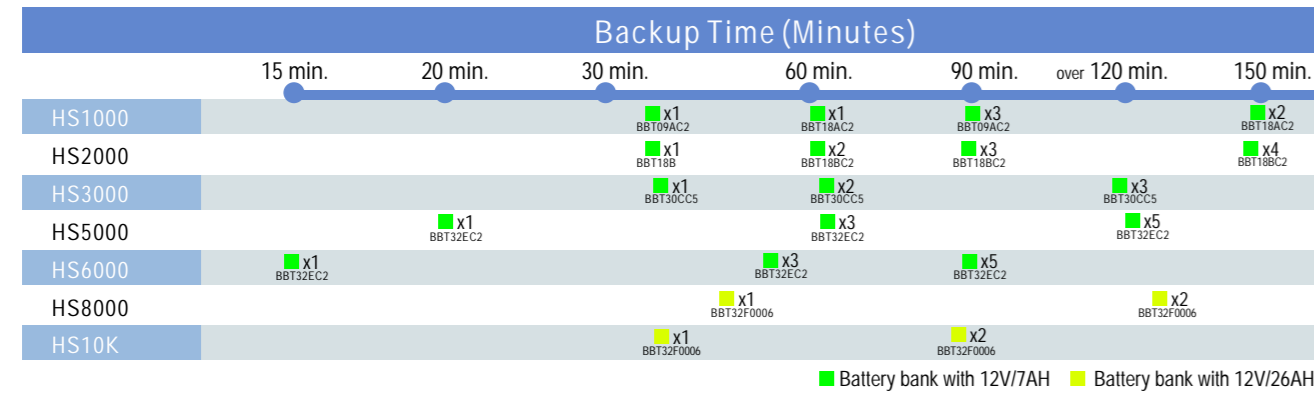


Backup Time Reference:

Load	HS1000	HS2000	HS3000	HS5000	HS6000	HS8000	HS10K
400VA/280W	30 Min.	55 Min.	86 Min.	240 Min.	265 Min.	115 Min.	155 Min.
600VA/420W	13	25	47	115	128	90	125
1000VA/700W	5	10	20	65	72	65	90
1500VA/1050W		7	13	43	48	50	68
2000VA/1400W		5	10	33	36	32	55
3000VA/2100W			5	17	20	18	32
4000VA/2800W				10	10	13	20
5000VA/3500W				6	7	10	15
6000VA/4200W					5	8	12
7000VA/4900W						6	10
8000VA/5600W						5	8
9000VA/6300W							6
10KVA/7000W							5

Backup Time Reference for Long Runtime Application (Full load)



Technical Specification:

Model	HS1000	HS2000	HS3000	HS5000	HS6000	HS8000	HS10K
INPUT							
Voltage (Vac)	80-140 or 160-280			160-280			
Frequency (Hz)	50/60±10% (Auto Sensing)						
Phase	Single						
Input Power Factor	>0.98						
OUTPUT							
Voltage (Vac)	110/115/120 or 220/230/240			220/230/240 or 240/120		220/230/240	
Capacity (VA/W)	1000/700	2000/1400	3000/2100	5000/3500	6000/4200	8000/6.4K	10K/8KW
Power Factor	0.7						0.8
Load Power Factor Range	0.5 Lagging to Unity within KW rating of unit						
Wave Form	Sine Wave, THD<3% (no load to full load)						
Voltage Regulation	±1-2%						
Transient Response (ms)	±1-4% under full load, change and corrected within 60ms						
Frequency Stability	±0.5Hz (Free Running)						
Synchronization	Slew Rate: 1Hz/Sec. Max. Synchronizing window ±1-5%						
Transfer Time	0 ms						
Crest Factor	3:1						
System Efficiency (AC to AC)	>80%						>85%
DC Start	Yes						
BATTERY							
Type	Sealed Lead Acid Maintenance Free						
Quantity (pcs)	3	6	10	16			
Voltage(Vdc)	36	72	120	192			
Run-time (Full Load)	>5 min.			>6 min.	>5 min.	>4 min.	
Recharge Time	8 Hours to 90%						
Supplementary Charger	Optional 200W / 500W / 1000W / 2000W Chargers Available						
DISPLAY							
LED	Utility, Battery, Inverter, Over Load, Load/Battery Level, Fault conditions					Normal, Fault, Warning conditions	
LCD Standard Readout	Input Voltage, Output Voltage, Output Frequency, Load Percentage, Inner Ambient Temperature, Battery Voltage, Fault details						
LCD-Advanced Readout	N/A						Error code, ground fault, phase reverse, overload

