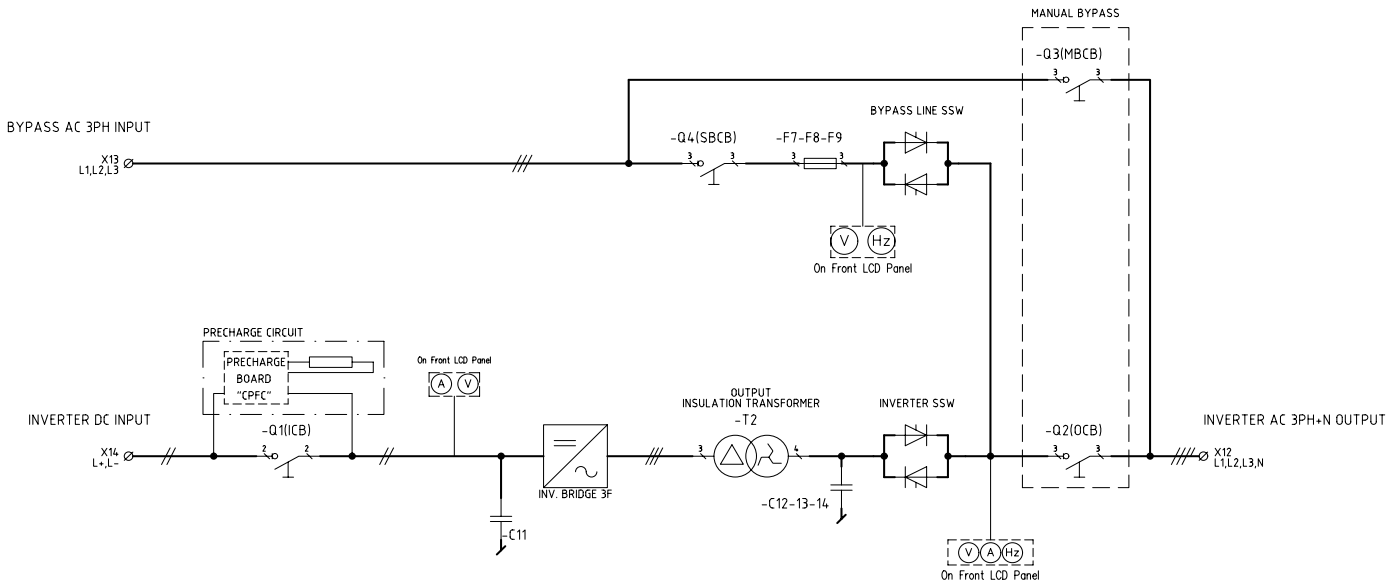
*Other ratings available on request

Standard features

- Active parallel configuration via CANBUS connection.
- Standard configuration for cost-effective, short lead time solutions.
- Electronic current limit.
- 20 programmable alarm and status LEDs.
- Built-in inverter transformer.
- Communication ports and potential free contacts.



ITB schematic



Options

Borri's engineer can help you to design the best solution for your application with a wide range of options, some of which are:

System

- Redundant/Parallel Load Sharing Configuration.
- AC distribution.
- AC earth-fault monitoring.
- Oversized inverter for higher short circuit capability.
- External manual bypass switch.
- Bypass isolation transformer.
- Bypass voltage stabiliser.

Alarms and measurement

- Analogue meters.
- Transducer.
- Additional LED alarm indicators.
- Additional relay board NO/NC contacts.
- Temperature alarm.
- Ground fault alarm.

Communication interfaces

- RS-232/485 interface.
- SNMP adapter for Web browser-based monitoring.
- Modbus protocol on RS-485 or TCP/IP.
- IEC 61850 protocol.
- Protocol converters Profibus DP.

Mechanical

- Protection up to IP54 (or NEMA 12).
- Top/bottom cable entry.
- 100% redundant ventilation.
- Interior cabinet light.
- Cabinet heater.
- Special colour.
- Ambient temperature maximum 55°C (+131 °F) with derating.
- Altitude up to 4,000 m asl (13,000 ft) with derating.
- Air filters at air inlet.

Additional options are available upon request.

Batteries

Borri has over 80 years of experience in designing and supplying AC and DC UPS systems with batteries.

With our vast experience in battery technologies and our close technical and commercial relationships with the world largest manufacturers of Nickel Cadmium, Lead Acid and Lithium ion Industrial batteries we are able to offer expert advice on the specifying, selection, operation and testing of batteries to best suite your application and needs.

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 center or on site, the training and service team provide support and tailored training at Borri or at your site. You can be assured of Borri support to the highest standards no matter where in the world you are.

- Planning, installation, commissioning
- Maintenance and Service
- Analytical testing
- Battery tests
- Spare parts
- Training



Who we are

Borri 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 is a brand of Legrand, a publicly traded company and a global specialist in electrical and digital infrastructures, offering high-value-added products and solutions for commercial, residential and industrial buildings.

Borri's R&D vast expertise in all facets of firmware, power electronics and mechanical design provides innovative solutions for tomorrows 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 20,000 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.