

UPS

STANDBY UPS

LINE INTERACTIVE UPS

ONLINE UPS



NanoFit SERIES



Touch Screen

Standby UPS

600VA-800VA

Applications:



Router



Speaker



Game
Console



Computer

Protect Your Electronic Devices

UPS & Surge Protector

FSP NanoFit series is a compact backup UPS providing reliable power protection for home appliances, computer and other electronics. It implements battery backup and surge-protected socket functions to meet demand for multiple device. It is a right choice to keep power connected and protect your data.

GENERAL FEATURES

Compact size can be desktop or wall-mounted

6 outlets

Simulated sine wave output

2 ports USB charger 5V / 1A (Max.)

RJ45 surge protection (NanoFit 800 only)

Touch LCD in AC & Battery mode (NanoFit 800 only)
(Output & input voltage / Load level / Battery capacity / Overload)

TECHNICAL SPECIFICATIONS

MODEL	NanoFit 600	NanoFit 800
CAPACITY	600 VA / 360 W	800 VA / 480 W
INPUT		
Voltage	220/230/240 VAC	
Acceptable Voltage Range	180- 270 VAC	
Frequency Range	60 Hz / 50 Hz (Auto sensing)	
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, Max. 10ms	
Waveform (Batt. Mode)	Simulated Sinewave	
BATTERY		
Battery Type & Nnnumber	12 V/4.5Ah x 1	12 V/5Ah x 1
Typical Recharge Time	8 hours recover to 90% capacity	
INDICATORS		
AC Mode	Green lighting	
Battery Mode	Yellow flashing	
Fault	Red lighting	
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)	305 x 158.5 x 95	
Net Weight (kgs)	2.6	2.9
ENVIRONMENT		
Humidity	0-90 % RH @ 0- 40°C (Non-condensing)	
Noise Level	Less than 40dB	

Product specifications are subject to change without further notice

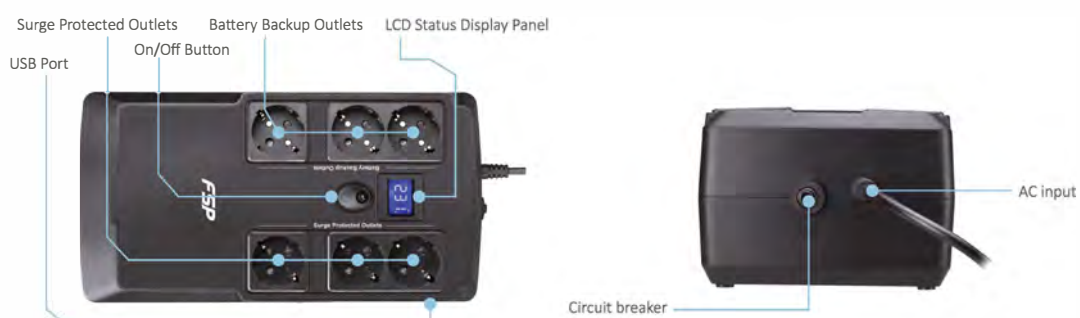


Backup time table for NanoFit series

MODEL	Battery		Back Time (Min)	
	Type of Battery	Total Q'ty	50% Load	100% Load
NanoFit 600	12V 4.5Ah	1	5.0	0.5
NanoFit 800	12V 5.0Ah	1	5.0	0.5

NOTE : Data given are the average values, not the minimum values.

Product Overview



FP / iFP SERIES



Line Interactive UPS

600VA - 2KVA

Applications:



Built-in AVR



Generator compatible



Game Console



Computer

Simple Solution for Home and Office Users

FP/iFP Series is a "Lite" UPS to protect your power issue on personal computers. It provides comprehensive protection in a small and economic package. Not only offering greater comprehensive power protection against surges and spikes, it also provides pure voltage with built-in AVR stabilizer. The UPS will continue providing clean and stable power to connected equipment while its embedded microprocessor controller guarantees high reliability, perfect for any home or small office application.

GENERAL FEATURES

- Compact size
- 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
- Generator compatible(option)
- Built-in USB communication port and RJ network protection
- Touch screen LCD to display UPS information circularly (only for iFP series)

TECHNICAL SPECIFICATIONS

MODEL	FP 600	FP 800	FP 1000	FP 1500	FP 2000
PHASE	1-phase in / 1-phase out				
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	162-290 VAC				
Frequency Range	60/50 Hz (Auto sensing)				
OUTPUT					
Output Voltage	220/230/240 VAC				
AC Voltage Regulation(Batt. Mode)	±10%				
Frequency Range(Batt. Mode)	50 Hz or 60 Hz ±1 Hz				
Transfer Time	Typical 2-6 ms				
Waveform(Batt. Mode)	Simulated Sine Wave				
BATTERY					
Battery Type	12V / 7 Ah x1	12V / 9 Ah x1	12V / 7 Ah x2	12V / 9 Ah x2	12V / 9 Ah x2
Typical Recharge Time	4 hours recover to 90% capacity		4-6 hours recover to 90% capacity		
PROTECTION	Overload, discharge, and overcharge protection				
INDICATORS					
AC Mode	Green lighting		Green lighting		
Battery Mode	Green flashing		Yellow flashing		
Fault	N/A		Red lighting		
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 (D) x 101 (W) x 142 (H)			320 (D) x 130 (W) x 182 (H)	
Net Weight (kgs)	4.2	4.9	8.2	10.4	10.6
ENVIRONMENT					
Operation Humidity	0-90% RH @ 0-40°C (non-condensing)				
Noise Level	Less than 40 dBA @ 1 Meter				

Product specifications are subject to change without further notice



Backup time table for FP series

MODEL	Battery			Back Time (Min)			
	Type of Battery	Total Q'ty	25% Load	50% Load	75% Load	100% Load	
FP 600	12V 7.0Ah	1	19.0	6.0	0.5	0.08	
FP 800	12V 9.0Ah	1	20.0	3.0	0.13	0.08	
FP 1000	12V 7.0Ah	2	18.0	5.0	1.83	0.46	
FP 1500	12V 9.0Ah	2	18.0	6.5	3.5	1.33	
FP 2000	12V 9.0Ah	2	15.0	3.73	1.6	0.6	

NOTE : Data given are the average values, not the minimum values.

TECHNICAL SPECIFICATIONS

MODEL	iFP 600	iFP 800	iFP 1000	iFP 1500	iFP 2000
PHASE	1-phase in / 1-phase out				
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	162 - 290 VAC				
Frequency Range	60/50 Hz (Auto sensing)				
OUTPUT					
Output Voltage	220/230/240 VAC				
AC Voltage Regulation(Batt. Mode)	±10%				
Frequency Range(Batt. Mode)	50 Hz or 60 Hz ±1 Hz				
Transfer Time	Typical 2-6 ms				
Waveform(Batt. Mode)	Simulated Sine Wave				
BATTERY					
Battery Type	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		
PROTECTION	Overload, discharge, and overcharge protection				
INDICATORS	LCD Panel				
LCD Panel	Digital information				
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)	300 (D) x 101 (W) x 142 (H)			320 (D) x 130 (W) x 182 (H)	
Net Weight (kgs)	4.25	4.9	8.2	10.4	11
ENVIRONMENT					
Operation Humidity	0-90% RH @ 0-40°C (non-condensing)				
Noise Level	Less than 40 dBA				

Product specifications are subject to change without further notice



Backup time table for iFP series

MODEL	Battery		Back Time (Min)			
	Type of Battery	Total Q'ty	25% Load	50% Load	75% Load	100% Load
iFP 600	12V 7.0Ah	1	19.0	6.0	0.5	0.08
iFP 800	12V 9.0Ah	1	20.0	3.0	0.13	0.08
iFP 1000	12V 7.0Ah	2	18.0	5.0	1.83	0.46
iFP 1500	12V 9.0Ah	2	18.0	6.5	3.5	1.33
iFP 2000	12V 9.0Ah	2	15.0	3.73	1.6	0.6

NOTE : Data given are the average values, not the minimum values.

EUFO SERIES



High-Level Line-Interactive UPS

1.1KVA-3KVA

Applications:



Work-Stations



Rack server



Network device



Multiple communication

Professional Line-Interactive UPS Solutions

Eufo series rating is from 1.1kVA to 3.0kVA and implemented protect functions for power failure, surge overvoltage and brownout. Rack/Tower with easy-shift LCD design is flexible for installation. Moreover, this series built-in Efficiency corrective Optimizer (ECO) that the efficiency is up to 98% for more energy saving. The application is suitable for networking, telecom, server and mission-critical applications.

GENERAL FEATURES

- Pure sine wave
- Output power factor 0.9
- Microprocessor control optimizes reliability
- User-friendly and easy-shift LCD design
- Rack/Tower 2 in 1 design
- Built-in boost and buck AVR
- Programmable power management outlets
- ECO operation for energy saving (Efficiency Corrective Optimizer)
- Emergency power off function (EPO)
- RJ45 Surge protector
- Hot-swappable battery design
- Built-in internal battery & extend battery function
- Multiple communication available

Microprocessor-based line interactive design

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

Pure sine wave output

With pure sine wave output, Eufo 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.

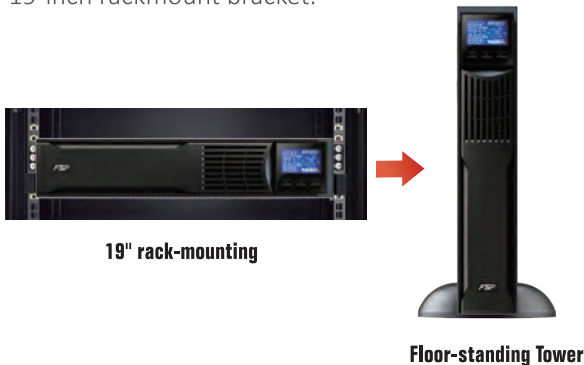
User-friendly and easy-shift LCD display

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

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



Built-in boost and buck AVR

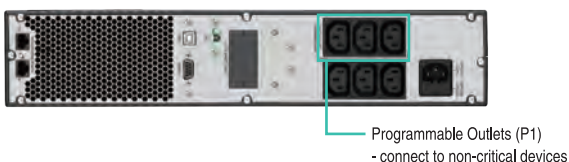
With built-in voltage regulator, the UPS will maintain regulated nominal output without using battery power during brownouts and overvoltages.

Output power factor 0.9

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

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 missioncritical devices by shutting down the non-critical devices.



ECO operation for energy saving (Efficiency Corrective Optimizer)

The ECO function allows cost-effective operation of UPS Systems as high as 97%. In this operation mode, load is supplied by the mains. When battery is fully charged, the fan will stop running for energy saving. 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.

Hot-swappable battery design

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



Extend battery capacity Function

Eufo series offer extend battery capacity function for long back up time purpose.



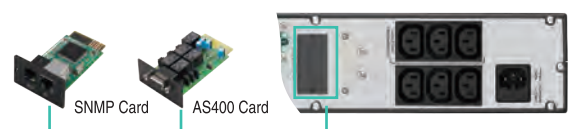
RJ-45 Surge protector

Eufo Series implements RJ-45 Surge Protection ports to prevent Ethernet network damage caused by lightning or ground surges.

