HITACHI
Inspire the Next

UPS and Power Conditioning Solutions

IP11 & HS11 Series IT UPS

Hitachi Hi-Rel Power Electronics Pvt. Ltd.

Pioneer in Power Electronics

UPS I Drives I Solar Inverters

IP11 Series IT UPS

Single Phase Input - Single Phase Output

1 kVA to 3 kVA

Configuration

1. Standalone UPS
2. Standalone with inbuilt isolation transformer
3. HSB mode with individual battery bank
4. In-built battery

IP11 UPS is a true on-line UPS with microprocessor controller that delivers continuous, high-quality AC power to connected equipment with no interruption when transferring to battery.

IP11 UPS provides protection from blackouts, brownouts, sags, surges or noise interference and provides reliable and stable power.

IP11 UPS is a full feature transformer free UPS designed to offer compact, efficient and reliable solutions to modern electronic gadgets. It features true double conversion on line back up power solution for small data centres, data networks, voice networks and process automation equipments.

IP11 UPS provides customers with a reliable source of uninterruptible power even in harsh power environment, including very wide input voltage/frequency window, better output voltage regulation, frequency regulation, internal bypass, and input power factor correction and low THDi.

IP11 UPS has built-in RS-232 and bundled monitoring software. This online UPS offers enhanced performance for power monitoring.

Advantages

- Easy to install and operate
- Compact footprint
- Robust and reliable connectivity
- LCD interface
- UPS can be configured with or without battery
- UPS can be configured to ECO mode
- Designed to operate in challenging electrical environment
- Low EMI emission compliant for commercial installation
- Large input voltage window

THE SOLUTION FOR

- Small range server and corporate network
- Routers, switches and hubs
- Personal workstation
- Security system
- Service sector, Wi-Fi application
- Infrastructure, small office network
- Health sector, medical equipments
- Banks and ATMs
- Sensitive electronics equipments
- Process automation equipments

FEATURES

- High frequency and double conversion on-line technology
- Advanced PFC & IGBT technology
- Lighting and surge protection
- Fan speed auto control when loads varies
- Short circuit and overload protection
- Smart RS 232 communication with monitoring software
- EMI/RFI noise filter
- MTBF 300000 hrs
- Cold start facility
- Hot standby configuration
- High input power factor

OPTIONAL FEATURES

- Extended battery pack
- SNMP card
- Output power factor 0.9
- Internal isolation transformer
- Remote monitoring service through SNMP
- Modbus card
- AS-400
- Universal socket
- 6A extra charger card

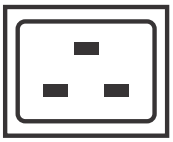
TECHNOLOGY

Advanced PFC & IGBT technology

CERTIFICATION

CE & BIS

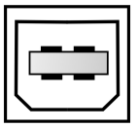
Input / Output Connection



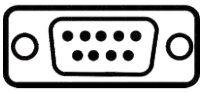
AC Input

Output Receptacle

Communication Connection



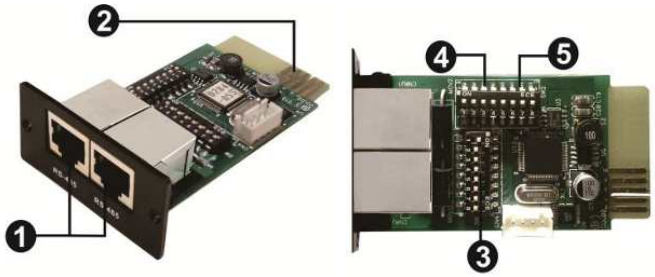
USB Port



RS-232 Port

Intelligent Slot

MODbus

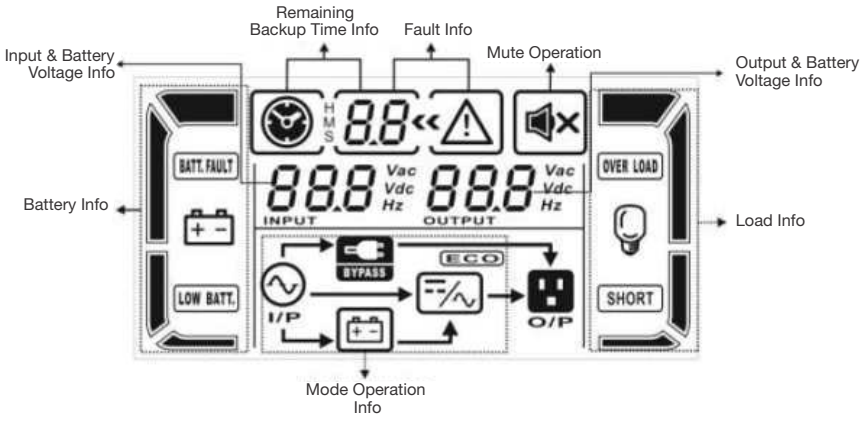


1. RS-485 port
2. Golden finger
3. Address switch
4. Communication setting

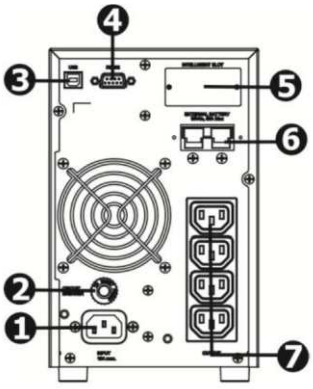
SNMP

AS-400
Remote shutdown

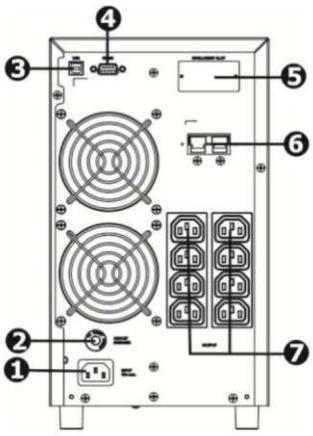
Control Panel



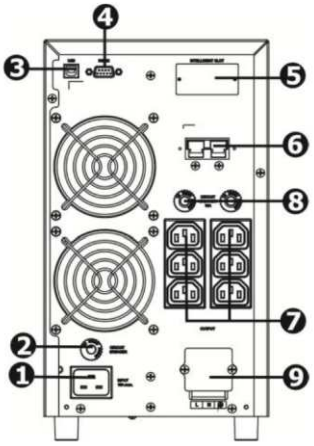
Connections



iP11-1 kVA



iP11-2 kVA



iP11-3 kVA

1. AC input
2. Input circuit breaker
3. USB communication port
4. RS-232 communication port
5. SNMP intelligent slot
6. External battery connection (only available for L model)
7. Output receptacles
8. Output circuit breaker
9. Output terminal

