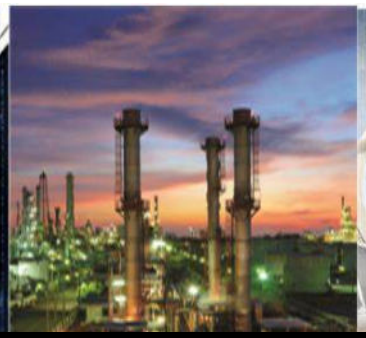
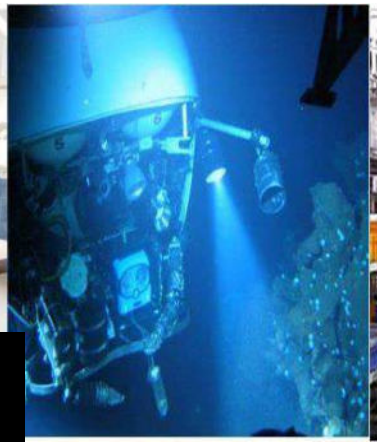
BPE®
Strategic Power Solutions




Don't Let Your Business Go Dark

If downtime in your business equals disaster, BPE UPS achieves highest reliability & performance among all available UPS's in market.

It 's time to rethink your UPS...
Contact us

Presented by:
Vivek Kapoor (VP - Technical & Projects)

Power Up
Your Future.

Product Introduction – 1 Phase UPS

BP Series LI (1:1) 650/1000/1200/1500/2200VA UPS – Key Features

Application: PC, workstation, Printer, Servers

- Compact size, Plug & Play
- Built in AVR & surge suppressor
- Cold start function, Auto restart
- Optional USB card for Auto shutdown software
- Overload & Battery drain protection
- LED status indicator
- Simulated sine wave

Batteries:

BP650: 1x12V (7Ah, 9Ah)
BP1000/1200: 2x12V (7Ah, 9Ah)
BP1500: 2x12V (7Ah, 9Ah)
BP2200: 24V (Ext. Battery Option)

MP Series (1:1) 1-10KVA Online UPS – Key Features

- Online double-conversion UPS
- Input power factor corrected, ≥0.99
- Output power factor 0.9
- Wide input voltage (110 Vac – 300 Vac)
- ECO mode for energy saving
- Flexible batteries for 6kVA & 10kVA
- Emergency power off function (EPO)
- Adjustable charging current via LCD or software (1A~6A) for 6kVA & 10kVA models

Batteries:

1kVA : 3 nos.

3kVA : 8 nos.

6-10kVA : 16-20 nos.

MP Series (1:1) 1-10KVA Online UPS

PB Series 1:1 (5-10kVA) with inbuilt Transformer – Key Features

- True Online Double Conversion UPS
- Output isolation transformer
- Wide input voltage range (160-280V AC)
- User friendly digital LCD display
- Cold start function
- SNMP/ RS 232 Communication Interface (Optional)
- IGBT based smart charger
- Built In Isolation Transformer

Battery:

5kVA (10/16 nos.)

10kVA (16/20 nos.)

Charging Current: 6A standard, 12A (Optional)

MF Series 1:1 (1-10kVA) / 3:1 (10-20kVA) – Key Features

- True online, double conversion PWM technology
- IGBT based Rectifier & Inverter
- Pure sine wave output
- 1-10kVA in 1:1, 10-20kVA in 3:1 (Configurable)
- Crest Factor 3:1
- High input power factor ≥0.99
- Static bypass and cold start
- Flexible batteries 16-20pcs
- Up to 4 units can be paralleled
- Multiple communication SNMP, USB, RS232

Batteries:

1kVA -3 nos.

3kVA - 6/8 nos.

6-10-20kVA - 16/18 /20 nos.

MF Series 1:1 (1-10kVA) / 3:1 (10-20kVA)

MFP Series 1:1 (1-10kVA), 3:1 (10-20kVA) – Key Features

- True online, double conversion PWM technology
- 5, 6, 10kVA in 1:1 configuration
- 10~20kVA in 3:1 configuration
- High input power factor ≥0.99
- Static bypass and cold start
- Isolation transformer compatible
- ECO mode operation
- Flexible batteries 16-20pcs
- Up to 4 units can be paralleled
- Multiple communication
  SNMP, USB, RS232, Modbus, PFC

Control Panel

MFP Series 1:1 (1-10kVA), 3:1 (10-20kVA)

Product Introduction – 3 Phase UPS (Transformerless UPS)

GTP Series (3:3) 10-40kVA – Key Features

- True online 3 Level IGBT Rectifier & Inverter Topology
- Available ratings 10/15/20/30/40kVA
- Unity output power factor (kVA=kW)
- EHS mode operation for energy saving, efficiency >98.7%
- Emergency power OFF (EPO)
- Multiple communication SNMP+USB+RS232
- Flexible battery 32-50pcs
- Parallel operation up to 4 units
- 10 inch colour touch screen display

GTP Series (3:3) 10-40kVA

GTM Series (3:3) 60-90kVA

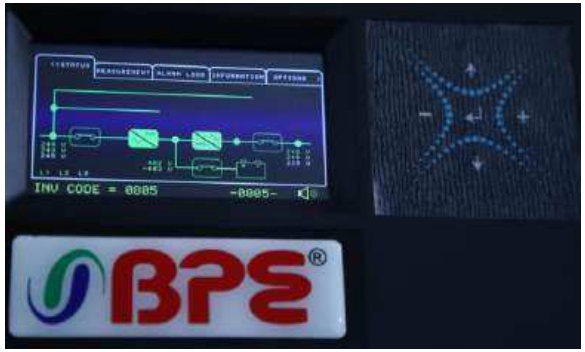
- True on-line double conversion design
- Available ratings 60 - 90kVA
- Modular UPS configuration
- ECO mode operation for energy saving
- Input PF≥0.99
- Output PF 0.9 (Standard), Unity (Optional)
- Online Efficiency: up to 95%, ECO Mode: 99%
- Common or separate battery bank configurable
- Flexible Batteries 32~40 nos.
- Paralleling up to 4 Units
- Multiple communication SNMP, RS232, Modbus, PFC

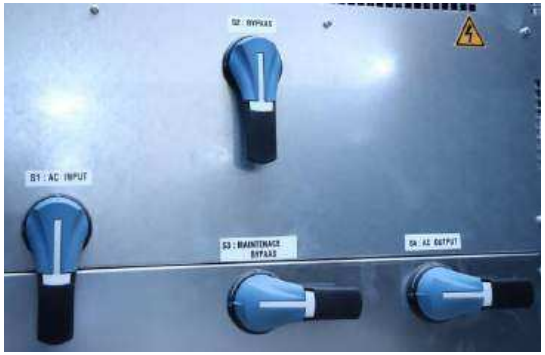
GTP Series (3:3) 120-200kVA – Key Features

- True online 3 Level IGBT Rectifier & Inverter Topology
- Output power factor 0.9
- Low input THDi *i.e.* <3%
- High input power factor
- EHS mode operation for energy saving, efficiency >98.7%
- Emergency power OFF (EPO)
- Multiple communication SNMP+USB+RS232
- Flexible battery 32-40pcs
- Parallel operation up to 4 frames
- 10 inch colour touch screen display

GTC Series (3:3) 160-300kVA – Key features

- Double conversion Online 3-level topology
- Input Power Factor ≥0.99
- Efficiency up to 96%, ECO mode up to 99%
- ECO mode operation for energy saving
- Low voltage harmonic distortion
  ≤ 1% (linear load); ≤ 4% (non-linear load)
- Up to 8 units can be paralleled
- Autosensing for disconnected parallel cable
- LCD Graphic display
- Load based fan speed control
- Bottom cable entry (Standard), Top cable entry (Optional)
- Suitable for RG load





GTC Series (3:3) 160-300kVA

Product Introduction – 3 Phase UPS (Transformer based UPS)

CP Series 3:3 (5-20kVA)

