

- Standby UPS
- Line Interactive UPS
- Online UPS
- Li-Battery UPS
- Inverter & AVR
- Solar Power

Green Power We Supply



Voltronic Power

Advancing Power

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UPS . INVERTER . CHARGER

Voltronic Power Overview

Voltronic Power Technology Corp. is established by Alex Hsieh. Mr. Hsieh's professional team has over 20 years of experience in OEM/ODM power products. Headquartered in Taiwan, Voltronic Power is committed to providing high quality products and services to meet diverse customer requirements. With the same diligent customer-oriented spirit, Voltronic Power is dedicated to continuously designing, manufacturing, marketing, and introducing a complete line of UPSs, inverters, and solar power products to the demanding power market.

To meet customers' demand with highly sufficient production capacity, we have expanded to 3 manufacturing factories. Our R&D center is located at the same place for efficiently operation. We have solid and rich-experienced engineering teams to dedicate in product development. Voltronic Power guarantees reliable product development and consistent manufacturing quality, from raw materials to finished products, and deeply respects its delivery deadlines.

Voltronic Power is a truly remarkable company, with its personnel providing a history rich in service, innovation and growth. Voltronic Power's professional team is ready to start a new chapter in the global power market.

❖ Mission Statement & Corporate Vision



Production Line



SMD/AI



R&D

To become a worldwide leading OEM/ODM manufacturer by developing both customized products and exclusive marketing intelligences for customers :

We 100% focus in OEM/ODM market and dedicate ourselves to developing innovative power products and marketing intelligences for customers.

To develop a reputation in the power industry as a trusted and reliable partner :

We understand that "Good Products" are the core competence for company development. Therefore, we are dedicated to developing innovative and reliable products to customers through the continuous development and investments in our R&D center.

Build strong relationships with customers to strengthen customers' brands and market growth :

We help customers to develop their own brands and enlarge their market share because we strongly believe that "Customers" are the key growth engine for Voltronic Power.

Continue developing the latest innovations, eco-friendly and green products :

We consider ourselves to be global citizens, and Voltronic Power is committed to reducing the environmental impact of our operations and products.

❖ Key Values to Customers

- **Secured Information Management:** With over 20 years of professional experiences in power market, we manage power knowledge, market trend, and know-how with our customers. At the same time, we are strongly committed to protect customers' privacy to earn trusted relationship.
- **Innovative Design:** Leverage our teams 20 years of professional experience in power market, we have highly market sensibility to help our customer be attuned to changing market dynamics. Besides, we will continue developing new technology and implementing innovative idea in our product design, not me-too products.
- **Quality Manufacturing:** With ISO-9001 and ISO-14001 certified, we build-up unmatched quality control systems from incoming components to finished products.
- **Satisfied Service:** We provide exclusive assistance and responsive service, from product design, marketing packages to technical supports.
- **Total Quality Assurance System:** From design, manufacture, to service, we offer Total Quality Assurance System to guarantee high-quality and reliable products and services. Our total quality system has been audited and approved by global well-known companies.

Nano

- 400VA/600VA/800VA standby UPS
- Compact size with stand and mounting flexibility
- Excellent microprocessor control guarantees high reliability
- Auto restart while AC is recovering
- Simulated sine wave
- Cold start function
- Full protection: Discharge, overcharge, short circuit, and thermal protection



Scudo

- 400VA/600VA standby UPS
- Compact size with local receptacles for easy use
- Excellent microprocessor control guarantees high reliability
- Auto restart while AC is recovering
- Simulated sine wave
- Cold start function
- Simple and easy installation & operation



Standby UPS Selection Guide

MODEL	Nano 400	Nano 600	Nano 800	Scudo 400	Scudo 600
CAPACITY	400 VA / 240 W	600 VA / 360 W	800 VA / 480 W	400 VA / 200 W	600 VA / 300 W
INPUT					
Voltage	110/120 VAC or 220/230/240 VAC			220/230/240 VAC	
Acceptable Voltage Range	90 - 145 VAC or 180 - 270 VAC			180 - 270 VAC	
Frequency	50Hz or 60Hz (Auto sensing)			50 Hz	
OUTPUT					
Voltage Regulation (Batt. Mode)	± 10%			± 10%	
Frequency Range (Batt. Mode)	50Hz or 60Hz ± 1 Hz			50Hz ± 1 Hz	
Transfer Time (Typical)	2-6 ms			2-6 ms	
Waveform (Batt. Mode)	Simulated sine wave			Simulated sine wave	
BATTERY					
Battery Type & Number	12 V / 4.5 Ah x 1	12 V / 7 Ah x 1	12 V / 9 Ah x 1	12 V / 4.5 Ah x 1	12 V / 5 Ah x 1
Typical Recharge Time	8 hours recover to 90% capacity			8 hours recover to 90% capacity	
INDICATORS					
AC Mode	Green lighting			Green lighting	
Battery Mode	Green flashing every 10 seconds			Green flashing every 10 seconds	
Low Battery (Batt. Mode)	Green flashing every second and red lighting			Green flashing every second and red lighting	
Fault	Red lighting			Red lighting	
ALARM					
Battery Mode	Sounding every 10 seconds			Sounding every 10 seconds	
Low Battery (Batt. Mode)	Sounding every second			Sounding every second	
Fault	Continuously sounding			Continuously sounding	
PHYSICAL					
Dimension, D x W x H (mm)	228 x 82.5 x 207 (vertically stand)			166 x 161 x 89.2	
Net Weight (kgs)	2.2	2.7	3.1	2.25	2.56
ENVIRONMENT					
Humidity	0-90 %				
Operating Temperature	0- 40°C (non-condensing)				

* Product specifications are subject to change without further notice

Nano-APFC



- 400VA/600VA/800VA standby UPS
- High frequency design
- Suitable for active PFC equipped personal computers
- Auto restart while AC is recovering
- Simulated sine wave
- Cold start function
- Optional USB communication port and RJ-11/RJ-45 protection

Nano-APFC 400VA/600VA/800VA Standby UPS Selection Guide

MODEL	Nano-APFC 400	Nano-APFC 600	Nano-APFC 800
CAPACITY	400 VA / 240 W	600 VA / 360 W	800 VA / 480 W
INPUT			
Voltage	110/120 VAC or 220/230/240 VAC		
Acceptable Voltage Range	90 - 145 VAC or 180 - 270 VAC		
Frequency	50Hz or 60Hz (Auto sensing)		
OUTPUT			
Voltage Regulation (Batt. Mode)	± 10%		
Frequency Range (Batt. Mode)	50Hz or 60Hz ± 1 Hz		
Transfer Time (Typical)	2-6 ms		
Waveform (Batt. Mode)	Simulated sine wave		
BATTERY			
Battery Type & Number	12 V / 4.5 Ah x 1	12 V / 7 Ah x 1	12 V / 9 Ah x 1
Typical Recharge Time	8 hours recover to 90% capacity		
INDICATORS			
AC Mode	Green lighting		
Battery Mode	Green flashing every 10 seconds		
Low Battery (Batt. Mode)	Green flashing every second and red lighting		
Fault	Red lighting		
ALARM			
Battery Mode	Sounding every 10 seconds		
Low Battery (Batt. Mode)	Sounding every second		
Fault	Continuously sounding		
PHYSICAL			
Dimension, D x W x H (mm)	228 x 82.5 x 207 (vertically stand)		
Net Weight (kgs)	2.2	2.7	3.1
ENVIRONMENT			
Humidity	0-90 %		
Operating Temperature	0- 40°C (non-condensing)		
MANAGEMENT			
Optional USB Port	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC		

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Apex

- 400VA/600VA/800VA line interactive UPS
- Compact size
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Off-mode charging
- Cold start function
- Generator compatible



Library

- Simulated sine wave output
- Perfect for computer for several hours long time use
- Wide input voltage range
- 10Amp super charger, able to charge 100Ah battery in 6-8 hours
- Auto restart while AC is recovering
- Overload, overcharge, and short circuit protection
- Cold start function



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Apex 400VA/600VA/800VA Selection Guide

MODEL	Apex 400	Apex 600	Apex 800
CAPACITY	400 VA / 240 W	600 VA / 360 W	800 VA / 480 W
INPUT			
Voltage	110/120 VAC or 220/230/240 VAC		
Voltage Range	81-145 VAC / 162-290 VAC		
Frequency Range	60/50 Hz (auto sensing)		
OUTPUT			
AC Voltage Regulation (Batt. Mode)	± 10%		
Frequency Range (Batt. Mode)	50 Hz or 60 Hz ± 1 Hz		
Transfer Time	Typical 2-8 ms		
Waveform (Batt. Mode)	Simulated Sine Wave		
BATTERY			
Battery Type & Number	12 V/4.5 Ah x 1	12 V/7 Ah x 1	12 V/9 Ah x 1
Typical Recharge Time	4 hours up to 90% capacity		
PROTECTION			
Full Protection	Overload, discharge, and overcharge protection		
INDICATORS			
AC Mode	Green lighting		
Battery Mode	Green Flashing		
ALARM			
Battery Mode	Sounding every 10 seconds		
Low Battery	Sounding every second		
Overload	Sounding every 0.5 second		
Fault	Continuously sounding		
PHYSICAL			
Dimension, D x W x H (mm)	279 x101 x142		
Net Weight (kgs)	3.55	4.2	4.9
ENVIRONMENT			
Humidity	0-90 % RH @ 0- 40°C (non-condensing)		
Noise Level	Less than 40dB		

* Product specifications are subject to change without further notice

Library 600/1K/2K Long Backup Time UPS

MODEL	Library 600	Library 1K	Library 2K
CAPACITY	600 VA / 360 W	1000 VA / 600 W	2000 VA / 1200 W
INPUT			
Voltage	230 VAC	220/230/240 VAC	
Acceptable Voltage Range	140 - 300 VAC		
Frequency Range	50Hz	60Hz or 50 Hz (auto sensing)	
OUTPUT			
AC Voltage Regulation (Batt. Mode)	230V ± 10%		
Transfer Time	4-8 ms (typical)		
Waveform (Batt. Mode)	Simulated Sine Wave		
BATTERY			
Battery Voltage	12 VDC	12 VDC	24 VDC
Charge Voltage	13.7 VDC ± 2%	13.7 VDC ± 2%	27.4 VDC ± 2%
Maximum Charge Current	10 A	10 A	20 A
PROTECTION			
Full Protection	Overload, overcharge, and short circuit protection		
INDICATORS			
Line Mode	Green lighting		
Battery Mode	Yellow flashing		
Fault	Red lighting		
ALARM			
Low Battery	Sounding every second		
Overload	Sounding every 0.5 second		
Fault	Continuously sounding		
PHYSICAL			
Dimension, D X W X H (mm)	358.5 x 96.8 x 146.5	350 x 146 x 160	
Net Weight (kgs)	4.6	8.0	9.0
ENVIRONMENT			
Humidity	0 to 90% Relative Humidity(Non-condensing)		
Operating Temperature	0°C to 40°C		
Storage Temperature	-15°C to 50°C		

* Product specifications are subject to change without further notice

Vesta



- 450VA/650VA/850VA/1KVA/1.5KVA/2KVA line interactive UPS
- Built-in super smart charger, shorten 50% of charging time
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Simulated sine wave
- Off-mode charging
- Cold start function
- Optional USB/RS-232 communication port and RJ-11/RJ-45 protection
- Offering LED and LCD panels for selections

Vesta 450VA/650VA/850VA/1KVA/1.5KVA/2KVA Line Interactive UPS Selection Guide

MODEL	Vesta 450	Vesta 650	Vesta 850	Vesta 1K	Vesta 1.5K	Vesta 2K
CAPACITY	450 VA / 240 W	650 VA / 360 W	850 VA / 480 W	1000 VA / 600 W	1500 VA / 900 W	2000 VA / 1200 W
INPUT						
Voltage	110/120 VAC or 220/230/240 VAC					
Voltage Range	81-145 VAC / 162-290 VAC					
Frequency Range	60/50 Hz (auto sensing)					
OUTPUT						
AC Voltage Regulation (Batt. Mode)	±10%					
Frequency Range (Batt. Mode)	60 Hz or 50 Hz ±1 Hz					
Transfer Time	Typical 2-6 ms, 10ms max.					
Waveform (Batt. Mode)	Simulated Sine Wave					
BATTERY						
Battery Type & Number	12 V/4.5 Ah x 1	12 V/7 Ah x 1	12 V/9 Ah x 1	12 V/7 Ah x 2	12 V/9 Ah x 2	12 V/9 Ah x 2
Typical Recharge Time	4-6 hours recover to 90% capacity					
PROTECTION						
Full Protection	Overload, discharge, and overcharge protection					
INDICATORS						
LCD Display	AC Mode, Battery Mode, Load Level, Battery Level, Input Voltage, Output Voltage, Overload, Fault, and Low Battery					
LED Display	AC Mode	Green lighting		Green lighting	The right green LED lighting & the 2nd to 5th green LEDs gradually lighting indicating load level	
	Battery Mode	Green flashing		Yellow flashing	The right green LED flashing & the 2nd to 5th green gradually lighting indicating battery capacity	
	Fault	N/A		Red lighting		
ALARM						
Battery Mode	Sounding every 10 seconds					
Low Battery	Sounding every second					
Overload	Sounding every 0.5 second					
Battery Replacement Alarm	Sounding every 2 seconds					
Fault	Continuously sounding					
PHYSICAL						
Dimension, D x W x H (mm)	287 x 100 x 142			350 x 146 x 160		397 x 146 x 205
Net Weight (kgs)	3.55	4.25	4.9	8.0	11.1	11.5
ENVIRONMENT						
Humidity	0-90 % RH @ 0- 40°C (non-condensing)					
Noise Level	Less than 40dB					
MANAGEMENT						
Optional USB/RS-232 Port	Supports Windows* 2000/2003/XP/Vista/2008, Windows* 7, Linux, Unix, and MAC					

* Product specifications are subject to change without further notice

Prosine

- 600VA/800VA line interactive sine wave UPS
- Digitalized PWM-based controller provides pure sinewave output
- Perfect power protection for mini servers & gaming PCs
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Built-in USB communication port and RJ-45 phone protection
- Offering LED and LCD panels for selection



Imperial

- 750VA/1KVA/1.5KVA/2KVA line interactive sine wave UPS
- Digitalized PWM-based controller provides pure sinewave output
- Perfect power protection for servers, point-of-sale and workstations
- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Built-in USB communication port and RJ-45 phone protection



Line Interactive Sinewave UPS Selection Guide

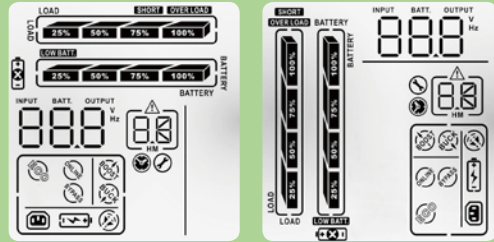
MODEL	Prosine 600	Prosine 800	Imperial 750	Imperial 1K	Imperial 1.5K	Imperial 2K
CAPACITY	600 VA / 360 W	800 VA / 480 W	750 VA / 480 W	1000 VA / 700 W	1500 VA / 1050 W	2000 VA / 1400W
INPUT						
Voltage	110/120 VAC or 220/230/240 VAC					
Voltage Range	81-145 VAC /162-290 VAC					
Frequency Range	60/50 Hz (auto sensing)					
OUTPUT						
AC Voltage Regulation (Batt. Mode)	±10%					
Frequency Range (Batt. Mode)	50 Hz or 60 Hz ± 1 Hz					
Transfer Time	Typical 2-6 ms, 10ms max.					
Waveform (Batt. Mode)	Pure Sine Wave					
BATTERY						
Battery Type & Number	12 V / 7Ah x 1	12 V / 9Ah x 1	12 V / 9 Ah x 1	12 V / 7Ah x 2	12 V / 9 Ah x 2	12 V / 10 Ah x 2
Typical Recharge Time	4 hours recover to 90% capacity			6 hours recover to 90% capacity		
PROTECTION						
Full Protection	Overload, discharge, and overcharge protection					
INDICATORS						
LCD Display	AC Mode, Battery Mode, Load Level, Battery Level, Input Voltage, Output Voltage, Overload, Fault, and Low Battery					
ALARM						
Battery Mode	Sounding every 10 seconds					
Low Battery	Sounding every second					
Overload	Sounding every 0.5 second					
Battery Replacement Alarm	Sounding every 2 seconds					
Fault	Continuously sounding					
PHYSICAL						
Dimension, D x W x H (mm)	328 x 100 x 145		350 x 146 x 160		397 x 146 x 205	
Net Weight (kgs)	5.2	6.0	6.8	9.0	12.2	13.7
ENVIRONMENT						
Humidity	0-90 % RH @ 0- 40°C (non-condensing)					
Noise Level	Less than 40dB		Less than 45dB		Less than 55dB	
MANAGEMENT						
USB & RS-232 Port	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC					

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Otima



LCD Display Panel



Rack display

Tower display

- **Microprocessor-based line interactive design**

Otima UPS is designed with microprocessor controller for fast response to power disturbances.

- **Pure sine wave output**

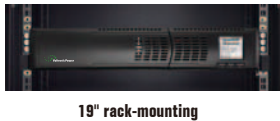
With pure sine wave output, Otima series guarantees compatibility for all kinds of loads. It's perfect power protection for versatile applications such as networking, telecom and other mission-critical applications.

- **User-friendly and easy-shift LCD display**

The front panel digital display can be easily shifted through LCD setting to suit the installation format, vertically stand or flat wall mount.

- **Rack/Tower design**

Otima series is designed in true 2U universal-mount case. It can be easily installed as floor-standing tower or in 19-inch rackmount bracket.



- **Built-in boost and buck AVR**

With built-in voltage regulator, the UPS will maintain regulated nominal output without using battery power during brownouts and overvoltages.

- **Output power factor 0.8**

Otima is a high-density UPS with output power factor 0.8 to provide higher performance and efficiency to critical applications.

- **Hot-swappable battery design**

This design ensures clean and uninterruptible power to protected equipment during battery replacement.