Model	HS1000	HS2000	HS3000	HS5000	HS6000	HS8000	HS10K	
PROTECTION								
Overload	<105% continuously 105%-120% 15 min. 120%-150% 30 sec. >150% immediately						<120% 15 min. 120%-150% 30sec. >150% 10min.	
AC Mode (delay before switching to bypass)								
Backup Mode (delay before switching to bypass)	>105% delay 1.5 seconds then completely shutdown.						<120% 30 sec. 120%-150% 10sec. Over 150% 10ms.	
Short Circuit	Shutdown and Halt							
Overheat	Switch to Bypass							
High Voltage Trip	Switch to Backup Mode							
Battery Low	Alarm and Switch Off							
Noise Suppression	Complies with EN50091-2							
Spike Suppression	Complies with EN61000-4-5							
ALARMS								
Audible and Visual	Utility Failure, Battery Low, Transfer to Bypass, System Fault Conditions							
MECHANICAL								
Dimensions, 120V (WxHxD, mm)	155x292x508	180x390x556	244x385x615	308x427x835				
Dimensions, 230V (WxHxD, mm)	155x292x508	180x390x556	244x385x615	244x427x705	308x427x705	400x820x730		
Net Weight (Kgs) 120V	25	42	65	98	105			
Net Weight (Kgs) 230V	25	42	50	74	91	167	183	
Outlets(NEMA 5-15R) 120V	4	Terminals+2						
Outlets(IEC/Local) 230V	½	3/2	Terminals+2			Terminal		
ENVIRONMENT								
Operating Temperature	0°C-40°C							
Altitude	0-2000m up to 40°C, 3000m up to 35°C							
Humidity	90% RH Maximum, Non-Condensing							
Acoustic	<50dB (at 1 meter)					<60dB (at 1 meter)		
COMPUTER INTERFACE								
Interface Type	True RS232 signal and Contact Closure signal							
SNMP Adaptability	Slot for Standard SNMP Card (Optional)							
Standard Bundled Software	UPSilon 2000 for Novell NetWare, Windows 95/98, Windows NT, Windows ME, Windows XP, Linux and Free BSD							
Optional Software	UPSilon for Unix, IBM AS/400 & SNMP Adapter, USBMate,....etc.							
SAFETY CONFORMANCE								
Quality Assurance	ISO9001 Certified Company							
Safety Standard	EN50091-1							
EMC Standard	EN50091-2, EN61000-3-2, EN61000-3-3, FCC Class A							
Marks	CE, TUV/GS						CE	

HS3000AP(Dim. 244x385x615mm, N.W.: 65kgs) with 10pcs x 12V/7AH batteries and HS5000AP(Dim. 308x427x705mm, N.W.: 91kgs) with 16pcs x 12V/7AH batteries are available. HS5000G and HS6000G are for the models with Galvanic isolation.

