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Products  
**CATALOGUE**





**5 YEARS  
WARRANTY**



**HIGH  
EFFICIENCY**



**FULL  
PROTECTION**



**PURE  
SINE WAVE**



**FARBER<sup>®</sup>**

# INTRODUCTION

A German-registered brand is a leading supplier of green energy solutions that are tailored to operate in the harshest environments.

More specifically, FARBER specializes in Uninterruptible Power Supplies (UPS), Inverters, Batteries, Solar Power, and Automatic Voltage Regulators (AVRs). FARBER uses state-of-the-art manufacturing techniques to achieve the highest efficiency.

In today's fast-moving world, most mission-critical equipment cannot go a second without power; hence, UPS systems have become an essential part of any electrical system.

Farber has met that demand with a full range of UPS devices covering the full spectrum of requirements with the highest quality and attention to detail.

FARBER inverters are essential parts of any solar power system. Designed to work in the harshest environments, FARBER inverters can withstand temperatures of up to 70°C and as cold as -40°C.

UPS systems, inverters, and solar panel installations all require industrial-grade batteries, which can only be found with FARBER.

When it comes to electrical backup, emergency power outage mitigation, or any other electrical power requirements, look no further.

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# UPS



**FARBER**®

# 1PH-ONLINE UPS PI SERIES

(1KVA - 10KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



1.0

Unity output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ Wide Input voltage range (110V-300V)
- ✓ Adjustable output voltage (220V-240V)
- ✓ 50/60 Hz frequency converter mode.
- ✓ Input power factor correction.
- ✓ True online double-conversion technology with high power density, utility frequency independence
- ✓ Three-segment charging mode to increase battery service life, optimize recharge time
- ✓ Selectable High-Efficiency mode of operation
- ✓ Cold start function to start up the UPS without utility
- ✓ Parallel capability up to 3 units (For 6KVA & 10KVA)
- ✓ Emergency, shutdown control through the remote emergency power-off (EPO) port.
- ✓ The power shedding function may turn off uncritical load in battery backup to make longer backup time for critical load
- ✓ Rack-mount design.

## APPLICATION



Internet networks



Hospital & testing laboratories

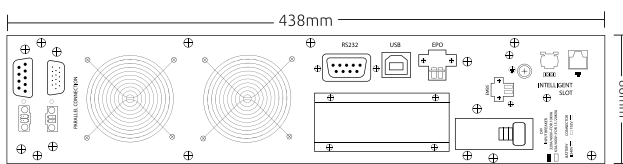


Fire & alarm system

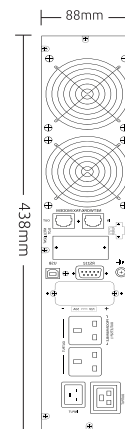


Servers

## SCHEMATICS



(6KVA-10KVA)



(3KVA)

## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system supports SNMP, Modbus, and parallel kit cards



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)



# SPECIFICATION

MODEL	FA-UPSX-24V-1KVA-1PH	FA-UPSX-36V-1.5KVA-1PH	FA-UPSX-48V-2KVA-1PH	FA-UPSX-72V-3KVA-1PH	FA-UPSX-240V-6KVA-1PH	FA-UPSX-240V-10KVA-1PH
PHASE	1 phase in/ 1 phase-out					
Capacity(VA/Watts)	1000 VA/1000 W	1500 VA/1500 W	2000 VA/2000 W	3000 VA/3000 W	6000 VA/6000 W	10000 VA/10000 W
<b>INPUT</b>						
Input Voltage Range	110-300 VAC ± 5% at 50% load 160-300 VAC ± 5% at 100% load			110-300 VAC @ 0~60% load; 140-300 VAC @ 60~80 % load; 176-300 VAC @ 80~100 % load		
Frequency range	40 Hz ~ 70 Hz			46 ~54 Hz or 56~64 Hz		
Power factor	≥ 0.99 (100% Load)					
<b>OUTPUT</b>						
Output voltage	200/208/220/230/240 VAC			208/220/230/240 VAC		
AC Voltage Regulation (Batt. Mode)	± 1%					
Transfer Time AC to DC	Zero			Zero		
Transfer Time Inverter to Bypass	4 ms (Typical)			Zero		
Waveform (Batt. Mode)	Pure Sine wave					
<b>EFFICIENCY</b>						
Line Mode	≥ 91% @ battery fully charged					
ECO Mode	≥ 96% @ battery fully charged					
Battery Mode	≥ 90%			91%		
<b>BATTERY</b>						
Stander Battery type	12V/7 Ah or 12V/ 9 Ah					
External Battery type	Depending on applications (65AH - 200AH)					
Numbers	2	3	4	6	20	20
Typical Recharge Time	9 hours recover to 90% capacity					
Charging Current	200/208/220/230/240 VAC Models: default 2A, max. 12A			default 1A, max. 4A adjustable		
Charging Voltage	27.65 VDC ±1%	41.1 VDC ±1%	54.8 VDC ±1%	82.1 VDC ±1%	273 VDC ±1%	
<b>ALARM</b>						
Battery Mode	Sounding every 5 seconds					
Low Battery	Sounding every 2 seconds					
Overload	Sounding every second					
Fault	Continuously sounding					
<b>ENVIRONMENTAL</b>						
Humidity	20-90% RH @ 0- 45°C (Non-condensing)					
Noise Level	Less than 50dBA@1 Meter					
<b>PHYSICAL</b>						
Dimension D*W*H (mm)	410 x 438 x 88	410 x 438 x 88	510 x 438 x 88	630 x 438 x 88	600x438x88	
Net Weight (kgs)	14.1	15.5	19.5	27.5	15	18

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Weather sensors (Optional)



Full protection for all common hazards



Include a system monitoring software



Support Email, SMS and trap IP alarm notifications

# 1PH-ONLINE UPS SOHO SERIES

(1KVA - 10KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



0.9

Output power factor



Full protection for all common hazards

2

Years Warranty

## BENEFITS

- ✓ True online double-conversion technology with high power density and utility frequency independence.
- ✓ Wide input voltage range (110V-300V).
- ✓ Output power factor 0.9 (0.8 optional).
- ✓ Adjustable output voltage (220V-240V).
- ✓ 50/60 Hz frequency converter mode.
- ✓ Input power factor correction.
- ✓ Three-segment charging mode to increase battery service life and optimize recharge time.
- ✓ Selectable High Efficiency mode of operation.
- ✓ Cold start function to start up the UPS without utility.
- ✓ Emergency shutdown control through the remote emergency power-off (EPO) port.
- ✓ Power shedding function may turn off non-critical loads in battery backup to extend backup time for critical loads.

## APPLICATION



Internet networks



Hospital & testing laboratories

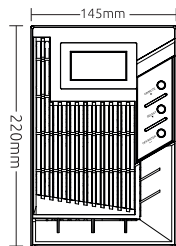


Fire & alarm system

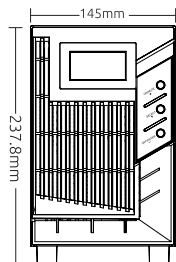


Servers

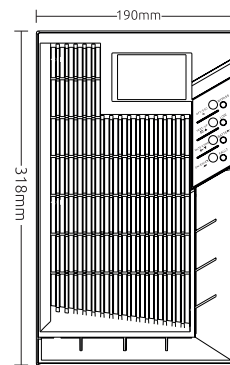
## SCHEMATICS



(1KVA)



(2KVA-3KVA)



(6KVA-10KVA)

## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, Modbus and parallel  
kit cards



ECO mode feature, which can  
increase battery life and decrease  
losses (Increase system efficiency)

# SPECIFICATION

MODEL	FA-UPSE-24V-1KVA-1PH	FA-UPSE-36V-1.5KVA-1PH	FA-UPSE-48V-2KVA-1PH	FA-UPSE-72V-3KVA-1PH	FA-UPSE-144V-6KVA-1PH	FA-UPSE-192V-10KVA-1PH
PHASE	1 phase in/ 1 phase-out					
Capacity(VA/Watts)	1000 VA/900 W	1500 VA/1350 W	2000 VA/1800 W	3000 VA/2700 W	6000 VA/5400 W	10000 VA/9000 W
<b>INPUT</b>						
Input Voltage Range	110-300 VAC ± 5% at 50% load 160-300 VAC ± 5% at 100% load				110-300 VAC @ 0~60% load; 140-300 VAC @ 60~80 % load; 176-300 VAC @ 80~100 % load	
Frequency range	40 Hz ~ 70 Hz				46 ~54 Hz or 56~64 Hz	
Power factor	≥ 0.99 (100% Load)					
<b>OUTPUT</b>						
Output voltage	200/208/220/230/240 VAC				208/220/230/240 VAC	
AC Voltage Regulation (Batt. Mode)	± 1%					
Transfer Time AC to DC	Zero				Zero	
Transfer Time Inverter to Bypass	4 ms (Typical)				Zero	
Waveform (Batt. Mode)	Pure Sine wave					
<b>EFFICIENCY</b>						
Line Mode	≥ 91% @ battery fully charged					
ECO Mode	≥ 96% @ battery fully charged					
Battery Mode	≥ 90%				91%	
<b>BATTERY</b>						
Stander Battery type	12V/7 Ah or 12V/ 9 Ah					
External Battery type	Depending on applications (65AH - 200AH)					
Numbers	2	3	4	6	(12-20) optional	(16-20) optional
Typical Recharge Time	9 hours recover to 90% capacity					
Charging Current	200/208/220/230/240 VAC Models: default 1A, max. 2A					
Charging Voltage	27.5 VDC ±1%	41.1 VDC ±1%	54.8 VDC ±1%	82.1 VDC ±1%	273 VDC ±1%	
<b>ALARM</b>						
Battery Mode	Sounding every 5 seconds					
Low Battery	Sounding every 2 seconds					
Overload	Sounding every second					
Fault	Continuously sounding					
<b>ENVIRONMENTAL</b>						
Humidity	20-90% RH @ 0- 45°C (Non-condensing)					
Noise Level	Less than 50dBA@1 Meter					
<b>PHYSICAL</b>						
Dimension D*W*H (mm)	282 x 145 x 220		397 x 145 x 220		369 x 190 x 318      442 x 190 x 318	
Net Weight (kgs)	9.8	9.8	17	27.6	74	76

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Weather sensors (Optional)



Full protection for all common hazards



Include a system monitoring software



Support Email, SMS and trap IP alarm notifications

# 1PH-ONLINE UPS CONNECT SERIES

(1KVA - 10KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



0.9

Output power factor



Full protection for all common hazards

1

Year Warranty

## BENEFITS

- ✓ True online double-conversion technology with high power density, utility frequency independence.
- ✓ Wide Input voltage range (110V-300V).
- ✓ Output power factor 0.9 (0.8 optional).
- ✓ Adjustable output voltage (220V-240V).
- ✓ 50/60 Hz frequency converter mode.
- ✓ Input power factor correction.
- ✓ Three segment charging mode to increase battery service life, optimize recharge time.
- ✓ Selectable High Efficiency mode of operation.
- ✓ Cold start function to startup the UPS without utility.
- ✓ Emergency, shutdown control through the remote emergency power-off (EPO) port.
- ✓ Power shedding function may turn off uncritical load in battery backup to make longer backup time for critical load.

## APPLICATION



Internet networks



Hospital & testing laboratories

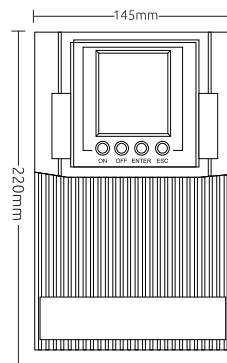


Fire & alarm system



Servers

## SCHEMATICS



(1KVA)

## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, Modbus and parallel kit cards



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)

# SPECIFICATION

MODEL	FA-UPSC-24V-1KVA-1PH	FA-UPSC-48V-2KVA-1PH	FA-UPSC-72V-3KVA-1PH	FA-UPSC-192V-6KVA-1PH	FA-UPSC-192V-10KVA-1PH
PHASE	1 phase in/ 1 phase-out				
Capacity(VA/Watts)	1000 VA/900 W	2000 VA/1800 W	3000 VA/2700 W	6000 VA/5400 W	10000 VA/9000 W
<b>INPUT</b>					
Input Voltage Range	110-300 VAC ± 5% at 50% load 160-300 VAC ± 5% at 100% load			110-300 VAC @ 0~60% load; 140-300 VAC @ 60~80 % load; 176-300 VAC @ 80~100 % load	
Frequency range	40 Hz ~ 70 Hz			46 ~54 Hz or 56~64 Hz	
Power factor	≥ 0.99 (100% Load)				
<b>OUTPUT</b>					
Output voltage	200/208/220/230/240 VAC			208/220/230/240 VAC	
AC Voltage Regulation (Batt. Mode)	± 1%				
Transfer Time AC to DC	Zero			Zero	
Transfer Time Inverter to Bypass	4 ms (Typical)			Zero	
Waveform (Batt. Mode)	Pure Sine wave				
<b>EFFICIENCY</b>					
Line Mode	≥ 91% @ battery fully charged				
ECO Mode	≥ 96% @ battery fully charged				
Battery Mode	≥ 90%			91%	
<b>BATTERY</b>					
Stander Battery type	12V/7 Ah or 12V/9 Ah				
External Battery type	Depending on applications (65AH - 200AH)				
Numbers	2	4	6	(16-20) optional	
Typical Recharge Time	9 hours recover to 90% capacity				
Charging Current	200/208/220/230/240 VAC Models: default 1A, max. 2A				
Charging Voltage	27.5 VDC ±1%	54.8 VDC ±1%	82.1 VDC ±1%	273 VDC ±1%	
<b>ALARM</b>					
Battery Mode	Sounding every 5 seconds				
Low Battery	Sounding every 2 seconds				
Overload	Sounding every second				
Fault	Continuously sounding				
<b>ENVIRONMENTAL</b>					
Humidity	20-90% RH @ 0- 45°C (Non-condensing)				
Noise Level	Less than 50dBA@1 Meter				
<b>PHYSICAL</b>					
Dimension D*W*H (mm)	140 x 191 x 327	151 x 225 x 394	196 x 342 x 416	196x702x412	196x702x412
Net Weight (kgs)	10.1	17.14	21.3	63	68

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Weather sensors  
(Optional)



Full protection for all  
common hazards



Include a system  
monitoring software



Support Email, SMS and  
trap IP alarm notifications

# 1PH-ONLINE UPS TELECOM SERIES

(1KVA)



0.8

Output power factor



Full protection for all common hazards



Support remote monitoring & control

## BENEFITS

- ✓ True online double-conversion technology with high power density, utility frequency independence.
- ✓ Wide Input voltage range (110V-300V).
- ✓ Output power factor 0.8.
- ✓ Adjustable output voltage (220V-240V).
- ✓ 50/60 Hz frequency converter mode.
- ✓ Input power factor correction.
- ✓ Three segment charging mode to increase battery service life, optimize recharge time.
- ✓ Selectable High Efficiency mode of operation.
- ✓ Cold start function to startup the UPS without utility.
- ✓ Emergency, shutdown control through the remote emergency power-off (EPO) port.
- ✓ Power shedding function may turn off uncritical load in battery backup to make longer backup time for critical load.

## APPLICATION



Internet networks



Hospital & testing laboratories

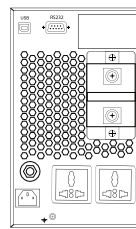
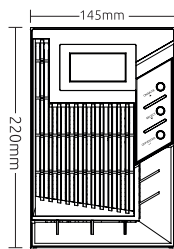


Fire & alarm system



Servers

## SCHEMATICS



(1KVA)

## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, Modbus and parallel kit cards



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)

# SPECIFICATION

MODEL	FA-UPSE-12V-1KVA-1PH	FA-UPSE-24V-1KVA-1PH
PHASE	1 phase in/ 1 phase-out	
Capacity(VA/Watts)	1000 VA/800 W	
<b>INPUT</b>		
Nominal Voltage	208/220/230/240 VAC	
Input Voltage Range	110-300 VAC ± 5% at 50% load 160-300 VAC ± 5% at 100% load	
Frequency Range	40 Hz ~ 70 Hz	
Power Factor	≥ 0.99 (100% Load)	
Phase	Single phase with ground	
<b>OUTPUT</b>		
Output voltage	200*/208*/220/230/240 VAC	
AC Voltage Regulation (Batt. Mode)	± 1%	
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60Hz ± 0.1 Hz	
Frequency Range (Synchronized Range)	46~54 Hz @ 50 Hz or 56~64 Hz @ 60 Hz	
Transfer Time AC to DC	Zero	
Transfer Time Inverter to Bypass	4 ms (Typical)	
Waveform (Batt. Mode)	Pure Sine wave	
<b>EFFICIENCY</b>		
Line Mode	≥ 91% @ battery fully charged	
ECO Mode	≥ 96% @ battery fully charged	
Battery Mode	≥ 90%	
<b>BATTERY</b>		
Stander Battery type	12V/65AH-12V/200AH	
Numbers	1	2
Typical Recharge Time	9 hours recover to 90% capacity	
Charging Current	200/208/220/230/240 VAC Models: default 10A	
Charging Voltage	14.2 VDC ±1%	27.5 VDC ±1%
<b>ALARM</b>		
Battery Mode	Sounding every 5 seconds	
Low Battery	Sounding every 2 seconds	
Overload	Sounding every second	
Fault	Continuously sounding	
<b>ENVIRONMENTAL</b>		
Humidity	20-90% RH @ 0- 45°C (Non-condensing)	
Noise Level	Less than 50dBA@1 Meter	
<b>PHYSICAL</b>		
Dimension D*W*H (mm)	282 x 145 x 220	
Net Weight (kgs)	4.5	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Weather sensors (Optional)



Full protection for all common hazards



Include a system monitoring software



Support Email, SMS and trap IP alarm notifications

# ONLINE UPS 3PH/1PH PI SERIES

(10KVA - 30KVA)



0.9

Output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ True online double-conversion technology with high power density, utility frequency independence.
- ✓ DSP technology to guarantee high reliability.
- ✓ 50Hz/60Hz frequency converter mode.
- ✓ Cold start function to startup the UPS without utility.
- ✓ Emergency power off (EPO) function.
- ✓ N+X parallel redundancy.
- ✓ Three segment charging mode to increase battery service life, optimize recharge time.
- ✓ Maintenance bypass available.
- ✓ Optional touch colored LCD screen.
- ✓ Parallel capability up to 3 units.

## APPLICATION



Factories



Internet networks



Hospital & testing laboratories

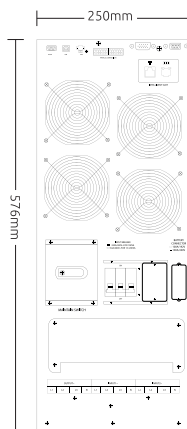


Fire & alarm system

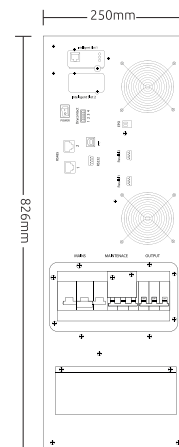


Servers

## SCHEMATICS



(10KVA-20KVA)



(30KVA)

## FEATURES



Support dual main input



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, Modbus and  
parallel kit cards



ECO mode feature, which  
can increase battery life and  
decrease losses (Increase  
system efficiency)



# SPECIFICATION

MODEL	FA-UPSX-240V-10KVA-3PH/1PH	FA-UPSX-240V-15KVA-3PH/1PH	FA-UPSX-240V-20KVA-3PH/1PH	FA-UPSX-240V-30KVA-3PH/1PH	
PHASE	3-phase in / 1-phase-out				
Capacity(VA/Watts)	10000 VA/9000 W	15000 VA/13500 W	20000 VA/18000 W	30000VA/27000W	
<b>INPUT</b>					
Nominal Voltage	3 x 400 VAC (3Ph+N)				
Voltage Range	190-520 VAC (3-phase) at 50% load ; 305-478 VAC (3-phase) at 100% load				
Frequency range	46~54Hz or 56~64Hz				
Power factor	≥ 0.99 @ 100% Load				
<b>OUTPUT</b>					
Output voltage	208/220/230/240VAC				
Frequency Range (Synchronized Range)	46~54Hz or 56~64Hz				
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz				
Current Crest Ratio	3:1				
Harmonic Distortion	<2 % THD (Linear Load) <5 % THD (Non-linear Load)				
Transfer Time AC Mode to Batt. Mode	Zero				
Transfer Time Inverter to Bypass	Zero				
Waveform (Batt. Mode)	Pure Sine wave				
<b>BATTERY</b>					
Standard Model	Battery Type	12 V / 9 Ah or 12 V / 7Ah			
	Numbers	20 pcs	20 pcs x2 strings	20 pcs x3 strings	
	Typical Recharge Time	9 hours recover to 90% capacity			
	Charging Current (Max.)	1A	2A	2A	4A
	Charging Voltage	273 VDC ± 1% (Based on 20pcs batteries)			
Long-run Model	Battery Type	Depending on applications			
	Numbers	Depending on applications			
	Charging Current (Max.)	4A	8A	8A	12A
	Charging Voltage	273 VDC ± 1% (Based on 20pcs batteries)			
<b>ALARM</b>					
Battery Mode	Sounding every 4 seconds				
Low Battery	Sounding every second				
Overload	Sounding twice every second				
Fault	Continuously sounding				
<b>PHYSICAL</b>					
Standard Model	Dimension, DxWxH (mm)	592 x 250 x 576	815 x 250 x 826	815 x 300 x 1000	
	Net Weight (kgs)	83	164	234	
Long-run Model	Dimension, DxWxH (mm)	592 x 250 x 576		815 x 250 x 826	
	Net Weight (kgs)	28	40	64	
<b>ENVIRONMENT</b>					
Humidity	0-95 % RH @ 0- 40°C (Non-condensing)				
Noise Level	Less than 58dB @ 1 Meter	Less than 60dB @ 1 Meter		Less than 65dB @ 1 Meter	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Weather sensors (Optional)



Full protection for all common hazards



Include a system monitoring software



Support Email, SMS and trap IP alarm notifications

# 3PH ONLINE UPS PI SERIES

(10KVA - 60KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



1.0

Unity output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ Active power factor correction in all phases.
- ✓ True online double-conversion technology with high power density, utility frequency independence.
- ✓ DSP technology to guarantee high reliability.
- ✓ 50Hz/60Hz frequency converter mode.
- ✓ Cold start function to startup the UPS without utility.
- ✓ Emergency power off (EPO) function.
- ✓ N+X parallel redundancy (Parallel capability up to 4 units).
- ✓ Smart battery charger design to optimize battery performance.
- ✓ Maintenance bypass available.
- ✓ Adjustable charging current.
- ✓ Optional touch colored LCD screen.

