FSP

POWER NEVER ENDS

UPS

Product Catalog

About FSP Group

FSP Group is the leading switching power supplier in the world.
Since established in 1993, the company has drawn together its R&D expertise, sizeable production capacity and outstanding product quality to consistently excel in this competitive marketplace.

FSP Group produces large selections of products to serve its OEM / ODM customers in LCD TV, LED Lighting, Medical, Industrial / Desktop computers and Servers. FSP Group has more than 28 branch offices worldwide, 4 manufacturing facilities and about 8,500 people throughout the world.

With its broad range of products, FSP Group is uniquely positioned for strong growth on several long term trends and environment protection including green power products, higher energy-efficient conversion products, and highly electrical safety and reliable products.

FSP Group's global presence in Taiwan, Brazil, China, Germany, Sweden, France, India, Japan, Korea, Russia, Turkey, UK, USA also provide our OEM / ODM customers with integrated global logistic. This translates to "Door-to-Door" service and faster time-to-market for product deliveries. Please check with your highly trained professional account manager on how to take advantage of our global logistic service for your business.

Our current focus in FSP Group is to further enhance our green power products, expand market presence of FSP branded retail products, and extend our research and development effort on all our products. At FSP Group, we are not only focusing on building a bigger company, also a better one.

Online

- DSP-based digital control technology (IGBT)
- Highly reliable power devices
- Superior performance rectifier
- Advanced parallel functions
- Extremely wide input voltage range
- Compact design
- Full front access design
- Redundant fan design and fan failure detection function
- Self-diagnosis and self-test function
- Eco Mode

Knight 3K / Front Panel

LCD Panel

On / Mute Button

Turn on the UPS:
Press and hold ON/Mute button for at least 2 seconds to turn on the UPS.

Mute the alarm:
When the UPS is on battery mode, press and hold this button for at least 5 seconds to disable or enable the alarm system. But it's not applied to the situations when warnings or errors occur.

Up key:
Press this button to display previous selection in UPS setting mode.

Switch to UPS self-test mode:
Press and hold ON/Mute button for 5 seconds to enter UPS self-testing while in AC mode, ECO mode, or converter mode.

Select Button

Switch LCD message:
Press this button to change the LCD message for input voltage, input frequency, battery voltage, output voltage and output frequency. It will return back to default display when pausing for 10 seconds.

Setting mode:
Press and hold this button for 5 seconds to enter UPS setting mode when UPS is in standby mode or bypass mode.

Down key:
Press this button to display next selection in UPS setting mode.

ON/Mute + Select Button

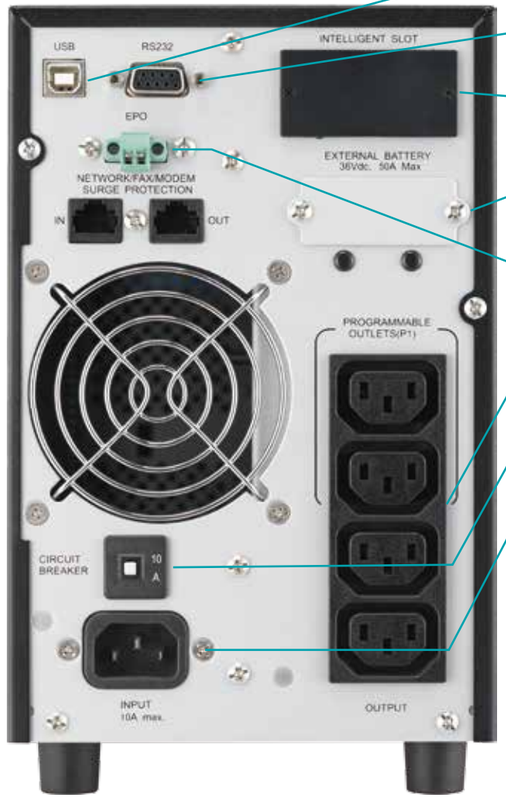
Switch to bypass mode:
When the main power is normal, press ON/Mute and Select buttons simultaneously for 5 seconds. Then UPS will enter to bypass mode. This action will be ineffective when the input voltage is out of acceptable range.