- **Programmable power management outlets**

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature enables users to extend battery time to mission-critical devices by shutting down the non-critical devices.



Programmable Outlets (P1)
- connect to non-critical devices

- **ECO operation for energy saving (Efficiency Corrective Optimizer)**

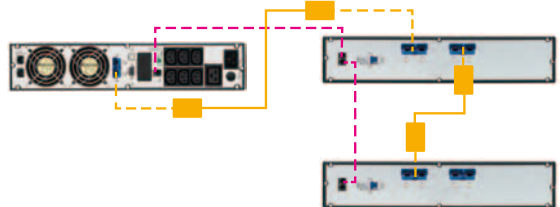
The ECO function allows cost-effective operation of UPS Systems as high as 98%. In this operation mode, load is supplied by the mains. In the event of a mains failure, the inverter takes over the load and provides supply continuity to the connected systems.

- **Emergency Power Off Function (EPO)**

This feature can secure the personnel and equipment in case of fires or other emergencies.

- **Long-run models available**

To provide longer backup time, we also offer long-run model for Otima series.



- **Multiple communication available**

- USB port
- RS-232 port
- SNMP slot (option)

We also offer free monitoring software, ViewPower, downloaded from the internet. This advanced and networking software supports various operating systems and multiple languages.

Otima 800VA/1.1KVA/1.5KVA/2KVA/2.5KVA/3KVA Line Interactive Sinewave UPS Selection Guide

MODEL	Otima 800	Otima 1.1K (L)	Otima 1.5K	Otima 2K (L)	Otima 2.5K	Otima 3K (L)	
CAPACITY	800 VA / 640 W	1100 VA / 880 W	1500 VA / 1200 W	2000 VA / 1600 W	2500 VA / 2000 W	3000 VA / 2400 W	
INPUT							
Voltage	110/120 VAC or 208/220/230/240 VAC						
Acceptable Voltage Range	81-145 VAC or 162-290 VAC						
Frequency Range	60/50 Hz (auto sensing)						
OUTPUT							
Voltage Regulation (AC Mode)	110/120 VAC or 208/220/230/240 VAC						
Voltage Regulation (Batt. Mode)	± 1 % (before battery alarm)						
Frequency Range (Batt. Mode)	50 Hz or 60 Hz ± 1 Hz						
Current Crest Ratio	3:1						
Harmonic Distortion	5% max @ 100% linear load, 10% max @ 100% non-linear load (before alarm)						
Transfer Time	Typical 2-6 ms, 10ms max.						
Waveform (Batt. Mode)	Pure Sine Wave						
EFFICIENCY							
AC Mode	97%		97%		97%		
Buck & Boost Mode	90%		90%		90%		
Battery Mode	83%		85%		87%		
BATTERY							
Standard Model	Type & Number	12 V/7 Ah x 2	12 V/9 Ah x 2	12 V/7 Ah x 4	12 V/9 Ah x 4	12 V/7 Ah x 6	12 V/9 Ah x 6
	Charging Voltage	27.4 VDC ± 1%		54.8 VDC ± 1%		82.1 VDC ± 1%	
	Typical Recharge Time	4 hours recover to 90% capacity					
Long-run Model	Charging Current (max.)	N/A	4 A / 8 A	N/A	4 A / 8 A	N/A	4 A / 8 A
	Charging Voltage		27.4 VDC ± 1%		54.8 VDC ± 1%		82.1 VDC ± 1%
PROTECTION							
Full Protection	Overload, discharge, and overcharge protection						
INDICATORS							
LCD Display	AC Mode, Battery Mode, Load Level, Battery Level, Input Voltage, Output Voltage, Overload, Fault, and Low Battery						
ALARM							
Battery Mode	Sounding every 10 seconds						
Low Battery	Sounding every second						
Overload	Sounding every 0.5 second						
Fault	Continuously sounding						
PHYSICAL							
Standard Model	Dimension, DxWxH (mm)	380 x 438 x 88		480 x 438 x 88		600 x 438 x 88	
	Net Weight (kgs)	12.9	14.23	21.08	23.1	30.65	32.24
Long-run Model	Dimension, DxWxH (mm)	N/A	380 x 438 x 88	N/A	480 x 438 x 88	N/A	600 x 438 x 88
	Net Weight (kgs)		10.8		14		18
ENVIRONMENT							
Humidity	0-90 % RH @ 0- 40°C (non-condensing)						
Noise Level	Less than 45dB						
MANAGEMENT							
Smart RS-232/USB	Supports Windows [®] 2000/2003/XP/Vista/2008, Windows [®] 7, Linux, Unix, and MAC						
Optional SNMP	Power management from SNMP manager and web browser						

* Product specifications are subject to change without further notice

Frigate



Frigate 3K/5K/6K

Frigate 2K

Frigate 1K

- 1KVA/2KVA/3KVA/5KVA/6KVA online UPS
- True double-conversion
- Wide input voltage range (110-300VAC)
- Input power factor correction 0.98
- Generator compatible
- RS-232 communication port or mini slot for USB / RS-232 / AS400 / SNMP communication
- Smart battery charger design for optimized battery performance



Frigate 6K Rack

Frigate 1KVA/2KVA/3KVA/5KVA/6KVA Online UPS Selection Guide

MODEL		Frigate 1K(L)	Frigate 2K(L)	Frigate 3K(L)	Frigate 5K(L)	Frigate 6K(L)	
CAPACITY		1000 VA / 800 W	2000 VA / 1600 W	3000 VA / 2400 W	5000 VA / 4000 W	6000 VA / 4200 W	
INPUT							
Voltage Range	Low Line Transfer	160VAC/140VAC/120VAC/110VAC ± 5 % or 80VAC/70VAC/60VAC/50 VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)			175VAC/150VAC/130VAC/110VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)		
	Low Line Comeback	168VAC/148VAC/128VAC/118VAC ± 5 % or 84VAC/74VAC/64VAC/54 VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)			183 VAC / 158 VAC / 138 VAC / 118 VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)		
	Low Line Comeback (Auto restart)	168VAC ± 5 % or 84 VAC ± 5 % (80%~100% Load) 148VAC ± 5 % or 74 VAC ± 5 % (0%~ 80% Load)			183VAC ± 5 % (80%~100% Load) 158VAC ± 5 % (0%~ 80% Load)		
	High Line Transfer	300 VAC ± 5 % or 150 VAC ± 5 %			280 VAC ± 5 %		
	High Line Comeback	290 VAC ± 5 % or 145 VAC ± 5 %			270 VAC ± 5 %		
Frequency Range		40 ~ 70 Hz (Auto sensing)					
Power Factor (nominal output @ full load)		≥ 0.98				≥ 0.95	
OUTPUT							
Output Voltage		208/220/230/240 VAC or 110/115/120/127 VAC				208/220/230/240 VAC	
AC Voltage Regulation (Batt. Mode)		± 1 %				± 3 %	
Frequency Range (Synchronized Range)		47 ~ 53 Hz or 57 ~ 63Hz					
Frequency Range (Batt. Mode)		50 Hz ± 0.25 Hz or 60Hz ± 0.3 Hz					
Current Crest Ratio		3:1					
Harmonic Distortion		≤ 3 % THD (Linear Load) ≤ 6 % THD (Non-linear Load)	≤ 4 % THD (Linear Load) ≤ 7 % THD (Non-linear Load)	≤ 3 % THD (Linear Load) ≤ 6 % THD (Non-linear Load)			
Transfer Time	AC Mode to Batt. Mode	Zero					
	Inverter to Bypass	4 ms (Typical)					
Waveform (Batt. Mode)		Pure sinewave					
EFFICIENCY							
AC Mode (@100% RCD load)		88.5 %	89.3 %	87 %	90 %		
Battery Mode(@100% RCD load)		83.7 %	88.2 %	85 %	89 %	85 %	
BATTERY							
Standard Model	Battery Type and Numbers	12V / 7Ah or 12V / 9Ah	12V / 7Ah or 12V / 9Ah	12V / 7Ah or 12V / 9Ah	12 V / 10Ah		
	Battery Numbers	2	4	6	8		
	Charging Current (max.)	1.0 A					
	Charging Voltage	27.4 VDC ± 1 %	54.7 VDC ± 1 %	82.1 VDC ± 1 %	109.4 VDC ± 1 %		
Long-run Model	Battery Numbers	2	4	6	8		
	Charging Current (max.)	1A / 2A / 5 A (Default)	1A / 2A / 4A / 8A (Default)			Tower Model: 4A / 8A, 10A (optional); Rack Model: 2A/4A	
	Charging Voltage	27.4 VDC ± 1 %	54.7 VDC ± 1 %	82.1 VDC ± 1 %	109.4 VDC ± 1 %		
INDICATORS							
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions					
ALARM							
Battery Mode		Sounding every 4 seconds					
Low Battery		Sounding every second					
Overload		Sounding twice every second					
Fault		Continuously sounding					
PHYSICAL							
Standard Model	Dimension, D x W x H(mm)	400x 146 x 205	397x 145 x 220	421x 190 x 318	426x 190 x 318		
	Net Weight (kgs)	9.3	17.8	28.8	35.3		
Long-run Model	Dimension, D x W x H(mm)	400 x 146 x 205	397x 140 x 220	421x 190 x 318	426x 190 x 318		
	Net Weight (kgs)	4.8	7.4	13.5	14.3		
Rack Model	Dimension, D x W x H(mm)	N/A				UPS Unit: 480 x 438 x 88 [2U] Battery Pack: 480 x 438 x 88[2U]	
	Net Weight (kgs)	N/A				UPS Unit: 12.6 Battery Pack: 42.3	
ENVIRONMENT							
Humidity		20-90 % RH @ 0- 40°C (non-condensing)					
Noise Level		Less than 45dB @ 1 Meter				Less than 55dB @ 1 Meter	
MANAGEMENT							
Communication		RS232 / Optional USB	RS232 Card / Optional USB Card, SNMP Card, or AS400 Card available Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC				

* Only long-run model available

* Product specifications are subject to change without further notice

Frigate TX



Frigate TX 6K/3K(L)

Frigate TX 1K(L)/2K(L)

- 1KVA/2KVA/3KVA/5KVA online UPS
- True double-conversion
- Galvanic isolation design offers full isolation and complete common mode noise rejection
- Wide input voltage range (110-300VAC)
- Input power factor correction 0.98
- 50/60Hz Frequency Converter Mode
- Generator compatible
- RS-232 communication port or mini slot for USB / RS-232 / AS400 / SNMP communication
- Smart battery charger design for optimized battery performance

S E R V I S E

Frigate 1K/2K/3K/5K w/Isolation Transformer Online UPS Selection Guide

MODEL		Frigate TX 1K(L)	Frigate TX 2K(L)	Frigate TX 3K(L)	Frigate TX 5K(L)
CAPACITY		1000 VA / 800 W	2000 VA / 1600 W	3000 VA / 2400 W	5000 VA / 4000 W
INPUT					
Voltage Range	Low Line Transfer	160VAC / 140VAC / 120VAC / 110VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)		175VAC / 150VAC / 130VAC / 110VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)	
	Low Line Comeback	168VAC / 148VAC / 128VAC / 118VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)		183 VAC / 158 VAC / 138 VAC / 118 VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 - 60 % / 60 % - 0)	
	Low Line Comeback (Auto restart)	168VAC ± 5 %		183VAC ± 5 % (80%~100% Load)	
	High Line Transfer	260/270/280/290/300 VAC ± 5 %		280 VAC ± 5%	
	High Line Comeback	250/260/270/280/290 VAC ± 5 %		270 VAC ± 5 %	
Frequency Range	40 ~ 70 Hz (Auto sensing)				
Phase	Single phase with ground				
Power Factor (nominal output @ full load)	≥ 0.98				
OUTPUT					
Output Voltage	200/208/220/230/240 VAC			208/220/230/240 VAC	
AC Voltage Regulation (Batt. Mode)	± 2%			± 3%	
Frequency Range (Synchronized Range)	47~ 53 Hz or 57 ~ 63 Hz				
Frequency Range (Batt. Mode)	50 Hz ± 0.25 Hz or 60Hz ± 0.3 Hz				
Current Crest Ratio	3:1				
Harmonic Distortion	≤ 3% THD (Linear Load) ≤ 7% THD (Non-linear Load)		≤ 4% THD (Linear Load) ≤ 8% THD (Non-linear Load) Load)		≤ 3% THD (Linear Load) ≤ 6% THD (Non-linear Load)
Transfer Time	AC Mode to Batt. Mode	Zero			
	Inverter to Bypass	4 ms (Typical)			
Waveform (Batt. Mode)	Pure sinewave				
EFFICIENCY					
AC Mode (@100% RCD load)	76.0%		80.0%		85.0%
Battery Mode(@100% RCD load)	75.0%		79.0%		83.0%
BATTERY					
Standard Model	Battery Type and Numbers	12V / 7Ah or 12V / 9Ah	12V / 7Ah or 12V / 9Ah	12V / 7Ah or 12V / 9Ah	12 V / 10Ah
	Battery Numbers	2	4	6	8
	Charging Current (max.)	1.0 A			
Long-run Model	Charging Voltage	27.4 VDC ±1%	54.7 VDC ±1%	82.1 VDC ±1%	109.4 VDC ±1%
	Battery Numbers	2	4	6	8
	Charging Current (max.)	1A / 2A / 4A / 8A (Default)			4A / 8A, 10A (optional)
	Charging Voltage	27.4 VDC ± 1%	54.7 VDC ±1%	82.1 VDC ±1%	109.4 VDC ±1%
INDICATORS					
LCD Panel	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions				
ALARM					
Battery Mode	Sounding every 4 seconds				
Low Battery	Sounding every second				
Overload	Sounding twice every second				
Fault	Continuously sounding				
PHYSICAL					
Standard Model	Dimension, D x W x H(mm)	397x 145 x 332	397x 145 x 332	426 x 190 x 448	426 X 190 X 448
	Net Weight (kgs)	20.3	33.4	56	62.5
Long-run Model	Dimension, D x W x H(mm)	397 x 145 x 332	397x 140 x 332	426 x 190 x 448	426 X 190 X 448
	Net Weight (kgs)	16.9	22.9	40.7	41.5
ENVIRONMENT					
Humidity	20-90 % RH @ 0- 40°C (non-condensing)				
Noise Level	Less than 45dB @ 1 Meter		Less than 55dB @ 1 Meter		
MANAGEMENT					
Communication	RS232 Card / Optional USB Card, SNMP Card, or AS400 Card available				
Optional SNMP	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC Power management from SNMP manager and web browser				

* L means long-run model

* Product specifications are subject to change without further notice

Frigate Dual



Frigate Dual 2K(L) / 3K(L) Frigate Dual 1K(L)

- 1KVA/2KVA/3KVA online UPS
- True double-conversion
- Accepts dual-mains inputs for special power environment with high Voltage and Low Voltage
- Complete galvanic isolation design offers full isolation and complete common mode noise rejection
- Wide input voltage range (88-144VAC and 176-288VAC) at full load
- Selectable output voltage at 110VAV or 220VAC
- Input power factor correction 0.98
- ECO mode for energy saving
- Output voltage regulation $\pm 1\%$
- Mini slot for USB / RS-232 / AS400 / SNMP communication
- Smart battery charger design for optimized battery performance

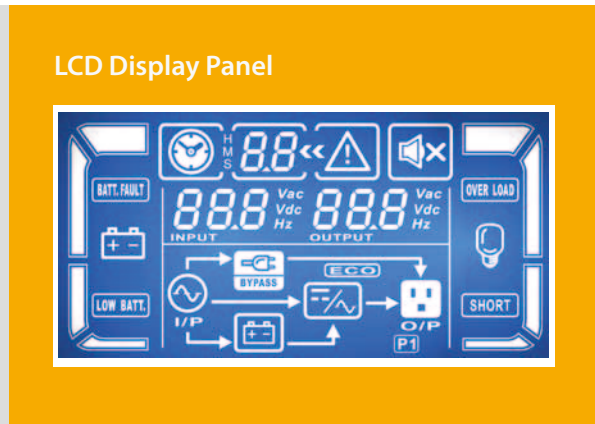
Frigate Dual 1KVA/2KVA/3KVA Online UPS Selection Guide

MODEL		Frigate Dual 1K(L)	Frigate Dual 2K(L)	Frigate Dual 3K(L)
CAPACITY		1000 VA / 800 W	2000 VA / 1600 W	3000 VA / 2400 W
INPUT				
Voltage Range		88-144 VAC and 176 - 288 VAC (Auto sensing)		
Frequency Range		45Hz ~ 55 Hz or 56Hz ~ 65 Hz		
Phase		Single phase with ground		
Power Factor (nominal output @ full load)		≥ 0.98		
OUTPUT				
Output Voltage		110/115/120/127 VAC or 208/220/230/240 VAC		
AC Voltage Regulation (Static)		$\pm 1\%$		
Frequency Range (Synchronized Range)		48~ 52 Hz or 58 ~ 62 Hz		
Frequency Range (Batt. Mode)		50 Hz ± 0.2 Hz or 60Hz ± 0.2 Hz		
Current Crest Ratio		3:1		
Harmonic Distortion		$\leq 2\%$ THD (Linear Load), $\leq 6\%$ THD (Non-linear Load)		
Transfer Time	AC Mode to Batt. Mode	Zero		
	AC Mode to Bypass/ECO	4 ms (Typical)		
	Bypass/ECO to AC Mode	4 ms (Typical)		
	ECO to Batt. Mode	10 ms (Typical)		
Waveform (Batt. Mode)		Pure sinewave		
EFFICIENCY(Peak)				
AC Mode (@100% RCD load)		76% (Typical); 78% (Peak)	77% (Typical); 79% (Peak)	78% (Typical); 80% (Peak)
Battery Mode(@100% RCD load)		84% (Typical); 86% (Peak)	86 % (Typical); 88% (Peak)	87 % (Typical); 89% (Peak)
ECO Mode		85%	88%	90%
BATTERY				
Standard Model	Battery Type	12V / 9Ah	12V / 9Ah	12V / 9Ah
	Battery Numbers	2	4	6
	Typical Recharge Time	5 hours recover to 90% capacity		
	Charging Current (max.)	1.0 A		
Long-run Model	Charging Voltage	27.4 VDC $\pm 1\%$	54.8 VDC $\pm 1\%$	82.2 VDC $\pm 1\%$
	Battery Type and Numbers	Depending on applications		
	Charging Current (max.)	4A or 8A		
	Charging Voltage	27.4 VDC $\pm 1\%$	54.8 VDC $\pm 1\%$	82.2 VDC $\pm 1\%$
INDICATORS				
LCD Panel		UPS status, Load level, Battery level, Inpute/Output/battery info, Discharge timer, and Fault conditions		
ALARM				
Battery Mode		Sounding every 4 seconds		
Low Battery		Sounding every second		
Overload		Sounding twice every second		
Fault		Continuously sounding		
PHYSICAL				
Standard Model	Dimension, D x W x H(mm)	397x 145 x 332	426 X 190 X 448	426 X 190 X 448
	Net Weight (kgs)	21	34	56
Long-run Model	Dimension, D x W x H(mm)	397 x 145 x 332	426 X 190 X 448	426 X 190 X 448
	Net Weight (kgs)	17	23	41
ENVIRONMENT				
Operation Humidity		20-95 % RH @ 0- 40°C (non-condensing)		
Noise Level		Less than 50dBA @ 1 Meter		
MANAGEMENT				
Communication		RS232 Card / Optional USB Card, SNMP Card, or AS400 Card available Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC		
Optional SNMP		Power management from SNMP manager and web browser		

* L means long-run model

* Product specifications are subject to change without further notice

Galleon



S E M I N A R

• **True double-conversion online UPS**

A true double conversion UPS will provide clean, high level quality power to fully protect mission-critical devices such as sensitive networks, small computer centers, servers, telecom applications, as well as for industrial applications.

