

# **User Manual**

## **PF0.9 6K/10K Online UPS**

### **Uninterruptible Power Supply System**

Version: 1.02

## 2. Installation and Operation

There are two different types of online UPS: standard and long-run models. Please refer to the following model table.

Model	Type	Model	Type
6K	Standard model	6KL	Long-run model
6KR		6KRL	
10K		10KL	
10KR		10KRL	

### 2-1. Unpacking and Inspection

Unpack the package and check the package contents. The shipping package contains:

- One UPS
- One user manual
- One monitoring software CD
- One RS-232 cable (option)
- One USB cable
- One battery cable (option)

**NOTE:** Before installation, please inspect the unit. Be sure that nothing inside the package is damaged during transportation. Do not turn on the unit and notify the carrier and dealer immediately if there is any damage or lacking of some parts. Please keep the original package in a safe place for future use.

### 2-2. Rear Panel View

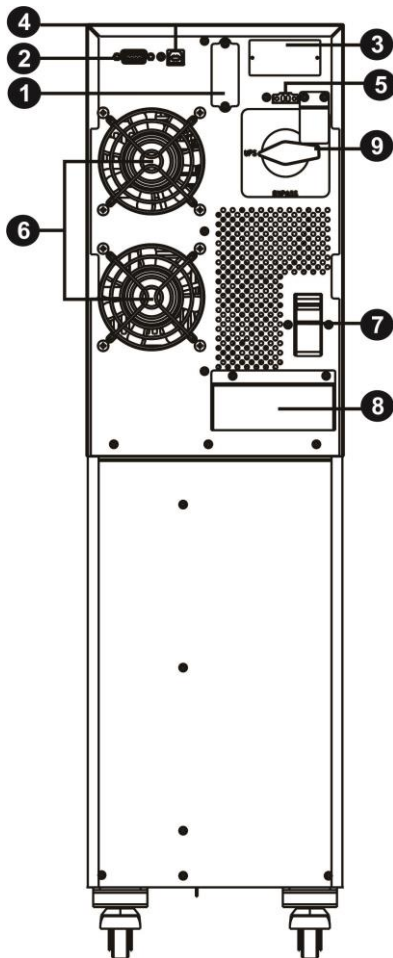


Diagram1: 6K/10K Rear Panel

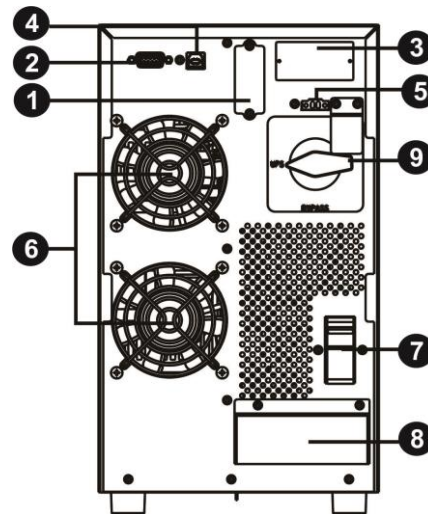
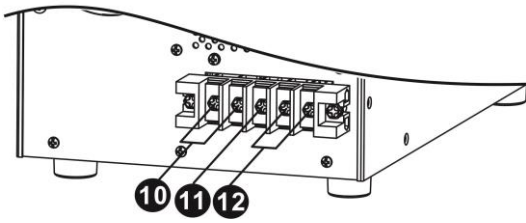
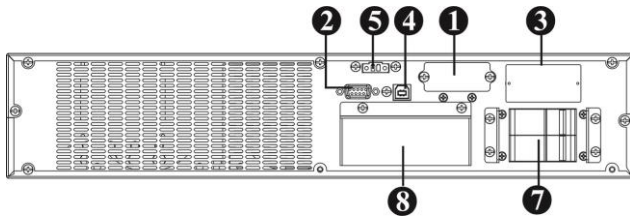


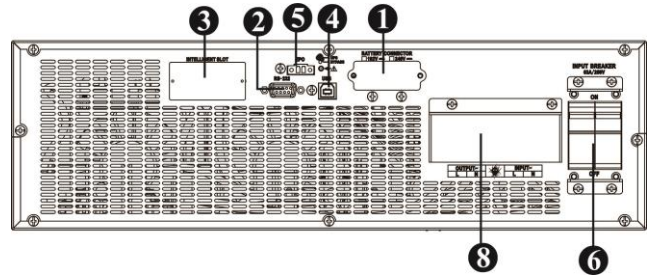
Diagram 2: 6KL/10KL Rear Panel



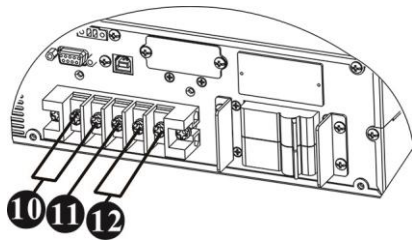
**Diagram 3: Tower Input/Output Terminal**