## APPLICATION



oil and gas fields



Internet networks



Hospital & testing laboratories



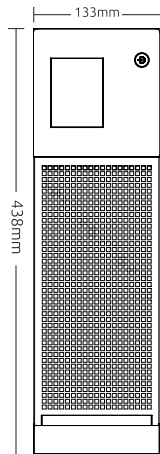
Factories



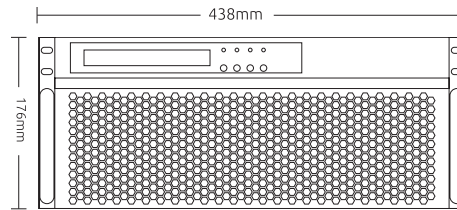
Servers

## SCHEMATICS

(10KVA-30KVA)



(40KVA-60KVA)



## FEATURES



Support dual main input



Zero transfer time



Smart system support  
SNMP, Modbus and parallel  
kit cards



Stable output voltage  
& frequency



ECO mode feature, which  
can increase battery life and  
losses decrease (Increase  
system efficiency)

# SPECIFICATION

MODEL	FA-UPSR- 240V-10KVA- 3PH	FA-UPSR- 480V-15KVA- 3PH	FA-UPSR- 480V-20KVA- 3PH	FA-UPSR- 480V-30KVA- 3PH	FA-UPSR- 480V-40KVA- 3PH	FA-UPSR- 480V-60KVA- 3PH
PHASE	3-phase in/3-phase-out					
Capacity(VA/Watts)	10KVA/10KW	15KVA/15KW	20KVA/20KW	30KVA/30KW	40KVA/40KW	60KVA/60KW
<b>INPUT</b>						
Nominal Voltage	3 x 400 VAC (3Ph+N)					
Voltage Range	190-520 VAC (3-phase) at 50% load ; 305-478 VAC (3-phase) at 100% load					
Frequency range	46~54Hz or 56~64Hz					
Power factor	≥ 0.99 @ 100% Load					
<b>OUTPUT</b>						
Output voltage	3 x 360/380/400/415 VAC (3 Ph+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					
Harmonic Distortion	≤ 2 % THD (Linear Load) : ≤ 5 % THD (Non-Linear Load)					
Transfer Time AC Mode to Batt. Mode	Zero					
Transfer Time Inverter to Bypass	Zero					
Waveform (Batt. Mode)	Pure Sine wave					
Overload AC Mode	100-110% for 10 min, 110-130% for 1 min, >130% for 1 second					
Overload Battery Mode	100-110% for 30 seconds, 110-130% for 10 seconds, >130% for 1 second					
Parallel Capacity	up to 4 units in parallel					
<b>EFFICIENCY</b>						
AC Mode	95.5%					
ECO Mode	98.5%					
Battery Mode	94.5%					
<b>BATTERY</b>						
Battery Type	Depending on the capacity of external batteries					
Numbers	20 pcs		32-40 pcs (Adjustable)			
Charging Current (Max.)			1A-12A(Adjustable)		1A-18A(Adjustable)	
Charging Voltage	+/- 13.65V x N (N=10)		+/- 13.65V x N (N=16~20)			
<b>PHYSICAL</b>						
Dimension, DxWxH (mm)	680 x 438 x 133 (3U)			797 x 438 x 176 (4U)		
Net Weight (kgs)	26	28	28	40	40	45
<b>ENVIRONMENT</b>						
Operation Temperature	0-40 °C					
Operation Humidity	< 95% and non-condensing					
Noise Level	Less than 62dB @ 1m		Less than 65dB @ 1m		Less than 70dB @ 1m	
<b>MANAGEMENT</b>						
Smart RS-232/USB	Support Windows® Family, Linux and MAC					
Optional SNMP	Power management from SNMP manager and web browser					

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Full protection for all  
common hazards



Include a system  
monitoring software



Support Email, SMS and trap  
IP alarm notifications



Weather sensors  
(Optional)

# 3PH ONLINE UPS BETA SERIES

(10KVA - 80KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



1.0

Unity output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ Active power factor correction in all phases.
- ✓ True online double-conversion technology with high power density, utility frequency independence.
- ✓ DSP technology guarantees high reliability.
- ✓ 50Hz/60Hz frequency converter mode.
- ✓ Cold start function to start up the UPS without utility.
- ✓ Emergency power off (EPO) function
- ✓ N+X parallel redundancy (Parallel capability up to 3 units).
- ✓ Accepts dual-mains inputs.
- ✓ Smart battery charger design to optimize battery performance.
- ✓ Maintenance bypass available.
- ✓ Adjustable charging current.
- ✓ Optional touch-colored LCD screen.

## APPLICATION



oil and gas fields



Internet networks



Hospital & testing laboratories

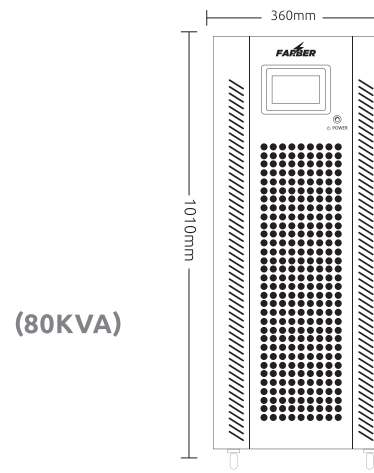
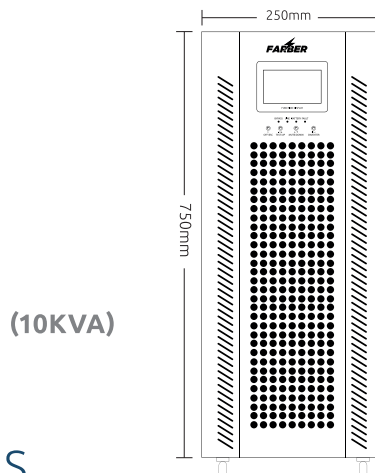


Factories



Servers

## SCHEMATICS



## FEATURES



Support dual main input



Zero transfer time



Smart system support  
SNMP, Modbus and parallel kit cards



Stable output voltage & frequency



ECO mode feature, which can increase battery life and losses decrease (Increase system efficiency)

# SPECIFICATION

MODEL	FA-UPSX-240V-10KVA-3PH	FA-UPSX-240V-20KVA-3PH	FA-UPSX-240V-30KVA-3PH	FA-UPSX-240V-40KVA-3PH	FA-UPSX-240V-60KVA-3PH	FA-UPSX-240V-80KVA-3PH
PHASE	3-phase in/3-phase-out					
Capacity(VA/Watts)	10KVA/10KW	20KVA/20KW	30KVA/30KW	40KVA/40KW	60KVA/60KW	80KVA/80KW
<b>INPUT</b>						
Nominal Voltage	3 x 400 VAC (3Ph+N)					
Voltage Range	190-520 VAC (3-phase) at 50% load ; 305-478 VAC (3-phase) at 100% load					
Frequency range	46~54Hz or 56~64Hz					
Power factor	≥ 0.99 @ 100% Load					
<b>OUTPUT</b>						
Output voltage	3 x 360/380/400/415 VAC (3 Ph+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					
Transfer Time AC Mode to Batt. Mode	Zero					
Transfer Time Inverter to Bypass	Zero					
Waveform (Batt. Mode)	Pure Sinewave					
Overload AC Mode	100-110% for 10 min, 110-130% for 1 min, >130% for 1 second					
Overload Battery Mode	100-110% for 30 seconds, 110-130% for 10 seconds, >130% for 1 second					
Parallel Capacity	up to 3 units in parallel					
<b>BATTERY</b>						
Standard Model	Battery Type	12 V / 9 Ah or 12 V / 7Ah				
	Numbers	20 pcs x (1-4) strings	(20+20) pcs x 2 strings			
	Typical Recharge Time	9 hours recover to 90% capacity				
	Charging Current (Max.)	1A-12A (Adjustable)				
	Charging Voltage	273 VDC ± 1% (Based on 20pcs batteries)				
Long-run Model	Battery Type	Depending on the capacity of external batteries				
	Numbers	32-40 pcs (Adjustable)				
	Charging Current (Max.)	1A-12A (Adjustable) Parallelable up to 3 charger boards to reach 36A maximum			1A-24A (Adjustable) Parallelable up to 3 sets of dual charger boards to reach 72A maximum	
	Charging Voltage	+/- 13.65V x N (N=16~20)				
<b>PHYSICAL</b>						
Standard Model	Dimension, DxWxH (mm)	781 x 250 x 750		815 x 300 x 1000		N/A
	Net Weight (kgs)	129	144	225	250	
Long-run Model	Dimension, DxWxH (mm)	781 x 250 x 750		815 x 300 x 1000		790 x 360 x 1010
	Net Weight (kgs)	33	48	60	61	108
<b>ENVIRONMENT</b>						
Operation Temperature	0-40 °C					
Operation Humidity	< 95% and non-condensing					

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Full protection for all common hazards



Include a system monitoring software



Support Email, SMS and trap IP alarm notifications



Weather sensors (Optional)

# 3PH ONLINE UPS RHO SERIES

(80KVA - 300KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



0.9

Output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ True online double-conversion technology with high power density, utility frequency independence.
- ✓ DSP technology guarantees high reliability.
- ✓ 50Hz/60Hz frequency converter mode.
- ✓ Active power factor correction in all phases.
- ✓ Cold start function to start up the UPS without utility.
- ✓ Emergency power off (EPO) function.
- ✓ N+X parallel redundancy (Parallel capability up to 2 units).
- ✓ Accepts dual-mains inputs.
- ✓ Smart battery charger design to optimize battery performance maintenance bypass available.
- ✓ Adjustable charging current.
- ✓ Maintenance bypass available.
- ✓ Optional touch-colored LCD screen.

## APPLICATION



oil and gas fields



Internet networks



Hospital & testing laboratories

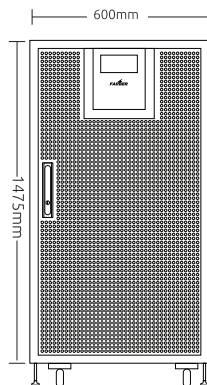


Factories

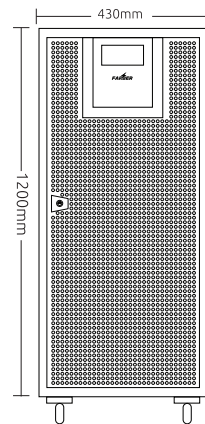


Servers

## SCHEMATICS



(240KVA-300KVA)



(80KVA-120KVA)

## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, modbus and parallel  
kit cards



Weather sensors (Optional)



Full protection for all  
common hazards

# SPECIFICATION

MODEL	FA-UPSX-480V-80KVA-3PH	FA-UPSX-480V-100KVA-3PH	FA-UPSX-480V-120KVA-3PH	FA-UPSX-480V-180KVA-3PH	FA-UPSX-480V-200KVA-3PH	FA-UPSX-480V-240KVA-3PH	FA-UPSX-480V-300KVA-3PH
PHASE	3-phase in / 3-phase out						
Capacity(VA/Watts)	80KVA/80KW	100KVA/100KW	120KVA/120KW	180KVA/180KW	200KVA/200KW	240KVA/240KW	300KVA/300KW
<b>INPUT</b>							
Nominal Voltage	3 x 380/400/415 VAC (3Ph+N)						
Voltage Range	110-300 VAC @ 50% load; 184-276 VAC @100% load						
Frequency range	40Hz ~70Hz						
Power factor	≥ 0.99 @ 100% load						
Overload Capability	≤ 110% for 1 hour, 111% ~ 125% for 10 mins, 126%~150% for 1 min and >150% for 200ms						
Harmonic Distortion	≤ 2% THD (Linear Load) ; ≤ 4% THD (Non-linear Load)						
<b>OUTPUT</b>							
Output voltage	3 x 380/400/415 VAC (3Ph+N)						
AC Voltage Regulation (Batt. Mode)	≤ ± 1% Typical (balanced load) ≤ ± 2% Typical (unbalanced load)						
Frequency Range (Synchronized Range)	46Hz ~ 54Hz or 56Hz ~ 64Hz						
Overload Capability	≤ 110% for 1 hour, 111% ~ 125% for 10 mins, 126%~150% for 1 min and >150% for 200ms						
Current Crest Ratio	≤ 2% THD (Linear Load) ; ≤ 4% THD (Non-linear Load)						
<b>EFFICIENCY</b>							
AC Mode	95.5%						
ECO Mode	98.5%						
Battery Mode	94.5%						
<b>BATTERY</b>							
Battery Type	External Battery						
Maximum Voltage	+/- 240V (12V x 40 Pcs)						
Minimum Voltage	+/- 192V (12V x 32 Pcs)						
Floating Charge Voltage	2.28V / Cell (2.25 ~2.						
Maximum Charging Current	24A	24A	36A	54A	54A	72A	90A
<b>PHYSICAL</b>							
Dimension, DxWxH (mm)	1000x430x1200	1000x430x1200	1000x430x1200	1000x600x1200	1000x600x1200	1100x600x1475	1100x600x1475
Net Weight (kgs)	169	169	169	249	249	360	396
<b>ENVIRONMENT</b>							
Operation Temperature	0-40°C						
Humidity	< 95 % and non-condensing						

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Support dual main input



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)



Include a system monitoring software



Support Email, SMS and trap IP alarm notifications

# 1PH ONLINE UPS TRANSFORMER TYPE LAMBDA SERIES

(6KVA - 10KVA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

0.8

Output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ True online double conversion with DSP control.
- ✓ Unique design and fully coated PCBAs to withstand a harsh environment.
- ✓ Unique ventilation design for effective heat dissipation.
- ✓ N+X parallel redundancy.
- ✓ Active power factor correction in all phases.
- ✓ Emergency power-off function (EPO).
- ✓ Front access makes maintenance and replacement easy.
- ✓ High short-circuit and overload capabilities.
- ✓ Easy integration into existing electrical networks or generators.
- ✓ Smart battery charger design to optimize battery performance.
- ✓ Optional touch-colored LCD.

## APPLICATION



Factories



Internet networks



Hospital & testing laboratories



oil and gas fields



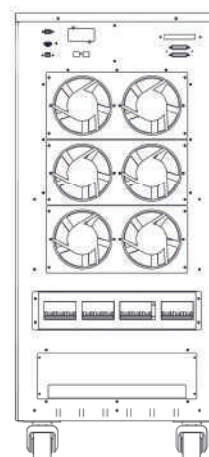
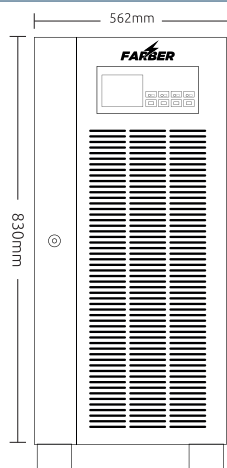
Servers



Chillers and air conditioners

## SCHEMATICS

(10KVA)



## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, modbus and parallel kit cards



Can support machines with high starting current (up to 200% full load current)



Full protection for all common hazards



# SPECIFICATION

MODEL	FA-UPSW-216V-6KVA-1PH	FA-UPSW-216V-7.5KVA-1PH	FA-UPSW-216V-10KVA-1PH
PHASE	Single phase with ground		
Capacity(VA/Watts)	6KVA /4.8KW	7.5KVA /6KW	10KVA /8 KW
<b>INPUT</b>			
Nominal Voltage	208VAC/220VAC/230VAC		
Voltage Range	165VAC ~285VAC @ 16 pcs batteries ; 185VAC ~285VAC @ 18 pcs batteries		
Frequency	40 Hz~55Hz @ 50 Hz system ; 56 Hz~64 Hz @ 60 Hz system		
<b>OUTPUT</b>			
Nominal Voltage	208VAC/220VAC/230VAC		
Frequency Range (Synchronized Range)	45Hz~55Hz or 56Hz~64Hz		
Frequency Range (Batt. Mode)	50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz		
Current Crest Ratio	3:1		
Harmonic Distortion	< 3 % THD (Linear Load) ; < 5% THD (Non-linear Load)		
Frequency	50 Hz		
Transfer Time	0 ms		
Waveform (Batt. Mode)	Pure Sinewave		
<b>EFFICIENCY</b>			
AC Mode	88.3%		
Battery Mode	92%		
<b>BATTERY</b>			
Standard Model	Battery Type	12V / 7Ah or 12V / 9Ah	
	Battery Numbers**	16 Pcs	
	Charging Current	2A	
Long-run Model	Charging Voltage	218.4 V ± 1%	
	Battery Type	Depending on the applications	
	Battery Numbers**	16 ~ 18 pcs	
	Charging Current(max.)	Default 8A, 2A/4A/8A (adjustable)	
	Charging Voltage	218.4 V±1% ~ 245.7 V±1%	
<b>ALARM</b>			
Battery Mode	Sounding every 4 seconds		
Low Battery	Sounding every second		
Overload	Sounding twice every second		
Fault	Continuously sounding		
<b>PHYSICAL</b>			
Standard Model	Dimension, DxWxH(mm)	562 x 300 x 830	
	Net Weight (kgs)	106	122
Long-run Model	Dimension, DxWxH(mm)	562 x 250 x 830	
	Net Weight (kgs)	62	78
<b>ENVIRONMENT</b>			
Operation Temperature	0~50°C (battery life cycle will shorten when the temperature is above 25°C)		
Humidity	0~95% (non-condensing)		

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Support dual main input



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)



Include a system monitoring software



Support Email, SMS and trap IP alarm notifications

# 3PH-1PH ONLINE UPS TRANSFORMER TYPE LAMBDA SERIES

(10KVA - 120KVA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

0.8

Output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ True online double-conversion technology with high power density and utility frequency independence.
- ✓ DSP technology guarantees high reliability.
- ✓ 50Hz/60Hz frequency converter mode.
- ✓ Cold start function to start up the UPS without utility.
- ✓ Emergency power-off (EPO) function.
- ✓ N+X parallel redundancy.
- ✓ Accepts dual-mains inputs.
- ✓ Three-segment charging mode to increase battery service life and optimize recharge time.
- ✓ Maintenance bypass available.
- ✓ Adjustable charging current.
- ✓ Optional touch-colored LCD screen.

## APPLICATION



Factories



Internet networks



Hospital & testing laboratories



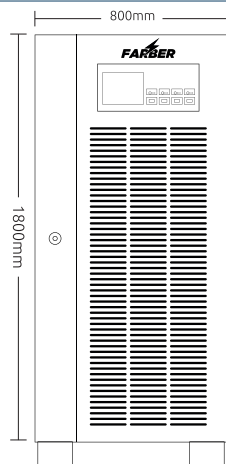
Fire & alarm system



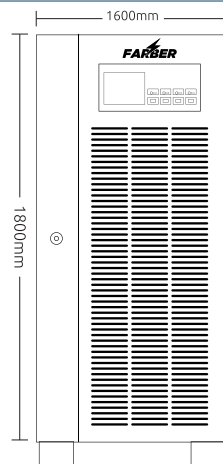
Servers

## SCHEMATICS

(10KVA-30KVA)



(100KVA-120KVA)



## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, modbus and parallel  
kit cards



Include a system  
monitoring software



Full protection for all  
common hazards

# SPECIFICATION

MODEL	FA-UPSW-384V-10KVA-3PH/1PH	FA-UPSW-384V-30KVA-3PH/1PH	FA-UPSW-384V-60KVA-3PH/1PH	FA-UPSW-384V-100KVA-3PH/1PH	FA-UPSW-384V-120KVA-3PH/1PH
Capacity(VA/Watts)	10KVA /8KW	30KVA/24KW	60KVA / 48KW	100KVA /80KW	120KVA / 96KW
<b>INPUT</b>					
Nominal Voltage	3 x 380VAC (3Ph + G or 3Ph + N + G)				
Acceptable Voltage Range	304VAC ~ 456VAC				
Frequency	50 Hz ± 5Hz (±10%)				
<b>OUTPUT</b>					
Nominal Voltage	220VAC/230VAC/240VAC (Selectable)				
Connection Type	Hardwire 3-wire (1 Ph+N+G)				
Waveform	Pure Sine wave				
Output Voltage Stability	Steady state	±1%			
	Transient state	±5%			
Frequency	50 Hz				
Frequency Synchronization Range	± 5 Hz (Equal to bypass working range)				
Frequency Synchronization Speed	1~2 Hz/s				
Crest Factor	3:1				
Dynamic in-rush Voltage Range	0%->100%->0% (R load) <±5%: 20%->100%->20% (R Load) ± 3%				
Dynamic Recovery Time	0%~100% RCD load: <60 ms recover to 90% of nominal voltage				
Phase Displacement	120°±1% (balanced load) 120°±2% (imbalances 50% of the load)				
Transfer Time	0 ms				
Overload Capability	0%~110% continuous running; 110%~ 150% for 10 min~1 min; >160% for 200 ms				
Short-circuit Capability	60~100ms				
Transient Response Time	< 5ms				
<b>BYPASS</b>					
Connection Type	Hardwire 3-wire (1Ph+N+G)				
Input Voltage Range	220VAC ±25%				
Overload Capability	1.5 In~1.8 In 1h~30s				
Short-circuit Capability	1.8 In~ >2.0 In 30s~200ms				
<b>BATTERY &amp; CHARGER</b>					
Rectifier	Type	6 pulse (12 pulses optional)			
	Rated output voltage	220 VDC ( 384 VDC optional)			
	Charger voltage	216VDC ~ 243VDC or 395VDC~435VDC (Adjustable)			
	Charging current (max)	Default 10A, Maximum=Capacity / Battery Voltage	Default 10A, Maximum 40A		
Battery	Type / Numbers	Support VRLA Battery / 16 - 18 pcs (adjustable) or 32 pcs (29~32 adjustable)			
<b>PHYSICAL</b>					
Dimension, DxWxH (mm)	800 x 800 x 1800		800 x 1200 x 1800		800 x 1600 x 1800
Net Weight (kgs)	354	480	910	1620	
<b>ENVIRONMENT</b>					
Operation Temperature	0~35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load				

Available capacity: 10KVA, 15KVA, 20KVA, 30KVA, 40KVA, 60KVA, 80KVA, 100KVA & 120KVA

Modeling number: FA-UPSX-384V-XXKVA-3PH/1PH, Where XX=UPS capacity



Support dual main input



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)



Support Email, SMS and trap IP alarm notifications



Can support machines with high starting current (up to 200% full load current)



Weather sensors (Optional)

# 3PH ONLINE UPS TRANSFORMER TYPE LAMBDA SERIES

(10KVA - 400KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



0.8

Output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ True online double conversion with DSP control.
- ✓ Unique design and fully coated PCBAs to withstand the harsh environment.
- ✓ Unique ventilation design for effective heat dissipation.
- ✓ Accepts dual-mains inputs.
- ✓ Front access makes maintenance and replacement easy.
- ✓ High short-circuit and overload capabilities.
- ✓ Easy integration into existing electrical networks or generators.
- ✓ N+X parallel redundancy (Parallel capability up to 4 units).
- ✓ Active power factor correction in all phases.
- ✓ Emergency power-off function (EPO).
- ✓ Optional touch-colored LCD.

