VERTIV.™

Liebert®

Hipulse-U™ UPS

80kVA - 500kVA

Utmost Reliable Power Solution for Critical Business Applications

WE ARE VERTIV

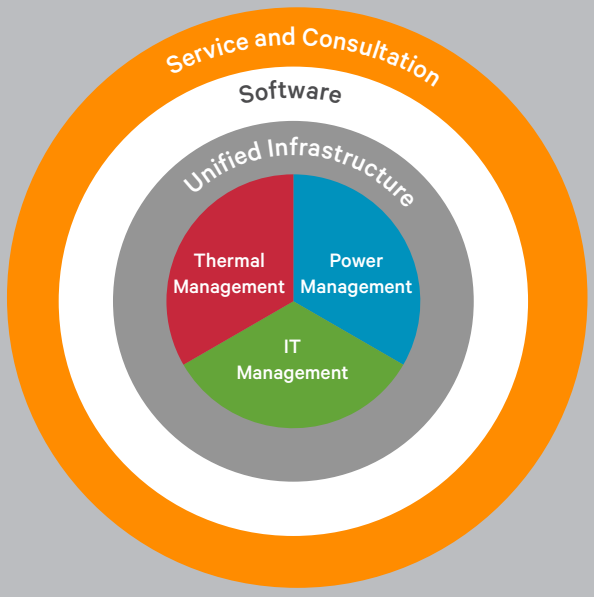
Vertiv, formerly Emerson Network Power, designs, builds and services mission critical technologies that enable vital applications for data centers, communication networks, and commercial and industrial environments

We support today's growing mobile and cloud computing markets with our portfolio of power, thermal and infrastructure management products, software and solutions, all complemented by our global service network.

We help strengthen the world's most vital applications by bringing together global reach and local knowledge, and our decades-long heritage including brands like ASCO®, Chloride®, Liebert®, NetSure™ and Trellis™.

Vertiv
Your Vision, our Passion

With a unique combination of industry expertise, technology and resources, our mission is to support and power mission-critical technologies that drive possibility.



ASCO®

Our global critical power switching, control, and management solutions, engineered to the most demanding specifications, ensures power, reliability, compliance and

Chloride ®

Our global industrial power solutions meet the most demanding technical specifications and provide safe, reliable power- no matter the challenge

NetSure ™

Our global intelligently engineered DC power systems deliver high availability, energy efficiency and scalability for converged networks

Liebert ®

Our global power and thermal management solutions are some of the world's most efficient and reliable power and cooling technologies

Trellis ™

Our industry-leading software gives customers an integrated view of operations across IT and facilities resources, enabling better decisions that save time and money

The Liebert® Hipulse-U™ offers a reliable, scalable and user-friendly solution to ensure availability of various critical applications. The Liebert® Hipulse-U™ offers protection to your investment, and provide lower cost of ownership through its digital architecture and range of options which you can customize specifically for your needs.

Information Technology

Large Internet Data centers
Coloration Facilities
Server Farms
Internet Service Providers

Telecommunication

Mobile (3G,4G)
Fixed (including WLL)
MSC, BSC centers

Industrial Automation

Process Control Equipment
Motion (digital drives and robotics)
Transport Automation
Airport automation
Railways and Road transport automation and ticket booking

Corporate Parks

Banking, Insurance and Financial Services.
Credit Card Operation
Stock Exchange Operation
Software Development Houses/Software Technology Parks
BPO/KPO/EPO Operation

Building Automation

Access Control
Security System
Fire Alarm System

Medical Diagnostics

Magneto Resonant Imaging
CT Scanning/Cath Lab
Multiple medical imaging units

Satellite

Uplinking
Earth Stations
Broadcasting & Entertainment

Feature-Loaded UPS

We have studied the emerging needs of our customers and have engineered what we have learned into the new, upgraded Liebert® Hipulse-U™. Now it offers you more value and power per square meter. You will find that the Liebert® Hipulse-U™ offers unique features that address the needs of you business today and is designed to handle the needs that are anticipated in the future.

