VERTIV.

Liebert®

Hipulse D

5kVA-160kVA 3P-1P

10kVA-250kVA 3P-3P

Liebert® Hipulse D

Industrial AC UPS 5 – 160kVA

Features

- Fully digital UPS solution for industrial applications
- Robust design ensure high reliability features
- User-friendly display
- Design and temperature features for industrial
- Zero Transfer time
- Galvanic isolation features
- State of Art Mechanical Assembly design for ease of Maintenance
- Parallel redundant configuration
- Fully customizable
- External communication capabilities
- Customized Designs to suit IP protection requirements

Application

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

Feature-rich Industrial AC UPS system embedded with the latest technologies for optimal power protection and reliability

The Liebert® Hipulse D is an Industrial AC UPS system which is designed to meet a wide array of mission critical continuity needs in an industrial environment. It is embedded with the latest technologies available in the market today to provide your business maximum power protection even in the harshest conditions.

A fully digital Industrial UPS system

- Easy System configuration through software for on-site modification and retrofitting needs State of the art SPWM Technology with digital control ensure low electrical noise for the loads/ appliances a fast transient response
- Better voltage regulation
- Low total harmonic distortion
- (THD) Easy navigation
- Event log for analysis of fault occurence and easier maintenance
- Hipulse D-3X1- Input, Battery , Output, Bypass per Group 170, i.e. total 680 event logs; In Hipulse D-3X3 254 event logs
- Push button system control
- 2 lines of 20 characters display
- English & Chinese language display

** Note : N=1 for 3X1, N=2 for 3x3*

Robust mechanical design for easy maintenance

- State of art front access for a more efficient maintenance
- If necessary, side and rear panels are removable Fan replacement from front or top
- Easy access to Thyristors, IGBTs & PCBs

International standards compliant

- IEC / EN 62040 – 1 : Safety
- IEC / EN 62040 – 2 : Electromagnetic compatibility
- IEC / EN 62040 – 3 : Performance & testing
- ISO 9001:2015 : Quality System

High reliability features

- 15 to 20 years product lifespan, supported by recommend preventive maintenance

Design & temperature

- Suitable for operation at higher ambient temperature
- Improved thermal design with ventilation ensures improve in MTBF of the components

Galvanic isolation features

- Any mains disturbance will not be transferred to the DC circuit or to the output
- Load remains safe all the time irrespective of switching/ transient in the Mains and sudden other output load changes in the O/P ACBD
- Double conversion topology provides clean and reliable power

Connectivity Options

- UPS MON-II (RS232 or ETHERNET based)
- SNMP (RJ45)
- MODBUS (RS 485)
- ETHERNET based remote monitoring (i-REMOTE)
- For all UPS

Transfer time

- Safe transfer to bypass, without a break for the connected load
- 0 s when synchronized on reserve
- <10 ms transfer time in Async mode

Parallel redundant configuration

- *N+1 Units can be paralleled
- Immediate communication between the paralleled systems after connection
- No single point of failure
- Active load sharing

Customization Capability

- Customized UPS configurations
- offered at pre-sales stage
- Fully custom built options meet required output power, voltage levels as well as available input power and voltage quality levels
- Customer requirements like color, protection, PFC etc.
- Customized accessories like ACDB, SCVS, Cell Booster
- Option of input passive filter for PF & THDi improvement
- Battery charging requirements
- Extended temperature up to 50^{0}C
- Seismic qualification

