

HI-REL

HITACHI
Inspire the Next



Three Phase UPS Systems
Range: 10 to 500kVA



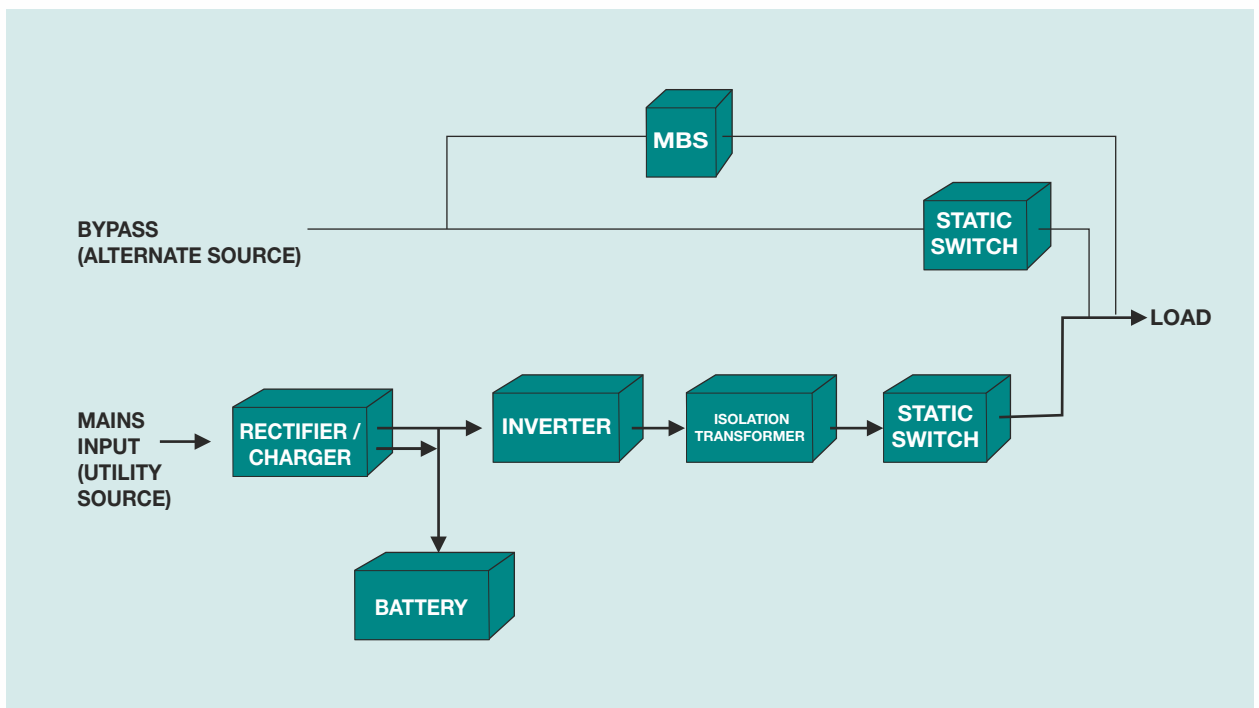
Three Phase UPS Systems

Hitachi Hi-Rel Power Electronics Pvt. Ltd. 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, HHPE Industrial UPS systems are also IEC 62040 approved.

We have one of the finest manufacturing set-ups in the country backed by a seven star testing facility through which each and every UPS has to pass before being cleared for shipment. A comprehensive network of service support, strategically located around the country is available on 24 x 7 basis.

Our In-house R&D is constantly working on innovation and up-gradation of topologies to ensure tailor made solutions to meet customer specifications and demands.