OFF/Enter Button

Turn off the UPS:
Press and hold this button at least 2 seconds to turn off the UPS. UPS will be in standby mode under power normal or transfer to Bypass mode if the Bypass enable setting by pressing this button.

Confirm selection key:
Press this button to confirm selection in UPS setting mode.

Knight 3K / Rear Panel



USB Communication Port

RS-232 Communication Port

SNMP Intelligent Slot
option

External Battery Connection
only available for L model

Output Circuit Breaker

Output Receptacles

Input Circuit Breaker

AC Input

Knight Series Backup Time

Model	Backup time / mins (Internal battery only)				
	25% Load	50% Load	75% Load	100% Load	Config.
Knight 1K	40	15	9.5	6	7Ah x 3
Knight 2K	23	17	10	6.5	7Ah x 6
Knight 3K	31	13	8	5	9Ah x 6

Champ 3K / Front Panel

LCD Panel

On / Mute Button

Turn on the UPS:
Press and hold ON/Mute button for at least 2 seconds to turn on the UPS.

Mute the alarm:
When the UPS is on battery mode, press and hold this button for at least 5 seconds to disable or enable the alarm system. But it's not applied to the situations when warnings or errors occur.

Up key:
Press this button to display previous selection in UPS setting mode.

Switch to UPS self-test mode:
Press and hold ON/Mute button for 5 seconds to enter UPS self-testing while in AC mode, ECO mode, or converter mode.

Select Button

Switch LCD message:
Press this button to change the LCD message for input voltage, input frequency, battery voltage, output voltage and output frequency. It will return back to default display when pausing for 10 seconds.

Setting mode:
Press and hold this button for 5 seconds to enter UPS setting mode when UPS is in standby mode or bypass mode.

Down key:
Press this button to display next selection in UPS setting mode.

ON/Mute + Select Button

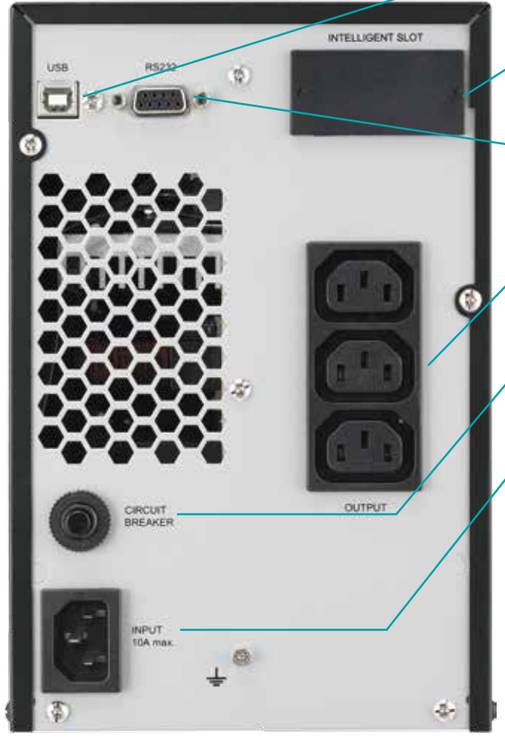
Switch to bypass mode:
When the main power is normal, press ON/Mute and Select buttons simultaneously for 5 seconds. Then UPS will enter to bypass mode. This action will be ineffective when the input voltage is out of acceptable range.

OFF/Enter Button

Turn off the UPS:
Press and hold this button at least 2 seconds to turn off the UPS. UPS will be in standby mode under power normal or transfer to Bypass mode if the Bypass enable setting by pressing this button.

Confirm selection key:
Press this button to confirm selection in UPS setting mode.

