

i4et Series UPS System

Single Phase Industrial UPS System

Range: 5 kVA, 10 kVA, 20 kVA, 30 kVA & 40 kVA



HITACHI

About Hitachi Hi-Rel Power Electronics

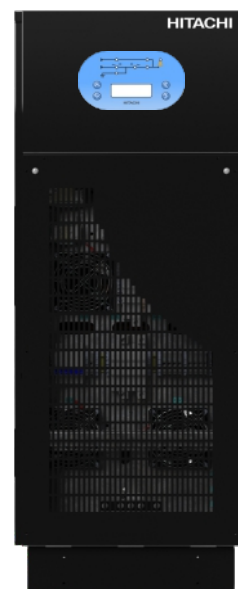
Hitachi Hi-Rel Power Electronics Private Limited, which is being recognized as one of the pioneers in power electronics domain, is a leading manufacturer of Industrial UPS. With a vision of "To be recognized as the most trusted Power Electronics Company by supplying superior products and services", Hitachi Hi-Rel has garnered a significant level of trust in Indian UPS market segment and continue to offer world class power electronics products, value added services & customized solutions. It has state-of-the art manufacturing facility at Sanand near Ahmedabad in Gujarat-India.

About i4et Single Phase Industrial UPS System

i4et single phase industrial UPS system is true online industrial grade UPS for critical load, where DSP and latest technology offers maximum reliability and flexibility at the lowest operating cost. It protects plant automation instruments from bad electricity.

Highlights

- IGBT Rectifier - IGBT Inverter technology with in-built isolation transformer between UPS & critical loads.
- Low input current harmonic distortion THDi <5% & input PF 0.99.
- Compact footprint for UPS panel in industrial segment (caster wheels arrangement available up to 20 kVA).
- Manual bypass with PAD locking facility
- Suitable for common / separate battery bank for parallel redundant UPS configuration
- 2+1 redundancy and capacity enhancement up to 80 kVA
- Front accessible design (easy maintenance, ensure guaranteed MTTR)
- Wide range of connectivity



