



## Uninterruptible Power Supply (UPS)

Rating : 60 kVA to 500 kVA

- Supports your critical load with advanced technologies & features
- Reduced Energy Consumption & ultimately Cost
- Capacity enhancement
- Highly Efficient IGBT based Inverter
- Microprocessor based Digital Control



Power



Oil & Gas



Steel & Metal



Cement



Chemical



Pharmaceutical



Plastics



Pulp Paper



Packaging



Textile



# Rating

- 60 kVA
- 80 kVA
- 100 kVA
- 120 kVA
- 160 kVA
- 200 kVA
- 250 kVA
- 300 kVA
- 400 kVA
- 500 kVA

# Applications

It serves various applications in key industries like Processes Industries i.e. Plastic, Textile, Cable, Rubber, Glass, Paper, etc., Data centre, Telecom, Network Medical & Healthcare, Laboratories, Automobile, Transportation i.e. Rail, Airports, Shipping, Highways, Tunnels and many others.



Conveyors



Extruders



Winders



Injection Moulding



Mixers



Crushers



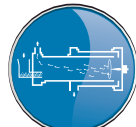
Wire Drawing



Elevators



Hoists



Rotary Kiln



Glass



Medical Equipment

And many others...

# Multi Protection & Green Power Design



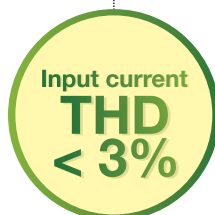
## Multi-Protection

- OVP - Over Voltage Protection
- OCP - Over Current Protection
- OTP - Over Temperature Protection
- SCP - Short Circuit Protection



## Green Power

Green design convert more energy and induces lower power loss



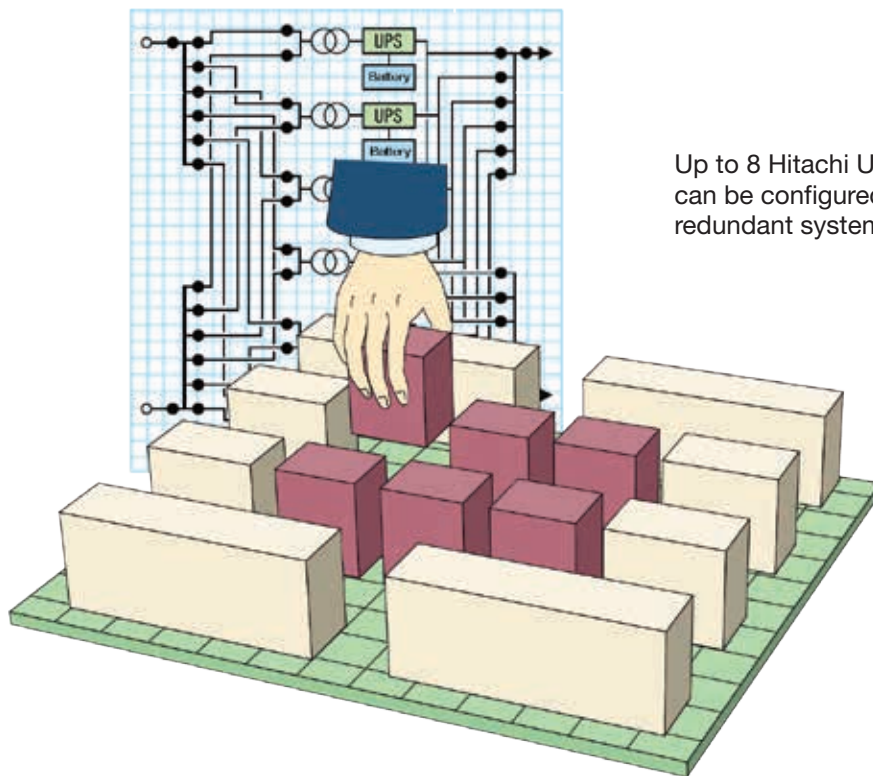
# Unit Parallel Connection Concept

## Advanced Technologies & Features

### Add as you need without taking a shutdown

Multiple UPS units can be added to enhance the UPS rating or achieve a parallel configuration even while the base units are running. No shutdown will not only ensure continuity of your critical operations but will also ensure peace of mind with clean continuous power to all your sensitive equipment.