Liebert® Hipulse D

Industrial AC UPS 5 – 160kVA

Technical Specifications

MODEL	STANDARD OFFERINGS	OPTIONAL
INPUT		
Nominal Voltage	415 V AC, 3 Phase, 3 wire (+10 %, -20 %)	220 V AC 3 Phase, 3 wire (+ 10 % , -15 %)
Nominal Frequency	50 Hz (± 10 %)	60 Hz (± 6 %)
Input Power factor	>=0.88 up to 7.5 kVA and >=0.92 for 10 kVA and above	≥ 0.94
Input Fault Level	10 kA	• 50kA (MCCB), 70kA (MCCB) Input Isolation Transformer
RECTIFIER		
Type	Full Wave, A-PFC Rectifier	12 Pulse, above 20 kVA Rating
CHARGER		
Type	• IGBT based Dual mode of charging • Suitable to charge VRLA-SMF, Lead Acid, Ni-Cd, Li-Ion battery.	
Nominal Voltage Regulation	± 1 %	
Ripple (without Battery)	< 2 %	
Charging Method	Constant Voltage Constant Current (CVCC) Auto & Manual with 0 to 24 Hr programmable timer	
BATTERY		
Battery Voltage	• 240 VDC for 5 to 15 kVA (114 to 132 cells for Lead Acid & 181 to 210 cells for Ni-cd) • 300 VDC for 20 kVA (144 to 162 cells for Lead Acid & 229 to 248 cells for Ni-cd) • 360 VDC for 30-120 kVA (174 to 192 cells for Lead Acid & 277 to 305 cells for Ni-cd) Note : +2 Blocks of 12 V and -1 Block of 12V possible	• 110 VDC (5-15 kVA UPS) (54 to 67 cells for Lead Acid & 86 to 96 cells for Ni-cd) • 220 VDC (20-120 kVA UPS) (108 to 122 cells for Lead Acid & 172 to 191 cells for Ni-cd)
Type	Ni-Cd / Tubular / Li-Ion / VRLA	
Battery Charging Capacity (w/o Input Isolation Transformer)	KVA / 1P / 3P 5 to 10 / 15A / 20A 15 to 20 / 20A / 20A 30 to 40 / 30A / 40A 50 & 80 / 40A / 40A 60 / 40A / 40A 100 to 160 / 40A / 40A	2 to 20 kVA — 40 A at 110 VDC 2 to 20 kVA — 20 A at 220 VDC 25 to 80 kVA — 60 A at 220 VDC
Protection	Battery Breaker	Reverse Battery Indication, Reverse Battery protection & Indication
OUTPUT		
Nominal Voltage Load PF Support Capacity	220V / 230V / 240V AC 1P & 400 / 415V AC 3P 0.6 to Unity (within its kVA / kW rating)	110 / 115 / 120 V AC 1P & 380V AC 3P
Voltage Regulation	± 1 % for 230 VAC 1P ±1% for 3P (Balance load), ±2% for 3P (Unbalance load)	± 2 % for 110 VAC, 1P
Frequency	50 Hz (± 0.1 Hz) in Free Running Mode ± 5 % (± 1 to 5 % adjustable) in Synchronous mode	60 Hz (± 0.1 Hz)
Waveform	True Sine Wave	
Total Harmonic Distortion	< 2 % Max. for 100 % Linear Load < 5 % Max. for 100 % Non-Linear Load (IEC 62040–3)	
Overload Capacity	110 % for 60 min, 125 % for 10 min. , 150 % for 1 min	
Duty	Continuous	
Inverter Philosophy	IGBT based PWM with INSTANTANEOUS sine wave control	
Dynamic Response	For 0 to 100 % step load change, the output shall remain within ± 5 % and recover to 98 % within 1 cycle (<3 cycles for parallel redundant system) (IEC 62040–3, Class 1)	
Crest Factor	3 : 1	

Technical Specifications

MODEL	STANDARD OFFERINGS	OPTIONAL
STATIC SWITCH		
Frequency Synchronisation	± 2.5 Hz	Frequency band selection with the step of +/- 0.5Hz [Max upto +/- 2.5Hz]
Slew Rate	0.2 Hz/Sec	
Transfer (Inverter to Bypass)	In Sync mode – No break in transfer In ASync mode – < 10 ms	
Re-transfer (Bypass to Inverter)	In Sync mode – No break in re-transfer In ASync mode – Not applicable	
Overload Capacity	1000 % for 100 ms	
Manual Bypass Operation	Make Before Break	
System Configuration	Standalone	Parallel Redundant, Hot Stand by
PHYSICAL		
Enclosure Protection	IP41, IP42	
Colour	RAL 7035 Structure Finish	RAL 7021 / RAL 7032 / IS 5 – 631/ RAL 9001 Structure or as per customer requirement
Paint Thickness & Type	90 micron (± 10 micron) Epoxy Powder Coated	
Cooling	Forced Air	
Cable Entry	Bottom	Top
Wound Components	Class of Insulation – Class H (Transformer / Inductor)	
GENERAL SPECIFICATIONS		
Operating Temperature	0 to 45^{0}C (5-20 kVA) 0 to 40^{0}C (30-120 kVA)	Up to 50^{0}C
Relative Humidity	0 to 95 % (Non-condensing)	
Storage Temperature	0 to 60^0 C	
Utility Socket	230 V / 5 A	
Illumination Lamp	11 W CFL	Space Heaters
Earth Busbar (Ref.IS 3043)	Make Before Break 5-20 kVA: 3 x 25 mm CU 3 x 25 mm CU 30-40 kVA: 3 x 25 mm CU 3 x 25 mm CU (Earth bus bar running along the panel)	50-120 kVA: 6 x 50 mm copper (Earth bus bar running along the panel)
PFCs	One relay contact for each (Rating 250 VAC , 1 A)	PFC with 250 V , 2 A / 6 A rating (6 Nos)
Transducer		Transducer 4 to 20 mA
UPS Monitoring Software	UPSMON II	UPSMON II or SNMP or i Remote (Only one option can be given)
Connectivity	RS 232 / RS 485	Ethernet or MODBUS RS485 or Profibus or Profinet or MODBUS TCPIP (Only one option can be given)

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