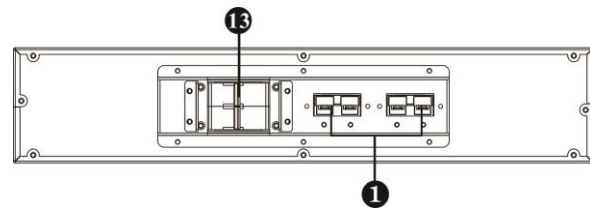
**Diagram 4: 6KR(L) Rear Panel**



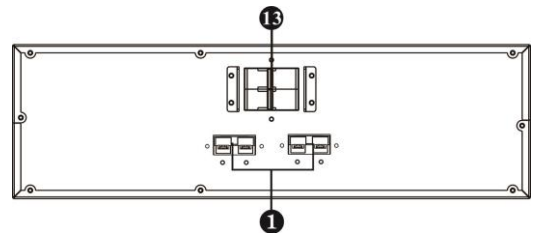
**Diagram 5: 10KR(L) Rear Panel**



**Diagram 6: Rack Input/Output Terminal**



**Diagram 7: 2U Battery Pack Rear Panel**



**Diagram 8: 3U Battery Pack Rear Panel**

1. External battery connector
2. RS-232 communication port
3. Intelligent slot
4. USB communication
5. Emergency power off function connector (EPO connector)
6. Cooling fan
7. Input circuit breaker
8. Input/Output terminal (Refer to Diagram 3 and 6 for the details)
9. Maintenance bypass switch (option)
10. Output terminal
11. Grounding terminal
12. Utility input terminal
13. Battery pack output circuit breaker

### 2-3. Single UPS Installation

Installation and wiring must be performed in accordance with the local electric laws/regulations and execute the following instructions by professional personnel.

- 1) Make sure the mains wire and breakers in the building are in compliance with the standard of rated capacity of UPS to avoid the hazards of electric shock or fire.

**NOTE:** Do not use the wall receptacle as the input power source for the UPS, as its rated current is less than the UPS's maximum input current. Otherwise the receptacle may be burned and destroyed.

- 2) Switch off the mains switch in the building before installation.
- 3) Turn off all the connected devices before connecting to the UPS.

## 6. Specifications

### Tower UPS

MODEL		6K		10K	
CAPACITY*		6000 VA / 5400 W		10000 VA / 9000 W	
<b>INPUT</b>					
Voltage Range	Low Line Loss	110 VAC $\pm$ 3 % at 50% Load; 176 VAC $\pm$ 3 % at 100% Load			
	Low Line Comeback	Low Line Loss Voltage + 10V			
	High Line Loss	300 VAC $\pm$ 3 %			
	High Line Comeback	High Line Loss Voltage - 10V			
Frequency Range		46Hz ~ 54 Hz @ 50Hz system 56Hz ~ 64 Hz @ 60Hz system			
Phase		Single phase with ground			
Power Factor		$\geq$ 0.99 at 100% Load			
<b>OUTPUT</b>					
Output voltage		208/220/230/240VAC			
AC Voltage Regulation		$\pm$ 1%			
Frequency Range (Synchronized Range)		46Hz ~ 54 Hz @ 50Hz system 56Hz ~ 64 Hz @ 60Hz system			
Frequency Range (Batt. Mode)		50 Hz $\pm$ 0.1 Hz or 60Hz $\pm$ 0.1 Hz			
Overload	AC mode	100%~110%: 30min; 110%~130%: 5min; >130% : 10sec			
	Battery mode	100%~110%: 3min; 110%~130%: 30sec; >130% : 10sec			
Current Crest Ratio		3:1 max			
Harmonic Distortion		$\leq$ 3 % THD (Linear Load) $\leq$ 5 % THD (Non-linear Load)			
Transfer Time	Line $\leftrightarrow$ Battery	0 ms			
	Inverter $\leftrightarrow$ Bypass	0 ms			
<b>EFFICIENCY</b>					
AC mode		$>$ 92%		$>$ 93%	
Battery Mode		$>$ 90%		$>$ 91%	
<b>BATTERY</b>					
Standard Model	Battery Type	12 V / 9 Ah			
	Numbers	16	20	16	20
	Recharge Time	9 hours recover to 90% capacity			
	Charging Current	Default : 1 A $\pm$ 10% Max.: 1A, 2A (Adjustable)			
	Charging Voltage	218.4V $\pm$ 1%	273V $\pm$ 1%	218.4V $\pm$ 1%	273V $\pm$ 1%
Long-run Model	Battery Type	Depending on applications			
	Numbers	16-20			
	Charging Current	Default: 4 A $\pm$ 10% Max.: 1A, 2A, 4A, 6A (Adjustable, 6A is only available for 16pcs batteries)			
	Charging Voltage	218.4V $\pm$ 1% (based on 16pcs batteries)			
<b>PHYSICAL</b>					
Standard Model	Dimension,DXWXH(mm)	369 x 190 x 688	442x 190 x 688		
	Net Weight (kgs)	61	74	66	76
Long-run Model	Dimension, DXWXH(mm)	369 x 190 x 318		442x 190 x 318	
	Net Weight (kgs)	12		16	
<b>ENVIRONMENT</b>					
Operation Temperature		0 ~ 50°C (battery life cycle will be shorten when temperature is above 25°C)		0 ~ 40°C (battery life cycle will be shorten when temperature is above 25°C)	
Operation Humidity		$<$ 95 % and non-condensing			
Operation Altitude**		$<$ 1000m			
Acoustic Noise Level		Less than 55dB @ 1 Meter		Less than 58dB @ 1 Meter	
<b>MANAGEMENT</b>					
Smart RS-232 or 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 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.