- Up to 8 UPS Systems can be configured as a parallel redundant system
- Option to expand UPS units for future expansion at marginal cost and smaller dimensions
- N+1 redundancy can be achieved without external system bypass switch
- Install additional units or maintain an existing unit without affecting the load
- Configure a highly robust and reliable system with dual input/output



Up to 8 Hitachi UPS Systems can be configured as a parallel redundant system.

## Compact, Light-weight And High Efficiency Design

A smaller installation foot-print means a larger space available for the customer's system. Lower power loss means lower electricity cost and a smaller capacity required of the air-conditioning equipment.

The 415 V UPS input/output allows for larger capacity feeding with low power losses. Advanced circuit technology and the high speed IGBT switching technology eliminate the need for an inverter transformer, directly saves valuable installation space as well as reducing substantial weight of the system.

This enables the compact light weight system for quick positioning on site.

## Long Life Parts

Frequent replacement of components is costly and recurring in terms of cost of the parts as well as charges payable to the personnel for the job. It will also call for a system shutdown lead to a major loss. Our i6° system is built with long life parts; contribute to substantial reduction in maintenance costs.

# Advanced Features

Requirements		iG <sup>e</sup> UPS Advanced Features	
<b>Economical</b> Nominal initial cost Low running expenses	Power saving feature	<b>High-efficiency</b>	Transformer less Inverter 415V input / output
	Reduced footprint	<b>Small footprint Light weight design</b>	
	Lower maintenance cost	<b>Minimum parts replacement</b>	Components sourced from globally established vendors
	Short lead-time delivery		Long life fans and capacitors
	Reduced installation cost	<b>System menu setting</b>	Standard specifications engineered
<b>Ready for “on-floor” installation</b>		Utilization of floor wiring	
<b>Expandability</b> Expansion without power interruption to the load	Expansion of UPS as load capacity increase	<b>Unit parallel connection design</b>	Configure parallel redundant system without external bypass switch
			Dual input / output system
<b>Maintainability</b>	Easy operation of UPS	<b>Operational status, Operation guidance, Trend information, Measurement etc.</b>	LCD panel
	Area-free monitoring	<b>Support the on-line maintenance</b>	PFC for alarms
<b>Innovation New Technologies</b>	Supply of high-quality power	<b>Sine-Wave output</b>	IGBT inverter
		<b>150% overload capacity</b>	
	Guard against the full spectrum of power disturbances	<b>On-line double conversion</b>	
	Reduce the effects for input power	<b>Low input current harmonics</b>	IGBT converter
		<b>High input power factor</b>	
Reduce the effects on the back up generator	<b>Input current walk-in</b>		
<b>Reliability</b> Stable Power Supply	Back-up system availability	<b>Parallel redundant system</b>	Fully automatic transfer / re-transfer switch
			N+1 redundancy

## Technical Specifications

Parameter		Specifications	
AC Input	Voltage (specified)	415V (+) 10% & (-) 10% three phase four wire	
	Voltage operational	415V (+) 10% & (-) 40% three phase four wire	
	Rated frequency	50Hz / 60Hz	
	Frequency range	± 6%	
	Input power factor	0.99	
	Input current THD**	< 3%	
DC Bus Voltage	Voltage range	396 V (cut off) min to 700 V (boost) max	
	Maximum DC bus ripple	< 1% RMS	
Output Performance	Rated voltage	415 V three phase four wire	
	Voltage regulation - steady state	± 1%	
	Rated load power factor	0.9	
	Load crest factor	3 : 1	
	Transient response 100% step load	± 5%	
	Recovery time up to 98%	< 1 cycle	
	Voltage distortion	Linear load	< 2%
		Nonlinear load	< 5%
	Internal oscillator accuracy (free run)	0.1%	
	Frequency synchronization range	± 6%	
	Overload		110% for 60 minutes 125% for 600 seconds 150% for 60 seconds
		Phase angle accuracy with 100% unbalance load	< 3 degree
		Overall efficiency	Up to 95%
Eco Mode efficiency	98%		
Ambient conditions	Ambient temperature	0 - 40°C	
	Relative humidity	90% non condensing	
	Audible noise	<65 db A (60/80 KVA) , < 72 db A (100 -200 KVA) , <75 db A (> 200 KVA)	
	Atmosphere	Non corrosive, Dust free, Freely ventilated	
	Altitude	1000 meters from MSL	
Enclosure	Protection Class	CRCA steel sheet	
	Construction	IP 20 ( Optional IP31, IP41, IP42, IP43 )	
	Finish (Powder Coated)	RAL 7035 (Other colours optional)	
	Ventilation	Forced air (Internal fans)	
	Cable Entry	Bottom (Top optional)	
	Standards	IEC 62040-1,2 & 3	

