

The ultimate in clean power

NUMERIC[®]

Digital HP E Series

Net Ready On-Line Double
Conversion, High Performance UPS
Systems with Advanced DSP technology

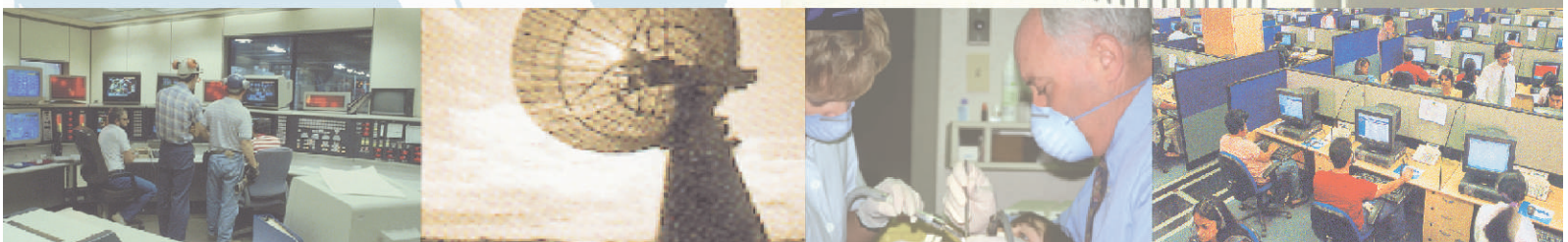
FEATURES

- Advanced Digital Signal Processor(DSP) /
Microprocessor Design
 - SPWM Technology with IGBTs
 - Wide Input Voltage Range
- Active Power Factor Correction - Input P.F> 0.96
 - High Efficiency
- Compact Design to Suit the Interiors
- Easy Installation, Simple Operation
- Versatile Communication Options
 - SNMP Interface
 - Web Enabled Monitoring
- Parallel Redundant Configuration



NUMERIC - No .1 UPS Manufacturer in India*

(*Source: Softdisk)



NUMERIC Digital HP E Series

NUMERIC Power Systems Ltd, the No.1 On-line UPS Manufacturing Company in India* with more than 25 years of experience in the Design and Manufacture of UPS systems, offers state-of-art DSP Controller based NUMERIC Digital HP E Series UPS systems. Today, as business applications are based on Technology solutions and sophisticated hardware, the need for Power protection systems providing impeccable power quality with high reliability and availability becomes extremely vital. This is especially for critical enterprise networking applications, Internet servers, VSAT Communication Networks & Switching Equipment, Networks, Process Control, Telecommunication, Life Saving Medical applications and such other applications where system availability cannot be compromised. The Digital HP E Series UPS systems effectively address these applications with unmatched reliability, power quality, availability and electrical efficiency.

*Source: Softdisk

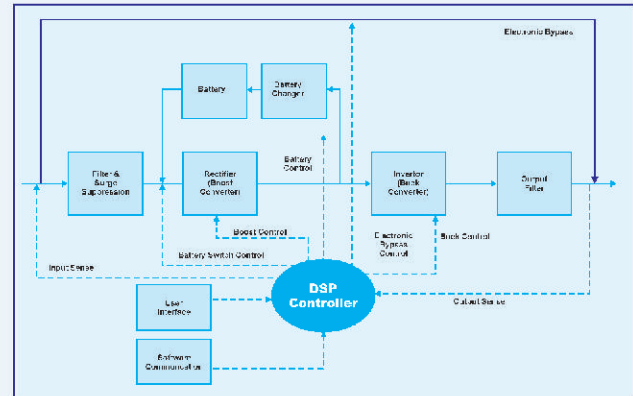


On-Line Double Conversion with Advanced Digital Signal Processor Technology

Most of the malfunctions in electronic equipment and sophisticated circuits are directly attributed to power aberrations like voltage fluctuations, sags, surges, spikes, transients, RFI, frequency variations, interruptions, brown outs, black outs etc. The continuous double conversion process employed in Numeric Digital HP E Series corrects the effect of such electrical aberrations in the input, thereby providing continuous and fail safe protection to the installations that are critical to the business. By means of innovative software control programs, the complicated hardware circuitry, inlaid in powerful DSP in the Digital HP E Series facilitates high reliability of the system.

Digital Signal processing is the enabling technology, for high power quality and efficient UPS design requirement for critical enterprise applications. The Digital HP E Series UPS system integrates a DSP controller to manage the vital controls in the UPS system. Since the DSP feedback and control loops are implemented digitally, compensation for component tolerances and temperature variations of feedback elements are no longer necessary. Hence, the UPS systems provide greater immunity to noise, and thereby increasing the overall reliability.