Multiple communication

- USB port
- RS-232 port
- Intelligent slot for SNMP or Relay Card (option)

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



TECHNICAL SPECIFICATIONS

MODEL	EU-1101TS		EU-1102TS	EU-1103TS
PHASE	Single phase with ground			
CAPACITY	1100 VA / 990 W		2000 VA/ 1800 W	3000 VA/ 2700 W
INPUT				
Voltage Range	208/220/230/240 VAC			
Acceptable Voltage Range	162-290 VAC			
Frequency Range	50Hz/60Hz (Auto sensing)			
OUTPUT				
Output Voltage	208/220/230/240VAC			
Voltage Regulation	± 1.5% (Before battery Alarm)			
Frequency Range(Batt. Mode)	50 Hz or 60 Hz ± 1 Hz			
Current Crest Ratio	3:1 (max.)			
Harmonic Distortion	2% max @ 100% Linear Load; 5% max @ 100% non linear load (Before low battery alarm)			
Transfer Time	2-6ms (typical), 10ms max.			
Waveform (Batt. Mode)	Pure Sinewave			
EFFICIENCY				
ECO Mode	97%			
Boost/Buck Mode	95%			
Battery Mode	90%	91%	92%	
BATTERY				
Standard Model	Battery Type & Numbers	12 V/9 Ah x 2	12 V/9 Ah x 4	12 V/9 Ah x 6
	Charging Current (max.)	1.5 A		
	Charging Voltage	27.4 VDC ± 1%	54.8 VDC ± 1%	82.1 VDC ± 1%
	Typical Recharge Time	4 hours recover to 90% capacity		
ALARM				
Battery Mode	Sounding every 10 seconds			
Low Battery	Sounding twice every second			
Overload	Sounding every second			
Fault	Continuously sounding			
AC INPUT & OUTPUT CONNECTORS				
AC Input Connector	1 x IEC 320 C14	1 x IEC 320 C14	1 x IEC 320 C20	
AC Output Connector	8 x IEC 320 C13	8 x IEC 320 C13	8 x IEC 320 C13 / 1 x IEC C19	
STANDARDS				
Safety / EMC	IEC 62040-1 (safety) / IEC-62040-2 (EMC) / CE			
PHYSICAL				
Standard Model	Dimension, D x W x H(mm)	410 (D) x 438 (W) x 88 (H)	510 (D) x 438 (W) x 88 (H)	630 (D) x 438 (W) x 88 (H)
	Net Weight (kgs)	13.4	21.5	29.3
ENVIRONMENT				
Operation Humidity	0-90% RH @ 0-40°C (Non-condensing)			
Noise Level	Less than 45 dBA @ 1 Meter			
MANAGEMENT				
Smart RS-232 / USB	Supports Windows 2000/2003/XP/Vista/2008/7/8/10, Linux and MAC			
Optional SNMP	Power management from SNMP manager and web browser			

Product specifications are subject to change without further notice



Backup Time Table for Eufo Series

Battery Bank	Backup Time with Load (Min)				
	25%	50%	75%	100%	
EU-1101TS	Internal battery only (24V:12V 9Ah x 2)	24.5	10.0	5.5	3.0
	+ 1 BB-24/18RT (4 x 9Ah Batteries)	86.0	39.0	24.5	16.5
EU-1102TS	Internal battery only (48V:12V-9Ah x 4)	24.5	10.0	5.5	3.0
	+ 1 BB-48/18RT (8 x 9Ah Batteries)	86.0	39.0	24.5	16.5
EU-1103TS	Internal battery only (72V:12V-9Ah x 6)	24.5	10.0	5.5	3.0
	+ 1 BB-72/18RT (12 x 9Ah Batteries)	86.0	39.0	24.5	16.5



CHAMP SERIES



PF0.9 Online UPS

1KVA-10KVA

Applications:



ECO mode



Pure sinewave



Generator compatible



Computer

Compact & Small-Scale Online UPS Solutions

Champ Series is the high power density double-conversion online UPS with a output power factor 0.9. It's designed in small cabinet with microprocessor controller.

Champ Series also have USB and RS-232 communication ports as standard, with a built-in intelligent slot for additional adapters, protocol converters and related contact cards.

GENERAL FEATURES

True double-conversion

Microprocessor control optimizes reliability

Input power factor correction ≥ 0.99

Output power factor 0.9

Wide input voltage (130 V – 280 V)

Converter mode available

ECO mode for energy saving only available for 1-3 K models

Generator compatible

Smart SNMP works well with either USB or RS-232

together display allows easy monitoring and access of UPS status

Adjustable battery numbers only available for 6 K/10 K models

TECHNICAL SPECIFICATIONS

MODEL	CH-1101TS	CH-1102TS	CH-1103TS	CH-1106TS	CH-1110TS
PHASE	Single phase with ground				
CAPACITY	1000 VA / 900W	2000 VA / 1800W	3000 VA / 2700 W	6000 VA / 5400 W	10000 VA / 9000 W
INPUT					
Nominal Voltage	208/220/230/240 VAC			208/220/230/240 VAC	
Voltage Range	120-300 VAC (Based on load at 50%) 180-280 VAC (Based on load at 100%)			110-300 VAC (Based on load at 50%) 176-300 VAC (Based on load at 100%)	
Frequency Range	40Hz ~ 70 Hz			46~54 Hz or 56~64 Hz	
Power Factor	≥ 0.99 @ Nominal Voltage (100% Last)				
OUTPUT					
Nominal Voltage	208/220/230/240 VAC			208/220/230/240 VAC	
AC Voltage Regulation	± 1%			± 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 or 60 Hz ± 0.5%			50 Hz or 60Hz ± 0.1 Hz	
Current Crest Ratio	3:1			3:1	
Harmonic Distortion	≤ 3 % THD (Linear Load), ≤ 6 % THD (Non-linear Load)			≤ 3 % THD (Linear Load), ≤ 5 % THD (Non-linear Load)	
Transfer Time	AC mode to Battery mode	Zero			Zero
	Inverter to Bypass	4 ms (Typical)			Zero
Waveform (Batt. Mode)	Pure Sinewave				
EFFICIENCY					
Line Mode	88%	89%	90%	92%	93%
Battery Mode	83%	85%	88%	90%	91%
BATTERY					
Battery Type	12V / 9 Ah	12V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah	12 V / 9 Ah
Numbers	2	4	6	16	16
Typical Recharge Time	4 hours recover to 90% capacity				
Charging Current (max.)	1.0 A	1.0 A	1.0 A	1.0 A	1.0 A
Charging Voltage	27.4 VDC ± 1%	54.7 VDC ± 1%	82.1 VDC ± 1%	218.4±1%	218.4±1%
INDICATORS					
LCD Display	Last 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	Continuously sounding				
AC INPUT & OUTPUT CONNECTORS					
AC Input Connector	1 x IEC 320 C14	1 x IEC 320 C14	1 x IEC 320 C20	Terminal block	
AC Output Connector	3 x CEE 7/4 (Schuko)	3 x CEE 7/4 (Schuko)	4 x CEE 7/4 (Schuko)		
STANDARDS					
Safety / EMC	IEC 62040-1 (safety) / IEC-62040-2 (EMC) / CE				
PHYSICAL					
Dimension, D x W x H(mm)	282 x 145 x 220	397 x 145 x 220	421 x 190 x 318	UPS Unit: 369 x 190 x 688 Battery Pack: 369 x 190 x 318	UPS Unit: 442 x 190 x 688 Battery Pack: 442 x 190 x 318
Net Weight (kgs)	9.8	17.0	27.6	UPS Unit: 61 Battery Pack:49	UPS Unit: 66 Battery Pack:49.5
ENVIRONMENT					
Operation Humidity	20-90% RH @ 0-40°C (non-condensing)			0-95% RH @ 0-50°C (non-condensing)	0-95% RH @ 0-40°C (non-condensing)
Noise Level	Less than 50 dBA @ 1 Meter			Less than 50 dBA @ 1 Meter	Less than 58 dBA @ 1 Meter
MANAGEMENT					
Smart RS-232 / USB	Supports Windows 2000/2003/XP/Vista/2008/7/8/10, Linux and MAC				
Optional SNMP	Power management from SNMP manager and web browser				

*1-3KVA: Derate to 80% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 100/200/208VAC.
6-10KVA: Derate to 60% of capacity in Frequency converter mode and to 90% when the output voltage is adjusted to 208VAC.
Product specifications are subject to change without further notice.



Backup Time Table for Champ Series

Battery Bank	Backup Time with Load (Min)			
	25%	50%	75%	100%
CH 1101TS Internal battery only (24V:12V-9Ah x 2)	24.5	10.0	5.5	3.0
CH 1102TS Internal battery only (48V:12V-9Ah x 4)	24.5	10.0	5.5	3.0
CH 1103TS Internal battery only (72V:12V-9Ah x 6)	24.5	10.0	5.5	3.0
CH 1106TS Internal battery (192V:12V-9Ah x 16)	34.0	14.2	8.5	5.5
+ 1 BB-192 / 09T (16 x 9Ah Batteries)	77.0	34.0	20.6	14.0
CH 1110TS Internal battery (192V:12V-9Ah x 16)	18.0	7.2	3.5	2.3
+ 1 BB-192 / 09T (16 x 9Ah Batteries)	42.0	18.0	11.0	7.1

TECHNICAL SPECIFICATIONS

MODEL	CH-1101RS	CH-1102RS	CH-1103RS	CH-1106RL	CH-1110RL	
PHASE	Single phase with ground					
CAPACITY	1000 VA / 900W	2000 VA / 1800W	3000 VA / 2700 W	6000 VA / 5400 W	10000 VA / 9000 W	
INPUT						
Nominal Voltage	208/220/230/240VAC			208/220/230/240VAC		
Voltage Range	120-300 VAC at 50% load 180-300 VAC at 100% load			110-300 VAC ± 3% at 50% Load 176-300 VAC ± 3% at 100% Load		
Frequency Range	40Hz ~ 70 Hz			46~54 Hz or 56~64 Hz		
Power Factor	≥ 0.99 @ Nominal Voltage (100% Last)					
OUTPUT						
Nominal Voltage	208/220/230/240VAC			208/220/230/240 VAC		
AC Voltage Regulation	± 1%			± 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 or 60Hz ± 0.1 Hz		
Current Crest Ratio	3:1			3:1		
Harmonic Distortion	≤ 3 % THD (Linear Load), ≤ 6 % THD (Non-linear Load)			≤ 3 % THD (Linear Load), ≤ 5 % THD (Non-linear Load)		
Transfer Time	AC mode to Battery mode	Zero			Zero	
	Inverter to Bypass	4 ms (Typical)			Zero	
Waveform (Batt. Mode)	Pure Sinewave					
EFFICIENCY						
Line Mode	88%	89%	90%	92%	93%	
Battery Mode	83%	87%	88%	90%	91%	
BATTERY						
Standard Model	Battery Type	12V / 9 Ah	12V / 9 Ah	12 V / 9 AH		
	Numbers	2	4	6		
	Typical Recharge Time	4 hours recover to 90% capacity				N/A
	Charging Current (max.)	1.0 A	1.0 A		1.0 A	
	Charging Voltage	27.4 VDC ± 1%	54.7 VDC ± 1%	82.1 VDC ± 1%		
Long-run Model	Battery Type				Depending on the capacity of external batteries	
	Numbers in string				16-20pcs (Adjustable)	
	Charging Current (max.)	N/A			1A/2A/4A/6A (Adjustable, 6A is only available for 16pcs batteries)	
	Charging Voltage				218.4 VDC ± 1% (Based on 16pcs batteries)	
INDICATORS						
LCD Display	Last 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	Continuously sounding					
AC INPUT & OUTPUT CONNECTORS						
AC Input Connector	1 x IEC 320 C14	1 x IEC 320 C14	1 x IEC 320 C20		Terminal block	
AC Output Connector	3 x CEE 7/4 (Schuko)	3 x CEE 7/4 (Schuko)	4 x CEE 7/4 (Schuko)		Terminal block	
STANDARDS						
Safety / EMC	IEC 62040-1 (safety) / IEC-62040-2 (EMC) / CE					
PHYSICAL						
Standard Model	Dimension, D x W x H(mm)	310 x 438 x 88	410 x 438 x 88	630 x 438 x 88	N/A	N/A
	Net Weight (kgs)	12	19	29.3	N/A	N/A
Long-run Model	Dimension, D x W x H(mm)				UPS Unit: 530x438x88 [2U] Battery Pack: 668x438x88 [2U]	580 x 438 x 133[3U]
	Net Weight (kgs)				UPS Unit: 15 Battery Pack:48	18
ENVIRONMENT						
Operation Humidity	20-90% RH @ 0-40°C (non-condensing)			0-95% RH @ 0-40°C (non-condensing)		
Noise Level	Less than 50 dBA @ 1 Meter			Less than 50 dBA @ 1 Meter	Less than 58 dBA @ 1 Meter	
MANAGEMENT						
Smart RS-232 / USB	Supports Windows 2000/2003/XP/Vista/2008/7/8/10, Linux and MAC					
Optional SNMP	Power management from SNMP manager and web browser					

*1K-3K: Derate to 80% of capacity in Frequency converter mode or when the output voltage is adjusted to 208VAC.
6K/10K: Derate to 60% of capacity in Frequency converter mode and to 80% when the output voltage is adjusted to 208VAC.
Product specifications are subject to change without further notice



Backup Time Table for Champ Series

Battery Bank	Backup Time with Load (Min)			
	25%	50%	75%	100%
CH 1101RS Internal battery only (24V:12V-9Ah x 2)	24.5	10.0	5.5	3.0
CH 1102RS Internal battery only (48V:12V-9Ah x 4)	24.5	10.0	5.5	3.0
CH 1103RS Internal battery only (72V:12V-9Ah x 6)	24.5	10.0	5.5	3.0
CH 1106RL + 1 BB-192 / 09R (16 x 9Ah Batteries)	34.0	14.2	8.5	5.5
CH 1110RL + 1 BB-192 / 09R (16 x 9Ah Batteries)	18.0	7.2	3.5	2.3

CUSTOS 9X+ SERIES



High-Level Online UPS

1KVA - 3KVA

Applications:



Data Center



Telecom



Networking



Computer

Professional On-Line UPS Solutions

Ideal for medium-density power protection demand, Power guardian, FSP Custos 9X+ series provides Rack/ Tower to fit diverse environment. Despite its compact footprint, Custos 9X+ incorporates internal battery packs which can be accessed via the front panel for maintenance checks and replacement without removing the UPS from its rack mounting. The LCD display panel can be easily shifted by pressing buttons to suit the installation format, vertical stand or horizontal rack mount. Besides, IT personnel can manage equipment well from learning Intuitive information via LCD display.