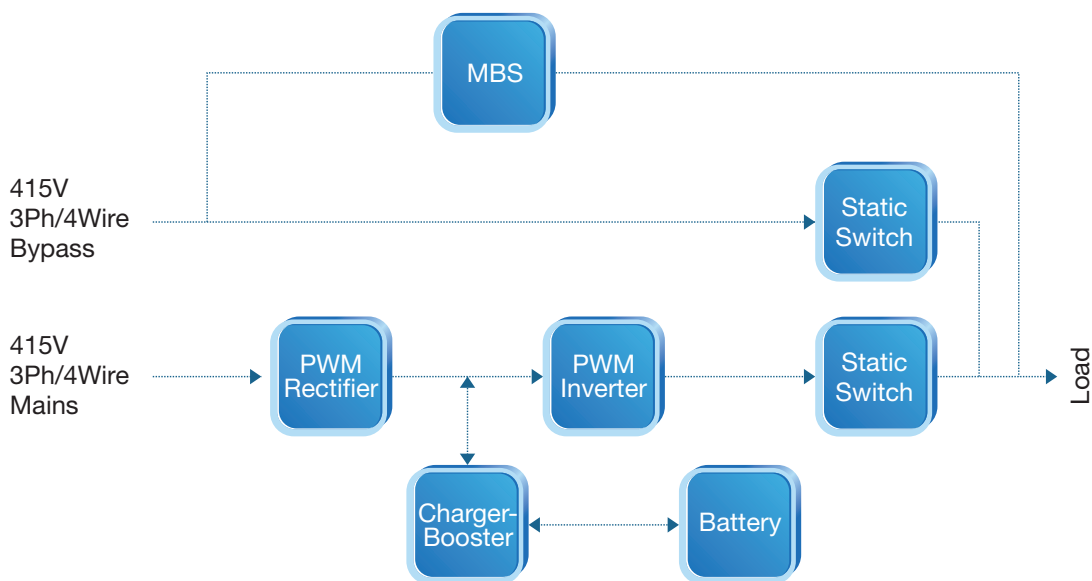
\*\* @ 100% rated load and nominal input voltage, with input voltage THD <1%

# Dimensions

Rating (kVA)	Height (mm)	Width (mm)	Depth (mm)	Weight (kgs)
60	1800	700	800	270
80	1800	700	800	300
100	1800	900	900	380
120	1800	900	900	380
160	1900	1300	900	495
200	1900	1300	900	590
250	1900	1300	900	940
300	1900	2100	900	1000
400	1900	2100	900	1160
500	1900	2100	900	1300

Note : Dimensions & weights are subjects to change.

## Block Diagram



## Options

- Parallel or Hot standby redundancy
- Input isolation transformer
- Output isolation transformer
- Bypass line regulator
- AC distribution panel
- PC based monitoring & recording unit
- RS - 485 communication port
- Monitoring on LAN through SNMP & Profibus
- Remote annunciator
- Automatic shutdown kit
- DCS connectivity through Modbus
- Individual Battery Health Monitoring Systems (BHMS)
- Emergency alerts via SMS
- Suitable for regenerative loads
- Back feed protection

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In the spirit of continuous improvement, specifications are subject to change without notice.