## APPLICATION



Factories



Internet networks



Hospital & testing laboratories



oil and gas fields

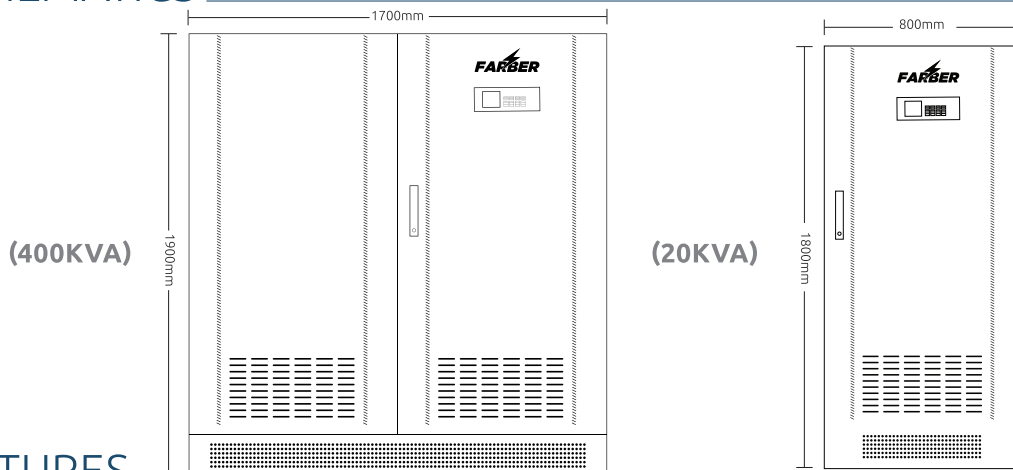


Servers



Chillers and air conditioners

## SCHEMATICS



## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support SNMP, modbus and parallel kit cards

# SPECIFICATION

MODEL	FA-UPSW-384V-10KVA-3PH	FA-UPSW-384V-15KVA-3PH	FA-UPSW-384V-20KVA-3PH	FA-UPSW-384V-30KVA-3PH	FA-UPSW-384V-40KVA-3PH
Capacity(VA/Watts)	10KVA/8KW	15KVA/12KW	20KVA/16KW	30KVA/24KW	40KVA/32KW
<b>INPUT</b>					
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph + N or 3Ph + N + G)				
Acceptable Voltage Range	304VAC ~ 456VAC				
Frequency	50 Hz ± 5Hz (±10%)				
<b>OUTPUT</b>					
Nominal Voltage	3 x 380VAC/400VAC/415VAC (Selectable)				
Connection Type	Hardwire 5-wire (3 Ph+N+G)				
Waveform	Pure Sine wave				
Output Voltage Stability	Steady state	±1%			
	Transient state	±5%			
Frequency	50 Hz				
Frequency Synchronization Range	± 5 Hz (Equal to bypass working range)				
Frequency Synchronization Speed	1~2 Hz/s				
Crest Factor	3:1				
Dynamic in-rush Voltage Range	0%->100%->0% (R load) <±5%; 20%->100%->20% (R Load) ± 3%				
Dynamic Recovery Time	0%~100% RCD load: <60 ms recover to 90% of nominal voltage				
Phase Displacement	120°±1% (balanced load) 120°±2% (imbalances 50% of the load)				
Transfer Time	0 ms				
Overload Capability	0%~110% continuous running; 110%~ 150% for 10 min~1 min; >160% for 200 ms				
Short-circuit Capability	60~100ms				
Transient Response Time	< 5ms				
<b>BYPASS</b>					
Connection Type	Hardwire 5-wire (3Ph+N+G)				
Input Voltage Range	220VAC ±25%				
Overload Capability	1.5 In~1.8 In 1h~30s				
Short-circuit Capability	1.8 In~ >2.0 In 30s~200ms				
<b>BATTERY &amp; CHARGER</b>					
Rectifier	Type	6 pulse			
	Rated output voltage	384 VDC			
	Charger voltage	395VDC~435VDC (Adjustable)			
	Charging current (max)	20A	40A		
Battery	Type / Numbers	Support VRLA Battery / 32 pcs (29~32 adjustable)			
<b>PHYSICAL</b>					
Dimension, DxWxH (mm)	800 x 800 x 1800				
Net Weight (kgs)	350	370	420	450	480
<b>ENVIRONMENT</b>					
Operation Temperature	0~35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load				

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Support dual main input



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)



Include a system monitoring software

# SPECIFICATION

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

MODEL	FA-UPSW-384V-60KVA-3PH	FA-UPSW-384V-80KVA-3PH	FA-UPSW-384V-100KVA-3PH	FA-UPSW-384V-120KVA-3PH	FA-UPSW-384V-160KVA-3PH
Capacity(VA/Watts)	60KVA / 48KW	80KVA / 64KW	100KVA / 80KW	120KVA / 96KW	160KVA / 128KW
<b>INPUT</b>					
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph + N or 3Ph + N + G)				
Acceptable Voltage Range	304VAC ~ 456VAC				
Frequency	50 Hz ± 5Hz (±10%)				
<b>OUTPUT</b>					
Nominal Voltage	3 x 380VAC/400VAC/415VAC (Selectable)				
Connection Type	Hardwire 5-wire (3 Ph+N+G)				
Waveform	Pure Sinewave				
Output Voltage Stability	Steady state	±1%			
	Transient state	±5%			
Frequency	50 Hz				
Frequency Synchronization Range	± 5 Hz (Equal to bypass working range)				
Frequency Synchronization Speed	1~2 Hz/s				
Crest Factor	3:1				
Total Harmonic Distortion (THDv)	<2% (Linear Load), <4% (Non-linear Load)				
Dynamic in-rush Voltage Range	0%~>100%~>0% (R load) <±5%: 20%~>100%~>20% (R Load) ± 3%				
Dynamic Recovery Time	0%~100% RCD load: <60 ms recover to 90% of nominal voltage				
Phase Displacement	120°±1% (balanced load) 120°±2% (imbalances 50% of the load)				
Transfer Time	0 ms				
Overload Capability	0%~110% continuous running; 110%~ 150% for 10 min~1 min; >160% for 200 ms				
Short-circuit Capability	60~100ms				
Transient Response Time	< 5ms				
<b>BYPASS</b>					
Connection Type	Hardwire 5-wire (3Ph+N+G)				
Input Voltage Range	220VAC ±25%				
Overload Capability	1.5 In~1.8 In 1h~30s				
Short-circuit Capability	1.8 In~ >2.0 In 30s~200ms				
<b>BATTERY &amp; CHARGER</b>					
Rectifier	Type	6 pulse			6 pulse or 12 pulse
	Rated output voltage	384 VDC			
	Charger voltage	395VDC~435VDC (Adjustable)			
	Charging current (max)	40A			50A
Battery	Type / Numbers	Support VRLA Battery / 32 pcs (29~32 adjustable)			
<b>PHYSICAL</b>					
Dimension, DxWxH (mm)	800 x 800 x 1800		800 x 1200 x 1800		800 x 1600 x 1800
Net Weight (kgs)	730	790	1000	1300	1400
<b>ENVIRONMENT</b>					
Operation Temperature	0~35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load				



Can support machines with high starting current (up to 200% full load current)



Full protection for all common hazards



Saving historical data

# SPECIFICATION

MODEL	FA-UPSW-384V-200KVA-3PH	FA-UPSW-384V-250KVA-3PH	FA-UPSW-384V-300KVA-3PH	FA-UPSW-384V-400KVA-3PH
Capacity(VA/Watts)	200KVA /160KW	250KVA /200KW	300KVA /240KW	400KVA /320KW
<b>INPUT</b>				
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph + N or 3Ph + N + G)			
Acceptable Voltage Range	304VAC ~ 456VAC			
Frequency	50 Hz ± 5Hz (±10%)			
<b>OUTPUT</b>				
Nominal Voltage	3 x 380VAC/400VAC/415VAC (Selectable)			
Connection Type	Hardwire 5-wire (3 Ph+N+G)			
Waveform	Pure Sine wave			
Output Voltage Stability	Steady state	±1%		
	Transient state	±5%		
Frequency	50 Hz			
Frequency Synchronization Range	± 5 Hz (Equal to bypass working range)			
Frequency Synchronization Speed	1~2 Hz/s			
Crest Factor	3:1			
Total Harmonic Distortion (THDv)	<2% (Linear Load), <4% (Non-linear Load)			
Dynamic in-rush Voltage Range	0%->100%->0% (R load) <±5%: 20%->100%->20% (R Load) ± 3%			
Dynamic Recovery Time	0%~100% RCD load: <60 ms recover to 90% of nominal voltage			
Phase Displacement	120°±1% (balanced load) 120°±2% (imbalances 50% of the load)			
Transfer Time	0 ms			
Overload Capability	0%~110% continuous running; 110%~ 150% for 10 min~1 min; >160% for 200 ms			
Short-circuit Capability	60~100ms			
Transient Response Time	< 5ms			
<b>BYPASS</b>				
Connection Type	Hardwire 5-wire (3Ph+N+G)			
Input Voltage Range	220VAC ±25%			
Overload Capability	1.5 In~1.8 In 1h~30s			
Short-circuit Capability	1.8 In~ >2.0 In 30s~200ms			
<b>BATTERY &amp; CHARGER</b>				
Rectifier	Type	6 pulse or 12 pulse		
	Rated output voltage	384 VDC		
	Charger voltage	395VDC~435VDC (Adjustable)		
	Charging current (max)	50A		70A
Battery	Type / Numbers	Support VRLA Battery / 32 pcs (29~32 adjustable)		
<b>PHYSICAL</b>				
Dimension, DxWxH (mm)	800 x 1600 x 1800		850 x 1630 x 1900	900 x 1700 x 1900
Net Weight (kgs)	1700	1900	2300	2500
<b>ENVIRONMENT</b>				
Operation Temperature	0~35°C continuous running, 40°C 8-hour running at nominal input voltage, recharging batteries and no overload, 45°C derating to 85% with linear load			

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Support Email, SMS and trap IP alarm notifications



Weather sensors (Optional)



Programmable power outlet

# 3PH ONLINE UPS TRANSFORMER TYPE ZETA SERIES

(100KVA - 800KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



0.9

Output power factor



Adjustable charging current (can support all battery sizes)



Support parallel function

## BENEFITS

- ✓ True online double conversion with DSP control.
- ✓ Unique design and fully coated PCBAs to withstand the harsh environment.
- ✓ Active power factor correction in all phases.
- ✓ Unique ventilation design for effective heat dissipation.
- ✓ Accepts dual-mains inputs.
- ✓ Front access makes maintenance and replacement easy.
- ✓ High short-circuit and overload capabilities.
- ✓ Easy integration into existing electrical networks or generator.
- ✓ The parallel capability of up to 4 units.

## APPLICATION



Factories



Internet networks



Hospital & testing laboratories



oil and gas fields



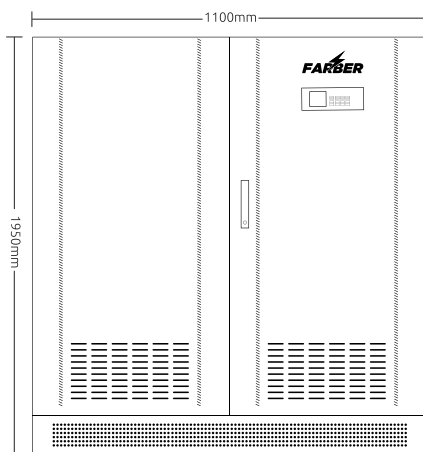
Servers



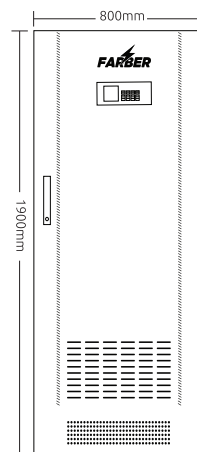
Chillers and air conditioners

## SCHEMATICS

(800KVA)



(100KVA)



## FEATURES



Zero transfer time



Stable output voltage & frequency



Smart system support  
SNMP, modbus and parallel kit cards



Support Email, SMS and trap IP alarm notifications



Weather sensors (Optional)



# SPECIFICATION

MODEL	FA-UPSW-480V-100KVA-3PH	FA-UPSW-480V-200KVA-3PH	FA-UPSW-480V-400KVA-3PH	FA-UPSW-480V-600KVA-3PH	FA-UPSW-480V-800KVA-3PH
Capacity(VA/Watts)	100KVA / 90KW	200KVA / 180KW	400KVA / 360KW	600KVA / 540KW	800KVA / 720KW
<b>INPUT</b>					
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+ G)				
Acceptable Voltage Range	304VAC ~ 456VAC				
Frequency	45 Hz ± 65Hz				
<b>OUTPUT</b>					
Nominal Voltage	380VAC/400VAC/415VAC (Selectable)				
Connection Type	Hardwire 5-wire (3 Ph+N+G)				
Waveform	Pure Sine wave				
Output Voltage	Steady state	±1%			
Stability	Transient state	±5%			
Frequency	50 Hz or 60 Hz (Selectable)				
Frequency Synchronization Range	± 5 Hz (Equal to bypass working range)				
Frequency Synchronization Speed	1~2 Hz/s				
Crest Factor	3:1				
Total Harmonic Distortion (THDv)	<1% (Linear Load), <3% (Non-linear Load)				
Dynamic in-rush Voltage Range	0%->100%->0% load: < 1%				
Dynamic Recovery Time	0%~100% RCD load: <20 ms recover to 90% of nominal voltage				
Phase Displacement	120°±1%				
Transfer Time	0 ms				
Overload Capability	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute, 200% for 7 seconds				
Short-circuit Capability	180% for 1 second				
Transient Response Time	< 10ms				
<b>BYPASS</b>					
Connection Type	Hardwire 5-wire (3Ph+N+G)				
Input Voltage Range	220VAC ±15% (setting range ± 10% ~ ±25%)				
Overload Capability	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute				
Short-circuit Capability	1 second (Rated x 7), 500 ms (Rated x 8), 200 ms (Rated x 9), 100 ms (Rated x 10), 100 ms (Rated x 14)				
<b>BATTERY &amp; CHARGER</b>					
Rectifier	Type	IGBT			
	Rated output voltage	480 VDC			
	Charger voltage	524VDC~576VDC (Adjustable)			
	Charging current (max)	20A	40A	70A	
Battery	Type / Numbers	Support VRLA Battery / 40 pcs (40~43 adjustable)			
<b>PHYSICAL</b>					
Dimension, DxWxH (mm)	850 x 800 x 1900	850 x 1000 x 1900	1000 x 1500 x 1900	1000 x 2100 x 1900	3900 x 1100 x 1950
Net Weight (kgs)	656	910	1700	2400	6400
<b>ENVIRONMENT</b>					
Operation Temperature	0~40°C continuous running, 45°C derating to 85% with linear load				

Available capacity: 100KVA, 120KVA, 160KVA, 200KVA, 250KVA, 300KVA, 400KVA, 500KVA, 600KVA & 800KVA

Modeling number: FA-UPSX-480V-XXKVA-3PH/1PH, Where XX=UPS capacity



Support dual main input



ECO mode feature, which can increase battery life and decrease losses (Increase system efficiency)



Can support machines with high starting current (up to 200% full load current)



Include a system monitoring software



Full protection for all common hazards

# 1PH ONLINE MODULAR UPS OMEGA SERIES

(30KVA - 50KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



1.0

Unity output power factor



Adjustable charging current (can support all battery sizes)



Support remote monitoring & control

## BENEFITS

- ✓ True online double-conversion technology with high power density, utility frequency independence.
- ✓ DSP technology guarantees high reliability.
- ✓ High scalability.
- ✓ Cold start function to start up the UPS without utility.
- ✓ Emergency power off (EPO) function.
- ✓ N+X parallel redundancy.
- ✓ Less than 2% harmonics distortion in the output.
- ✓ Three-segment charging mode to increase battery service life, optimize recharge time.
- ✓ High overload capability.
- ✓ Less than 55dB @ 1m noise level.
- ✓ Optional touch-colored LCD screen.

## APPLICATION



Internet networks



Hospital & testing laboratories



Oil and gas fields

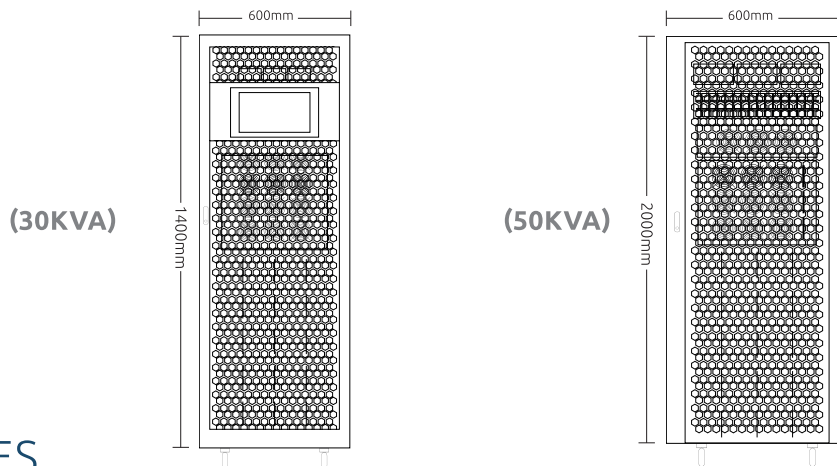


Servers



Factories

## SCHEMATICS



## FEATURES



Wide Input Range



Instant transfer of power through zero-crossing detection



Protects against overload



Parallel Operation



In case of any fault or emergency, an alarm will sound

# SPECIFICATION

MODEL	FA-UPSX-240V-30KVA-1PH	FA-UPSX-240V-50KVA-1PH
PHASE	1-phase in/1-phase-out	
Cabinet Capacity	30KW	50KW
Battery Type	Built-in Battery or External Battery	
One Power Module Capacity	6KVA / 6KW or 10KVA / 10KW	
Max. Power Module No.	5	
INPUT		
Nominal Voltage	220/230Vac	
Voltage Range	120~276Vac	
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	220/230Vac	
Voltage Regulation (Steady state)	< ± 1% Typical (balanced load) ; <± 2% Typical (unbalanced 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%	
BATTERY / CHARGER		
Numbers	16~20 pcs (Adjustable)	
Charging Voltage	+/- 13.7V x N (N=16~20)	
Temperature Compensation	Yes	
Maximum Charging Current Per Module)	6A	
PHYSICAL		
Cabinet Dimension (D x W x H) mm	840×600×1400	840×600×2000
Net Weight (Kg)	138	150
ENVIRONMENT		
Operating Temperature	0 ~ 40°C	
Relative Humidity	0 ~ 95% non-condensing	
MANAGEMENT		
Optional SNMP	Power management from SNMP manager and web browser	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against short circuit



Protects against over voltage



Protects against under voltage



Optional charging current card (to increase the charging current)

# 3PH-1PH MODULAR ONLINE UPS OMEGA SERIES

(30KVA-100KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



1.0

Unity output power factor



Adjustable charging current (can support all battery sizes)



Support remote monitoring & control

## BENEFITS

- ✓ True online double-conversion technology with high power density and utility frequency independence.
- ✓ DSP technology guarantees high reliability.
- ✓ High scalability.
- ✓ Cold start function to start up the UPS without utility.
- ✓ Emergency power off (EPO) function.
- ✓ N+X parallel redundancy.
- ✓ Less than 2% harmonics distortion in the output.
- ✓ Three-segment charging mode to increase battery service life and optimize recharge time.
- ✓ High overload capability.
- ✓ Less than 55dB @ 1m noise level.
- ✓ Optional touch-colored LCD screen.

## APPLICATION



Internet networks



Hospital & testing laboratories



Oil fields



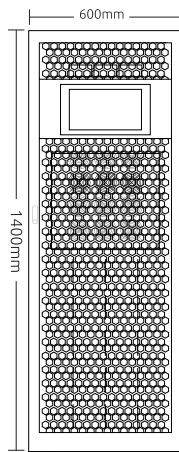
Servers



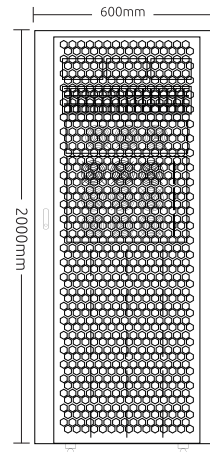
Factories

## SCHEMATICS

(30KVA)



(100KVA)



## FEATURES



Wide Input Range



Instant transfer of power through zero-crossing detection



Protects against overload



Parallel Operation



In case of any fault or emergency, an alarm will sound

# SPECIFICATION

MODEL	FA-UPSX-240V-30KVA-3PH/1PH	FA-UPSX-240V-50KVA-3PH/1PH	FA-UPSX-240V-100KVA-3PH/1PH
PHASE	3-phase in/1-phase-out		
Cabinet Capacity	30KW	50 KW	100 KW
Battery Type	Built-in Battery or External Battery		
One Power Module Capacity	6KVA/6KW or 10KVA/10KW		
MAX. POWER MODULE NO.	10		
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	220/230Vac		
Voltage Regulation (Steady state)	< ± 1% Typical (balanced load) ; <± 2% Typical (unbalanced 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%		
BATTERY / CHARGER			
Numbers	16~20 pcs (Adjustable)		
Charging Voltage	+/- 13.7V x N (N=16~20)		
Temperature Compensation	Yes		
Maximum Charging Current Per Module)	6A		
PHYSICAL			
Cabinet Dimension (D x W x H) mm	840×600×1400		840×600×2000
Net Weight (Kg)	138	150	213
ENVIRONMENT			
Operating Temperature	0 ~ 40°C		
Relative Humidity	0 ~ 95% non-condensing		
MANAGEMENT			
Optional SNMP	Power management from SNMP manager and web browser		

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against short circuit



Protects against over voltage



Protects against under voltage



Optional charging current card (to increase the charging current)

# 3PH MODULAR ONLINE UPS OMEGA SERIES

(80KVA - 1560KVA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



1.0

Unity output power factor



Adjustable charging current (can support all battery sizes)



Support remote monitoring & control

## BENEFITS

- ✓ True online double-conversion technology with high power density and utility frequency independence.
- ✓ DSP technology guarantees high reliability.
- ✓ High scalability.
- ✓ Cold start function to start up the UPS without utility.
- ✓ Emergency power off (EPO) function.
- ✓ N+X parallel redundancy.
- ✓ Less than 2% harmonics distortion in the output.
- ✓ Three-segment charging mode to increase battery service life and optimize recharge time.
- ✓ High overload capability.
- ✓ Less than 55dB @ 1m noise level.
- ✓ Optional touch-colored LCD screen.

