



Liebert®

Hipulse

AC UPS SYSTEM,  
5 kVA - 800 kVA



## Applications

- Industrial Process Automation in areas like
  - Petrochemicals & Refineries
  - Oil & Gas
  - Power Generation & Transmission
  - Chemical And Pharmaceutical Industries
  - Primary Metal And Steel Industries
  - Pulp & Paper Industry
  - Other Process Industries Like Textile, Mining, Cement
  - Bio-Chemical Industries
  - Fertilizer Industry
- Transport Automation
  - Airport Automation
  - Others Including Railways & Road Transport Automation
- Other Applications
  - Access Control
  - Security System
  - Other Critical Application

## Application

- Manufacturing
- Pharmaceutical
- Textile
- Retail
- Power Generation
- T&D Oil and Gas
- Transportation
- Cement plants
- Steel Plants
- Chemical & Fertilizer

## *Ups for the digital world, Your power quality partner*

From reliability to availability, from scalability to redundancy, from user-friendliness to maintainability, from parallelibility to connectivity, from investment protection to lower cost of ownership, whichever value you need, HIPULSE address them efficiently and effectively. HIPULSE is carefully designed to maximize the “availability” of your critical loads to ensure that business is protected to the extent possible against power failure and / or power quality problems.

This is the Prime Objective for which the HIPULSE is built. Beside this, HIPULSE is designed to address many other “customer values”. More than ever before, this New Millennium would require your critical applications to these applications to be UP all the time. Any downtime of these applications will directly impact your business goals of revenue growth and your customer satisfaction.



## HIPULSE Out performs Conventional UPS Systems in Three Clear Ways

1. Proven Track Record
2. Uptime Availability
3. State-of-art Technology

HIPULSE has been designed to suit the Indian conditions after doing a “Power Mapping” Survey across India. It is time proven system working across India for Various Critical applications. We do not experiment at your cost. Hipulse UPS System is aesthetically designed to match the décor of Industrial Control, Data Processing, Medical Diagnostics Equipment, Laboratory rooms with Elegantly powder-coated cabinet.



### Salient Features

- DSP Based Controller
- Rated at 0.8 output power factor
- On-Line double conversion with IGBT based PWM Inverter
- Wide input voltage tolerance (+/-15%)
- Wide input frequency tolerance (+/-6%)
- Automatic battery testing
- High overload capability of static bypass (14 times for 10 milliseconds and 10 times for 100 milliseconds)
- Ingress protection IP 31/ IP32/ IP 41 / IP 42
- Capability to handle:
  - High crest factor loads at 100% non-linear loads
- Built-in maintenance bypass (Single and 1+N Models)
- Front access for spares replacement and preventive Maintenance
- Provision to use any type of battery: Wet cells (Tubular Plante), Valve Regulated Lead Acid (VRLA) / Maintenance Free and Nickel Cadmium.
- Adjustable Frequency Synchronization with Static Bypass
- Provision of automatic battery circuit breaker instead of using conventional isolator in the DC path

- Advance Battery Management
- Selectable Timer for boost charging
- Overload capability of the UPS:
  - 110% full-load for 60 minutes
  - 125% full-load for 10 minutes
  - 135%-150% full-load for 60 Sec
- Field Protocols ModBus
- Compact footprint
- Fan Redundancy
- Parallelibility: Up to 6 module can be parallel for capacity enhancement / redundancy.

### Meeting Protection Needs

- Temperature-compensated battery charging (Optional)
- Common Battery Sharing / Battery
- Circuit Breaker
- Short-circuit proof inverter
- Input Harmonic Filter (Optional)
- Protection against deep discharge of battery
- Auto online battery testing
- Battery Earth Fault Kit
- Back-feed Protection

### Selectable Options

- Field settability of end-cell voltage of the battery
- Choice between Various Harmonic Filters
- 6 / 12 Pulse Rectifier
- Potential Free Contacts
- Bypass Options:
  - Servo Controlled Voltage Stabilizer (SCVS)
  - Static Voltage Regulator (SVR)
- Load Bus Synchronization
- Input Isolation Transformer
  - Compatible with Liebert AF, the Active Harmonic Filter
  - Available for rectifier and / or bypass supply
- SPD (Surge Protection Device)
  - This offers protection from damaging transients and electrical line noises
- V-Connected Transformers.
- Fault Diagnostic Unit (PPVIS)
- AC Distribution Board
- Liebert Static Transfer Switch
  - This allows critical load to be transferred between two independent, synchronized AC power sources without any risk of load disturbances
  - This allows automatic transfer of load between the two sources

## *Advanced Monitoring and Communications Capabilities Keep you in Control*

### **Power Communication Options**

When choosing the best system to protect your mission critical applications, an important consideration would be the software and communication options. As part of our commitment to provide the best solution for you, we offer a wide range of sophisticated software and communication options for Hipulse.