IP11 Series IT UPS

Single Phase Input - Single Phase Output

1 kVA to 3 kVA

Technical Specifications

Model		IP11S-1/IP11H-1	IP11S-2/IP11H-2		IP11S-3/IP11H-3	
Phase		Single Phase with Ground				
Capacity		1000 VA / 800 W	2000 VA / 1600 W		3000 VA / 2400 W	
Input						
Nominal Voltage		100 / 110 / 115 / 120 / 127 VAC or 200 / 208 / 220 / 230 / 240 VAC				
Input Voltage Range		55 - 150 VAC or 110 - 300 VAC (Based on Load at 50%) 85 - 140 VAC or 160 - 280 VAC (Based on Load at 100%)				
Frequency Range		40 Hz ~ 70 Hz				
Power Factor		≥ 0.99 @ Nominal Voltage (100% Load)				
Output						
Output Voltage		100 / 110 / 115 / 120 / 127 VAC or 200 / 208 / 220 / 230 / 240 VAC				
Voltage Regulation		± 1%				
Frequency Range (Synchronized Range)		47~ 53 Hz or 57 ~ 63 Hz				
Frequency Range (Batt. Mode)		50 Hz ± 0.25 Hz or 60 Hz ± 0.3 Hz				
Overload		Ambient Temp <30°C 105% - 110% UPS Shut Down After 10 min. at Battery Mode or Transfer to Bypass When Utility is Normal 110% - 130% UPS Shut Down After 1 min. at Battery Mode or Transfer to Bypass When Utility is Normal >130% UPS Shut Down After 3 sec. at Battery Mode or Transfer to Bypass When Utility is Normal				
Current Crest Ratio		3:1				
Harmonic Distortion		≤ 3 % THD (Linear Load) ≤ 6 % THD (Non-Linear Load)				
Transfer Time	AC Mode to Battery Model Inverter to Bypass	Zero 4 ms (Typical)				
Waveform (Batt. Mode)		Pure Sinewave				
Efficiency						
AC Mode (Overall)		88%	88%		90%	
Battery Mode (Inverter)		83%	87%		88%	
Battery						
Standard Model	Battery Type	12 V / 7 AH				
	Numbers	3	6			
	Typical Recharge Time	4 Hours Recover to 90% Capacity				
	Charging Current (max.)	1A				
	Charging Voltage	41.0 VDC ± 1%	82.1 VDC ±1%			
Long-run Model*	Battery Type	Depending on the Capacity of External Batteries				
	Numbers	3	6	8	6	8
	Charging Current (max.)	1A / 2A / 4A / 6A (Adjustable)				
	Charging Voltage	41.0 VDC ± 1%	82.1 VDC ±1%	109.4 VDC ±1%	82.1 VDC ±1%	109.4 VDC ±1%
Indicators						
LCD		Load Level, Battery Level, AC Mode, Battery Mode, Bypass Mode and Fault Indicators				
Alarm						
Battery Mode		Sounding Every 4 Seconds				
Low Battery		Sounding Every Second				
Overload		Sounding Twice Every Second				
Fault		Continously Sounding				
Physical						
Standard Model	Dimensions (WxDxH) (mm)	397 x 145 x 220	419 x 190 x 318			
	Net Weight (kgs)	13	26	30.5	28	33
Long-run Model**	Dimensions (WxDxH) (mm)	397 x 145 x 220				
	Net Weight (kgs)	7	13		13	
Environment						
Humidity		20 - 90 % RH @ 0 - 40°C (Non-Condensing)				
Noise Level		Less than 50dBA @ 1 meter				
Management						
Smart RS-232/USB		Supports Windows 2000 / 2003 / XP / Vista / 2008 / 7 / 8, Linux, Unix and MAC				
Optional SNMP		Power Management from SNMP Manager and Web Browser				

* 1 - 3 kVA: Derate to 80% of capacity in frequency converter mode and to 80% when the output voltage is adjusted to 100 / 200 / 208 VAC
** Long-run model is only available in 200 / 208 / 220 / 230 / 240 VAC systems (200 VAC system only available for 1-3 kVA)
* Product specifications are subject to change without further notice

HS11 Series IT UPS

Single Phase Input - Single Phase Output

6 kVA to 10 kVA

Configuration

1. Standalone UPS
2. Standalone with inbuilt isolation transformer
3. HSB mode with individual battery bank
4. In-built battery

HS11 UPS is a true on-line UPS with microprocessor controller that delivers continuous, high-quality AC power to connected equipment with no interruption when transferring to battery.

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HS11 UPS has built-in RS-232 and bundled monitoring software. This online UPS offers enhanced performance for power monitoring.

Advantages

- Easy to install and operate
- Compact footprint
- Robust and reliable connectivity
- LCD interface
- UPS can be configured with or without battery
- UPS can be configured to ECO mode
- Designed to operate in challenging electrical environment
- Low EMI emission compliant for commercial installation
- Large input voltage window
- Available in variable DC link in 6-10 kVA UPS for extend battery backup

THE SOLUTION FOR

- Small range server and corporate network
- Routers, switches and hubs
- Personal workstation
- Security system
- Service sector, Wi-Fi application
- Infrastructure, small office network
- Health sector, medical equipments
- Banks and ATMs
- Sensitive electronics equipments
- Process automation equipments

FEATURES

- High frequency and double conversion on-line technology
- Advanced PFC & IGBT technology
- Lighting and surge protection
- Fan speed auto control when loads varies
- Short circuit and overload protection
- Smart RS 232 communication with monitoring software
- EMI/RFI noise filter
- MTBF 300000 hrs
- Cold start facility
- Hot standby configuration
- High input power factor

OPTIONAL FEATURES

- Extended battery pack
- SNMP card
- Output power factor 0.9
- Internal isolation transformer
- Remote monitoring service through SNMP
- Modbus card
- AS-400
- 6A extra charger card