* Above specifications are subject to change without prior notice

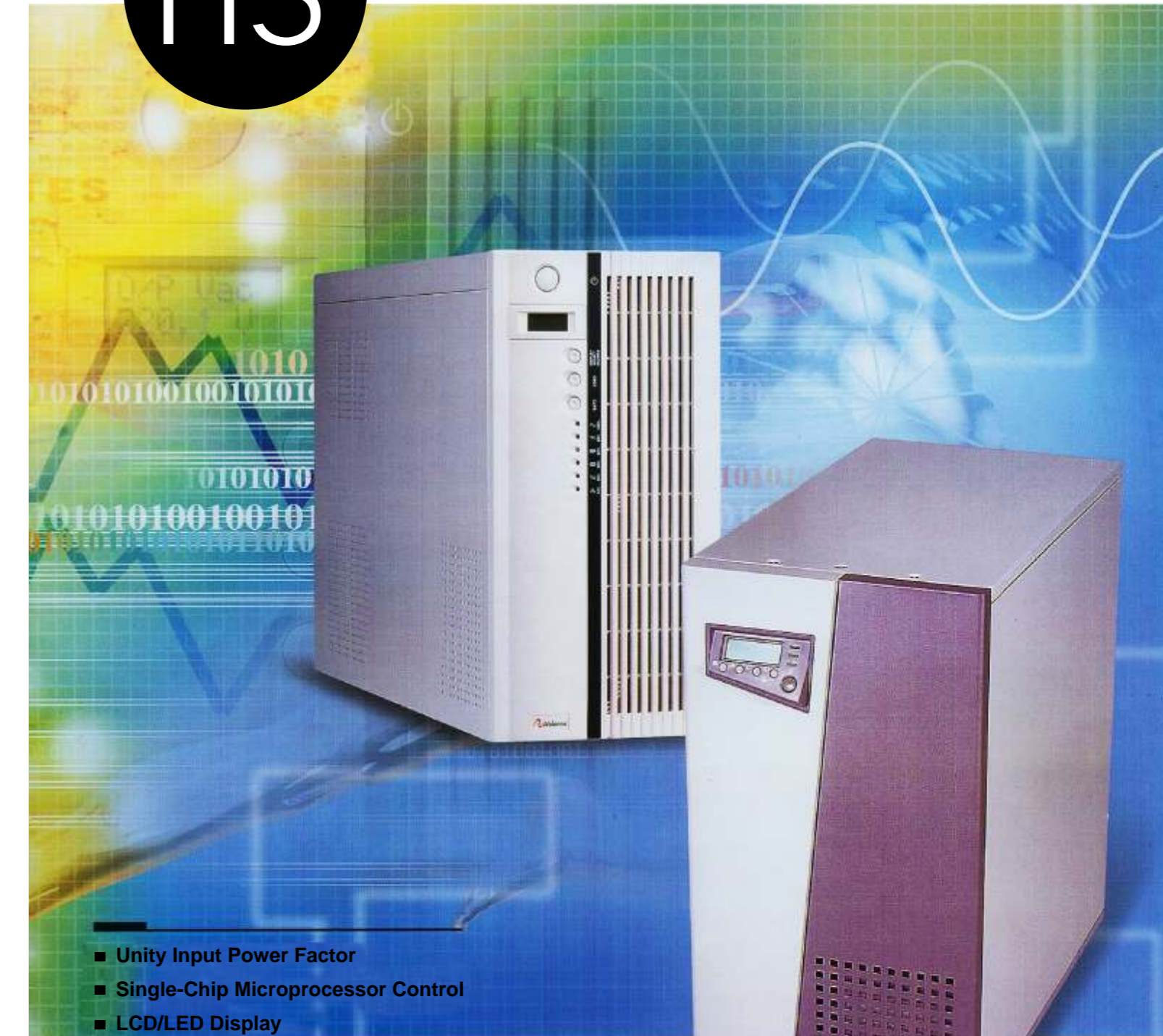


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Hercules Series
Isolated Double Conversion On-Line UPS



- Unity Input Power Factor
- Single-Chip Microprocessor Control
- LCD/LED Display
- Pure Sinewave Output
- Wide Input Voltage Range
- Smart RS-232 Communication Interface
- External Battery Bank Connectivity





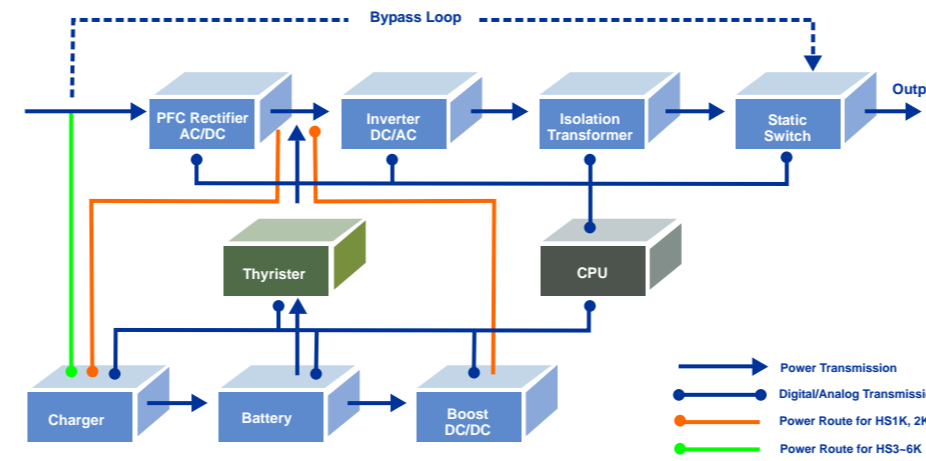
Hercules Series (HS)

Hercules Series (HS) Isolated Double Conversion On-line UPS

Combine the unique isolation technology with Double Conversion On-line topology, Hercules series UPS stands firmly the most leading quality power equipment in the world. Furthermore, integrated single-chip technology with an outstanding industry design, Hercules UPS provides many appealing and powerful features such as LCD display, unity input Power Factor, true RS232 port, optional SNMP interface card, caster and smart Battery charger etc., which show the great advantage of user-friendly, intelligent and reliable concepts.