### **Communication Options**

- **Fault Diagnostics Unit**  
- to meet the needs of Continuous Supervision of UPS Operation, Data Logging on a work station.
- **MODBUS over RTU**
- **Programmable Potential Free Relays**
- **Liebert® Power Monitoring Capabilities:**  
- Fault Diagnostics Unit. (PPVIS)

### **OPTIONAL**



## Hipulse 1 ph (230 Vac) UPS System

Nominal Rating [kVA] (0.8)	5 - 20	25 - 40	50 - 60	70 - 90	100 - 130	150 - 160	200 - 250
kW at 0.8 P.F to unity P.F.	4 - 16	20 - 32	40 - 48	56 - 72	80 - 104	120 - 128	160 - 200
O/P Voltage	230 Vac (+/-5% Window settable)						
Rectifier Type	6p / 12p						
<b>Construction</b>							
Degree of Protection for Enclosure	IP 31 Standard (Optional : IP 32 / IP 41 / IP 42)						
Ventilation	Air Forced Cooling with Integral Fans						
Cable Entry	Bottom						
Cabinet Finish	RAL 7035 Light Grey (Other color shades available on demand)						
<b>Input</b>							
Voltage	380 / 400 / 415 / (+15% / -15%) 3 ph - 3 wire						
Frequency	50 or 60 Hz +/-5%						
THDi	Up to 10% with Input Filter (Optional)						
Power Factor	0.8-0.95 @ with Input Filter (Optional)						
<b>Bypass</b>							
Voltage	230 Vac						
Input Voltage Variation	+/-10%						
Frequency	50Hz						
<b>DC Intermediate Circuit</b>							
DC Ripple	< = 2% without battery / 1% with battery						
DC Nominal Voltage	384 V / 396 V / 408 V (For 380/400/415 Vac input)						
Battery Availability	Ni-Cd / Wet-Acid / VRLA 2V / SMF 12 V						
<b>Output</b>							
Voltage	230 Vac- 1 ph						
Voltage Stability Steady State	+/- 2 %						
100% Load Step	+/- 5%						
Recovery Time (to within 1% nominal)	<20ms						
Voltage Distortion	<=2%						
Voltage Distortion Non-Linear Load (3:1 Crest Factor)	<=5%						
Frequency	50 or 60 Hz						
Frequency Stability Synchronized with the Bypass Supply	+/- 1Hz						
Auto-Synchronized	+/- 0.1%						
Overload Capacity from Inverter at Nominal Voltage	110% for 60 mins., 125% for 10 mins., 135-150% for 1 min.						
Short circuit current from inverter	1.5 X In for 5 Sec (In accordance with EN50091-1-1)						
<b>Environment</b>							
Operating Temperature	0 to 40°C**						
Storage Temperature	-25°C to 70°C						
Relative Humidity	90% non-condensing type at 31°C						
Maximum Operating Altitude without Derating	1000 meters from MSL						
Acoustic Noise at 1 Meter from Panel Front	57 to 75 dBA (Depending on the kVA rating)						

\* Dimensions will be available on Demand

\*\* Standard Ratings also available for Ambient Temperature up to 50 °C

# All specification are subject to change without notification in view of continuous improvement in product specification, design and engineering.

@ Nominal Operating Condition

### Hipulse 1 ph (110 Vac) UPS System

Nominal Rating [kVA] (0.8)	5 - 20	25 - 40	50 - 60	70 - 90	100 - 130	150 - 160	200 - 250
kW at 0.8 P.F to unity P.F.	4 - 16	20 - 32	40 - 48	56 - 72	80 - 104	120 - 128	160 - 200

O/P Voltage 110 Vac (+/-5% Window settable)

Rectifier Type 6p / 12p

#### Construction

Degree of Protection for Enclosure IP 31 Standard (Optional : IP 32 / IP 41 / IP 42)

Ventilation Air Forced Cooling with Integral Fans

Cable Entry Bottom

Cabinet Finish RAL 7035 Light Grey (Other color shades available on demand)

#### Input

Voltage 380 / 400 / 415 / (+15% / -15%) 3 ph - 3 wire

Frequency 50 or 60 Hz +/-5%

THDi Up To 10% with Input Filter (Optional)