GENERAL FEATURES

- True double-conversion online UPS
- Output power factor 0.9
- User-friendly and easy-shift LCD display
- Rack/Tower design
- Programmable power management outlets for 1k- 3k models
- 50/60 Hz frequency converter mode
- ECO and advanced ECO mode for energy saving
- Emergency Power Off Function (EPO)
- Hot-swappable battery design

True double-conversion online UPS

A true double conversion UPS will rectify input power to offer clean, pure, high level quality power with $\pm 1\%$ voltage output regulation 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

Custos 9X+ series is a high-density UPS with output power factor 0.9 to provide higher performance and efficiency to critical applications.

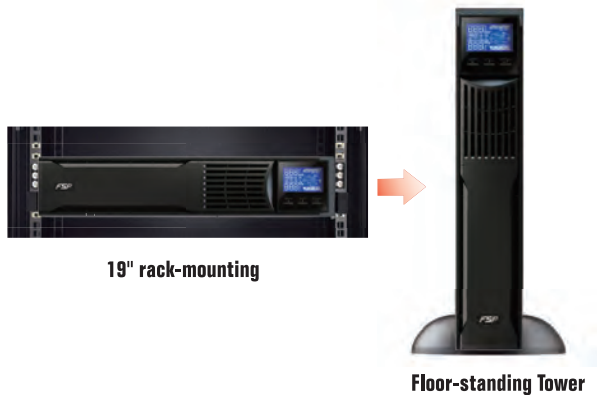
User-friendly and easy-shift LCD display

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



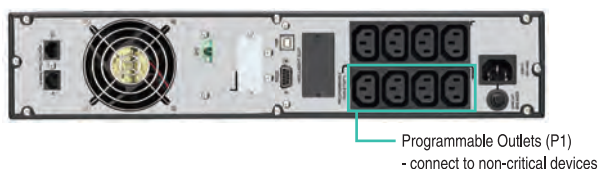
Rack / Tower design

Custos 9X+ series is designed in true universal-mount case. It can be easily installed as floor-standing tower or in 19-inch rackmount bracket.



Programmable power management outlets

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

Thanks FSP Custos9X+ smart design, operation efficiency up to 97% ECO mode implemented. Furthermore, Custos 9X+ 1-3K even offers advanced ECO mode to allow UPS to operate at higher efficiency up to 98% for more energy saving.

In these operation modes, load is supplied by the utility. When utility failure, UPS inverter will assume control the load and provide clean power continuity to the connected devices.



Emergency Power Off function (EPO)

The safety function can guarantee & secure the emergency responders, fire fighters not exposed to dangerous voltage, electrical hazard from the device. This is important if equipment is emitting smoke, fire, or flood, or if person is being electrocuted.

Hot-swappable battery design

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



RJ-45 Surge protector

Custos 9x+ implements RJ-45 Surge Protection ports to prevent Ethernet network damage caused by lightning or ground surges.

Intelligent slot for SNMP or Relay Card



TECHNICAL SPECIFICATIONS

MODEL	CU-1101TS	CU-11015TS	CU-1102TS	CU-1102TL	CU-1103TS	CU-1103TL
PHASE	Single phase with ground					
CAPACITY	1000 VA / 900 W	1500 VA / 1350 W	2000 VA / 1800 W		3000 VA / 2700 W	
INPUT						
Nominal Voltage	208/220/230/240 VAC					
Voltage Range	110-300 VAC \pm 5% @ 50% load ; 160-300 VAC \pm 5% @ 100% load					
Frequency Range	40Hz ~ 70Hz					
Power Factor	\geq 0.99 @ Nominal Voltage (100% load)					
OUTPUT						
Output Voltage	208/220/230/240 VAC					
AC Voltage Regulation (Batt. Mode)	\pm 1%					
Frequency Range (Synchronized Range)	57 ~ 63 Hz or 47 ~ 53 Hz					
Frequency Range (Batt. Mode)	60Hz \pm 0.1Hz or 50 Hz \pm 0.1Hz					
Current Crest Ratio	5:1 (max.)					
Harmonic Distortion	\leq 2 % THD (Linear Load) ; \leq 4 % THD (Non-linear Load)					
Transfer Time	Line mode to Battery mode	Zero				
	Inverter to Bypass	4 ms (Typical)				
Waveform (Batt. Mode)	Pure Sinewave					
EFFICIENCY						
AC Mode	90%		91%		91%	
ECO Mode	97%		97%		97%	
Battery Mode	88%	89%	88%	89%	90%	
BATTERY						
Battery Type	12 V / 9 AH	12 V / 9 AH	12 V / 9 AH	Depending on the capacity of external batteries	12 V / 9 AH	Depending on the capacity of external batteries
Numbers	2	3	4	4	6	6
Typical Recharge Time	4 hours recover to 90% capacity		4 hours recover to 90% capacity		4 hours recover to 90% capacity	
Charging Current (max.)	1 A**	1 A**	1 A**	1A/2A/4A/8A (Selectable via LCD setting)	1 A**	1A/2A/4A/8A (Selectable via LCD setting)
Charging Voltage	27.4 VDC \pm 1%	41.1 VDC \pm 1%	54.8 VDC \pm 1%	54.8 VDC \pm 1%	82.1 VDC \pm 1%	82.1 VDC \pm 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					
AC INPUT & OUTPUT CONNECTORS						
AC Input Connector	1 x IEC 320 x14		1 x IEC 320 C20		1 x IEC 320 C20	
AC Output Connector	8 x IEC 320 C13		8 x IEC 320 C13		1 x IEC 320 C19 / 6 x IEC 320 C13	
PHYSICAL						
Dimension, D x W x H (mm)	410 x 438 x 88 [2U]	410 x 438 x 88 [2U]	510 x 438 x 88 [2U]	410 x 438 x 88 [2U]	630 x 438 x 88 [2U]	510 x 438 x 88 [2U]
Net Weight (kgs)	12.9	17.6	20.6	11.3	28.0	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, Windows7/8/10, Linux and MAC					
Optional SNMP	Power management from SNMP manager and web browser					

*Derate capacity to 95% when the output voltage is adjusted to 115VAC, derate capacity to 90% when the output voltage is adjusted to 110VAC and derate capacity to 80% when the output voltage is adjusted to 100VAC/200VAC/208VAC.

**If standard UPS is equipped with additional charger, the available setting options become 2A, 3A and 4A. Product specifications are subject to change without further notice.



Backup Time Table for Custos Series

Model	Battery Bank	Backup Time with Load (Min)			
		25%	50%	75%	100%
CU-1101TS	internal battery(2x9AH Batteries)	24.0	10.5	6.0	3.8
	+1 BB-24/18RT(6x9AH batteries)	168.0	78.0	52.0	37.0
CU-1102TS	internal battery(4x9AH batteries)	26.0	11.0	6.1	4.0
	+1 BB-48/18RT(12x9AH batteries)	98.0	47.0	29.0	20.0
	+2 BB-48/18RT(20x9AH batteries)	181.0	88.0	54.0	38.0
CU-1103TS	internal battery(6x9AH batteries)	28.0	11.5	6.3	4.0
	+1 BB-72/18RT(18x9AH batteries)	107.0	48.0	30.0	20.5
	+2 BB-72/18RT(30x9AH batteries)	197.0	91.0	55.0	39.0
CU-1102TL	+1 BB-48/18RT(8x9AH batteries)	60.0	29.0	17.5	11.5
	+2 BB-48/18RT(16x9AH batteries)	139.0	67.0	41.0	29.0
	+3 BB-48/18RT(24x9AH batteries)	224.0	110.0	68.0	48.0
CU-1103TL	+1 BB-72/18RT(12x9AH batteries)	65.0	29.0	17.5	11.5
	+2 BB-72/18RT(24x9AH batteries)	151.0	68.0	42.0	29.0
	+3 BB-72/18RT(36x9AH batteries)	244.0	112.0	69.0	48.0



CLIPPERS SERIES



High-Level Online UPS

6KVA / 10KVA

Applications:



Data Center



Telecom



Networking



Computer

Professional On-Line UPS Solutions

Ideal for medium-density power protection demand, power guardian, FSP Clippers series provides Rack/Tower to fit diverse environment. Clippers 6K/10K are designed as long time model which brings flexibility to attach with various capacities of external battery banks. The LCD display panel can be easily shifted by pressing buttons to suit the installation format, vertical stand or horizontal rack mount. Besides, IT personnel can manage equipment well from learning intuitive information via LCD display

GENERAL FEATURES

- True double-conversion
- Output power factor=1
- Output voltage regulation < 1%
- Higher output crest ratio 3:1
- 50Hz/60Hz frequency converter mode
- Emergency power off function (EPO)
- ECO mode for energy saving
- Full time over voltage cut-off and surge protection
- High power factor charger with low ripple current
- Low input THDi to reduce power system pollution
- Adjustable charging current via LCD panel
- Smart battery charger design to optimize battery performance
- Generator compatible

True double-conversion online UPS

A true double conversion UPS will rectify input power to offer clean, pure, high level quality power with $\pm 1\%$ voltage output regulation 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 1.0

Clippers series is a high-density UPS with output power factor 1.0 to provide higher performance and efficiency to critical applications.

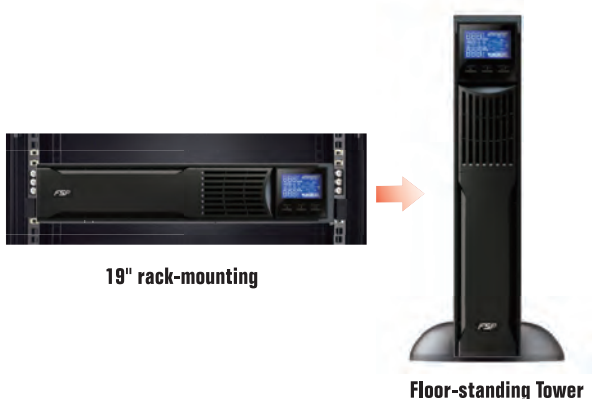
User-friendly and easy-shift LCD display

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

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



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

Thanks FSP Clippers series smart design, operation efficiency up to 97% ECO mode implemented. Furthermore, Clippers even offers advanced ECO mode to allow UPS to operate at higher efficiency up to 98% for more energy saving.

In these operation modes, load is supplied by the utility. When utility failure, UPS inverter will assume control the load and provide clean power continuity to the connected devices.



