



Single Phase Industrial UPS System Range: 5 to 250 kVA





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 Guiarat-India.



About i4eti Single Phase Industrial UPS System

i4eti UPS systems are specifically designed to provide secure power to mission critical loads in Refineries, Petrochemicals, Power Generation, Pipeline, Steel and Process Industries as well as for critical data processing applications.

This Hitachi UPS with IGBT based rectifier system is true online industrial grade UPS for critical load. Use of DSP and latest technology offers maximum reliability and flexibility at the lowest operating cost. It is available in rating from 5 kVA - 250 kVA and is custom built to your exact specifications.



Highlights

IGBT based Rectifier Technology

Low input current harmonic distortion of less than 5%, input PF>=0.98 due to IGBT based Rectifier Technology.

Higher Grade Enclosure Protection

IP42 enclosure protection with best thermal & mechanical design, suitable for 50°C ambient temperature.

Suitable for Separate or Common Battery Bank

Depending on requirement of smaller or higher battery backup time, dual battery bank options available to meet the requirement.

Latest DSP Based Technology

Full Digital Signal Processing using the Latest DSP Technology improves the high control feedback loop for faster response and improves required corrective action and reduce error drift.

Easy Maintenance Design

All electrical and electronic components are arranged in such a way that there is sufficient internal space for easy maintenance and fast repairing / replacement of major components, ensure for guaranteed MTTR.

Wide Range of Connectivity

POT Free Contacts / Modbus / Profibus / SNMP / RS-485 / RS-232 to monitor the UPS parameters on remote PC / station for identification of faults / alarms / indication of UPS system.





Key Features

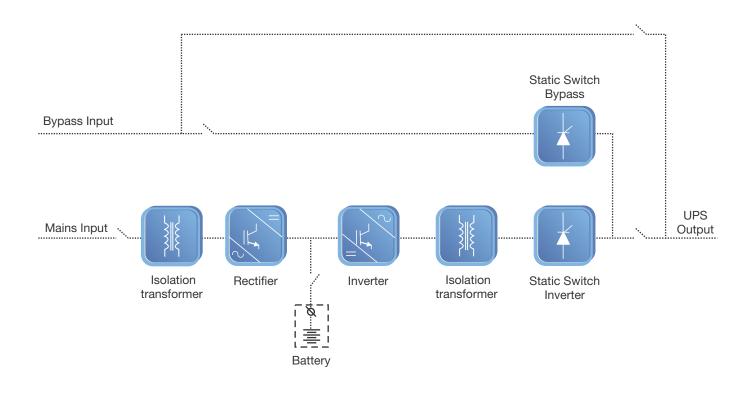
- DSP based technology
- · Wide input voltage and frequency range
- Wide DC Link range
- Near to unity power factor
- Enclosure protection IP 42
- Protection against short circuit and overload
- Intelligent BMS (Battery Management System)
- Suitable for 3:1 crest factor load
- Built-in I/P galvanic isolation transformer (Specially design for Ni-Cd and Plante battery)
- Built-in O/P galvanic isolation transformer
- Suitable for separate or common battery bank
- Suitable for Parallel Redundancy up to 1+1
- Auto transfer re-transfer facility with bi directional static switch
- 999 alarms can be stored with memory
- LCD display and mimic panel for on line information
- · Immune to input phase reversal
- Temperature: 0-50°C

Optional Features

- Bypass CVCF / SSVS / SCVS
- Modbus-RTU, Modbus-TCP-IP
- Facility for FDU MCR
- Potential free contacts
- Fan redundancy
- Fuse Fail Indication
- Fan Fail Indication
- Emergency Stop
- DC ground fault
- Padlock facility for Input & Bypass MCCB