Power Factor 0.8-0.95 @ with Input Filter (Optional)

#### Bypass

Voltage 110 Vac

Input Voltage Variation +/-10%

Frequency 50Hz

#### DC Intermediate Circuit

DC Ripple <= 2% without battery / 1% with battery

DC Nominal Voltage 384 V / 396 V / 408 V (For 380/400/415 Vac input)

Battery Availability Ni-Cd / Wet-Acid / VRLA 2V / SMF 12 V

#### Output

Voltage 110Vac- 1 ph

Voltage Stability Steady State +/- 1%

100% Load Step +/- 5%

Recovery Time (to within 1% nominal) <20ms

Voltage Distortion <=2%

Voltage Distortion Non-Linear Load (3:1 Crest Factor) <=5%

Frequency 50 or 60 Hz

Frequency Stability Synchronized with the Bypass Supply +/- 1Hz

Auto-Synchronized +/- 0.1%

Overload Capacity from Inverter at Nominal Voltage 110% for 60 mins., 125% for 10 mins., 135-150% for 1 min.

Short circuit current from inverter 1.5 X In for 5 Sec (In accordance with EN50091-1-1)

#### Environment

Operating Temperature 0 to 40°C\*\*

Storage Temperature -25°C to 70°C

Relative Humidity 90% non-condensing type at 31°C

Maximum Operating Altitude without Derating 1000 meters from MSL

Acoustic Noise at 1 Meter from Panel Front 57 to 75 dBA (Depending on the kVA rating)

\* Dimensions will be available on Demand

\*\* Standard Ratings also available for Ambient Temperature up to 50°C

# All specification are subject to change without notification in view of continuous improvement in product specification, design and engineering.

@ Nominal Operating Condition

## Hipulse 3 ph (415 Vac) UPS System

Nominal Rating [kVA] (0.8)	30 - 60	80 - 90	100 - 130	150 - 160	200 - 250	300	400	500	600	800	
kW at 0.8 P.F to unity P.F.	24 - 48	64 - 72	80 - 104	120 - 128	160 - 200	240	320	400	480	640	
O/P Voltage	380/400/415* (400V: Nominal) 3-phase +N, 4-wire										
Rectifier Type	6P			6P/12P			12P				
<b>Construction</b>											
Degree of Protection for Enclosure	IP 20 Standard (Optional: IP 31 / IP 42)										
Ventilation	Air Forced Cooling with Integral Fans										
Cable Entry	Bottom										
Cabinet Finish	RAL 7035 (Other color shades available on demand)										
<b>Input</b>											
Voltage	380/400/415* (400V: Nominal) 3-phase +N, 4-wire										
Frequency	50 or 60 Hz (±5%)										
THDi	Upto 10% with Input Filter (Optional)										
Power Factor	0.88-0.9 @ with input Filter (Optional)										
<b>Bypass</b>											
Voltage	380/400/415* (400V: Nominal) 3-phase +N, 4-wire										
Input Voltage Variation	± 10%										
Frequency	50 Hz										
<b>DC Intermediate Circuit</b>											
DC Ripple	≤2% without battery / 1% with battery										
DC Nominal Voltage	384V/396V/408V (For 380/400/415Vac input)										
Battery Availability	Ni-Cd/Wet Acid/VRLA 2V/SMF 12V										
<b>Output</b>											
Voltage	380/400/415* (400V: Nominal) 3-phase +N, 4-wire										
Voltage Stability Steady State	±1%										
100% Load Step	±5%										
Recovery Time (to within 1% nominal)	20ms										
Voltage Distortion Linear Load	≤2%										
Voltage Distortion Non-Linear Load (3:1 Crest Factor)	≤5%							≤3.5%			
Frequency	50 or 60 Hz										
Frequency Stability Synchronized with the Bypass Supply	±3 Hz										
Auto-Synchronized	±0.1%										
Overload Capacity from Inverter at Nominal Voltage	110% for 60 mins, 125% for 10 mins, 150% for 1 min										
Short circuit current from Inverter	1.5 X In for 5 Sec (in accordance with EN 50091 -1 -1)										
<b>Environment</b>											
Operating Temperature	0 to 40°C										
Storage Temperature	-25°C to 70°C										
Relative Humidity	90% non-condensing type at 31°C										
Maximum Operating Altitude without Derating	1000 m from MSL										
Acoustic Noise at 1 Meter from Panel Front	57 to 75 dBA (Depending on the kVA rating)										

\* Dimensions may vary according to project requirements  
@ Nominal Operating Conditions



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