Block Diagram



IGBT modules in inverter



DSP based digital control board

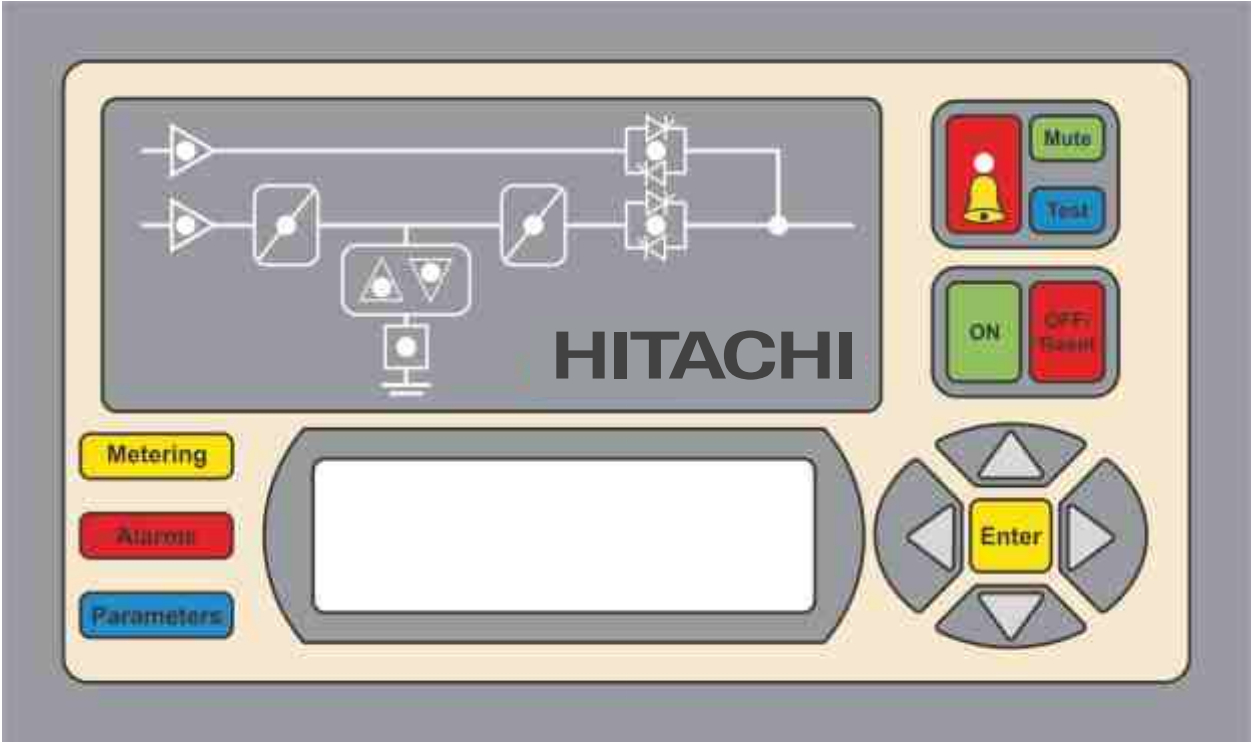
Standard Features

- Latest DSP controlled IGBT technology
- Energy efficient and ECO mode facility (Efficiency up to 98%)
- **Suitable for 45°C ambient temperature (Work in NON AC Environment)**
- Vermin Proof UPS enclosure design option
- Suitable for Regenerative loads
- In built Output Galvanic isolation (using K-13 design transformer)
- Optical fiber links used for Internal communication
- Fully Electronics static switch for Inverter output as well as Bypass side
- UPS with dual input facility
- Input Phase reversal protection
- Manual Bypass switch - Available
- True RMS power measurement facility
- Cold start facility available
- Back feed protection available
- 8 nos. POT free contacts available for Remote signaling purpose
- 24 x 7 Service Support
- 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.
- SVM based PWM generation.
- Comprehensive LED mimic.
- 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 armored power cable.
- Default RS485 port.

Options

- 12 Pulse rectification option
- Remote Signal Panel
- Parallel Redundancy configuration with common battery bank design
- Input Isolation Transformer
- Harmonics TRAP LC / Active Filter
- Bypass line equipment option (Servo stabilizer Panel / Isolation transformer panel)
- AC Distribution Panel
- PC Based Monitoring and Recording Unit
- Monitoring through SNMP
- Monitoring through Profibus
- Battery Monitoring System
- Automatic Shutdown Kit

Digital Control Panel



LCD Display

METERS-DIGITAL-LCD DISPLAY	
VOLTAGE METERS	Mains Alternate Battery Inverter Load
FREQUENCY METERS	Mains Alternate Output
Metering with true RMS measurement	
CURRENT METERS	Mains Battery Inverter Load
POWER METERS	Load kVA Load kW Load Power Factor UPS kVA UPS kW UPS Power Factor

