



RS Power Systems

Works: H1-85, RIICO Industrial Area, Mansarovar, Jaipur 302020 | Tel: 0141-2396550, 2396543 | Fax: 0141-2395860
 E-mail: rspower@rspowerindia.com | www.rspowerindia.com | Regd. Office: A-42, Jai Ambey Nagar, Tonk Road, Jaipur 302018

Company Profile

Power Solutions
 Ensuring Seamless Growth



Power+
 Convenience in Power Management



Ensuring Seamless Growth

We live in an era where power runs everything. It runs machines, mills, transport services and what not. The increasing dependency of industrial processes and household work on electricity makes it the most sought after source of power. This has led to increased power fluctuations and power cuts affecting the health and efficiency of our machinery.

We, at RS Power Systems, strive to ensure uninterrupted power supplies to enhance the productivity and efficiency of your machinery and equipments.

Established in 1998, RS Power Systems manufactures a wide range of power conditioning products under the brand name Power+. These wide range of products ensure power solutions to meet varied requirements in various sectors like IT Applications, Medical, Banks, Industries, Indian Railways, Defense, Space, Petroleum and Gas.

The manufacturing facility - spread over 16000 sq ft of constructed area in Jaipur - houses a state-of-the-art manufacturing & testing facility to cater to the specific needs of clients along with the standard specification products.

Manufacturing of products at RS Power systems is conducted under the strict supervision of well-qualified engineers, who ensure adherence to various quality processes and products. Optimized performance and product reliability form the core of the highly sorted out processes in RS Power Systems, our innumerable certifications and awards are a testimony to the product quality and after sales service being offered by us.

All the departments housed in the facility, from R&D to Sales, work on the common rhythm of exceeding clients expectations. The constant aim of exceeding customer expectations sets us on a common path of consistent performance and to achieve greater heights year after year.

Ensuring Quality

We at RS Power Systems strive hard to meet customer satisfaction and exceed their expectations with every product and every process. We have been awarded by ISO 9001 and ISO 14001 certifications for our Quality processes as our manufacturing is conducted under the strict supervision of expert engineers.

Optimized performance and product reliability form the core of the quality processes in RS Power Systems. Our quality certifications, awards and huge installation base throughout India are a testimony to our product quality and environment friendliness.

Testing Certification

From ETDC Lab

NABL Laboratory

National Test House

Certification



National Award For Outstanding Performance,
Techmart India-special Appreciation

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On-Line UPS

(1KVA to 30KVA)

POWER PACKED FEATURES

- IGBT based high frequency PWM Inverter
- Wide input voltage range
- Protection from spike, surges, RFI, EMI
- Constant voltage and frequency
- EPROM/Micro controller design
- Reliable double conversion technology
- Float cum boost charger
- Soft start facility
- Clean computer grade power to critical load
- Generator compatible
- High crest factor
- Less harmonic distortion
- Static bypass switch

APPLICATIONS & USES

- Local Area Network (LAN)
- Data Centers/Offices
- Work Stations
- Telecommunication Systems
- Medical Equipment
- Air Traffic Control Systems
- Satellite Systems
- Industrial Equipment & Automation
- General Laboratory Equipment
- Studio, Printing & Media Equipment

UPS (15-40 KVA)



On-Line UPS (1KVA to 30KVA)

TECHNICAL SPECIFICATIONS - ON-LINE UPS

Rating	1 KVA	2 KVA	3 KVA	5 KVA, 6 KVA & 7.5 KVA	10 KVA (1-1)	10 KVA (3-1)	10 KVA (3-3)	15 KVA (3-1)	15 KVA (3-3)	20 KVA (3-1)	20 KVA (3-3)	30 KVA (3-1)	30 KVA (3-3)
Battery DC Voltage (VDC)	24/36/ 144	72/96/ 144	96/144	180/192/ 240	192/240	240/360	360/384	240/360	360/384	360/384	360/384	360/384	360/384
	or any DC voltage as per requirement												
Battery Backup	30 Min., 60 Min. & 120 Min.												
General	(i) UPSs are free from workmanship defects, nicks, scratches, burs etc. All fasteners fixed properly. The equipments shall be complete with all parts functional. (ii) UPS enclosure's degree of protection shall be IP2L1 as per appendix C of IS 13947 (part 1)/ 1993 (reaffirmed 2004) (iii) Provision of manual Bypass facility for maintenance of UPS (iv) UPS shall supply output power and charging current at the same time												
Switching Device	MOSFET/ IGBT												
Switching Frequency	> 10 KHz												
Input Voltage	• 160 V - 260 V, 50 ± 3% Hz, Single phase AC or • 300 V - 450 V, 50 ± 3% Hz, Three phase AC												
Input Power factor	> 0.95 (lagging)												
Output	• 230 V/ 220 V ± 1%, 50 ± 0.5 Hz, single phase • 400V / 380V ± 1%, 50 ± 0.5 Hz, Three phase												
KW rating of the UPS	0.7 time the KVA rating (Standard), 0.8/0.9 (optional)												
Voltage Regulation	Within ± 1 % (from no load to full load) for both single / three phase												
Facility for Operation in Synchronous Mode	Provided i.e. Output frequency shall be same as that of mains frequency												
Total Harmonics Distortion at Output	• 2% maximum up to 5.0 KVA & • 3% maximum above 5.0 KVA on resistive load						When total input harmonics are ≤ 10 %						
Efficiency	At rated output KVA rating, rated power factor, rated voltage and frequency (overall efficiency): 90%												
Overload	UPS shall withstand 20% overload for 10 minutes and 50% overload for oneminute												
Protections	• Over voltage • Short circuits • Over shoot and undershoot : < 4% of rated • Under voltage at battery terminal • Overload at output terminal voltage for duration of 40 m sec. (maximum)												
Indicators	• Mains presence • Battery charging & discharging • Output overload • Low battery voltage Short Circuits												
Meters	Provision of Digital Meter for monitoring the following parameters: • Input AC voltage • Output AC voltage, current and frequency • Battery voltage & current												