Built Investment Protection

- Automatic battery testing
- Field settability of EOD of the battery
- Selectable times for boost charging duration of the battery (15 steps with each step of 1 hour)
- Protection against deep discharge of battery
- Short-circuit proof inverter
- Back-feed protection
- D-level lightning protection
- With 3 auxiliary power supply to ensure redundancy under any condition
- Standard dry contacts
- Choice between 6 or 12 pulse rectifier for 120kVA to 500kVA capacity range
- Choice of array of input harmonic filter options
- Temperature-compensated battery charging (optional)

Features To Protect Your Network

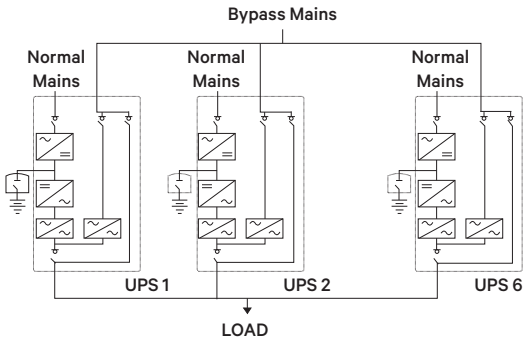
- Fully Digital, twin DSP controlled
- Rated at 0.9 output power factor to deliver more active power
- Handle leading power factor loads without KW derating under specified conditions
- On-Line Double Conversion IGBT-based PWM Inverter
- Wide input voltage tolerance(+20/-20%)
- Wide input frequency range of 45Hz to 65Hz
- High overload capability of static bypass (14 times for 10 milliseconds and 10 times for 100 milliseconds)
- Capability to handle:
  - High crest factor loads
  - 100% non-linear loads
  - 100% unbalanced loads
- Built-in maintenance bypass
- Front access for spares replacement and preventive maintenance
- Easy Dual bus configuration architecture
- Adjustable frequency synchronization window up to 6% in the static bypass
- Field protocols ModBus / Jbus
- Network protocols SNMP
- Overload capability of the UPS:
  - 110% Ful load for 60 minutes
  - 125% full load for 10 minutes
  - 150% full load for 1 minutes
- Compact footprint

Selected Configurations

Hipulse U is scalable to maximum 6 units using any of the following configurations to achieve either scalability or redundancy of desired percentage

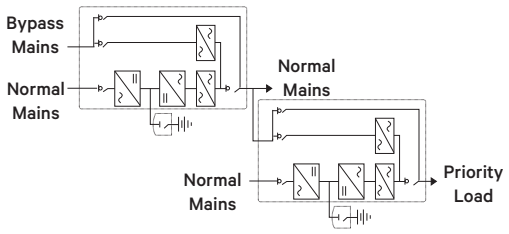
1+N Configuration with distributed bypass System

- Up to six units in parallel
- 1+N configuration without any kind of centralized static switch
- Augment the system reliability Increase the availability of quality power following the load demand even if it was not forecasted or planned at the beginning of the project: ease of techno-ecnonmic expandability
- Enhanced the maintainability
- The total load is less than or equal to the rating of the single UPS (depending on the desired redundancy level) and is shared among all units



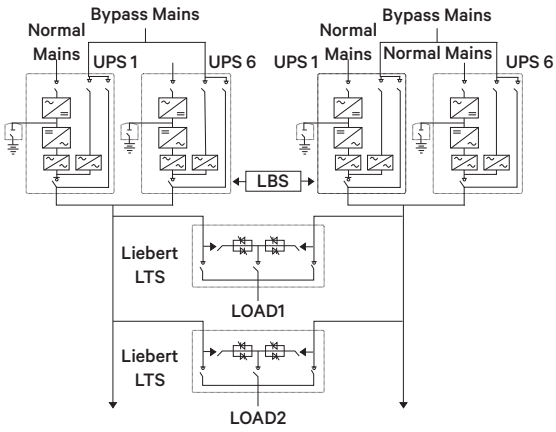
Hot Stand-by Configuration

- Feed one (Priority) or two (Priority and Normal load banks depending on the application need
- Increase the reliability of the priority load
- Enhanced the maintainability and reliability
- Easy connection
- Can be implemented in the existing installation regardless of the UPS size, manufacturer & its control.