Champ 3K / Rear Panel



USB Communication Port

SNMP Intelligent Slot
option

RS-232 Communication Port

Output Receptacles

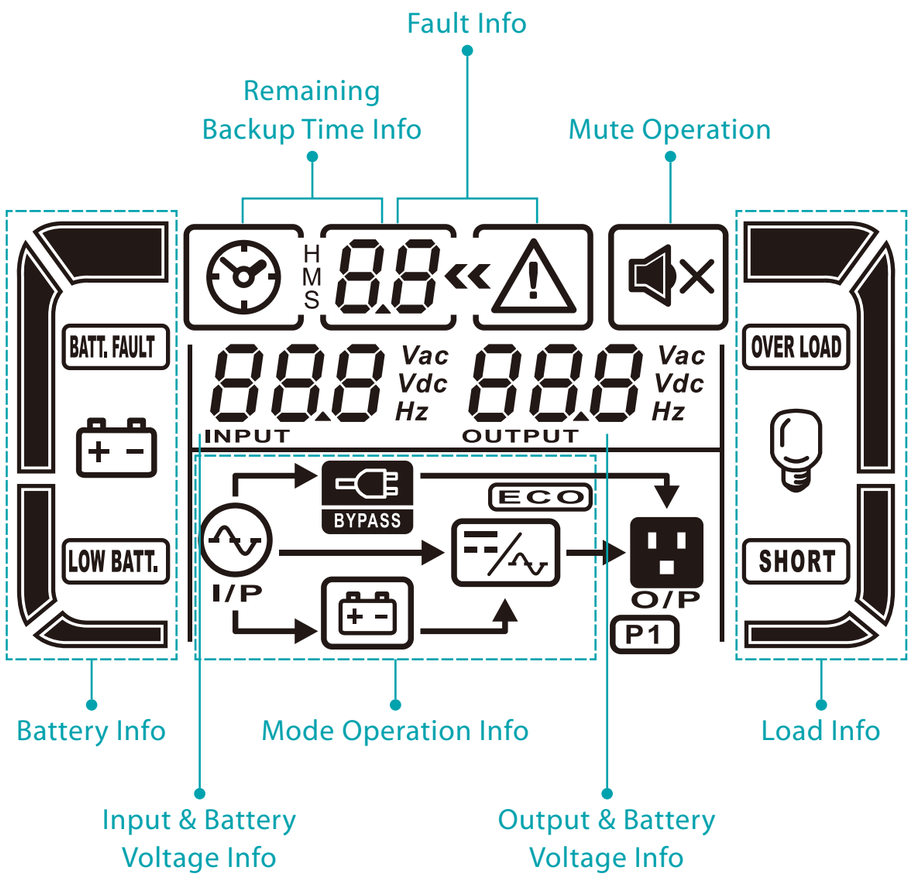
Input Circuit Breaker

AC Input

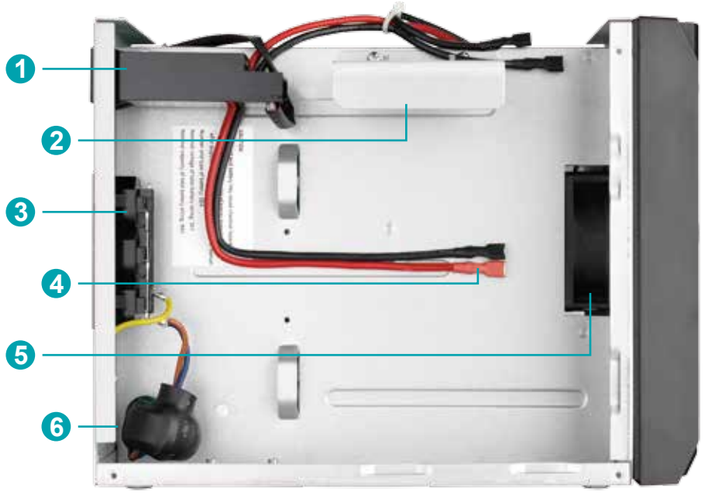
Champ Series Backup Time

Model	Backup time / mins (Internal battery only)				
	25% Load	50% Load	75% Load	100% Load	Config.
Champ 1K	20	9	5	3	9Ah x 2
Champ 2K	25	10	6	3	9Ah x 4
Champ 3K	26	10	6	3	9Ah x 6