Outstanding Features:

- ▶ **Unity Input Power Factor**
Meets nowadays industry standard for energy saving and zero pollution to utility power.
- ▶ **Single-Chip Microprocessor Control**
Use a field-proven single-chip MPU to substantially reduce the component counts, consequently achieve the great functionality, reliability, intelligence and compactness.
- ▶ **Double Conversion On-line Architecture**
Completely re-generates the utility power under this architecture rectifies most of power disturbances in the utility power.
- ▶ **Large LCD Display**
An easy-to-read LCD display provides real-time power status like input voltage, output voltage, battery voltage, battery level, load level, output frequency and temperature. System Fault message can also be read on LCD display for easy troubleshooting works. In addition, full size graphical LCD display for 8KVA & 10KVA provides advanced monitoring functions that greatly enhance friendly operating interface.
- ▶ **Isolated IGBT Inverter**
The advanced IGBT inverter coupled with an isolation transformer enhances the reliability and load adaptability. In other words, the Hercules UPS can be used with most type of load.



Block Diagram of Hercules Series UPS

- ▶ **Isolation Construction**
Besides the isolation transformer of inverter, the Hercules 1-6KVA series are designed with a unique construction for input and output isolation. This design provides the great advantage of noise rejection as well as safer neutral line to the load. The Hercules 5 & 6KVA are designed with an optional feature of Galvanic Isolation, which provides an intrinsic safety between input and output either at system normal mode or at bypass mode. This option provides the most extend of noise rejection either in Common-mode rejection or in Transverse-mode rejection. Meanwhile, the absolute neutral line of UPS output is the nature of this construction.
- ▶ **Complete Protection Circuitry**
Special-designed circuitry protects against abnormal operations such as Overload, Inductive type of load, short-circuit, AC Input Over-voltage, Inverter Over-voltage, Over-temperature and to ensure high system reliability.
- ▶ **High Crest Factor Circuit Design**
Suitable for any rectifier type of load, especially for computer system.
- ▶ **Wide Input Voltage Range without using Battery**
The evolutionary input PFC circuitry can handle very wide range of AC input voltages to avoid the frequent usage of battery energy. Consequently, the system security and battery life can be maximized.
- ▶ **Smart Battery Management System (SBM)**
Smart Battery Management system monitors the battery charging as well as discharging status in the segment of minute to ensure its longest lifetime.
- ▶ **Multiple High-rated Charger for Runtime Extension (options)**
The 200W, 500W, and 2KW chargers are designed to fulfill most kind of long runtime applications.
- ▶ **Matching Battery Bank**
Standard matching battery bank brings the convenience for the customers to extend the UPS runtime within a couple of DC wiring connections.

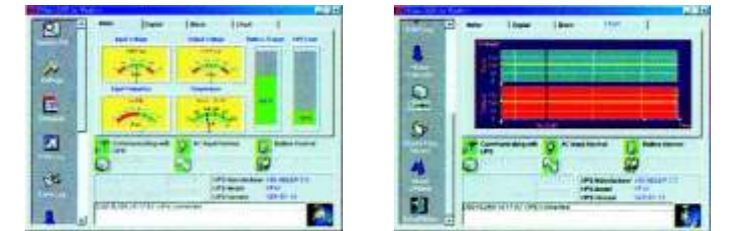


Battery Bank

- ▶ **Built-in Communication Protocol and Port**
True RS232 linking with the UPS communication protocol is implemented with different kind of UPS application software.
- ▶ **Built-in Communication Slot for optional communication accessories**
The communication slot comes with every Hercules UPS allow user to install following communication interface card:
 - SNMP card:** The SNMP card converts RS-232 signal to Ethernet signal and also configure the UPS to log onto the Internet environments without hooking up to a computer system. With SNMP card installed, the UPS can be monitored and controlled by using internet web browser at remote site.
 - True Relay Contact card:** The True Relay Contact card provides six relay output signals for critical UPS status that required by telecom system, alarm management system and other industrial applications.



- ▶ **Multiple UPS Software Selection**
The UPS application software provides the functions of remote UPS status monitoring, self diagnostic, power problem analysis, remote on/off control, scheduling self-test and auto file saving during unattended shutdown. Variable platforms are available such as Novell NetWare, Window95/98/2000/ME/XP, Linux, FreeBSD and different publication of UNIX base.



- ▶ **EPO and Maintenance Bypass Switch**
Standard HS8KVA and HS10KVA are built in with Emergency Power Off (EPO) connector and Maintenance Bypass Switch that meet nowadays-industrial requirement and also ensure a safe operating environments.