- Suitable for IT applications
- Available ratings 5, 10, 15, 20kVA
- True on-line double conversion design
- Inbuilt Isolation Transformer at output
- IGBT based charger for smart battery management
- High charger capacity for long back-up up to 2-10 hrs.
- Static Bypass (Optional)
- Front LCD display

Charging Current: 1-10A Standard (High rating optional)
5kVA : 16 batteries
10-20kVA : 16/20 batteries
20kVA : 30 batteries

EPX+ Series (3:3) 20-400kVA

- Most suitable for Industrial applications
- Advance DSP control / IGBT charger
- High output PF 0.9
- N+X parallel redundancy up to 6 Units
- Flexible batteries 30-34pcs
- High MTBF (>2,00,000 hrs.)
- Intelligent self-diagnosing function
- 7” colour Touch Screen Display
- Multiple communication SNMP, RS232, Modbus, PFC

EPX+ Series (3:3) 20-400kVA

UGX Series (3:3) 30-90kVA – Key Features

- Online double conversion 3-Level IGBT Topology
- Available ratings 30/60/90kVA
- Built-in isolation transformer for complete isolation
- Output PF 0.9
- Low input THDi, <3%
- ECO mode operation for energy saving, efficiency up to 99.0%
- Emergency power OFF (EPO)
- Multiple communication SNMP, RS232, RS485
- Flexible battery 32-40 nos.
- Parallel operation up to 4 units
- User friendly LC display

UGX Series (3:3) 30-90kVA

GTX Series (3:3) 160-300kVA

- True online 3 Level IGBT Rectifier & Inverter Topology
- Available ratings 160/200/250/300kVA
- Built-in isolation transformer
- Input power factor ≥0.99
- Output power factor 0.9, Low input THDi ≤3%
- Emergency power OFF (EPO)
- Multiple communication SNMP+USB+RS232
- Flexible battery 48-52pcs
- Parallel operation up to 6 units

5.7 inch large screen,

monitored detailed parameter

Event history log stored and

identified in display History

GTX Series (3:3) 160-300kVA

Product Introduction – 3 Phase UPS (MW Solution)

GTC-H Series (3:3) 300-500kVA

- Double conversion Online 3-level topology
- Input Power Factor ≥0.99
- Efficiency up to 96%, ECO mode up to 99%
- ECO mode operation for energy saving
- Low voltage harmonic distortion
  ≤ 1% (linear load); ≤ 4% (non-linear load)
- Autosensing for disconnected parallel cable
- LCD Graphic display
- Load based fan speed control
- Easy maintenance and service (Front Accessible)
- Suitable for RG load
- Four switches for Input, Bypass, Output & Manual Bypass
- Up to 8 units can be paralleled (up to 4MW)

GTC-MW Series (3:3) 600 - 1000kVA

BPE Strategic Power Solutions

- Double conversion Online 3-level topology
- Available ratings 600, 800, 1000kVA
- Input Power Factor ≥0.99
- Efficiency up to 96%, ECO mode up to 99%
- ECO mode operation for energy saving
- Low voltage harmonic distortion
  ≤ 1% (linear load); ≤ 4% (non-linear load)
- LCD Graphic display
- Load based fan speed control
- Suitable for RG load
- Expandable up to 8MW
- Four switches for Input, Bypass, Output & Manual Bypass
- Bottom cable entry (Standard), Top cable entry (Optional