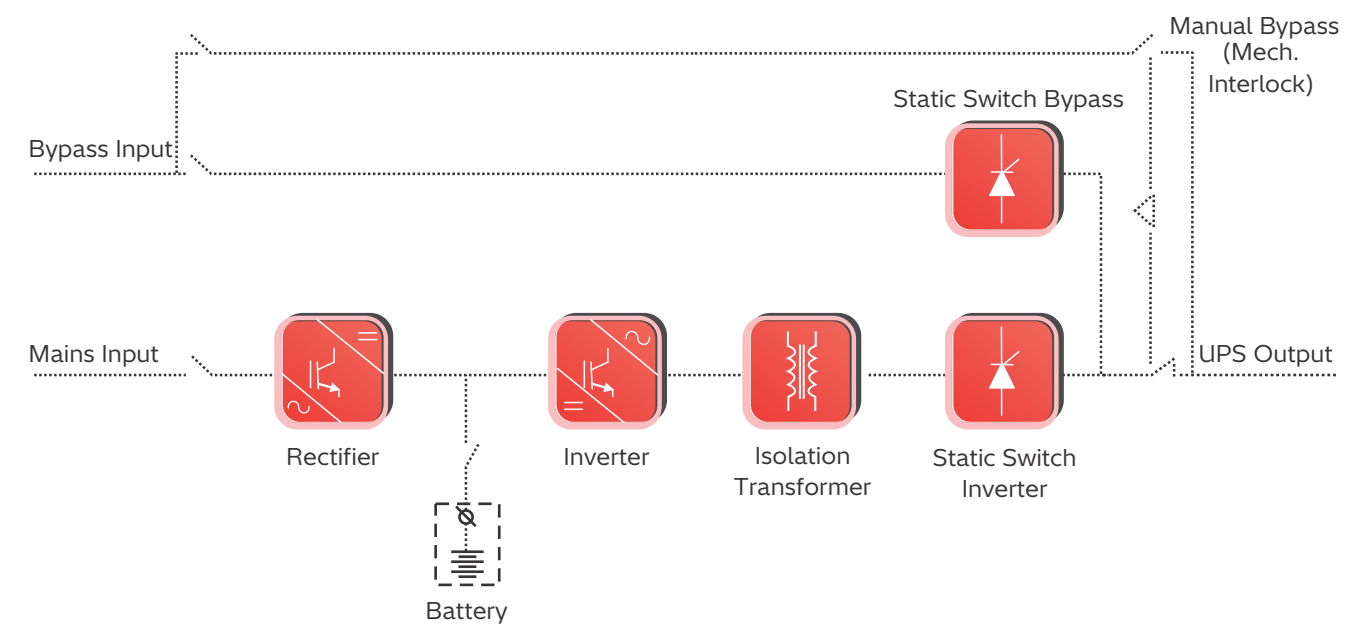
Key Features

- DSP based technology
- Configuration: Parallel operation / Hot standby operation / 2+1 redundancy / Capacity enhancement up to 80 kVA
- Wide input voltage and frequency range
- Insensitive to input phase sequence
- Compatible with generator set
- Intelligent BMS (battery management system)
- Built-in galvanic isolation transformer
- Zero change over option time
- Protection against short circuit and overload
- Auto transfer & re-transfer facility with bi-directional static switch
- Suitable for 3:1 crest factor load

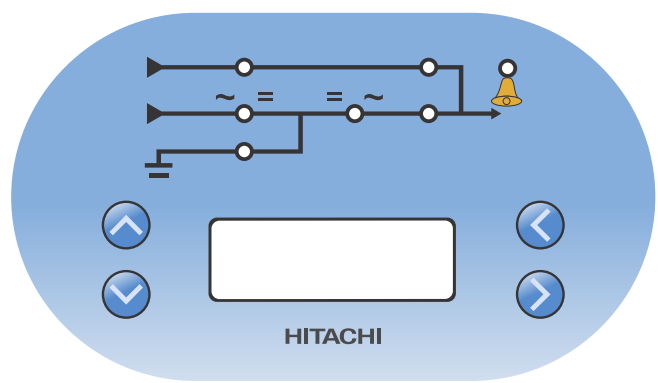
Benefits

- Lower input power requirement
- Protects plant automation instruments from bad electricity
- Require lower floor space
- Suitable for floated or grounded neutral load
- User-friendly access
- Expandability
- Battery bank safety
- Resilience for longer time
- Reduce system downtime
- Increase productivity

Single Line Diagram



LCD Display



- LCD display and mimic panel for real time information
- Time - Date stamp logging of 999 alarms
- All alarms and trips initiate an audible warning
- True RMS metering & measurements

METERS-DIGITAL-LCD DISPLAY	
VOLTAGE METERS	Input Line Alternate Battery Inverter Load
FREQUENCY METERS	Input Alternate Inverter Output
LOAD	Load kW Load KVA Load PF
LED INDICATION	Bypass Input Bypass SSW Mains Input / Rectifier Inverter Operation Inverter SSW Battery Operation Alarms

METERS-DIGITAL-LCD DISPLAY	
CURRENT	Input Line Battery(charge/discharge) Inverter Alternate Load
ALARMS	Main Fail Low Battery Over Load Inv.Low Inv.High Inv.Over Temp. No Sync Alt.High Alt.Low Mains Freq.TOL Loadon Bypass Low Battery Trip

