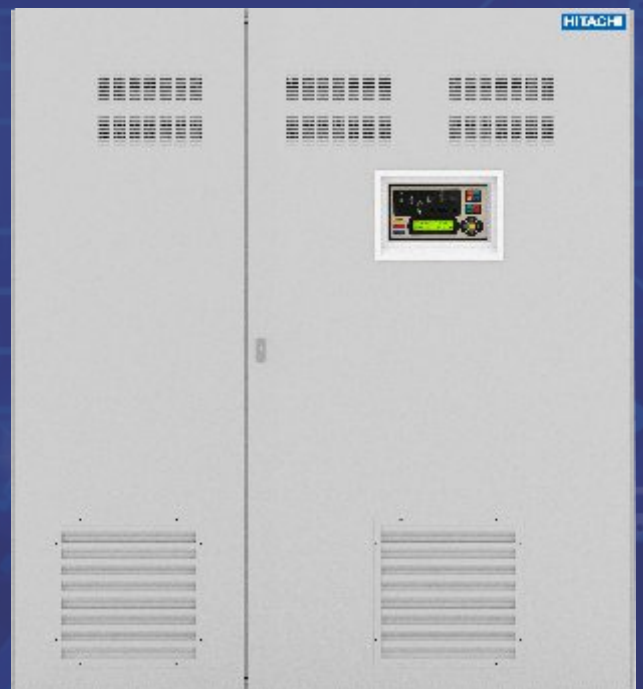


**HITACHI**  
Inspire the Next

**Three Phase Industrial UPS System**  
Range: 10 to 500 kVA

**i6 Series  
UPS System**



**Exceptional safeguard against Power Disruption**

## About i6 Series Three Phase Industrial UPS System

Hitachi Hi-Rel is a recognized name for high quality, proven technology and custom engineered back-up and power conditioning solutions for critical applications across all segments of the industry. Being the first UPS manufacturer in the country to receive ISO : 9001 certification in 1987, Hitachi industrial UPS systems are also IEC 62040-3 approved.

i6 series three phase industrial UPS system offers latest DSP controlled IGBT technology as well as IoT feature which helps monitoring UPS health remotely over the internet. It has highly efficient, latest and intelligent power device based inverter, capable to withstand 100% unbalance load. It is available in rating from 10 kVA to 500 kVA.

## Benefits

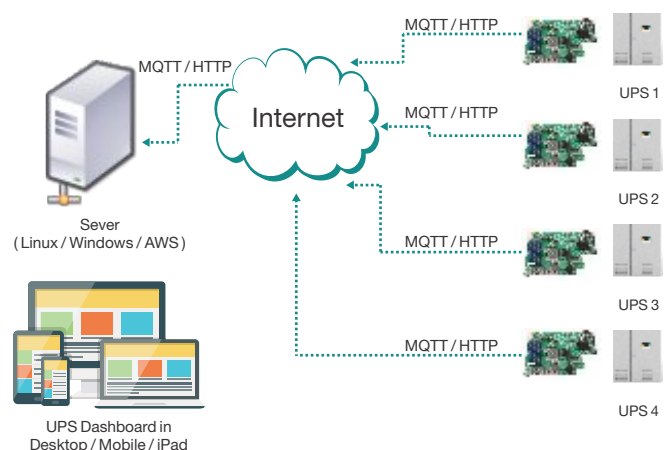
- Resilience for a long time
- Protects the voltage sensitive device from bad electricity
- Suitable for rugged usage
- Reduce system downtime
- Increase productivity
- Fresh neutral at output
- Battery bank safety
- User friendly access
- Huge power back-up in the industries