TECHNOLOGY

Advanced PFC & IGBT technology

CERTIFICATION

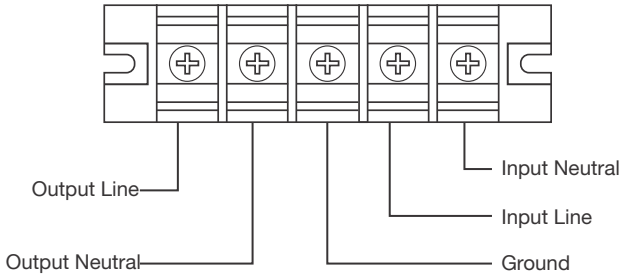
IEC

HS11 Series IT UPS

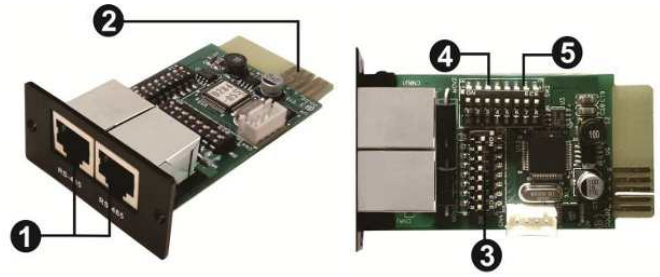
Single Phase Input - Single Phase Output

6 kVA to 10 kVA

Input / Output Connection

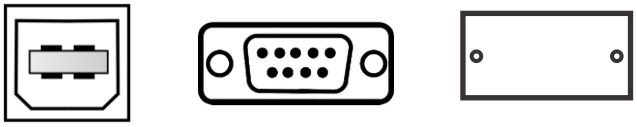


MODbus



1. RS-485 port
2. Golden finger
3. Address switch
4. Communication setting

Communication Connection

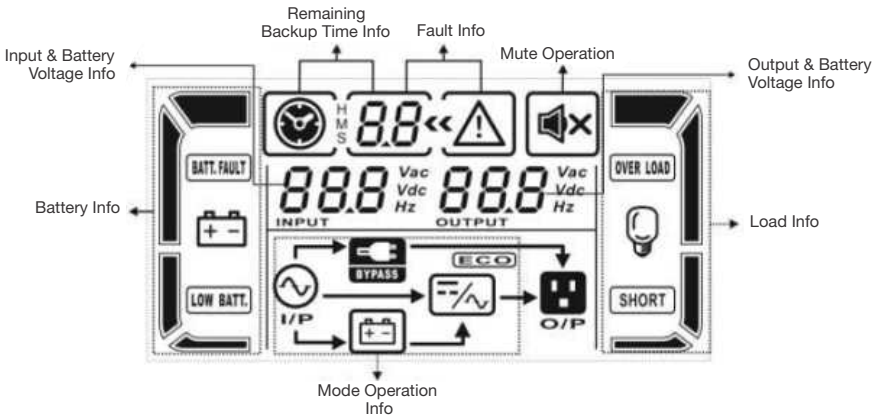


USB Port | RS-232 Port | Intelligent Slot

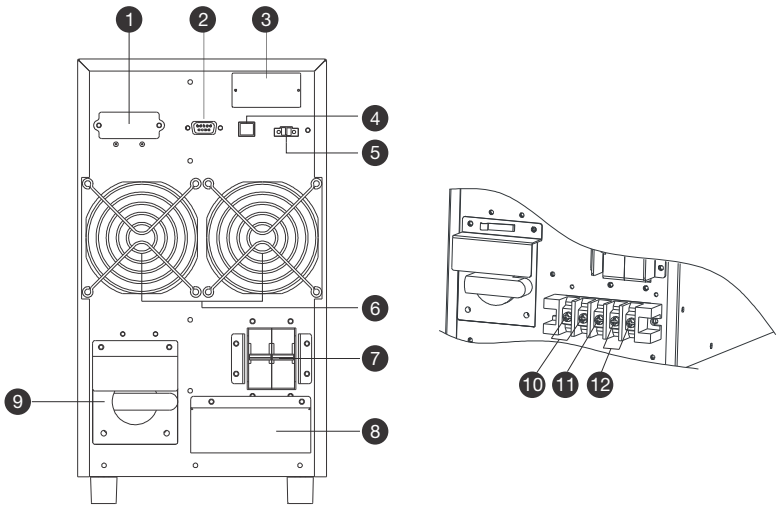
SNMP

AS-400 Remote shutdown

Control Panel



Connections



HS11- 6/10 kVA

1. External battery connector
2. RS-232 communication port
3. Intelligent slot
4. USB communication
5. Emergency power off function connector (EPO connector)
6. Cooling fan
7. Input circuit breaker
8. Input/Output terminal
9. Maintenance bypass switch
10. Output terminal
11. Grounding terminal
12. Utility input terminal

Technical Specifications

Model		HS11S-6 / HS11H-6	HS11S-10 / HS11H-10
Phase		Single Phase with Ground	
Capacity		6000 VA / 4800 W	10000 VA / 8000 W
Input			
Nominal Voltage		200 / 208 / 220 / 230 / 240 VAC	
Input Voltage Range		176 - 280 VAC (Based on Load at 100%)	
Frequency Range		46 Hz ~ 54 Hz @ 50 Hz System 56 Hz ~ 64 Hz @ 60 Hz System	
Power Factor		≥ 0.99 @ Nominal Voltage (100% Load)	
Output			
Output Voltage		200 / 208 / 220 / 230 / 240 VAC	
Voltage Regulation		± 1%	
Frequency Range (Synchronized Range)		47~ 53 Hz or 57 ~ 63 Hz	
Frequency Range (Batt. Mode)		50 Hz ± 0.25 Hz or 60 Hz ± 0.3 Hz	
Overload		100% - 110% 10 min. 110% - 130% 1 min. >130% 1 sec	
Current Crest Ratio		3:1 Max	
Harmonic Distortion		≤ 3 % THD (Linear Load) ≤ 6 % THD (Non-Linear Load)	
Transfer Time	AC Mode to Battery Model	0 ms.	
	Inverter to Bypass	0 ms.	
Waveform (Batt. Mode)		Pure Sinewave	
Efficiency			
AC Mode (Overall)		88%	88%
Battery Mode (Inverter)		83%	87%
Battery			
Standard Model	Battery Type	12 V / 7 AH	
	Numbers	6	
	Typical Recharge Time	9 Hours Recover to 90% Capacity	
	Charging Current (max.)	1A ± 10%	
	Charging Voltage	218.4 VDC ± 1%	
Long-run Model*	Battery Type	Depending on the Capacity of External Batteries	
	Numbers	16 - 20	
	Charging Current (max.)	1A / 2A / 4A / 6A (Adjustable)	
	Charging Voltage	218.4 - 272 VDC ±1%	
Physical			
Standard Model	Dimensions (WxDxH) (mm)	369 x 190 x 688	442 x 190 x 688
	Net Weight (kgs)	72	82
Long-run Model**	Dimensions (WxDxH) (mm)	369 x 190 x 318	442 x 190 x 318
	Net Weight (kgs)	21	23
Environment			
Operation Temp		0 - 40°C (Battery Life Cycle will be Shorten When Temperature is Above 25°C	
Operation Humidity		<95 and Condensing	
Noise Level		Less than 55 dB @ 1 meter	Less than 58 dB @ 1 meter
Management			
Smart RS-232/USB		Supports Windows 2000 / 2003 / XP / Vista / 2008 / 7 / 8, Linux, Unix and MAC	
Optional SNMP		Power Management from SNMP Manager and Web Browser	