Modular UPS

Modular UPS - PS Series

PS12 (1:1, 3:3 or 3:1)
Cabinet: 4 Slots
Power Module: 4/6/10/12kVA

PS32 (3:3)
Cabinet: 5/10 Slots
Power Module: 16/20/25/30/32kVA

PS40 (3:3)
Cabinet: 3/4/6/8/10 Slots
Power Module: 16/20/25/30/32/40kVA

PS50 (3:3)
Cabinet: 4/6/10/20 Slots
Power Module: 50kVA

Modular UPS – PS12 Series

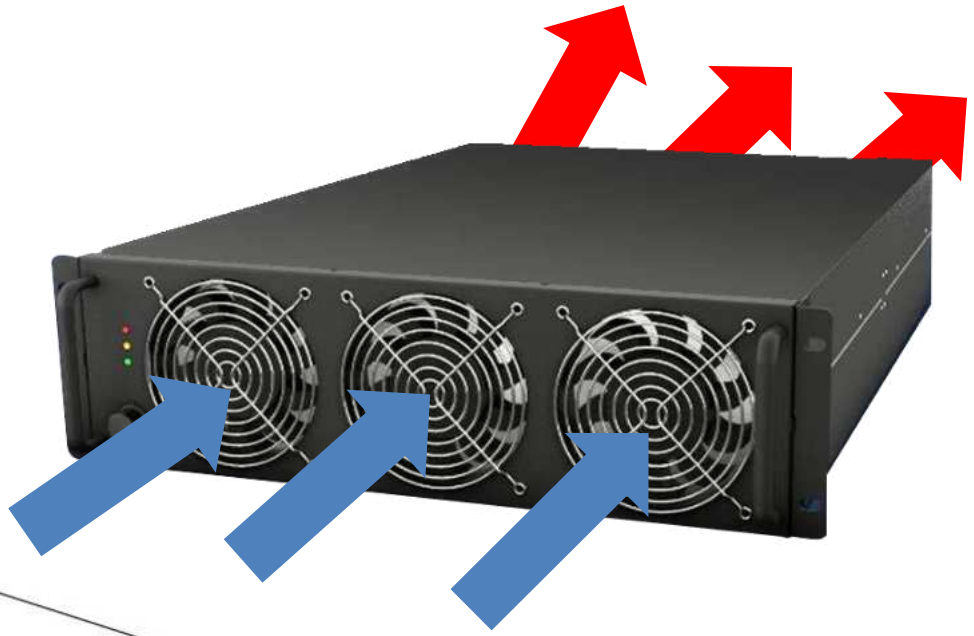
Modular UPS – PS40 Series

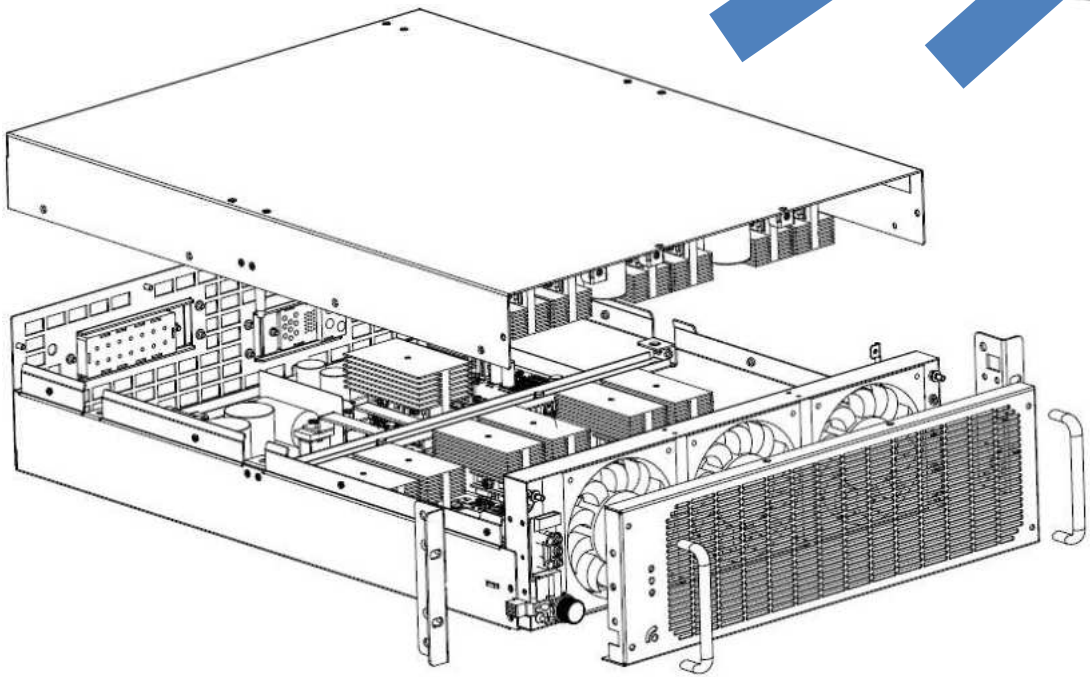
Key Features

Model	PS12 (up to 48kVA/Cabinet)	PS32 (up to 300kVA/Cabinet)	PS40 (up to 400kVA/Cabinet)	PS50 (up to 1000kVA/Cabinet)
Picture				
Topology	3-Level IGBT based Online Double Conversion UPS	3-Level IGBT based Online Double Conversion UPS	3-Level IGBT based Online Double Conversion UPS	3-Level IGBT based Online Double Conversion UPS
Power Module	4/6/10/12kVA	16/20/25/30kVA	16/20/25/30/32/40kVA	50kVA
Cabinet	4 Slots	5/10 Slots	3/4/6/8/10 Slots	4/6/10/20 Slots
Power Factor	Input: ≥0.99 Output: 0.9	Input: ≥0.99 Output: 1.0	Input: ≥0.99 Output: 1.0	Input: ≥0.99 Output: 1.0
Efficiency	Online Mode: ≥95% ECO Mode: ≤99%	Online Mode: ≥96.5% ECO Mode: up to 99%	Online Mode: ≥96.5% ECO Mode: up to 99%	Online Mode: ≥96.5% ECO Mode: up to 99%
Battery Flexibility	32~40	30~50	32~40	30~50
LCD Display	Cabinet: 7 inch Module: 4 inch	Cabinet: 7 inch	Cabinet: 10 inch	Cabinet: 7 inch
LiB Configuration	Available	Available	Available	Available

Modular UPS – PS32 Series

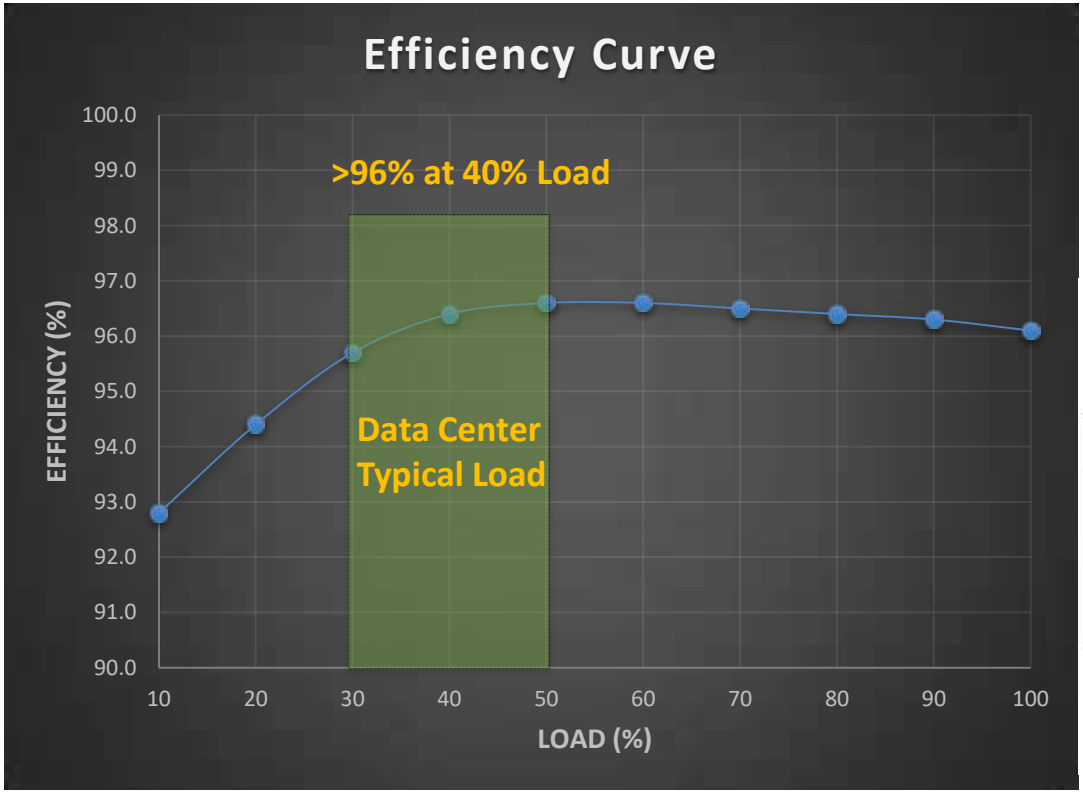
PS Series - Power Module



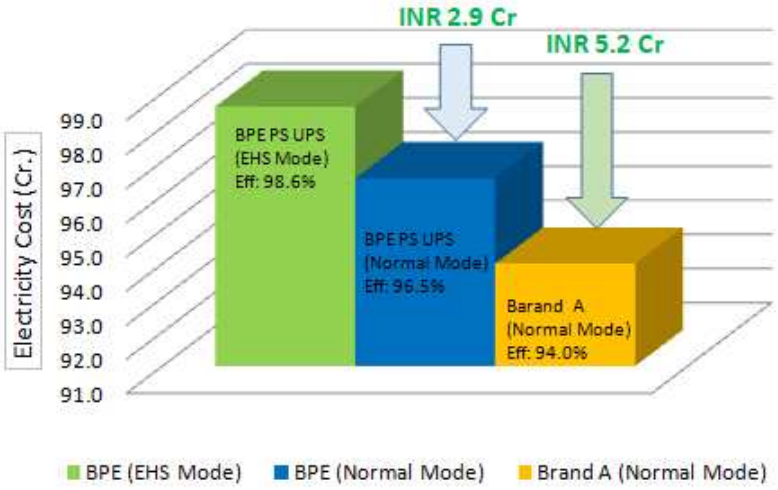


W x d x h : 440 x 620 x 130 (3U)
Weight : 34 Kg

UPS Performance



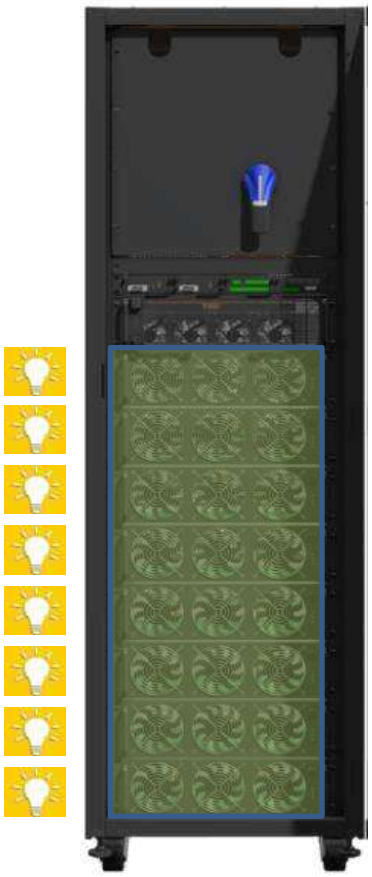
Saving in Electricity Cost in 10 Years



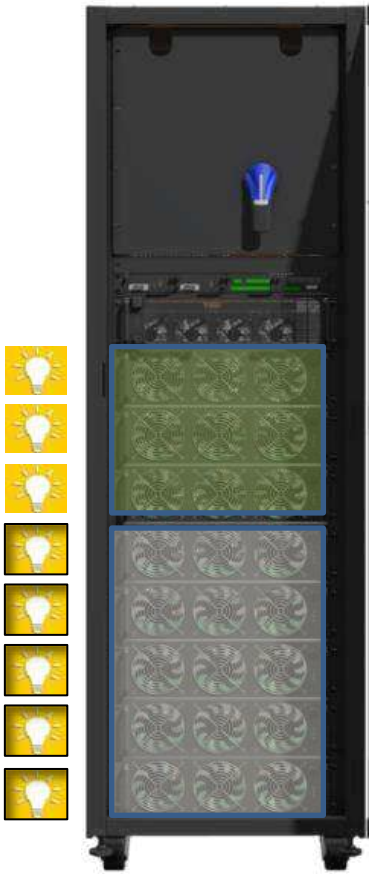
Conditions:
PS UPS 1000kVA/kW at 100% Load
Energy Cost: INR 12.0 / kWh
Saving Period: 10 Years