On-Line UPS (1KVA to 30KVA)

On-Line UPS (40KVA to 300KVA)

TECHNICAL SPECIFICATIONS - ON-LINE UPS

Rating	1 KVA	2 KVA	3 KVA	5 KVA, 6 KVA & 7.5 KVA	10 KVA (1-1)	10 KVA (3-1)	10 KVA (3-3)	15 KVA (3-1)	15 KVA (3-3)	20 KVA (3-1)	20 KVA (3-3)	30 KVA (3-1)	30 KVA (3-3)
Battery DC Voltage (VDC)	24/36/ 144	72/96/ 144	96/144	180/192/ 240	192/240	240/360	360/384	240/360	360/384	360/384	360/384	360/384	360/384
	or any DC voltage as per requirement												
Battery Bank	<ul style="list-style-type: none"> Type : SMF VRLA Batteries Make : Exide/ Amara Raja/ Rocket/ Okaya/ Panasonic/ Base/ as per JISC:8702 Battery Stand : Provided 												
Noise (dB), Temperature and RH	< 45 dB (1 meter), 0-40°C, 0-95% (No condensation)												
Other Features (Optional)													
Communication	RS232 port supports UPS power management software												
SNMP	Power management from SNMP manager and Web browser												
USB	Windows family												
Alarm	Battery low voltage, abnormal power supply, UPS failure												
Parallel Redundancy	Parallel Redundancy/Hot standby modes												
Bypass	Static Bypass system for Automatic Transfer												
Isolation Transformer	Isolation Transformer and Servo Stabilizer in Bypass line												
Dimensions (WxDxH) mm (Approx.)	145x410x200	145x390x220	190x425x315	260x850x560	270x750x580	360x735x800	500x780x1200	360x735x800	500x780x1200	400x780x1150	500x780x1200	400x780x1150	555x715x1230

*In the interest of continuous product improvement, all specifications are subject to change without notice.

UPS (1-10 KVA)



On-Line UPS (1KVA to 30KVA)

POWER PACKED FEATURES

- Advanced operation mode
- DSP controlled, double CPU controlled
- Manual maintenance bypass
- Wide input voltage range
- High output power factor
- Strong environmental adaptability
- Advanced battery management
- N+X parallel redundancy
- Strong shock resistance ability
- EPO function
- Full protection against over-discharge, overcharge, overload
- 12 pulse rectifier (optional)
- Inbuilt Isolation Transformer (optional)
- LBS function: LBS function supports the two independent input to improve the reliability of the system
- High reliability: True On-Line static bypass technology, to provide strong overload and fault protection device. Internal manual maintenance bypass further improve the reliability of continuous operation of the load
- Network management humanity
- Communicate with PC by INR 232: Use SNMP adapter, UPS can realize remote network management function
- Optimized battery performance
- Intelligent battery management function (ABM)
- Automatically convert to constant current constant voltage charging technology
- Parallel redundancy
- Can parallel 8 units UPS: Parallel UPS units can share a battery pack: Non-fixed master/slave parallel

UPS (60-275 KVA)



On-Line UPS (40KVA to 300KVA)