Emergency Power Off function (EPO)

The safety function can guarantee & secure the emergency responders, fire fighters not exposed to dangerous voltage, electrical hazard from the device. This is important if equipment is emitting smoke, fire, or flood, or if person is being electrocuted.

Intelligent slot for SNMP or Relay Card



Parallel Option N+X for 6K-10K models

Clippers 6K/10K can be parallel operated with up to 3 units to accommodate increases in power demand as well as to attain power redundancy with high system integrity.



TECHNICAL SPECIFICATIONS

MODEL	CLIPPERS RT 6KL	CLIPPERS RT 10KL
PHASE	Single phase with ground	
CAPACITY	6000 VA / 6000 W	10000 VA / 10000 W
INPUT		
Voltage	220/230/240 VAC	
Voltage Range	110-300 VAC ± 3% @ 50% load 176-300 VAC ± 3% @ 100% load	
Frequency Range	46~54 or 56~64 Hz	
Harmonic Distortion(THDi)	< 6% (50% load) < 4% (100% load)	
Power Factor(@100% load)	≥ 0.99 @ nominal voltage	
OUTPUT		
Voltage	220/230/240 VAC	
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 60Hz ± 0.1 Hz	
Harmonic Distortion	Linear Load	< 1%
	Non-linear load	< 4%
Transfer Time	AC Mode to Batt. Mode	0 ms
	Inverter to Bypass	0 ms
Waveform	Pure sine wave	
EFFICIENCY		
AC Mode@full charged battery	94.5%	
ECO Mode@full charged battery	98.5%	
Battery Mode	92.0%	
BATTERY		
Battery Type	depend on application	
Numbers	16 ~ 20	16 ~ 20
Charging Voltage(Vdc ± 1%)	218.4~273	218.4~273
Charging Current(Default 2A)	4 A	
PHYSICAL		
Dimension, D x W x H (mm)	610 x 438 x 88	
Net Weight (without battery kgs)	17	20
Net Weight (with battery kgs)	17	20
Communication Interface	RS232 & USB	
OPERATING ENVIRONMENT		
Humidity(non-condensing)	20-95 % RH @ 0- 40°C	
Noise Level (@ 1 Meter)	≤ 55 dBA	≤ 58 dBA
Altitude(Max 3000m)	10% de-rating for over 1000m	
OPERATING ENVIRONMENT		
Smart RS-232/USB	Supports Windows® 2000/2003/XP/Vista/2008/7/8/10, Linux and MAC	
SNMP(Optional)	Power management from SNMP manager and web browser	
STANDARD		
EMC/safety	EMC EN62040-2 C2 for CE models	

* Product specifications are subject to change without further notice

Backup Time Table for Clippers Series

Battery Bank	Backup Time with Load (Min)				
	25%	50%	75%	100%	
CLIPPERS RT 6KL	+1 BB-240/9RT (20 x 9AH Batteries)	43.0	20.0	12.9	8.0
	+2 BB-240/9RT (40 x 9AH Batteries)	99.0	46.0	31.7	22.7
	+3 BB-240/9RT (60 x 9AH Batteries)	150.0	71.0	43.5	30.4
CLIPPERS RT 10KL	+1 BB-240/9RT (20 x 9AH Batteries)	22.0	9.0	6.0	3.0
	+2 BB-240/9RT (40 x 9AH Batteries)	54.0	23.0	16.9	12.0
	+3 BB-240/9RT (60 x 9AH Batteries)	88.0	38.0	23.0	16.0



EPOS SERIES



Online UPS

10KVA-200KVA

Applications:



Data Center



Networking



Computer



Banking



Generator compatible

· DSP technology guarantees high reliability

A Digital Signal Processor (DSP) technology digitizes the data and mathematically manipulates them to provide an improved solution with higher performance.

· Output power factor 1 (Only for 10K-80K)

For critical applications, this 3-phase online UPS with output power factor 1.0 ensures higher efficiency and advanced performance. * Power Factor 0.9 only for 100K-200K models

· Active power factor correction in all phases

Power factor correction is active in all phases and it can improve the efficiency of input.

· Dual Inputs

EPOS series is also available for optional dual inputs to support various inputs to have flexibility for system configuration.

· 50Hz/60Hz frequency converter mode

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

· ECO mode operation for energy saving

ECO mode improves the efficiency up to 98% to cut energy usage & cost. In this mode, loads are supplied by the mains directly. While mains failure, the UPS will constantly supply the power to the connected device without any interruption.

· Emergency power off function (EPO)

In case of any emergency and fire, the EPO control mechanism can instantly shut down the system.

· Adjustable charging current

Users can adjust charging current via LCD setting based on applications.

· High overload capability

Supporting 110% overload capacity for 60 min and up to 1 min overload condition at 150% load.

· Very powerful charger

EPOS series is built-in 12A charger for 10K-40KVA models and 24A for 60K/80KVA models. It's to support very long runtime applications when connecting to big capacity of external battery cabinet.

· Optional parallel operation with common battery

The system can be operated in parallel, increasing the capacity and performance. Besides, this parallel UPS system can share common battery packs which might greatly reduce the expense and reach the same performance.

· Adjustable battery design

The number of connected batteries can be adjusted flexibly based on different power demands. This feature can allow UPS to keep running even when some battery packs are damaged.

TECHNICAL SPECIFICATIONS

MODEL	EPOS 3/1 10KL	EPOS 3/1 20KL	EPOS 3/3 10KL	EPOS 3/3 20KL	EPOS 3/3 30KL	EPOS 3/3 40KL
PHASE	3-Phase in/ 1-Phase out with Neutral			3-phase in/3-phase out with Neutral		
CAPACITY	10KVA/10KW	20KVA/20KW	10KVA/10KW	20KVA/20KW	30KVA/30KW	40KVA/40KW

PARALLEL CAPABILITY

3

INPUT

Nominal Voltage	3 x 400 VAC (3Ph+N)					
Voltage Range	110-300 VAC @ 50% load 176-276 VAC @ 100% load			190-520 VAC(3-phase) @ 50% load 305-478 VAC(3-phase) @ 100% load		
Frequency Range	46~54Hz or 56~64Hz					
Power Factor	≥ 0.99 @ 100% load					

OUTPUT

Output Voltage	208*/220/230/240 VAC (Ph-N)			3 x 360*/380/400/415 VAC (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 % @100% Linear Load; ≥ 5 % @100% Non-linear Load			≥ 2 % THD @100% Linear Load; ≥ 5 % THD @100% Non-linear Load		
Transfer Time	AC Mode to Batt. Mode			Zero		
	Inverter to Bypass			Zero		
Waveform (Batt. Mode)	Pure Sine wave					
Overload	AC Mode			100-110% for 60 min, 110-125% for 10 min, 125%~150% for 1min, >150% immediately		
	Battery Mode			100-110% for 60 min, 110-125% for 10 min, 125%~150% for 1min, >150% immediately		

EFFICIENCY

AC Mode	96%
ECO Mode	99%
Battery Mode	96%

BATTERY

Battery Type	Depending on the capacity of external batteries					
Numbers	20 PCS	32~40 pcs (Adjustable)	20 PCS		32 ~ 40 PCS	
Charging Current (max.)	1.0~12.0A ± 10% (Adjustable)	2.0~24.0A ± 10% (Adjustable)			1A ~ 12A (Adjustable)	
Charging Voltage	+/-13.65 VDC* N ± 1% (N = 10)	+/-13.65 VDC* N ± 1% (N = 16~20)	+/-136.5 VDC ± 10%		+/-13.65V*N (N=16~20)	

INDICATORS

LCD Display UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions

PHYSICAL

Long-run Model	Dimension, D x W x H (mm)	626 x 250 x 827		630 x 250 x 826		815 x 300 x 1000	
	Net Weight (kgs)	46,5	46,5	28	43	60	67

ENVIRONMENT

Operation Temperature	0-40°C					
Operation Humidity	< 95% and non-condensing					
Noise Level	Less than 55dB @ 1 Meter		Less than 58dB @ 1 Meter		Less than 70dB @ 1 Meter	

MANAGEMENT

Smart RS-232 / USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC					
Optional SNMP	Power management from SNMP manager and web browser					

*If output voltage is set as 3 x 360VAC, the output power of the unit will be de-rated to 90%. Product specifications are subject to change without further notice.



Tower Battery Pack

Form Factor	Tower		
Model Name	BB +120V18Ah	BB +240V 18Ah 63A fuse for 20K	BB +240V 18Ah 100A fuse for 30/40K
Battery Type	12V / 9Ah	12V / 9Ah	12V / 9Ah
Battery Number	40	80	80
Dimension (DxWxH) mm	561 x 250 x 576	777 x 250 x 837	777 x 250 x 837
Net Weight (kgs)	122	244	244



TECHNICAL SPECIFICATIONS

MODEL	EPOS 3/3 60KL	EPOS 3/3 80KL	EPOS 3/3 100KL	EPOS 3/3 120KL	EPOS 3/3 160KL	EPOS 3/3 200KL	
PHASE	3-phase in/3-phase out with Neutral						
CAPACITY	60kVA / 60kW	80kVA / 80kW	100kVA / 90kW	120kVA / 108kW	160kVA / 144kW	200kVA / 180kW	
PARALLEL CAPABILITY	3			2			
INPUT							
Nominal Voltage	3 x 400 VAC (3Ph+N)						
Voltage Range	190-520 VAC @ 50% load 305-478 VAC @ 100% load			208-478 VAC(3-phase) @ 50% load 305-478 VAC(3-phase) @ 100% load			
Frequency Range	46~54Hz or 56~64Hz			40~70Hz or 56~64Hz			
Power Factor	≥ 0.99 @ 100% load						
OUTPUT							
Output Voltage	3 x 360*/380/400/415 VAC (3Ph+N)			3 x 380*/400/415 VAC (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 % @100% Linear Load; ≥ 5 % @100% Non-linear Load			≥ 2 % THD @100% Linear Load; ≥ 4 % THD @100% Non-linear Load			
Transfer Time	AC Mode to Batt. Mode			Zero			
	Inverter to Bypass			Zero			
Waveform (Batt. Mode)	Pure Sine wave						
Overload	AC Mode			105-110% for 60 min, 111-125% for 10 min, 125%~150% for 1min, >150% immediately			
	Battery Mode			105-110% for 60 min, 111-125% for 10 min, 126%~150% for 1min, >150% immediately			
EFFICIENCY							
AC Mode	96%			94%			
ECO Mode	99%			98%			
Battery Mode	96%			93%			
BATTERY							
Battery Type	Depending on the capacity of external batteries						
Numbers	32 ~ 40 PCS						
Long-run Model	Charging Current (max.)			24A	32A	40A	48A
	Charging Voltage			+/-13.65 VDC* N ± 1% (N = 10)			
INDICATORS							
LCD Display	UPS status, Load level, Battery level, Input/Output voltage, Discharge timer, and Fault conditions						
PHYSICAL							
Long-run Model	Dimension, D x W x H (mm)		790 x 360 x 1010	940 x 567 x 1015	1040 x 567 x 1452		
	Net Weight (kgs)		108	113	194	229	306
ENVIRONMENT							
Operation Temperature	0-40°C						
Operation Humidity	< 95% and non-condensing						
Noise Level	Less than 75dB @ 1 Meter		Less than 70dB @ 1 Meter		Less than 73dB @ 1 Meter		
MANAGEMENT							
Smart RS-232 / USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC						
Optional SNMP	Power management from SNMP manager and web browser						

*If output voltage is set as 3 x 360VAC, the output power of the unit will be de-rated to 90%.
Product specifications are subject to change without further notice.