MAJOR ALARMS-TEXT READOUT -LCD DISPLAY	
INPUT	Under Voltage Over Voltage
DC	Over Voltage
BATTERY	Discharging Under Voltage End of Battery Discharge
INVERTER	Under Voltage Over Voltage IGBT Limb Fault Over load Over load Trip (Inverse Time) Over Temperature
ALTERNATE	Under Voltage Over Voltage Frequency out of Range
STATIC SWITCH	Transfer to Bypass

Technical Specifications

MAINS INPUT	
Voltage	415 v +15%, -20%
Frequency	50 Hz ± 10%
DC BUS	
Voltage	357Vdc to 476Vdc
Maximum DC Bus Ripple	<1%
OUTPUT	
Nominal Voltage	380-400-415 Vac, Three Phase + Neutral
Load Power Factor Rated	0.8 (Standard), 0.9 (Optional)
Load Crest Factor	3:1
Voltage Regulation	
Steady State	± 1%
100% Step Load	± 5%
Recovery Time to 98%	< 20 msec
Over Load	
25%	600 Seconds
50%	60 Seconds
UPS Efficiency	up to 94% overall (Up to 98% in ECO mode)
Frequency	50 Hz
Bypass Synchronization	± 1% to 6 % Field
Window	Programmable
Internal Oscillator	± 0.1%
Slew Rate	1 Hz/Sec
Total Harmonic Distortion	
Linear Load	<2% ON Linear Load
Nonlinear Load (CF 3:1)	<3% on NON Linear Load.
OPERATING CONDITIONS	
Ambient Temperature	45°, option available for 50°
Audible Noise @1metre from PanelFront	55 dBA to 70 dBA (depending on system rating & system configuration)
ENCLOSURE	
Construction	CRCA Steel Sheet
Protection Class	IP 20 / IP 30 (Vermin Proof design option)
Finish (Powder Coated)	RAL 7032 (Other Colours Optional)
Ventilation	Forced Air (Internal Fans)
Cable Entry	Bottom

Dimensions

Rating kVA	Height (mm)	Width (mm)	Depth (mm)	Weight (Kg)
10	1600	800	860	450
20	1600	800	860	465
30	1600	800	860	480
40	1600	800	860	520
60	1600	800	860	540
80	1900	1200	800	1000
100	1900	1200	800	1000
120	1900	1200	800	1100
150	1900	1200	800	1200
200	1900	1610	800	1350
250	1900	1610	800	1650
300	1900	1610	1000	1850
400	2100	2800	1000	2200
500	2100	2800	1000	2500

Dimensions & weights indicated are approximate.

Dimensions and weights are subject to change based on configurations and options selected.

Serving Entire Gamut of Industries

We have rich experience in supplying power electronics products in automotive, pharmaceutical, glass, plastic, printing & packaging, pulp & paper, petro chemical, machine tools, food & beverages as well as other light industries applications.



and many more...

Note:

Overall dimensions, weight, audible noise, heat generation, module height etc. depend upon the system configuration and options required.



About Us

Founded & established in 1983 as Hi-Rel Electronics Pvt. Ltd., we are now a Hitachi group company - Hitachi Hi-Rel Power Electronics Pvt. Ltd., recognized as a pioneer in power electronics. With 3 decades of experience, we have garnered a significant level of trust in our market segment and continue to offer world class power electronics products, value added services & customized solutions.

Our product portfolio includes UPS (uninterruptible power supply) for industrial, commercial & enterprise applications, medium voltage & low voltage variable frequency drives, steel automation & engineered drives for customized applications, industrial automation & control products like PLC, SCADA & DCS, solar inverters, railway products and other customized products like UMPS, I-dip (dip ride through solutions).

With expertise, experience and an efficient product line, we will always be your power electronics partner.

When you choose to do business with us, you are partnering with a company who cares.

- Leading manufacturer of UPS, drives & automation products and solar inverters
- State-of-the-art manufacturing facility at Gandhinagar & Sanand in Gujarat, India
- In-house R&D facility recognized by DSIR, Government of India
- ISO 9001:2008, ISO 14001:2004 & BS OHSAS 18001:2007 certified company with export house status
- Approved by leading consultants and EPC vendors
- Pan India & global presence
- Serving entire gamut of industries
- Rich experience in “mission critical” applications
- Dedicated & decentralized 24x7 after-sales-service
- Offers products with greater energy efficiency & lower carbon footprint

PAN India & Global Presence



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