APPLICATIONS & USES

Large/Medium Data Centers/Offices

Telecommunication Systems

Medical Equipment

Air Traffic Control Systems

Satellite Systems

Industrial Process Equipment/Machines & Automation

General Laboratory Equipment

Studio, Printing & Media Equipment

TECHNICAL SPECIFICATIONS - ON-LINE UPS WITH ISOLATION TRANSFORMER

Rating	40 KVA	60 KVA	80 KVA	100 KVA	120 KVA	160 KVA	200 KVA	250 KVA	300 KVA
Battery DC Voltage (VDC)	384/396/408			348/384			348/384		
	or any DC voltage as per requirement								
INPUT									
Voltage range	(380 VAC/ 400 VAC/ 415 VAC) ± 25% 3 phase 4 - wire and ground								
Frequency range	50/60 Hz ± auto-sensing								
Power factor	0.9/0.99 with filter								
OUTPUT									
Voltage range	380/400/415 VAC ± 1%								
Power factor	0.8 (lag) Std., 0.9 optional								
Distortion	Linear load 3%, Non-linear <5%								
Overload capacity	110% for 1hr., 125% for 10 min., 150% for 1 min. and 200% for 1 sec.								
Crest factor	3:1 (max)								
Efficiency	91%			92%			93%		
BYPASS									
Rated voltage	380/400/415 VAC								
Bypass voltage range	Upper limit: +10%, +15%, +20% can be set Lower limit: -10%, -20%, -30%, -40% can be set								
Rated frequency	50/60 Hz (auto sensing)								
Bypass frequency range	± 2% (±10%, ±20% can be set)								
Transfer time to bypass	0 ms								
Overload capacity	15 times the rated current (10 ms), 5 times the rated current (5s)								

TECHNICAL SPECIFICATIONS - ON-LINE UPS WITH ISOLATION TRANSFORMER

Rating	40 KVA	60 KVA	80 KVA	100 KVA	120 KVA	160 KVA	200 KVA	250 KVA	300 KVA
PANEL DISPLAY									
LED	Indicate the status of input, inverter, bypass, battery, output								
LCD	Display Input/ Output voltage, Frequency, Power, Power factor, Battery voltage, Current, Battery status, Load percentage, UPS status, History record, Set parameters								
COMMUNICATION									
Interface	Dry contact RS232, RS485, SNMP Card								
ENVIRONMENT									
Operating Temperature	0-40°C								
Humidity	0-95°C % Non-condensing								
Storage Temperature	-25°C to 55°C								
Noise	<65dB (1m away from the unit)			<68dB (1m away from the unit)			<72dB (1m away from the unit)		
PHYSICAL CHARACTERISTIC									
Net Weight (kg) (Approx.)	346	490	575	600	755	980	1190	1200	2350
Dimension (WxDxH) mm (Approx.)	555x720x1220	800x740x1400		1070x750x1400	1600x1000x1800		2200x1000x2000		
OPTIONS	Harmonic filter, SNMP adapter, LBS cable, Battery Temperature Sensor, Battery Ground Fault Detection, Bypass current sharing inductor								
Satisfy the international EMC safety requirement									
EMI	IEC62040-2: Output requirements of EMC on UPS (> 16A)								
EMS	IEC61000-4-2 (ESD): Anti-electrostatic discharge								
	IEC61000-4-3(RS): Anti-interference of radiation								
	IEC61000-4-4 (EFT): Anti-interference of power pulse								
	IEC61000-4-5 (Surge): Anti-lighting/surging								
Standard	YD/T1095-2008								

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Line Interactive UPS

TECHNICAL SPECIFICATIONS

Item	Line Interactive UPS
Rating	500 VA, 650 VA, 800 VA, 1000 VA, 1500 VA & 2000 VA
General	UPS shall be free from workmanship defects, sharp edges, nicks, scratches, burs, etc. All fasteners shall be fixed properly. The equipment shall be complete with all parts functional.
Enclosures	Enclosures shall conform to protection requirement of IP21 to IS/IEC: 60947-1/2007
Switching Device	MOSFET or IGBT
Switching Frequency	> 50 Hz
Switching Over Time	10 mS (from AC mains to UPS mode on power failure)
Input	160 to 280V, 50 +/- 3 Hz, Single Phase AC
Output	<ul style="list-style-type: none"> AVR output voltage in AC mode: 230 Volts +/- 9%, 50 +/- 3 Hz. UPS output voltage in battery mode: 230 Volts +/-10%, 50 +/-0.5 Hz at Load power factor of not less than 0.6 lag.
THD (Total Harmonics Distortion)	40% maximum (in DC mode)
Inverter Efficiency	70% (at rated output voltage and frequency)
Output Voltage Regulation	Total variation of voltage from no load to full load shall not exceed 10% and at no point the output voltage should go beyond the permissible and of 230 Volts +/-9%
Overload	UPS shall withstand 10% overload for at least 10 minutes in mains mode
Protections	<ul style="list-style-type: none"> If input voltage goes outside the range 160 to 280 Volts, the system shall switch over to battery mode Over voltage, short circuit and overload protection at UPS output terminals Protection against over discharge: The load shall cut-off as soon as voltage of battery terminals falls below 10.5 V for 12 V and 21 V for 24 V battery system.
Indicators and meters	<ul style="list-style-type: none"> Mains Mode UPS Mode Battery Low
Battery Bank	12 Volts SMF/ (VRLA) Exide/Amararaja/Rocket/Panasonic or as per JISC: 8707/1992 or JISC: 8702/1998