## Key Features

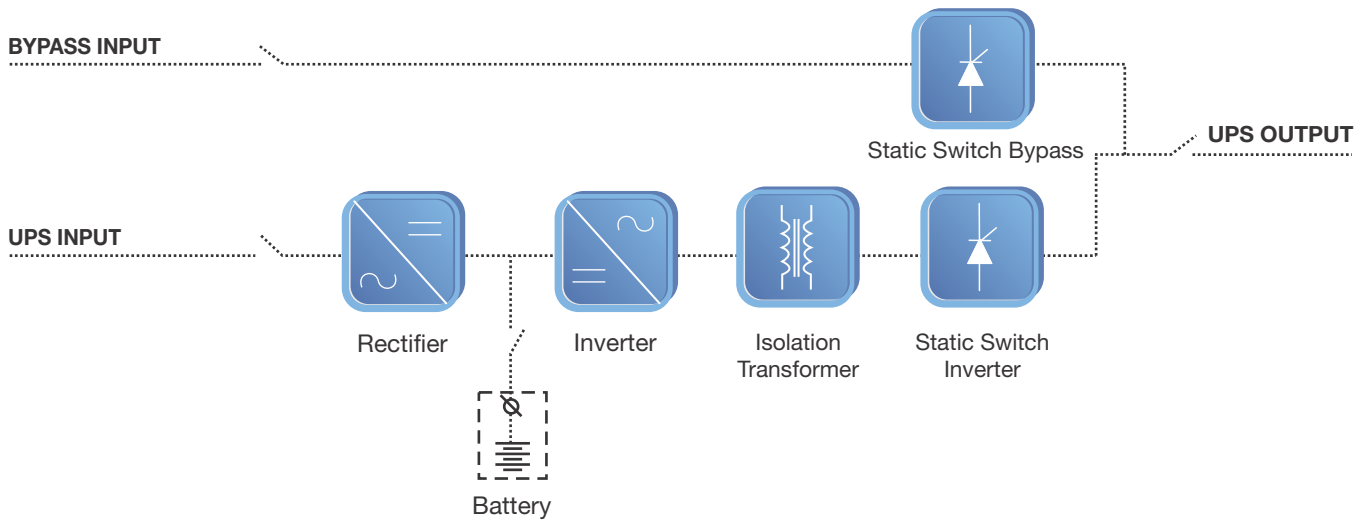
- Latest DSP controlled IGBT technology
- In built output galvanic isolation
- Fully electronics static switch for inverter output as well as bypass side
- Provision for separate bypass input
- Input phase reversal protection
- Manual bypass switch - available
- True RMS power measurement facility
- Programmable automatic two stage charger compatible with SMFB & VRLA batteries
- Built-in advanced battery management system
- Highly efficient, latest and intelligent power device based inverter
- Capable to withstand 100% unbalance load
- Extensive LED mimic with keypad
- LCD display keypad interface
- Date and time stamped event recording for last 999 alarms
- Programming and monitoring of various system parameters
- Make before break bypass operation
- Terminals suitable for industrial grade Cu flexible cable

## IoT Feature

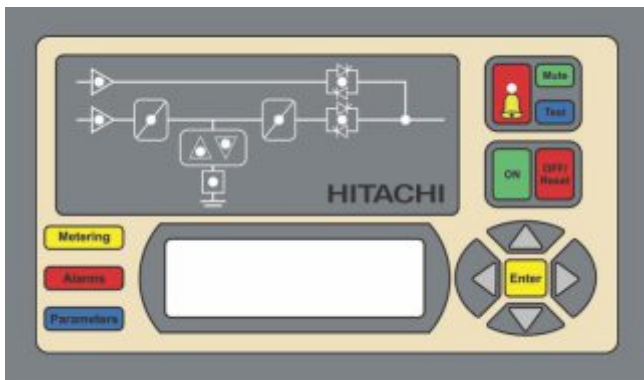
- Monitoring UPS health remotely over the internet
- Remote diagnosis
- Generate warning and alerts
- Uptime improvement
- Provide data for failure analysis
- Secure online tool for live UPS & battery health monitoring
- Numerical and graphical data presentation
- Report generation
- Notification of alerts through SMS/Email/Web App
- Data record retention



## Single Line Diagram



## LCD Display



### METERS-DIGITAL-LCD DISPLAY

<b>VOLTAGE METERS</b>	Mains Alternate Battery Inverter Load
-----------------------	---

<b>FREQUENCY METERS</b>	Alternate Inverter Output
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### MAJOR ALARMS-TEXT READOUT -LCD DISPLAY

<b>INPUT</b>	Under Voltage Over Voltage
--------------	-------------------------------

<b>DC</b>	Over Voltage
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<b>BATTERY</b>	Discharging Under Voltage End of Battery Discharge
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<b>INVERTER</b>	Under Voltage Over Voltage IGBT Limb Fault Over Load Over Load Trip (Inverse Time) Over Temperature
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<b>ALTERNATE</b>	Under Voltage Over Voltage frequency out of limit
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<b>STATIC SWITCH</b>	Transfer to Bypass
----------------------	--------------------

### Metering with true RMS measurement

<b>CURRENT METERS</b>	Mains Battery Inverter Load
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<b>POWER METERS</b>	Load kVA Load kW Load Power Factor UPS kVA UPS kW UPS Power Factor
---------------------	---