• **Output power factor 0.8**

Compared to the online UPSs in the current market, Galleon series provides better output power factor up to 0.8. It offers higher performance and efficiency for critical applications.

• **Wide input voltage range (110V -300V)**

Galleon can still provide stable power to connected devices under unstable power environments.

• **Programmable power management outlets**

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature enables users to extend battery time to mission-critical devices by shutting down the non-critical devices.



Programmable Outlets (P1)
- connect to non-critical devices

• **50/60 Hz Frequency Converter Mode**

Lock output frequency at 50Hz or 60Hz to suit power sensitive equipments.

• **ECO mode operation for energy saving**

Offers efficiency as high as 97% to cut energy usage & cost. UPS power application via static bypass, timely returning to online double conversion when the need arises.

• **Emergency Power Off (EPO) Function**

This feature can secure the personnel and equipment in case of fires or other emergencies.

• **SNMP+USB+RS-232 multiple communications for 1-3K models**

This feature allows either USB or RS-232 communication port to work with SNMP interface simultaneously.

• **Higher accuracy for output voltage**

With advanced control firmware, Galleon series provides high accuracy within +/- 1% for output voltage. It can be applied to precious test & IT equipment.

• **Smart battery charger design to optimize battery performance**

- Galleon 1-3K series is equipped with **2-stage charger design** to guarantee battery discharge time. Besides, it will adjust charging voltage according to outside temperature. This features will extend the useful service life of batteries.
- Galleon 6K and up models are equipped with **3-stage extendable charger** for optimized battery performance. This feature extends the useful service life of batteries and optimizes battery recharge time. Besides, the extendable charger design can be stacked in numbers for large-capacity battery charging.

• **DSP technology applied for 6K and up models**

A DSP controller provides an improved and cost-effective solution with high performance.

• **Maintenance bypass available for 6K and up models**

Internal bypass assures continuous power to critical devices during UPS maintenance.

• **Optional hot standby mode and N+X parallel redundancy available for 6K and up models**

For genuinely redundant power protection, Galleon (6K and up models) can either be used in parallel operation with up to 3 units or hot standby mode. Slave UPS will back up the load in the event of critical component failure. It increases power safety and availability.

• **Adjustable battery numbers for 6K and up models**

Galleon (6K and up models) can still normal operate well with only 18 or 19 internal batteries.

• **Built-in isolation transformer (Option)**

With built-in isolation transformer, the UPS will offer full isolation and complete common mode noise rejection for connected precious equipment. It become an ideal power source with 100% protection against unexpected AC power problems.



Galleon 1KVA/1.5KVA/2KVA/3KVA/6KVA/10KVA Online UPS Selection Guide


MODEL	Galleon 1K (L)	Galleon 1.5K (L)	Galleon 2K (L)	Galleon 3K (L)	Galleon 6K (L)	Galleon 10K (L)	
PHASE	Single phase in/Single phase out						
CAPACITY	1000 VA/800 W	1500 VA/1200 W	2000 VA/1600 W	3000 VA/2400 W	6000 VA/4800 W	10000 VA/8000 W	
INPUT							
Voltage Range	Low Line Transfer	160 VAC ± 5% or 80 VAC ± 5% @ 100% load 110 VAC ± 5% or 50 VAC ± 5% @ 50% load			176 VAC ± 3% @ 100% load 110 VAC ± 3% @ 50% load		
	Low Line Comeback	175 VAC ± 5% or 85 VAC ± 5% @ 100% load			186 VAC ± 3% @ 100% load 120 VAC ± 3% @ 50% load		
	High Line Transfer	300 VAC ± 5% or 150 VAC ± 5%			300 VAC ± 3%		
	High Line Comeback	290 VAC ± 5% or 145 VAC ± 5%			290 VAC ± 3%		
Frequency Range	40 Hz ~ 70 Hz				46 ~ 54 Hz or 56 ~ 64 Hz		
Power Factor	≥ 0.99 @ nominal voltage (100% load)				≥ 0.99 @ 100% load		
OUTPUT							
Output Voltage	208/220/230/240 VAC or 110/115/120/127 VAC				208/220/230/240 VAC		
AC Voltage Regulation (Batt. Mode)	± 3%				± 1%		
Frequency Range (Synchronized Range)	47~53 Hz or 57~63 Hz				46 ~ 54 Hz or 56 ~ 64 Hz		
Frequency Range (Batt. Mode)	50 Hz ± 0.25 Hz or 60Hz ± 0.3 Hz				50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz		
Current Crest Ratio	3:1				3:1		
Harmonic Distortion	≤ 3 % THD (Linear Load) ≤ 6 % THD (Non-linear Load)		≤ 4 % THD (Linear Load) ≤ 7 % THD (Non-linear Load)		≤ 3 % THD (Linear Load) ≤ 6 % THD (Non-linear Load)		
	AC Mode to Batt. Mode		Inverter to Bypass		Zero		
Transfer Time	4 ms (Typical)				Zero		
Waveform (Batt. Mode)	Pure sine wave						
EFFICIENCY							
AC Mode	85%				89%		
Battery Mode	83%				88%		
BATTERY							
Standard Model	Battery Type	12 V / 7 Ah	12 V / 9 Ah	12 V / 7 Ah	12 V / 9 Ah	12 V / 7 Ah	12 V / 9 Ah
	Numbers	3	3	6	6	20	20
	Typical Recharge Time	4 hours recover to 90% capacity				7 hours recover to 90% capacity	9 hours recover to 90% capacity
	Charging Current (max.)	1.0 A				1.0 A	
Long-run Model	Charging Voltage	41.0 VDC ± 1%		82.1 VDC ± 1%		273.0 VDC ± 1%	
	Battery Type	Depending on applications				Depending on applications	
	Numbers	3	3	6	6	18-20	18-20
	Charging Current (max.)	8.0 A				4.0 A	
Charging Voltage	41.0 VDC ± 1%		82.1 VDC ± 1%		273.0 VDC ± 1%		
INDICATORS							
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions						
ALARM							
Battery Mode	Sounding every 4 seconds						
Low Battery	Sounding every second						
Overload	Sounding twice every second						
Fault	Continuously sounding						
PHYSICAL							
Standard Model	Dimension, DxWxH(mm)	397 x 145 x 220		421 x 190 x 318		592 x 250 x 576	
	Net Weight (kgs)	13	14	26	28	81	83
Long-run Model	Dimension, Dx W x H(mm)	397 x 145 x 220		421 x 190 x 318		592 x 250 x 576	
	Net Weight (kgs)	7	7	13	13	25	27
ENVIRONMENT							
Humidity	20-90 % RH @ 0- 40°C (non-condensing)						
Noise Level	Less than 45dB @ 1 Meter				Less than 55dB @ 1 Meter	Less than 58dB @ 1 Meter	
MANAGEMENT							
Smart RS-232	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC						
USB							
Optional SNMP							Power management from SNMP manager and web browser

*Derate to 60% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 208VAC.


** L means long-run model

Galleon Tower Battery Pack (Optional built-in charger)


Capacity (VA)	1K/1.5K		2K/3K			
Battery Type	12 V 7 Ah	12 V 9 Ah	12 V 7 Ah	12 V 9 Ah	12 V 7 Ah	12 V 9 Ah
Battery Number	6 pcs	6 pcs	12 pcs	12 pcs	18 pcs	18 pcs
Dimension (DxWxH) mm	397 X 145 X 220		421 X 190 X 318		535 X 190 X 318	
Net Weight (kgs)	18	20	36	40	55	61
Capacity (VA)	6K/10K					
Battery Type	12 V 7 Ah	12 V 9 Ah	12 V 7 Ah	12 V 9 Ah	12 V 7 Ah	12 V 9 Ah
Battery Number	20 pcs	20 pcs	40 pcs	40 pcs	60 pcs	60 pcs
Dimension (DxWxH) mm	592 X 250 X 576		592 X 250 X 576		830 X 250 X 576	
Net Weight (kgs)	64	72	109	125	166	190



* 1K/1.5K Battery Pack
(capable for 6 pcs batteries inside)



* 2K/3K Battery Pack
(capable for 12 pcs or 18 pcs batteries inside)



* 6K/10K Battery Pack
(capable for 20 pcs or 40 pcs or 60 pcs batteries inside)

* There are several battery options for Galleon 2K/3K/6K/10K. Please check the above table for the detailed dimensions.

Galleon Rackmount/Rack Tower



- True double-conversion online UPS
- Wide input voltage range (110-300 VAC)
- Input power factor correction 0.99
- Output Power Factor 0.8
- 50Hz/60Hz frequency converter mode
- Programmable power management outlets
- Emergency power off function (EPO)
- ECO mode operation for energy saving (ECO)
- Charger capacity expansion to 8A for long-run models
- SNMP+USB+RS-232 multiple communications
- Smart battery charger design for optimized battery performance
- Selectable output voltage via LCD panel
- Optional isolation transformer offers full isolation and complete common mode noise rejection
- Hot-swappable battery design (only available for 1-3K)

S E R V I S E

Galleon 1KVA/1.5KVA/2KVA/3KVA/6KVA/10KVA Rackmount/Rack Tower Online UPS Selection Guide

MODEL	Galleon RM-1K (L)		Galleon RM-1.5K (L)		Galleon RM-2K (L)		Galleon RM-3K (L)		Galleon 6KR (L)		Galleon 10KR (L)		
PHASE	Single phase with ground												
CAPACITY	1000 VA / 800 W		1500 VA / 1200W		2000 VA / 1600 W		3000 VA / 2400 W		6000 VA / 4800 W		10000 VA / 8000 VA		
INPUT													
Voltage Range	Low Line Transfer	80 VAC/70 VAC/60 VAC/50 VAC ± 5% or 160 VAC/140 VAC/120 VAC/110 VAC ± 5% (based on load percentage 100% - 80% / 80% - 70% / 70 - 60% / 60% - 0)								176 VAC ± 3% @ 100% load 110 VAC ± 3% @ 50% load			
	Low Line Comeback	85 VAC / 75VAC / 65 VAC ± 5% or 170 VAC / 150 VAC / 130 VAC / 120 VAC ± 5%								186 VAC ± 3% @ 100% load 120 VAC ± 3% @ 50% load			
	High Line Transfer	150 VAC ± 5% or 300 VAC ± 5%								300 VAC ± 3%			
	High Line Comeback	145 VAC ± 5% or 290 VAC ± 5%								290 VAC ± 3%			
Frequency Range	45Hz ~ 55 Hz or 56Hz ~ 65 Hz								46~54 Hz or 56~64 Hz				
Power Factor	≥ 0.99								≥ 0.99 @ 100%load				
OUTPUT													
Output Voltage	110/115/120/127 VAC or 208/220/230/240 VAC								208/220/230/240 VAC				
AC Voltage Regulation (Batt. Mode)	± 1%								± 1%				
Frequency Range (Synchronized Range)	48 ~ 52 Hz or 58 ~ 62 Hz								46~54 Hz or 56~64 Hz				
Frequency Range (Batt. Mode)	50 Hz ± 0.2 Hz or 60Hz ± 0.2 Hz								50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz				
Current Crest Ratio	3:1								3:1				
Harmonic Distortion	≤ 2% THD (Linear Load), 8% max. (Batt. mode before shut down)								≤ 3% THD (Linear Load) ≤ 6% THD (Non-linear Load)				
Transfer Time	AC Mode to Batt. Mode	Zero								Zero			
	Inverter to Bypass	4 ms (Typical)								Zero			
Waveform (Batt. Mode)	Pure Sinewave												
EFFICIENCY													
AC Mode	86%				88%				89%				
Battery Mode	83%				85%				88%				
BATTERY													
Standard Model	Battery Type	12V/9Ah	12V/7Ah	12V/9Ah	12V/9Ah	12V/7Ah	12V/9Ah	12V/9Ah	12V/7 Ah	12V/9 Ah			
	Numbers	2	3*	3	4	6*	6	6	20	20			
	Typical Recharge Time	4 hours recover to 90% capacity								3 hours recover to 90% capacity		4 hours recover to 90% capacity	
	Charging Current (max.)	1.0 A								2.0 A			
Long-run Model	Charging Voltage	27.4 VDC ± 1%	41.1 VDC ± 1%	41.1 VDC ± 1%	54.8 VDC ± 1%	82.1 VDC ± 1%	82.1 VDC ± 1%	82.1 VDC ± 1%	273 VDC ± 1%				
	Battery Type	Depending on the capacity of external batteries								Depending on applications			
	Numbers									18-20			
	Charging Current (max.)	8.0 A								2.0 A			
Long-run Model	Charging Voltage	27.4 VDC ± 1%	41.1 VDC ± 1%	41.1 VDC ± 1%	54.8 VDC ± 1%	82.1 VDC ± 1%	82.1 VDC ± 1%	82.1 VDC ± 1%	273.0 VDC ± 1%				
	Charging Voltage	27.4 VDC ± 1%	41.1 VDC ± 1%	41.1 VDC ± 1%	54.8 VDC ± 1%	82.1 VDC ± 1%	82.1 VDC ± 1%	82.1 VDC ± 1%	273.0 VDC ± 1%				
INDICATORS													
LCD Panel	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions												
ALARM													
Battery Mode	Sounding every 4 seconds												
Low Battery	Sounding every second												
Overload	Sounding twice every second												
Fault	Continuously sounding												
PHYSICAL													
Standard Model	Dimension, D x W x H (mm)	380 x 438 x 88 [2U]	480 x 438 x 88 [2U]	480 x 438 x 88 [2U]	480 x 438 x 88 [2U]	600 x 438 x 88 [2U]	600 x 438 x 88 [2U]	600 x 438 x 88 [2U]	UPS Unit : 580 x 438 x 133 [3U] Battery Pack : 580 x 438 x 133 [3U]	UPS Unit : 668 x 438 x 133 [3U] Battery Pack : 580 x 438 x 133 [3U]			
	Net Weight (kgs)	13.2	18.4	18.5	20.6	25.7	29	29	UPS Unit : 17 Battery Pack : 57	UPS Unit : 20 Battery Pack : 63			
Long-run Model	Dimension, D x W x H (mm)	380 x 438 x 88 [2U]	480 x 438 x 88 [2U]	480 x 438 x 88 [2U]	480 x 438 x 88 [2U]	600 x 438 x 88 [2U]	600 x 438 x 88 [2U]	600 x 438 x 88 [2U]	580 x 438 x 133 [3U]	668 x 438 x 133 [3U]			
	Net Weight (kgs)	9.1	11.3	10.7	11.3	14.6	14.8	14.8	17	20			
ENVIRONMENT													
Humidity	20-90% RH @ 0- 40°C (non-condensing)												
Noise Level	Less than 50dB @ 1 Meter								Less than 55dB @ 1 Meter		Less than 58dB @ 1 Meter		
MANAGEMENT													
Smart RS-232/USB	Supports Windows* 2000/2003/XP/Vista/2008, Windows* 7, Linux, Unix, and MAC												
Optional SNMP	Power management from SNMP manager and web browser												

*In LV system, only 12V/7Ah x 3 for 1K model and 12V/7Ah x 6 for 2K model are available.
 NOTE 1: Derate to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC.
 NOTE 2: If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.
 ** L means long-run model

Galleon Rack Battery Pack

Capacity (VA)	1K	1.5K	2K	3K	6K/10K	
Battery Type	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	12 V 7 Ah	12 V 9 Ah
Battery Number	8 pcs	6 pcs	8 pcs	12 pcs	20 pcs	20 pcs
Dimension (DxWxH) mm	480 x 438 x 88			600 x 438 x 88	580 X 438 X 133	
Net Weight (kgs)	31.1	29.1	31.1	43.3	57	63



1K/1.5K/2K/3K Battery Pack



6K/10K Battery Pack

Software

ViewPower - UPS Management Software



- * Allows control and monitoring of multiple UPSs via LAN and INTERNET
- * User-friendly power analysis graphs
- * Real-time dynamic graphs of UPS data
- * Safely OS shutdown and protection from data loss during power failure
- * Warning notifications via audible alarm, broadcast, mobile messenger, and e-mail
- * Scheduled UPS on/off, battery test, programmable outlet control, and audible alarm control
- * Password security protection and remote access management
- * Supports multiple OS and local languages

Accessory

Remote Control & Monitoring Agent

SNMP Card (Integrated with ViewPower Pro software)



- * Allows control and monitoring of multiple UPSs through RJ-45 network connection
- * Real-time dynamic graphs of UPS data (voltage, frequency, load level, battery level)
- * Warning notifications via audible alarm, broadcast, mobile messenger, e-mail and SNMP traps
- * Historic data log stored in centralized PC database
- * Simple firmware upgrade with one click
- * Password security protection and remote access management
- * Supports optional environmental monitoring detector for temperature, humidity and smoke
- * 2-year product warranty

AS-400 Card



9-pin interface



RS-232 interface

- * Capable of selecting the status of the dry-contact signal by setting jumper to meet different application requirements.
- * Suitable applications: IBM Server, Personal PC & Workstations equipments, Auto-controlled industrial equipment & communication applications

Rackmount Slider

Simple installation for mounting Galleon Rack in your server rack enclosure.



