

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.



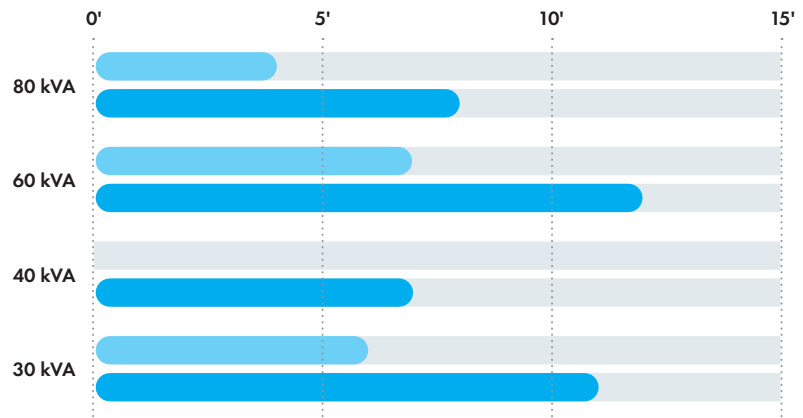
### Features and benefits

- 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		560x940x1505		560x940x1800		
UPS weight (kg)	120	140	210	225	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, >150% for 0.1 s ; Bypass: 150% continuous, 1000% for 1 cycle
Efficiency (AC/AC)**	Up to 99%
Classification by IEC/EN 62040-3	VFI-SS-111

## Connectivity and function extensions

Front panel	Graphic display, mimic LED panel and keyboard, local EPO
Remote communication	<b>Included:</b> (30 to 160 kVA): backfeed protection monitoring contact. <b>Included (60 to 160 kVA):</b> 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.). <b>Optional:</b> 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