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Line Interactive UPS

Sine Wave Inverter

TECHNICAL SPECIFICATIONS

Item	Sine Wave Inverter
Rating	0.8 KVA, 1.0 KVA, 1.5 KVA, 2.0 KVA, 3.0 KVA, 5.0 KVA, 7.5 KVA & 10 KVA
General	Inverters shall be free from workmanship defects, sharp edges, nicks, scratches, burs, etc. All fasteners shall be fixed properly. The equipment shall be complete with all parts functional.
Enclosures	Enclosures shall conform to protection requirement of IP 2L1 to IS:13947 (Part1)/1993 (reaffirmed 2004)
Switching device	MOSFET or IGBT
Switching frequency	> 50 Hz
Input	120 to 260 V, 50 Hz Single Phase AC
Output	The variation in output voltage from No load to Full load expressed as a percentage of the No load voltage shall not exceed $\pm 5\%$ over $+10\%$ and -20% variation of the rated DC input voltage. The frequency of the output voltage shall be $50\text{ Hz} \pm 3\%$.
THD (Total Harmonic Distortion)	<5%
Efficiency	85% (at rated output voltage and frequency)
Overload	Inverter shall withstand 10% overload for at least 10 minutes
Protections	<ul style="list-style-type: none"> Input voltage goes outside the range 120 to 260 Volts the system shall switchover to Inverter mode Over voltage, short circuit, and overload at Inverter output terminals Battery reverse polarity Protection against over discharge: The load shall cut-off as soon as the voltage of battery terminal falls below: 10.5 V for 12 V & 21 V for 24 V battery system The inverter shall incorporate an arrangement for automatic changeover of load from mains supply to the inverter AC Output in case of failure of mains supply with corresponding indication as per cl: 5.6 of IS: 13314/1992 (reaffirmed 2003). Surge Protection: provided
Indicators	<ul style="list-style-type: none"> Mains Presence Main Mode Battery Charging Inverter Mode Battery Low
Battery Bank	Lead Acid Battery/SMF VRLA Battery/Lead Acid Tubular Battery as per relevant IS specification

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Sine Wave Inverter

Servo Motor Operated Line Voltage Correctors

(Servo Voltage Stabilizer/Automatic Voltage Regulator)

FEATURES

- Integrated circuits control without relays
- Auto-manual operation facilities from front panel
- Step less voltage correction at high speed without overshoot
- Zero waveform distortion and unaffected by load power factor
- Output voltage sensing circuits that use solid state switching circuits
- High efficiency and unaffected by line frequency variation (between 48 Hz to 52 Hz)

OPTIONAL FEATURES

- Overload protection
- Filters for line interferences
- Single phasing preventer in three phase
- Automatic switch-off against over/under voltage
- Time delay: Starts equipment after 2-3 minutes to protect against intermittent failures of power supply

APPLICATIONS & USES

- Central/State Govt. Buildings
- Corporate Offices, Commercial Buildings & Hotels
- Medical Equipments/Big Hospitals
- Industrial Units (Machine Tools/CNC Equipments/Automation)
- Data Centers
- Printing Presses
- Air Conditioners & Electrical Utilities
- Petrol/Diesel Dispensing Machines
- Laboratories
- Signal, Telecommunication & Broadcasting Equipments



Servo Voltage Stabilizer

TECHNICAL SPECIFICATIONS

Item	Servo Controlled Voltage Stabilizer
Capacity	1.0 KVA to 2000 KVA
Cooling	Air and oil cooled in two separate modules
Type	Indoor, floor mounting (balanced/unbalanced)
Input Voltage Range	<ul style="list-style-type: none"> • 300-460 V/ 320-460 V/340-460 V/360-460 V in 3-phase, 4 wires AC system • 170-270 VAC/ 140-270 VAC, Single Phase or any voltage range as per requirement for both Single and Three Phase
Output Voltage	<ul style="list-style-type: none"> • 380 VAC/ 400 VAC/ 415 VAC \pm 1%, 3 phase, 50 Hz • 220 VAC/ 230 VAC \pm 1%, Single Phase or any voltage as per requirement for both Single and Three Phase
Output Voltage Adjustment	\pm 5%
Frequency Range of Operation	47-53 Hz
Correction Speed	35 volts/sec.
Control Circuit	Solid-state electronic plug-in PCB circuits
Efficiency	<ul style="list-style-type: none"> • Above 98% at full load • Above 95% at half load
Adjustment	Output voltage level and correction sensitivity to be adjustable
No load loss at minimum rated input voltage	Less than 3% of the rated capacity
No load loss at maximum rate input voltage	Less than 3% of the rated capacity
Full load loss at minimum rate input voltage	Less than 5% of the rated capacity
Full load loss at maximum rate input voltage	Less than 5% of the rated capacity
Maximum load loss and input voltage at which it occurs	At minimum input
Duty Cycle	Continuous
Short Time Overload Capacity	<ul style="list-style-type: none"> • Not less than 110% for 5 minutes • Not less than 125% for 1 minutes
Alarms and Tripping*	<ul style="list-style-type: none"> • Output voltage HI/LOW alarm and tripping through to be adjustable • Input single phasing alarm and tripping through input MCCB • Input phase reversal alarm and tripping through input MCCB • Over temperature sensing and alarm