## APPLICATION



Internet networks



Hospital & testing laboratories



Oil and gas fields

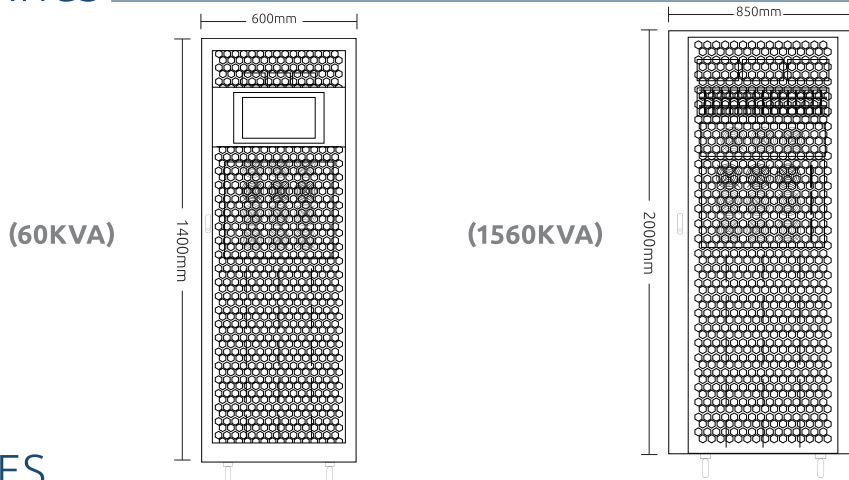


Servers



Factories

## SCHEMATICS



## FEATURES



Wide Input Range



Protects against short circuit



Protects against overload



In case of any fault or emergency, an alarm will sound



Instant transfer of power through zero-crossing detection

# SPECIFICATION

MODEL	FA-UPSX-30U-90KVA-3PH	FA-UPSX-42U-120KVA-3PH	FA-UPSX-30U-80KVA-3PH	FA-UPSX-30U-180KVA-3PH	FA-UPSX-42U-200KVA-3PH	FA-UPSX-42U-210KVA-3PH	FA-UPSX-42U-300KVA-3PH
PHASE	3-phase in/3-phase-out						
Cabinet Capacity	90 KW	120 KW	80KW	180KW	200KW	210KW	300KW
Battery Type	Built-in Battery			External Battery			
One Power Module Capacity	30KVA / 30KW		30KVA / 30KW or 20KVA / 20KW		20KW	30KVA / 30KW	
Max. Power Module No.	3	4	4	6	10	8	10
Max. Battery Set No.	3	5	/	/	/	/	/
<b>INPUT</b>							
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+N)						
Voltage Range	305 ~ 478 VAC at 100% load; 208 ~ 478VAC 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						
<b>OUTPUT</b>							
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+N)						
Voltage Regulation (Steady state)	< ± 1% Typical (balanced load) ; <± 2% Typical (unbalanced 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%						
<b>BATTERY / CHARGER</b>							
Charging 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		8A for 30KW power module 6A for 20KW power module		6A		8A
<b>PHYSICAL</b>							
Cabinet Dimension (D x W x H) mm	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)	675	932	335 or 333	437.5 or 434.5	611	549	620
<b>ENVIRONMENT</b>							
Operating Temperature	0 ~ 40°C						
Relative Humidity	0 ~ 95% non-condensing						
<b>MANAGEMENT</b>							
Optional SNMP	Power management from SNMP manager and web browser						
Smart RS-232 / USB	Supports Windows® 2000/2003/XP/Vista/2008, Windows2 7/8/10, Linux and MAC						

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against over voltage



Parallel Operation



Protects against under voltage



Optional charging current card (to increase the charging current)

# CABINETS SPECIFICATION

UPS

MODEL	42U-80KVA	30U-90KVA	30U-120KVA	30U-180KVA
Height	42U	30U	30U	30U
STS Capacity	80KVA	90KVA	120KVA	210KVA
Type of installable power module	20KW only	30KW or 20KW	30KW or 20KW	30KW or 20KW
Max. number of installable power module	4	3	4	6
Number of installable battery modules in Layer	4	3	N/A	N/A
Max. capacity of installing 20KW module	80KW	60KW	80KW	120KW
Max. capacity of installing 30KW module	N/A	90KW	120KW	180KW
Max capacity w/internal battery, no external battery	80KW	60K (Maximum with 3 layers of battery modules)	N/A	N/A
Built-in empty battery modules in BOM	Yes, 16pcs	Yes, 12pcs	NO	NO

INVERTERS

ACCESSORIES

MODEL	42U-200KVA	42U-210KVA	42U-300KVA
Height	42U	42U	42U
STS Capacity	210KVA	210KVA	300KVA
Type of installable power module	20KW only	30KW or 20KW	30KW or 20Kw
Max. number of installable power module	10	8	10
Number of installable battery modules in Layer	N/A	N/A	N/A
Max. capacity of installing 20KW module	200KW	160KW	200KW
Max. capacity of installing 30KW module	N/A	210KW (If installed with 8 pcs, one for redundancy)	300KW
Max capacity w/internal battery, no external battery	N/A	N/A	N/A
Built-in empty battery modules in BOM	NO	NO	NO

AVR

BATTERIES

SOLAR SOLUTION



# SPECIFICATION

MODEL	FA-UPSX-480V-400KVA-3PH	FA-UPSX-480V-1000KVA-3PH	FA-UPSX-480V-800KVA-3PH	FA-UPSX-480V-1560KVA-3PH
PHASE	3-phase in/3-phase-out			
Cabinet Capacity	200k~400k	200k~1000k	720KW	1404KW
Battery Type	Built-in Battery or External Battery			
One Power Module Capacity	40k	50k	40kva / 36kw	
Max. Power Module No.	05/8/10	4/6/8/10/12/16/20	20	40
<b>INPUT</b>				
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			
<b>OUTPUT</b>				
Nominal Voltage	3 x 380VAC/400VAC/415VAC (3Ph+N)			
Voltage Regulation (Steady state)	< ± 1% Typical (balanced load) ; <± 2% Typical (unbalanced 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	≤1% with linear load; ≤3% with nonlinear load		<2% THD (Linear Load) ; <4% THD (Non-linear Load)	
Efficiency	Up to 96%		Up to 94.5%	
<b>BATTERY / CHARGER</b>				
Numbers	32~40 pcs (Adjustable)			
Charging Voltage	+/- 13.7V x N (N=32~40)			
Temperature Compensation	Yes			
Maximum Charging Current (Per Power Module)	20A (Max.) 6A for 20KW or 8A for 30KW			
<b>PHYSICAL</b>				
Cabinet Dimension (D x W x H) mm	440×620×130		850×2000×2000	4800×850×2000
Net Weight (Kg)	210~460	200kVA: 240; 300kVA: 260; 400kVA: 290; 500kVA: 480; 600kVA: 540; 800kVA: 960; 1000kVA: 1050	980	2800
<b>ENVIRONMENT</b>				
Operating Temperature	0 ~ 40°C			
Relative Humidity	0 ~ 95% non-condensing			
<b>MANAGEMENT</b>				
Optional SNMP	Power management from SNMP manager and web browser			

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

# LINE INTERACTIVE PURE SINE WAVE UPS THETA SERIES

(1000VA - 6000VA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Pure sine wave output



Full protection for all common hazards



Stable output voltage & frequency

## BENEFITS

- ✓ The digitalized PWM-based controller ensures a pure sine wave output, making it suitable for electrical and electronic loads.
- ✓ Reliable microprocessor control is in place to guarantee high performance.
- ✓ It features Boost and buck AVR for voltage stabilization.
- ✓ Additionally, it offers optional USB and RJ45 protection.
- ✓ The DC start function is also included.

## APPLICATION



CCTV system



Personal PC

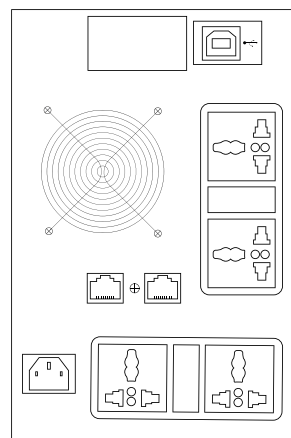


Music system



Laser printer

## SCHEMATICS



## FEATURES



Wide Input Range



Wall mountable design



Instant transfer of power through zero-crossing detection



Protects against overload



Microprocessor  
Built-in controller ensures reliable, accurate and quick switching and performance

# SPECIFICATION

MODEL	FA-UPSW-12V-1000-1PH/S	FA-UPSW-24V-1500-1PH/S	FA-UPSW-24V-2000-1PH/S	FA-UPSW-24V-3000-1PH/S	FA-UPSW-24V-6000-1PH/S
Capacity	1000 VA / 700 W	1500VA / 1050W	2000VA / 1400W	3000VA / 2100W	5600VA / 4200W
<b>INPUT</b>					
Voltage	110/120 VAC or 220/230/240 VAC				208/220/230/240 VAC
Voltage Range	81-145 VAC /162-290 VAC				162-290 VAC
Frequency Range	60/50 Hz (auto sensing)				
<b>OUTPUT</b>					
Output Voltage	110/115/120/127 VAC or 208/220/230/240 VAC				
Voltage Regulation (Batt. Mode)	±1.5 % (Before battery alarm)				
Frequency Range (Batt. Mode)	50 Hz or 60 Hz ± 1 Hz				
Current Crest Ratio	3:1				
Harmonic Distortion	2% max @ 100% linear load, 5% max @ 100% non-linear load (before low battery alarm)				
Transfer Time	Typical 2-6 ms, 10ms max.				
Waveform (Batt. Mode)	Pure Sinewave				
<b>EFFICIENCY</b>					
ECO Mode	>97%				
Buck & Boost Mode	>95%				
Battery Mode	> 88%, up to 90% @ nominal battery voltage			>91%, up to 92% @ nominal battery voltage	
<b>BATTERY</b>					
Battery Type & Number	12 V/7 Ah x 2	12 V/9 Ah x 2	12 V/7 Ah x 4	12 V/9 Ah x 4	12 V/10 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				
<b>PROTECTION</b>					
Full Protection	Overload, discharge, and overcharge protection				
<b>INDICATORS</b>					
LCD Display	AC Mode, Battery Mode, Load Level, Battery Level, Input Voltage, Output Voltage, Overload, Fault and Low Battery				
<b>ALARM</b>					
Battery Mode	Sounding every 10 seconds				
Low Battery	Sounding every 2 second				
Overload	Sounding every second				
Fault	Continuously sounding				
<b>PHYSICAL</b>					
Cabinet Dimension (D x W x H) mm	376x 145 x 220		455 x 145 x 220		421 x 190 x 318
Net Weight (Kg)	12.9	14.5	20	23.5	33.5
<b>ENVIRONMENT</b>					
Humidity	0-90 % RH @ 0- 40°C (non-condensing)				
Noise Level	Less than 45dB			Less than 50dB	Less than 53dB
<b>MANAGEMENT</b>					
USB & RS-232 Port	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7/8, Linux, Unix, and MAC				

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against short circuit



Protects against over voltage



Protects against under voltage



In case of any fault or emergency, an alarm will sound



Fast transfer 2-6 millisecond transfer time



Input 140-300 VAC input

# LINE INTERACTIVE UPS GAMING SERIES

(1000VA - 1500VA)



Full protection for all common hazards



Stable output voltage & frequency



Fast transfer 2-6 millisecond transfer time

## BENEFITS

- ✓ It offers real-time monitoring of CPU temperature, CPU speed, and CPU load level.
- ✓ Customizable RGB lighting indicates UPS status.
- ✓ The docking LCD design includes Bluetooth communication.
- ✓ A remote LCD panel is integrated with a 900mAH battery for up to 12 hours of operation.
- ✓ It provides a pure sine wave output.
- ✓ Built-in AVR ensures voltage stabilization.
- ✓ Two USB charger ports are included for mobile devices.
- ✓ It offers battery backup and surge-protected outputs.
- ✓ The battery is easy to replace due to the design.
- ✓ It features a built-in USB communication port and RJ-45 network surge protection.
- ✓ There's also the option for coax surge protection for TV antennas.

## APPLICATION



CCTV system



Personal PC

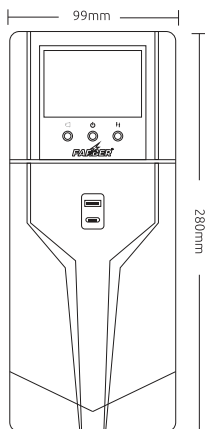


Music system



Gaming device

## SCHEMATICS



## FEATURES



Wide Input Range



Wall mountable design



Instant transfer of power through zero-crossing detection



Protects against overload



Microprocessor Built-in controller ensures reliable, accurate and quick switching and performance



Built-in automatic voltage regulator to overcome fluctuations in input source

# SPECIFICATION

MODEL	FA-UPSW-12V-1000VA	FA-UPSW-24V-1500VA
Capacity(VA/Watts)	1000 VA / 600 W	1500 VA / 900 W
<b>INPUT</b>		
Nominal Voltage	110/120 VAC or 220/230/240 VAC	
Input Voltage Range	81-145 VAC /162-290 VAC	
Frequency Range	60/50 Hz (auto sensing)	
<b>OUTPUT</b>		
Output voltage	110/120 VAC or 220/230/240 VAC	
AC Voltage Regulation (Batt. Mode)	± 10%	
Frequency Range (Batt. Mode)	50 Hz or 60 Hz ± 1 Hz	
Frequency Range (Synchronized Range)	46~54 Hz @ 50 Hz or 56~64 Hz @ 60 Hz	
Transfer Time AC to DC	6ms typical, 10ms max	
Waveform (Batt. Mode)	Pure Sine wave	
<b>USB CHARGER</b>		
USB Charger Ports	Type C X1 + Type A X1	
Output Voltage	5.2V±5%	
Load Current	3A(MAX)	
<b>PROTECTION</b>		
Stander Battery type	12 V/9 Ah	12 V/9 Ah
Numbers	1	2
Typical Recharge Time	6-8 hours recover to 90% capacity	
Full Protection	Overload, discharge, and overcharge protection	
LCD Display	Input/output voltage, input/output frequency, laod in VA/Watts, battery capacity, estimated remaining runtime, site wiring fault indications	
<b>ENVIRONMENTAL</b>		
Humidity	0-90 % RH @ 0- 40°C (non-condensing)	
Noise Level	Less than 40dB	Less than 45dB
<b>MANAGEMENT</b>		
Compliance & Standards	110/120VAC model: cTUVus (standard:UL 1778), FCC Part 15 Class B, ENERGY STAR (USA) 220/230/240VAC model: CE , EN 62040-1:2008/A1:2013, IEC 62040-1:2008/A1:2013	
Optional USB Port	Supports Windows® 2000/2003/XP/Vista/2008/7, Linux, Unix, and MAC	
<b>PHYSICAL</b>		
Dimension D*W*H (mm)	308 x 99 x 280	430 x 99 x 280
Net Weight (kgs)	9.2	13.8

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against short circuit



Protects against over voltage



Protects against under voltage



In case of any fault or emergency, an alarm will sound



Input 140-300 VAC input

# LINE INTERACTIVE UPS DELTA SERIES

(850VA, 1200VA, 1500VA, 2500VA, 3000VA)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Full protection for all common hazards



Stable output voltage & frequency



Fast transfer 2-6 millisecond transfer time

## BENEFITS

- ✓ This UPS is specifically designed for personal computers with multiple functions.
- ✓ The UPS line is equipped with boost and buck AVR to stabilize the input voltage range.
- ✓ High reliability is ensured through microprocessor control.
- ✓ It includes a DC start function.
- ✓ Auto restart occurs with AC recovery.
- ✓ It boasts a compact size and is lightweight.
- ✓ AC overload protection is provided.

## APPLICATION



CCTV system



Personal PC

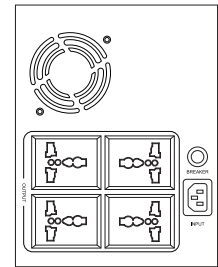
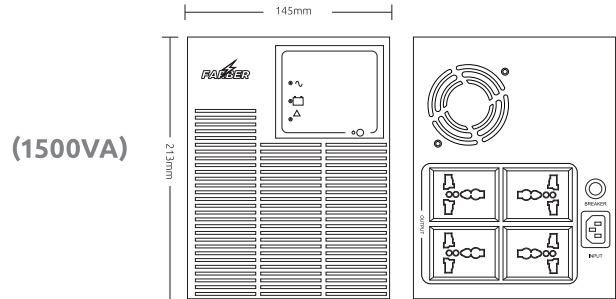
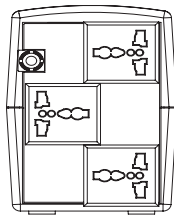
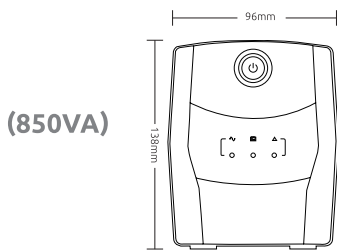


Music system



Laser printer

## SCHEMATICS



## FEATURES



Wide Input Range



Wall mountable design



Instant transfer of power through zero-crossing detection



Protects against overload



Microprocessor Built-in controller ensures reliable, accurate and quick switching and performance



Built-in automatic voltage regulator to overcome fluctuations in input source

# SPECIFICATION

MODEL NUMBER	FA-UPSW-12V-850-1PH	FA-UPSW-24V-1200-1PH	FA-UPSW-24V-1500-1PH	FA-UPSW-24V-2500VA-1PH	FA-UPSW-48V-3000-1PH
Capacity	850 VA / 360 W	1200 VA / 600 W	1500 VA / 720 W	2500 VA / 1200 W	3000 VA / 1800W
<b>INPUT</b>					
Voltage	220/230/240 VAC				
Voltage Range	140-300 VAC				
Frequency Range	50/60 Hz (auto sensing)				
<b>OUTPUT</b>					
AC Voltage Regulation (Batt. Mode)	±10%				
Frequency Range (Batt. Mode)	50 Hz or 60 Hz ± 1 Hz				
Waveform (Batt. Mode)	Modified sine wave				
Transfer Time	2-6 ms typical				
<b>BATTERY</b>					
Battery Type & Number	12V 7AH x 1	12V 7AH x 2	12V 9AH x 2	12V9AH x 2	12V 9AH x 4
Typical Recharge Time	6-8 hours recover to 90% capacity, after full discharge				
<b>PROTECTION</b>					
Full Protection	Overload, discharge, and overcharge protection				
<b>ALARM</b>					
Battery Mode	Alarm every 10 seconds				
Low Battery	Alarm every second				
Overload	Alarm every 0.5 second				
Fault	Continuous alarm				
<b>PHYSICAL</b>					
Dimensions, D x W x H (mm)	286 x 96 x 138mm	355 x 123 x 190mm	355 x 125 x 225mm	425 x 145 x 210mm	436 x 145 x 213mm
<b>ENVIRONMENT</b>					
Humidity	0-90% RH @ 0- 40°C (non-condensing)				
Noise Level	<40dB				
<b>MANAGEMENT</b>					
USB & RS-232 Port	Supports Windows® 2000/2003/XP/Vista/2008, Windows® 7, Linux, Unix, and MAC				

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against short circuit



Protects against over voltage



Protects against under voltage



In case of any fault or emergency, an alarm will sound



Input 140-300 VAC input

# BATTERY CABINET

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

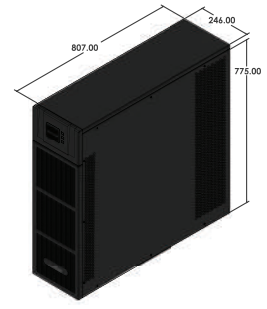
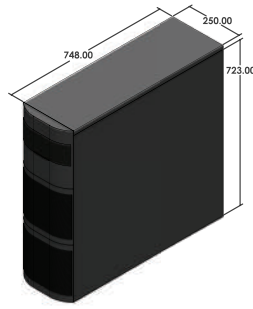
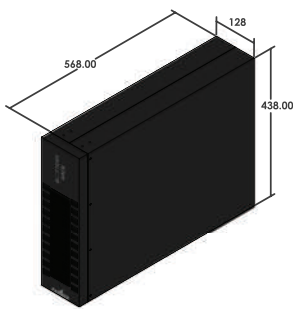
SOLAR SOLUTION



## BENEFITS

- ✔ Unique design.
- ✔ Supports parallel connection between two or more racks.
- ✔ Optional extra battery charger.
- ✔ Can hold up to 80 pieces of 12V7AH or 12V9AH batteries.
- ✔ Optional cabinet can hold up to 40 pieces of (65AH - 200AH).
- ✔ Contains a DC battery circuit breaker.

## SCHEMATICS



## SPECIFICATION

BATTERY PACK	FA-BP-6KVA/10KVA-1PH	FA-BP-10KVA/20KVA-3PH	FA-BP-30KVA-3PH
Material	Metal	Metal	Metal
Dimensions (mm)	L130×D610×H440	L250×D790×H840	L250×D830×H865
Battery Number	20 pcs	60 ~ 80 pcs	



# INVERTERS



**FARBER**<sup>®</sup>

# 12V STATIC INVERTER

(850VA - 1500VA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



12V/850VA

12V/1000VA



12V/1100VA

12V/1500VA



Adjustable charging current



Stable output voltage & frequency



Fast transfer less than 10 ms transfer time

## BENEFITS

- ✓ Advanced i-DSP technology ensures a pure sine wave output, making it suitable for electrical and electronic loads.
- ✓ Extended backup time is achieved through the intelligent design of the transformer, utilizing primary copper.
- ✓ It features a 100% copper design for long-lasting performance and delivers a 15A charging current for rapid battery charging.
- ✓ Utilizes a charging technique that enhances battery performance.
- ✓ The intelligent program reduces grid power consumption during battery recharging.
- ✓ It provides an enhanced output voltage for the optimal performance of devices such as TVs, lights, fans, computers, and more.
- ✓ It operates over a wide voltage range, allowing for battery charging at low voltage levels, thus increasing battery lifespan.

## APPLICATION



Control center



Music system

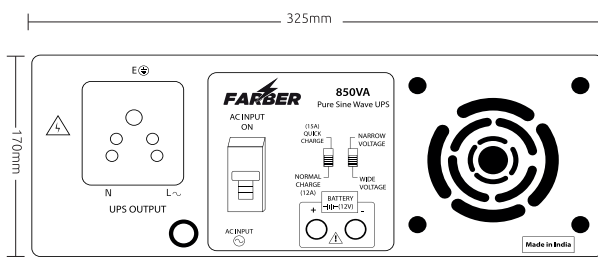


Air cooler

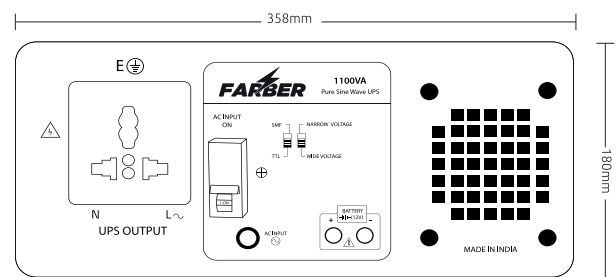


CCTV system

## SCHEMATIC S



(850VA)



(1100VA)

## FEATURES



Pure sine wave output



Technology increases battery lifetime



Technology protects against low battery



Technology protects against short circuit

# SPECIFICATION

MODEL NUMBER	FA-INV-12V-850VA	FA-INV-12V-1000VA	FA-INV-12V-1100VA	FA-INV-12V-1500VA
Capacity	850VA/620W	1000VA/660W	1100VA/730W	1500VA/1000W
<b>NARROW MODE</b>				
Mains undervoltage cutoff /recovery				180 V / 190 V
Mains overvoltage cutoff /recovery				265 V / 255 V
Battery charging voltage				180 VAC to 265 VAC
Changeover time				≤ 10 milliseconds
Output voltage (no load)				230 V
<b>WIDE MODE</b>				
Mains undervoltage cutoff /recovery				100 V / 110 V
Mains overvoltage cutoff /recovery				295 V / 285 V
Battery charging voltage				100 VAC to 295 VAC
Changeover time				≤ 20 milliseconds
Output voltage (no load)				230 V
<b>BATTERY</b>				
Quick charge current				14A
Normal charge current				10A
Boost charge voltage				14.5V
Float charge voltage				13.8V
Low battery cutoff point				10.4V
Number of batteries				1 *12VDC
Recommended battery				65 AH to 200 AH
Charge method	Constant current ,followed by constant voltage			
Output waveform	Pure sine wave			
Output frequency (UPS mode)	50 HZ			
Efficiency	≥80%			
Operation temperature	0 - 45°C			
LED indicators	Mains, charging, UPS, low battery, overload			
Audible alarm	Low battery, overload, short circuit			
<b>PROTECTIONS</b>				
Overload	105% load on UPS (auto reset within 5 re-tries)			
overcharge	Control battery voltage and current through software			
Short circuit	MCB Tripe in Main mode and UPS gets shut down in Back-up mode			
Thermal	UPS get shut down when the temperature reaches 95 °C at inside UPS			
Battery reverse polarity	DC fuse on PMB will fail when battery terminals connected wrongly			
Battery deep discharge	UPS will shut down when battery voltage reaches 10.4V (Per battery)			
<b>PACKING INFORMATION</b>				
Net weight	9kg	10.9kg	12.8 kg	16.5 kg
Gross weight	9.8 kg	11.5kg	12.9 kg	17.2 kg
Dimensions	32.5 x 32.5 x 17.0 cm	28.0x27.0x13.3 cm	38.0 x 35.8 x 18.0 cm	38.0 x 35.5 x 18.0 cm

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Technology for instant change-over between power and battery and vice-versa



Quick charge / normal charge options



Technology protects against overload



Technology protects against reverse polarity

# 24V STATIC INVERTER (1500VA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



24V/1500VA



Adjustable charging current



Stable output voltage & frequency



Fast transfer less than 10 ms transfer time

## BENEFITS

- ✓ Advanced i-DSP technology ensures a pure sine wave output, making it suitable for electrical and electronic loads.
- ✓ It features a 100% copper design for long-lasting performance and delivers a 15A charging current for rapid battery charging.
- ✓ The clear LCD display shows working functions and fault alarms of the UPS.
- ✓ It employs a 5-stage charging method for superior battery performance.
- ✓ Automatic battery charge level management provides reliable power.
- ✓ It operates over a wide voltage range, allowing for battery charging at low voltage levels, thus increasing battery lifespan.
- ✓ Suitable for powering electrical and electronic loads in both residential homes and office settings.