Backup Time Table for EPOS Series

Battery Bank	Backup Time with Load (Min)			
	25 %	50 %	75 %	100 %
EPOS 3/1 10KL +1BB +-120V 18Ah-240V/18Ah	49.8	22.3	13.2	9.0
EPOS 3/3 10KL +2BB +-120V 18Ah-240V/36Ah	110	50.5	30.3	22.0
EPOS 3/1 20KL +1BB +-240V 18Ah-480V/18Ah	49.3	21.9	13.3	9.5
EPOS 3/3 20KL +2BB +-240V 18Ah-480V/36Ah	109	49.9	30.9	22.8
EPOS 3/3 30KL +1BB +-240V 18Ah-480V/18Ah	29.9	13.1	7.7	5.1
+2BB +-240V 18Ah-480V/36Ah	69.0	30.4	18.9	13.5
EPOS 3/3 40KL +1BB +-240V 18Ah-480V/18Ah	21.5	9.1	4.9	3.1
+2BB +-240V 18Ah-480V/36Ah	49.3	21.9	13.3	9.4

MPLUS SERIES

Hot Swappable Modular UPS

30-300kVA / 20-200kW

Applications:



Data Center



Networking



Industrial



Banking

PowerFactor 1 Modular UPS

Mplus series is a truly double conversion online modular UPS with high scales from 20kW/30kW to 200kW/300kW. Modular design implemented in STS, Power module, and battery, it achieves low MTTR, technician will streamline and simplify their maintenance and replacement, furthermore end customer will be more flexible, more convenient to escalate their power demand in the future.

GENERAL FEATURES

- Power Factor 1.0** (kVA = kW)
- Efficiency up to 94.5%
- 20/30 kVA per module
- Adjustable charging current
- Adjustable Battery Voltage
- Dual input function
- Power modules are hot swappable
- Redundancy ready
- Easy maintenance in service
- Emergency power off function (EPO)
- Maintenance Bypass included
- 5,7" LCD Panel

High efficiency online double conversion technology

Mplus is applied online double conversion technology with high performance over 94.5% at 50% load. It significantly reduces overall Total Cost of Ownership (TCO).

High scalability

DSP control provides an improved solution with high performance. Integrated with modular design and parallel technology, Mplus simplifies future power expansion.

Unity output power factor

Mplus delivers unity output power (kVA=kW) providing the maximum power capacity to mission critical loads. It satisfies the requirements of the latest servers and optimizes IT investment with every penny.

Modular design lowers MTTR

Modular design is applied in power module, STS module and battery module. It will simplify maintenance and replacement with low MTTR (Mean Time To Repair).

N+1 or N+X parallel redundancy for power guarantee

Scalable architecture allows you to optimize cost expense to meet power demands by vertically expanding in a single rack enclosure from 30KVA and achieve N+1 or N+X redundancy in the same rack.

Optional 10" touch LCD panel



Ease of installation and maintenance

Built-in maintenance bypass assures continuous power to critical loads during UPS maintenance. Besides, to facilitate installation and maintenance, all panel control and connectors are front accessibility.

Flexible battery configuration adapts different applications

Battery numbers can be adjusted flexibly. It will adapt different power demands and shorten system downtime.

Battery voltage can be set from 32 to 40 pieces per string.

Graphic 5.7" LCD design for easy management

Designed for easy management, Mplus is equipped with 5.7" graphic LCD screen. Intuitive design enhances display information identified and advanced configuration.

High reliable operation with redundant power supply in STS

Mplus provides 2 power supplies in STS. It will ensure no shutdown risk for STS.

User-adjustable charging current

Mplus provides maximum 8A or 6A charging current for every power module and it's user-adjustable based on requirement.

High overload capability

Mplus supports, 110% overload for 60 minutes, 125% for 10 minutes, and 150% for 1 minute.

Standard Series



Mplus 30U-90



Mplus 42U-120

Extended Series



Mplus 30U-120



Mplus 30U-180



Mplus 42U-210



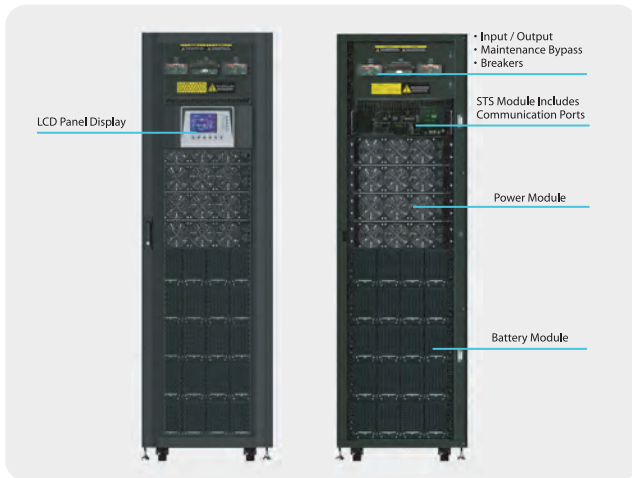
Mplus 42U-300

Mplus Series

Expandability. Flexibility. Uninterruptibility. Via Modular architecture

Thanks MPLUS Modular design architecture, scalable and compact size 3U rackmount power module that supplies 30kW of backup power protection. Whole system can be easily expanded as your data center growth. Plug and play N+X,N+1 redundancy design optimizes customer's power demand and enhance the capital investment plan and deployment.

MPLUS smart intelligent load sharing system proportionates workload into each power module without linking any extra communication, paralleled, current share cables. Besides, system is no need to shutdown or interrupt, MPLUS can provide backup support during power module maintenance.



YEAR 1:
INITIAL INSTALL



42U enclosure

30 kW Mplus occupies 3U of space

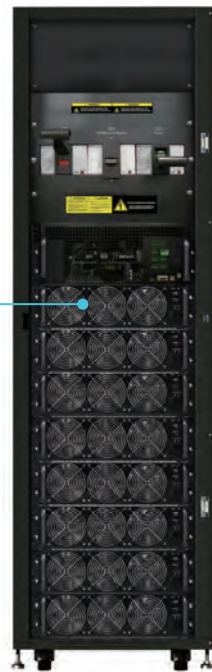
YEAR 3:
EXPANSION



Total rack space: 15U

No wiring to extend power module

YEAR 5:
FURTHER EXPANSION



Redundant N+1 configuration:
30KW UPS Power modules = 210KW of backup power 7+1, 8 modules share the load equally.

MPLUS Offers 20KVA and 30KVA power module, no matter which model, e.g, in 30U extend model, power module can be installed up to 6PC, 120KVA with 20KVA or 180KVA with 30kVA 6PC power modules. In addition, same cabinet reduces wiring, or human error operation issue and ensures backup power increased to cover new power demand in a right way.

MPLUS also offers 15U cabinet as economy purpose, full range power rating is not only suitable for large IT room, Datacenter, but also adequate to infrastructures and different purposes.

MPLUS 30U/42U extremely flexible characteristic, One power module with 30KW unity power factor can be single or multi module operation. In 42U cabinet model can up to 10 modules 300kW, elastic design offers proper backup power protection with appropriate capital investment whenever needed.



15 U 90kW

TECHNICAL SPECIFICATIONS

MODEL	Mplus 15U-90 MP-3315UK MP-3315UKD	Mplus 30U-90 MP-3330UK	MPlus 42U-120	Mplus 30U-120 MP-3330UK-80	Mplus 30U-180 MP-3330UK-180	Mplus 42U-200 MP-3342UK	Mplus 42U-210	Mplus 42U-300
PHASE	3-phase in / 3-phase out							
CABINET CAPACITY*	90KW or 60KW	90KW	120KW	120KW or 80KW	180KW or 120KW	200 KW	210 KW	300 KW
BATTERY TYPE	External Battery		Built-in Battery		External Battery			
ONE POWER MODULE CAPACITY	PM-20HV : 20KVA/20KW or PM-30HV : 30KVA/30KW	PM-30HV : 30KVA/30KW	PM-30HV : 30KVA/30KW	PM-20HV : 20KVA/20KW or PM-30HV : 30KVA/30KW		PM-20HV : 20KVA/20KW	PM-30HV : 30KVA/30KW	PH-30HV : 30KVA/30KW
MAX. POWER MODULE NO.	3	3	4	4	6	10	8	10
MAX. BATTERY SET NO.**	3	3	5	-	-	-	-	-
INPUT								
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+N)							
Voltage Range	305 ~ 478 VAC at 100% load; 208 ~ 304VAC at <70% load							
Nominal Frequency	50/60Hz (Auto Sensing)							
Frequency Range	40Hz ~70Hz							
Power Factor	> 0.99 @ 100% Load , >0.98 @ 50% Load							
Harmonic Distortion (THDi)	< 3% @ 100% load							
OUTPUT								
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+N)							
Voltage Regulation (Steady state)	≤ ± 1% Typical (balanced load) ; ≤ ± 2% Typical (imbalanced load)							
Nominal Frequency	50/60Hz							
Frequency Range (Synchronized)	46Hz ~ 54Hz or 56Hz ~ 64Hz							
Overload Capability	1 hour for 110%, 10 mins for 125%;, 1 min for 150%, 200ms for >150%							
Harmonic Distortion	≤ 2% THD (Linear Load) ; ≤ 4% THD (Non-linear Load)							
Efficiency	Up to 94.5%							
ECO Mode	Max 99%							
BATTERY / CHARGER								
Nominal Voltage	+/- 216V (12V x 36 pcs)							
Maximum Voltage	+/- 240V (12V x 40 pcs)							
Minimum Voltage	+/- 192V (12V x 32 pcs)							
Float Charging Voltage	2.25V / Cell							
Boost Charging Voltage	2.35V / Cell							
Temperature Compensation	Yes							
Maximum Charging Current (Per Power Module)	8A for 30KW power module 6A for 20KW power module	8A		8A for 30KW power module 6A for 20KW power module	6A	8A	8A	8A
PHYSICAL								
Cabinet Dimension (D x W x H) mm	1000 x 515 x 760	1100 x 600 x 1475	1100 x 600 x 2010	1100 x 600 x 1475	1100 x 600 x 1475	1100 x 600 x 2010		
Net Weight (Kg)	182 or 183.5	675	932	335 or 333	437.5 or 434.5	611	549	620
ENVIRONMENT								
Operation Temperature	0 ~ 40°C							
Relative Humidity	0 ~ 95% non-condensing							
Altitude	<1000m for Nominal power							
IP Class	IP 20							
MANAGEMENT								
RS-232/USB	Supports Windows 2000/2003/XP/Vista/2008, Windows 7/8/10, Linux and MAC							
Optional SNMP	Power management from SNMP manager and web browser							
STANDARDS								
Safety	IEC/EN 60950-1; IEC/EN 62040-1							
EMC	IEC/EN 62040-2 Category C3							

*When temperature is above 30°C , the output power factor will be de-rated, 0.9 at 31°C ~35°C and 0.8 at 36°C ~40°C .

** One battery module contains 10 pcs of 12V/7Ah or 12/9Ah sealed lead acid batteries in one tray. One complete battery set contains 4 battery modules.

***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



Model	Description	Dimension DxWxH(mm)	Weight (kg)
PM-20HV/MP-20KVA	3P/3P 20KVA / 20KW power module	650 x 440 x 132 (3U)	34
PM-30HV/MP-30KVA	3P/3P 30KVA / 30KW power module	650 x 440 x 132 (3U)	34.5
Battery Module	10 pcs of 12V 9Ah batteries	735 x 107 x 155	26



FSP COMPACT SERIES



1U Lightweight Online UPS

1KVA

Applications:



Security equipment



monitoring & control system



Small IT rack system



Network, storage device

1U On-Line UPS Solution

As small rack limitation, FSP compact 1U UPS is the most reliable and trustworthy power guardian. With true double conversion technology(VFI), its avoid annoyed grid issue, e.g. voltage fluctuations, frequency variations, distortion. Easy front battery pack access will be helpful for maintenance check and replacement without removing it from rack mounting.