Servo Motor Operated Line Voltage Correctors
(Servo Voltage Stabilizer/Automatic Voltage Regulator)

Constant Voltage Transformer (CVT)

SPECIAL FEATURES

- No semiconductors or moving parts used, hence very high reliability
- No feedback control used
- Intrinsic current limiting and short circuit protection
- Output voltage correction with 1/2 cycle (10 milliseconds) from no load to full load for specified load & line variation
- Short term over load capacity
- Energy storage for line loss up to 3 milliseconds at typical load
- Higher input voltage control range, for loads less than rated load
- Very high line transient/spike rejection capability and excellent isolation characteristic
- Output floating (optional)

APPLICATION & USES

- Petrol pumps/Diesel retail outlets
- Computers
- Data processing equipment
- Colour photography labs
- Bio-medical equipment
- PA equipment
- Telecommunication
- TV, VCD/DVD recorders & players
- Office automation (fax & copiers)
- And all other sensitive electronic devices



Constant Voltage Transformer (CVT)

Item	Servo Controlled Voltage Stabilizer
Maximum load loss and input voltage at which it occurs	At minimum input
Metering	<ul style="list-style-type: none"> • Input voltmeter with selector switch (Ph-Ph & Ph-N) • Output voltmeter with selector switch (Ph-Ph & Ph-N) • Ammeter for R, Y, B input currents with selector switch • Oil temperature by digital meter
Indications (using LED type lamps)	<ul style="list-style-type: none"> • Input ON (after MCCB) on lamp • Output R, Y, B separate lamps (after MCCB) • Input phase reversal • Input single phasing • Unit over temperature • Input MCCB Trip • Output MCCB Trip
Protection*	<ul style="list-style-type: none"> • Input MCCB for OL & SC protection • Output MCCB for OL & SC protection • Input phase reversal • Input single phasing
Bypass Arrangement*	Suitable bypass arrangement for bypassing the input supply to output and isolating the Servo Stabilizer for maintenance/repair
Power Circuit Diagram on Panel (Mimic Panel)*	Power and control circuit diagram with above indication to be screen printed (Mimic panel) on the front panel of the Servo Stabilizer
Operating Temperature	Up to 50°C
Operating Humidity	Up to 95% RH
Confirming to	IS: 9815 (Pt.1)/1994 (Reaffirmed 2004) with latest amendments
Oil	Transformer grade oil conforming to IS: 335/IEC 296
General	Painting using 7 tank process system, earthing bolts, lifting hooks
*Optional	

* In the interest of continuous product improvement, all specifications are subject to change without notice.



(100 KVA – 2000 KVA)

Servo Voltage Stabilizer

Isolation Transformer

APPLICATIONS & USES

- Machine tools/CNC equipments & Industrial Automation applications
- Broadcast communications & Telecommunication equipment
- General laboratory equipment
- Refineries & their distribution outlets
- Hospitals, Diagnostic labs & Imaging equipments
- Building/Shopping mall automation
- Data centers/Call centers
- Process industries & Chemical plants
- UPS bypass & Power distribution

SPECIAL FEATURES

- Complete electrostatic shielding
- Isolates sensitive & critical equipments from noise power lines
- Filters power line noise, spikes & transients
- Minimizing common mode noise by 85 dB



TECHNICAL SPECIFICATIONS

Range (KVA)	0.5, 1.0, 2.0, 3.0, 5.0, 10 and 20 KVA
Input Voltage	180-270 V
Frequency	50 Hz \pm 2.5 Hz
Output Voltage	220/230 \pm 1 %
Efficiency	>87% (At full linear load)
Output Waveform	Sine wave
Total Harmonic Distortion	Within 5% at rated load at 220 V input
Response Time	30 ms
Galvanic Isolation from Mains	Ultra high isolation
Output Voltage Correction	2 Cycle (Max), for no load to full load conditions
Common-Mode Noise Attenuation	1:3000, Typical (10 KHz to 5 MHz: 85 to 21 db typical)
Normal-Mode Noise Attenuation	1:3000, Typical (10 KHz to 5 MHz: 62 to 21 db typical)
General	
Ambient Temperature	Up to 55°C at 95% RH
Insulation Class	Class 'F'
Insulation Resistance	> 100 MW at 500 VDC
High Voltage/Insulation Test	2 KV AC applied for 1 minute
Audible Noise	30 db to 65 db proportionate to the unit capacity