UPS LCD Panel



Inside Overview

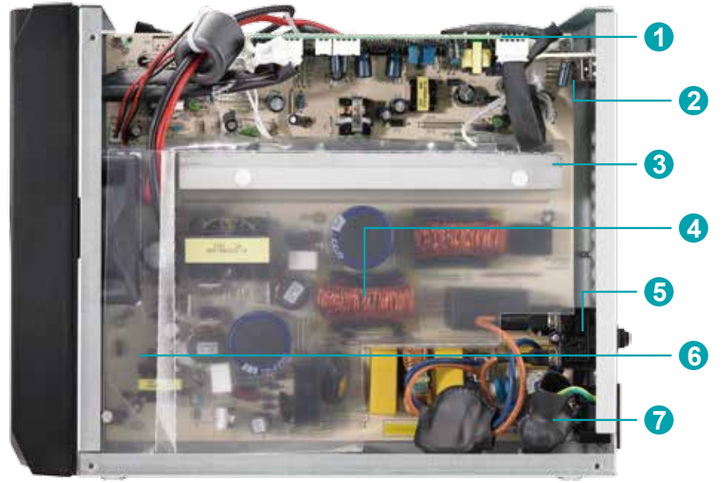


Battery side :

1. Snmp Solt
2. Battery Mounting Plate
3. Output Receptacles
4. Battery Cable
5. Fan
6. Ferrite Bead

Main-board side :

1. Charging Board
2. Communication Board
   USB & RS-232 function
3. Heat Sink
4. Inverter Function
   AC to DC & DC to AC
5. Input Circuit Breaker
   over voltage protect
6. Fan Flow Cover
7. AC Input



Knight 1K~3K / Product Specification

- True double-conversion
- Microprocessor control optimizes reliability
- Input power factor correction
- Output power factor 0.8
- Wide input voltage (110 V – 300 V)
- Converter mode available
- ECO mode for energy saving
- Generator compatible
- Charger capacity expansion to 6A for long-run models
- Smart SNMP works well with either USB or RS-232
- Comprehensive display allows easy monitoring and access of UPS status

MODEL		Knight TW 1K (L)	Knight TW 1.5K (L)	Knight TW 2K (L)	Knight TW 3K (L)
CAPACITY		1000 VA / 800 W	1500 VA / 1200 W	2000 VA / 1600 W	3000 VA / 2400 W
INPUT					
Nominal Voltage		200 / 208 / 220 / 230 / 240VAC			
Voltage Range		110-300 VAC ± 5%			
Frequency Range		40Hz ~ 70 Hz			
Phase		Single phase with ground			
Power Factor		≧ 0.99 @ nominal voltage (100% load)			
OUTPUT					
Output Voltage		200/208/220/230/240VAC			
Voltage Regulation		± 1%			
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			
Overload		100%~110%:audible warning 110%~130%: UPS shut down in 30 seconds at battery mode or transfer to bypass when the utility is normal ; >130%:UPS shuts down immediately at battery mode or transfer to bypass mode when the utility is normal			
Current Crest Ratio		3:1			
Harmonic Distortion		≦ 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		87%		90%	90%
Battery Mode		83%		87%	89%
BATTERY					
Standard Model	Battery Type	12 V / 7 AH	12 V / 9 AH	12 V / 7 AH	12 V / 9 AH
	Numbers	3	3	6	6
	Typical Recharge Time	4 hours recover to 90% capacity			
	Charging Current (max.)	1.0 A			
	Charging Voltage	41.0VDC ± 1%		82.1 VDC ±1%	82.1 VDC ±1%
Long-run Model	Battery Type	Depending on the capacity of external batteries			
	Numbers				
	Charging Current (max.)	1.0A/2.0A/4.0A/6.0 A ± 10%			
	Charging Voltage	27.3VDC ± 1%	41.0VDC ± 1%	82.1 VDC ±1%	109.4VDC ±1% / 82.1 VDC ±1% / 109.4VDC ±1%
INDICATORS					
LCD Panel		Load level, Battery level, AC mode, Battery mode, Bypass mode, and Fault indicators			
ALARM					
Battery Mode		Sounding every 4 seconds			
Low Battery		Sounding every second			
Overload		Sounding twice every second			
Fault		Continously sounding			
PHYSICAL					
Standard Model	Dimension, D X W X H (mm)	397 x 145 x 220		419 x 190 x 318	419 x 190 x 318
	Net Weight (kgs)	10	13	26 / 20.6 / 30.5	28 / 33
Long-run Model	Dimension, D X W X H (mm)	397 x 145 x 220		419 x 190 x 318	419 x 190 x 318
	Net Weight (kgs)	7		13	13
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® 7/8, Linux, Unix, and MAC			
Optional SNMP		Power management from SNMP manager and web browser			