Green Mode

Load Sharing
(Load <20%, Eff. 94.0%)



Green Mode Activated
(Eff. >96.5%)



Load Sharing
(Load >50%, Eff. >96.5%)

Transfer time from standby to online mode is less than 2ms

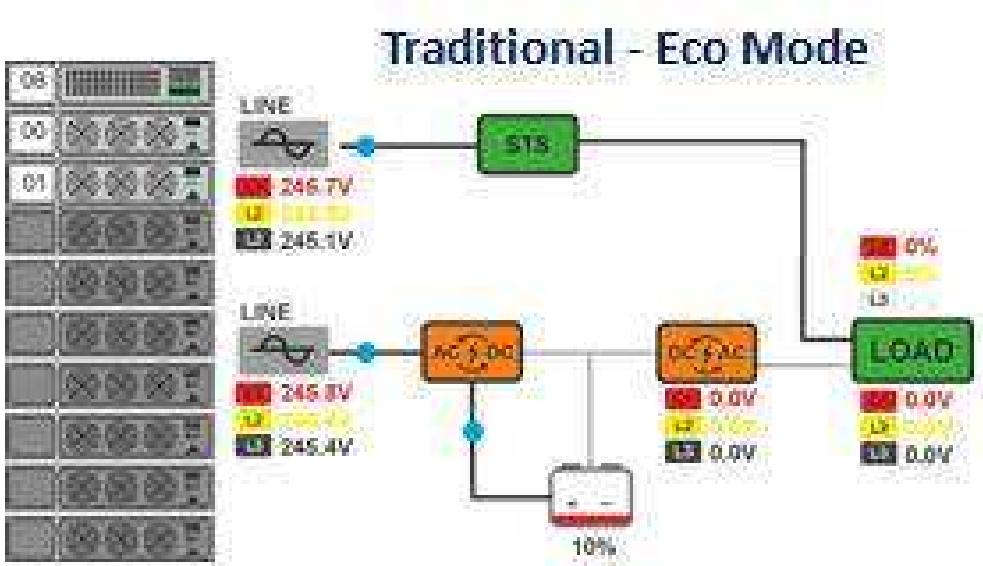
Parallel Expansion

Parallel expansion up to 6 units allows N+X parallel redundancy and capacity expansion

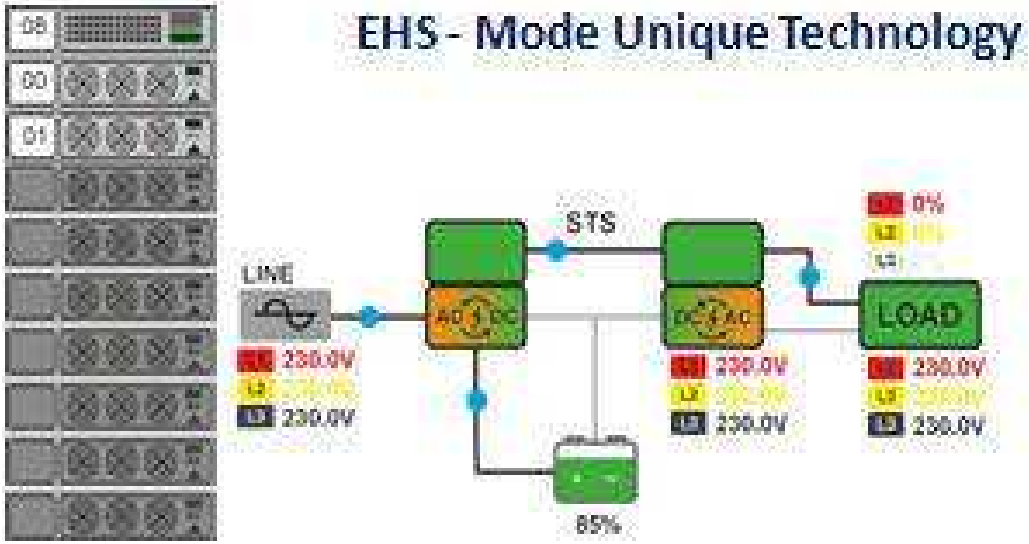
Centralized Monitoring Module

ECUx2 - Hot Swappable
Dry contacts - Hot Swappable
Monitor - Hot Swappable

Energy High Saver Mode (EHS)



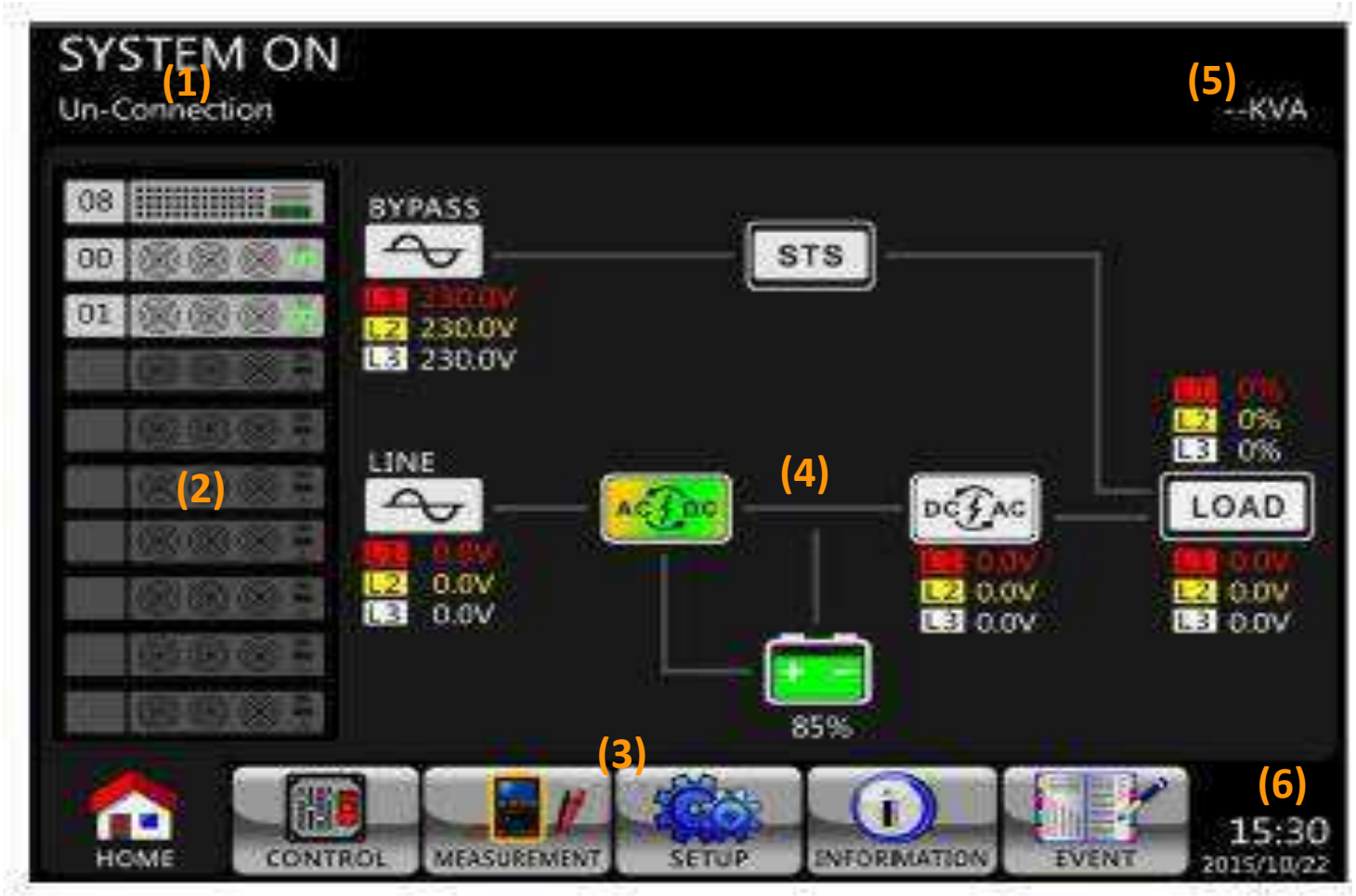
ECO mode (Efficiency ≥99%) - Mains power travels from input to output through static bypass path. Here the inverter is ON but not connected to the load circuit. The static bypass path (mains power) transfers to battery / inverter mode within 2-4ms when there are some disturbances at the input mains power.