Single Line Diagram





Technical Specifications

Power Rating in kVA		5 10	20	30	40	50	60	70	80	100	120	160	200	250	
Power Rating in kW(PF specified)		0 10						0.8	00	100	120	100		1 200	
Main Input								0.0							
Rectifier Type		ICRT Record Active Front Ford Position													
Rated Voltage		IGBT Based Active Front End Rectifier 415 VAC, 3 Phase, 3 Wire													
Voltage Range						4		%, -15%	VIIE						
Rated Frequency															
, ,								60 Hz							
Frequency Range Input Power Factor		±6% ≥0.98													
		2 0.98 <5% THDi @VTHD <1%													
Input Current Harmonics		Progressive over 15 sec													
Power Walk-in						F	rogressiv	e over 15 s	sec						
Operation with Reverse Phase Sequence							Po	ssible							
Maximum Inrush Current		7 to 8 times of rated current for one cycle													
Static Bypass Input		. 15 5 times of rates during the syste													
Rated Bypass Voltage		230 VAC / 110 VAC													
Bypass Voltage Range		±10%													
Rated Frequency		50 Hz													
Synchronized Range		±1% to ±6%													
Output (Inverter)															
Inverter Operating Range		2	73 to 425 VI	DC					32	6 to 510 \	VDC				
Rated AC Voltage							230 VA	C / 110 VAC)						
Voltage Regulation		±1%													
Power Factor								0.8							
Rated Frequency								60 Hz							
Frequency Regulation															
(Unsynchronized)							±	0.1%							
Synchronized Range							±	3 Hz							
Max. Rate of Change of Frequency		1 Hz/sec													
Transient Response @ Rated Load															
Change @ Nominal Condition		IEC62040-3, Class-1													
Output Voltage	Non-linear Load	<5% (Complies IEC62040-3)													
Distortion	Linear Load	<2% (Complies IEC62040-3)													
Transfer time from Synchronized Mode		<4 millisecond													
Inverter to Bypass Unsynchronized Mode		<20 millisecond													
Crest Factor		3:1													
Overload Capability Branch Fuse Clearing Ability		110% for 60 minutes													
		110% for 10 minutes 125% for 10 minutes													
		150% for 1 minute													
		30% of UPS rated current (fast acting semiconductor protection fuse)													
		10% of UPS rated current (slow acting fuse)													
Battery / Charger Charger Voltage Regulation								. 10/							
Battery Configuration		±1% Stand alone/ Common battery Stand alone													
Minimum Battery Float Voltage		Stand at		on batter	ry				Stand alone						
			351 VDC				418 VDC								
Maximum Boost Voltage			425 VDC					510 VDC							
DC Under Voltage Trip			273 VDC						326 VDC						
Nominal Nos. of Battery		2	blocks of 1	12V						blocks of	12V				
Type of Battery Supported								'RLA / NICI)						
Ripple Voltage (W/O Battery)		<2 % rms													
Battery Reverse Polarity		Protected against reverse battery connection													
System															
Communication							Modb	us RS485							
Operating Temperature		50°C ⁽¹⁾													
Storage		0-70°C													
Relative Humidity		< 95% Non Condensing													
Noise		<65 dBA <70 dBA <70 dBA <72 dBA <78 dBA <78 dBA													
Operating Altitude		< 1000 meters ASL													
Mechanical															
Dimensions (HxWxI	D) mm	1620 x 830	x 850	1720x10	030x950		2x(1720	x1030x 950)	2x(21	120x1230x	(1050)	3x(2120x	1430x1050)	
<u> </u>	Color / Panel Finish					RA		oowder coa	<u>′</u>	, ,-,		/			
Paint Thickness		>60 micron													
Cable Entry								- Bottom							
Cooling															
Base		Forced - Air-cooled 100 mm plinth													
Ingress Protection Class															
Ingress Frotection Class							I	P 42							

Above all mentioned data complies with IEC 62040-3 (1) --> Surrounding environment must be dust free.



Serving Entire Gamut of Industries

Hitachi Hi-Rel has rich experience in supplying power electronics products & complete customized solutions for mission critical applications in refineries, petro-chemicals, power generation, steel & metal and process industries as well as critical data processing applications.



Steel & Metal Industries



Petrochemicals & Refineries



Cement Industry



Power Generation & Utility Industries



Oil & Gas Production



Pulp & Paper Industry



Coal & Mining Industries



Chemical Industry



Fertilizer Industry



Pharmaceutical



Textile



Plastic

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 (AMC, CMAC & Extended warranty)

- 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

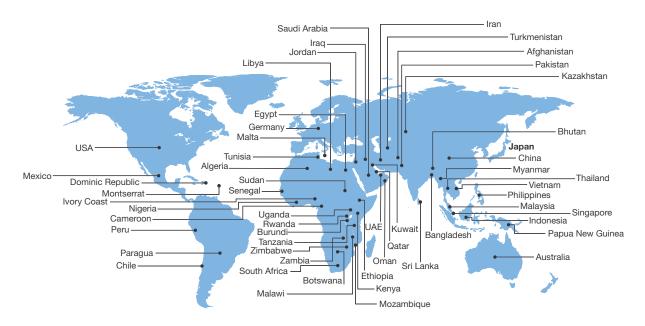
- In the event of an emergency call, our service expert, located as close to your site as possible, guarantees a quick intervention time with the help of 24x7-365 days.
- With the help of powerful diagnostics software, quick troubleshooting is possible by a service expert, which guarantees a short MTTR (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



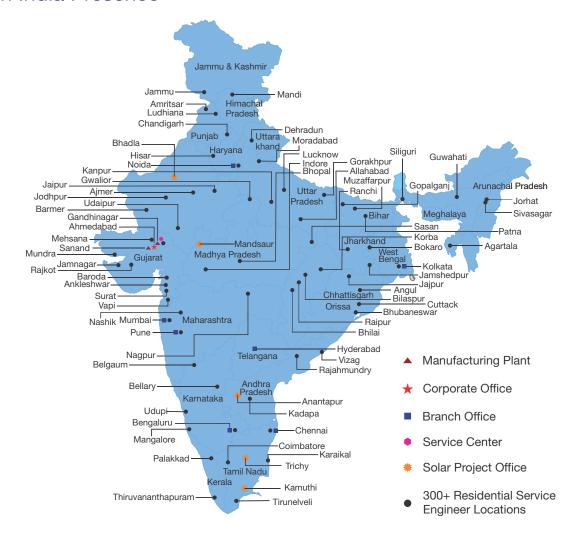
^{*}Service program is separate from equipment supply and subject to applicable terms and conditions.



Worldwide Presence



Pan India Presence





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