## APPLICATION



Washing machine



Refrigerator



Servers

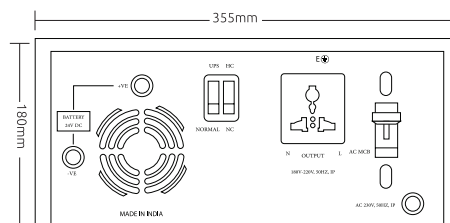


Micro-oven



Air conditioners

## SCHEMATIC



(1500VA)

## FEATURES



Pure sine wave output



Technology increases battery lifetime



Technology protects against low battery



Technology protects against short circuit

# SPECIFICATION

<b>MODEL NUMBER</b>	<b>FA-INV-24V-1500VA</b>
Capacity	1500VA/1320W
<b>NARROW MODE</b>	
Mains undervoltage cutoff /recovery	180 V / 190 V
Mains overvoltage cutoff /recovery	265 V / 255 V
Battery charging voltage	180 VAC to 265 VAC
Changeover time	≤ 15 milliseconds
Output voltage (no load)	230 V
<b>WIDE MODE</b>	
Mains undervoltage cutoff /recovery	100 V / 110 V
Mains overvoltage cutoff /recovery	295 V / 285 V
Battery charging voltage	100 VAC to 295 VAC
Changeover time	≤ 50 milliseconds
Output voltage (no load)	230 V
<b>BATTERY</b>	
Quick charge current	15A
Normal charge current	12A
Boost charge voltage	14.5V/Batt
Float charge voltage	13.8V/Batt
Low battery cutoff point	10.4V/Batt
Number of batteries	2 *12VDC
Recommended battery	65 AH to 200 AH
Charge method	Constant current ,followed by constant voltage
Output waveform	Pure sine wave
Output frequency (UPS mode)	50 HZ
Efficiency	≥80%
Operation temperature	0 to 45°C
LED indicators	Mains, charging, UPS, low battery, overload
Audible alarm	Low battery, overload, short circuit
<b>PROTECTIONS</b>	
Overload	105% load on UPS (auto reset within 5 re-tries)
overcharge	Control battery voltage and current through software
Short circuit	MCB Tripe in Main mode and UPS gets shut down in Back-up mode
Thermal	UPS get shut down when temperature reaches 95C at inside UPS
Battery reverse polarity	DC fuse on PMB will fail when battery terminals connected wrongly
Battery deep discharge	UPS will shut down when battery voltage reaches 10.4V (per battery)
<b>PACKING INFORMATION</b>	
Net weight	16.5 kg
Gross weight	17.2 kg
Dimensions	38 x 35.5 x 18.0 cm

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Technology for instant change-over between power and battery and vice-versa



Quick charge / normal charge options



Technology protects against overload



Technology protects against reverse polarity

# COMPACT & SCALABLE INVERTER

(3000VA - 5000VA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Output power factor



Fast transfer less than 10 transfer time



Built in AVR

## BENEFITS

- ✓ It provides a pure sine wave output.
- ✓ It includes a built-in solar charger.
- ✓ It offers intelligent communication capabilities.
- ✓ Users can adjust charging current and voltage as needed.
- ✓ Monitoring software allows for real-time status display and control.
- ✓ It features a built-in AVR for voltage regulation.
- ✓ Its flexible design accommodates various needs.
- ✓ Designed for wall-mount installation.

## APPLICATION



Refrigerator

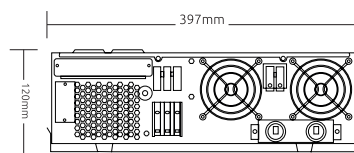


Air conditioners

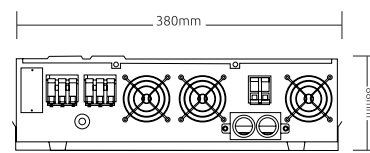


Vacuum cleaner

## SCHEMATICS



(5000VA)



(3000VA)

## FEATURES



Pure sine wave output



Built-in solar charger



Intelligent communication



Technology protects against short circuit

# SPECIFICATION

MODEL NUMBER	FA-INVX-24V-3000VA		FA-INVX-48V-5000VA	
RATED POWER	3000VA/2400W		5000VA/4000W	
<b>INPUT</b>				
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)			
<b>OUTPUT</b>				
AC Voltage Regulation (Batt. Mode)	230VAC ± 5%			
AC Voltage Regulation (AVR Mode)	230VAC ± 10%			
Surge Power	6000VA		10000VA	
Efficiency (Peak)	90% - 93%			
Transfer Time	10 ms (For Personal Computers) ; 20 ms (For Home Appliances)			
Waveform (Batt. Mode)	Pure sine wave			
<b>BATTERY</b>				
Battery Voltage	24 VDC		48 VDC	
Floating Charge Voltage	27 VDC		54 VDC	
Overcharge Protection	32 VDC		60 VDC	
<b>SOLAR CHARGER (OPTION)</b>				
Solar Charger type	PWM	MPPT	PWM	MPPT
Max. PV Array Open Circuit Voltage	75 VDC	100 VDC	105 VDC	145 VDC
Max. Solar Charge Current	50A	40A	50A	80A
Max. AC Charge Current	30A	30A	60A	60A
Max. Charge Current	80A	70A	110A	140A
<b>PHYSICAL</b>				
Dimension, D x W x H (mm)	340 x 380 x 88		420 x 397 x 120	
Net Weight (kgs)	12		16	
Humidity	5% to 95% Relative Humidity (Non-condensing)			
Operating Temperature	-10°C to 55°C			
Storage Temperature	-15°C to 60°C			

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Technology for instant change-over between power and battery and vice-versa



Smart battery charger design for optimized battery performance



Technology protects against overload



Technology protects against reverse polarity

# COMPACT & SCALABLE INVERTER (5000VA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Unity output power factor



Adjustable charging current (can support all battery sizes)



solar charger

## BENEFITS

- ✓ Provides a pure sine wave output.
- ✓ Allows users to adjust charging current and voltage.
- ✓ Optional solar charger with MPPT 80A.
- ✓ Includes monitoring software for real-time status display and control.
- ✓ Supports parallel operation of up to 9 units.
- ✓ Features a comprehensive LCD for easy configuration and monitoring.
- ✓ Offers a 60A AC charger per module, with the capacity for up to 540A as a super-large AC charger per system.
- ✓ Designed for rack-mount installation.

## APPLICATION



Refrigerator

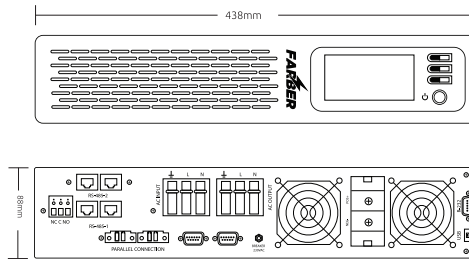


Air conditioners



Vacuum cleaner

## SCHEMATIC



(5000VA)

## FEATURES



Pure sine wave output



Parallel Mode



Technology protects against low battery



Technology protects against short circuit



# SPECIFICATION

<b>MODEL NUMBER</b>	<b>FA-INVX-48V-5000VA</b>
<b>RATED POWER</b>	<b>5000VA/5000W</b>
<b>INPUT</b>	
Voltage	220/230/240 VAC
Voltage Range	170-255 VAC
Frequency Range	50 Hz/60 Hz (Auto sensing)
<b>OUTPUT</b>	
AC Voltage Regulation (Batt. Mode)	220/230/240VAC ± 5%
Surge Power for 5 seconds	10000VA
Efficiency (Peak)	93%
Transfer Time	< 10 ms
Waveform (Batt. Mode)	Pure sine wave
<b>BATTERY</b>	
Battery Voltage	48 VDC
CC/CV Charge Voltage	56.4 VDC
Floating Charge Voltage	53.6 VDC
Overcharge Protection	60 VDC
<b>AC CHARGER</b>	
Maximum AC Charge Current (Adjustable)	2.5~60 A
Charging modes	3 steps for CC, CF and Floating
<b>SOLAR CHARGER (OPTION)</b>	
Maximum PV Array Power	4000W
MPPT Range @ Operating Voltage	60 VDC ~ 115 VDC
Maximum PV Array Open Circuit Voltage	145 VDC
Maximum Solar Charge Current	80 A
Maximum Parallel units	Up to 9 units
Parallel Type	Single Phase or Three Phase Transfer Time
Transfer Time in Parallel Mode	<40ms
<b>PHYSICAL</b>	
Dimension, D x W x H (mm)	400 x 438 x 88 (2U)
Net Weight (kgs)	9.1
Humidity	5% to 95% Relative Humidity (Non-condensing)
Operating Temperature	0°C to 40°C
Storage Temperature	-15°C to 60°C

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Technology for instant change-over between power and battery and vice-versa



Backup time capability



Technology protects against overload



Technology protects against reverse polarity

# COMPACT & SCALABLE INVERTER

(2500VA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Unity output power factor



AC/DC charger

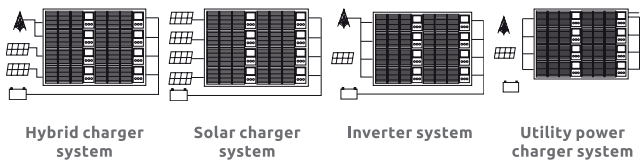


PV charger

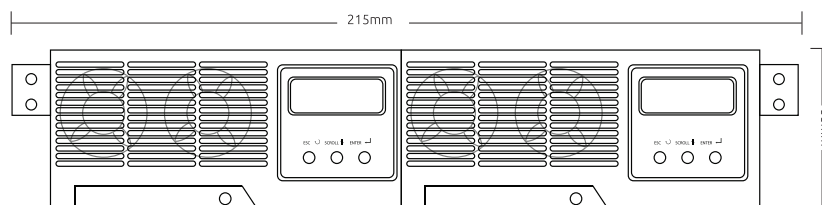
## BENEFITS

- ✓ Provides a pure sine wave output.
- ✓ Features a hot-swappable design for simplified installation and maintenance.
- ✓ Offers programmable supply priority for PV, Battery, or Grid.
- ✓ Allows users to adjust charging current and voltage.
- ✓ Includes a solar charger.
- ✓ Comes with monitoring software for real-time status display and control.
- ✓ Supports parallel operation of up to 8 units.
- ✓ Combines 3-in-1 functionality as an inverter, AC/DC charger, or PV charger.
- ✓ Automatically shares the load on AC and DC output.

## APPLICATION



## SCHEMATIC



(2500VA)

## FEATURES



Pure sine wave output



bi-direction concept



Technology protects against low battery



Technology protects against short circuit

# SPECIFICATION

<b>MODEL NUMBER</b>	<b>FA-INV-48V-2500VA</b>
Capacity	2500VA/2500W
<b>DC INPUT</b>	
Nominal DC Voltage	48 VDC
Operating Voltage Range	40-60 VDC
Voltage Ripple	< 2.0 mV
Peak to Peak Noise	150 mV up to 100 MHz
Inrush Current	< 2 x Irated
<b>AC OUTPUT</b>	
Nominal Voltage	220/230/240 VAC (Selectable)
AC Voltage Regulation	± 2% (max.)
Frequency Range	50 Hz± 0.1 Hz
Peak Efficiency	> 93%
Harmonic Distortion	< 3 % THD (Linear Load) <5% THD (Non-linear Load)
Overload Capability	>150% for 5 secs, >110% for 10 secs
Load Sharing	<5% st 50-100% load
<b>AC INPUT</b>	
Nominal Voltage	230 VAC
Operating Voltage Range	185 VAC-265 VAC
Frequency Range	50Hz/60Hz (Auto sensing)
<b>DC OUTPUT</b>	
Nominal Voltage	54 VDC
Max. Charging Current	60A
Charging Method	3-step algorithm
<b>PV INPUT</b>	
Max. Open Circuit Voltage	400 VDC
MPPT Voltage Range	200 VDC~370 VDC
Max. Charging Current	60A
<b>GENERAL</b>	
Dimension, D x W x H (mm)	409x215x88
Net Weight (kgs)	6
Humidity	5% to 95% RH (Non-condensing)
Operating Temperature	-20°C to 60°C
Safety	IEC 60950
Noise Level	Less than 50dB@ 1 Meter

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Technology for instant change-over between power and battery and vice-versa



separated to operate in different operation modes



inverter, AC/DC charger or PV charger



Automatic load sharing on AC and DC output

# STATIC INVERTER - TROLLEY

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



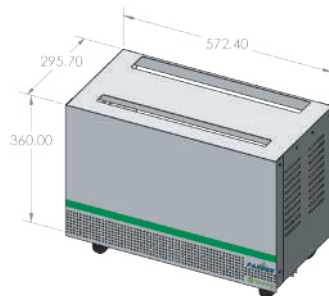
## BENEFITS

- ✓ 100% steel; 0% plastic.
- ✓ 4-wheel system for easy maneuverability.
- ✓ Corrosion-free and long-lasting trolley body.
- ✓ Safe and rugged design.

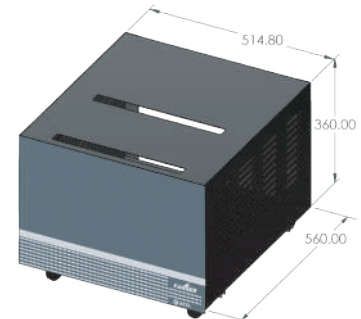
## SPECIFICATION

TROLLEY	12V	24V
Material	Mild steel	Mild steel
Dimensions (mm)	L575×D296×H377	L518×D559×H374
Packing dimensions (mm)	L585×D306×H387	L528×D570×H390

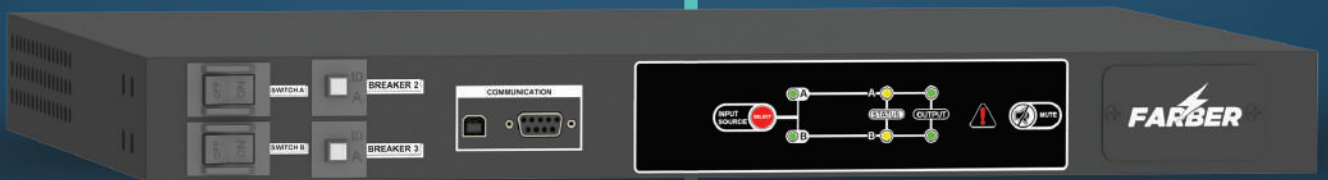
12V TROLLEY



24V TROLLEY



# ACCESORIES



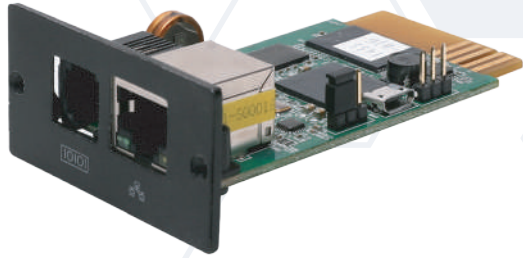
UPS

INVERTERS

ACCESSORIES

## SNMP WEB CARD

SNMP web card provides real-time monitoring and control for the UPS systems, with an on-off schedule feature and build-in web server, enabling you to access and control your system remotely.



Log data is stored in a centralized PC database.



Allows remote control and monitoring of UPS.



Built-in web server.



Including dynamic graphs of UPS data (voltage, frequency, load level, battery level).



Support warning notifications in case of any fault or alarm.



Password security protection.



Optional environmental monitoring detector for temperature, humidity, and smoke.

## MAINTENANCE BYPASS SWITCH

A maintenance bypass switch allows transferring the load to utility power via a bypass switch.



Input current is 63A max.



Design to protect the UPS automatically.



The socket is terminal block type.



Load sharing fault protection Easy operation with a simple switch.



Master-slave function for energy saving.



Provides rack and tower design.



Simple installation with Plug-and-play socket type.



Suitable for 1KVA to 3KVA UPS only.

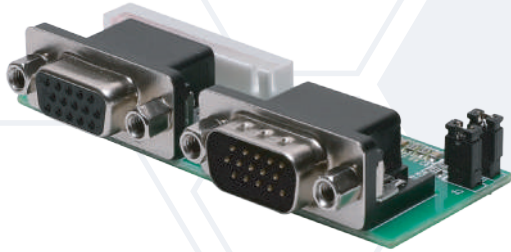
AVR




BATTERIES

SOLAR SOLUTION

## PARALLEL KIT

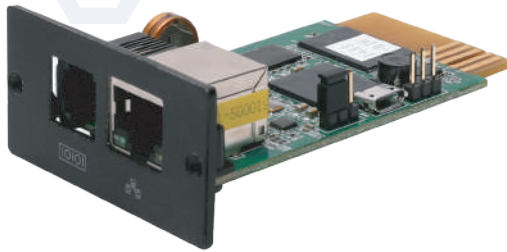
The parallel kit is used to connect multiple UPS units in parallel to increase the system rating, flexibility, and reliability. You can connect up to six units to help you get higher power ratings.






-  provide synchronization between two or more ups units.
-  Can support up to eight units.
-  Load sharing fault protection.

## MODBUS CARD

MODBUS card can provide communication with PCs for UPS and inverters for real-time control and monitoring for multiple units








-  Real-time control and monitoring of multiple UPS or inverters via RS-232/RS-485 communication port
-  Built-in dip switch for RS-232 and RS-485 configuration
-  Surge protection

## WIFI CARD & GPRS CARD

Wi-Fi and GPRS cards are used to upload data to servers, provide remote monitoring for Devices and its parameters, save historic data on our data center, and sending warning notifications via Email or mobile messenger



-  Upload information to the data server via the internet
-  Remote monitoring for devices at any time
-  Build in web server
-  Sending notifications through Emails and messages
-  Saving historic data.

## POWER DISTRIBUTION UNIT (PDU)

UPS

INVERTERS

ACCESSORIES

The power distribution unit can be used with UPS systems or large-scale AVR. It provides multiple outlets to connect multiple pieces of equipment to the UPS system with a Scheduled On/Off control capability for all outlets.



Provides stable power to more than one device



Scheduled to turn on/off for all outlet



Individual real-time current and active power measurements



Support turn-on delay setting to prevent high peak current



RS-232/USB and SNMP multiple communications

## ATS

AVR

BATTERIES

SOLAR SOLUTION

The automatic transfer switch has two independent power inputs to supply power to the load, in case the primary power source fails the secondary will automatically support power to the load, with a seamless transfer time to protect the load and ensure continuity of operation



Powered by two separately independent power sources



Provides seamless power switch for IT equipment



16A max input current



Provides rack and tower design



Preferred source selection on the front panel



Dual power supply for redundancy



# AVRs



**FARBER**<sup>®</sup>

# 1PH RELAY AVR DELTA SERIES 90V

(1KVA-30KVA)

DELTA

SERIES



90V  
STEP UP



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

## APPLICATION



Air conditioner

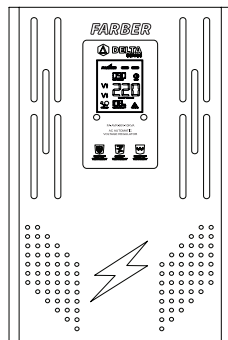


Refrigerator & freezer for 1500VA



General home applications.

## SCHEMATIC



(1KVA-10KVA)

## BENEFITS

- ✓ Elegant and modern design.
- ✓ 5 Relays ensure rigorous and high-precision voltage outputs.
- ✓ Step up the voltage from 90V (100V Optional).
- ✓ The instant transformer of power through zero-crossing detection.
- ✓ High-efficiency toroidal transformer.
- ✓ Full protection: over voltage, under voltage, overheat, short circuit, and overload.
- ✓ Selectable 6s/180s delay time.
- ✓ The air conditioner starter push offers very high current for 30 seconds to allow the air conditioner to start.
- ✓ USB charger lets you charge your smartphone, tablet, or any other peripheral with the built-in USB charger.
- ✓ Auto-run after Overload protection.

## FEATURES



Offers very high current for 30 seconds to allow air conditioners to start



Instant transfer of power through zero-crossing detection



Protects against over heat



Protects against over voltage

# SPECIFICATION

MODEL NUMBER	FA-AVR-90V-1000VA	FA-AVR-90V-1500VA	FA-AVR-90V-2000VA	FA-AVR-90V-3000VA
Capacity	1KVA	1.5KVA	2KVA	3KVA
Technology	FARBER-COOLER, FARBER-TRANSFER			
Transformer	Toroidal transformer			
Material	Metal			
<b>INPUT</b>				
Input Voltage	90-260V (100-260V Optional)			
Input Frequency	45-65Hz			
Power Factor	0.98			
<b>OUTPUT</b>				
Rated Output Voltage	220V (230V Optional)			
Output Precision	±13%			
Output Frequency	Synchronized with input frequency			
Efficiency	>97%			
Loading Ability	125% for 30s			
<b>DISPLAY</b>				
Digital Display	Input Voltage & Output Voltage			
(H) Symbol	Over voltage warning			
(L) Symbol	Under voltage warning			
(C) Symbol	Overheat warning			
(F) Symbol	Overload warning			
Capacity	Percentage load			
<b>PROTECTIONS</b>				
Over Voltage	Output Cut-off + warning			
Under Voltage	Output Cut-off + warning			
Overheat	Output Cut-off + warning			
Short Circuit	Circuit breaker trip			
Overload	Output Cut-off + warning			
Surge	MOV (Optional)			
Delay Time	6s / 180s selectable			
<b>OTHERS</b>				
Bypass	Only available for 5000VA-30000VA			
Certifications	CE, SON, SB, SASB			
Peripherals	USB Charging Port(Optional), Smart Cooling Fan			
Operating Temperature	0°C - 40°C			
Storage Temperature	-15°C - 45°C			
Operating Humidity	10%-90%, Non-condensing			
Dimensions	263 x 160 x 80	283 x 160 x 95.5	283 x 160 x 95.5	225.1*360*125
Net weight	3.6 kg	4.7 kg	6.1 kg	10.4

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against short circuit



In case of any fault or emergency, an alarm will sound



5 relays ensure rigorous and high precision voltage outputs



AVR will auto-run after overload protection

# SPECIFICATION

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

MODEL NUMBER	FA-AVR-90V-5000VA	FA-AVR-90V-8000VA	FA-AVR-90V-10000VA
Capacity	5KVA	8KVA	10KVA
Technology	FARBER-COOLER, FARBER-TRANSFER		
Transformer	Toroidal transformer		
Material	Metal		
<b>INPUT</b>			
Input Voltage	90-260V (100-260V Optional)		
Input Frequency	45-65Hz		
Power Factor	0.98		
<b>OUTPUT</b>			
Rated Output Voltage	220V (230V Optional)		
Output Precision	±13%		
Output Frequency	Synchronized with input frequency		
Efficiency	>97%		
Loading Ability	125% For 30s		
<b>DISPLAY</b>			
Digital Display	Input Voltage & Output Voltage		
(H) Symbol	Over voltage warning		
(L) Symbol	Under voltage warning		
(C) Symbol	Overheat warning		
(F) Symbol	Overload warning		
Capacity	Percentage load		
<b>PROTECTIONS</b>			
Over Voltage	Output Cut-off + warning		
Under Voltage	Output Cut-off + warning		
Overheat	Output Cut-off + warning		
Short Circuit	Circuit breaker trip		
Overload	Output Cut-off + warning		
Surge	MOV (Optional)		
Delay Time	6s / 180s selectable		
<b>OTHERS</b>			
Bypass	Only available for 5000VA-30000VA		
Certifications	CE, SON, SB, SASB		
Peripherals	USB Charging Port(Optional), Smart Cooling Fan		
Operating Temperature	0°C - 40°C		
Storage Temperature	-15°C - 45°C		
Operating Humidity	10%-90%, Non-condensing		
Dimensions	425 x 305 x 140	425 x 305 x 140	455 x 325 x 160
Net weight	15.36 kg	17.2 kg	22.56 kg



high reliability



Charge your smartphone, tablet, or any other peripheral with the built-in USB charger



Protects against overload



Protects against under voltage

# SPECIFICATION

MODEL NUMBER	FA-AVR-90V-15KVA	FA-AVR-90V-20KVA	FA-AVR-90V-30KVA
Capacity	15KVA	20KVA	30KVA
Technology	FARBER-COOLER, FARBER-TRANSFER		
Transformer	Toroidal transformer		
Material	Metal		
<b>INPUT</b>			
Input Voltage	90-260V (100-260V Optional)		
Input Frequency	45-65Hz		
Power Factor	0.98		
<b>OUTPUT</b>			
Rated Output Voltage	220V (230V Optional)		
Output Precision	±13%		
Output Frequency	Synchronized with input frequency		
Efficiency	>97%		
Loading Ability	125% for 30s		
<b>DISPLAY</b>			
Digital Display	Input Voltage & Output Voltage		
(H) Symbol	Over voltage warning		
(L) Symbol	Under voltage warning		
(C) Symbol	Overheat warning		
(F) Symbol	Overload warning		
Capacity	Percentage load		
<b>PROTECTIONS</b>			
Over Voltage	Output Cut-off + warning		
Under Voltage	Output Cut-off + warning		
Overheat	Output Cut-off + warning		
Short Circuit	Circuit breaker trip		
Overload	Output Cut-off + warning		
Surge	MOV (Optional)		
Delay Time	6s / 180s selectable		
<b>OTHERS</b>			
Bypass	Only available for 5000VA-30000VA		
Certifications	CE, SON, SB, SASB		
Peripherals	USB Charging Port(Optional), Smart Cooling Fan		
Operating Temperature	0°C - 40°C		
Storage Temperature	-15°C - 45°C		
Operating Humidity	10%-90%, Non-condensing		
Dimensions	302.4 x 271.2 x 423.2	302.4 x 271.2 x 423.2	455 x 505 x 615
Net weight	30 kg	32.4 kg	58 kg

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



No coupling noise



Industrial strength  
components



voltage drop is very low



High Efficiency

# 1PH SERVO MOTOR AVR LAMBDA SERIES 150V (30KVA - 50KVA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

## APPLICATION



Agricultural fields



Oil and gas fields

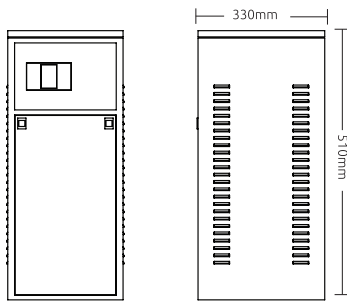


Hospital & testing laboratories



Factories

## SCHEMATIC



(30KVA)

## BENEFITS

- ✓ High Efficiency.
- ✓ Digital Display.
- ✓ Advanced Protection Features.
- ✓ Strong Overload Handling Capability.
- ✓ Configurable Normal Output Voltage (optional).
- ✓ Manual Bypass Switch for Isolation.
- ✓ Surge Protection Device (optional).
- ✓ Equipped with a Servo Motor for Voltage Regulation.
- ✓ 100% Copper Transformer for Reliable Performance.