* Derate to 80% of capacity in frequency converter mode and to 90% when the output voltage is adjusted to 208 VAC.
** If the UPS is installed or used in place where the altitude is above than 1000m, the output power must be derated one percent per 100m.
* Product specifications are subject to change without further notice.

Hitachi Hi-Rel **Worldwide**

Pan India **Presence**

About Us

Hitachi Hi-Rel Power Electronics belongs to Industrial products business unit of Hitachi, Ltd. and contributes to new value creation by supplying strong core components. With more than 3 decades of experience, Hitachi Hi-Rel has garnered a significant level of trust in market segment and continues to offer world class power electronics products, value added services & customized solutions. Company serves entire gamut of Industries, particularly in mission critical applications for Refineries, Petro-Chemicals, Power Generation, Steel & Metals, and Process Industries as well as Critical Data Processing Applications.

- Pioneer in power electronics
- Leading manufacturer of UPS, drives and solar inverters
- Manufacturing facility at Gandhinagar & Sanand, near Ahmedabad in Gujarat, India
- In-house R&D facility recognized by DSIR, Government of India
- State-of-the-art product portfolio
- ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007 certified company with export house status
- Approved by leading consultants and EPC vendors
- Global and pan India presence
- Serving entire gamut of industries
- Offers products with greater energy efficiency & lower carbon footprint

Hitachi Hi-Rel Power Electronics Pvt. Ltd.

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In the spirit of continuous improvement, specifications are subject to change without notice.

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ISO 14001
OHSAS 18001
BUREAU VERITAS
Certification

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Ver2.0/2018/IP11 & HS11/India I Spotlight

HITACHI
Inspire the Next

UPS and Power Conditioning Solutions

HS31 Series IT UPS

Hitachi Hi-Rel Power Electronics Pvt. Ltd.

Pioneer in Power Electronics

UPS I Drives I Solar Inverters

HS31 Series IT UPS

Three Phase Input - Single Phase Output

10 kVA to 20 kVA

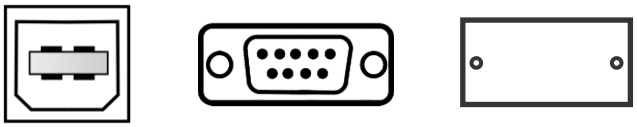
Configuration

1. Standalone UPS
2. N+X redundancy
3. Can be paralleled up to 3 units

HS31 UPS available in three phase input and single phase output, range available from 10 kVA to 20 kVA. External battery cabinets can be added for extended run time. With true double-conversion design, HS31 UPS provides powerful and overall protection to your sensitive devices. It can accept wider input voltage for harsh environment. It is perfect protection for your precious servers and workstations.

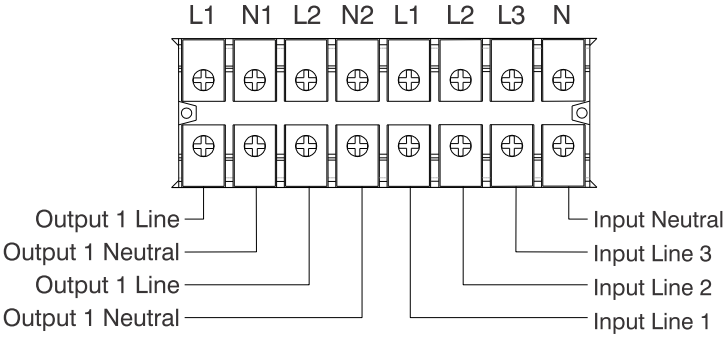
HS31 UPS is a true on-line power source, which means power is always being conditioned and supplied to the connected device(s), whatever the quality of power coming in, a pure sine wave output results to ensure equipment is protected.

Communication Connection



USB Port | RS-232 Port | Intelligent Slot

Input / Output Connection for 10 kVA



THE SOLUTION FOR

- Mission critical applications and systems
- Small / medium size server rooms
- Network workstation
- BPO / call centres
- Infrastructure
- Health sector
- Light industrial applications
- Banks
- Sensitive electronics equipments
- Process automation equipments

FEATURES

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 0.8
- Wide input voltage range
- Active power factor correction in all phases
- 50 Hz / 60 Hz frequency converter mode
- Eco mode operation for energy saving (ECO)
- Programmable power management outlets (only available for 10 kVA - 20 kVA models)
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers
- Maintenance bypass available

OPTIONAL FEATURES

- N+X parallel redundancy
- Isolation transformer offers full isolation and complete common mode noise rejection
- SNMP Card