GENERAL FEATURES

- True double conversion online topology
- Microprocessor control optimizes reliability
- Output power factor 0.8
- 1U compact size perfect fits for data processing and transmission such as servers, networking and IP telephone services.
- Input power factor correction
- Converter mode available via software setting
- ECO mode for energy saving
- Built-in serial communication port/Dry contact (optional)
- Emergency Power off (EPO) function

TECHNICAL SPECIFICATIONS

MODEL	CO-1101RS	
CAPACITY	1000 VA / 800 W	
INPUT		
Voltage	220/230/240 VAC	
Acceptable Voltage Range	110-300 VAC @ 50% load 160-300 VAC @ 100% load	
Frequency Range	40-70 Hz	
Power Factor	≥0.99 @ Nominal voltage (full load)	
OUTPUT		
Output Voltage	220/230/240 VAC	
Voltage Regulation	± 1%	
Frequency Range (Synchronized Range)	57 ~ 63 Hz or 47 ~ 53 Hz	
Frequency Range (Batt. Mode)	60 Hz or 50 Hz ± 0.3 Hz	
Current Crest Ratio	3:1 (220/230/240 VAC)	
Harmonic Distortion	≥ 3 % THD (Linear Load) ≥ 5 % THD (Non-linear Load)	
Transfer Time	AC Mode to Battery Mode	0ms
	Inverter to Bypass	4 ms (Typical)
Waveform (Batt. Mode)	Pure Sinewave	
EFFICIENCY		
AC Mode	86%	
ECO Mode	92%	
Battery Mode	83%	
BATTERY		
Battery Type	Sealed Lead-acid battery	
Battery Spec & Numbers	6 V / 9 Ah x 4	
Typical Recharge Time	9 Hours recover to 90% capacity	
Charging Current	1A	
INDICATORS		
LED	AC mode, Battery mode, and fault indicators	
ALARM		
Battery Mode	Sounding every 4 seconds	
Low Battery	Sounding every second	
Overload	Sounding twice every second	
Fault	Continuously sounding	
AC INPUT & OUTPUT CONNECTORS		
AC Input Connector	1 x IEC 320 C14	
AC Output Connector	4 x IEC 320 C13	
STANDARDS		
Safety / EMC	IEC 62040-1 (Safety) / IEC 62040-2 (EMC) / CE	
PHYSICAL		
Dimension, (D x W x Hmm)	477 x 438 x 44	
Net Weight (kgs)	12.6	
ENVIRONMENT		
Humidity	20-90 % RH @ 0- 50°C (non-condensing)	
Noise Level	Less than 50dB @ 1 Meter	
MANAGEMENT		
USB or RS-232	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8/10, Linux and MAC	
Dry Contact (Option)	Signal for AC Power Normal, Battery OK and Fault Alarm	

Product specifications are subject to change without further notice



DINRail SERIES



DINRail UPS

500VA/1000VA

Applications:



Eqpt. of Mfg



Material Packing Mgmt



Automation Control & Monitoring



Ind. IP-based Device

Control Panel Solution

FSP DINRail UPS offers a dependable ,cost effective solution to increase equipment stability and system reliability for control panels or different industrial segments. DINRail UPS series with Pure Sine Wave design protects connected devices and guarantees to get through utility grid issues, e.g. Under/OverVoltage, Surge, strike, lightning and outage, these problems will cause industrial processes and manufacturing issue to impact product quality, even safety. Moreover, as UPS Compact size and front access will allow layout-technician to have more space to design the control panel.

GENERAL FEATURES

- Pure Sine Wave
- High frequency inverter
- Microprocessor controller
- Line mode efficiency > 98%
- Cold start function
- Compact size
- DIN rail mounting, Front access
- Horizontal or vertical installation
- RS485 communication available
- Suitable for PLC, I/O controllers, IPC and control panel

TECHNICAL SPECIFICATIONS

MODEL	DINRail UPS 500 VA DINRail 500 VAEPO	DINRail UPS 1k VA/600 W DINRail 1k VAEPO
CAPACITY	500VA / 300W	1000VA / 600W
INPUT		
Nominal Voltage	220VAC/230VAC/240VAC	
Acceptable Voltage Range	170 ~ 270 VAC	
Frequency	50Hz / 60Hz Auto Sensing	
Frequency Range	63Hz ~ 40Hz	
Line Low Transfer	170Vac ± 5%	
Line Low Return	180Vac ± 5%	
Line High Transfer	270Vac ± 5%	
Line High Return	260Vac ± 5%	
OUTPUT		
Voltage	220VAC/230VAC/240VAC	
Waveform	Pure Sine wave	
Short Circuit Protection	Line Mode	Circuit Breaker
	Battery Mode	Electronic Circuit
DC Start		
Cold Start	Yes	
TRANSFER TIME		
Typical	2-6 ms (10ms max).	
BATTERY		
Battery Voltage	12VDC	12VDC
INDICATOR		
LED	AC Mode(Continuously), Inverter Mode(Flash)	
AUDIBLE ALARM		
Battery Mode	Sounding every 7 seconds	
Low Battery	Sounding every second	
UPS Fault	Continuously Sounding	
INTERFACE		
Communication port	RS-485	
ENVIRONMENT		
Operation Temperature	0-40°C ; 32-104°F	
Relative Humidity	0-90% non-dondensing	
PHYSICAL		
Dimensions,(WxHxD)mm	250 x 135 x 115	
Net Weight(Kgs)	2.8Kg	3.2Kg

Product specifications are subject to change without further notice



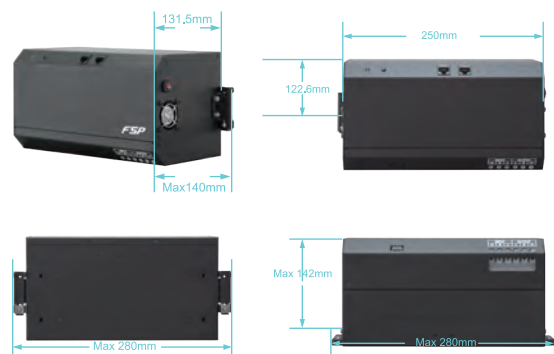
Dimension information

Simple & Easy your design

FSP DINRail UPS implements compact design to mount in control panel for more space saving.

The silent service guarantees power quality to protect, to enhance your system functionality and reliability.

Not like traditional UPS, DINRail UPS with front access function solves assembly wiring layout issue and engineer will more flexible to arrange the equipments.



Backup Time Table for DINRail Series

	Backup Time with Load (Min)			
	25 %	50 %	75 %	100 %
500VA	50.25	12.0	7.50	4.52
1000VA	12.0	4.47	1.17	0.11

FSP SOLAR POWERMANAGER HYBRID SERIES



Smart Energy for Smart Home

4KW-15KW

FSP Solar PowerManager-Hybrid

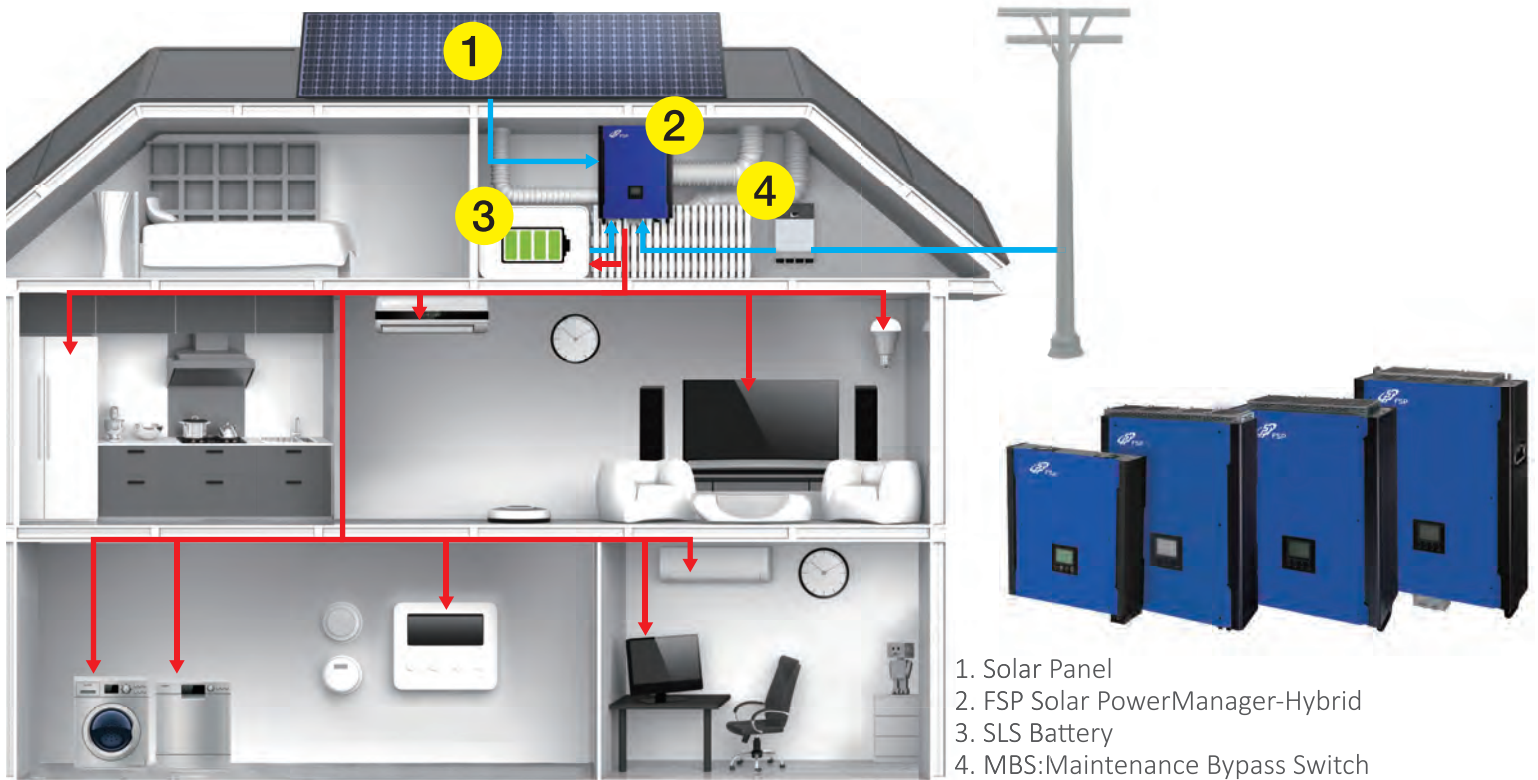
Offers a more intelligent power solution for our customers to reduce the energy bill and make a contribution to our homeland, to our earth. Your energy can be used as efficiently, as smart as possible under current power consumption environment.

YOUR ENERGY, YOU DECIDE!

By the unique optimum technology of FSP Solar PowerManager-Hybrid Series you can control whether or how to use your energy, to store the generated power into battery or feed into the grid. Moreover, if grid power failed, by the brilliant ability of FSP Solar PowerManager-Hybrid Series, the load will be handled smartly by direct support from solar, by combining solar & storage energy or withdrawing storage power only. Multiple communication methods for different applications: FSP Solar PowerManager-Hybrid Series implements USB, RS232 ports and also fits with intelligent slot for SNMP card monitoring or Modbus Card for smart meter compensation applicable to keep your electricity meter at zero. to stay your electricity meter at zero.

GENERAL FEATURES

- Just ONE integrated design of Grid-tied & Off-Grid function
- Solar PowerManager-Hybrid implements AC I/P breaker and DC switch
- Solar Energy Storage
- Optimized Self-Consumption
- Load Dual-compensated: Solar & Storage Power or Grid & Storage Power
- Power securing during Grid Failure
- Back-up function
- Intuitive LCD Display
- SNMP, Modbus AS400 Support
- Certified VDE0126 & VDE4105
- 5kW&10kW Model Parallel function available, up to 6PC



1. Solar Panel
2. FSP Solar PowerManager-Hybrid
3. SLS Battery
4. MBS: Maintenance Bypass Switch

Multi-Operation Mode



Solar Energy Multi-Use

Intelligent design adding more options to use Solar Energy: It is not just conventional PV inverter Feed-in function, the system with sufficient solar power will not only feed in grid, but also store energy and support loads.



Self-Consumption

When Solar Energy is low e.g. at night, the FSP Solar PowerManager will automatically withdraw the power from Energy storage (Battery) without using power from utility; saving & reducing your energy bill.