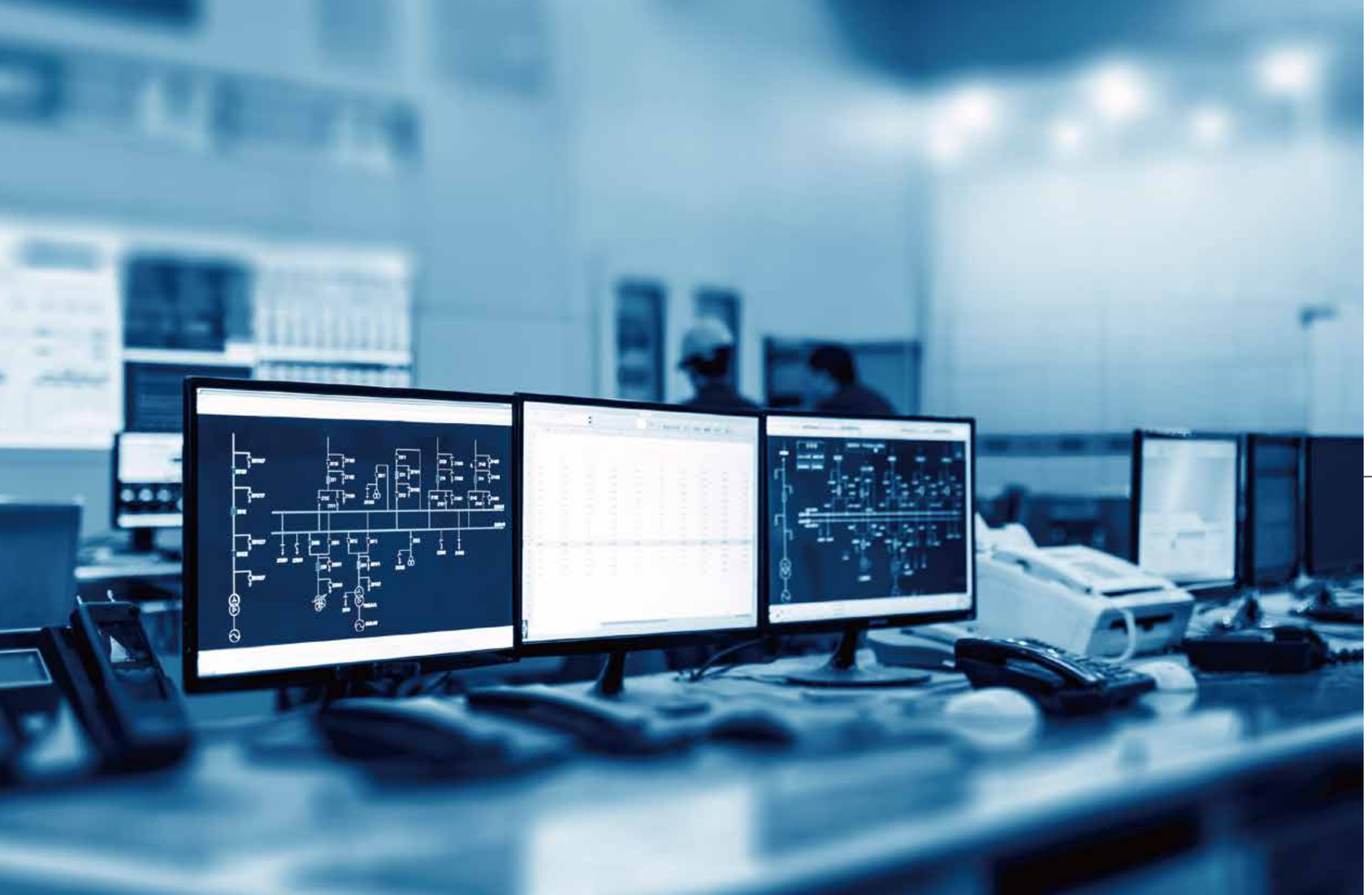
* Derate to 80% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 100/200/208VAC
* Product specifications are subject to change without further notice