Technical Specifications

Parameters	5 kVA / 10 kVA / 20 kVA	30 kVA / 40 kVA
INPUT		
Input Nominal Voltage	415 +10%, -15% VAC, 3Ph, 4 Wire ^{#4}	
Input Voltage Operational Range	+10%, -15%	
Input Nominal Frequency	50 Hz (±6%)	
Input Power Factor	Up to 0.99	
Input Current Distortion	<5%	
Power Walk-in	Progressive over 15 sec.	
Generator Rating	1.5 times the rated load	
Insensitive to I/P Phase Sequence	Operates on mains mode	
DC		
Rectifier Type	IGBT	
Voltage Regulation	±1%	
Ripple	≤2% RMS	
Battery Charging	30 min. backup support	
Batteries Supported	SMF / Ni-Cd / Lead Acid	
DC Bus Range	273 V - 410 V ^{#1}	
No. of SMF Batteries 12V	26 Nos.	
OUTPUT		
Voltage	220 / 230 / 240 VAC, 1Ph ^{#2}	
Voltage Regulation	±1%	
Frequency	50 Hz	
Power @ 0.8 PF	4 kW / 8 kW / 16 kW	24 kW / 32 kW
Over Load Capacity	110% for 60 Min.	
	125% for 10 Min.	
	150% for 1 Min.	
Output Voltage Distortion	< 5% @ non linear load	
	< 2% @ linear load	
Transient Response for 100% Load	± 5%	
Recovery Time	98% within one cycle	
Crest Factor	3:1	
Frequency Stability (Battery Mode)	±0.1%	
Synchronized	±1 Hz, ±2 Hz, ±3 Hz	
Slew Rate	1 Hz / Sec.	
Bypass : Transfer Time	0-4 ms sync, <20 ms async	
Type of Display	LCD with Keypad	
MECHANICAL ^{#3}		
Height	1300 mm	1400 mm
Depth	650 mm	830 mm
Width	450 mm	800 mm
Weight	280 / 300 / 360 Kg	450 Kg
Color / Panel Finish	Dark structured black / RAL 7021	
Cable Entry	Front end-bottom	
Cooling	Forced air cooled	
Ingress Protection	IP 20 (Optional: IP 42)	
ENVIRONMENTAL		
Temperature	0 – 40°C Continuous	
Storage Temp.	0 – 70°C	
Humidity	95% RH	
Altitude	1000 mtr	
Noise	< 60 dBA	<65 dBA

^{#1} 10 nos. battery option (DC Bus range 99 to 160 VDC)

^{#2} 110 VAC 1ph. output

^{#3} Dimensions and weights are subject to change based on technical parameters

^{#4} Input 230 V +10% Optional for 5 kVA, 10 kVA & 20 kVA

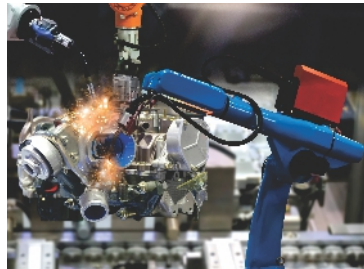
Serving Entire Gamut of Industries

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

It is best suited for major applications in mission critical loads, i.e. DCS, SCADA, PLC/Automation, field instruments, utilities/lighting etc.



Agrochemical Industry



Robotics



Pharmaceutical



Steel & Metal Industries



Food & Beverages



Pulp & Paper Industry



Power



Chemical Industry



Infrastructure



FMCG



Textile



Hospitals & Healthcare

Customer Support

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

Our 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 & restoration services – 5 days training



Preventive Maintenance Services (AMC, CMAC & Extended warranty)

- Ensures safe and reliable operation
- Contracts includes cleaning, measurements of various parameters, calibrations, functional tests, event log and parameter validation, 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