EHS mode (Efficiency ≥98.4%) – Inverter as well as Rectifier are in fully ready state and in sync with load and mains power to ensure the power transfer to inverter / battery mode instantly.

This meets the requirements of all mission critical applications, which do not tolerate any power break under any circumstances. Also, rectifier helps in improving input harmonics & power factor of the system.

Main Screen - 10” Colour Touch Screen Display



(1) UPS Mode
(2) Module Status
(3) Main Menu
(4) UPS Flow Chart
(5) UPS Power Rating
(6) Date & Time

IoT Enabled BPE UPS's

Our Assets – IoT Enabled!

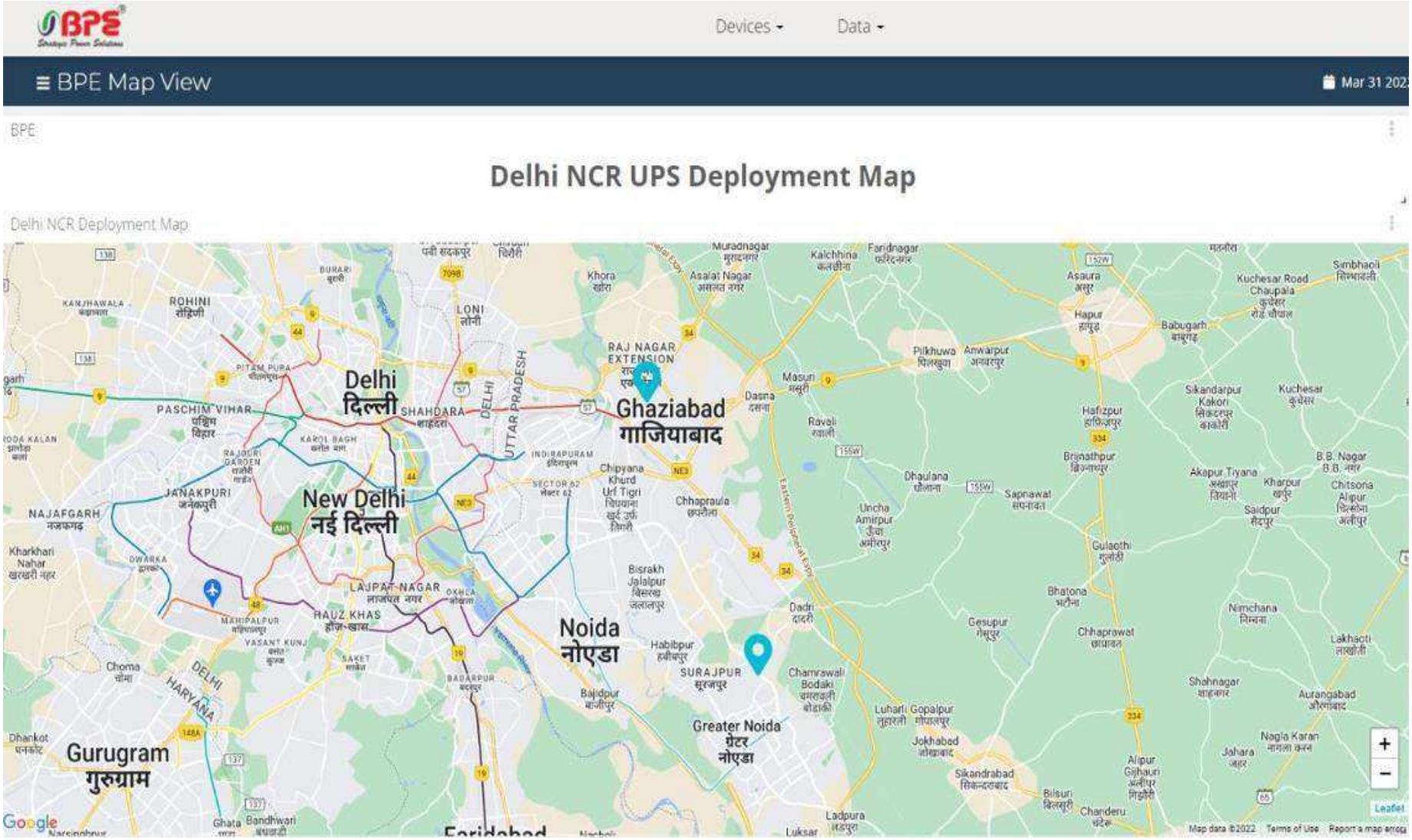
- Integrate with your machines
- RS-485/Modbus
- DI/DO, Analog
- SNMP, TCP/IP

