

FSP SOLAR POWERMANAGER OFF-GRID SERIES



Power Solution for Unstable or
without Utility Grid

1kVA-5kVA

FSP Solar PowerManager Off-Grid

An ideal Off-Grid inverter for households, FSP Solar PowerManager Off-Grid with specific AC and high efficiency MPPT Solar charger built-in, Dual charging sources (utility+solar) up to 140A current satisfying battery charging under different weather conditions and ensuring your power continuously.

Wide input range from 90-280Vac will overcome most of grid power instabilities.

Design as true sine wave off-grid inverter with 1kVA to 5kVA rating, 4/5kVA parallel function up to 45kVA (single phase) suitable for different applications and supporting 3-Phase power system in anymode. FSP Solar PowerManager Off-Grid with smart user-friendly control panel is an adjustable power source for optimal settings according to end users needs. The unit also offers USB Port for PC monitoring purpose.

As non-household application, FSP Solar PowerManager Off-Grid is able to provide power e.g. for a water pump.

GENERAL FEATURES

- High frequency pure sine wave
- Wide AC input range 90-280 Vac
- Solar and AC Dual charger built in
- Charging Ability up to 140A (AC+Solar)
- Built-in dry-contact for Generator
- Double surge capacity of rating
- 4/5kVA parallel function support single Phase up to 45kVA
- 3Phase AnyMode support
- User friendly LCD Panel control & setting
- Source Priority programmable
- Remote Control Panel support
- User defined Bulk/Float Charging voltage
- Free monitoring software

TECHNICAL SPECIFICATIONS

MODEL	PM-3MK24VM	PM-5MK48VM	PM-3MK24V	PM-3MK48V	PM-4MK48V	PM-5MK48V
RATED POWER	3000VA/3000W	5000VA/5000W	3000VA/3000W	3000VA/3000W	4000VA/4000W	5000VA/5000W
INPUT						
Voltage	230 VAC	230 VAC	230 VAC	230 VAC	230 VAC	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	6000VA	10000VA	6000VA	6000VA	8000VA	10000VA
Efficiency (Peak)	90~93%		93%	93%	93%	93%
Transfer Time	10 ms (For Personal Computers); 20 ms (For Home Appliances)					
Waveform	Pure sine wave					
BATTERY & AC CHARGER						
Battery Voltage	24 VDC	48 VDC	24 VDC	48 VDC	48 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC	27 VDC	54 VDC	54 VDC	64 VDC
Overcharge Protection	33 VDC	60 VDC	31 VDC	62 VDC	60 VDC	66 VDC
SOLAR CHARGER & AC CHARGER						
Maximum PV Array Power	1000 W	3000 W	600 W	900 W	4000 W	4000 W
MPPT Range @ Operating Voltage	30VDC~ 80VDC	60VDC~ 115VDC	30VDC~ 66VDC	60VDC~ 88VDC	60VDC~ 115VDC	60VDC~ 115VDC
Maximum PV Array Open Circuit Voltage	102VDC	145VDC	75VDC	102VDC	145VDC	145VDC
Maximum Solar Charge Current	40A	60A	25A	18A	80A	80A
Maximum AC Charge Current	25A	60A	30A	15A	60A	60A
Maximum Charge Current	60A	120A	55A	33A	140A	140A
Maximum Efficiency	98%					
Standby Power Consumption	2 W					
PHYSICAL						
Dimension, D x W x H (mm)	100 x 285 x 334	100 x 300 x 440	100 x 272 x 355		120 x 295 x 468	
Net Weight (kgs)	6.5	9.7	7.4	7.4	11	11
Ingress Protection Rating	IP20					
Cooling system	AirForce cooling					
OPERATING ENVIRONMENT						
Humidity	5% to 95% Relative Humidity(Non-condensing)					
Operating Temperature	-10°C- 50°C	-10°C- 50°C	0°C- 55°C	0°C- 55°C	0°C- 55°C	0°C- 55°C
Storage Temperature	-15°C- 60°C	-15°C- 60°C	-15°C- 60°C	-15°C- 60°C	-15°C- 60°C	-15°C- 60°C