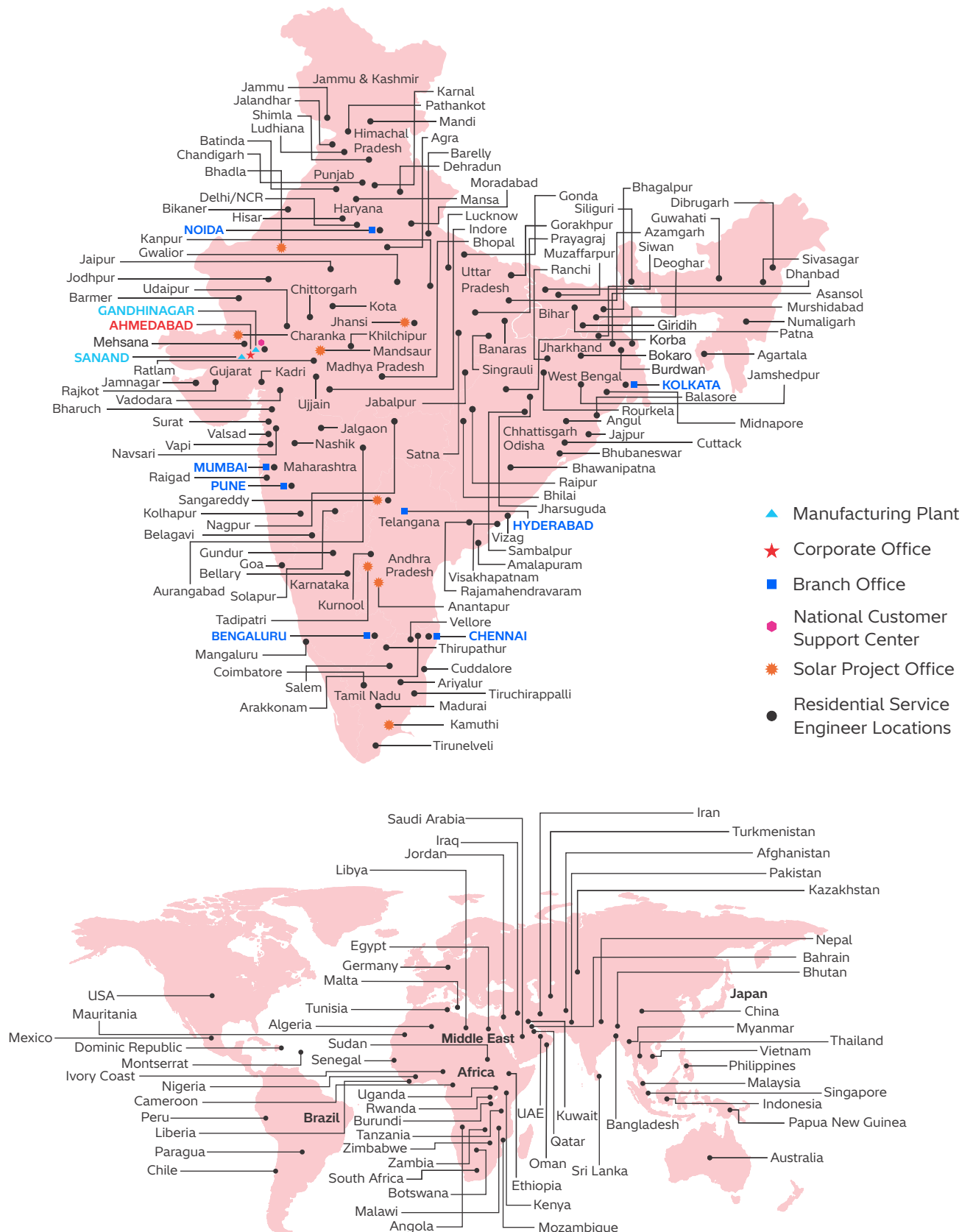


*Service program is separate from equipment supply and subject to applicable terms and conditions.

Global Footprint and Reach

Delivering Critical Power Solutions Worldwide

We are a key manufacturing hub for global power electronics solutions, capable of meeting diverse international requirements. Our ability to supply specialized, high-reliability products to various industries across international territories reinforces our commitment to serve critical loads globally.



Hitachi Hi-Rel Power Electronics Pvt. Ltd.

Delivering Advanced Power Electronics Solutions that empower Industries and sustain Progress.

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