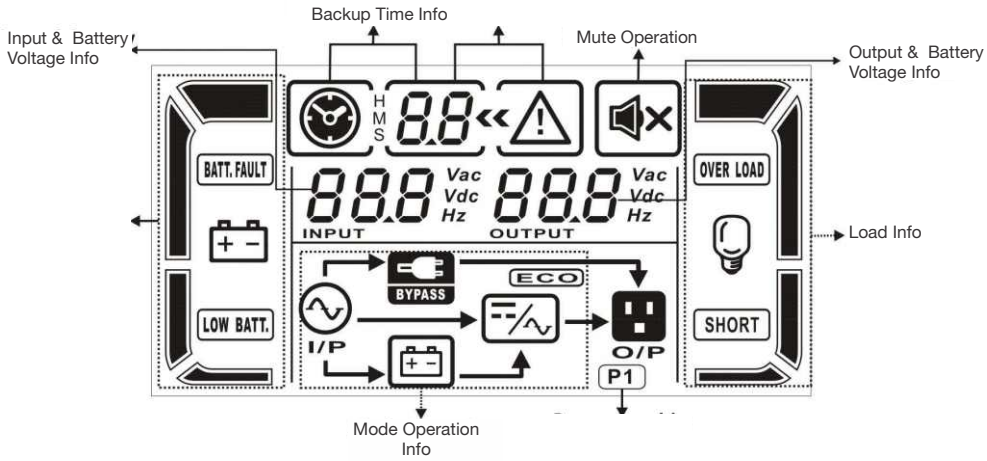
TECHNOLOGY

Advanced PFC & IGBT technology

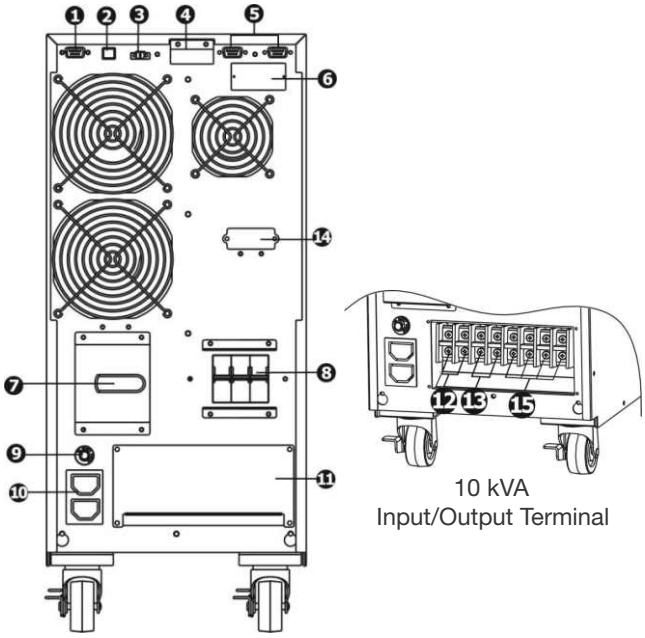
CERTIFICATION

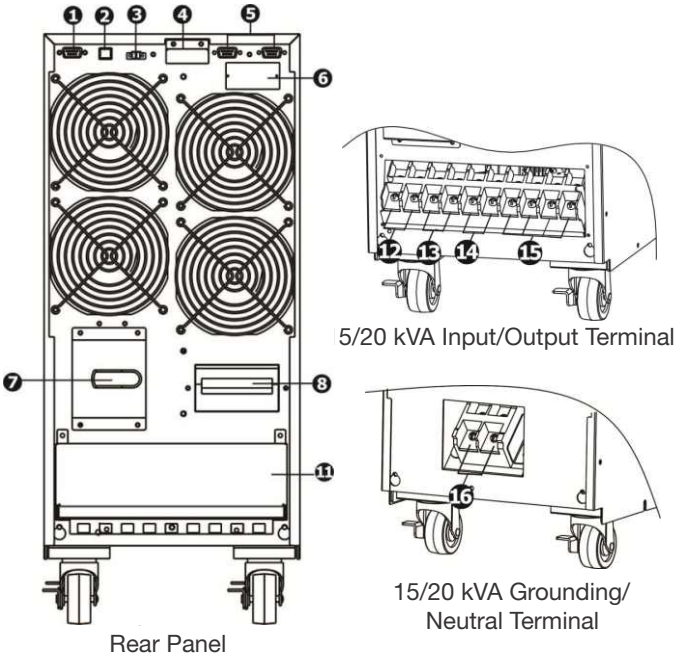
CE

Control Panel



Connections





1. RS-232 communication port
2. USB communication port
3. Emergency power off function connector (EPO connector)
4. Share current port (only available for parallel model)
5. Parallel port (only available for parallel model)
6. Intelligent slot
7. Maintenance bypass switch
8. Line input circuit breaker
9. Output circuit breaker for receptacles
10. Output receptacles: connect to mission-critical loads
11. Input/Output terminal
12. Output terminal: connect to mission-critical loads
13. Programmable output terminal: connect to non-critical loads
14. External battery connector/terminal (only available for long-run model)
15. Utility input terminal
16. Grounding terminal

Technical Specifications

Model		HS31-10	HS31-15	HS31-20
Phase		3 Phase Input / 1 Phase Output		
Capacity		10000 VA / 8000 W	15000 VA / 12000 W	20000 VA / 16000 W
Input				
Nominal Voltage		3 x 400 VAC (3Ph+N)		
Voltage Range		190-520 VAC (3 Phase) @ 50% Load 305-478 VAC (3 Phase) @ 100% Load		
Frequency Range		46~54 Hz or 56~64 Hz		
Power Factor		≥ 0.99 @ 100% Load		
THDi		< 6% @ 100% Load		
Output				
Output Voltage		208 / 220 / 230 / 240 VAC		
AC Voltage Regulation (Batt. Mode)		± 1%		
Frequency Range (Synchronized Range)		46~54 Hz or 56~64 Hz		
Frequency Range (Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz		
Current Crest Ratio		3:1 (max.)		
Harmonic Distortion		≤2 % THD (Linear Load) ≤5 % THD (Non-Linear Load)		
Current Crest Ratio		3:1 Max		
Harmonic Distortion		≤ 3 % THD (Linear Load) ≤ 6 % THD (non-linear load)		
Transfer Time	AC Mode to Battery Mode	Zero		
	Inverter to Bypass	Zero		
Waveform (Batt. Mode)		Pure Sinewave		
Efficiency				
AC Mode (Overall)		90.5%	91%	91%
ECO Mode		96%		
Battery Mode (Inverter)		86%	88%	87%
Battery				
Standard UPS	Battery Type	Depending on the Capacity of External Batteries		
	Numbers			
	Charging Current (max.)	4A	8A	8A
	Charging Voltage	273 VDC ± 1% (Based on 20 pcs Batteries)		
Indicators				
LCD Panel		UPS Status, Load Level, Battery Level, Input/Output Voltage, LCD Panel Discharge Timer and Fault Conditions		
Alarm				
Battery Mode		Sounding Every 4 Seconds		
Low Battery		Sounding Every Second		
Overload		Sounding Twice Every Second		
Fault		Continuously Sounding		
Physical				
Standard UPS	Dimensions (WxDxH) (mm)	592 x 250 x 576		
	Net Weight (kgs)	28	40	
Environment				
Operation Humidity		0-95 % RH @ 0- 40°C (Non-Condensing)		
Noise Level		Less than 58dB @ 1 meter	Less than 60dB @ 1 meter	
Management				
Smart RS-232/USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8, Linux, Unix, and MAC		
Optional SNMP		Power Management from SNMP Manager and Web Browser		

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Ver.2.0/2017/HS31/India I Spotlight

HITACHI
Inspire the Next

UPS and Power Conditioning Solutions

HS33 & HM33 Series IT UPS

Hitachi Hi-Rel Power Electronics Pvt. Ltd.