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

# Rack UPS

MODEL		6KR		10KR	
<b>CAPACITY*</b>		6000 VA / 5400 W		10000 VA / 9000 W	
<b>INPUT</b>					
Voltage Range	Low Line Loss	110 VAC $\pm$ 3 % at 50% Load; 176 VAC $\pm$ 3 % at 100% Load			
	Low Line Comeback	Low Line Loss Voltage + 10V			
	High Line Loss	300 VAC $\pm$ 3 %			
	High Line Comeback	High Line Loss Voltage - 10V			
Frequency Range		46Hz ~ 54 Hz @ 50Hz system 56Hz ~ 64 Hz @ 60Hz system			
Phase		Single phase with ground			
Power Factor		$\geq$ 0.99 at 100% Load			
<b>OUTPUT</b>					
Output voltage		208/220/230/240VAC			
AC Voltage Regulation		$\pm$ 1%			
Frequency Range (Synchronized Range)		46Hz ~ 54 Hz @ 50Hz system 56Hz ~ 64 Hz @ 60Hz system			
Frequency Range (Batt. Mode)		50 Hz $\pm$ 0.1 Hz or 60Hz $\pm$ 0.1 Hz			
Overload	AC mode	100%~110%: 30min; 110%~130%: 5min; >130% : 10sec			
	Battery mode	100%~110%: 3min; 110%~130%: 30sec; >130% : 10sec			
Current Crest Ratio		3:1 max			
Harmonic Distortion		$\leq$ 3 % THD (Linear Load) $\leq$ 5 % THD (Non-linear Load)			
Transfer Time	Line $\leftrightarrow$ Battery	0 ms			
	Inverter $\leftrightarrow$ Bypass	0 ms			
<b>EFFICIENCY</b>					
AC mode		> 92%		> 93%	
Battery Mode		> 90%		> 91%	
<b>BATTERY</b>					
Standard Model	Type & Numbers	12 V / 9 Ah x 16	12V / 9 Ah x 20	12 V / 9 Ah x 16	12V / 9 Ah x 20
	Recharge Time	9 hours recover to 90% capacity			
	Charging Current	Default : 1 A $\pm$ 10% Max.: 1A, 2A (Adjustable)			
	Charging Voltage	218.4V $\pm$ 1%	273V $\pm$ 1%	218.4V $\pm$ 1%	273V $\pm$ 1%
Long-run Model	Type	Depending on applications			
	Numbers	16 – 20 (Adjustable)			
	Charging Current	Default: 4 A $\pm$ 10% Max.: 1A, 2A, 4A, 6A (Adjustable, 6A is only available for 16pcs batteries)			
	Charging Voltage	218.4V $\pm$ 1% (Based on 16pcs batteries)			
<b>PHYSICAL</b>					
Standard Model	Dimension,DXWXH(mm)	UPS unit: 530 x 438 x 88 [2U] Battery pack: 668 x 438 x 88 [2U]	UPS unit: 530 x 438 x 88 [2U] Battery pack: 580 x 438 x 133 [3U]	UPS unit: 580 x 438 x 133 [3U] Battery pack: 580 x 438 x 133 [3U]	UPS unit: 580 x 438 x 133 [3U] Battery pack: 580 x 438 x 133 [3U]
	Net Weight (kgs)	UPS unit: 15 Battery pack: 48	UPS unit: 15 Battery pack: 61	UPS unit: 18 Battery pack: 51	UPS unit: 18 Battery pack: 61
Long-run Model	Dimension, DXWXH(mm)	530 x 438 x 88 [2U]		580 x 438 x 133 [3U]	
	Net Weight (kgs)	15		18	
<b>ENVIRONMENT</b>					
Operation Temperature		0 ~ 40°C (battery life cycle will be shorten when temperature is above 25°C)			
Operation Humidity		<95 % and non-condensing			
Operation Altitude**		<1000m			
Acoustic Noise Level		Less than 55dB @ 1 Meter		Less than 58dB @ 1 Meter	
<b>MANAGEMENT</b>					
Smart RS-232 or 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 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.

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