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TECHNICAL SPECIFICATIONS

Item	Isolation Transformer
Capacity	1 KVA to 50 KVA (Single Phase) 1 KVA to 500 KVA (Three Phase)
Cooling	Air Cooled
Connection	Delta/Star for Three Phase Supply
Regulation	2-4% for 100% changes in current unity P.F.
Di-Electric Strength	2500 V for 60 seconds
Ratio	1:1 and 2:1
Insulation Resistance	Better than 500 Mega Ohms
Common Mode Attenuation	20 dB/40 dB
Coupling Capacitance	1 Micro farads
Leakage Current	< 5 mAmps
Ambient	0-45° C

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Isolation Transformer

SMPS Battery Charger

FEATURES

- Due to the wide input range of 160 V to 280 V, the charger is suitable to work in regions with high voltage fluctuations
- Due to compact structure and user friendly functions, carrying and installation of the charger is easy
- Batteries ranging from 35 AH to 120 AH can be charged
- Rugged design of the charger that makes it able to work in harsh environmental conditions
- Military grade components are used in designing the charger for prolonged life and better tolerance
- SMF and non SMF both type of batteries can be charged

USES

- Paramilitary Forces (CRPF, ITBP, CISF, BSF, BRO, EDGAR etc.)
- State Govt. Police Wireless and Radio/Telecommunication Dept.
- State Govt. Fire Services
- State Govt. Road Transport Services
- Indian Railways (Electrical and S&T)
- Battery Manufacturing Industries
- Process Industries

APPLICATIONS

- Signal & Telecom/Infocom Power Supply
- Railway utilities
- Substation Batteries
- DG set Batteries
- Process Industries
- Power Generating Plants
- All types of battery operated material handling equipments like Fork-lift Trucks, Platform Trucks, Pallets, Triggers and Stackers etc.



SMPS Battery Charger (CVCC)

TECHNICAL SPECIFICATIONS

Rating	12V/5 Amp.	12V/12 Amp.	12V/5 Amp.	12V/12 Amp.	12V/5 Amp.	12V/12 Amp.
No. of Station	5	5	3	3	1	1
Battery Charging Capacity	7 AH to 40 AH	35 AH to 120 AH	7 AH to 40 AH	35 AH to 120 AH	7 AH to 40 AH	35 AH to 120 AH
Current Setting (Max.)	0.5 A to 5 A	3.5 A to 12 A	0.5 A to 5 A	3.5 A to 12 A	0.5 A to 5 A	3.5 A to 12 A
Technology	SMPS Type					
Charging Mode	Automatic					
Charging Cut Off Voltage	14.5V+/-0.2V					
Input voltage range	160 to 270 Volts					
Protections	(a) Reverse polarity protection (b) Short circuit protection (c) Over current protection (d) AC Surge protection at Input with MOV (e) Soft start and soft stop feature without inrush current (f) Over Voltage protection at 280V at input and automatic recovery at 270 V when the voltage is reduced from 280V (g) Not to charge battery in case one or more cells are internally short/battery voltage < 10.5V					
Output Voltage	As per battery condition					
Operation	Continuous Duty					
Efficiency	>75% for SMPS at 230V					
Ripple	<100mV peak to peak at full load					
Display per station	Digital Volt/Amp meter selectable or continuous display					
LED Indication	(a) Charging Status (b) Charged condition status and (c) Reverse polarity					
Cabinet	CRCA sheet Min 1.2mm thick					
Terminals	Suitable capacity (Red and Black pair per station)					
Charging Cable	Flexible Copper Cable, Red for (+) ve terminal and Black/Blue for (-) ve terminal per station					
Cable Size	6 Sq. mm for 12 A & 2.5 Sq. mm for 5 A					
Cable Length	1.5 m					

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SMPS Battery Charger (CVCC)

Battery Charger

SALIENT FEATURES

- Fully automatic electronic SCR controlled
- Soft start feature to minimize inrush current to battery when charger is re-energized
- Dropper diode regulator in load path for specific applications
- In general, the system conforms to IEC 146 and IS-4540 standards
- Battery path current limiting
- Output short circuit proof
- Automatic float boost change over
- Operation under reverse input phase sequence
- Built-in digitally controlled automatic regulation circuit
- Insulation class for magnetic as per IS standard
- 7 tank-processed powder-coated painting shades
- Powder coated paint as per IS Standards

APPLICATIONS

- Telecom/Infocom power supply
- Power generating plants
- Railway utilities
- Process industries
- Switchgear protection
- Substation batteries
- DG set batteries
- Traction chargers for all types of battery-operated material handling equipments like fork-lift trucks, platform trucks, pallets, triggers, stackers, etc.