Pioneer in Power Electronics

UPS I Drives I Solar Inverters

HS33 Series IT UPS

Three Phase Input - Three Phase Output

10 kVA to 40 kVA

Configuration
1. Standalone UPS
2. Can be Paralleled up to 8 units

HS33 UPS applies advanced technology that increases performance and reliability: two high speed DSPs with complete digital control fully ensures high quality of power supply, high input power factor and low input current distortion.

HS33 UPS offers reliable and flexible secured power in a fully integrated package solution. It comes with highly efficient transformer-free double conversion technology allowing it to provide installation and operational cost savings.

HS33 UPS is a compact solution designed to optimize installation space requirements and provides enhanced flexibility to ensure superior protection for all load types (leading and lagging).

Combination of performance features, impressive integrated autonomy and compact footprint make it ideal for guaranteeing clean & continuous power for a wide range of applications for IT, medical facilities and laboratories.

Advantages
- Easy to install and operate
- Compact in size
- Large input voltage window
- State-of-the-art technology providing high level of performance in very compact unit
- Online double conversion mode
- Error messages are displayed on LCD
- Logs are stored in processor and can be extracted as and when required
- Remote monitoring service through SNMP

THE SOLUTION FOR

- Mission critical applications and systems
- Precision instruments
- Small / medium size server rooms
- Network workstation
- BPO / call centres
- Infrastructure
- Health sector
- Light industrial applications
- Sensitive electronics equipments
- Process automation equipments

FEATURES

- High efficiency, up to 96%
- True double-conversion
- Full DSP control technology guarantees high performance
- Wide input voltage range
- High input PF>0.99;Input current THDi<3%
- Active power factor correction in all phases
- 50 Hz / 60 Hz frequency converter mode
- Multi-protection, as temperature, overload, battery under voltage, fan failures, short-circuit
- Four circuit breakers, providing full protection when fault happens
- Battery cold start
- Battery management: smart charging control, auto maintenance, greatly extend the battery life
- Friendly operation interface, high-resolution intelligent LCD screen
- Eco mode operation for energy saving (ECO)
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- Adjustable battery numbers
- Maintenance bypass available

OPTIONAL FEATURES

- N+X parallel redundancy
- Isolation transformer
- SNMP Card
- PFC (Potential Free Contact)

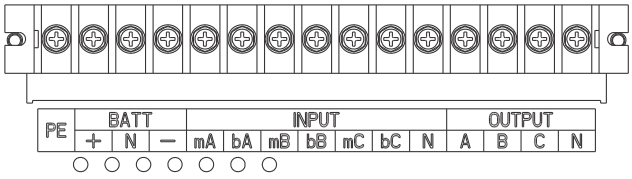
TECHNOLOGY

DSP controlled IGBT based.