**Note:** All alarms and trips initiate an audible warning



## Technical Specifications

	Parameter	Specifications
<b>MAINS INPUT</b>	Voltage	415 V +10%, -15%
	Frequency	50 Hz ± 10%
<b>DC BUS</b>	Voltage	357 VDC to 476 VDC
	Maximum DC Bus Ripple	<1%
<b>OUTPUT</b>	Nominal Voltage	380-400-415 VAC, Three Phase + Neutral
	Load Power Factor Rated <sup>#1</sup>	0.8
	Load Crest Factor	3:1
	Voltage Regulation	
	Steady State	± 1%
	100% Step Load	± 5%
	Recovery Time to 98%	< 20 msec
	Over Load	
	110%	60 minutes
	125%	10 minutes
	150%	1 minute
	Efficiency	up to 94%
	Frequency	50 Hz
	Bypass Synchronization Window	± 1% to 6% (field programmable)
	Transfer Time	No break in sync mode / Async mode <10 ms
	Internal Oscillator	± 0.1%
	Slew Rate	1 Hz/sec
	Waveform	Pure sinusoidal
	Total Harmonic Distortion	
	Linear Load	<2.5% ON linear load
Nonlinear Load (CF 3:1)	<5% on NON linear load	
<b>OPERATING CONDITIONS</b>	Ambient Temperature <sup>#2</sup>	40°C
	Audible noise @1metre from panel front	55 dBA to 75 dBA (depending on system rating & system configuration)
	Installation	Clean & well ventilated, dust free environment
<b>ENCLOSURE</b>	Construction	CRCA steel sheet
	Protection Class <sup>#3</sup>	IP 20
	Finish (Powder Coated)	RAL 7035 (other colours optional)
	Ventilation	Forced air (internal fans)
	Cable Entry	Bottom (upto 300 kVA) / Top (400 & 500 kVA)

#1 - Load power factor 0.9 (Optional), #2 - Ambient design for UPS panel @ 50°C (optional),

#3 - Provision for high ingress protection

## Optional Features

- 12 Pulse rectification option
- ECO mode facility
- Vermin proof UPS enclosure design option
- Optical fiber links used for Internal communication
- Cold start facility
- Back feed protection
- POT free contacts available for remote signaling purpose
- Parallel redundancy configuration with common / separate battery bank design
- Input isolation transformer
- Harmonics TRAP LC
- Bypass line equipment option (SCVS / CVCF)
- AC distribution panel
- PC based monitoring and recording unit
- Monitoring through SNMP
- Monitoring through profibus
- RS 485 / Modbus protocol
- IoT enabled

## Serving entire gamut of Industries

Hitachi Hi-Rel has rich experience in supplying power electronics products for mission critical applications in various industries for critical data processing applications as well as back-up technology for demanding applications.



### Plastic

- Extruder Machine
- Injection Moulding Machine
- Blow moulding Machine
- Pipe Extrusion Machine
- TAP Plants



### Textile

- Yarn Machine
- (Warping Process)
- Knitting Machine
- BOPP, PPE
- Embroidery Machine



### Automobile & Engineering

- CNC – VMC – HMC Machine
- Drilling & Grinding Machine
- Robotics & Automation



### Printing & Packaging

- Multi-Layer Printing Machine
- Packaging Machine
- Digital Printing Machine



### Pharma

- Formulation / API Process Machinery
- Laminar Air Flow (LAF)
- Air Handling Units (AHU)
- Lab Equipment



### Sheet & Metal

- Punching Machine
- Banding Machine
- Laser Cutting Machine



### Ceramic

- Kiln Machine
- Robotics
- Sizing and Policing Machine



### Industrial Automation

- Airport Automation
- Process Control Equipment
- Transport Automation
- Railway and Road Transport Automation
- Robotics



### Medical

- Magneto Resonant Imaging (MRI)
- CT Scanning / Cath Lab
- Multiple Medical Imaging Units
- Surgical Operation Theatre (OT's)

and many more...



## Customer Support

“Have peace of mind with Hitachi Hi-Rel flexible and nimble footed, 24 X 7 service”

### Hitachi Hi-Rel service program includes:

#### On Site Installation, Supervision and Commissioning

- Provides comprehensive check at user site to ensure trouble free installation of product
- Our technical experts give recommendations to the site engineer or electrical contractor and supervise the UPS installation before load power-up
- Offers commissioning services along with site acceptance test report



#### Training

- On site training for safe & efficient operation of equipment
- Training at factory (optional)
  - Course-1 : Operation, System Principle, Hands on Training, Predictive and Preventive Maintenance – 3 days training
  - Course-2 : Predictive and Preventive Maintenance, Hardware, Settings, UPS System Panel & Batteries Troubleshooting & Repair Services – 5 days training



#### Preventive Maintenance Services

- Ensures safe and reliable operation
- Contracts includes cleaning, measurements of various parameters, calibrations, functional tests, event log and power quality analysis, battery health check, hardware and software upgrades supported by Field Service Report.
- Maintenance plan is one of the most cost-effective actions that can preserve initial investment and ensures business continuity.
- Ensure optimal performance and to protect critical application from potential downtime.