IoT enabled BPE UPS

IoT enabled BPE UPS

IoT enabled BPE UPS

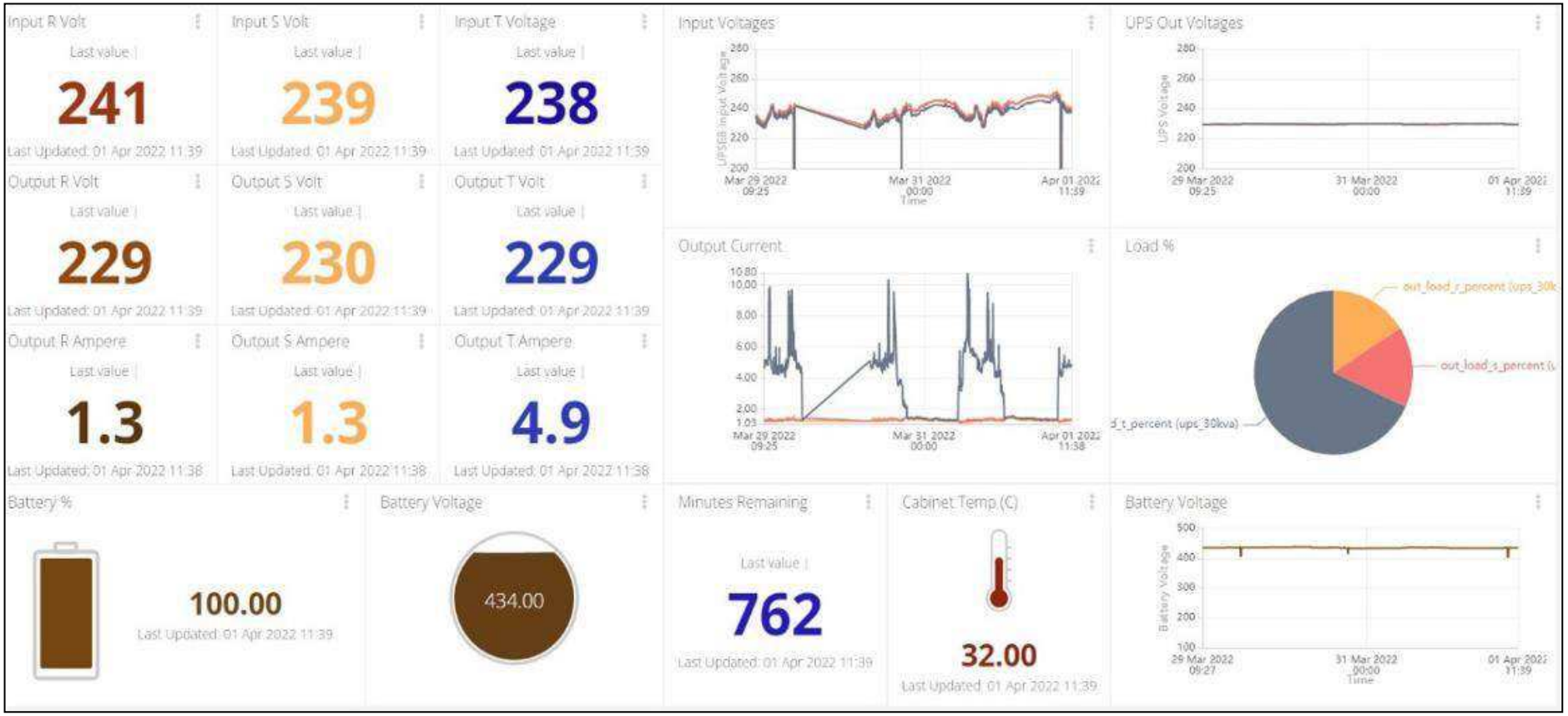
BPE Strategic Power Solutions



IoT enabled PS Series UPS

BPE®
Strategic Power Solutions

IoT enabled PS Series UPS



IDU Smart Racks

IDU (Smart Cabinet)

10” Touch Screen Display

Sensors
(Door, Water, Smoke, Temp., Humidity)

Space for Server
(30U)

PDU C13 Type, 2 Sets

Power Distribution

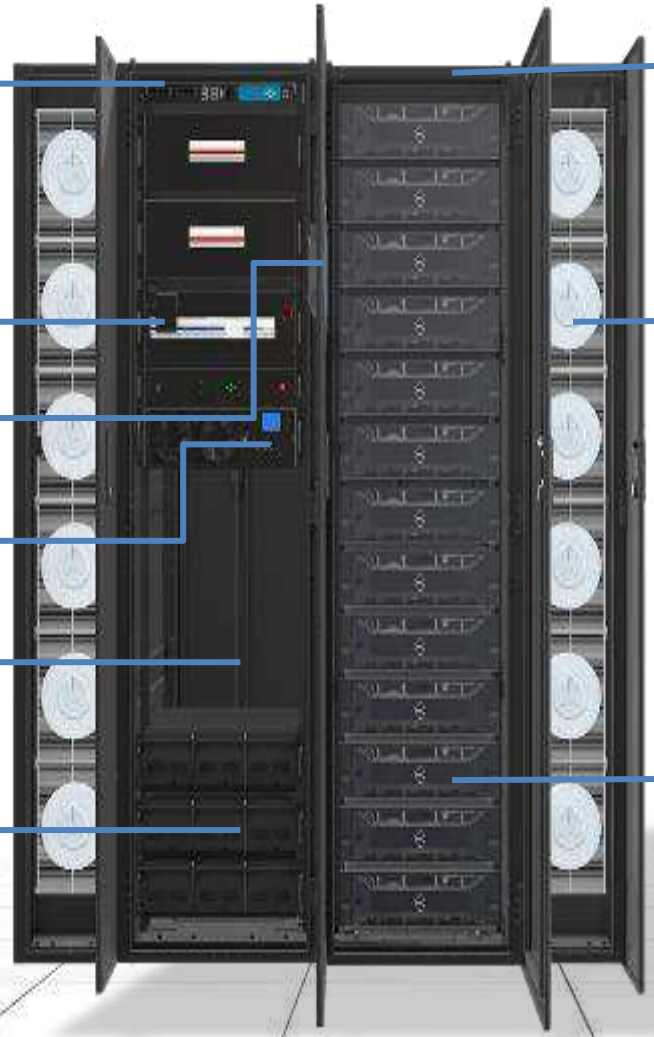
UPS 3kVA
(with internal Battery)

3U Space
(for UPS/Battery 8x9Ah)

Precision AC 3.5kW

Dimensions: (w x d x h: 600 x 1200 x 2000mm, 42U)
Weight : 150Kg

IT Cube Integrated Solution—IDU Configuration



Monitor Host, LAN

Power Distribution Unit

10” Touch Screen Display

UPS Rack-mount/Module
(2 x 60kVA)

Air flow Management Module

Rack Mount Battery Pack

Ventilation Fan

Inrow Air Conditioner
(7 -25kW as single unit)