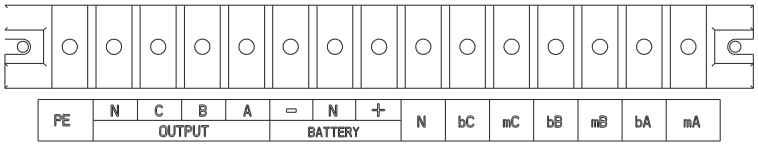
CERTIFICATION

CE

Input / Output Connection

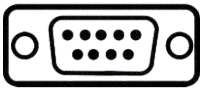


Connection Terminals for 10/15 kVA

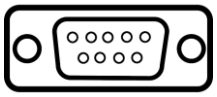


Connection Terminals for 20/30 kVA

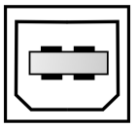
Communication Connection



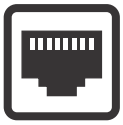
RS-232 Port



RS-485 Port

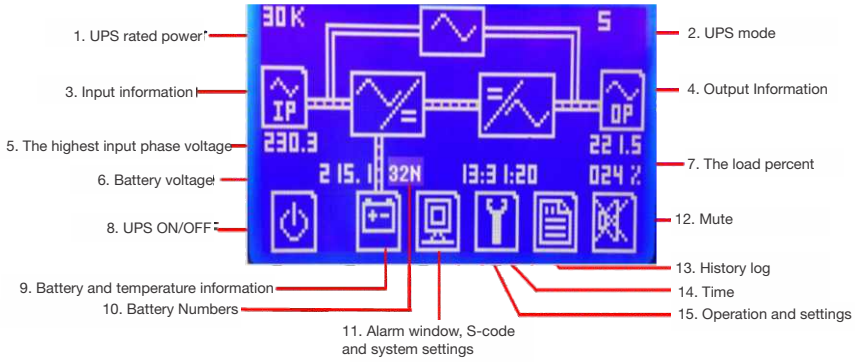


USB Port



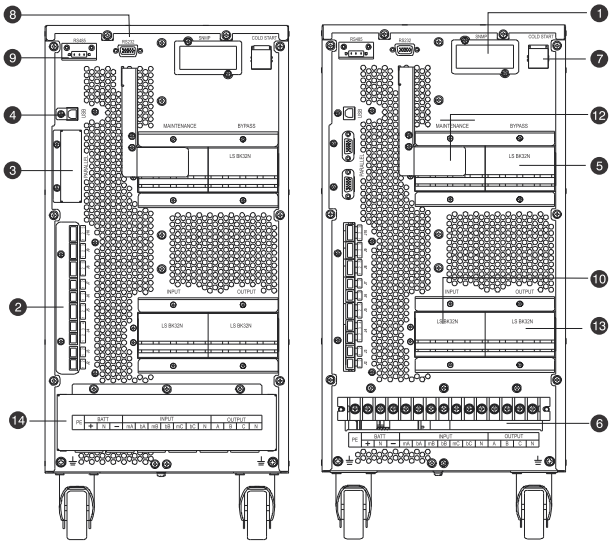
SNMP

Control Panel

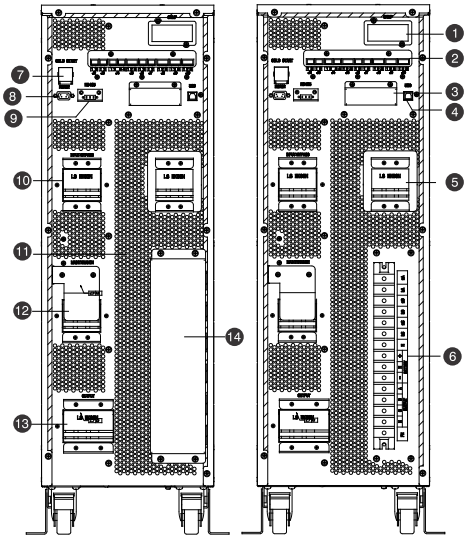


Friendly operation interface, high-resolution LCD screen

Connections



10/15 kVA



20/30 kVA

1. SNMP
2. Dry contact
3. Parallel board
4. USB
5. CB (optional)
6. Connection terminals
7. Cold start button
8. RS-232
9. RS-485
10. Input CB
11. Air vent
12. Maintenance switch
13. Output CB
14. Protective cover

HS33 Series IT UPS

Three Phase Input - Three Phase Output

10 kVA to 40 kVA

Technical Specifications

Model	HS33-10	HS33-15	HS33-20	HS33-30	HS33-40
Output					
Grid System	3 Phases + Neutral + Ground				
Rated Input Voltage	380/400/415 VAC (Line-Line)				
Rated Frequency	50/60 Hz				
Input Voltage Range	304~478 VAC (Line-Line), Full Load; 228V~304 VAC (Line-Line), Load Decreases Linearly According to the Min Phase Voltage				
Input Frequency Range	40 Hz~70 Hz				
Input Power Factor	>0.99				
Input Current THDi	<4% (Full Linear Load)		<3% (Full Linear Load)		
Bypass Input					
Rated Bypass Voltage	380/400/415 VAC (Line-Line)				
Rated Frequency	50/60 Hz				
Bypass Voltage Range	Selectable, Default -20%~+15%; Upper Limit: +10%, +15%, +20%, +25%; Lower Limit: -10%, -15%, -20%, -30%, -40%				
Bypass Frequency Range	Selectable, ±1 Hz, ±3 Hz, ±5 Hz				
Bypass Overload	125% Long Term Operation; 125%~130% for 10min; 130%~150% for 1min				
Output					
Rated Inverter Voltage	380/400/415 VAC (Line-Line)				
Rated Frequency	50/60 Hz				
Output Power Factor	1		0.9		
Voltage Precision	±1.5% (0-100% Linear Load)				
Transient Response	<5% for Step Load (20% - 80% -20%)				
Transient Recovery	< 30ms for Step Load (20% - 100% -20%)				
Output Voltage THDu	<1% (Linear Load); <5.5% (Non-Linear Load) According to IEC/EN62040-3		<1% Linear Load; <6% (Non-Linear Load) According to IEC/EN62040-3		
Inverter Overload	<110%, 60 min;				
	110%~125%,10 min;				
	125%~150%,1 min				
Frequency Regulation	50/60 Hz ± 0.1%				
Synchronized Range	Settable, ±0.5 Hz ~ ±5 Hz, Default ±3 Hz				
Synchronized Slew Rate	Settable, 0.5 Hz/s ~ 3 Hz/s, Default 0.5 Hz/s				
Battery and Charger					
Battery Rate Voltage	±240 VDC				
Charger Voltage Precision	1%				
Charger Power	Max=20% System Power				
Efficiency					
AC Mode (Overall)	95% Max		>95%		>96%
Battery Mode (Inverter)	94.5% Max		>95%		>96%
System					
Display	95% Max		>95%		>96%
Battery Mode (Inverter)	LED + LCD				
Interface	Standard: RS232, RS485 Option: SNMP, Dry Contact, Parallel Kit, Battery Cold Start				
Environmental					
Operation Temperature	0 ~ 40°C				
Storage Temperature	-40 ~ 70°C				
Relative Humidity	0 ~ 95% (Non Condensing)				
Noise (1 meter)	58dB @ 100% Load, 52dB @ 45% Load		65dB @ 100% Load, 62dB @ 45% Load		
Physical Data					
Dimensions (W x D x H) (mm)	250 x 660 x 530		250 x 680 x 770		250 x 836 x 770
Weight (kgs)	31		50	52	61

HM33 Series IT UPS

Three Phase Input - Three Phase Output

60 kVA to 500 kVA

Configuration

1. Hot swappable modular concept
2. Can be paralleled up to 30 modules

HM modular UPS provides the most compact footprint of less than 2 m^2 with maximum capacity of 900 kVA. With best reliability and high performance, it has been leading the domestic market for years. HM series is considered to be the best power protection solution for large data centers, as well as for sensitive electronics. The HM series UPS having user friendly LCD touch screen display. This display provides graphical and text information of alarms, status data, instructions and fault s. User can have friendlier and safer operation.

The HM series UPS keeps your network protected while saving on cost and data centre space. With best in class true online double conversion technology, redundancy options and flexible battery configurations, the HM series UPS provides best reliability.

The HM series UPS is the Next Generation of true-online, double conversion digital modular UPS. Designed to meet the high availability power for wide variety of applications (IT, non-IT & medical), HM series combines innovation and simplicity and low total cost of ownership. The result is a power system that delivers both reliability and a return on investment.

THE SOLUTION FOR

- ISP (Internet Service Provider)
- IDC (Internet Data Center)
- Computer room, service center
- Intelligent equipment
- Corporate offices

FEATURES

- User friendly LCD display provides graphical and text based information
- Modular design of subsystem, convenient for field maintenance
- All components are in module so less fault point and higher reliability
- The hot-swappable power modules take unique structure design
- Less space needed
- Inherently N+X redundant
- Smart sleep function can intelligently make some power modules go to sleep, when load is relatively low to increase efficiency
- Only front access up to 120 kVA UPS and front and rare access for higher ratings UPS
- On site setting supported, easy for factory testing
- Can be paralleled up to 30 modules
- Wide voltage and frequency range for input supply
- Available in 30 kVA and 50 kVA module for multiple available options
- Programmable dry contacts are available in HM series UPS

OPTIONAL FEATURES

- Isolation transformer
- SNMP card
- Capacity enhancement at site

TECHNOLOGY

Fully DSP controlled IGBT based

CERTIFICATION

CE & IEC

Control Panel

Friendly interface 7” LCD touch screen display provides graphical and text based information of alarms, status data, instructions for more friendly and safer operation.