The DSP controller in the Digital HP E Series simultaneously controls multiple power converters to optimize system efficiency and performance characteristics, including advanced battery management for extended battery life, improved output voltage regulation, enhanced bypass capability and communication with networks and other equipment. The Digital HP E Series is smaller, lighter and more reliable.

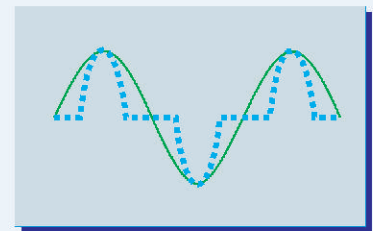


Wide Frequency Synchronisation Range

Frequent transfers to battery mode or power interruptions to the loads, caused by the constraint of the UPS to transfer load from Inverter to the bypass due to narrow Frequency Synchronisation range, is overcome by the Wide Frequency Synchronisation Range 46 Hz to 54 Hz in the NUMERIC Digital HP E Series, providing improved battery life and greater reliability of the UPS system.

Active Power Factor Correction

The power factor of the Input current reaches over 0.96 through the built-in active power factor correction circuitry. It prevents any decrease of the power quality and loss of kW component. This also limits the load generated harmonics from being reflected back into the line sources.



Low Losses - High Efficiency

The DSP Controlled High Frequency SPWM Technology with IGBTs (voltage-controlled devices with high input impedance & consequent low drive requirement) in the NUMERIC Digital HP E Series, ensures Lower Switching Losses, Higher Efficiency (> 90%) resulting in considerable savings in the running cost of the equipment by reducing the energy bills.

User-Friendly Front Panel



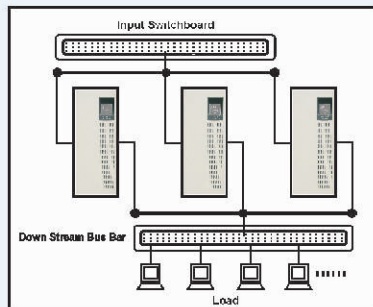
The front panel displays a set of informative LED Indicators along with a Mimic display for parameters such as Mains ON, Inverter ON / OFF / Faulty, Battery level, Static bypass ON, Load level and alarms for Low Battery and Mains Failure. Touch key Control Switches for Power OFF and Power ON / Alarm Silence make the Operation highly user friendly.

Comprehensive Protection

In addition to the total protection offered by the On-Line Double Conversion design (employed in the Digital HP E Series UPS System) additional protection is available in the form of Galvanic Isolation. The Static Bypass Switch available in the UPS System enables transfer of load to the Bypass AC input without interruption in the event of any contingencies. NUMERIC also offers bypass line conditioners such as Isolation Transformers and Servo stabilizers to enhance availability of the UPS System.

Parallel Redundant Configuration

Numeric Digital HP E Series are designed with "N+1" modules, allowing redundancy for high availability and power extension for increase in loads. In a typical parallel redundant configuration individual



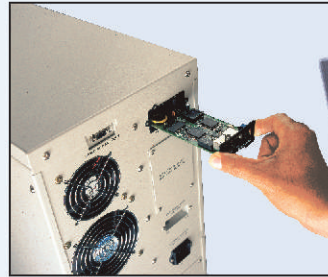
UPS systems of equal capacities are paralleled together to several larger load that could be served individually.

Compact Design (Floor Mount / Rack Mount)

The advanced technology of NUMERIC Digital HP E Series UPS systems makes it very compact in design. The floor mount models occupy minimum footprint and there by save considerable floor space. Rack Mountable option is available in 5 to 10kVA (Single Phase Input) ratings.



Communication & Remote Monitoring



NUMERIC Digital HP E Series offers a variety of communication solutions

and accessories for remote control and supervision of UPS. The standard feature of RS232 port and software enables the users to supervise the UPS while working on platforms such as Windows 98 / 2000 / 2003 / XP / Vista / Windows NT / LINUX. The SNMP Communication option facilitates remote monitoring of the UPS in computer networks with TCP/IP address. The SNMP communication option offers web-enabled monitoring of the critical parameters of the UPS from any part of the world through internet.

Highest Uptime - Better Availability

Customer delight has always been the catalyst in the success of NUMERIC and the highest uptime is guaranteed by the nation-wide presence of NUMERIC's 13 Regional offices and 220 service centers supported by over 1000 dedicated sales & support team. The emphasis lies in building relationship and this is evident from the huge base of over 4,00,000 installations of NUMERIC UPS systems across the country and the high level of gratification expressed by the clientele through continued patronage. A pioneer in the field of power conditioning equipment, NUMERIC is the one-stop solution provider for all your power conditioning needs.