Champ 1K~3K / Product Specification

- True double-conversion
- Microprocessor control optimizes reliability
- Input power factor correction
- Output power factor 0.9
- Wide input voltage (120 V – 300 V)
- Converter mode available
- ECO mode for energy saving
- Generator compatible
- Smart SNMP works well with either USB or RS-232
- Comprehensive display allows easy monitoring and access of UPS status

MODEL		Champ 1K	Champ 2K	Champ 3K
CAPACITY		1000 VA / 900 W	2000 VA / 1800 W	3000 VA / 2700 W
INPUT				
Nominal Voltage		200 / 208 / 220 / 230 / 240VAC		
Voltage Range	High Line Transfer	150VAC / 140 VAC ± 5% or 300 VAC / 280 VAC ± 5%(based on load percentage 0 - 80% / 80% - 100%)		
	High Line Comeback	145VAC / 135 VAC ± 5% or 290VAC / 270 VAC ± 5%(based on load percentage 0 - 80% / 80% - 100%)		
Frequency Range		40Hz ~ 70 Hz		
Phase		Single phase with ground		
Power Factor		≧ 0.99 @ Nominal Voltage (100% load)		
OUTPUT				
Output Voltage		200/208/220/230/240VAC		
Voltage Regulation		± 1%		
Frequency Range (Synchronized Range)		47~ 53 Hz		
Frequency Range (Batt. Mode)		50 Hz ± 0.5%		
Current Crest Ratio		3:1		
Harmonic Distortion		≦ 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		88%	89%	90%
Battery Mode		83%	85%	88%
BATTERY				
Standard Model	Battery Type	12 V / 9 AH	12V / 9 AH	12 V / 9 AH
	Numbers	2	4	6
	Typical Recharge Time	4 hours recover to 90% capacity		
	Charging Current (max.)	1.0A		
	Charging Voltage	27.4VDC ± 1%	54.7 VDC ±1%	82.1VDC ± 1%
Long-run Model	Battery Type and Numbers	Depending on the capacity of external batteries		
	Charging Current (max.)	1A/2A/4A/6A		
	Charging Voltage	27.4VDC ± 1%	54.7 VDC ±1%	82.1VDC ± 1%
INDICATORS				
LCD Panel		Load level, Battery level, AC mode, Battery mode, Bypass mode, and Fault indicators		
ALARM				
Battery Mode		Sounding every 4 seconds		
Low Battery		Sounding every second		
Overload		Sounding twice every second		
Fault		Continously sounding		
PHYSICAL				
Standard Model	Dimension, D X W X H (mm)	282 x 145 x 220	397 x 145 x 220	421 x 190 x 318
	Net Weight (kgs)	9.8	17	27.6
Long-run Model	Dimension, D X W X H (mm)	282 x 145 x 220	397 x 145 x 220	397 x 145 x 220
	Net Weight (kgs)	4.1	6.8	7.4
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/2008/7/8, Linux, Unix, and MAC		
Optional SNMP		Power management from SNMP manager and web browser		

* Derate to 80% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 100/200/208VAC
* Product specifications are subject to change without further notice



Line-interactive

- AVR Function > 6 Stage Boost & Bucks Voltage
- Line-interactive Model > Power Factor 0.6 > Better than local brand PF 0.4~0.5
- Cold start > Power Bank function
- Elegant outlook、reliable quality 、highest C/P (Cost/Performance) value
- Continuous power supply for preventing data loss
- Power regulation for protecting connected devices
- Excellent microprocessor control guarantees highest reliability