CONFIGURATIONS

- Float Charger (FC)
- Float cum Boost Charger with voltage dropping diodes/voltage regulator (FCBC)
- Float and Boost Charger (FC & BC)
- Dual Float cum Boost Charger (DFCBC)
- Redundant float or float cum boost charger
- Application/Customer specification configuration



Battery Charger

TECHNICAL SPECIFICATIONS

AC input voltage	As specified by customer with $\pm 10\%$ tolerance (1 ph or 3 ph 3 wire/4 wire, 50Hz $\pm 5\%$)
DC output voltage & Current	<ul style="list-style-type: none"> Voltage: 12V, 24V, 48V, 110V, 220V or any custom made Current: Up to 2000 A for 24 VDC/up to 1000 A for 48 VDC/up to 700 A for 110 VDC/up to 500 A for 220 VDC
Regulation	$\pm 1\%$, digitally controlled
Current limit	105% continuous of rated load, digitally controlled
Ripple content	< 2% rms (standard), 1% optional
Charger efficiency	<ul style="list-style-type: none"> > 85% for Three Phase input > 75% for Single Phase input
Protections**	<ul style="list-style-type: none"> Battery U/V & O/V Battery over charge & over load Short circuit Bridge protection fast acting fuses Surge suppresser AC & DC circuit protections Filter capacitor fuse Battery input fuses
Cooling	Natural (or) Forced
Ambient temperature of operation	0-50°C (or) as per customer requirement
Cabinet	<ul style="list-style-type: none"> Free standing steel cabinet 1.6/2.0 mm Gauge sheet steel or as per customer requirement IP protection as per customer requirement

** Provided as per customer requirement

Power Saver In Lighting System

POWER PACKED FEATURES

- Robust design
- Long life (minimum 15 years)
- Minimum 15% energy saving
- Pure sine wave control that ensures no lamp flickering & other related problems
- Optimum Power Factor improvement (upto 0.95)
- Capable to sustain on frequent power supply interruptions
- The power saver shall safeguard circuits from high voltages
- No major modification in the present lighting distribution system/re-wiring shall be required
- There shall be no discernable loss of lighting quality with fluorescent & other lights

APPLICATIONS

The power saver shall be suitable for all types of discharge lamps such as fluorescent tube lights, mercury vapour, sodium vapour lamps, metal halide lamps, etc.



TECHNICAL SPECIFICATIONS

S. No.	Parameter	Specification
1.	Equipment Life	15 Years
2.	Minimum Energy Saving	15%
3.	Input	180 V to 280 V (Single Phase) & 380 V to 480 V (Three Phase, 4 wire)
4.	Frequency	50 ± 3% Hz
5.	Output	Output voltage shall be programmable in the range of 190-240 V using the software provided and fixed as per the requirement of the load.
6.	Efficiency	More than 95%
7.	Power Factor improvement	Up to 0.95
8.	Distortion of wave form & harmonics	Within the range/limit of 5%
9.	Power Factor Correction Method	<ul style="list-style-type: none"> • Microprocessor Based • Static switch/relay/contractor are used for switching the capacitor bank • Improvement in PF is 0.95 to 0.99
10.	Overload Capacity	Withstand 25% overload for duration of 5 Minutes
11.	Protections	<ul style="list-style-type: none"> • High Voltage Protection: In case of failure of control circuit, the output voltage shall not exceed the upper limit of 270V & 450V for single phase and 3-Phase systems respectively • Over Voltage and Under Voltage Protection: To protect the equipment against over voltage and under voltage, facility for automatic tripping and disconnecting within 5 seconds shall be provided in case the input goes beyond the 180 V to 280 V (Single phase) and 380 to 480 V (Three phase 4 wire) • Overload Protection: To protect the equipment against over load, facility for automatic tripping and disconnecting within 5 seconds shall be provided in case the load current goes beyond 125% of the rated capacity • Provision of MCCBs/MCBs of appropriate ratings shall be provided along with HRC fuses of suitable capacity, to isolate internal/external faults • Thermal Protection: Provision of cooling fan • Earth Fault Protection: Provision of ELCBs

S. No.	Parameter	Specification
12.	Mounting	Floor Mounting
13.	Enclosures	Conforms to IP54, suitable for indoor and outdoor application.
14.	Meters and indications	<ul style="list-style-type: none"> • Digital meters to indicate phase voltage, current, power factor, active power & energy (KWH) • LED indication for "Normal Mode" or "Saver Mode" or "By Pass Mode"
15.	Data logger	Provision for attachment of data logger with RS232 port for logging voltage, current, power factor, KVA, KW & KWH readings
16.	Construction	The power saver shall be of robust construction. It shall be housed in cubicle fabricated with angle iron frame-works fitted with cold rolled annealed mild steel panel of thickness not less than 1.6 mm. The cubicle shall be adequately ventilated. Hooks shall be provided for lifting purposes.
17.	Environmental Working Conditions	<ul style="list-style-type: none"> • Surrounding temperature 0 - 55° C • Relative humidity up to 95% • Corrosive atmosphere in coastal areas • Atmosphere: Extremely dusty & desert weather in certain areas, corrosive atmosphere in coastal areas • Electrical supply is subjected to surges from time to time resulting in spikes

*In the interest of continuous product improvement, all specifications are subject to change without notice.