(a) Interface of Main

(b) Interface of Output

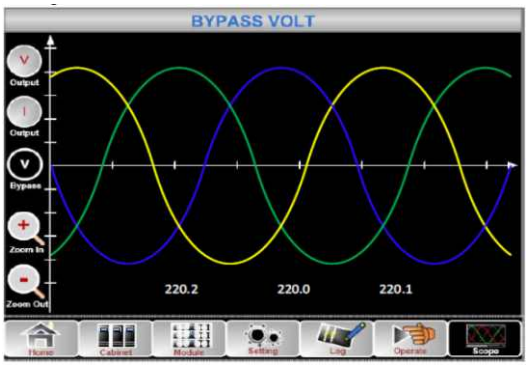
(d) Interface of Load

(a) Interface of Battery

Smart Sleep Function

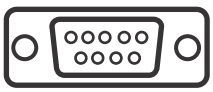
Smart sleep function can intelligently make some power modules go to sleep. When load is relatively low, improves the total system efficiency and save by using power and cooling cost. It offers easy setting with just two steps sleep mode and rotation period, power modules works in rotation, prolong the life time.

Output V/C waveforms on display



Communication Connection

RS-232 Port



RS-485 Port

USB Port

SNMP

Technical Specifications

Model	HM-33-60 -3X	HM33-80 -3X	HM-33-90 -3X	HM-33-100 -5X	HM-33-120 -3X	HM-33-150 -5X	HM-33-200 -5X	HM-33-250 -5X	HM-33-300 -5X	HM-33-400 -5X	HM-33-500 -5X
POWER RATING	60 kVA	80 kVA	90 kVA	100 kVA	120 kVA	150 kVA	200 kVA	250 kVA	300 kVA	400 kVA	500 kVA
Main Input											
Grid System	3 Phases + Neutral + Ground										
Rated Input Voltage	380/400/415 VAC										
Rated Frequency	50/60 Hz										
Input Voltage Range	304~478 VAC (Line-Line), Full Load 228V~304 VAC (Line-Line), Load Decrease Linearly According to the Min Phase Voltage										
Input Frequency Range	40 Hz~70 Hz										
Input Power Factor	>0.99										
Input Current THDi	<3% (Full Linear Load)										
Bypass Input											
Rated Bypass Voltage	380 V / 400 V / 415 V (Line to Line)										
Rated Frequency	±2%										
Bypass Voltage Range	Selectable, Default -20%~+15% Up Limited: +10%, +15%, +20%, +25% Down Limited: -10%, -15%, -20%, -30%, -40%										
Bypass Frequency Range	Selectable, ±1Hz, ±3Hz, ±5Hz										
Bypass Overload	125%, Long Time Operation 125%< Load <130%, Last for more than 10 min 130%<Load<150%, Last for more than 1 min >150%, Last for more than 300 ms										
Output											
Rated Inverter Voltage	380/400/415 VAC (Line-Line)										
Rated Frequency	50/60 Hz										
Output Power Factor	0.9										
Voltage Precision	±2%										
Transient Response	<5% for Step Load (20% - 80% - 20%)										
Transient Recovery	< 30 ms for Step Load (0% - 100% - 0%)										
Output Voltage THDu	<1.5% from 0% to 100% Linear Load <6% Full Non-Linear Load According to IEC/EN62040-3										
Inverter Overload	<110%, 60 min; 110%~125%,10 min; 125%~150%,1 min; >150%, 200 ms										
Frequency Regulation	50/60 Hz±0.01%										
Synchronized Range	Settable, ±0.5 Hz ~ ±5 Hz, Default ±3 Hz										
Synchronized Slew Rate	Settable, 0.5 Hz/s ~ 3 Hz/s, Default 0.5 Hz/s										
Battery and Charger											
Battery Rate Voltage	±240 VDC										
Charger Voltage Precision	1%										
Charger Power	max=20% *Output Power										
Efficiency											
AC Mode (Overall)	>95%	>96%	>95%	>96%	>95%	>96%					
Battery Mode (Inverter)	>95%	>96%	>95%	>96%	>95%	>96%					
System											
Display	LED + LCD + Touch Screen										
Interface	Rs232, RS485, USB, Programmable Dry Contact					Rs232, RS485, USB, Programmable Dry Contact, Battery Cold Start					
Option	Battery Cold Start, SNMP, AS400, Parallel Kit, Lightning Protection Components, Dust Filter, LBS					SNMP, AS400, Parallel Kit, Lightning Protection Components, Dust Filter, LBS					
Environmental											
Operation Temperature	0 ~ 40°C										
Storage Temperature	-40 ~ 70°C										
Relative Humidity	0 ~ 95% Non Condensing										
Noise (1 meter)	65dB @ 100% Load, 62dB @ 45% Load										
Altitude	<1000 m, Load Derated 1% per 100 m from 1000 ~ 2000 m										
Ingress Protection	IP 20										
Physical Data											
Cabinet Dimensions (WxDxH) (mm)	600 x 980 x 950	600 x 980 x 1400		600 x 980 x 1150	600 x 980 x 1400	650 x 960 x 1400		650 x 960 x 2000		1300 x 1100 x 2000	
Cabinet Weight (kgs)	170	210	231	210	266	305	350	445	490	810	900

Hitachi Hi-Rel **Worldwide**

Pan India **Presence**

About Us

Hitachi Hi-Rel Power Electronics belongs to Industrial products business unit of Hitachi, Ltd. and contributes to new value creation by supplying strong core components. With more than 3 decades of experience, Hitachi Hi-Rel has garnered a significant level of trust in market segment and continues to offer world class power electronics products, value added services & customized solutions. Company serves entire gamut of Industries, particularly in mission critical applications for Refineries, Petro-Chemicals, Power Generation, Steel & Metals, and Process Industries as well as Critical Data Processing Applications.

- Pioneer in power electronics
- Leading manufacturer of UPS, drives and solar inverters
- Manufacturing facility at Gandhinagar & Sanand, near Ahmedabad in Gujarat, India
- In-house R&D facility recognized by DSIR, Government of India
- State-of-the-art product portfolio
- ISO 9001:2015, ISO 14001:2015 & BS OHSAS 18001:2007 certified company with export house status
- Approved by leading consultants and EPC vendors
- Global and pan India presence
- Serving entire gamut of industries
- Offers products with greater energy efficiency & lower carbon footprint

Hitachi Hi-Rel Power Electronics Pvt. Ltd.

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