PDU & Maintenance Bypass Switch



*Please see page 28 for detailed spec.

External Maintenance Bypass Switch



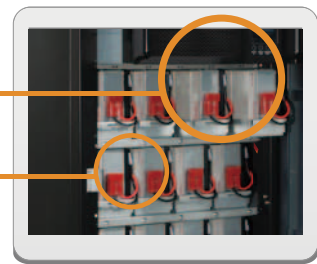
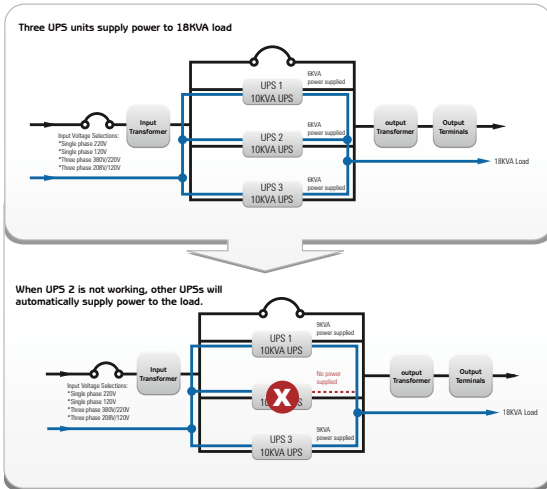
Ensure



ONLINE UPS

- Input voltages wide selections: 1 phase 220V, 1 phase 120V/220V, 3 phase 380V/220V, 3 phase 208V/120V**
 We offer different input voltage selections for self-contained UPS module according to power requirements: single phase 220V, single phase 120V/220V, 3 phase 380V/220V, and 3 phase 208V/120V.
- Up to 3 sets of rack-independent true double-conversion on line UPS**
 Ensure series can be installed up to 3 sets of rack-independent online UPS. Each UPS is self-contained design with true double-conversion technology to provide maximum reliability and flexibility
- N+1 parallel redundancy for power safety and reliability**
 N+1 technology allows a flexible adjustment of UPS power capacity all the time. Should any one UPS is malfunctioning, other UPSs will back up the load immediately. It increases power safety and reliability.

- Built-in isolation transformer boxes in input and output**
 Ensure system is equipped with input/output isolation transformer boxes. It will guarantee 100% protection against unexpected AC power problems.
- Modular design with minimum MTTR**
 Ensure system is built in modular design to simplify the maintenance and upgrades with very low cost MTTR.
- Independent, expandable and modular battery packs for scalable runtime**
 This UPS system is designed to connect to external battery packs and easy to extend runtime by adding battery packs. We offer drawer-style battery packs to fit into 19" chassis. To avoid any errors, it's foolproof design for connection. It simplifies the procedure of maintenance and runtime expansion.



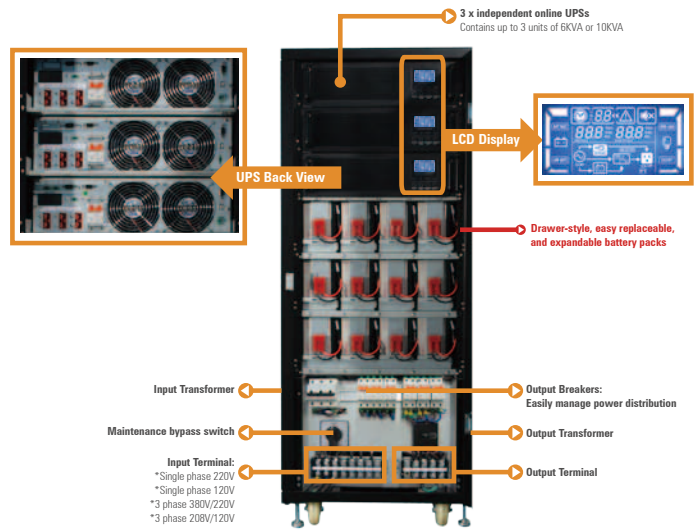
Drawer-style expandable battery packs
Foolproof design for battery connection

- Perfect medium power protection**
 Ensure series provides perfect medium power protection with redundancy for mission critical loads, server room, data center, and telecom applications.

Modular Power Solution for Your Critical Load

Ensure series is entirely self-contained to allow each UPS module to work with complete functionality. Its modular design allows easy to service and upgrade with low cost MTTR. It also can be parallel operated with N+1 redundancy for power safety and reliability. Ensure 30K contains 3 sets of rack-independent online UPS modules, battery packs, and input/output transformer boxes. It's perfect power protection for server room, data center, telecom applications and mission-critical loads.

Parallel Redundancy Rack Online UPS System:



Ensure 18K/30K Online UPS Specification

MODEL	Ensure 18K	Ensure 30K
TOTAL CAPACITY	18KVA	30KVA
UPS UNITS	3 x 6KVA	63 x 10KVA
TOPOLOGY	True Double-Conversion Online with 2+1 Parallel Redundancy Design	
INPUT		
Input Voltage	380/220 VAC 3 Φ4w or 380/220 VAC 3 Φ3w or 208/120 VAC 3 Φ4w or 208/120 VAC 3 Φ3w or 220 VAC 1Φ2w or 120 VAC 1Φ2w	
Frequency Range	46 Hz ~ 54 Hz or 56 Hz ~ 64 Hz	
Power Factor	≥ 0.99 at 100% Load	
OUTPUT		
Output voltage	1Φ2w×2 groups with output transformer, 104/208 VAC or 110/220 VAC or 115/230 VAC or 120/240 VAC	
AC Voltage Regulation	± 1%	
Frequency Range (Synchronized Range)	46 Hz ~ 54 Hz or 56 Hz ~ 64 Hz	
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60Hz ± 0.1 Hz	
Overload	AC mode	100%~105%: 10min 105%~115%: 1min >115% : 1sec
	Battery mode	100%~105%: 30sec 105%~115%: 10sec >115% : 1sec
Current Crest Ratio	3:1 max	
Harmonic Distortion	≤ 3 % @ 100% Linear Load; ≤ 10 % @ 100% Non-linear Load	
Transfer Time	Line ↔ Battery	0ms
	Inverter ↔ Bypass	0ms
	Inverter ↔ ECO	<10 ms
EFFICIENCY		
Single UPS	AC Mode	> 82 %
	Battery Mode	> 81 %
BATTERY		
Type & Numbers	12 V / 9 Ah x 20 (Expandable to 40pcs)	
Recharge Time	3-4 hours recover to 90% capacity	
Charging Current	2 A ± 10% (max.)	
Charging Voltage	273VDC ± 1%	
PHYSICAL		
Single UPS	Dimension, D x W x H(mm)	580 x 438 x 133 [3U]
	Net Weight (kgs)	17
Whole System	Dimension, D x W x H(mm)	860 x 560 x 1450
	Net Weight (kgs)	500
ENVIRONMENT		
Operation Temperature	0 ~ 40°C (the battery life will down when > 25°C)	
Operation Humidity	< 95 % and non-condensing	
Operation Altitude**	<1000m	
Acoustic Noise Level	Less than 55dB @ 1 Meter	
MANAGEMENT		
Smart RS-232 or USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC	
Optional SNMP	Power management from SNMP manager and web browser	

*Product specifications are subject to change without further notice

Galleon X9



Galleon X9 1K(L) / 1.5K(L) / 2K(L) / 3K(L)

Galleon X9 6K(L) / 10K(L)

• True double-conversion online UPS

A true double conversion UPS will provide clean, high level quality power to fully protect mission-critical devices such as sensitive networks, small computer centers servers, telecom applications, as well as for industrial applications.

• Output power factor 0.9

Galleon X9 is a high-density UPS with output power factor 0.9 to provide higher performance and efficiency to critical applications.

• User-friendly and easy-shift LCD display

Galleon X9 1-3K Models: The front panel digital display can be easily shifted through LCD setting to suit the installation format, vertically stand or flat wall mount.

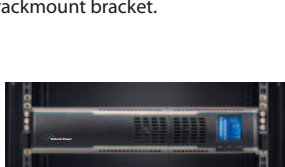


Galleon X9 6-10K Models: The digital display panel can be easily pulled out and rotated to suit the installation format.



• Rack/Tower design

Galleon X9 series is designed in true universal-mount case. It can be easily installed as floor-standing tower or in 19-inch rackmount bracket.



19" rack-mounting



Floor-standing Tower

• Programmable power management outlets

With programmable power management outlets, users can easily and independently control load segments. During power failure, this feature enables users to extend battery time to mission-critical devices by shutting down the non-critical devices.



Programmable Outlets (P1)
- connect to non-critical devices

• 50/60 Hz frequency converter mode

Lock output frequency at 50Hz or 60Hz to suit power sensitive equipments.

• ECO and advanced ECO mode for energy saving

It allows UPS to operate in high efficiency up to 97% in energy-saving ECO mode. In this operation mode, load is supplied by the mains. In the event of a mains failure, the inverter takes over the load and provides supply continuity to the connected systems. Galleon X9 1-3K even offers advanced ECO mode to allow UPS to operate at higher efficiency up to 98%.

• Emergency Power Off Function (EPO)

This feature can secure the personnel and equipment in case of fires or other emergencies.

• Hot-swappable battery design for 1-3K models only

This design ensures clean and uninterruptible power to protected equipment during battery replacement.



• DSP technology applied for 6K and up models

A DSP controller provides an improved and cost-effective solution with high performance.

• Active input power factor correction 0.99 for 6K and up models

This feature will save more energy and its power factor performance is more stable to meet higher environment standards.

Galleon X9 Battery Pack

Capacity	1K	1.5K	2K	3K	6K	10K
Battery Type	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	12 V 9 Ah	12/7Ah	12 V 9 Ah
Battery Number	8 pcs	6 pcs	8 pcs	12 pcs	20 pcs	20 pcs
Dimension (DxWxH)	480 x 438 x 88	480 x 438 x 88	480 x 438 x 88	600 x 438 x 88	580 x 438 x 133	580 x 438 x 133
Net Weight (kgs)	31.1	29.1	31.1	43.3	57	63



1K/1.5K/2K/3K Battery Pack



6K/10K Battery Pack

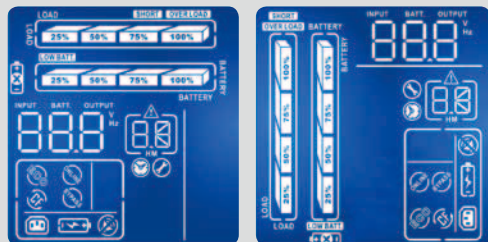
Galleon X9 1KVA/1.5KVA/2KVA/3KVA Rack/Tower Online UPS Selection Guide

MODEL		Galleon X9 1K	Galleon X9 1KL	Galleon X9 1.5K	Galleon X9 1.5KL	Galleon X9 2K	Galleon X9 2KL	Galleon X9 3K	Galleon X9 3KL
PHASE		Single phase with ground							
CAPACITY	VA	1000 VA		1500 VA		2000 VA		3000 VA	
	W	900 W	800 W	1350 W	1200 W	1800 W	1500 W	2700 W	2400 W
INPUT									
Voltage Range	Low Line Transfer	80 VAC / 70 VAC / 60 VAC / 55 VAC ± 5 % or 160 VAC / 140 VAC / 120 VAC / 110 VAC ± 5 % (based on load percentage 100% - 80 % / 80 % - 70 % / 70 % - 60 % / 60 % - 0)							
	Low Line Comeback	85 VAC / 75 VAC / 65 VAC / 60 VAC ± 5 % or 170 VAC / 150 VAC / 130 VAC / 120 VAC ± 5 %							
	High Line Transfer	150 VAC ± 5 % or 300 VAC ± 5 %							
	High Line Comeback	140 VAC ± 5 % or 290 VAC ± 5 %							
Frequency Range		40Hz ~ 70Hz							
Power Factor		≥ 0.99 @ nominal voltage (100% load)							
OUTPUT									
Output Voltage		110/115/120/127 VAC or 208/220/230/240 VAC							
AC Voltage Regulation (Batt. Mode)		± 1%							
Frequency Range (Synchronized Range)		47 ~ 53 Hz or 57 ~ 63 Hz							
Frequency Range (Batt. Mode)		50 Hz ± 0.2 Hz or 60Hz ± 0.2 Hz							
Current Crest Ratio		5:1 (max.)							
Harmonic Distortion		≤ 2 % THD (Linear Load) ; ≤ 8 % THD (Non-linear Load)							
Transfer Time	Line mode to Battery mode	Zero							
	Inverter to Bypass	Zero							
Waveform (Batt. Mode)		Pure Sinewave							
EFFICIENCY									
AC Mode		86%				88%			
Battery Mode		83%				85%			
BATTERY									
Battery Type		12 V / 9 AH		12 V / 9 AH		12 V / 9 AH		12 V / 9 AH	
Numbers		2	Depending on the capacity of external batteries	3	Depending on the capacity of external batteries	4	Depending on the capacity of external batteries	6	Depending on the capacity of external batteries
Typical Recharge Time		4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity	
Charging Current (max.)		1.0 A	4A or 8 A	1.0 A	4A or 8 A	1.0 A	4A or 8 A	1.0 A	4A or 8 A
Charging Voltage		27.4 VDC ± 1%		41.1 VDC ± 1%		54.7 VDC ± 1%		82.1 VDC ± 1%	
INDICATORS									
LCD Display		Load level, Battery level, AC mode, Battery mode, Bypass mode, and Fault indicator							
ALARM									
Battery Mode		Sounding every 4 seconds							
Low Battery		Sounding every second							
Overload		Sounding twice every second							
Fault		Continuously sounding							
PHYSICAL									
Dimension, D x W x H (mm)		380 x 438 x 88		480 x 438 x 88		480 x 438 x 88		600 x 438 x 88	
Net Weight (kgs)		12.9	8.6	17.6	10.7	20.6	11.3	28	13.8
ENVIRONMENT									
Humidity		20-90 % RH @ 0- 40°C (non-condensing)							
Noise Level		Less than 50dBA @ 1 Meter							
MANAGEMENT									
Smart RS-232 / USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC							
Optional SNMP		Power management from SNMP manager and web browser							

* Product specifications are subject to change without further notice

LCD Display Panel:

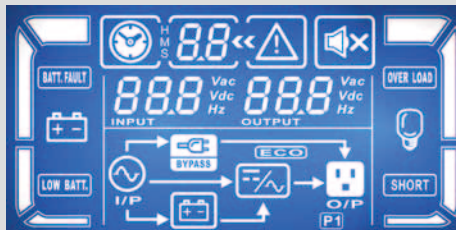
Galleon X9 1-3K



Rack display

Tower display

Galleon X9 6-10K



Galleon X9 6K/10K Rack/Tower Online UPS Selection Guide

MODEL	Galleon X9 6K		Galleon X9 6KL	Galleon X9 10K		Galleon X9 10KL
PHASE	Single phase with ground					
CAPACITY	6000 VA / 5400 W			10000 VA / 9000 W		
INPUT						
Voltage Range	Low Line Transfer			176 VAC @ 100% load 110VAC @ 50% load		
	Low Line Comeback			186 VAC @ 100% load 120VAC @ 50% load		
	High Line Transfer			300 VAC		
	High Line Comeback			290 VAC		
Frequency Range			46-54 Hz or 56-64 Hz			
Power Factor			≥ 0.99 @ 100% load			
OUTPUT						
Nominal Voltage			208/220/230/240 VAC			
AC Voltage Regulation			± 1%			
Frequency Range(Synchronized Range)			46-54 Hz or 56-64 Hz			
Frequency Range(Batt. Mode)			50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz			
Current Crest Ratio			3:1 (max.)			
Harmonic Distortion			≤ 2 % THD (Linear Load), ≤ 6 % THD (Non-linear Load)			
Transfer Time	Bypass to Inverter (Line mode)			Zero		
	Bypass to Inverter (ECO mode)			<10ms		
	Inverter to Bypass (Line mode)			Zero		
	Inverter to Bypass (ECO mode)			Zero		
Waveform (Batt. Mode)			Pure sine wave			
EFFICIENCY						
Line Mode			90%			
Battery Mode			88%			
ECO Mode			97%			
BATTERY						
Nominal Voltage			240 VDC			
Battery Type	12 V / 7 AH		Depending on applications	12 V / 9 AH		Depending on applications
Numbers	20			20		
Charging Current (max.)	1.0 A		4.0 A	1.0 A		4.0 A
Float Charging Voltage			273 VDC			
INDICATORS						
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions					
ALARM						
Battery Mode	Sounding every 4 seconds					
Low Battery	Sounding every second					
Overload	Sounding twice every second					
Fault	Continuously sounding					
PHYSICAL						
Standard Model	Dimension, D x W x H(mm)	UPS unit: 580 x 438 x 133 Battery pack: 580 x 438 x 133 Optional ISO box: 580 x 438x133	580 x 438 x 133	UPS unit: 668 x 438 x 133 Battery pack: 580 x 438 x 133 Optional ISO box: 580 x 438x133	668 x 438 x 133	
	Net Weight (kgs)	UPS unit: 17 Battery pack: 57 Optional ISO box: 57	17	UPS unit: 20 Battery pack: 63 Optional ISO box: 57	20	
ENVIRONMENT						
Operation Humidity	0-95 % RH @ 0-40°C (non-condensing)					
Noise Level	Less than 55dBA @ 1 Meter					
MANAGEMENT						
Smart RS-232 / USB	Supports Windows* 2000/2003/XP/Vista/2008, Windows* 7, Linux, Unix, and MAC					
Optional SNMP	Power management from SNMP manager and web browser					