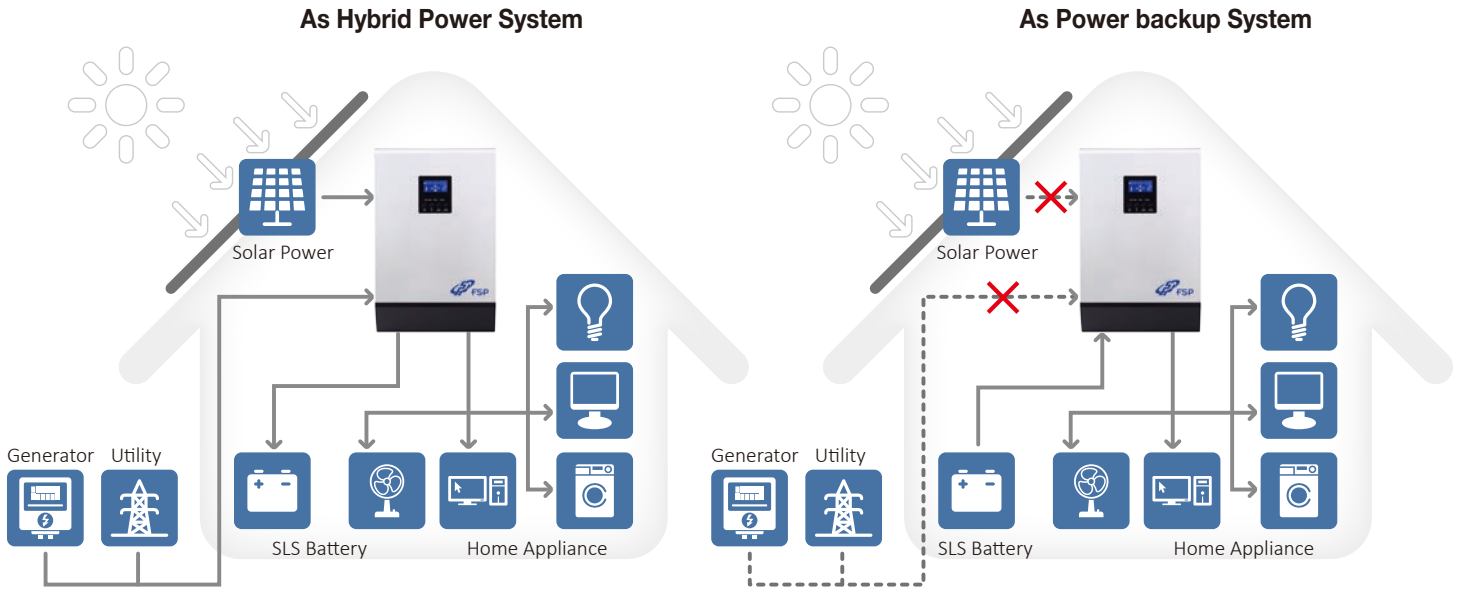
MODEL	PM-3MK24VMP	PM-3MK24XP	PM-3MK48XP
RATED POWER	3000VA/3000W	3000VA/3000W	3000VA/3000W
INPUT			
Voltage	230 VAC		
Selectable Voltage Range	170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)		
Frequency Range	50 Hz/60 Hz (Auto sensing)		
OUTPUT			
AC Voltage Regulation (Batt. Mode)	230VAC ± 5%		
Surge Power	6000VA		
Efficiency (Peak)	90%-93%		
Transfer Time	10 ms (For Personal Computers); 20 ms (For Home Appliances)		
Waveform	Pure sine wave		
BATTERY & AC CHARGER			
Battery Voltage	24 VDC	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	27 VDC	54 VDC
Overcharge Protection	33 VDC	31 VDC	62 VDC
SOLAR CHARGER & AC CHARGER			
Maximum PV Array Power	1500 W	1500 W	3000 W
MPPT Range @ Operating Voltage	30VDC~ 115VDC	60VDC~ 115VDC	60VDC~ 115VDC
Maximum PV Array Open Circuit Voltage	145VDC		
Maximum Solar Charge Current	60A		
Maximum Efficiency	98%		
Standby Power Consumption	2W		
PHYSICAL			
Dimension, D x W x H (mm)	100 x 300 x 440	140 x 295 x 479	140 x 295 x 479
Net Weight (kgs)	8.5	11.5	11.5
Ingress Protection Rating	IP20		
Cooling system	AirForce cooling		
OPERATING ENVIRONMENT			
Humidity	5% to 95% Relative Humidity(Non-condensing)		
Operating Temperature	-10°C- 50°C	0°C- 55°C	0°C- 55°C
Storage Temperature	-15°C- 60°C	-15°C- 60°C	-15°C- 60°C