Dual Bus System with Liebert® LTS, STS2 or Hiswitch2

- Provide supply to the loads from two independent power sources
- Synchronizes the output of two independent bus
- Automatic transfer of the load between the two sources in case of fault using Liebert® LTS
- Increase dramatically the maintainability and reliability



Liebert® Hipulse U™ Accessories

Intelligent Paralleling

- Intended to increase system efficiency and to reduce the operating hours on the UPS
- This feature will put one or more paralleled units into standby operation when number of redundant modules is above the user-specfied threshold

Liebert® Active Filter

- Optional super filter to reduce THDi to <5% and improve input PF up to 0.93 without additional system footprint.

Isolation Transformer

- Additional transformer for output or bypass supply depending on application

Rectifier or Bypass supply

- This allows UPS to be configured in Single or Dual Main supply to ensure system adaptability and reliability

DC Ground Fault Indications

- This provides indication of occurrence of battery ground fault problems

Protection Degree (IP)

- To address stressed environmental conditions, Hipulse-U UPS with higher than IP 20 degree of protection can be made available for most of the kVA ratings

Top Cable Entry

- Available for a wide range of our Hipulse-U ratings

Load Bus Synchronisation (LBS)

- Ensures the synchronisation of outputs of two independent UPS systems to form Dual Bus Architecture for High availability of Critical BUS

Liebert® LTS, STS2 or Hiswitch2

- This allows critical load to be automatically transferred between two independent , synchronized AC power sources without any risk of load disturbances

TVSS (Transient Voltage Surge Suppressor)

- This offers protection from damaging transients and electrical line noises
- This is normally connected at the bypass path of Hipulse-U or inside the Static Transfer Switch as an optional item

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-u.

- Control through Building Management Systems via Modbus and Jbus protocols
- Web-enabled Monitoring and Management through SNMP protocols
- Network Management Systems ready (HP OpenView, CA Unicenter, Novell Managewise, etc)
- Software Solutions
  - Site Monitor Software
  - Facility wide monitoring by SiteScan
  - Shutdown software for your computer

Specifications

Nominal Ratings(kVA/kW)	80	100	120		160		200		300		400		500
Rectifier Type	**6P**	**6P**	**6P**	**12P**	**6P**	**12P**	**6P**	**12P**	**6P**	**12P**	**6P**	**12P**	**12P**
Input													
Nominal input voltage	380/400/415Vac 4-wire plus ground												
Input voltage range	290 to 498Vac												
Nominal input frequency	50/60Hz												
Input frequency range	40-70Hz												
Input current distortion with linear load (with filter)	3 to 10% with optional filter												
Power factor (with filter)	0.88 to 0.97 with optional filter												
Output													
Nominal output voltage	380/400/415Vac 4-wire plus ground												
Frequency													
Voltage stability	±1% (Steady state); ±5% (Transient state)												
Transient recovery time	20 milliseconds (mac)												
Frequency stability	±0.1% (Synchronized with internal clock); ±6% (max)(Synchronized with bypass)												
Overload capability	105%, 60minutes; 125%,10minutes; 150%, 1 minutes; >150%,<200 millisecond												
Voltage distortion with linear load	<1%												
Voltage distortion with 100% Non- linear load	<5%				<3.5%								
Permissible load unbalance	100%												
Non linear load capability	100%												
Load handing capability without kVA derating	0.5 lagging to 0.9 leading												
Phase angle displacement accuracy — 100% balanced load	±1°												
Phase angle displacement accuracy — 100% unbalanced load	±1°												
Dimensions and weight													
Depth (mm)	855												
Width (mm)	900		1540		1250	1640	1240	1740	1640		2280		2640
Height (mm)	1900												
Weight(kg)	900		1400		1200	1750	1200	1850	1600	2550	2200		2900
General													
General and safety requirements for UPS	IEC 62040-1												
EMC requirements for UPS	IEC 62040-2												
UPS classification according to CENIEN 6240-3	VFI-SS-111												

**Conditions apply*
Specifications are subject to change without any prior notification

VertivCo.com |