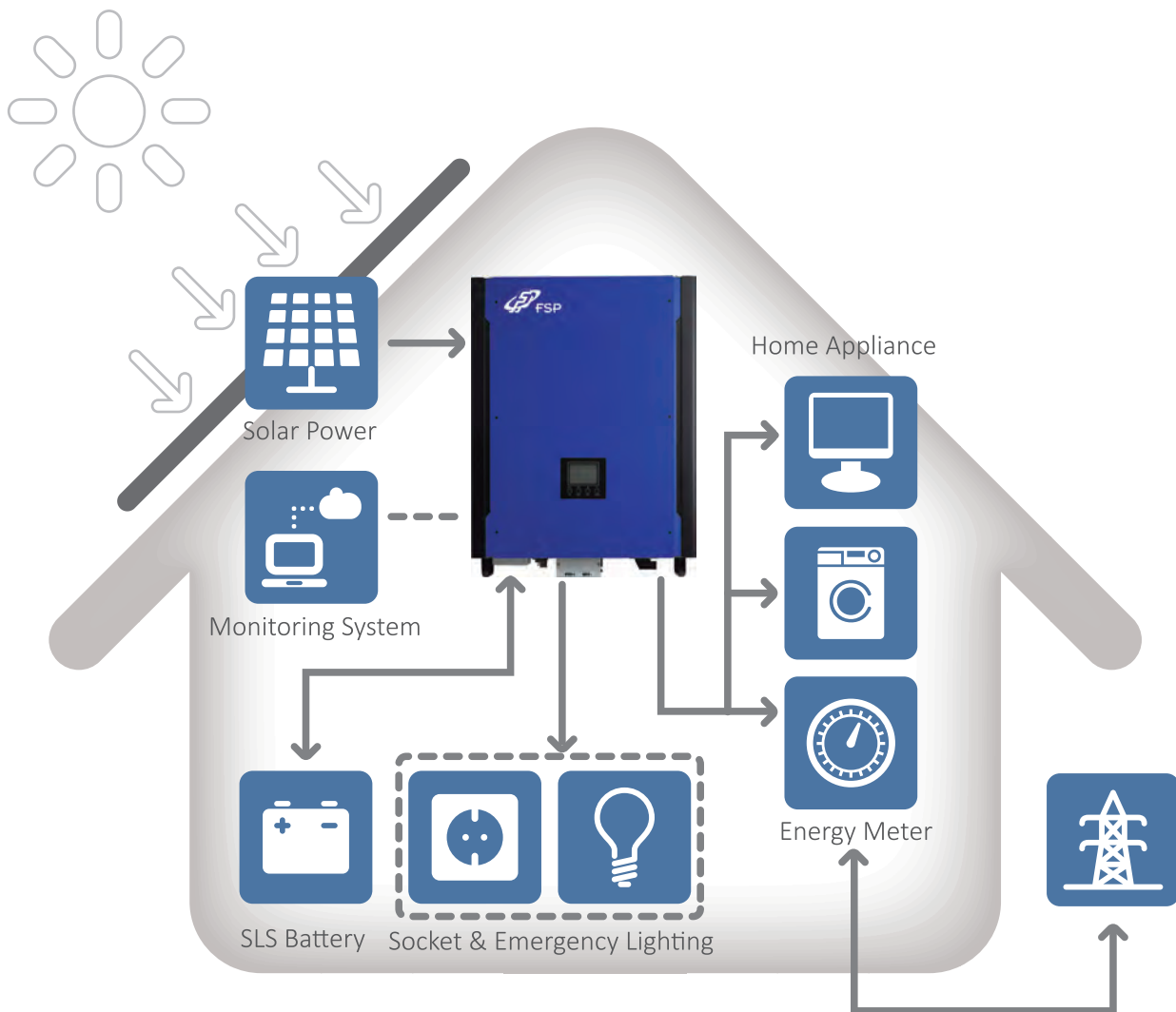


Back-up Power when Grid Outage

FSP Solar PowerManager implements off-grid inverter function. If a utility failure or outage occurs, the system will switch to back-up mode and offer continuous power.

Manage Your Own Power

FSP Solar PowerManager-Hybrid is an ingenious design unit. Product achieves tri-power source, Solar, Utility, and Battery Management.



FSP Solar PowerManager-Hybrid Compensation Mode:

Modbus Card for smart meter compensation applicable to keep your electricity meter at zero. All the loads are connected with Grid FSP Solar PowerManager-Hybrid which is an auxiliary power. At daytime, Solar Power is sufficient to feed in grid and store energy at the same time. At nighttime, FSP Solar PowerManager-Hybrid will withdraw the power constantly from the battery providing energy to your home appliances in order to decrease your energy bill. If a utility outage occurs, FSP Solar PowerManager-Hybrid will generate the back-up power for emergency demand, e.g. lighting which is connected to the unit.

TECHNICAL SPECIFICATIONS

MODEL	PowerManager-Hybrid 4kW	PowerManager-Hybrid 5kW	PowerManager-Hybrid 10kW	PowerManager-Hybrid 15kW
	PIP40A0300	PPF50A0200	PPF10L0101	PPF15L0101
PHASE	Single phase	Single phase	3-phase in / 3-phase out	3-phase in / 3-phase out
MAXIMUM PV INPUT POWER	5000W	10000W	14850W	22500W
RATED OUTPUT POWER	4000W	5000W	10000W	15000W
MAXIMUM CHARGING POWER	4000W	4800W	9600W	15000W
MAXIMUM CHARGING POWER				
PV INPUT				
Nominal DC Voltage / Maximum DC Voltage	360VDC / 580VDC	720VDC / 900VDC	720VDC / 900VDC	720VDC / 900VDC
Start-up Voltage / Initial Feeding Voltage	116VDC / 150VDC	225VDC / 250VDC	320VDC / 350VDC	320VDC / 350VDC
MPP Voltage Range	280VDC / 500VDC	250VDC / 850VDC	400VDC / 800VDC	400VDC / 800VDC
Number of MPP Trackers / Maximum Input Current	1/1 x 18A	2/2 x 10A	2/2 x 18.6A	2/1 x 37.6A 1 x 18.6A
GRID OUTPUT				
Nominal Output Voltage	202/208/220/230/240VAC	208/220/230/240VAC	230VAC(P-N) / 400VAC(P-P)	230VAC(P-N) / 400VAC(P-P)
Output Voltage Range	184- 265 VAC*	184- 265 VAC*	184-265 VAC* per phase	184-265 VAC* per phase
Nominal Output Current	17.5 A	21 A	14.5A per phase	21.7A per phase
Power Factor	> 0.99			
EFFICIENCY				
Maximum Conversion Efficiency (DC/AC)	93 %	96 %	96 %	96 %
European Efficiency@ Vnominal	95 %	95 %	95 %	95 %
HYBRID / OFF-GRID OPERATION				
PV INPUT				
Nominal DC Voltage /Maximum DC Voltage	360VDC / 580VDC	720VDC / 900VDC	720VDC / 900VDC	720VDC / 900VDC
Start-up Voltage / Initial Feeding Voltage	116VDC / 150VDC	225VDC / 250VDC	320VDC / 350VDC	320VDC / 350VDC
MPP Voltage Range	280VDC / 500VDC	250VDC / 850VDC	400VDC / 800VDC	350VDC / 850VDC
Number of MPP Trackers / Maximum Input Current	1/1 x 18A	2/2 x 10A	2/2 x 18.6A	2/1 x 37.6A 1 x 18.6A
GRID OUTPUT				
Nominal Output Voltage	202/208/220/230/240VAC	230VAC(P-N) / 400VAC(P-P)	230VAC(P-N) / 400VAC(P-P)	230VAC (P-N)/ 400VAC(P-P)
Output Voltage Range	184- 264.5 VAC*	184-264.5 VAC* per phase	184-264.5 VAC* per phase	180 VAC * per phase
Nominal Output Current	17.5 A	21 A	14.5A per phase	21.7A per phase
AC INPUT				
AC Start-up Voltage/Auto Restart Voltage	120- 140 VAC / 180 VAC	120-140VAC per phase / 180VAC per phase	120-140VAC per phase / 180VAC per phase	120-140VAC per phase / 180VAC per phase
Acceptable Input Voltage Range	170- 280 VAC	170-280 VAC per phase	170-280 VAC per phase	170-280VAC per phase
Maximum AC Input Current	40 A	40 A	40 A	40 A
BATTERY MODE OUTPUT				
Nominal Output Voltage	202/208/220/230/240VAC	230VAC(P-N) / 400VAC(P-P)	230VAC(P-N) / 400VAC(P-P)	230VAC(P-N) / 400VAC(P-P)
Efficiency (DC to AC)	92%	93%	91%	91%
BATTERY & CHARGER				
Nominal DC Voltage	48 VDC			
Maximum Charging Current	80 A	Default 60A, 5A-100A (Adjustable)	Default 60A, 10A-200A (Adjustable)	Default 60A 5A-300A (adjustable)
GENERAL				
PHYSICAL				
Dimension, D x W x H (mm)	117 x 438 x 535	204.2 x 460 x 600	167.5 x 500 x 622	219 x 650 x 820
Net Weight (kgs)	16.2	29	45	62
INTERFACE				
Communication Port	RS-232/USB and CAN Interface			
Intelligent Slot	Optional SNMP, Modbus, and AS-400 cards available			
ENVIRONMENT				
Humidity	0%- 95% RH (No condensing)			
Ingress Protection Rating	IP20			
Cooling system	AirForce cooling			
Operating Temperature	0 to 40°C	-10 to 55°C	-10 to 55°C	-10 to 55°C
Altitude	0 ~ 1000 m** Max2000m			

These figures may vary depending on different AC voltage and country requirements.
 Power derating 1% every 100 m when altitude is over 1000m.
 The above efficiency are tested in laboratory facilities and environmental conditions
 Product specifications are subject to change without further notice

FSP SOLAR POWERMANAGER OFF-GRID SERIES



Independent Power Experience

5KVA / 5KW

FSP Solar PowerManager Off-Grid

Via new design concept, FSP integrated high photovoltaic voltage input, Lithium iron battery communication, and Bluetooth mobile monitoring to enhance user experiences. The model fulfills not just unity output power factor, but also satisfies independent application.

It supplies stable and reliable pure sine wave 230Vac power, charges batteries with an integrated MPPT 4kW charger controller. User can define how to use their energy generation through front LCD panel to optimize power consumption. More Simple, More Capable

GENERAL FEATURES

- Power factor 1 high frequency inverter
- Tri-Power solar, utility and battery management
- Output power source prioritization & timer configuration
- Detachable LCD controller
- Built-in Bluetooth for mobile monitoring(Android)
- Compatible with Lithium iron battery
- USB On-the-GO function
- Support generator
- Cold start function

Detachable LCD control module with various communications

Thanks for detachable LCD control module design which can be wired remotable panel and up to 20 meters communication from inverter.



Integrated Bluetooth interface with Android App

Plus mobile monitoring solution, Bluetooth interface benefit user to configure and monitor their own inverter wirelessly. The communication distance up to 6~7m in an open space.

Supports USB On-the-Go function

Through USB communication, users can more easily to download the data log from inverter or load the setting profile



PYLONTECH COMPATIBLE

Lithium iron battery energy storage

Specially developed for the professional and demanding use of battery storage systems. The third generation inverter is compatible with high-quality lithium iron battery - Pylontec US2000B Plus/US3000B without external controller.

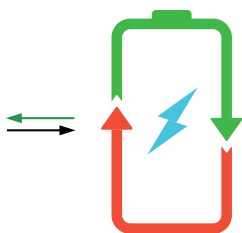
LCD Operation

Stand on off grid conception, user can through LCD control panel to dominate how to use their own power and define inverter performance. Simple and convenient to configurate output source, charger source prioritization, charging current, and timer, etc.



Battery equalization extends lifecycle

Inverter can activate battery equalization function periodically via user setting. It will help remove lead acid battery sulfate crystals to optimize battery performance and even extend lifecycle.