## FEATURES



Offers very high current for 30s



Instant transfer of power through zero-crossing detection



Protects against over voltage



Protects against under voltage



Protects against over heat

# SPECIFICATION

MODEL NUMBER	FA-AVR-130V-30KVA-11SVR	FA-AVR-130V-50KVA-11SVR
Capacity	30KVA	50KVA
Material	Metal	
<b>INPUT</b>		
Input Voltage	150-250V or customized	
Input Frequency	45-65HZ	
Power Factor	0.98	
<b>OUTPUT</b>		
Rated Output Voltage	220V (230V Optional)	
Output Precision	±3% (±1% optional)	
Response time	<1s, against 10% variation of input voltage	
Efficiency	>96%	
Loading Ability	120% for 180s, 150% for 30s, 200% for 10s, 300% for 5s	
<b>DISPLAY</b>		
Digital Display	Input voltage, Output voltage, Output current	
<b>PROTECTION AND ALARM</b>		
Output Under Voltage	Output cut-off by contactor + "L" in display + Buzzer beeping	
Output Over Voltage	Output cut-off by contactor + "H" in display + Buzzer beeping	
Overload	Output cut-off by contactor + "F" in display + Buzzer beeping	
Over Temperature	Output cut-off by contactor + "C" in display + Buzzer beeping	
Short Circuit	Input cut-off by air breaker	
Bypass	Isolated manual bypass switch	
Output Delay time	6s/180s selectable	
Surge/Spike	Optional, Replaceable SPD	
<b>SAFETY</b>		
Insulation Voltage	2,000V/60s	
Insulation Resistance	>5MΩ	
Creepage Distance	>8mm	
Grounding Resistance	>0.1MΩ	
Insulation Class of coil	Class F (155C)	
Cooling Mode	Cooling Fan	
IP Level	IP20	
Audible Noise	<65dB at 1m distance with full load	
<b>PHYSICAL</b>		
Dimension, D x W x H (mm)	500x450x900	550x500x1700
Net Weight (kgs)	108	179
operating Temperture	- 5°C - + 45°C	
Operating humidity	10%-90%, non-condensing	
Operating Altitude	<1,000m	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against  
overload



Protects against short  
circuit



In case of any fault or  
emergency, an alarm  
will sound



Servo motor To ensure  
the accuracy and stability  
of the output voltage



AVR will auto-run after  
overload protection

# 3PH SERVO MOTOR AVR LAMBDA SERIES 150V (20KVA-100KVA)



UPS

INVERTERS

ACCESSORIES



## APPLICATION



Agricultural fields



Oil and gas fields



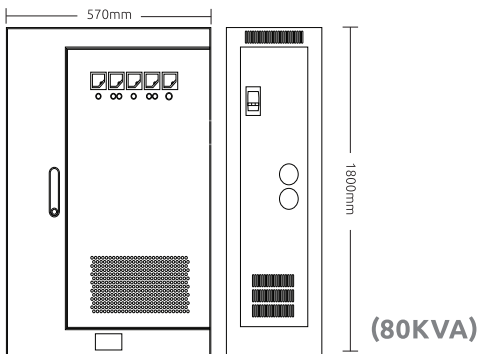
Hospital & testing laboratories



Factories

AVR

## SCHEMATIC



## BENEFITS

- ✓ High Efficiency.
- ✓ 100% Unbalanced loading capability between three phases.
- ✓ Digital Display.
- ✓ Advanced protection.
- ✓ Strong Overload ability.
- ✓ Configurable Normal Output Voltage (optional).
- ✓ Isolated manual Bypass switch.
- ✓ Surge protection Device (optional).
- ✓ Servo Motor type.
- ✓ 100% Copper regulation transformer (Motor transformer).

BATTERIES

SOLAR SOLUTION

## FEATURES



Offers very high current for 30s



Instant transfer of power through zero-crossing detection



Protects against over voltage



Protects against over heat



Protects against under voltage



# SPECIFICATION

MODEL NUMBER	FA-AVR-150V-20KVA-33SVR	FA-AVR-150V-30KVA-33SVR	FA-AVR-150V-45KVA-33SVR	FA-AVR-150V-60KVA-33SVR	FA-AVR-150V-80KVA-33SVR	FA-AVR-150V-100KVA-33SVR
Capacity	20KVA	30KVA	45KVA	60KVA	80KVA	100KVA
<b>INPUT</b>						
Rated Input Voltage	L1—L2/380V , L2—L3/380V , L1—L3/380V					
Input Voltage Range	260-430V or customized					
Input frequency	45-65HZ					
Power Factor	0.98					
<b>OUTPUT</b>						
Rated Output Voltage	L1—L2/380V , L2—L3/380V , L1—L3/380V					
Output Precision	±5% (±1% optional)					
Response time	<1s, against 10% variation of input voltage					
Efficiency	>96%					
Loading Ability	120% for 180s, 150% for 30s, 200% for 10s, 300% for 5s					
<b>DISPLAY</b>						
Input Voltage	Line Voltage AB,BC, CA		Phase Voltage A, B, C			
Output Voltage	Line Voltage AB,BC, CA		Phase Voltage A, B, C			
Output Current	Phase Current: A, B, C					
<b>PROTECTION AND ALARM</b>						
Output Under Voltage	Output cut-off by contactor + "L" in display + Buzzer beeping					
Output Over Voltage	Output cut-off by contactor + "H" in display + Buzzer beeping					
Overload	Output cut-off by contactor + "F" in display + Buzzer beeping					
Over Temperature	Output cut-off by contactor + "C" in display + Buzzer beeping					
Phase failure	Output cut-off by contactor + Buzzer beeping					
Wrong Phase sequence	Can't switch on regulator "P" in display + Buzzer beeping					
Short Circuit	Input cut-off by air breaker					
Bypass	Isolated manual bypass switch					
Output Delay time	6s/180s selectable					
Surge/Spike	Optional, Replaceable SPD					
<b>SAFETY</b>						
Insulation V / R	2,000V/60s / >5MΩ					
Creepage Distance	>8mm					
Grounding Resistance	>0.1MΩ					
Insulation Class of coil	Class F (155C)					
Cooling Mode	Cooling Fan					
IP Level	IP20					
Audible Noise	<65dB at 1m distance with full load					
<b>PHYSICAL</b>						
Dimension, D x W x H (mm)	520x460x830		600x520x1080		950*720*1590	
Net Weight (kgs)	100	108	175	190	245	455
operating Temperature	- 5°C - + 45°C					
Operating humidity	10%-90%, non-condensing					

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Protects against  
overload



Servo motor To ensure the  
accuracy and stability of the  
output voltage



Protects against  
short circuit



AVR will auto-run after  
overload protection



In case of any fault or  
emergency, an alarm will  
sound

# 3PH CONTACTLESS AVR LAMBDA SERIES 150V

(150KVA - 1000KVA)



UPS

INVERTERS

ACCESSORIES



AVR

BATTERIES

SOLAR SOLUTION

## APPLICATION



Agricultural fields



Oil and gas fields

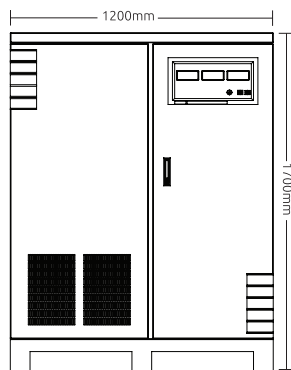


Hospital & testing laboratories



Factories

## SCHEMATIC



## FEATURES

(200KVA)



Excellent overload ability



In case of any fault or emergency, an alarm will sound



high output precision



Contactless magnetic induction technology



Protects against over voltage

Protects against over voltage

## BENEFITS

- ✓ The contactless inductive transformer makes the linear voltage regulation. No tap from the transformer, there is no coupling noise and voltage drop is very low.
- ✓ No contact point inside the transformer, there is no arc discharge.
- ✓ The winding is made of high purity oxygen-free copper wire, the core is made of high magnetic density silicon-steel plate. The copper loss and iron loss are small.
- ✓ The transformer won't be damaged, if short circuit happened or it's overloaded in short time. 100% load for long time, 150% for 30 seconds, 200% for 10 seconds, 300% for 5 seconds.
- ✓ When output voltage is out of range, or overload, overheat and open phase happens, or control circuit is abnormal, it will give buzzer beeping and LED is light (not cut off output).
- ✓ Manual bypass switch is bundle. Automatic bypass function is customized
- ✓ RS232/RS485 optional
- ✓ Preset at 2% output precision (1% optional)
- ✓ Output isolating transformer optional
- ✓ Big LCD display or touchable LCD display

# SPECIFICATION

MODEL NUMBER	FA-AVR-150V-150KVA-33CVR	FA-AVR-150V-200KVA-33CVR	FA-AVR-150V-250KVA-33CVR	FA-AVR-150V-300KVA-33CVR	FA-AVR-150V-400KVA-33CVR
Capacity	150KVA/120KW	200KVA/160KW	250KVA/200KW	300KVA/240KW	400KVA/320KW
<b>INPUT</b>					
Rated INPUT Voltage	380V (400V, 415V, 440V or 200V, 220V Optional)				
Input Voltage Range	±15%, ±30%, or customized				
Input Frequency	50/60Hz ± 5Hz				
Power Factor	0.98				
<b>OUTPUT</b>					
Rated Output Voltage	L1—L2/380V	L2—L3/380V	L1—L3/380V		
Output Precision	Preset at ±2% (±2% to ±10% Adjustable)				
Response time	<1s, against 10% variation of input voltage				
Power Factor	0.8				
Efficiency	>96%				
Loading Ability	150% for 30s, 200% for 10s, 300% for 1s				
<b>DISPLAY</b>					
Input Voltage	Analog or Digital Voltmeter				
Output Voltage	Analog or Digital Voltmeter				
Output Current	Analog or Digital Current meter				
<b>PROTECTION AND ALARM</b>					
Output Over / Under Voltage	LED + Buzzer Beeping (Output Cut-off Optional)				
Overload	200kVA~600kVA: Input Cut-off +LED +Buzzer Beeping Short Circuit 800kVA~3,000kVA: LED +Buzzer Beeping				
Over Temperature	LED + Buzzer Beeping (Output Cut-off Optional)				
Short Circuit	Input cut-off by air breaker				
WRONG PHASE sequence	Cant switch on regulator "P" in display + Buzzer beeping				
Phase Failure	LED + Buzzer Beeping				
Bypass	Isolated manual bypass switch				
Output Delay time	6s/180s selectable				
Surge/Spike	Optional, Replaceable SPD				
<b>SAFETY</b>					
Insulation V / R	2,000V/60s / >5MΩ				
Creepage Distance	>8mm				
Grounding Resistance	>0.1MΩ				
Cooling Mode	Force Air Cooling				
Audible Noise	<65dB at 1m distance with full load				
<b>SAFETY</b>					
operating Temperature	- 5°C - + 45°C				
Operating humidity	0%-90%, non-condensing				

Available capacity: 10KVA, 15KVA, 20KVA, 30KVA, 45KVA, 60KVA, 80KVA, 100KVA & 150KVA  
 Modeling number: FA-AVR-150V-XXXKVA-33CVR  
 Where XX=AVR capacity

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



More than 15 years of life



No Arc Discharge



high reliability



Protects against short circuit



High Efficiency

# SPECIFICATION

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

MODEL NUMBER	FA-AVR-150V-500KVA-33CVR	FA-AVR-150V-600KVA-33CVR	FA-AVR-150V-800KVA-33CVR	FA-AVR-150V-1000KVA-33CVR
Capacity	500KVA/400KW	600KVA/480KW	800KVA/640KW	3000KVA/800KW
<b>INPUT</b>				
Rated INPUT Voltage	380V (400V, 415V, 440V or 200V, 220V Optional)			
Input Voltage Range	±15%, ±30%, or customized			
Input Frequency	50/60Hz ± 5Hz			
Power Factor	0.98			
<b>OUTPUT</b>				
Rated Output Voltage	L1—L2/380V	L2—L3/380V	L1—L3/380V	
Output Precision	Preset at ±2% (±2% to ±10% Adjustable)			
Response time	<1s, against 10% variation of input voltage			
Power Factor	0.8			
Efficiency	>96%			
Loading Ability	150% for 30s, 200% for 10s, 300% for 1s			
<b>DISPLAY</b>				
Input Voltage	Analog or Digital Voltmeter			
Output Voltage	Analog or Digital Voltmeter			
Output Current	Analog or Digital Current meter			
<b>PROTECTION AND ALARM</b>				
Output Over / Under Voltage	LED + Buzzer Beeping (Output Cut-off Optional)			
Overload	200kVA~600kVA: Input Cut-off +LED +Buzzer Beeping Short Circuit 800kVA~3,000kVA: LED +Buzzer Beeping			
Over Temperature	LED + Buzzer Beeping (Output Cut-off Optional)			
Short Circuit	Input cutoff by air breaker			
WRONG PHASE sequence	Cant switch on regulator "P" in display + Buzzer beeping			
Phase failure	LED + Buzzer Beeping			
Bypass	Isolated manual bypass switch			
Output Delay time	6s/180s selectable			
Surge/Spike	Optional, Replaceable SPD			
<b>SAFETY</b>				
Insulation V / R	2,000V/60s / >5MΩ			
Creepage Distance	>8mm			
Grounding Resistance	>0.1MΩ			
Cooling Mode	Force Air Cooling			
Audible Noise	<65dB at 1m distance with full load			
<b>SAFETY</b>				
operating Temperature	- 5°C - + 45°C			
Operating humidity	0%-90%, non-condensing			



No coupling noise



Protects against overload



Industrial strength components



Protects against under voltage



voltage drop is very low

# BATTERIES



**FARBER BATT**

FA-BATT-12V-65AH SMF-VRLA

Recommended Charging Voltage and Current Settings  
 Float Voltage : 13.5 Volts per module @ 27°C  
 Boost Voltage : 13.8 Volts per module @ 27°C  
 Charging Current : Min 10% & Max 25% of Battery Capacity

Before use it is required. Please read the user manual to the Manufacturer / Dealer.

**FARBER BATT**

DEEP CYCLE

FA-BATT-12V-100AH SMF-VRLA

Recommended Charging Voltage and Current Settings  
 Float Voltage : 13.5 Volts per module @ 27°C  
 Boost Voltage : 13.8 Volts per module @ 27°C  
 Charging Current : Min 10% & Max 25% of Battery Capacity

Batteries must be recycled. Please return the used batteries to the Manufacturer / Dealer.

**FARBER**

Rechargeable Sealed Lead Acid Battery

Model	Voltage	Capacity
FA-BATT-12V-45AH	12V	45AH

Suitable for UPS

Made in China

**FARBER**

Rechargeable Sealed Lead Acid Battery

Model	Voltage	Capacity	Charge Parameters
FA-BATT-12V-17AH	12V	17AH	Cycle use 14.5-14.9V(25°C) Standby use 13.6-13.8V(25°C)

Made in Vietnam

**FARBER**

Rechargeable Sealed Lead Acid Battery

Charge Parameters  
 Cycle use 14.5-14.9V(25°C)  
 Standby use 13.6-13.8V(25°C)

Suitable for UPS

Made in Vietnam

**FARBER**

CAPACITY | 150AH | VOLTS | 12V

**FARBER BATTERY**

FA-BATT-12V-150AHGL

**PURE GEL**

Batteries must be recycled. Please return the used batteries to the Manufacturer / Dealer.



## BENEFITS

- ✓ PPCP Containers with Low permeability to ensure that there is no water loss.
- ✓ Side wall design to maintain structural integrity in high operating temperatures.
- ✓ High Compression Absorbent Glass Mat (AGM) Separator for greater than 98% recombination efficiency.
- ✓ Heavy-duty L terminal best suited to carry high-rate discharges.
- ✓ Highly reliable one-way self-resealing safety vent seal.
- ✓ MFX alloy grid for high design life in a float at 27°C with maximum cyclic life.
- ✓ Ergonomic design for easy handling.
- ✓ Superior high-rate discharge with low internal resistance.
- ✓ C/20 battery rate. (C/10 & C/5 optional).

## APPLICATION



Data Center



Banks & financial markets



Industrial process control Facilities



Hospital & Testing laboratories



Solar & inverter devices

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)±5%	DIMENSIONS IN MM (L × W × H)	FLOAT VOLTAGE AT 27°C	BOOST VOLTAGE AT 27°C
FA-BATT-12V-26AH	12	26	9	167 × 126 × 175	13,5	13,8
FA-BATT-12V-42AH	12	42	14	199 × 167 × 175	13,5	13,8
FA-BATT-12V-65AH	12	65	20,5	351 × 167 × 175	13,5	13,8
FA-BATT-12V-100AH	12	100	32	393 × 173 × 221	13,5	13,8
FA-BATT-12V-120AH	12	120	36	445 × 168 × 247	13,5	13,8
FA-BATT-12V-150AH	12	150	45	453 × 173 × 251	13,5	13,8
FA-BATT-12V-200AH	12	200	62	556 × 186 × 263	13,5	13,8

## FEATURES



Recycle



Maintenance Free

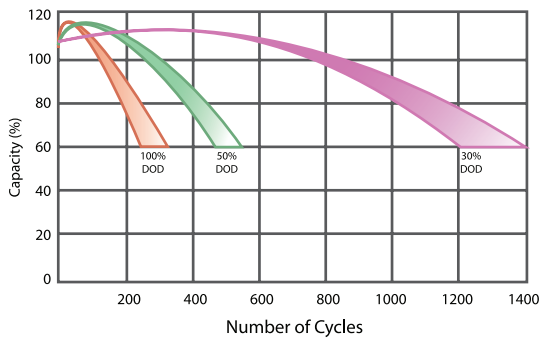


Extreme Temperature caution

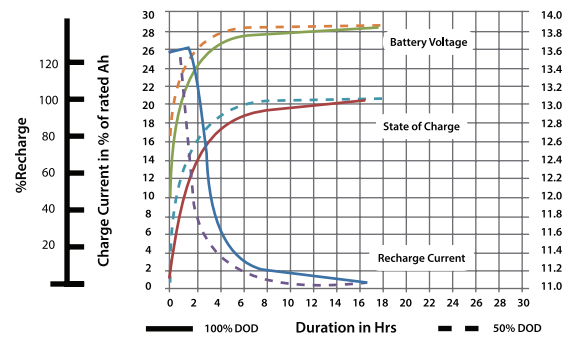


Warranty 1 year

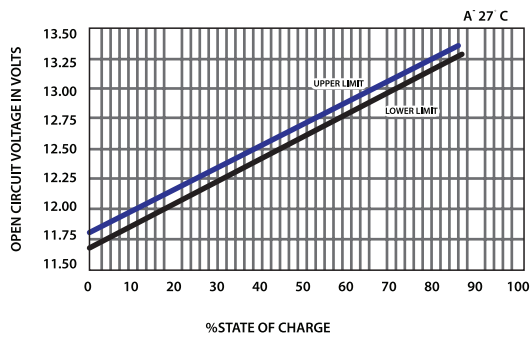
Cycle Life In Relation To Depth Of Discharge



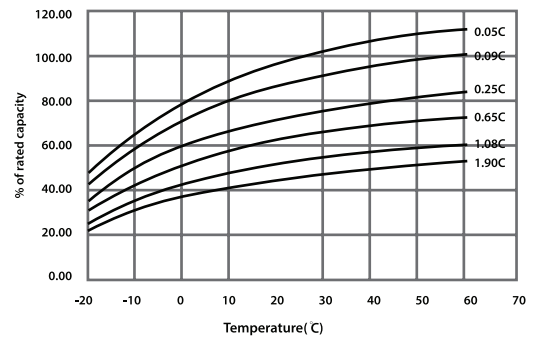
CONSTANT VOLTAGE CHARGING CHARACTERISTICS



OPEN CIRCUIT VOLTAGE Vs STATE OF CHARGE



TEMPERATURE EFFECT IN RELATION TO BATTERY CAPACITY



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Install the battery in a properly ventilated



After discharge, charge the battery immediately



Unique Design



100% cyclic life after 400 cycles

UPS

INVERTERS

ACCESSORIES



## BENEFITS

- ✓ High-purity lead and patented Gel electrolyte
- ✓ PPCP Containers with Low permeability to ensure that there is no water loss
- ✓ Side wall design to maintain structural integrity in high operating temperatures
- ✓ Heavy duty L terminal best suited to carry high rate discharges
- ✓ Highly reliable one-way self-resealing safety vent seal
- ✓ MFX alloy grid for high design life in a float at 27° C with maximum cyclic life
- ✓ Ergonomic design for easy handling
- ✓ Superior high-rate discharge with low internal resistance
- ✓ C/20 battery rate. ( C/10 & C/5 optional)

## APPLICATION



Data Center



Banks & financial markets



Industrial process control Facilities



Hospital & Testing laboratories



Solar & inverter devices

AVR

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)±5%	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	TOTAL HEIGHT (mm)
FA-BATT-12V-65AHGL	12	65	20,5	350	167	182	182
FA-BATT-12V-100AHGL	12	100	32	328	172	215	220
FA-BATT-12V-120AHGL	12	120	36	407	170	225	225
FA-BATT-12V-150AHGL	12	150	45	483	177	241	241
FA-BATT-12V-180AHGL	12	180	55	532	207	214	219
FA-BATT-12V-200AHGL	12	200	62	522	240	219	224