Approvals, Empanelment & Registration

North Western Railways
North East Frontier Railways
DRDO
Indian Air Force
NID
HPCL
BPCL
ONGC
GAIL
LIC (CZO,NCZO & WZO)
BHPV
SAIL
DDG IT (Ministry of Defense)
DGAR
AIR & DD
Research Center IMARAT
NMDC Ltd.
GSPL

Rate Contracts

DGS&D HARTRON CSIDC NIC/NICSI MPLUN

Export



Nigeria



Myanmar



Nepal

Prestigious Clients

Central Government Departments

- Dept. of Post
- BSNL
- NHAI
- Income Tax Dept.
- Survey of India
- Kendriya Bhandar
- Central Pollution Control Board
- Indian Institute of Remote Sensing (IIRS)
- Center for Advance Technology (RRCAT)
- NIFT
- National Institute of Hydrology
- MHA
- GSI
- Central Excise Dept.
- AIR & Doordarshan
- Directorate of Sorghum Research (DSR)
- National Textile Corporation Ltd.
- CPWD
- AAI
- NSIC
- Central Ground Water Dept.
- Atomic Mineral Directorate
- NIAM
- Dept. of Space
- Directorate General of Lighthouses & Lightships

Indian Railways

- ECoR
- NFR
- WCR
- NCR
- NWR
- NE Railway
- ECR
- Western Railway
- South East Central Railway
- Southern Railway
- South Eastern Railway
- Diesel Loco Modernization Works
- Chittaranjan Locomotive Works
- DMRC
- RVNL

PSUs

- GAIL
- ONGC
- IOCL
- HPCL
- BPCL
- BHEL
- RITES
- NHPC

Defense/ Paramilitary Forces

- DGAR
- DRDO
- ITBP
- CRPF
- BSF
- SSB
- Northern Command
- Western Command
- South Western Command
- Indian Air Force
- Military Engineer Services
- Rashtriya Military School
- Army EME Schools
- Army Signal Corps
- NDRF

Research Centres (ICAR, CSIR and R&D Labs)

- NBSS & LUP
- AMPRI
- CITD
- NDRI
- Indian Pharmacopoeia Commission
- NEERI
- CAZRI
- CTTC (MSME)
- NRCSS
- CIAE
- NBPGR
- CEERI
- CRRI
- NTH
- DMAPR Institute of Seismological Research
- NBPGR

Educational Institutions

- IITs
- IIITs
- NITs
- Govt. Engg. Colleges,
Polytechnic, ITIs
- Kendriya Vidyalaya
- Various Universities th' India

Medical Institutions

- AIIMS
- Govt. Medical Colleges
- Govt. Hospitals (Distt./Civil
Hospital/PHCs/PHCs)

State Govt. Deptt.

- Department of Treasuries & Accounts
- Council for Elementary Education
- Council of Science & Technology
- NRHM
- PHED
- Agriculture Dept.
- PHQs
- Dept. of Information Technology
- Aids Control Society
- Directorate of Technical Education
- DRDA
- Directorate of Employment & Training
- State Institute of Hotel Management
- Social Justice and Empowerment Dept.
- Dist. e-Governance Society
- Department of Revenue
- Commercial Taxes Dept.
- Dist. Collectorate Offices
- SIPF Dept.
- Madarsa Board
- Tourism Development
- Khadi & Gramodyog Board
- Registration and Stamp Dept.
- Forest Dept.
- Commissioner of Industries
- Mines and Geological Dept.
- Department of Animal Husbandry & Dairying
- Drugs Control Department
- Seed and Drug Testing Lab
- Fire & Emergency Services
- State Beverages Corporation
- Department of Land Resources
- Sarva Shiksha Abhiyan
- State Road Transport Corporation
- State Ware House Corporation
- Medical Services Corporation
- Electricity Boards

Corporate/Industries

- BITS Pilani
- JK Tyre
- Reliance
- Vodafone
- Digital Colour Laboratory
- Tollways (RIDCOR)
- Cairn Energy
- IL&FS
- Jewellery Industries

Banking & Financial Institution

- LIC
- Central Bank of India
- J&K Bank
- PNB
- BOB
- IDBI Bank
- SBBJ
- SBI

Our Nationwide Service Network