Server Cabinet

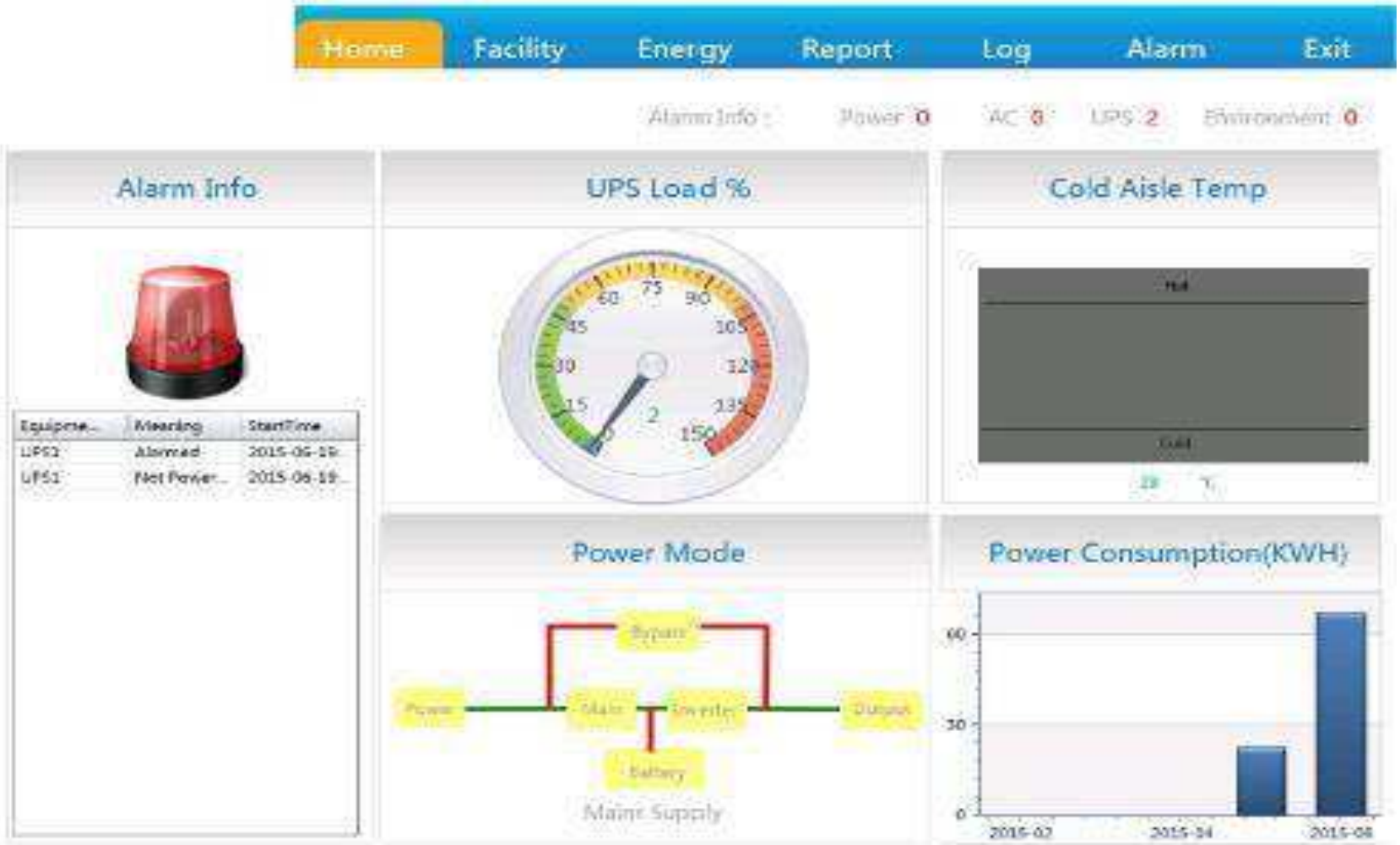
Flexible Configuration

CRAC + Power cabinet + IT cabinet + CRAC

CRAC + Power cabinet + IT cabinet + IT cabinet + IT cabinet + IT cabinet + CRAC

Intelligent Management

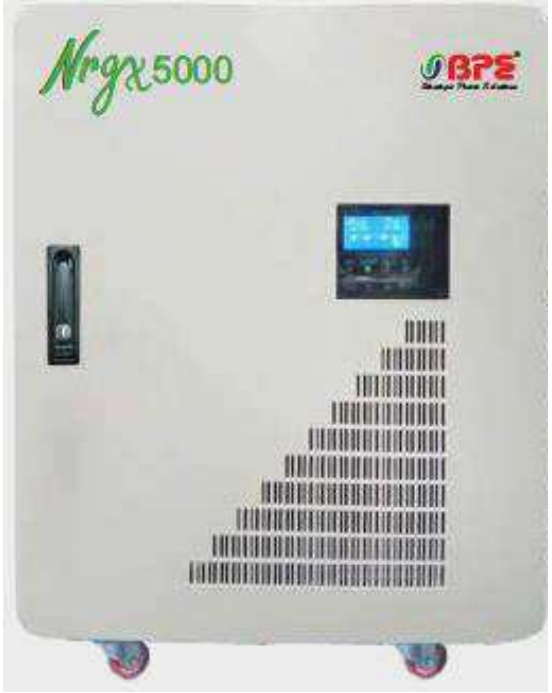
Centralized monitor system with Inbuilt touch screen display can monitor parameters of UPS, CRAC, precision power, water leakage & smoke sensor.



Energy Storage System (ESS)

Nrgx 5000, 1:1, (5kVA/kW) – Key Features

- True online, Double conversion UPS with Li-ion Battery
- Wide input voltage range (110 – 300Vac)
- High input power factor ≥0.99
- IGBT based Rectifier & Inverter
- High efficiency UPS (On-line mode 94%, ECO mode 99%)
- Parallel expansion up to 9 units
- 3 units can be connected & configured as 3:3 Phase
- Fast charging, 0-100% within 2-hrs.
- Manual Bypass Switch and cold start
- 1 hour back-up at 4kW load
- Charging Current 60A *(can be set through Display)*
- Multiple communication
  SNMP, USB, RS232, Modbus, PFC



Nrgx 5000 (Li-ion based UPS)

Integration of BPE PS UPS with Exicom Li-ion Battery

BPE PS Series UPS

Exicom Li-ion Battery

Some Installations
&
Case Study

BPCL (Bharat Petroleum Corporation Limited)

- To understand the customer's requirement, BPE technical team visited multiple petrol pumps of BPCL.
- While performing the load study, few observations noted on the site *i.e.* Lack of space, poor ventilation, dusty environment & frequent power cuts.
- As per the observations, BPE Engineering team designed & developed a system to meet the customer's requirement.

BPCL (Bharat Petroleum Corporation Limited)

- **Specification:**
  - **2 UPS's in Hot Standby Configuration** – For redundancy (1+1)
  - **Li-ion Battery** – For fast charging @ 1C for addressing space issues & power cuts
  - **Automatic Transfer Switch (ATS)** – For load transfer from one UPS to another
  - **IP32 Enclosure –** To protect the overall system from environmental effects
  - **Indian Type 6A/16A Power Socket** – To provide easy load connections
  - **6'' AC fan at rear side -** For proper ventilation

BPCL (Bharat Petroleum Corporation Limited)

1. Front View

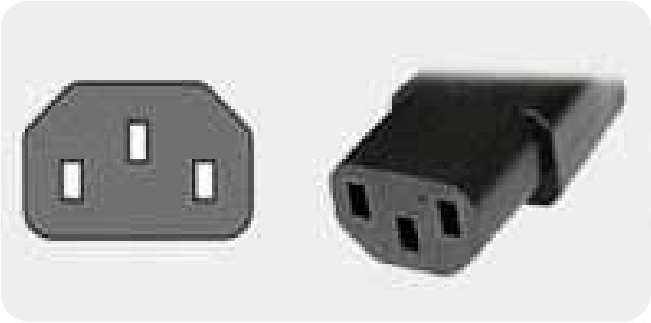
Delhi Safe City

- A government project introduced by **Ministry of home affairs** with the name of Delhi Safe City.
- High performance UPS's to be installed for real-time surveillance.
- As per the requirement, few technical specifications were challenging. To comply the whole specification, BPE Engineering team worked hard and provided best possible solution.

Delhi Safe City

- Below were few challenges -

  - **C13 Type Output Sockets –** As per Indian standards, the UPS adopts standard Indian type sockets. But as per the demand, new UPS designed with C13 Type Sockets.



  - **Monitoring via Modbus -** BPE team also successfully developed the Modbus card for smaller rating UPS's to meet the requirement.

Medanta Medicity Hospital, Gurgaon

- Trolleys in medical sector used to carry check-up equipments for patients.
- Some countries developed these trolleys and turned them into the smart one in which the LCD panel is mounted on the top of the trolley in order to monitor the health parameters of the patient.
- This LCD panel is powered up with 1kVA UPS along with Li-ion battery, sufficient to provide continuous power back-up for 5-6 hours.

Medanta Medicity Hospital, Gurgaon

- Medanta hospital was using these smart trolleys, imported from other countries at very high prices.
- They decided to source these smart trolleys in India. BPE started working on this project and successfully developed the required solution

  (1 KVA UPS + LiB with 10 Hours backup for their COW (Computer on Wheels) project.
- These samples delivered to Medanta Hospital for testing & got approved by their team.
- BPE finally received PO for 17 units and many more are in pipe line.

Indian Oil Corporation (IOCL)

- IOCL introduced new CNG gas stations across India for which they need power solution for the whole plant.
- As per the requirement, a customized UPS was required for their new CNG stations.
- As per the technical specification, BPE Engineering team designed & developed a system to meet the customer's requirement.

Indian Oil Corporation (IOCL)

❑ Specification -

- **2 UPS's in Parallel Configuration** – For redundancy (1+1)
- **2V or 12V VRLA Batteries** – For back-up energy storage
- **Isolation Transformers (Input, Output & Bypass)** – To provide isolation
- **IP42 Enclosure –** To protect the overall system from environmental effects
- **SCVS** – To provide specific bandwidth voltage to load on bypass mode
- **ACDB Panels (Input & Output) -** For distribution purpose

Banas Diary, Gujrat

- As per the customer's requirement, 2 x 10kVA UPS's along with separate LiB for 60 minutes back-up required.

- BPE provided affordable solution by providing 4 x 5kVA UPS's. As 10kVA UPS's are operating on high DC voltage *i.e. 192V DC,* ESS battery bank is used to be installed which is increasing the overall price of the system. 5kVA UPS is working on 48V DC. This made the system affordable and compact.

National Insurance Company Limited (NIC)

- A high specification tender of NICL won by team BPE. As per the specification, Modular UPS system with hot-swappable power modules, external isolation transformer, Phase sequence corrector & Centralized Monitoring system (CMS) to monitor 2,000 UPS's of multiple brands at multiple locations to be monitored.

- BPE team successfully developed the CMS in order to meet the customer's requirement.

- FAT performed by NICL team and got approved.

Defense Application, Delhi

System Specification - PS40 Series Modular UPS with 6 Modules supported Rack & 3x16kVA Power Modules along with 23kWh Li-ion Battery bank

Status - Successfully Completed

Tabata Hospital, Tanzania

System Specification - EPX+ 100kVA, 1 no. with 150Ah batteries
EPX+40kVA, 1 no. with 100Ah batteries

Status - Successfully Completed

Bank of Uganda, Africa

System Specification - PS40 Series Modular UPS with 2x20kVA Modules with internal modular battery 120 nos. of 9Ah.