BATTERIES

SOLAR SOLUTION

## FEATURES



Recycle



Maintenance Free



Extreme Temperature caution

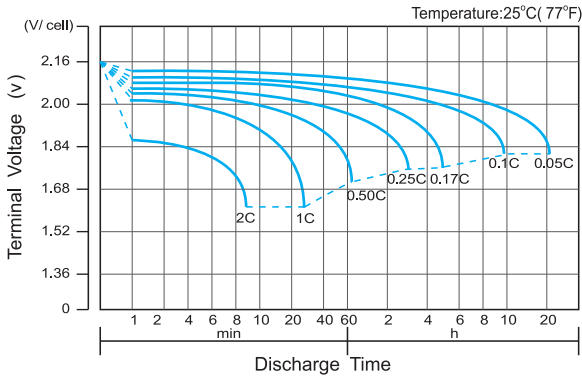


Warranty 1 year

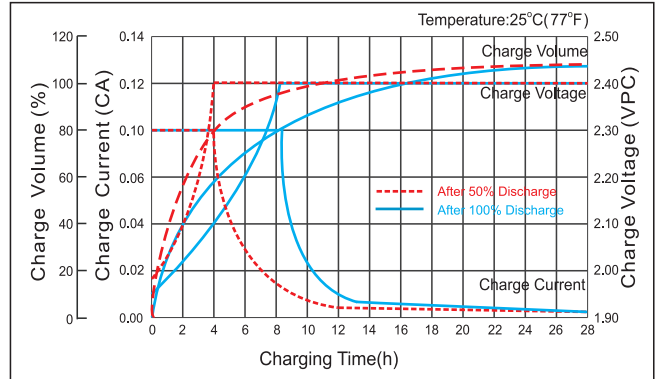


# GEL BATTERIES

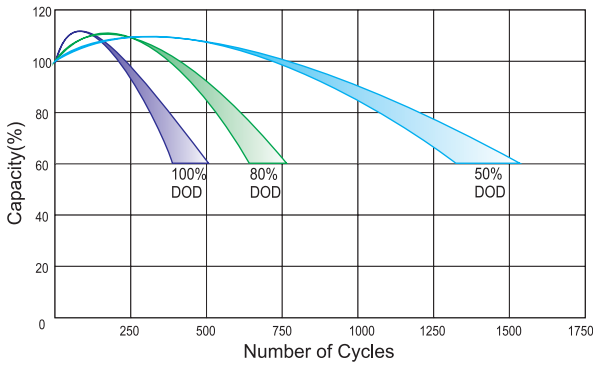
Discharge Characteristics Curve



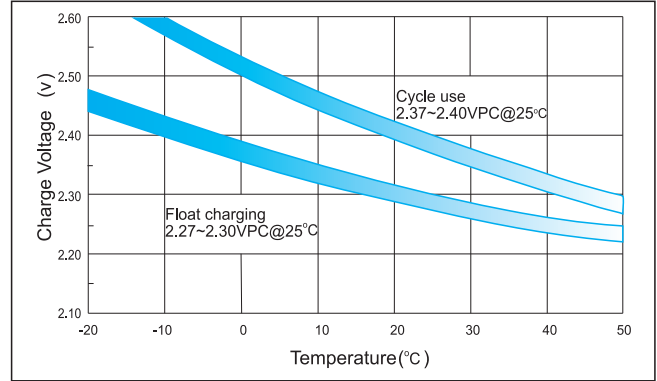
Charge Characteristic Curve for Cycle Use(IU)



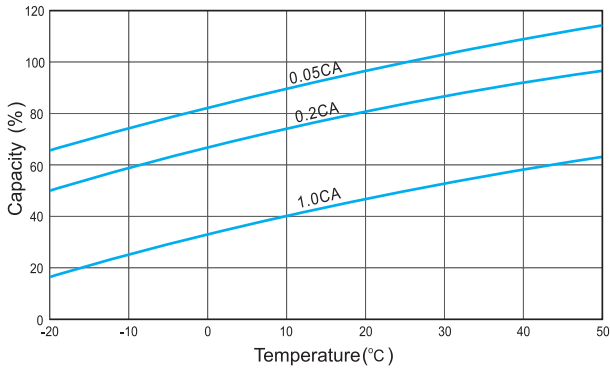
Cycle Life in Relation to Depth of Discharge



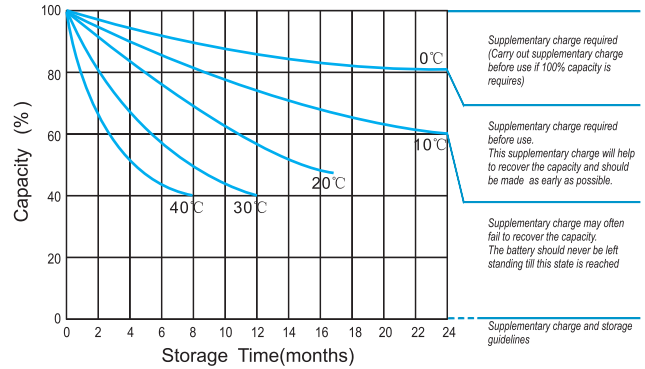
Relationship Between Charging Voltage and Temperature



Temperature Effects on Capacity



Storage Characteristics



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Install the battery in a properly ventilated



After discharge, charge the battery immediately



Unique Design



100% cyclic life after 500 cycles

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



## BENEFITS

- ✓ Design Float life of 12+ years.
- ✓ Designed to perform in harsh tropical conditions.
- ✓ Front Terminal Batteries with Truly Front Access Terminals.
- ✓ Integral Dual handles for easy handling & installation.
- ✓ Suitable for standard 23" rack.
- ✓ Inbuilt facility for Central Degassing.
- ✓ High Volumetric Energy Density for maximum power in minimal foot print area.
- ✓ Short Recharge Time owing to Lower Internal resistance
- ✓ Patented Lead Oxide Paste Recipe offering excellent charge acceptance and low self-discharge rate.
- ✓ Innovative plate design offers low internal resistance and superior high rate discharge performance
- ✓ Advanced AGM separator offering a longer service life and enhanced high rate discharge performance
- ✓ Automated, state-of-the-art cast-on strap process ensures consistent, high-quality, low electrical resistance welds
- ✓ Automated InterCell Welding offering low Internal resistance
- ✓ Threaded Post Copper Insert Terminals offering high conductivity and torque retention
- ✓ Lip & Tongue type Heat Sealing to ensure a leak-proof seal.
- ✓ C/10 battery rate. (C/5 optional)

## APPLICATION



Optical Fiber Network



Microwave



In-building Solutions



Solar Power Micro BTS



Broadband Network



Wireless Telecommunications

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)±5%	DIMENSIONS IN MM (L × W × H)	FLOAT VOLTAGE AT 27°C	BOOST VOLTAGE AT 27°C
FA-BATT-12V-100AHTe	12	100	36	123 x 556 x 224	13.5	13.8
FA-BATT-12V-125AHTe	12	125	43	123 x 556 x 257	13.5	13.8
FA-BATT-12V-150AHTe	12	150	52	123 x 556 x 296	13.5	13.8

## FEATURES



Recycle



Maintenance Free

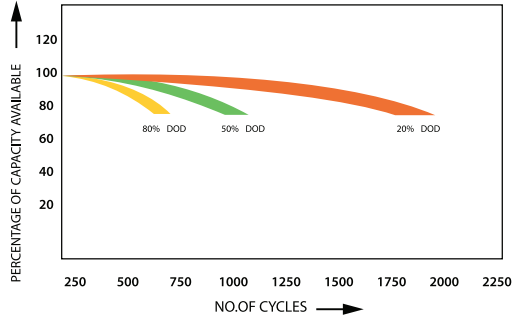


Extreme Temperature caution

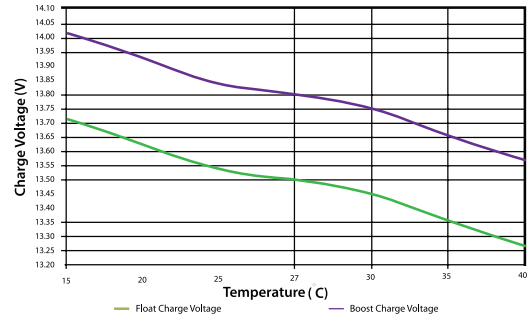


100% cyclic life after 500 cycles

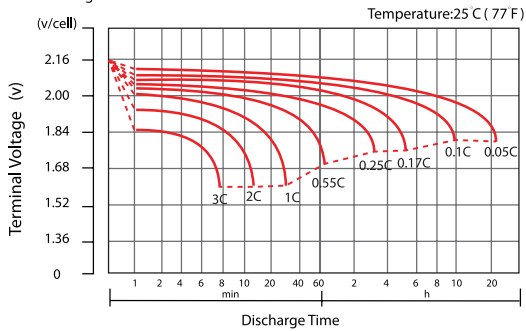
CYCLE LIFE EXPECTANCY IN RELATION TO DEPTH OF DISCHARGE @27°C



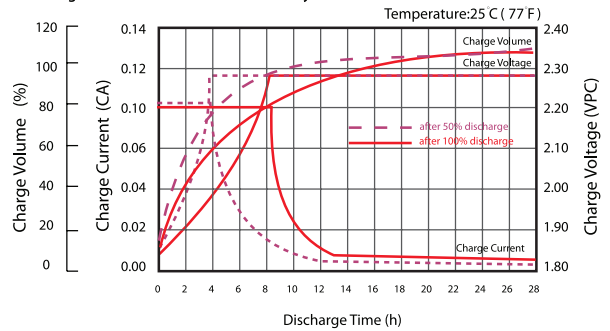
Charge Voltage Vs Temperature



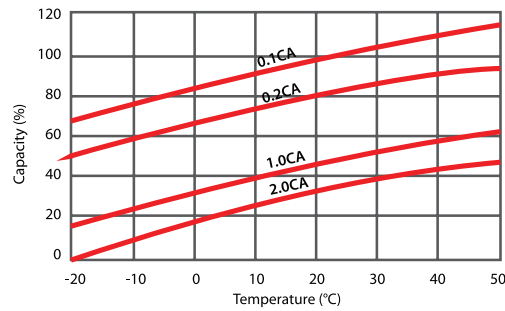
Discharge Characteristics Curve



Charge Characteristics Curve For Standby Use



Temperature Effects On Capacity



Warranty 1 year



Install the battery in a properly ventilated



After discharge, charge the battery immediately



Unique Design



## BENEFITS

- ✓ Design float life of 20years and cyclic life of 4000 cycles at 20% DOD
- ✓ Modular design for ease of installation and stacking flexibility.
- ✓ Deep discharge capability .
- ✓ Patented lead Oxide Paste Recipe offering excellent charge acceptance and low self-discharge rate .
- ✓ Innovative Plate Design offers low internal resistance and superior high rate discharge performance .
- ✓ Advanced AGM separator offering a longer service life and enhanced high rate discharge performance.
- ✓ Unique Ribbed Design Polypropylene container and cover offering enhanced strength and durability for safe operation Superior high rate discharge with low internal resistance.
- ✓ C/10 battery rate. (C/5 optional)

## APPLICATION



Uninterruptible Power Supply Systems



Process & Service Industry



Industrial process control Facilities



Telecommunications



Solar Photo-Voltaics (SPV)



Railways

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG) ±5KG	DIMENSIONS IN MM (L x W x H)	FLOAT VOLTAGE PER CELL AT 27°C	BOOST VOLTAGE PER CELL AT 27°C
FA-BATT-24V-100AH-2V	24	100	97	350 x 706 x 236	2.23	2.3
FA-BATT-24V-120AH-2V	24	120	107	385 x 706 x 236	2.23	2.3
FA-BATT-24V-200AH-2V	24	200	166	350 x 706 x 355	2.23	2.3
FA-BATT-12V-240AH-2V	24	240	187	385 x 706 x 355	2.23	2.3
FA-BATT-12V-300AH-2V	12	300	125	500 x 706 x 200	2.23	2.3
FA-BATT-12V-375AH-2V	12	375	150	500 x 706 x 232	2.23	2.3
FA-BATT-12V-450AH-2V	12	450	175	500 x 706 x 262	2.23	2.3
FA-BATT-12V-600AH-2V	12	600	226	500 x 706 x 322	2.23	2.3

## FEATURES



Recycle



Maintenance Free



Extreme Temperature caution



100% cyclic life after 1200 cycles

# 2V BATTERIES

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG) ±5KG	DIMENSION IN MM (L x W x H)	FLOAT VOLTAGE PER CELL AT 27°C	BOOST VOLTAGE PER CELL AT 27°C
FA-BATT-6V-750AH-2V	6	750	147	500 x 706 x 214	2.23	2.3
FA-BATT-6V-900AH-2V	6	900	173	500 x 706 x 214	2.23	2.3
FA-BATT-6V-1125AH-2V	6	1125	211	500 x 706 x 289	2.23	2.3
FA-BATT-6V-1350H-2V	6	1350	252	500 x 706 x 333	2.23	2.3
FA-BATT-12V-1800AH-2V	12	1800	978	500 x 706 x 966	2.23	2.3
FA-BATT-6V-2250AH-2V	6	2250	441	500 x 706 x 642	2.23	2.3
FA-BATT-6V-2700AH-2V	6	2700	519	500 x 706 x 732	2.23	2.3
FA-BATT-6V-3375AH-2V	6	3375	633	500 x 706 x 867	2.23	2.3
FA-BATT-6V-4050AH-2V	6	4050	756	500 x 706 x 999	2.23	2.3
FA-BATT-6V-4500AH-2V	6	4500	844	500 x 706 x 1156	2.23	2.3
FA-BATT-6V-5400AH-2V	6	5400	1008	500 x 706 x 1332	2.23	2.3
FA-BATT-12V-340AH-2V	12	340	138	555 x 706 x 200	2.23	2.3
FA-BATT-12V-425AH-2V	12	425	167	555 x 706 x 232	2.23	2.3
FA-BATT-12V-510AH-2V	12	510	195	555 x 706 x 262	2.23	2.3
FA-BATT-12V-680AH-2V	12	680	251	555 x 706 x 322	2.23	2.3
FA-BATT-6V-850AH-2V	6	850	164	555 x 706 x 214	2.23	2.3
FA-BATT-6V-1020AH-2V	6	1020	192	555 x 706 x 244	2.23	2.3
FA-BATT-6V-1530AH-2V	6	1275	235	555 x 706 x 289	2.23	2.3
FA-BATT-6V-1530AH-2V	6	1530	280	555 x 706 x 333	2.23	2.3
FA-BATT-12V-2040AH-2V	12	2040	753	555 x 706 x 966	2.23	2.3
FA-BATT-6V-2550AH-2V	6	2550	492	555 x 706 x 642	2.23	2.3
FA-BATT-6V-3060AH-2V	6	3060	576	555 x 706 x 732	2.23	2.3
FA-BATT-6V-3025AH-2V	6	3825	705	555 x 706 x 867	2.23	2.3
FA-BATT-6V-4590AH-2V	6	4590	840	555 x 706 x 999	2.23	2.3
FA-BATT-6V-5100AH-2V	6	5100	940	555 x 706 x 1156	2.23	2.3
FA-BATT-6V-6120AH-2V	6	6120	1120	555 x 706 x 1332	2.23	2.3
FA-BATT-12V-400AH-2V	12	400	155	500 x 706 x 232	2.23	2.3
FA-BATT-12V-200AH-2V	12	200	83	165 x 706 x 355	2.23	2.3

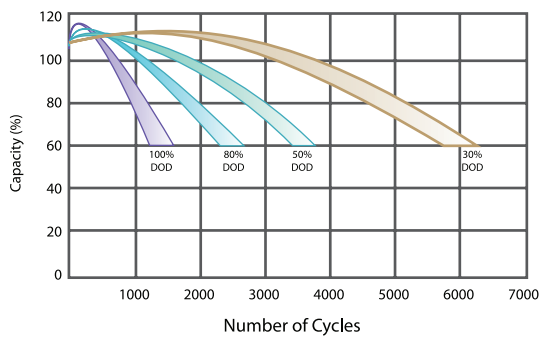
UPS

INVERTERS

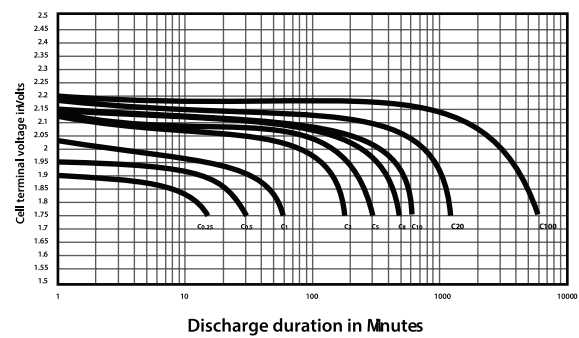
ACCESSORIES

AVR

Cycle Life in Relation to Depth of Discharge



Typical Discharge Characteristics of IP series to 1.75 EV



BATTERIES

SOLAR SOLUTION



Warranty 1 year



Install the battery in a properly ventilated



After discharge, charge the battery immediately



Unique Design

UPS

INVERTERS

ACCESSORIES



## BENEFITS

- ✓ Design float life of 20 years
- ✓ Perform consistently under any conditions hence suitable for sensitive and heavy applications.
- ✓ Highly reliability.
- ✓ Tubular Plates Technology.
- ✓ High durability with sealed plastic housing.
- ✓ Easy maintenance with level indicators.
- ✓ C/10 battery rate. ( C/20 & C/5 optional)

## APPLICATION



Data Center



Banks & financial markets



Industrial process control Facilities



Hospital & Testing laboratories



Solar & inverter devices

AVR

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)±5%	DIMENSION IN MM (L x W x H)	FLOAT VOLTAGE AT 27°C	BOOST VOLTAGE AT 27°C
FA-BATT-12V-45AHTUB	12	45	18	260*169*211(218)	2.23	2.3
FA-BATT-12V-60AHTUB	12	60	23	260*169*211(218)	2.23	2.3
FA-BATT-12V-80AHTUB	12	80	30	328*172*215(220)	2.23	2.3
FA-BATT-12V-100AHTUB	12	100	36	407*177*225(225)	2.23	2.3
FA-BATT-12V-120AHTUB	12	120	46	483*170*241(241)	2.23	2.3
FA-BATT-12V-140AHTUB	12	140	53.4	532*207*214(219)	2.23	2.3
FA-BATT-12V-160AHTUB	12	160	57	532*207*214(219)	2.23	2.3
FA-BATT-12V-180AHTUB	12	180	66.5	522*240*219(224)	2.23	2.3

BATTERIES

SOLAR SOLUTION

## FEATURES



Recycle



Maintenance Free



Extreme Temperature caution



100% cyclic life after 1500 cycles

# TUBULAR BATTERIES

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG) ±5KG	DIMENSIONS IN MM (L × W × H)	FLOAT VOLTAGE PER CELL AT 27°C	BOOST VOLTAGE PER CELL AT 27°C
FA-BATT-12V-200AHTUB	12	200	73	521*262*220(225)	2.23	2.3
FA-BATT-12V-250AHTUB	2	250	15.8	124*206*356(413)	2.23	2.3
FA-BATT-12V-300AHTUB	2	300	18.5	145*206*356(413)	2.23	2.3
FA-BATT-12V-350AHTUB	2	350	20.5	124*206*471(528)	2.23	2.3
FA-BATT-12V-420AHTUB	2	420	24.5	145*206*471(528)	2.23	2.3
FA-BATT-12V-490AHTUB	2	490	28	166*206*471(528)	2.23	2.3
FA-BATT-12V-600AHTUB	2	600	34.4	145*206*646(703)	2.23	2.3
FA-BATT-12V-770AHTUB	2	770	45.4	210*254*471(528)	2.23	2.3
FA-BATT-12V-800AHTUB	2	800	47.6	191*210*646(703)	2.23	2.3
FA-BATT-12V-1000AHTUB	2	1000	57.8	233*210*646(703)	2.23	2.3
FA-BATT-12V-1200AHTUB	2	1200	68	275*210*646(703)	2.23	2.3
FA-BATT-12V-1500AHTUB	2	1500	83.5	275*210*795(852)	2.23	2.3
FA-BATT-12V-2000AHTUB	2	2000	112.8	399*214*770(827)	2.23	2.3
FA-BATT-12V-2500AHTUB	2	2500	140.4	487*212*770(827)	2.23	2.3
FA-BATT-12V-3000AHTUB	2	3000	166.7	576*212*770(827)	2.23	2.3

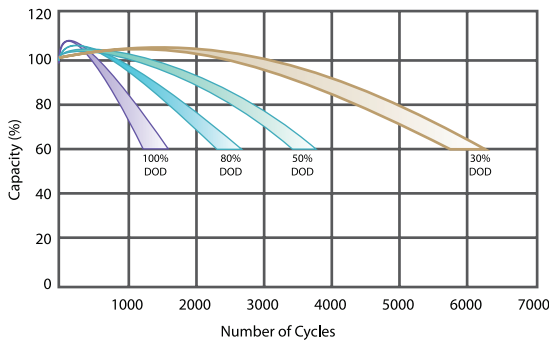
UPS

INVERTERS

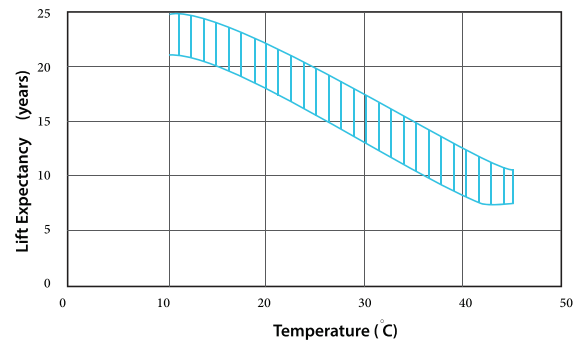
ACCESSORIES

AVR

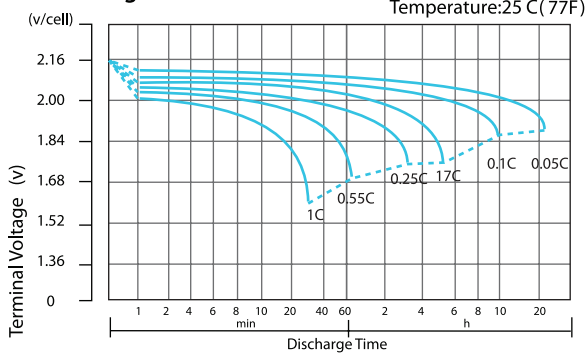
Cycle Life In Relation To Depth Of Discharge



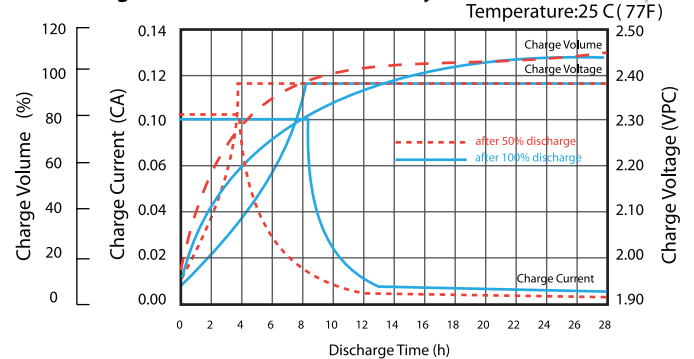
Effect Of Temperature On Long Term Life



Discharge Characteristics Curve



Charge Characteristic Curve For Cycle Use(IU)



BATTERIES

SOLAR SOLUTION



Warranty 1 year



Install the battery in a properly ventilated



After discharge, charge the battery immediately



Unique Design

UPS

INVERTERS

ACCESSORIES

AVR



## BENEFITS

- ✓ Sealed maintenance-free VRLA technology.
- ✓ AGM separator.
- ✓ Modular design with low foot print.
- ✓ Robust design with lip and tongue heat sealing for container integrity.
- ✓ C/20 battery rate. ( C/10 & C/5 optional)

## MAINTENANCE & CAUTIONS

- ✓ Float Service
- ✓ Every month, recommend an inspection of every battery voltage
- ✓ Every three months, recommend equalization charge for one time
- ✓ Equalization charge method
- ✓ Discharge: 100% rate capacity discharge
- ✓ Charge: Max. current 0.3CA, constant voltage 14.4-14.7V charge 24h.
- ✓ Effect of temperature on float charge voltage: -3mV/Cell.
- ✓ Length of service life will be directly affected by the number of discharge
- ✓ Cycles, depth of discharge, ambient temperature, and charging voltage