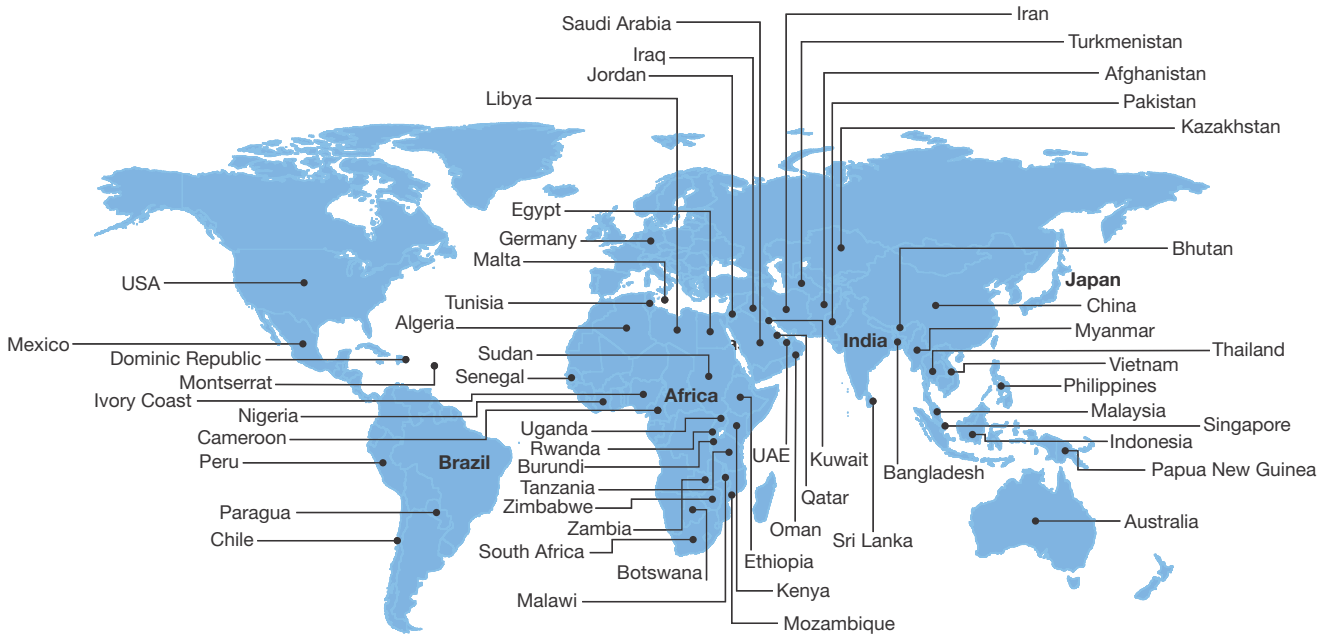
#### Break Down Maintenance & EMERGENCY CALL

- In the event of an emergency call, our service expert, located as close to your site as possible, guarantees a quick intervention time with the help of 24x7-365 days.
- With the help of powerful diagnostics software, quick troubleshooting is possible by a service expert, which guarantees a short MTTR (Mean Time to Repair).
- Corrective actions are performed (Part replacement, adjustments and upgrades of software's etc.)
- Helpline number for service support - (080) 6112 0800



\*Service program is separate from equipment supply and subject to applicable terms and conditions.

## Worldwide Presence



## Pan India Presence



## Contact us

### Hitachi Hi-Rel Power Electronics Private Limited

#### Registered Office:

B-52, Corporate House,  
Near Judges Bungalow, Bodakdev,  
Ahmedabad - 380 054, Gujarat, India.  
Tel: +91-79-6604 6200,  
Fax: +91-79-6604 6243

#### Manufacturing Works:

Plot No. SM 3 & 4, Sanand GIDC - II,  
Industrial Estate, Bol Village,  
Sanand - 382 110, Gujarat, India.  
Tel: +91-2717-678 777,  
Fax: +91-2717-678 700

#### Gandhinagar Facility:


B - 14/1 & 171, GIDC Electronics Zone,  
Sector - 25, Gandhinagar - 382 028,  
Gujarat, India.  
Tel: +91-79-6170 0500

 **Helpline No.:** (080) 6112 0800 (For Sales & Service)

 [contact@hitachi-hirel.com](mailto:contact@hitachi-hirel.com)

 [www.hitachi-hirel.com](http://www.hitachi-hirel.com)

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