** If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

* L means long-run model

* Product specifications are subject to change without further notice

Combo



Combo 6K/10K (Attachable & Expandable battery bank) Combo 6KL/10KL

- True double-conversion on line UPS
- DSP technology guarantees high performance
- Output power factor 0.8
- Standard backup UPS and long backup UPS in one integrated unit
- Adjustable battery number from 16 pcs to 20 pcs
- Adjustable charging current via LCD or software (0.5A~6A)
- Wide input voltage range (110-300 VAC)
- Active input power factor correction 0.99
- 50Hz/60Hz frequency converter mode
- Emergency power off function (EPO)
- 3-stage extendable charging design for optimized battery performance
- Maintenance bypass available
- SNMP/USB/RS-232 communications

Combo 6K/10K Online UPS Specification

MODEL		Combo 6K(L)	Combo 10K(L)
PHASE		1 phase in / 1 phase out	
CAPACITY		6000 VA / 4800 W	10000 VA / 8000 W
INPUT			
Voltage Range	Low Line Transfer	110 VAC ± 3% at 50% Load 176 VAC ± 3% at 100% Load	
	Low Line Comeback	120 VAC ± 3% at 50% Load 186 VAC ± 3% at 100% Load	
	High Line Loss	300 VAC ± 3%	
	High Line Comeback	290 VAC ± 3%	
Frequency Range		46Hz ~ 54 Hz or 56Hz ~ 64 Hz	
Power Factor		≥ 0.99 @ 100% load	
OUTPUT			
Output Voltage		208/220/230/240VAC	
AC Voltage Regulation		± 1%	
Frequency Range (Synchronized Range)		46Hz ~ 54 Hz @ 50Hz system ; 56Hz ~ 64 Hz @ 60Hz system	
Frequency Range (Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz	
Current Crest Ratio		3:1 (max.)	
Harmonic Distortion		≤ 3 % THD (Linear Load), ≤ 6 % THD (Non-linear Load)	
Transfer Time	Bypass to Inverter (Line mode)	0ms	
	Inverter to Bypass (Line mode)	0ms	
Waveform (Batt. Mode)		Pure Sinewave	
EFFICIENCY			
Line Mode		90%	
Battery Mode		89%	
BATTERY			
Standard Model	Battery Type	12 V / 9 AH	12 V / 9 AH
	Numbers	16 pcs	20 pcs (16-20 pcs adjustable)
	Typical Recharge Time	9 hours recover to 90% capacity	
	Charging Current	Default:1.0 A ± 10%, Max.:2.0A ± 10%	Default:1.0 A ± 10%, Max.:2.0A ± 10%
	Float Charging Voltage	218.4 VDC ± 1%	273 V DC± 1% (based on 20 pcs batteries)
Long-run Model	Battery Type	Depending on applications	
	Numbers	16-20** (adjustable)	
	Charging Current	Default:4.0 A ± 10%, Max.:6.0A ± 10%	Default:4.0 A ± 10%, Max.:6.0A ± 10%
	Float Charging Voltage	273 VDC ± 1% (based on 20 pcs batteries)	
INDICATORS			
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions	
ALARM			
Battery Mode		Sounding every 4 seconds	
Low Battery		Sounding every second	
Overload		Sounding twice every second	
Fault		Continuously sounding	
PHYSICAL			
Standard Model	Dimension, D x W x H(mm)	369 x 190 x 688	442 x 190 x 688
	Net Weight (kgs)	60	75
Long-run Model	Dimension, D x W x H(mm)	369 x 190 x 318	442 x 190 x 318
	Net Weight (kgs)	21	23
ENVIRONMENT			
Operation Humidity		0-95 % RH @ 0- 40°C (non-condensing)	
Noise Level		Less than 55dBa @ 1 Meter	Less than 58dBa @ 1 Meter
MANAGEMENT			
Smart RS-232 / USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC	
Optional SNMP		Power management from SNMP manager and web browser	

*Derate capacity to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC.
 **When using internal batteries from 16-19, the unit will de-rate according to the below formula: P = P_{Rating} x (N/20 x 100%).
 ***If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.
 Product specifications are subject to change without further notice

Combo Rack/Tower



- True double-conversion on line UPS
- DSP technology guarantees high performance
- Output power factor 0.8
- Adjustable battery number from 16 pcs to 20 pcs
- Adjustable charging current via LCD or software (0.5A~6A)
- Wide input voltage range (110-300 VAC)
- Active input power factor correction 0.99
- 50Hz/60Hz frequency converter mode
- Emergency power off function (EPO)
- 3-stage extendable charging design for optimized battery performance
- SNMP/USB/RS-232 communications

Combo 6K/10K Rack/Tower Online UPS Specification

MODEL		Combo 6KR	Combo 6KRT	Combo 10KR	Combo 10KRT
PHASE		1 phase in / 1 phase out			
CAPACITY		6000 VA / 4800 W		10000 VA / 8000 W	
INPUT					
Voltage Range	Low Line Transfer	110 VAC ± 3% at 50% Load 176 VAC ± 3% at 100% Load			
	Low Line Comeback	120 VAC ± 3% at 50% Load 186 VAC ± 3% at 100% Load			
	High Line Loss	300 VAC ± 3%			
	High Line Comeback	290 VAC ± 3%			
Frequency Range		46Hz ~ 54 Hz @ 50Hz system ; 56Hz ~ 64 Hz @ 60Hz system			
Power Factor		≥ 0.99 @ 100% load			
OUTPUT					
Output Voltage		208/220/230/240VAC			
AC Voltage Regulation		± 1%			
Frequency Range (Synchronized Range)		46Hz ~ 54 Hz @ 50Hz system ; 56Hz ~ 64 Hz @ 60Hz system			
Frequency Range (Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz			
Current Crest Ratio		3:1 (max.)			
Harmonic Distortion		≤ 3 % THD (Linear Load), ≤ 6 % THD (Non-linear Load)			
Transfer Time	Bypass to Inverter (Line mode)	0ms			
	Inverter to Bypass (Line mode)	0ms			
Waveform (Batt. Mode)		Pure Sinewave			
EFFICIENCY					
Line Mode		90%	89%	90%	90%
Battery Mode		89%	88%	89%	89%
BATTERY					
Standard Model	Battery Type	12 V / 9 AH	12 V / 9 AH	12 V / 9 AH	12 V / 9 AH
	Numbers	16 pcs	16 pcs	20 pcs (16-20 pcs adjustable)	20 pcs (16-20 pcs adjustable)
	Typical Recharge Time	9 hours recover to 90% capacity			
	Charging Current	Default:1.0 A ± 10%, Max.:2.0A ± 10%		Default:1.0 A ± 10%, Max.:2.0A ± 10%	
	Float Charging Voltage	218.4 VDC ± 1%		273 VDC ± 1% (based on 20 pcs batteries)	
Long-run Model	Battery Type	Depending on applications			
	Numbers	16-20** (adjustable)			
	Charging Current	Default:4.0 A ± 10%, Max.:6.0A ± 10%		Default:4.0 A ± 10%, Max.:6.0A ± 10%	
	Float Charging Voltage	273 VDC ± 1% (based on 20 pcs batteries)			
INDICATORS					
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions			
ALARM					
Battery Mode		Sounding every 4 seconds			
Low Battery		Sounding every second			
Overload		Sounding twice every second			
Fault		Continuously sounding			
PHYSICAL					
Standard Model	Dimension, D x W x H(mm)	UPS Unit: 580x438x88 [2U] Battery Pack:580x438x133 [3U]	UPS Unit: 580x438x88 [2U] Battery Pack:660x438x88 [2U]	UPS Unit: 668x438x88[2U] Battery Pack:580x438x133[3U]	UPS Unit: 660x438x88 [2U] Battery Pack:580x438x133[3U]
	Net Weight (kgs)	UPS Unit: 15 Battery Pack: 48	UPS Unit: 15 Battery Pack: 48	UPS Unit: 18 Battery Pack: 63	UPS Unit: 18 Battery Pack: 63
Long-run Model	Dimension, D x W x H(mm)	580 x 438 x 88 [2U]		668 x 438 x 88 [2U]	
	Net Weight (kgs)	15	15	18	18
ENVIRONMENT					
Operation Humidity		0-95 % RH @ 0- 40°C (non-condensing)			
Noise Level		Less than 55dBA @ 1 Meter		Less than 58dBA @ 1 Meter	
MANAGEMENT					
Smart RS-232 / USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC			
Optional SNMP		Power management from SNMP manager and web browser			

*Derate capacity to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC.

**When using internal batteries from 16-19, the unit will de-rate according to the below formula: P = P_{Rating} x (N/20 x 100%).

***If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

Product specifications are subject to change without further notice

Galleon 2P/2P



Galleon 2/2-10K
Galleon 2/2-6K
Galleon 2/2-6KL
Galleon 2/2-10KL

- True double-conversion
- DSP technology guarantees high performance
- Output power factor 0.8
- Wide input voltage range (60-150 VAC)
- Active input power factor correction 0.99
- 50Hz/60Hz frequency converter mode
- Eco mode operation for energy saving (ECO)
- Emergency power off function (EPO)
- Generator compatible
- Charger capacity expansion to 8A for long-run models
- SNMP/USB/RS-232 communications
- 3-stage extendable charging design for optimized battery performance
- Maintenance bypass available
- Adjustable battery numbers

Galleon 2-phase in / 2-phase out 6K/10K Online UPS Selection Guide

MODEL		Galleon 2/2 6K	Galleon 2/2 6KL	Galleon 2/2 10K	Galleon 2/2 10KL
PHASE		2-phase in / 2-phase out			
CAPACITY		6000 VA / 4800 W		10000 VA / 8000 W	
INPUT					
Voltage Range	Low Line Transfer	80 VAC (L-N) ± 3% @ 100% load 60 VAC (L-N) ± 3% @ 50% load			
	Low Line Comeback	85 VAC (L-N) ± 3% @ 100% load 65 VAC (L-N) ± 3% @ 50% load			
	High Line Transfer	150 VAC(L-N) ± 3 % at 50% Load 140 VAC(L-N) ± 3 % at 100% Load			
	High Line Comeback	145 VAC (L-N) ± 3%			
Frequency Range		145 VAC(L-N) ± 3 % at 50% Load 135 VAC(L-N) ± 3 % at 100% Load			
Wiring		L1, L2, N with ground			
Phase Angle		0°/120°/180°/240°			
Power Factor		≥ 0.99 @ 100% load			
OUTPUT					
Nominal Voltage		100/110/115/120/127 VAC (L-N)			
Wiring		L1, L2, N with ground			
Phase Angle		0°/120°/180°/240°			
AC Voltage Regulation(Batt. Mode)		± 1%			
Frequency Range(Synchronized Range)		46-54 Hz or 56-64 Hz			
Frequency Range(Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz			
Current Crest Ratio		3:1 (max.)			
Harmonic Distortion		≤ 2 % THD (Linear Load), ≤ 5 % THD (Non-linear Load)			
Transfer Time	Bypass to Inverter (Line mode)	Zero			
	Bypass to Inverter (ECO mode)	<10ms			
	Inverter to Bypass (Line mode)	Zero			
	Inverter to Bypass (ECO mode)	Zero			
Waveform (Batt. Mode)		Pure sine wave			
EFFICIENCY					
AC Mode		89%			
Battery Mode		85%			
ECO Mode		96%			
BATTERY					
Nominal Voltage		120 VDC			
Battery Type		12 V / 7 AH		12 V / 9 AH	
Numbers		10 pcs x 2 strings	Depending on applications	10 pcs x 2 strings	Depending on applications
Typical Recharge Time		5 hours recover to 90% capacity		7 hours recover to 90% capacity	
Charging Current (max.)		2.0 A	8.0 A	2.0 A	8.0 A
Float Charging Voltage		136.5 VDC			
INDICATORS					
LCD Display		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions			
ALARM					
Battery Mode		Sounding every 4 seconds			
Low Battery		Sounding every second			
Overload		Sounding twice every second			
Fault		Continuously sounding			
PHYSICAL					
Standard Model	Dimension, D x W x H(mm)	592 x 250 x 576		592 x 250 x 826	
	Net Weight (kgs)	83	28	100	38
ENVIRONMENT					
Operation Humidity		0-95 % RH @ 0- 40°C (non-condensing)			
Noise Level		Less than 60dBA @ 1 Meter			
MANAGEMENT					
Smart RS-232 / USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC			
Optional SNMP		Power management from SNMP manager and web browser			

** If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.

* L means long-run model

* Product specifications are subject to change without further notice

Galleon 3P/1P Tower



- True double-conversion
- DSP technology guarantees high performance
- Output power factor 0.8
- Wide input voltage range (110-300 VAC)
- Active power factor correction in all phases
- Built-in phase auto adapt function simplifies wire installation
- 50Hz/60Hz frequency converter mode
- Eco mode operation for energy saving (ECO)
- Programmable power management outlets
- Emergency power off function (EPO)
- Generator compatible
- Charger capacity expansion to 8A for long-run models
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers
- Maintenance bypass available
- Optional N+X parallel redundancy
- Optional isolation transformer available

ONLINE UPS

Galleon 3-phase in/1-phase out 10KVA/15KVA/20KVA Online UPS Selection Guide

MODEL	Galleon 3/1-10K (L)	Galleon 3/1-10K ISO (L)	Galleon 3/1-15K (L)	Galleon 3/1-20K (L)	Galleon 3/1-20K ISO (L)	
PHASE	3-phase in / 1-phase out					
CAPACITY	10000 VA/8000 W	10000 VA/8000 W	15000 VA/12000 W	20000 VA/16000 W	20000 VA/16000 W	
INPUT						
Voltage Range	Low Line Transfer	176 VAC (phase voltage) ± 3% @ 100% load 110 VAC (phase voltage) ± 3% @ 50% load				
	Low Line Comeback	186 VAC (phase voltage) ± 3% @ 100% load 120 VAC (phase voltage) ± 3% @ 50% load				
	High Line Transfer	300 VAC (phase voltage) ± 3%				
	High Line Comeback	290VAC (phase voltage) ± 3%				
Frequency Range	46~54Hz or 56~64Hz					
Power Factor	≥ 0.99 @ 100% load					
OUTPUT						
Output Voltage	208/220/230/240VAC	104/110/115/120VAC or 208/220/230/240VAC	208/220/230/240VAC		104/110/115/120VAC or 208/220/230/240VAC	
AC Voltage Regulation (Batt. Mode)	± 1%					
Frequency Range (Synchronized Range)	46~54Hz or 56~64Hz					
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz					
Current Crest Ratio	3:1					
Harmonic Distortion	≤ 2% THD (Linear Load)	≤ 2% THD (Linear Load)	≤ 2% THD (Linear Load)	≤ 2% THD (Linear Load)	≤ 2% THD (Linear Load)	
	≤ 5% THD (Non-linear Load)	≤ 6% THD (Non-linear Load)	≤ 5% THD (Non-linear Load)	≤ 5% THD (Non-linear Load)	≤ 7% THD (Non-linear Load)	
Transfer Time	AC Mode to Batt. Mode	Zero				
	Inverter to Bypass	Zero				
Waveform (Batt. Mode)	Pure sine wave					
EFFICIENCY						
AC Mode	89%	85%	89%	89%	87%	
Battery Mode	86%	83%	88%	87%	83%	
BATTERY						
Standard Model	Battery Type	12 V / 9 Ah				
	Numbers	20 pcs (18-20 pcs adjustable)	20 pcs x 2 strings (18-20 pcs adjustable)		N/A	
	Typical Recharge Time	9 hours recover to 90% capacity				
	Charging Current (max.)	1A	1A	2A		2A
Long-run Model	Charging Voltage	273 VDC ± 1%				
	Battery Type	Depending on applications				
	Numbers					
	Charging Current (max.)	4A	4A	8A		
Charging Voltage	273 VDC ± 1%					
INDICATORS						
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions					
ALARM						
Battery Mode	Sounding every 4 seconds					
Low Battery	Sounding every second					
Overload	Sounding twice every second					
Fault	Continuously sounding					
PHYSICAL						
Standard Model	Dimension, D x W x H (mm)	592 x 250 x 576	592 x 250 x 826	815 x 250 x 826		
	Net Weight (kgs)	83	144	164	164	
Long-run Model	Dimension, D x W x H (mm)	592 x 250 x 576	592 x 250 x 826	592 x 250 x 576	592 x 250 x 576	
	Net Weight (kgs)	28	91	40	40	
ENVIRONMENT						
Humidity	0-95 % RH @ 0- 40°C (non-condensing)					
Noise Level	Less than 58dB @ 1 Meter			Less than 60dB @ 1 Meter		
MANAGEMENT						
Smart RS-232 / USB	Supports Windows* 2000/2003/XP/Vista/2008, Windows* 7, Linux, Unix, and MAC					
Optional SNMP	Power management from SNMP manager and web browser					

* Derate capacity to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC.
 ***If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.
 ***L means long-run model

Galleon 3P/1P Rackmount



- True double-conversion
- DSP technology guarantees high performance
- Output Power Factor 0.8
- Wide input voltage range (110-300 VAC)
- Active power factor correction in all phases
- 50Hz/60Hz frequency converter mode
- Eco mode operation for energy saving (ECO)
- Emergency power off function (EPO)
- Generator compatible
- Charger capacity expansion to 8A for long-run models
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers
- Optional N+X parallel redundancy