EP 2K / Front Panel

EP 2K / Rear Panel

EP Series Backup Time

Model	Backup time / mins (Internal battery only)				
	25% Load	50% Load	75% Load	100% Load	Config.
EP 450	13.1	8.3	3.5	5 (sec.)	4.5Ah x 1
EP 650	13.9	9.5	5	3.6 (sec.)	7Ah x 1
EP 850	12.9	8.6	4.4	6 (sec.)	9Ah x 1
EP 1K	14.7	11	7.3	3.5	7Ah x 2
EP 1.5K	13.1	9.2	5.2	1.2	9Ah x 2
EP 2K	11.8	6.5	1.2	6 (sec.)	9Ah x 2

FP 2K / Front Panel

UPS Status LED
AC Mode: green lighting
Battery Mode: green flashing

Power Switch

FP 2K / Rear Panel

Fan

Output Receptacles

AC Input

FP Series Backup Time

Model	Backup time / mins (Internal battery only)				
	25% Load	50% Load	75% Load	100% Load	Config.
FP 600	19	6	30 (sec.)	5 (sec.)	7Ah x 1
FP 800	20	3	8 (sec.)	5 (sec.)	9Ah x 1
FP 1K	25	7.5	1	30 (sec.)	7Ah x 2
FP 1.5K	20	6.5	2	1.2	9Ah x 2
FP 2K	15	5	2	1	9Ah x 2

EP 450~2K / Product Specification

- Auto restart while AC is recovering
- Simulated sine wave
- Off-mode charging
- Cold start function

- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- USB/RS-232 communication port and RJ-11 protection

MODEL	EP 450	EP 650	EP 850	EP 1000	EP 1500	EP 2000
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	220/230/240 VAC					
Voltage Range	162-290 VAC					
Frequency Range	50 Hz					
OUTPUT						
AC Voltage Regulation (Batt. Mode)	±10%					
Frequency Range (Batt. Mode)	50 Hz ±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	12 V/7 Ah x 2	12 V/9 Ah x 2	12 V/9 Ah x 2
Typical Recharge Time	4-6 hours up to 90% capacity					
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					
PROTECTION						
Full Protection	Overload, discharge, and overcharge protection					
PHYSICAL						
Dimension, D X W X H (mm)	287 x 110 x 142	287 x 110 x 142	287 x 110 x 142	350 x 146 x 160	397 x 146 x 205	397 x 146 x 205
Net Weight (kgs)	3.55	4.25	4.9	8	11.1	11.5
ENVIRONMENT						
Humidity	0-90 % RH @ 0- 40°C (non-condensing)					
Noise Level	Less than 40dB					

* Product specifications are subject to change without further notice

FP 600~2K / Product Specification

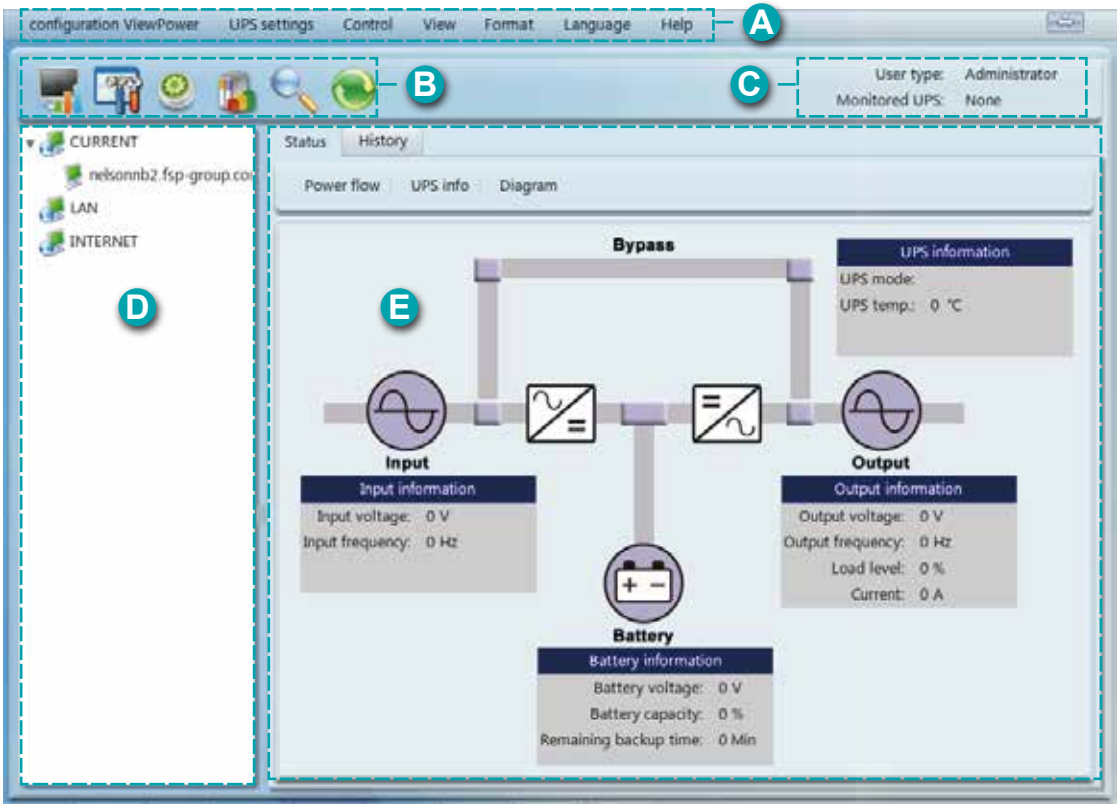
- Compact size
- Simulated sine wave
- Off-mode charging
- Cold start function