NUMERIC GLOBAL NETWORK



● NUMERIC WORLD WIDE OPERATION
● NUMERIC GLOBAL INSTALLATION BASE

Technical Specifications

NUMERIC®

Digital HP E Series

	Single Phase Input - Single Phase Output				Three Phase Input - Single Phase Output			
UPS Rating kVA	5 kVA	6 kVA	7.5 kVA	10 kVA	7.5 kVA	10 kVA	15 kVA	20 kVA
Product Identification Number(PID No.)	DHP E 11 50	DHP E 11 60	DHP E 11 75	DHP E 11 100	DHP E 750	DHP E 1000	DHP E 1500	DHP E 2000
Input (Rectifier)								
Nominal AC Input Voltage	1 Phase 230 V AC + Neutral + Earth				3 Phase 380 / 400 / 415 V AC + Neutral + Earth			
Line Low / High Transfer	175 V AC - 276 V AC				304 V AC - 478 V AC			
Frequency range	46 Hz to 54 Hz							
Power Factor	≥ 0.99				≥ 0.96			
Input harmonic (THD-i)	< 8 %				< 15 %			
Output (Inverter)								
Voltage	220 / 230 / 240 V AC Programmable							
Voltage Regulation	± 1%							
Frequency (Free running)	50 Hz ± 0.05 Hz							
Frequency (Synchronised Range)	46-54 Hz							
Output Waveform	Pure Sine Wave							
Harmonic Distortion (THD)	< 2% (Linear Load) / ≤ 5% (Non - Linear Load)							
Power Factor	0.7 lag							
Crest Factor	3:1							
Efficiency (AC - AC)	> 90%							
Inverter Overload Capacity	105%~130% for 10 Minutes > 130% for 10 Seconds							
Auto Retransfer	Available							
Battery								
Battery Type	Sealed Maintenance Free Lead Acid, Lead Acid Tubular (Battery Voltage, Ah and Quantity depending on backup time)							
Charger	Constant Voltage Constant Current							
Communication interface								
Standard	RS232 port for software interface							
Optional	SNMP Management / Web enabled interface / AS 400 Card							
Parallel Port	Communicate with Other UPSs in N+1 Configuration							
General								
Operating Temperature	0 Deg. to 40 Deg. C							
Humidity	0 ~ 95% RH, Non Condensing							
Noise Level	< 55 dB @ 1 Meter							
Indication	Mains ON, Inverter ON / OFF / Faulty, Battery Level, Static Bypass ON, Load Level, Over Temperature							
Audible Alarm	Mains Failure Alarm, Low Battery Alarm, Overload and Load ON Bypass							
Protection	Advanced Electronic protection for device safety backed with MCBs Soft start feature for rectifier and inverter, Battery current limiting protection, Built in overload protection, Output short-circuit protection							
Parallel Redundant Configuration-Option	Unitary / Parallel Redundant / Redundant Hot standby							
PID No.	DHP E 11 50	DHP E 11 60	DHP E 11 75	DHP E 11 100	DHP E 750	DHP E 1000	DHP E 1500	DHP E 2000
Dimensions (mm)	(H x W x D)	(H x W x D)	(H x W x D)	(H x W x D)	(H x W x D)	(H x W x D)	(H x W x D)	(H x W x D)
Floor Model with Galvanic Isolation	710x260x555	710x260x555	740x320x615	740x320x615	865x320x740	865x320x740	1030x380x555	1030x380x555
Transformer								
Weight (Kg)	87 Kgs	92 Kgs	135 Kgs	140 Kgs	140 Kgs	150 Kgs	200 Kgs	220 Kgs
Rack Model without Galvanic Isolation	267x445x550	267x445x550	-	-	-	-	-	-
Weight (Kg)	37 Kgs	37 Kgs	-	-	-	-	-	-
Rack Model with Galvanic Isolation	355x445x550	355x445x550	-	-	-	-	-	-
Weight (Kg)	92 Kgs	92 Kgs	-	-	-	-	-	-

As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

NUMERIC POWER SYSTEMS LIMITED



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Please Refer our website: www.numericups.com for list of service centres.



ISO 9001 : 2000
ISO 14001 :2004



No.1 Power Electronics Company
No.1 On Line UPS Manufacturer
No.1 Off Line/ Line Interactive UPS Manufacturer
* Source : Softdisk



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