Galleon 3-phase in / 1-phase out 10K/20K Rack Online UPS Selection Guide

MODEL		Galleon 3/1-10K (L) RACK		Galleon 3/1-20K (L) RACK	
PHASE		3-phase in /		1-phase out	
CAPACITY		10000 VA/8000 W		20000 VA / 16000 W	
INPUT					
Voltage Range	Low Line Transfer	176 VAC (phase voltage) ± 3% @ 100% load 110 VAC (phase voltage) ± 3% @ 50% load			
	Low Line Comeback	186 VAC (phase voltage) ± 3% @ 100% load 120 VAC (phase voltage) ± 3% @ 50% load			
	High Line Transfer	300 VAC (phase voltage) ± 3%			
	High Line Comeback	290VAC (phase voltage) ± 3%			
Frequency Range		46~54 Hz or 56~64Hz			
Power Factor		≥ 0.99 @ 100% load			
THDi		< 6% @ 100% load			
OUTPUT					
Output Voltage		208/220/230/240VAC			
AC Voltage Regulation (Batt. Mode)		± 1%			
Frequency Range (Synchronized Range)		46~54Hz or 56~64Hz			
Frequency Range (Batt. Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz			
Current Crest Ratio		3:1			
Harmonic Distortion		≤ 2 % THD (Linear Load) ≤ 5 % THD (Non-linear Load)			
Transfer Time	AC Mode to Batt. Mode	Zero			
	Inverter to Bypass	Zero			
Waveform (Batt. Mode)		Pure sine wave			
EFFICIENCY					
AC Mode		89%			
Battery Mode		86%		87%	
BATTERY					
Standard Model	Battery Type	12 V / 9 Ah			
	Numbers	20 pcs (28-20 pcs adjustable)		20 pcs x 2 strings (18-20 pcs adjustable)	
	Typical Recharge Time	9 hours recover to 90% capacity			
	Charging Current (max.)	1A		1A	
Charging Voltage		13.65 V ± 1% / per battery			
Long-run Model	Battery Type	Depending on the capacity of external batteries			
	Numbers				
	Charging Current (max.)	2A		4A	
	Charging Voltage	13.65 V ± 1% / per battery			
INDICATORS					
LCD Display		UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions			
ALARM					
Battery Mode		Sounding every 4 seconds			
Low Battery		Sounding every second			
Overload		Sounding twice every second			
Fault		Continuously sounding			
PHYSICAL					
Standard Model	Dimension, D x W x H(mm)	UPS unit:668X438X133(3U) Battery pack: 580X438X133(3U)		UPS unit:668X438X266(6U) 2 x Battery pack: 580X438X133(3U)	
	Net Weight (kgs)	UPS unit: 23 Battery pack: 63		UPS unit: 38 Battery pack: 63	
Long-run Model	Dimension, D x W x H(mm)	668X438X133(3U)		668X438X266(6U)	
	Net Weight (kgs)	23		38	
ENVIRONMENT					
Operation Humidity		0-95 % RH @ 0- 40°C (non-condensing)			
Noise Level		Less than 58dB @ 1 Meter		Less than 60dB @ 1 Meter	
MANAGEMENT					
Smart RS-232 / USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC			
Optional SNMP		Power management from SNMP manager and web browser			

* Derate capacity to 60% of capacity in CVCF mode and to 90% when the output voltage is adjusted to 208VAC.
 **If the UPS is installed or used in a place where the altitude is above than 1000m, the output power must be derated one percent per 100m.
 ***L means long-run model

Galleon 3P/3P



- True double-conversion
- DSP technology guarantees high performance
- Output Power Factor 0.8
- Wide input voltage range (110-300 VAC)
- Active power factor correction in all phases
- 550Hz/60Hz frequency converter mode
- Eco mode operation for energy saving (ECO)
- Accepts dual power inputs
- Emergency power off function (EPO)
- Generator compatible
- SNMP+USB+RS-232 multiple communications
- 3-stage extendable charging design for optimized battery performance
- Adjustable battery numbers
- Maintenance bypass available
- Optional N+X parallel redundancy
- Optional isolation transformer offers full isolation and complete common mode noise

ONLINE UPS

Galleon 3-phase in/3-phase out 10KVA/15KVA/20KVA Online UPS Selection Guide

MODEL	Galleon 3/3-10K (L)	Galleon 3/3-15K (L)	Galleon 3/3-20K (L)	
PHASE		3 phase in / 3 phase out		
CAPACITY	10000 VA / 8000 W	15000 VA / 12000 W	20000 VA / 16000 W	
INPUT				
Voltage Range	Low Line Transfer	176 VAC (phase voltage) ± 3% @ 100% load 110 VAC (phase voltage) ± 3% @ 50% load		
	Low Line Comeback	186 VAC (phase voltage) ± 3% @ 100% load 120 VAC (phase voltage) ± 3% @ 50% load		
	High Line Transfer	300 VAC (phase voltage) ± 3%		
	High Line Comeback	290VAC (phase voltage) ± 3%		
Frequency Range	46-54 Hz or 56-64Hz			
Power Factor	≥ 0.99 @ 100% load			
THDi	< 6% @ 100% load			
OUTPUT				
Output Voltage	3 x 400V (3Ph+N)			
AC Voltage Regulation (Batt. Mode)	± 1%			
Frequency Range (Synchronized Range)	46-54Hz or 56-64Hz			
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz			
Current Crest Ratio	3:1 (max.)			
Harmonic Distortion	≤ 2 % THD (Linear Load)	≤ 2 % THD (Linear Load)	≤ 2 % THD (Linear Load)	
	≤ 5 % THD (Non-linear Load)	≤ 5 % THD (Non-linear Load)	≤ 5 % THD (Non-linear Load)	
Transfer Time	AC Mode to Batt. Mode	Zero		
	Inverter to Bypass	Zero		
Waveform (Batt. Mode)	Pure sine wave			
EFFICIENCY				
AC Mode	89%	89%	89%	
Battery Mode	86%	88%	87%	
BATTERY				
Standard Model	Battery Type	12 V / 9 Ah		
	Numbers	20 pcs (18-20 pcs adjustable)	20 pcs x 2 strings (18-20 pcs adjustable)	20 pcs x 2 strings (18-20 pcs adjustable)
	Typical Recharge Time	9 hours recover to 90% capacity		
	Charging Current (max.)	1A	2A	2A
Long-run Model	Charging Voltage	273 VDC ± 1%		
	Battery Type	Depending on the capacity of external batteries		
	Numbers			
	Charging Current (max.)	4A	8A	8A
	Charging Voltage	273 VDC ± 1%		
INDICATORS				
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault			
ALARM				
Battery Mode	Sounding every 4 seconds			
Low Battery	Sounding every second			
Overload	Sounding twice every second			
Fault	Continuously sounding			
PHYSICAL				
Standard Model	Dimension, D x W x H(mm)	592 X 250 X 576	815 x 250 x 826	
	Net Weight (kgs)	83	164	164
Long-run Model	Dimension, D x W x H(mm)	592 X 250 X 576	592 X 250 X 576	592 X 250 X 576
	Net Weight (kgs)	28	40	40
ENVIRONMENT				
Humidity	0-95 % RH @ 0- 40°C (non-condensing)			
Noise Level	Less than 58dB @ 1 Meter	Less than 60dB @ 1 Meter		
MANAGEMENT				
Smart RS-232 / USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC			
Optional SNMP	Power management from SNMP manager and web browser			

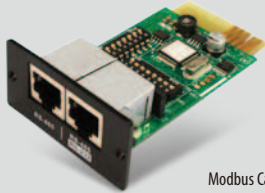
* L means long-run model.

** Product specifications are subject to change without further notice.

Remote Monitoring & Management



SNMP Card



Modbus Card



EMD

SNMP Card

- Allows control and monitoring of multiple UPSs through RJ-45 network connection
- Real-time dynamic graphs of UPS data (voltage, frequency, load level, battery level)
- Warning notifications via audible alarm, broadcast, mobile messenger, e-mail and SNMP traps
- Historic data log stored in centralized PC database
- Simple firmware upgrade with one click
- Password security protection and remote access management
- Supports optional environmental monitoring detector for temperature, humidity and smoke
- 2-year product warranty

Modbus Card

- Supports Modbus RTU protocol
- Built-in dip switch for RS-485 configuration
- Real-time control and monitoring of multiple UPSs or inverters via RS-232/RS-485 communication port

Environmental Monitoring Device (EMD)

- Plug & use for simple installation with SNMP manager
- Monitor temperature and humidity to protect your precious equipment
- Allow 4 contact closure signals for user-defined usage
- Management software to remote monitor temperature and humidity status via web browser
- Measure temperatures between 0 to 100°C with an accuracy of $\pm 1.5^\circ\text{C}$
- Measure relative humidity between 10 to 90% RH with an accuracy of $\pm 3\%$
- Optional smoke alarm available

Software

ViewPower Pro for UPS



ViewPower Pro is UPS management software which is perfect for home users and enterprises. It can monitor and manage from one to multiple UPSs in a networked environment including LAN, INTERNET and Modbus networks. Integrated with Shutdown Wizard, it can not only prevent data loss from power outage and safely shutdown systems, but also store programming data and scheduled shut down UPSs. All UPS working data and event records can be kept in local database system.

SolarPower Pro for PV inverter



SolarPower Pro is a solar inverter monitoring software to monitor up to 247 devices via LAN, internet, or modbus interface. It also provides web browser capability in a networked environment. The major functions of SolarPower Pro monitoring software include data log for devices, power generation statistics, alarm messages, fault messages, and parameter setting for devices.



Mobile version

Synergy



- Isolation design
- Input power factor correction
- Microprocessor controlled to guarantee stable charging system
- User-adjustable charging current based on applications
- Three-stage smart charging
- Output short circuit protection
- Maximum current restriction
- Over-voltage protection
- Thermal control protection and reversal polarity protection
- Parallel operation

Synergy Super Smart Charger Selection Guide

MODEL	Synergy-240	Synergy-192	Synergy-144	Synergy-120	Synergy-96	Synergy-72	Synergy-48	Synergy-36	Synergy-24
INPUT									
Acceptable Input Voltage	170-280 VAC								
Acceptable Input Frequency	50/60 Hz								
Current	8 A (max.) @ full load								
OUTPUT									
Maximum Output Current	4 A ± 0.4 A	5 A ± 0.5 A	7 A ± 0.7 A	8 A ± 0.8 A	10 A ± 1 A	12 A ± 1.2 A	15 A ± 1.5 A	15 A ± 1.5 A	20 A ± 2 A
Power Efficiency	≥ 80%								
Output Voltage	240 V	192 V	144 V	120 V	96 V	72 V	48 V	36 V	24 V
Maximum Output Charging Power	960 W	960 W	1000 W	960 W	960 W	960 W	720 W	540 W	480W
Floating Charging Voltage	273.6 Vdc ± 2.7 Vdc	219.2 Vdc ± 2.2 Vdc	164.4 Vdc ± 1.6 Vdc	137 Vdc ± 1.4 Vdc	109.6 Vdc ± 1.1 Vdc	82.2 Vdc ± 0.8 Vdc	54.8 Vdc ± 0.6 Vdc	41.1Vdc ± 0.5 Vdc	27.4Vdc ± 0.3 Vdc
Boost Charging Voltage	283.2 Vdc ± 2.8 Vdc	225.6 Vdc ± 2.3 Vdc	169.2 Vdc ± 1.7 Vdc	141 Vdc ± 1.4 Vdc	112.8 Vdc ± 1.1 Vdc	84.6 Vdc ± 0.8 Vdc	56.4 Vdc ± 0.6 Vdc	42.3 Vdc ± 0.5 Vdc	28.2 Vdc ± 0.3 Vdc
Selectable Charging Current @ Constant Current Mode	1 A ~ 4 A	1 A ~ 5 A	1 A ~ 7 A	2 A ~ 8 A	2 A ~ 10 A	2 A ~ 12 A	3 A ~ 15 A	3 A ~ 15 A	2 A ~ 20 A
PROTECTION									
Full Protection	Over-voltage protection, thermal control protection, maximum output current protection, short circuit protection, and reversal polarity protection								
INDICATOR									
Charger On/Off	Green LED lighting								
Boost Charging Status	Yellow LED lighting								
Floating Charging Status	Green LED lighting								
High Battery Voltage @ Charging	Green LED flashing								
Normal Battery Voltage @ Charging	Yellow LED flashing								
Low Battery Voltage @ Charging	Red LED flashing								
PHYSICAL									
Dimension, D X W X H (mm)	300 x 177 x 90								
Net Weight (kgs)	3.6	3.6	3.6	3.6	3.1	3.1	3.1	3.1	3.1
ENVIRONMENT									
Humidity	5-95 % RH (non-condensing)								
Operating Temperature	0°C to 40°C								
Noise Level	< 50 dBA @ CC mode & full load								
Cooling System	Auto adjustable speed depending on load level								

* Product specifications are subject to change without further notice

Redundant Backup System

- 10A and 16A max input current
- Dual power supply for redundancy
- Simple solution guarantees power continuity for connected equipment
- Highly reliability 19" rack design to fit into a diverse working environment

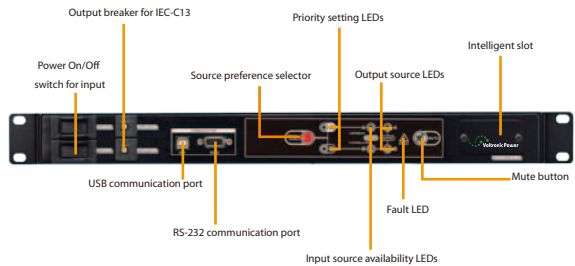
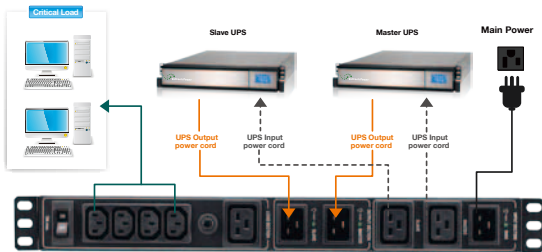


Automatic Transfer Switch

- 16A max input current
- Powered by two separately independent power sources
- Dual power supply for redundancy
- Provides seamless power switch for IT equipment
- Preferred source selection on front panel
- Highly reliability 19" rack design (1U) to fit into a diverse working environment
- Built-in USB and RS-232 communications



System Configuration:



Redundant Backup System Selection Guide

MODEL	RBS-IEC-10A	RBS-IEC-16A
INPUT		
Input Voltage	208/220/230/240 VAC	
Acceptable Input Voltage	100 - 280 VAC	
Input Frequency	40-70 Hz	
Nominal Input Current	10 A	16 A
OUTPUT		
Output Voltage	208/220/230/240 VAC	
Maximum Output Current	10 A	16 A
Output Voltage	Master UPS --> Slave UPS	10 ms max.
	Slave UPS --> Master UPS	4 ms max.
CONNECTION		
Mains Connector	1 x IEC-C14	1 x IEC-C20
UPS Input Connector	2 x IEC-C13	2 x IEC-C19
UPS Output Connector	2 x IEC-C14	2 x IEC-C20
Load Connectors	6 x IEC-C13	4 x IEC-C13 and 1 x IEC-C19
INDICATORS		
Power LED	Green lighting	
Master UPS LED	Green lighting	
Slave UPS LED	Green lighting	
PHYSICAL		
Dimension, D X W X H (mm)	98 X 438 X 50	
Net Weight (kgs)	1.8	
ENVIRONMENT		
Operating Temperature	0-90 % RH @ 0- 40°C (non-condensing)	

* Product specifications are subject to change without further notice

Automatic Transfer Switch Selection Guide

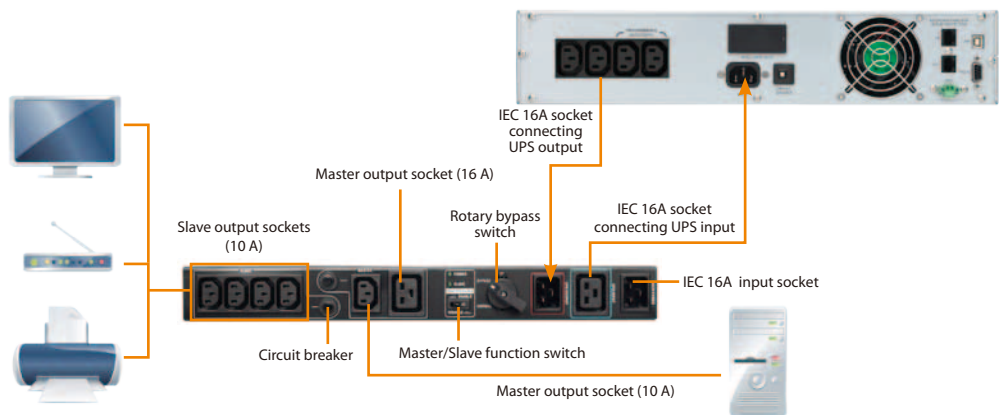
MODEL	ATS
INPUT	
Input Voltage	220/230/240 VAC
Acceptable Input Voltage	180 - 258 VAC
Input Frequency	50 Hz / 60 Hz
Maximum Input Current	16 A
OUTPUT	
Output Voltage	220/230/240 VAC
Maximum Output Current	10 A for IEC-C13 outlets 16 A for IEC-C19 outlet
CONNECTION	
Input	2 x IEC-C20 inlets
Output	8 x IEC-C13 1 x IEC-C19
Communication	USB/RS-232
Transfer time	9-12ms (Typical)
PHYSICAL	
Dimension, D X W X H (mm)	330 X 483 X 44
Net Weight (kgs)	5
Net Weight (including accessories) (kgs)	8
ENVIRONMENT	
Operating Temperature	20-95 % RH @ -5-45°C (non-condensing)

* Product specifications are subject to change without further notice

PDU & Maintenance Bypass Switch



- 16A for 208/220/230/240 VAC, 20A for 110/115/120/127 VAC
- Provides continuous power to connected equipment during UPS maintenance
- Easy operation with simple rotary switch and indicators
- Master-slave function for energy saving
- Provides a large number of sockets for extended usage
- Provides rack and tower designs to fit into a diverse working environment
- Simple installation with plug-and-play socket type
- Suitable for all UPSs up to 3KVA