Status - Successfully Completed

Power Grid Corporation of India Limited (PGCIL)

- PGCIL being a reputed government organization have their own specification & approved vendors.
- BPE offered UGX Series 60kVA UPS system with inbuilt isolation transformer to PGCIL.
- Complete documentation submitted to PGCIL & the UPS system tested as per the PGCIL specification. BPE got approval from PGCIL for future opportunities.

पावरग्रिड
POWERGRID

POWER GRID CORPORATION OF INDIA LIMITED

निर्माता अनुमोदन / MANUFACTURER APPROVAL

संदर्भ: : CC/QAA1/2021/Letter/133 दिनांक: 03 NOV 2021

प्रस्तावकर्ता का नाम/ Name of Proposer	M/s Starlite Technologies Ltd., Gurgaon		
निर्माता का नाम/ Name of Manufacturer	M/s Best Power Equipments India Private Limited		
सी.आई.एन संख्या/ CIN Number	U99999DL2000PTC106932		
निर्माता का पता/ Address of Manufacturer	G-240, SECTOR-63, District :- Gautam Budh Nagar		
	City: Noida	Country: India	Pin Code: 201307
निर्माता कोड/ Manufacturer Code	3000001541		
नाम और संपर्क विवरण/ Name & Contact details	Shri Vivek Kapoor		
	+91-9557030050	VKAPOOR@BPEE.COM	
मद का नाम/ Item Name	UPS upto 40KVA		
वैधता अवधि/ Validity period up to	02 NOV 2022		

Background detail: M/s Starlite Technologies Ltd., Gurgaon vide email dtd. 05 OCT 2021 have requested for approval of supply of UPS (upto 40KVA) to POWERGRID projects. Assessment audit has been carried out on 12 OCT 2021 by CC-QA. Based on assessment and compliance verification by POWERGRID on 02.11.2021 we hereby agree to the proposal of M/s Starlite Technologies Ltd., Gurgaon of M/s Best Power Equipments India Private Limited, Noida as an approved manufacturer for aforementioned item to POWERGRID projects with condition mentioned in special remarks.

Please note that further approval shall be considered based upon performance, quality, and supplies during this approval period. Manufacturer shall ensure that request for renewal of above approval should be submitted at least 1 month before expiry of this approval letter.

Contractor and Manufacturer shall be fully responsible for satisfactory performance of approved products. Please note that the items supplied shall meet the requirements of POWERGRID Specifications/ Approved Drawing/ Data Sheets/ QTP/MQP, relevant IEC/IS standards and project specific type tests. Manufacturer shall ensure that the above documents are available at the works so that proper inspection is carried out without delay. If, at any point of time, any abnormality is noticed in this regard, we reserve the right to increase our involvement by way of additional inspection and/or additional customer inspection points (CIP) at any stage or withdraw this approval with immediate effect.

Special Remarks: 1. Battery, isolating transformer and DCDB will be procured from POWERGRID approved source.
2. If Battery and DCDB is ordered along with UPS then battery and DCDB to be inspected at manufacturer works as stage CIP.

Note 1: "The ministry of MSME has launched the "Financial Support to MSMEs in ZED certification scheme" for benefit of MSMEs. MSMEs are requested to avail maximum benefits under the scheme. For more details on ZED, you may please visit this link- https://zed.msme.gov.in"
Note 2: Letter regarding- Non-Indulgence in Fraudulent / Unethical Practices attached.

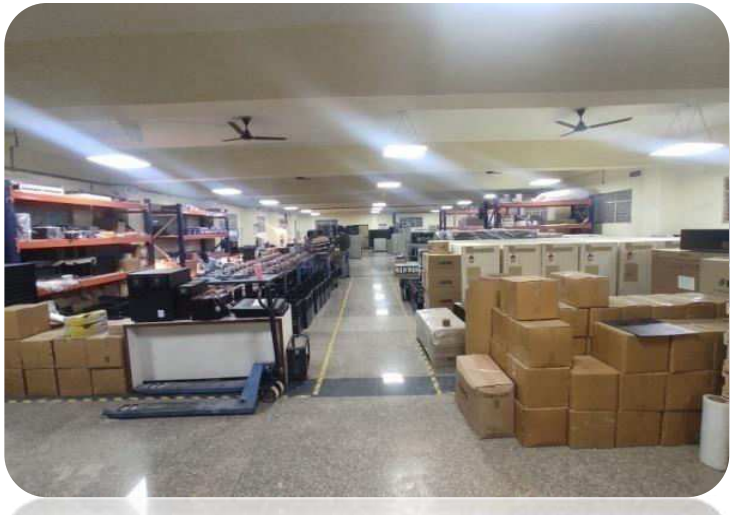
SUDIP NAG
(SUDIP NAG)
वरिष्ठ उप महाप्रबंधक (पु॰ आ॰ एवं नि॰)

प्रति: सम्बंधित निरीक्षण कार्यालय
Enclosure: As above

DCD Event (Mumbai) – 25th Nov. 2021

Representing BPE in DCD Event

Factory Infrastructure Development, Greater Noida



Front View

Tools

Sub Assembly Area

Factory Infrastructure Development

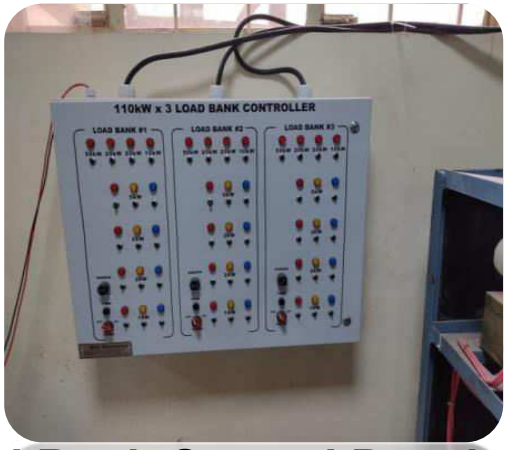
Cable Assembly Area

Cables Storage Rack

HV Testing Setup

Factory Infrastructure Development

Burn-In Testing Area



Load Bank Control Panel

Load Bank

Approvals from BPCL, IOCL, HPCL & PGCIL

Performance letters from customers

Circle Office:
Bharti Airtel Limited
1-8-437, 438, 364 & 445, Splendid Towers,
Opp. Begumpet Police Station,
HUDA Road, Begumpet,
Hyderabad - 500 016
Telangana

airtel

To whom so ever it may concern

This is to certify that, Best Power Equipments (I) Pvt Ltd has supplied and installed 2 X 80 KVA UPS at Bharti Airtel , Splendid Tower , Huda Road Hyderabad office, after replacement of old Emersion UPS.

BPE UPS is having big LCD of 7 inches which is very user friendly. We are happy with the Performance of the UPS also the services provided by BPE are good. We do not hesitate to recommend BPE to other customers.

Thanks & Regards

Authorized signatory

PSIT

PRANVEER SINGH INSTITUTE OF TECHNOLOGY

To,
M/s Best Power Equipment India Pvt. Ltd.
G-240, Sector-63, Noida
District-Gautam Buddh Nagar-201307

Kind Attnt- Mr. Ajitabh Dixit (AGM-Sales)

To Whomsoever It May Concern

This is to certify that M/s Best Power Equipment India Pvt. Limited had supplied BPE Make Modular UPS 02 Nos. - 210 KVA at PSIT, Bhauti Kanpur for our Data Centre through authorized partner. We are very much satisfied with the smooth executions with fast deliveries, product performance and services rendered by the BPE team.

We are pleased to recommend BPE UPS for any peculiar application without being prejudice and wish them all success for the their bright future.

Warm Regards

For Pranveer Singh Institute of Technology


BPS®
Strategic Power Solutions