

# INGENIO MAX

Uninterruptible Power Supply

3ph from 200 to 300 kVA



## Applications

- Medium data centers
- Networks and servers
- Industrial control and process automation
- Medical equipment
- Building automation

## Highlights

- On-line double conversion
- Transformer free
- Full IGBT technology
- Paralleling up to 1.8 MVA



**BORRI**

# INGENIO MAX

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3ph from 200 to 300 kVA



## Features and benefits

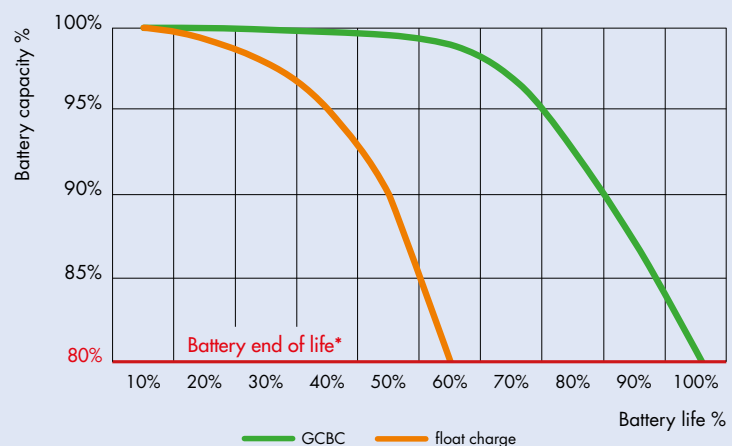
- Three level Green Conversion, up to 97% system efficiency, very low noise and the lowest TCO in its category.
- Full rated output power, ensuring optimal UPS sizing and utilization.
- Transformer free design for compact, light and sustainable systems.
- Full IGBT technology and electronic PFC, ensuring 0.99 input PF and THDi<3% for maximum upstream sources compatibility.
- 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 international product standards for maximum quality guarantee.



## Main options

- 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 kit for load sharing.
- Load-sync for single UPS units, load-sync box for two sets of paralleled UPS.
- Load Based Shutdown (LBS) for parallel units.
- Common battery.
- Tripping coil for bypass disconnecter.
- Ultra High Efficiency Mode (UHE).
- Other options on request.

**Green Conversion Battery Care vs conventional float charge enhanced battery service life**



\*as per IEC/EN 60896-21

## INGENIO MAX technical data

<b>Rating (kVA)</b>	<b>200</b>	<b>250</b>	<b>300</b>
<b>Nominal power (kW)</b>	<b>200</b>	<b>250</b>	<b>300</b>
UPS dimensions WxDxH (mm)	850x950x1975		
UPS weight (kg)	720	850	930
Battery configuration	External 360 to 372 cells, VRLA (other options)		

### Input

Connection type	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: 125% for 10 min, 150% for 30 s, >150% for 0.1 s; bypass: 150% continuous, 1000% for 1 cycle
Efficiency (AC/AC)*	Up to 99%
Classification as per IEC/EN 62040-3	VFI-SS-111

### Connectivity and function extensions

Front panel	10" colour touch screen display, 1024x600 pixels
Remote communication	Included: serial RS232 and USB, backfeed protection monitoring contact, input terminal block (remote emergency power off, battery circuit breaker aux. cont., external maintenance bypass circuit breaker aux. cont., diesel mode aux. cont., external output circuit breaker aux. cont., remote transfer to bypass mode). 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 extension	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); top cable entry; tripping coil for bypass disconnecter; other options on request

### System

Protection degree	IP 20
Colour	RAL 9005
Installation layout	Wall, back to back and side by side installation allowed
Accessibility	Front 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)	<60

### Standards and certifications

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
Protection degree	IEC 60529
Marking	CE

## INGENIO MAX series options

	Description	When do I use it
	Parallel kit	When the unit is to be paralleled for load sharing
	Load-sync for single units	To synchronize single units' output for no-break load transfers by downstream static transfer switches
	Load-sync box for two sets of paralleled UPS	To synchronize the output of two paralleled UPS systems for no-break load transfers by downstream static transfer switches
	Tripping coil for bypass disconnect	To be fully protected against backfeed energy upon static bypass failure. Detection circuit is included
	Top cable entry in extended cabinet	To allow input and output cable entry from the top of the unit
	Input transformer in extended cabinet	To galvanically isolate UPS from load or to change system's earth arrangement
	Battery fuse switch in wall-mounted box	To disconnect and protect an external battery pack
	External battery temperature probe	For charging voltage compensation with temperature (10 m cable length)
	Dry contact relay card	To send UPS status to PLC's, SCADA's or AS400's by voltage free SPDT contacts
	RS485 ModBus-RTU port	To send UPS status to BMS's by RS485 connection and ModBus-RTU protocol. For telemonitoring and teleservice
	Web/SNMP Adapter	To send UPS status to BMS's by Ethernet connection and SNMP or ModBus over IP protocol. To monitor UPS status by any internet browser from workstations. To receive SMS or e-mail alerts from the UPS on any portable device
	Input terminal block for remote EPO	When the Emergency Power Off (EPO) has to be commanded by a remote control button
	Input terminal block for external manual bypass switch auxiliary contact	When there is an external maintenance bypass switch, for state monitoring
	Input terminal block for external battery switch auxiliary contact	When there is an external battery switch, for state monitoring
	Input terminal block for diesel mode contact	When battery recharge has to be inhibited over genset operation
	Input terminal block for external output circuit breaker	When there is an external output breaker, for status monitoring
	Input terminal block for remote bypass transfer	When the transfer to bypass mode can be commanded by an external contact

Included