PDU & Maintenance Bypass Switch Selection Guide

MODEL		MBS-Rack	MBS-Tower
Current Rating		16 A max. for 208/220/230/240 VAC 20 A max. for 110/115/120/127 VAC	
Voltage Rating		208/220/230/240 VAC or 110/115/120/127 VAC	
Master/Slave Function		Yes. When power consumption in Master outlet is lower than 20W (± 5W), it will shut off the power for slave outlets.	N/A
CONNECTION			
Input	AC Power	1 x IEC (16 A) connector and 1 x customized plug cable	
	UPS Input	1 x IEC (16A) connector and 1 x cable (16A - 10A IEC cable for 1K/2K, 16A - 16A IEC cable for 3K)	
	UPS Output	1 x IEC (16 A) connector and 1 x cable (16A - 10A IEC cable for 1K/2K, 16A - 16A IEC cable for 3K)	
Output	IEC	5 x IEC 10A sockets + 1 x IEC 16A socket (with 2 circuit breakers)	8 x IEC 10A sockets + 1 x IEC 16A socket (with 2 circuit breakers)
	Schuko	4 x Schuko 16A sockets	4 x Schuko 16A sockets
	UK	4 x UK 13A sockets	4 x UK 13A sockets
	NEMA	5 x NEMA 20A sockets	6 x NEMA 20A sockets
PHYSICAL			
Dimension, D x W x H(mm)	IEC	80 x 438 x 50	180 x 160 x 50
	Schuko	80 x 438 x 60	180 x 200 x 50
	UK		
	NEMA	80 x 438 x 50	180 x 160 x 50
Net Weight (kgs)		1.5	1.3
ENVIRONMENT			
Operating Temperature		20-90 % RH @ 0- 40°C (non-condensing)	

* Product specifications are subject to change without further notice

Frigate ECO

**Li-battery
Inside**



- 5KVA Online UPS
- True double-conversion
- Highest power density UPS with built-in Li batteries
- Output power factor 0.9
- Rack/Town design
- Wide input voltage range (170-280 VAC)
- Input power factor correction 0.95 up to 0.99
- Programmable power management outlets
- Eco mode operation for energy saving (ECO)
- Remaining backup time estimation
- Smart battery charger design for optimization battery performance

**30% footprint saving
over lead-acid battery**



Frigate ECO 5KVA Online UPS Selection Guide

MODEL		Frigate ECO 5K
CAPACITY		5000 VA / 4500 W
INPUT		
Voltage Range	Low Line Transfer	170 VAC \pm 5 %
	Low Line Comeback	180 VAC \pm 5 %
	High Line Transfer	280 VAC \pm 5 %
	High Line Comeback	270 VAC \pm 5 %
Frequency Range		40 ~ 70 Hz (Auto sensing)
Phase		Single phase with ground
Power Factor		\geq 0.99 @ 170-260 VAC
Input THDI		\leq 3% optimization (@ 170-260Vac & full load condition)
OUTPUT		
Output Voltage		220/230/240 VAC
AC Voltage Regulation (Batt. Mode)		\pm 1%
Frequency Range (Synchronized Range)		47 ~ 53 Hz or 57 ~ 63 Hz
Frequency Range (Batt. Mode)		50 Hz \pm 0.5% or 60Hz \pm 0.5%
Current Crest Ratio		3:1
Harmonic Distortion		\leq 3 % THD (Linear Load) \leq 6 % THD (Non-linear Load)
Transfer Time	AC Mode to Batt. Mode	Zero
	Inverter to Bypass	4 ms (Typical)
Waveform (Batt. Mode)		Pure sinewave
EFFICIENCY		
AC Mode		90%
Battery Mode		88%
Battery Mode		95%
BATTERY		
Battery Type		Li battery, 96V 5.2 Ah
Battery Cells		32 series 4 parallel
Battery Voltage		96V
Backup Time @ full load		5 minutes (typical)
Typical Recharging Time		2 hours recover to 90% capacity
INDICATORS		
LCD Panel		UPS status, Load level, Battery level, Input/Output voltage, Remaining backup time and Fault
PHYSICAL		
Dimension, D x W x H (mm)		600 X 438 X 88 [2U]
Net Weight (kgs)		12.5
ENVIRONMENT		
Humidity		20-90 % RH @ 5- 40°C (non-condensing)
Noise Level		Less than 55dBA @ 1 Meter
MANAGEMENT		
Smart RS-232/USB		Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC
Optional SNMP		Power management from SNMP manager and web browser

* Product specifications are subject to change without further notice

ECO



- 1KVA/2KVA standby UPS
- Rackmount form factor to suite into 19" chassis
- High frequency design with built-in Li-battery
- Auto restart while AC is recovering
- Simulated sine wave
- Off-mode charging
- Cold start function
- RS-232 and dry contact communication ports
- Overload, overcharge, and short circuit protection

ECO 1KVA/2KVA Standby UPS Selection Guide

MODEL	ECO 1K	ECO 2K
CAPACITY	1000 VA / 600 W	2000 VA / 1200 W
INPUT		
Frequency Range	220/230/240 VAC	
Phase	176-264 VAC	
Power Factor	60/50 Hz (auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	±10%	
Frequency Range (Batt. Mode)	60 Hz or 50 Hz ±1 Hz	
Transfer Time	Typical 10ms	
Waveform (Batt. Mode)	Simulated Sine Wave	
BATTERY		
Battery Type	Li-battery 24V 20Ah	Li-battery 24V 20AH
Battery Cell	2 parallel	4 parallel (2pcs are built in UPS unit and 2pcs are in the battery cabinet)
Battery Voltage	24V	24V
Backup Time @ full load	1 hour and 20 minutes (typical)	
Typical Recharge Time	8 hours recover to 90% capacity	
INDICATORS		
AC Mode	Green lighting	
Battery Mode	Yellow lighting	
Low Battery	Yellow flashing	
Fault	Red lighting	
ALARM		
LCD Panel	Sounding every 2 seconds	
LCD Panel	Sounding every 0.5 second	
LCD Panel	Continuously sounding	
PHYSICAL		
Dimension, D x W x H (mm)	512 x 438 x 86.2	UPS: 512 x 438 x 86.2 Battery: 512 x 438 x 86.2
Net Weight (kgs)	21.2	UPS: 22.5 Battery: 21.5
OPERATING ENVIRONMENT		
Humidity	0-90 % RH @ 0- 40°C (non-condensing)	
Noise Level	Less than 40dB	
MANAGEMENT		
RS-232 Port	Supports Windows® 2000/2003/XP/Vista/2008/7, Linux, Unix, and MAC	

* Product specifications are subject to change without further notice

Inverters

Viva

- 30W inverter for energy saving bulbs
- External battery connector available
- Built-in solar charger (Option)
- Auto restart while AC is recovering
- Off mode charging
- Overload protection in battery mode and short circuit protection
- Three indicators available



Atom

- 600VA simulated sine wave inverter
- Wide input voltage range
- 10 A standard charging current.
- Auto restart while AC is recovering
- Overload, deep discharge, overcharge, and short circuit protection
- Cold start function
- Built-in solar charger (Option)
- Offering LED or LCD front panels for selection



INVERTER & AVR

Viva 30W Inverter Selection Guide

MODEL	Viva 30
CAPACITY	30 W
INPUT	
Voltage	230 VAC
Voltage Range	100 VAC - 300 VAC
OUTPUT	
Output Voltage (Batt. Mode)	160-230 VDC ± 10%
Waveform (Batt. Mode)	DC Output
BATTERY	
Battery Voltage	12 VDC
Floating Voltage	13.7V ±1.5%
Charging Current	1 A
Typical Recharge Time	4 hours recover to 90% capacity
PROTECTION	
Overload Protection	120% max. in inverter mode
Short Circuit Protection	AC fuse for outputs in AC mode, software protection in inverter mode
INDICATORS	
Full battery at Line Mode	Green lighting
Charging battery at Line Mode	Green flashing every 3 seconds
Normal battery voltage at Battery Mode	Yellow lighting
Low battery at Battery Mode	Yellow flashing every 2 seconds
Output short-circuited	Red lighting
Overload	Red flashing for 0.5 second every second
Overcharge	Red flashing every 5 seconds
PHYSICAL	
Dimension, D x W x H (mm)(@ vertically stand)	228 x 82.5 x 207
Net Weight (kgs)	0.67
ENVIRONMENT	
Humidity	0-90 % RH @ 0- 40°C (non-condensing)
Noise Level	Less than 40dB

* Product specifications are subject to change without further notice

Atom 600VA Inverter Selection Guide

MODEL	Atom 600	
CAPACITY	600 VA / 480 W	
INPUT		
Voltage	230 VAC	
Voltage Range	100 - 290 VAC	
Frequency Range	60/50 Hz (auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	200V ~ 230V ± 5%	
Transfer Time	13 ms (typical)	
Waveform (Batt. Mode)	Simulated Sine Wave	
Peak Efficiency (AC Mode)	> 95% @ Rated R load and battery full charged	
BATTERY		
Battery Voltage	12 VDC	
Floating Charge Voltage	13.7 VDC ± 2%	
Low Battery Alarm Voltage	10.8 VDC ± 2%	
Shutdown Voltage	10.0 VDC ± 2%	
Overcharge Protection	15.0 VDC ± 2%	
Maximum Charge Current	13 A	
PROTECTION		
Full Protection	Overload, deep discharge, overcharge, and short circuit protection	
INDICATORS		
LCD Display	AC Mode, Battery Mode, Load Level, Battery Level, Input Voltage, Output Voltage, Overload, Fault, and Low Battery	
LED Display	Line Mode	Green lighting
	Battery Mode	Yellow flashing
	Fault	Red lighting
ALARM		
Low Battery	Sounding every second	
Overload	Sounding every 0.5 second	
Fault	Continuously sounding	
PHYSICAL		
Dimension, D X W X H (mm)	358.5 x 96.8 x 146.5	
Net Weight (kgs)	4.6	
ENVIRONMENT		
Humidity	0 to 90% Relative Humidity(Non-condensing)	
Operating Temperature	0°C to 40°C	
Storage Temperature	-15°C to 50°C	

* Product specifications are subject to change without further notice

Mighty

- 850VA/1.5KVA simulated sine wave inverter
- Selectable input voltage range for home appliances or personal computers
- 12VDC or 24VDC available
- Selectable charging current : 10A or 20A
- Auto restart while AC is recovering
- Overload and short circuit protection
- Generators & Computer-related devices compatible
- Offering LED and LCD panels for selection
- Cold start function



Mighty Pro

- 1.5KVA/2KVA pure sine wave inverter
- Selectable input voltage range for home appliances and personal computers
- 24VDC
- Selectable charging current: 10A or 20A
- Auto restart while AC is recovering
- Overload and short circuit protection
- Generators & Computer-related devices compatible
- Smart battery charger design for optimized battery performance
- Offering LED or LCD front panels for selection
- Cold start function



Mighty 850VA/1.5KVA Inverter Selection Guide

MODEL	Mighty 850	Mighty 1.5K
CAPACITY	850 VA / 600 W	1500 VA / 1050 W
INPUT		
Voltage	120 VAC or 230 VAC	
Selectable Voltage Range	90-145 VAC / 180-260 VAC (For Personal Computers) 50-160 VAC / 100-300 VAC (For Home Appliances)	
Frequency Range	50/60 Hz (auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	120VAC ± 10% or 230VAC ± 10%	
Transfer Time	20 ms max.	
Waveform (Batt. Mode)	Simulated Sine Wave	
BATTERY		
Battery Voltage	12 VDC	24VDC
Floating Charge Voltage	13.7 VDC ± 2%	27.4 VDC ± 2%
Low Battery Alarm Voltage	10.2 VDC ± 2%	20.4 VDC ± 2%
Shutdown Voltage	9.9 VDC ± 2%	19.8 VDC ± 2%
Overcharge Protection	15.0 VDC ± 2%	30.0 VDC ± 2%
Maximum Charge Current	10 A or 20 A	
PROTECTION		
Full Protection	Overload and short circuit protection	
INDICATORS		
Line Mode	Green lighting	
Battery Mode	Yellow flashing	
Fault	Red lighting	
ALARM		
Low Battery	Sounding every second	
Overload	Sounding every 0.5 second	
Battery Replacement	Sounding every 2 seconds	
Fault	Continuously sounding	
PHYSICAL		
Dimension, D X W X H (mm)	289 x 290 x 127	
Net Weight (kgs)	6.99kg	10kg
ENVIRONMENT		
Humidity	0 to 90% Relative Humidity(Non-condensing)	
Operating Temperature	0°C to 40°C	
Storage Temperature	-15°C to 70°C	

* Product specifications are subject to change without further notice

Mighty Pro 1.5KVA/2KVA Inverter Selection Guide

MODEL	Mighty Pro 1.5K	Mighty Pro 2K
CAPACITY	1500 VA / 900 W	2000 VA / 1200 W
INPUT		
Voltage	230 VAC	
Selectable Voltage Range	180-260 VAC (For Personal Computers) 100-300 VAC (For Home Appliances)	
Frequency Range	50/60 Hz (auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	230VAC ± 15%	
Transfer Time	20 ms max.	
Waveform (Batt. Mode)	Pure Sine Wave	
BATTERY		
Battery Voltage	24VDC	
Floating Charge Voltage 1	28.6 VDC ± 2%	
Floating Charge Voltage 2	27.4 VDC ± 2%	
Low Battery Alarm Voltage	20.4 VDC ± 2%	
Shutdown Voltage	19.8 VDC ± 2%	
Overcharge Protection	30.0 VDC ± 2%	
Maximum Charge Current	10 A or 20 A	
PROTECTION		
Full Protection	Overload and short circuit protection	
INDICATORS		
LCD Display	AC Mode, Battery Mode, Load Level, Battery Capacity, Input Voltage, Output Voltage, Overload, Fault, and Low Battery	
ALARM		
Low Battery	Sounding every second	
Overload	Sounding every 0.5 second	
Battery Replacement	Sounding every 2 seconds	
Fault	Continuously sounding	
PHYSICAL		
Dimension, D X W X H (mm)	289 x 290 x 127	
Net Weight (kgs)	12	13.07
ENVIRONMENT		
Humidity	0 to 90% Relative Humidity(Non-condensing)	
Operating Temperature	0°C to 50°C	
Storage Temperature	-15°C to 70°C	

* Product specifications are subject to change without further notice

Voltage Regulator

PowerAVR

- Compact size with robust design
- Accepts wide input voltage range
- Provides stable output voltage
- Provides modem/phone line surge protection
- Provides short circuit and overload protection



Shieldo AVR

- Provides 8 receptacles for AVR-protected outputs and extended outputs
- Accepts wide input voltage range
- Provides stable output voltage through boost and buck stabilizer
- Provides modem/phone line surge protection
- Provides over-voltage and overload protection (option)
- Provides 5V DC output for consumer electronics battery charging (option)



Scudo AVR

- Selectable Master-slave operation to reduce idle power wastage
- Stylist design with colorful panels
- Accepts wide input voltage range (180-264 VAC)
- Provides stable output voltage through boost and buck stabilizer
- Provides 3 local receptacles for easy use
- Provides modem/phone line surge protection
- Provides overload, short circuit and over-temperature protection
- Built-in thermal sensor for over-temperature protection and auto recovery system



Voltage Regulator Selection Guide

MODEL	PowerAVR 600	PowerAVR 1200	PowerAVR 2000	Shieldo 600	Shieldo 800	Shieldo 1000	Shieldo 1200	Shieldo 2000	Scudo 600	Scudo 1000	Scudo 1200
CAPACITY	600VA / 360 W	1200VA / 720 W	2000VA / 900 W	600 VA / 300 W	800 VA / 400 W	1000 VA / 500 W	1200 VA / 600 W	2000 VA / 1000 W	600 VA / 360 W	1000 VA / 600 W	1200 VA / 720 W
INPUT											
Voltage	120 VAC or 220 VAC			120 VAC				220/230/240 VAC			
Voltage Range	93 - 147 VAC or 184 - 263 VAC			95-150 VAC				180 - 264 VAC			
Frequency Range	60 Hz or 50 Hz			60 Hz				50 Hz			
OUTPUT											
Voltage Regulation	±10%			±10%				± 12 %			
Optional DC Voltage (USB)	N/A			5 V				N/A			
Output Receptacles	NEMA x 6 / Schuko x 2			NEMA x 8 (4 for AVR protection and 4 for extended use)				Schuko x 3 / French x 3			
				India x 3							
PHYSICAL											
Dimension, D x W x H (mm)	192 x 115 x 113			248 x 90 x 87.5				166 x 161 x 86.7			
Net Weight (kgs)	1.4	1.6	2	1.2	1.3	1.5	1.6	2	1.7	2	2.1
ENVIRONMENT											
Humidity	0-95 % RH @ 0- 40°C (non-condensing)							0-90 % RH @ 0- 40°C (non-condensing)			
Noise Level	Less than 40dB										

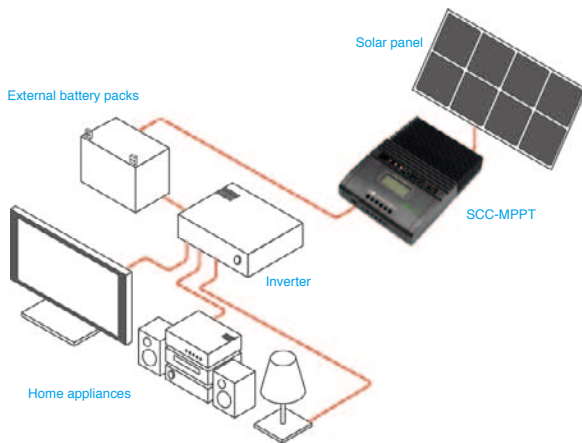
* Product specifications are subject to change without further notice

SCC-MPPT Solar Charge Controller



- Intelligent Maximum Power Point Tracking technology
- Built-in DSP controller with high performance
- Automatic battery voltage detection
- Three-stage charging optimizes battery performance
- Auto load-detection
- Multifunction LCD displays detailed information
- Reverse polarity protection of solar panel and battery
- Overcharge and overload protection
- IP 43 protection for outdoor and harsh environment
- Suitable for battery types of sealed lead acid, vented Gel, and NiCd
- Standard RJ45 port or optional RS-485 communication port for remote monitoring

Standalone Solar Power System:



Combined MPPT technology and DSP controller, SCC-MPPT will convert best voltage to charge battery based on varied temperature. Compared to traditional solar charge controller, it allows your solar panels to operate at their optimum power output voltage, providing higher efficiency up to 97.8% with lower power loss.

