HITACHI Inspire the Next







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 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.





- 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



Technical Specifications

Power Rating in k	/A	5 10 20 30	40 5	0 60 70	80 100	120 160	200 250	
Power Rating in kW(PF specified)				0.8	I	1		
Main Input								
Rectifier Type		IGBT Based Active Front End Rectifier						
Rated Voltage		415 VAC, 3 Phase, 3 Wire						
Voltage Range		+10%, -15%						
Rated Frequency		50 Hz						
Frequency Range		±6%						
Input Power Factor		≥0.98						
Input Current Harmonics		<5% THDi @VTHD <1%						
Power Walk-in		Progressive over 15 sec						
Operation with Reverse		Possible						
Phase Sequence								
Maximum Inrush Current		7 to 8 times of rated current for one cycle						
Static Bypass Input								
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		273 to 425 VDC			326 to 510 \	/DC		
Rated AC Voltage		230 VAC / 110 VAC						
Voltage Regulation		±1%						
Power Factor		±170 0.8						
Rated Frequency		0.8 50 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 Battery / Charger		110% for 60 minutes						
		125% for 10 minutes						
		150% for 1 minute 30% of UPS rated current (fast acting semiconductor protection fuse)						
		10% of UPS rated current (last acting semiconductor protection ruse)						
Charger Voltage Regulation				±1%				
Battery Configuration		Stand alone/ Common batte	ry		Stand alone			
Minimum Battery Float Voltage		351 VDC			418 VDC	418 VDC		
Maximum Boost Voltage		425 VDC			510 VDC	510 VDC		
DC Under Voltage Trip		273 VDC			326 VDC	326 VDC		
Nominal Nos. of Battery		26 blocks of 12V						
Type of Battery Supported		SMF - VRLA / NICD						
Ripple Voltage (W/O Battery)		<2 % rms						
Battery Reverse Polarity		Protected against reverse battery connection						
System	,				,			
Communication				Modbus RS485				
Operating Temperat	ture	50°C ^(t)						
Storage		0-70°C						
Relative Humidity				< 95% Non Condensi	ng			
Noise		<pre><65 dBA <67 dBA <70 dBA <72</pre>	dBA		<75 dBA		<78 dBA	
Operating Altitude			I	< 1000 meters ASL				
Mechanical								
Dimensions (HxWxE	D) mm	1620 x 830 x 850 1720x1	030x950	2x(1720x1030x 950)	2x(21	20x1230x1050)	3x(2120x1430x10	
Color / Panel Finish				RAL 7035 (powder coat	``			
Paint Thickness		>60 micron						
Cable Entry		Front - Bottom						
Cooling		Forced - Air-cooled						
Base		100 mm plinth						
Ingress Protection Class		IP 42						
		IF 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



Power Generation & Utility Industries



Coal & Mining Industries



Pharmaceutical



Petrochemicals & Refineries



Oil & Gas Production



Chemical Industry



Textile



Cement Industry



Pulp & Paper Industry



Fertilizer Industry



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.















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In the spirit of innovation, specifications and features are subject to change without notice.