Product specifications are subject to change without further notice

Ideal Off-Grid inverter

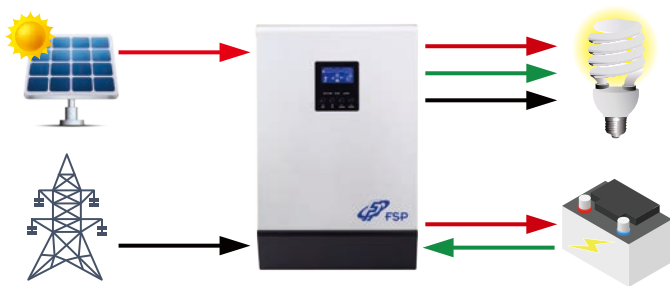
Programmable Power Source Priority function.
More Flexible, More Independent for energy usage and storage.

The Principle of FSP Solar PowerManager Off-Grid



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

Single Phase Parallel and 3-Phase AnyMode

High expansion ability: FSP Solar PowerManager Off-Grid 4kVA and 5kVA design can be expanded to 45kVA in parallel mode, single phase, and also specifically supports 3 Phase AnyMode. The Power capacity can satisfy most of household energy demand.

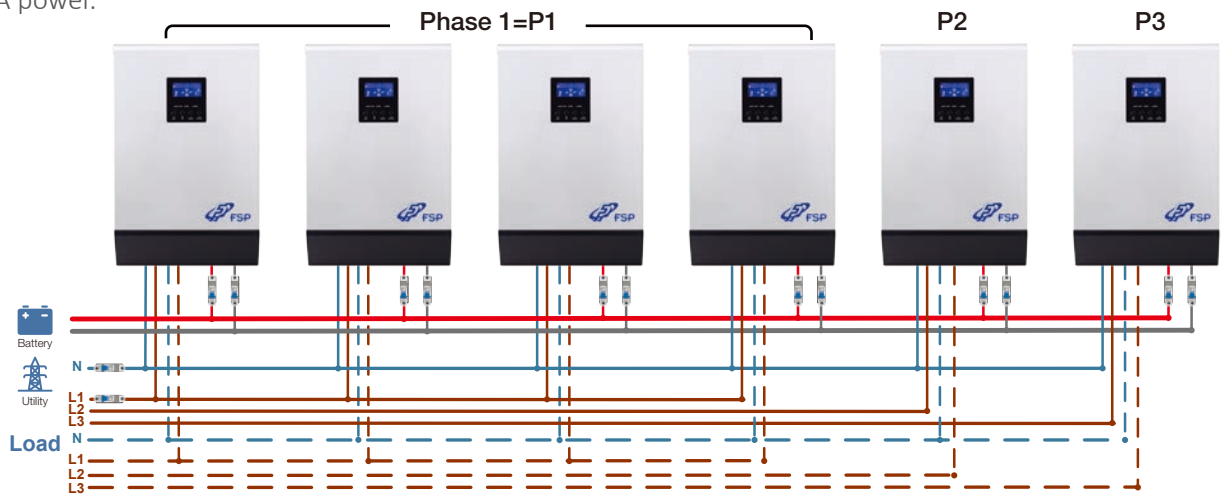
Parallel 3 units in Single Phase

Up to 45kVA parallel ability: FSP Solar PowerManager Off-Grid will achieve expansion function by parallel kits in order to get more power capacity. (The drawing presents 3 units in parallel mode, power capacity is 15kVA.)



Parallel 9 units in 3 Phase AnyMode

FSP Solar PowerManager Off-Grid supports 3 Phase AnyMode. By consulting and measurement, user can define which phase needs more power support, e.g. P1 = Phase 1 is consuming most of the power in the house, system can install Max 4 PC in L1 to get 20kVA power.



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



Output source is Solar-Bat-Utility Charging source priority is Solar & Utility (4/5k only)

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