Integrated SCC-MPPT with inverter, solar panel, and external battery packs, it will become a standalone solar power system to generate green power for your home appliances. SCC-MPPT will convert solar power to charge external batteries, and then provide power to home appliances via inverter.

SCC-MPPT Solar Charge Controller Selection Guide

MODEL	SCC-MPPT 300W	SCC-MPPT 600W
INPUT		
MPPT Range @ Operating Voltage	15 V ~ 33 V @ 12 V	30 V ~ 66 V @ 24 V
Maximum PV Array Open Circuit Voltage	50 V	75 V
Maximum PV Array Power	300 W	600 W
Maximum Current	18 A	
OUTPUT		
Nominal Battery Voltage	12 V	24 V
Connected Battery Type	Sealed lead acid, vented, Gel, NiCd battery	
Maximum Charging Current	25 A	
Ripple Voltage	< ± 1 V	
Maximum Efficiency	97.8%	
Standby Power Consumption	1 W	2 W
Charging Method	Three stages: bulk, absorption, and floating	
PROTECTION		
Overload Protection	> 110% : audible alarm	
Overcharge Protection	Yes	
Polarity Reversal Protection @ Solar Cell & Battery	Yes	
INDICATORS		
LCD Panel	LCD panel indicating solar power, output power, battery voltage, charging current, and fault conditions	
LED Display	Three indicators for solar, charging, and load status	
PHYSICAL		
Dimension, D x W x H (mm)	135 x 170 x 57.5	220 x 170 x 57.5
Net Weight (Kgs)	0.92	1.85
Connector	Input/Output terminal block	
Type of Mechanical Protection	IP 43	
ENVIRONMENT		
Humidity	0 ~ 90% RH (No condensing)	
Operating Temperature	-20°C to 55°C	
Storage Temperature	-40°C to 75°C	
Altitude	0 ~ 3000 m	

* Product specifications are subject to change without further notice

SCC-MPPT Solar Charge Controller



- 1.5KW/2KW/3KW/5KW on-grid PV inverter
- Intelligent Maximum Power Point Tracking technology
- Built-in DSP controller with high performance
- Three-stage charging optimizes battery performance
- Multifunction LCD displays detailed information
- Reverse polarity protection of solar panel and battery
- Overcharge protection
- IP 21 protection
- Suitable for battery types of sealed lead acid, vented Gel, and NiCd
- Standard RJ45 port for remote monitoring

SCC-MPPT Solar Charge Controller Selection Guide

MODEL	SCC-MPPT-3KW
INPUT	
MPPT Range	60 VDC ~ 132 VDC
Maximum PV Array Open Circuit Voltage	150VDC
Maximum PV Array Power	3000W
OUTPUT	
Nominal Battery Voltage	48 V
Connected Battery Type	Sealed lead acid, vented, Gel, NiCd battery
Maximum Charging Current	60 A
Maximum Efficiency	98%
Standby Power Consumption	2W
Charging Method	Three stages: bulk, absorption, and floating
PROTECTION	
Overcharge Protection	Yes
Polarity Reversal Protection @ Solar Cell & battery	Yes
INDICATORS	
LCD Panel	LCD panel indicating solar power, charging status, battery voltage, charging current, and fault conditions
LED Display	Three indicators for solar, battery, and wiring fault
PHYSICAL	
Dimension, D X W X H (mm)	180 x 210 x 80
Net Weight (kgs)	1.28
Connector	Input/Output terminal block
Type of Mechanical Protection	IP 21
ENVIRONMENT	
Humidity	0 ~ 90% RH (No condensing)
Operating Temperature	-20°C to 55°C
Storage Temperature	-40°C to 75°C
Altitude	0 ~ 3000 m

* Product specifications are subject to change without further notice

EnerSolar On-Grid PV Inverter



- 1.5KW/2KW/3KW/5KW on-grid PV inverter
- Advanced DSP control technology delivers accurate data
- Two smart independent MPPTs to enhance overall efficiency
- Up to 96% high conversion efficiency
- Modulized design for easy maintenance
- Industrial-grade components used for robust operation
- Data log up to 15 years
- IP 65 protection for outdoor and harsh environment
- 5-year product warranty
- Optional monitoring software

EnerSolar 1.5KW/2KW/3KW/5KW PV Inverter Selection Guide

MODEL	EnerSolar 1.5KW	EnerSolar 2KW	EnerSolar 3KW	EnerSolar 5KW
INPUT(DC)				
Max. DC Power	1650 W	2200 W	3300 W	5300 W
Maximum DC Voltage	450 VDC	500 VDC	580 VDC	
MPP Voltage Range	150 VDC ~ 400 VDC	200 VDC ~ 450 VDC	150 VDC ~ 500 VDC	
Nominal DC Voltage	360 VDC		370 VDC	
Start-up Voltage / Initial Feeding Voltage	120VDC / 150VDC		120VDC / 150VDC	
Maximum Input Current	1 x 11A	1 x 13A	2 x 15A	
Number of MPP Trackers / Strings per MPP Tracker	1 / A:1	1 / A:1	2 / A:1;B:1	
OUTPUT(AC)				
AC Nominal Power	1500 W	2000 W	3000 W	5000 W
Maximum AC Apparent Power	1600 VA	2100 VA	3000 VA	5000 VA
Nominal Output Current	6.6 A	8.7A	13 A	21.7 A
Power Factor	> 0.99			
EFFICIENCY				
Maximum Efficiency	96%		97.3%	97.3%
European Efficiency @ Nominal Voltage & 100% Load	95%		96.4%	96.7%
PROTECTION				
DC Reverse-Polarity Protection	Yes			
Ground Fault Monitoring	Yes			
Grid Monitoring	Yes			
AC Short Circuit Protection	Yes			
PHYSICAL				
Dimension,DxWxH(mm)	146.5 x 283.6 x 398.6		144 x 266 x 466	158 x 303 x 520
Net Weight (kgs)	11	11	20.5	25.0
INTERFACE				
Intelligent Slot	USB card / Optional : SNMP card,RS-232 & Modbus card, AS400 card			
ENVIRONMENT				
Humidity	0 ~ 100% RH (No condensing)			
Operating Temperature	-25°C to 60°C			
Altitude	0 ~ 1000 m*			
COMPLIANCE				
Standard	CE, VDE 0126-1-1, IEC62109, ENEL Guide 2009, RD 1663, G83/1-1, AS3100/AS4777			

* Power derating 1% every 100 m when altitude is over 1000m.

* Product specifications are subject to change without further notice.



EnerSolar On-Grid PV Inverter



- 10KW on-grid PV inverter
- Advanced DSP control technology delivers accurate data
- Two smart independent MPPTs to enhance overall efficiency
- Up to 98% high conversion efficiency
- Modulized design for easy maintenance
- Industrial-grade components used for robust operation
- Data log up to 15 years
- IP 65 protection for outdoor and harsh environment
- 5-year product warranty
- Optional monitoring software

EnerSolar 10KW Three Phase PV Inverter Selection Guide

MODEL	EnerSolar 10KW
INPUT(DC)	
Max. DC Power	11000 W
Maximum DC Voltage	900 VDC
MPP Voltage Range	320 VDC ~ 800 VDC
Nominal DC Voltage	600 VDC
Start-up Voltage / Initial Feeding Voltage	250VDC / 250VDC
Maximum Input Current	2 x 17A / 17 A
Number of MPP Trackers / Strings per MPP Tracker	2 / A:1;B:1
OUTPUT(AC)	
AC Nominal Power	10000 W
Nominal AC Voltage	3/N/PE, 230VAC/400VAC
AC Voltage Range	-20% ~ +15%
AC Grid Frequency	50 Hz
AC Grid Frequency Range	47.5~ 50.2 Hz
Nominal Output Current	14.5A
Power Factor	> 0.85
EFFICIENCY	
Maximum Efficiency	98%
European Efficiency @ Nominal Voltage & 100% Load	97%
PROTECTION	
DC Reverse-Polarity Protection	Yes
Ground Fault Monitoring	Yes
Grid Monitoring	Yes
AC Short Circuit Protection	Yes
PHYSICAL	
Dimension,DxWxH(mm)	171.2 x 503.5 x 653.3
Net Weight (kgs)	40
INTERFACE	
Intelligent Slot	Modbus card / Optional : SNMP card,RS-232 & USB card, AS400 card, and GPRS card
ENVIRONMENT	
Humidity	0 ~ 100% RH (No condensing)
Operating Temperature	-25°C to 60°C
Altitude	0 ~ 1000 m*
COMPLIANCE	
Quality	ISO9001/ISO14001

* Power derating 1% every 100 m when altitude is over 1000m.

* Product specifications are subject to change without further notice.

Intertek **Ene-GUIDA** AS 4777 AS/NZS 3100 G83/1 **FD1663**

InfiniSolar Hybrid Inverter



- 3KW hybrid inverter
- Pure sine wave output
- Microprocessor controlled to guarantee stable charging system
- Multiple operations: Grid tie, Off grid, and grid-tie with backup
- Built-in MPPT solar charger
- LCD display panel for comprehensive information
- Multiple communication
- Green substitution for generators
- User-adjustable charging current up to 25A

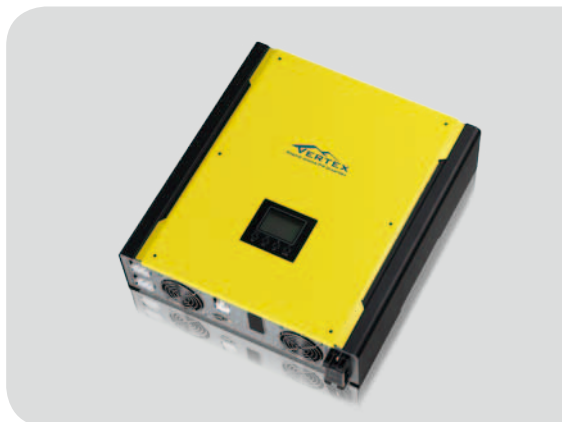
InfiniSolar 3KW Hybrid Inverter Specification

MODEL	InfiniSolar 3KW
RATED POWER	3000 W
GRID-TIE OPERATION	
PV INPUT (DC)	
Nominal DC Voltage/Maximum DC Voltage	360 VDC / 500 VDC
Start-up Voltage / Initial Feeding Voltage	116 VDC / 150 VDC
MPP Voltage Range	250 VDC ~ 450 VDC
Maximum Input Current	13 A
GRID/UTILITY INPUT (AC)	
Nominal Output Voltage	208/220/230/240 VAC
Output Voltage Range	184 - 265 VAC
Nominal Output Current	13.6 A
Power Factor	> 0.99
EFFICIENCY	
Maximum Conversion Efficiency (DC/AC)	>95.5%
European Efficiency@ Vnominal	>94.5%
OFF-GRID OPERATION	
AC INPUT	
AC Start-up Voltage/Auto Restart Voltage	120 - 140 VAC / 185 VAC
Acceptable Input Voltage Range	175 - 280 VAC
Maximum AC Input Current	20 A
PV INPUT (DC)	
Maximum DC Voltage	500 VDC
MPP Voltage Range	250 VDC ~ 450 VDC
Maximum Input Current	13 A
BATTERY MODE OUTPUT (AC)	
Nominal Output Voltage	208/220/230/240 VAC
Output Waveform	Pure sine wave
Efficiency (DC to AC)	92%
HYBRID OPERATION	
PV INPUT (DC)	
Nominal DC Voltage / Maximum DC Voltage	360 VDC / 500 VDC
Start-up Voltage / Initial Feeding Voltage	116 VDC / 150 VDC
MPP Voltage Range	250 VDC ~ 450 VDC
Maximum Input Current	13 A
GRID/UTILITY OUTPUT (AC)	
Nominal Output Voltage	208/220/230/240 VAC
Output Voltage Range	184-265 VAC
Nominal Output Current	13.6 A
AC IUPUT	
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 194 VAC
Acceptable Input Voltage Range	184-265 VAC
Maximum AC Input Current	20 A
BATTERY MODE OUTPUT (AC)	
Nominal Output Voltage	208/220/230/240 VAC
Efficiency (DC to AC)	92%
BATTERY & CHARGER	
Nominal DC Voltage	48 VDC
Maximum Charging Current	25A
GENERAL	
PHYSICAL	
Dimension, D X W X H (mm)	420 x 415 x 170
Net Weight (kgs)	15.5
INTERFACE	
Communication Port	RS-232/USB
Intelligent Slot	Optional SNMP, Modbus, GPRS, and AS-400 cards available
ENVIRONMENT	
Humidity	0 ~ 90% RH (No condensing)
Operating Temperature	0 to 40°C
Altitude	0 ~ 1000 m*

* Power derating 1% every 100 m when altitude is over 1000m.

* Product specifications are subject to change without further notice.

Vertex Off-Grid Inverter



- DSP plus microprocessor redundant controller guarantee highest reliability
- Pure sine wave output
- Multiple power sources: Solar power, AC main, 48V DC battery
- Built-in MPPT tracker
- Isolation design between inverter and battery for safety guarantee
- Smart LCD display electricity generated, recorded up to 15 years
- Provides multiple communication ports for remote monitoring with software
- Standard RS-232/USB ports and optional Modbus, SNMP, GPRS communication, and AS400 dry contact are available
- User-adjustable charging current up to 25A
- High efficiency: Solar panel to AC output peak efficiency 95.5%
- High efficiency: Battery to AC output peak efficiency 92%
- Option: On-Grid

Vertex 2KW/3KW Off-Grid Inverter Selection Guide

MODEL	Vertex 2KW	Vertex 3KW	
RATED POWER	2000 W	3000 W	
PV INPUT (DC)			
Maximum DC Voltage	500 VDC	500 VDC	
Work Voltage Range	100 VDC ~ 500 VDC	100 VDC ~ 500 VDC	
Full Load MPP Voltage Range	170 ~ 450 VDC	250 VDC ~ 450 VDC	
Maximum Input Current	13 A		
AC INPUT			
Nominal AC Voltage	100/110/120/127 VAC	208/220 VAC	230/240 VAC
Acceptable Voltage Range	85 - 125 VAC	175 - 265 VAC	175 - 280 VAC
Acceptable Frequency Range	57.5 ~ 62.5 Hz	47.5 ~ 52.2 Hz	
Maximum Input Current	31 A	20 A	
BATTERY MODE OUTPUT (AC)			
Output Voltage	100/110/120/127 VAC	208/220 VAC	230/240 VAC
Output Frequency	60 Hz	50 Hz	
Output Waveform	Pure Sine Wave		
THDv	< 3% @ Linear Load		
Efficiency (DC to AC)	90%	92%	
Overload Capability	> 110%: 1 min; > 150%: 30sec.; >200%: immediately		
BATTERY & CHARGER			
Nominal DC Voltage	48 VDC		
Maximum Charging Current	25 A		
PHYSICAL			
Dimension, D X W X H (mm)	420 x 415 x 170		
Net Weight (kgs)	15.5		
INTERACE			
Communication Port	RS-232/USB		
Intelligent Slot	Optional SNMP card, Modbus card, GPRS card, and AS-400 card available		
ENVIRONMENT			
Humidity	0 ~ 90% RH (No condensing)		
Operating Temperature	0 to 40°C		
Altitude	0 ~ 1000 m*		

* Power derating 1% every 100 m when altitude is over 1000m

** Product specifications are subject to change without further notice

Duration & Duration Pro



- Easy installation: No technician need
- Low cost
- Unlimited and clean power source from sun
- Expandable based on project need



Long Backup Solar & AC Power Station Selection Guide

MODEL	Duration 850	Duration 1500	Duration Pro 1500
CAPACITY	850 VA / 600 W	1500 VA / 1050 W	1500 VA / 900 W
AC INPUT			
Voltage	120 VAC or 230 VAC	230 VAC	
Selectable Voltage Range	90-145 VAC / 180-260 VAC (For PCs) ; 50-160 VAC / 100-300 VAC (For Home Appliances)		180-260 VAC (For PCs) ; 100-300 VAC (For Home Appliances)
Frequency Range	50 Hz/60 Hz (Auto sensing)		
AC OUTPUT			
AC Voltage Regulation (Batt. Mode)	100VAC-120VAC \pm 5% or 200VAC-230VAC \pm 5%	200VAC-230VAC \pm 5%	
Transfer Time	20ms max		
Waveform (Batt. Mode)	Simulated Sine Wave		Pure Sine Wave
SOLAR CHARGER			
MPPT Range @ Operating Voltage	15 V ~ 33 V @ 12 V	30 V ~ 66 V @ 24 V	
Maximum PV Array Open Circuit Voltage	50 VDV	75 VDC	
Maximum PV Array Power	300 W	600 W	
Maximum Charging Current	18 A		
BATTERY			
Battery Numbers	12V / 100Ah x 1	12V / 100Ah x 2	
Battery Voltage	12 VDC	24 VDC	
Floating Charge Voltage	13.7 VDC \pm 2%	27.4 VDC \pm 2%	
Low Battery Alarm Voltage	10.2 VDC \pm 2%	20.4 VDC \pm 2%	
Shutdown Voltage	9.9 VDC \pm 2%	19.8 VDC \pm 2%	
Overcharge Protection	15.0 VDC \pm 2%	30.0 VDC \pm 2%	
Maximum Charge Current	35A (10A AC charger + 25A solar charger) or 45A (20A AC charger + 25A solar charger)		
PROTECTION			
Full Protection	Overload, and short circuit protection		
ALARM			
Low Battery	Sounding every second		
Overload	Sounding every 0.5 second		
Battery Replacement	Sounding every 2 seconds		
Fault	Continuously sounding		
PHYSICAL			
Dimension, D X W X H (mm) (without wheels)	448 x 250 x 440	456 x 420 x 432	
Net Weight (kgs)	53	92	94
ENVIRONMENT			
Humidity	0 to 90% Relative Humidity(Non-condensing)		
Operating Temperature	0 to 50°C		
Storage Temperature	-15°C to 70°C		

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