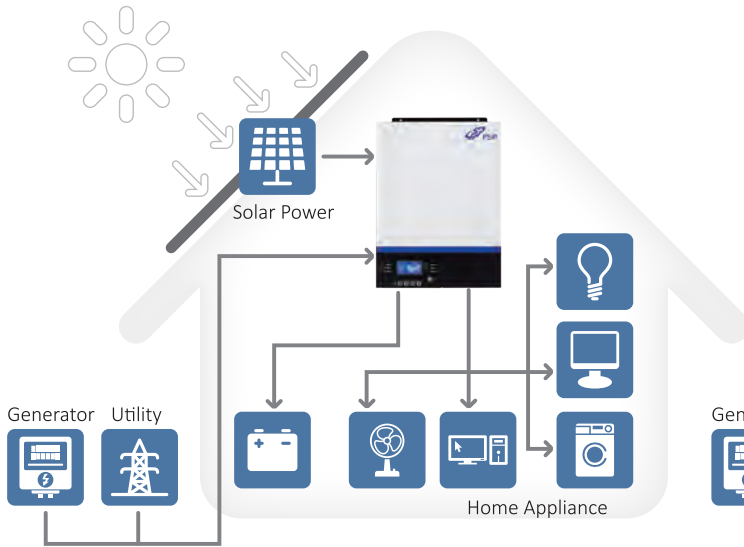


Genuine Off - Grid Inverter

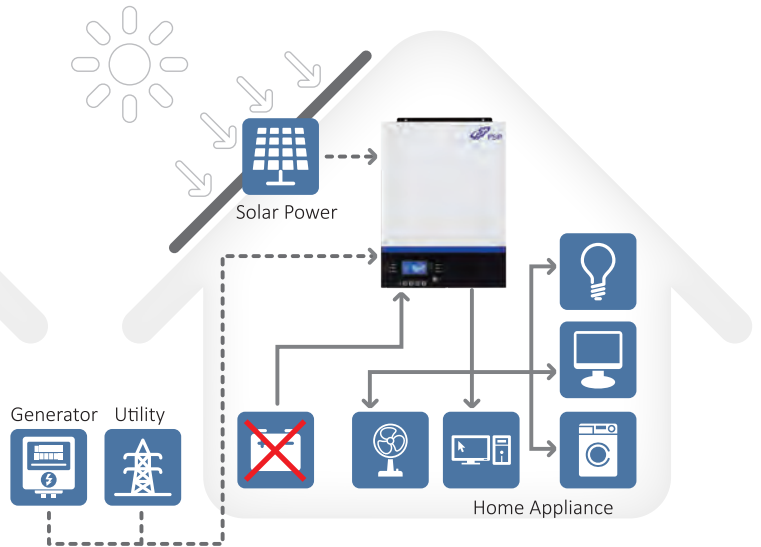
Flexible and Trustworthy

Suffice your demand and application of energy storage or inverter standalone without battery

As Hybrid Power System

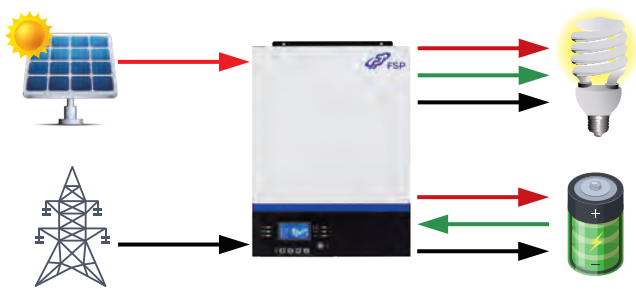


As Inverter Independent System



FSP Solar PowerManager Off-Grid Smart Power Priority

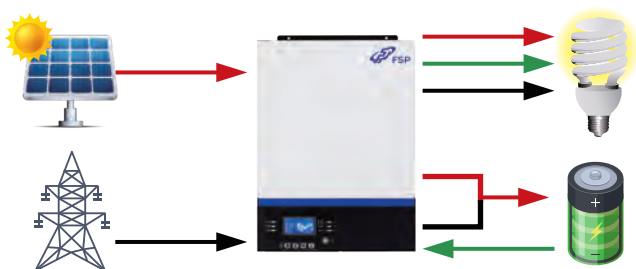
Power and charging source priority of FSP Solar PowerManager Off-Grid smart design can be set up by the front LCD panel according to the power consumption environment, storing and withdrawal of energy are also user-defined.



O/P Source Priority 1 → 2 → 3

Output source Priority is Solar-> Bat-> Utility
Charging source priority is Solar Power Only

Solar energy is sufficient to charge the battery and carry the loads. Once solar power is low, system will switch to battery mode automatically until battery reaches low warning then system transfers to utility.



Output source is Utility first
Charging source priority is solar first

Utility will feed output loads, Solar power will charge the battery until solar power ceases. Solar and battery energy will be used when utility fails.
 Power source priority is Utility-> Solar & Battery
 Charging source priority is Solar-> Utility

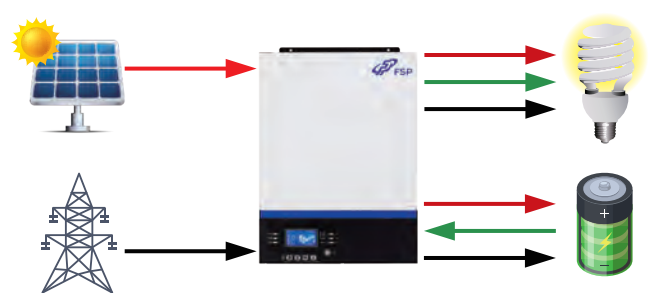
TECHNICAL SPECIFICATIONS

MODEL	PMIII-5MK48V
RATED POWER	5000VA/5000W
INPUT	
Voltage	230 VAC
Selectable Voltage Range	170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)
Frequency Range	50 Hz/60 Hz (Auto sensing)
OUTPUT	
AC Voltage Regulation (Batt. Mode)	230VAC ± 5%
Surge Power	10000VA
Efficiency (Peak)	90% ~ 93%
Transfer Time	15 ms (For Personal Appliances)
Waveform	Pure sine wave
BATTERY & AC CHARGER	
Battery Voltage	48 VDC
Floating Charge Voltage	54 VDC
Overcharge Protection	63 VDC
SOLAR CHARGER & AC CHARGER	
Maximum PV Array Power	4000 W
MPPT Range @ Operating Voltage	120VDC~ 450 VDC
Maximum PV Array Open Circuit Voltage	500 VDC
Maximum Solar Charge Current	80A
Maximum AC Charge Current	60A
Maximum Charge Current	80A
Maximum Efficiency	98%
Solar Charger type	MPPT
PHYSICAL	
Dimension, D x W x H (mm)	115 x 300 x 400 A
Net Weight (kgs)	10
Ingress Protection Rating	IP20
Cooling System	AirForce cooling
Communication Interface	USB/RS232/RS485/Bluetooth/Dry-contact
OPERATING ENVIRONMENT	
Humidity	5% to 95% Relative Humidity(Non-condensing)
Operating Temperature	10°C- 55°C
Storage Temperature	-15°C- 60°C



Output source is Solar-Bat-Utility
Charging source priority is Solar & Utility

System will adapt Solar and utility both source to charge battery at the same time. Once solar power is low, system will switch to battery mode automatically until reach low bat warning then transfer to utility.
 Power source priority is Solar-> Battery-> Utility
 Charge source priority is Solar & Utility



Output source & Charger source priority is solar first

When Solar energy is sufficient to charge the battery and feed the loads, utility will stand by until Solar power ceases or battery voltage drops to user's setting.
 Power source priority is Solar-> Battery or Utility
 Charging source priority is Solar-> Utility

OFFGRID ZERO SERIES



Online Solar UPS

3KL / 5KL



Data Center



Telecom



Networking



Computer

FSP Solar PowerManager Off-Gird

Offgrid 3K&5K are designed with zero transfer time perfect for critical device such as servers and ATM. It's equipped with powerful 140A super charger, 80A MPPT solar charger and 60A AC charger. Detachable LCD control module allows users to remotely monitor this inverter. It's also able to expand capacity to 45KW with 9 units in parallel operation.

GENERAL FEATURES

- Zero (0ms) transfer time to protect mission-critical loads such as servers and ATMs
- Removable LCD control module with multiple communications
- Built-in Bluetooth for mobile monitoring (Android App is available)
- Supports USB On-the-Go function
- Reserved communication port for BMS (RS485) for 5K model
- Configurable AC/PV output usage timer and prioritization
- Pure sine wave solar inverter
- Selectable high power charging current
- Wide DC input range
- Compatible to mains voltage or generator power
- Auto restart while AC is recovering
- Overload and short circuit protection
- Smart battery charger design for optimized battery performance
- Cold start function
- Optional parallel operation up to 9 units

TECHNICAL SPECIFICATIONS

MODEL	OffGrid Zero 3K	OffGrid Zero 5K
RATED POWER	3000VA/3000W	5000VA/5000W
PARALLEL CAPABILITY	Up to 9 units	
INPUT		
Voltage	230 VAC	
Voltage Range	110-280 VAC	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation	230 VAC \pm 5%	
Output THDv	\leq 3% for Linear load, \leq 8% for non-linear load	
Surger Power	6000VA for 5 sec	10000VA for 5 sec
Efficiency (Peak)	93 % at Line Mode, 90% at Battery Mode	
Transfer Time	0 ms	
Waveform	Pure sine wave	
EFFICIENCY		
Line Mode	93%	
ECO Mode	99.5%	
Battery Mode	91%	
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	34 VDC	66 VDC
SOLAR CHARGER & AC CHARGER		
Solar Charger type	MPPT	
Maximum PV Array Open Circuit Voltage	145 VDC	
Maximum PV Array Power	1500 W	4000 W
MPPT Range @ Operating Voltage	30~115 VDC	60~115 VDC
Maximum Solar Charge Current	60 A	80 A
Maximum AC Charge Current	60 A	
Maximum Charge Current	120 A	140 A
PHYSICAL		
Dimension, D x W x H (mm)	140 x 303 x 525	
Net Weight (kgs)	13.0	13.5
Communication Interface	USB/RS232/RS485 (only for 5K)/Bluetooth/Dry-contact	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C- 55°C	
Storage Temperature	-15°C- 60°C	

* Product specifications are subject to change without further notice

SOLAR UPS



Online Solar UPS

5kL / 48V



Data Center



Telecom



Networking



Computer

FSP Solar PowerManager Off-Grid

Ideal for medium-density power protection demand, the Solar UPS prepped for 48V battery system, that brings you flexibility when deploying your solutions. Featuring true double-conversion technology, built-in MPPT solar charger, and easily accessible LCD display panel, the Solar UPS will be a premier choice for professional across industries that seeks reliable, clean and low cost power protections.

GENERAL FEATURES

- Output power factor 1.0
- 48VDC, only 4 pieces of 12 V batteries
- Parallelable up to 9 UPSs, with common battery
- 50A super AC charger
- 93.5% high efficiency

TECHNICAL SPECIFICATIONS

MODEL	Solar UPS 5KL-48V	
RATED POWER	5000VA/5000W	
INPUT		
Voltage	220/230/240 VAC	
Voltage Range	110 - 280 VAC @ 50% load 176 - 280 VAC @ 100% load	
Frequency Range	46 ~ 54 Hz or 56 ~ 64 Hz	
Power Factor	≥ 0.98 @ Nominal Voltage (100% load)	
THDi	≤ 8%	
OUTPUT		
Voltage	220/230/240 VAC	
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 60Hz ± 0.1 Hz	
Harmonic Distortion	≤ 3 % THD (Linear Load); ≤ 5 % THD (Non-linear Load)	
Transfer Time	AC Mode to Batt. Mode	0 ms
	Inverter to Bypass	4 ms (Typical)
Waveform	Pure sine wave	
EFFICIENCY		
Line Mode	93%	
ECO Mode	99.5%	
Battery Mode	91%	
BATTERY		
Battery Voltage	48 VDC	
Floating Charge Voltage	54.6 VDC	
Overcharge Protection	60 VDC	
Charging Current (max.)	60 A	
PHYSICAL		
Dimension, D x W x H (mm)	465 x 190 x 318	
Net Weight (kgs)	15.5	
Communication Interface	RS232 & USB	
OPERATING ENVIRONMENT		
Humidity	0 to 95% Relative Humidity(Non-condensing)	
Operating Temperature	0°C- 50°C	
Storage Temperature	-15°C- 60°C	

* Product specifications are subject to change without further notice