- Excellent microprocessor control guarantees high reliability
- Boost and buck AVR for voltage stabilization
- Auto restart while AC is recovering
- Generator compatible

MODEL	FP 600	FP 800	FP 1K	FP 1.5K	FP 2K
CAPACITY	600 VA / 360 W	800 VA / 480 W	1000 VA / 600 W	1500 VA / 900 W	2000 VA / 1200 W
INPUT					
Voltage	220/230/240 VAC				
Voltage Range	81-145 VAC/140-290 VAC				
Frequency Range	50 Hz				
OUTPUT					
Voltage	220/230/240 VAC				
AC Voltage Regulation (Batt. Mode)	±10%				
Frequency Range (Batt. Mode)	60 Hz or 50 Hz ±1 Hz				
Transfer Time	Typical 2-6 ms				
Waveform (Batt. Mode)	Simulated Sinewave				
BATTERY					
Battery Type & Number	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 hours recover to 90% capacity		4-6 hours recover to 90% capacity		
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				
PROTECTION					
Full Protection	Overload, discharge, and overcharge protection				
PHYSICAL					
Dimension, D X W X H (mm)	279 x 101 x 142		320 x 130 x 182		
Net Weight (kgs)	4.25	4.9	8.2	10.4	11
ENVIRONMENT					
Humidity	0-90 % RH @ 0- 40°C (non-condensing)				
Noise Level	Less than 40dB				

* Product specifications are subject to change without further notice

ViewPower GUI Interface



Viewpower download webstie : http://www.power-software-download.com/viewpower.html

A Function Menu
Offer complete tool-set for navigating and setting the GUI.

B Shortcut Menu
Provide short cuts to more commonly used functions.

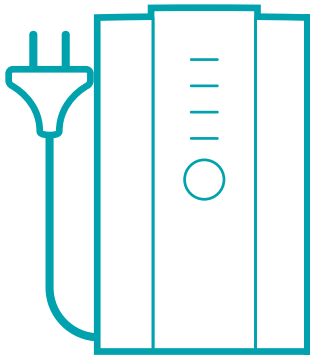
C Current Monitoring Information
Display user ID and monitored UPS name.

D UPS Navigation
Indicate all UPS locations in networked environment.

E Main Window
Contain information and/or controls that change with each function menu or shortcut menu selected.

Feature Summary:

- Allows control and monitoring of multiple UPSs via LAN and INTERNET
- Supports auto and manual online upgrade
- User-friendly power analysis graph: event statistics, history data chart export
- Real-time dynamic graphs of UPS data (voltage, frequency, load level, battery level)
- 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 languages: English, Chinese, French, German, Spanish, Russian, Portuguese, Ukrainian, Italian, Polish, Czech, Turkish



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