## APPLICATION



Telecom system



Fire & alarm system



Emergency system



Medical equipment



UPS/EPS

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)	DIMENSIONS IN MM (L x W x H)
FA-BATT-12V-4.5AH	12	4.5	1.5	90*70*101 (107)
FA-BATT-12V-7AH	12	7	2	151*65*93.5 (100)
FA-BATT-12V-9AH	12	9	2.5	151*65*93.5 (100)
FA-BATT-12V-12AH	12	12	3.4	151*99*94 (101)
FA-BATT-12V-18AH	12	17	5.2	181*77*167 (167)

## FEATURES



Recycle



Maintenance Free



Extreme Temperature caution



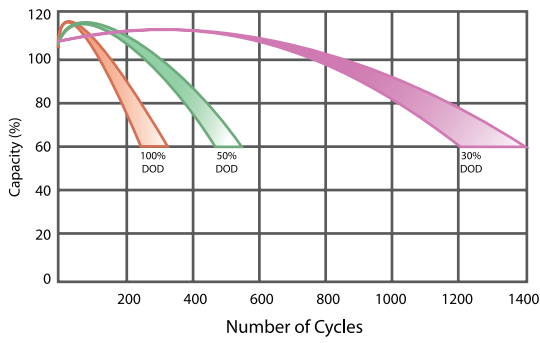
100% cyclic life after 300 cycles

BATTERIES

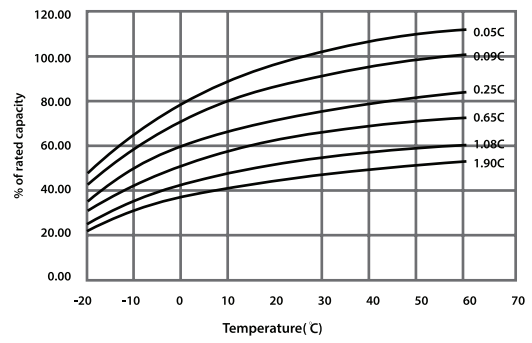
SOLAR SOLUTION



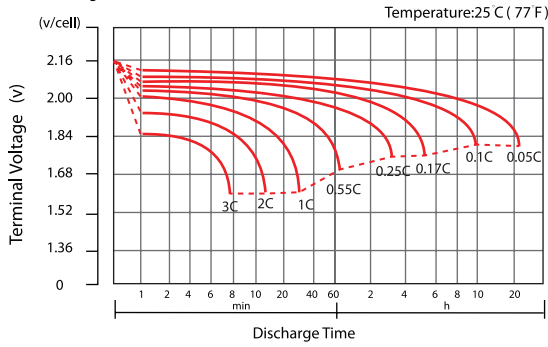
Cycle Life In Relation To Depth Of Discharge



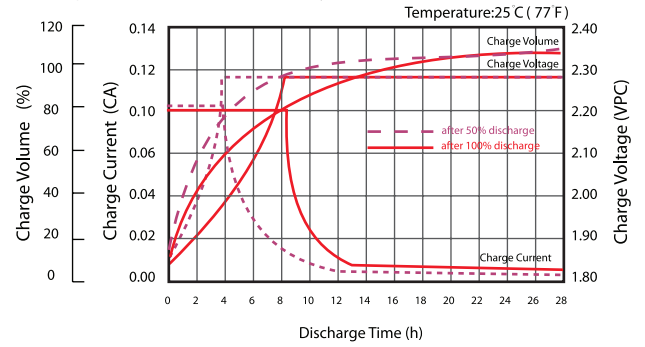
TEMPERATURE EFFECT IN RELATION TO BATTERY CAPACITY



Discharge Characteristics Curve



Charge Characteristics Curve For Standby Use



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Warranty 1 year



Install the battery in a properly ventilated



After discharge, charge the battery immediately



Unique Design



## BENEFITS

- ✓ Using LiFePO4 as a positive material
- ✓ Extended cycle life and good safety performance
- ✓ Voltage, current, temperature protection, and alarm functions
- ✓ Allow remote control and monitoring
- ✓ Highly reliable one-way self-resealing safety vent seal
- ✓ Good electromagnetic shielding
- ✓ Ergonomic design for easy handling
- ✓ Very little noise during normal operating conditions
- ✓ -20~+55° C Widely temperature range
- ✓ Integrated hardware BMS inside
- ✓ Fast charge performance
- ✓ Independent protection for charge and discharge

## APPLICATION



Data Center



Wireless Telecommunications



Industrial process control Facilities



Hospital & Testing laboratories



Solar & inverter devices

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)±5%	DIMENSIONS (LxWxH) mm	TERMINAL
FA-BATT-12.8V-6AH-LI	12.8	6	0.82	151x65x93.5	F2
FA-BATT-12.8V-8AH-LI	12.8	8	0.98	151x65x93.5	F2
FA-BATT-12.8V-9AH-LI	12.8	9	1.1	151x65x93.5	F2
FA-BATT-12.8V-12AH-LI	12.8	12	1.21	151x65x93.5	F2
FA-BATT-12.8V-18AH-LI	12.8	18	1.96	151x98x95	F2
FA-BATT-12.8V-20AH-LI	12.8	20	2.9	181x77x167	F13-BP (Ø12, M5)
FA-BATT-12.8V-24AH-LI	12.8	24	3.8	181x77x167	F13-BP (Ø12, M5)
FA-BATT-12.8V-30AH-LI	12.8	30	5	195x130x155	IF11(Ø14, M6)
FA-BATT-12.8V-35AH-LI	12.8	35	4.83	195x130x155	IF11(Ø14, M6)
FA-BATT-12.8V-40AH-LI	12.8	40	4.87	195x130x155	IF11(Ø14, M6)

## FEATURES



Recycle



Maintenance Free



Extreme Temperature caution



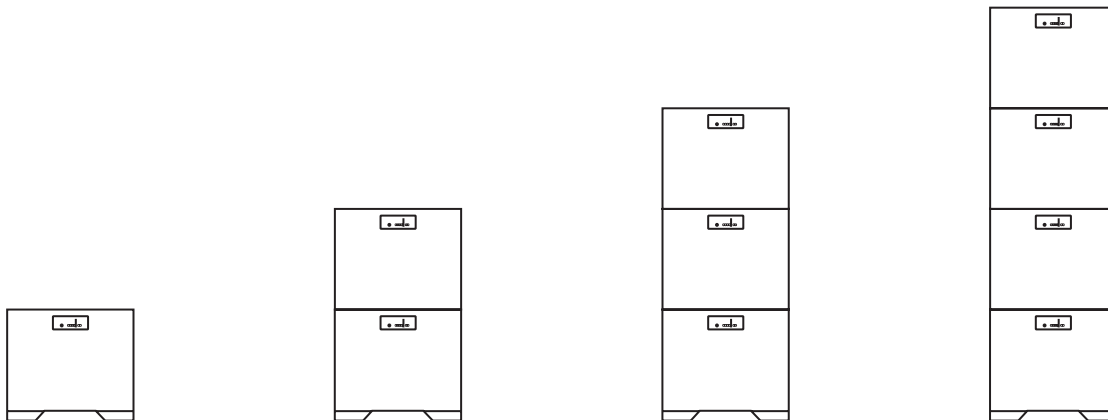
80% cyclic life after 6000 cycles

## SPECIFICATION

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)±5%	DIMENSIONS (LxWxH) mm	TERMINAL
FA-BATT-12.8V-50AH-LI	12.8	50	6.5	198x166x169	IF11(Ø14, M6)
FA-BATT-12.8V-75AH-LI	12.8	75	10	260x168x211	F12 (Ø17.5, M8)
FA-BATT-12.8V-80AH-LI	12.8	80	10	260x168x211	F12 (Ø17.5, M8)
FA-BATT-12.8V-100AH-LI	12.8	100	13.4	330x172x214	F12 (Ø17.5, M8)
FA-BATT-12.8V-135AH-LI	12.8	135	19	330x172x214	F12 (Ø17.5, M8)
FA-BATT-12.8V-150AH-LI	12.8	150	20	483x170x241	F12 (Ø17.5, M8)
FA-BATT-12.8V-200AH-LI	12.8	200	25.6	522x240x219	F10 (Ø20, M8)
FA-BATT-12.8V-300AH-LI	12.8	300	32	522x268x220	F10 (Ø20, M8)
FA-BATT-25.6V-50AH-LI	25.6	50	15	330x172x214	F12 (Ø17.5, M8)
FA-BATT-25.6V-100AH-LI	25.6	100	25.2	522x240x219	F10 (Ø20, M8)
FA-BATT-25.6V-135AH-LI	25.6	135	31	522x240x219	F10 (Ø20, M8)
FA-BATT-25.6V-150AH-LI	25.6	150	35	522x268x219	F10 (Ø20, M8)
FA-BATT-25.6V-200AH-LI	25.6	200	40	522x268x219	F10 (Ø20, M8)

MODEL	VOLTAGE (V)	CAPACITY (AH)	WEIGHT (KG)±5%	FLOAT VOLTAGE AT 27°C	BOOST VOLTAGE AT 27°C
A-BATT-51.2V-50AH-LI	51.2	50	21	55	56.2
FA-BATT-51.2V-100AH-LI	51.2	100	40	55	56.2
FA-BATT-51.2V-125AH-LI	51.2	125	52	55	56.2
FA-BATT-51.2V-150AH-LI	51.2	150	50	55	56.2
FA-BATT-51.2V-200AH-LI	51.2	200	72	55	56.2
FA-BATT-51.2V-280AH-LI	51.2	280	96.5	55	56.2
FA-BATT-51.2V-300AH-LI	51.2	300	98.5	55	56.2

## PARALLEL OPERATION



Warranty 5 years



Install the battery in a properly ventilated



After discharge, charge the battery immediately



Unique Design

# HIGH VOLTAGE LITHIUM-IRON BATTERY MODULES

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



## SPECIFICATION

MODEL	FA-BP-205V-LI	FA-BP-307V-LI	FA-BP-410V-LI	FA-BP-615V-LI
SINGLE BATTERY MODULE	(102.4V/50AH, 5120Wh)			
NUMBERS OF MODULES	2	3	4	6
Nominal Voltage	204.8VDC	307.2VDC	409.6VDC	614.4VDC
Full Charge Voltage (FC)	224VDC	336VDC	448VDC	672VDC
Full Discharge Voltage (FD)	179.2VDC	268.8VDC	358.4VDC	537.6VDC
Typical Capacity	50Ah			
Typical Energy	10KWH	15KWH	20KWH	30KWH
Max Continuous Discharging Current	60A			
Max Peak Discharging Current	75A			
Protection	BMS & Circuit Breaker			
Charge Current	10A			
Maximum Charge current	25A			
Standard Charge Method	0.2C CC Constant current charge to FC, CV(Constant voltage FC) charge till charge current decline to <0.05C			
Cycle Life	6000 Cycles @>80% capacity			
Inner Resistance	≤20m ohm			
Operating Temperature	0°C~55 °C			
Compliance Safety	IEC 62619, UN38.3			
Dimensions (D x W x H) mm	220 x 630 x 960	220 x 630 x 1280	220 x 630 x 1600	220 x 630 x 1280 & 220 x 630 x 1070
	118	169	221	328

## FEATURES



Compact Size and Lightweight



Fast Charging



Modular Design for Easy Scalable



Maximum Lifecycle

# SOLAR SOLUTION



**FARBER**

# OFF-GRID SOLAR INVERTER

(1KVA - 11KVA)



UPS

INVERTERS

ACCESSORIES



Parallel Operation  
up to 9 units



Intelligent  
communication



Built-in solar charger

## BENEFITS

- ✓ Pure sine wave output
- ✓ Wide PV input voltage range
- ✓ User-adjustable charging current and voltage
- ✓ smart battery charger design for optimized battery performance
- ✓ Monitoring software for real-time status display and control
- ✓ Configurable AC/Solar input priority via LCD setting
- ✓ Parallel capability up to 9 units (only available for 5KVA, 6KVA, 8KVA, 10KVA & 11KVA)
- ✓ Dual outputs for smart load management (Optional)
- ✓ Reserved communication port for LI battery
- ✓ Detachable LCD control module with various communications

## APPLICATION



Air cooler



Washing machine



Micro-oven



Vacuum cleaner



Control center



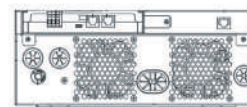
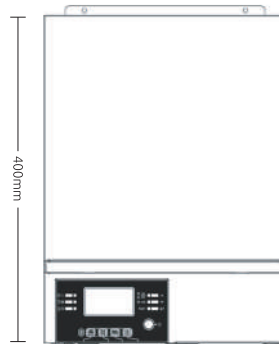
Dishwasher



Air conditioners

AVR

## SCHEMATIC



BATTERIES

## FEATURES



Pure sine wave output



Technology increases  
battery lifetime



Smart battery charger  
design for optimized battery  
performance

SOLAR SOLUTION

# SPECIFICATION

MODEL NUMBER	FA-OFFIN VX-12V-1000VA	FA-OFFIN VX-24V-1500VA	FA-OFFIN VX-24V-2000VA	FA-OFFIN VX-24V-3000VA
RATED POWER	1000W	1500W	2000W	3000W
<b>INPUT</b>				
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)			
<b>OUTPUT</b>				
AC Voltage Regulation (Batt. Mode)	230 VAC ± 5%			
Surge Power	2000VA	3000VA	4000A	6000VA
Efficiency (Peak)	90%~93%			
Transfer Time	15 ms (For Personal Computers); 20 ms (For Home Appliances)			
Waveform	Pure sine wave			
<b>BATTERY</b>				
Battery Voltage	12 VDC	24 VDC	24 VDC	24 VDC
Floating Charge Voltage	13.5 VDC	27 VDC	27 VDC	27 VDC
Overcharge Protection	16 VDC	33 VDC	31 VDC	33 VDC
<b>SOLAR CHARGER &amp; AC CHARGER</b>				
Solar Charger Type	MPPT			
Max. PV Array Power	600W	2000 W	1200W	
Max. PV Array Open Circuit Voltage	400VDC	400VDC	400VDC	500 VDC
MPP Range @operating Voltage	120 ~ 380 VDC		120 ~ 450 VDC	
Max. Solar Charge Current	50 A	60 A	50 A	50 A
Max. AC Charge Current	20 A	40 A	25 A	25 A
Max. Charge Current	50 A	60 A	57 A	57 A
<b>PHYSICAL</b>				
Dimension, D x W x H (mm)	88 x 225x 320	100 x 280 x 390	88 x 225x 320	100 x 285 x 334
Net Weight (kgs)	5.5	8.5	5.5	6.3
Communication Interface	USB/RS232/RS485/Wifi/Dry-contact			
Humidity	5% to 95% Relative Humidity (Non-condensing)			
Operating Temperature	-10°C to 50°C			
Storage Temperature	-15°C to 60°C			

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Compatible with mains voltage or generator power



Cold start function



Automatic load sharing on AC and DC output

# SPECIFICATION

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

MODEL NUMBER	FA-OFFIN VX-24V-4000VA	FA-OFFIN VX-48V-5000VA	FA-OFFIN VX-48V-6000VA
RATED POWER	4000W	5000W	6000W
<b>INPUT</b>			
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)		
<b>OUTPUT</b>			
AC Voltage Regulation (Batt. Mode)	230 VAC ± 10%	230 VAC ± 5%	230 VAC ± 10%
Surge Power	8000VA	10000VA	12000VA
Efficiency (Peak)	90%~93%		
Transfer Time	15 ms (For Personal Computers); 20 ms (For Home Appliances)		
Waveform	Pure sine wave		
<b>BATTERY</b>			
Battery Voltage	48 VDC	48 VDC	48 VDC
Floating Charge Voltage	54 VDC	54 VDC	54 VDC
Overcharge Protection	60 VDC	63 VDC	63 VDC
<b>SOLAR CHARGER &amp; AC CHARGER</b>			
Solar Charger Type	MPPT		
Max. PV Array Power	2400 W		6000 W
Max. PV Array Open Circuit Voltage	500 VDC	500 VDC	500 VDC
MPP Range @operating Voltage	120 ~ 450 VDC		
Max. Solar Charge Current	50 A	60 A	120 A
Max. AC Charge Current	60 A	60 A	100 A
Max. Charge Current	110 A	120 A	120 A
<b>PHYSICAL</b>			
Dimension, D x W x H (mm)	155 x 295 x 455		100 x 300 x 440
Net Weight (kgs)	9.5	9	10
Communication Interface	USB/RS232/RS485/Wifi/Dry-contact		
Humidity	5% to 95% Relative Humidity (Non-condensing)		
Operating Temperature	-10°C to 50°C		
Storage Temperature	-15°C to 60°C		



Technology protects against short circuit



Technology protects against low battery



AC/solar charger priority



# SPECIFICATION

MODEL NUMBER	FA-OFFIN VX-24V-8000VA	FA-OFFIN VX-24V-10KVA	FA-OFFIN VX-24V-11KVA
RATED POWER	8000VA/8000W	10000VA/10000W	11000VA/11000W
<b>INPUT</b>			
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)		
<b>OUTPUT</b>			
AC Voltage Regulation (Batt. Mode)	230 VAC ± 5%		
Surge Power	16000VA	20000VA	22000VA
Efficiency (Peak)	90%~93%	93%	
Transfer Time	15 ms (For Personal Computers); 20 ms (For Home Appliances)	10 ms (For Personal Computers), 20 ms (For Home Appliances)	
Waveform	Pure sine wave		
<b>BATTERY</b>			
Battery Voltage	48VDC		
Floating Charge Voltage	54 VDC		
Overcharge Protection	66VDC		
<b>SOLAR CHARGER &amp; AC CHARGER</b>			
Solar Charger Type	MPPT		
Max. PV Array Power	8000W (4000W x 2)	10000W (5000W x 2)	11000W
Max. PV Array Open Circuit Voltage	500 VDC		
MPP Range @operating Voltage	90 ~ 450 VDC		
Max. Solar Charge Current	120A	150 A	
Max. AC Charge Current	120A	150 A	
Max. Charge Current	120A	150 A	
<b>PHYSICAL</b>			
Dimension, D x W x H (mm)	147.4 x 432.5 x 553.6	158.4 x 503.6 x 530.8	147.4 x 432.5 x 553.6
Net Weight (kgs)	18.4	20	18.4
Communication Interface	USB/RS232/RS485/Wifi/Dry-contact		
Humidity	5% to 95% Relative Humidity (Non-condensing)		
Operating Temperature	-10°C to 50°C		
Storage Temperature	-15°C to 60°C		

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Technology protects against overload



Technology protects against reverse polarity



Inverter, AC/DC charger or PV charger

# OFF GRID QUEEN SOLAR INVERTER

(3000VA - 5000VA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Parallel Operation  
up to 9 units



Intelligent  
communication



Built-in solar charger

## BENEFITS

- ✓ Utilizes true online double-conversion technology with high power density and utility frequency independence.
- ✓ Operates at unity power factor.
- ✓ Combines the functions of an inverter, solar charger, and battery charger.
- ✓ Provides a pure sine wave output.
- ✓ Allows for optional parallel operation of up to 9 units.
- ✓ Features a built-in Bluetooth module for mobile monitoring.
- ✓ Offers configurable AC/PV output usage timers and prioritization.
- ✓ Includes a detachable LCD control module with multiple communication options.

## APPLICATION



Air cooler  
750 VA



Washing machine



Micro-oven



Vacuum cleaner



Control center



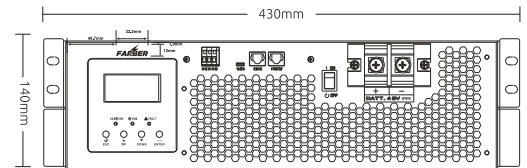
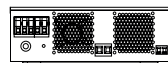
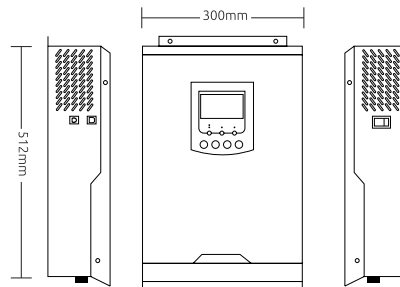
Dishwasher



Air conditioners

## SCHEMATIC

(3000VA-5000VA)



(5000VA)



Pure sine wave output



Technology increases  
battery lifetime



Smart battery charger  
design for optimized battery  
performance



AC/solar charger priority



Compatible with mains  
voltage or generator  
power

# SPECIFICATION

MODEL NUMBER	FA-OFFINVZ-24V-3000VA	FA-OFFINVZ-48V-5000VA
Rated Power	3000W	5000W
Parallel Capability	Up to 9 units	Up to 9 units
<b>INPUT</b>		
Voltage	230 VAC	
Voltage Range	110-280 VAC	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
<b>OUTPUT</b>		
AC Voltage Regulation	230 VAC ± 5%	
Surge 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	
<b>BATTERY</b>		
Battery Voltage	24 VDC	48 VDC
<b>SOLAR CHARGER &amp; AC CHARGER</b>		
Solar Charger Type	MPPT	
Max. PV Array Open Circuit Voltage	145 VDC (500 VDC Optional)	
Max. PV Array Power	1500 W	4000 W (6000W Optional)
MPP Range @operating Voltage	30 ~ 115 VDC	60~115VDC (120~450VDC Optional)
Max. Solar Charge Current	60 A	80 A (100A Optional)
Max. AC Charge Current	60 A	60 A (100A Optional)
Max. Charge Current	120 A	140 A
<b>PHYSICAL</b>		
Dimension, D x W x H (mm)	140 x 300 x 512	140 x 430x 512
Net Weight (kgs)	11.5	12.2
Communication Interface	USB/RS232/RS485/Bluetooth/Dry-contact	
<b>OPERATING ENVIRONMENT</b>		
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature	0°C to - 50°C	
Storage Temperature	-15°C to 60°C	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES



Technology protects  
against low battery



Cold start function



Technology protects  
against short circuit



Technology protects  
against overload



Technology protects  
against reverse polarity

SOLAR SOLUTION

# 1PH HYBRID SOLAR INVERTER

(1000VA - 6000VA)



UPS

INVERTERS

ACCESSORIES



Parallel Operation  
up to 9 units



Self-consumption and  
feed-in to the grid



Programmable supply  
priority for PV, Battery

## BENEFITS

- ✓ Pure sine wave output
- ✓ Self-consumption and feed-in to the grid
- ✓ Programmable supply priority for PV, Battery, or Grid
- ✓ User-adjustable charging current and voltage
- ✓ Programmable multiple operation modes: Grid-tie (with the battery connected), off-grid, and grid-tie with backup
- ✓ Monitoring software for real-time status display and control
- ✓ Parallel operation up to 9 units only for 3K/4K/5K models

## APPLICATION



Laser printer



Air cooler



Washing machine



Refrigerator



Communication  
center



Micro-oven



Server



Vacuum cleaner



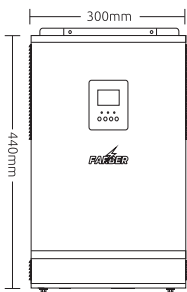
House Backup



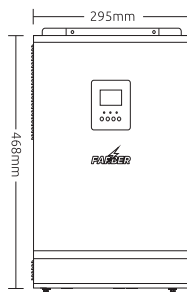
Air conditioners

AVR

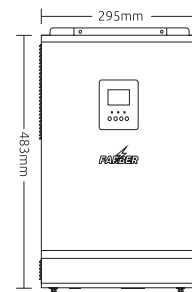
## SCHEMATIC



(1KVA & 2KVA)



(3KVA & 4KVA)



(5KVA)

BATTERIES

SOLAR SOLUTION

## FEATURES



Pure sine wave output



Bi-direction concept



Separated to operate in  
different operation modes



Automatic load sharing  
on AC and DC output

# SPECIFICATION

MODEL NUMBER	FA-HIN VX-12V-1000VA	FA-HIN VX-24V-2000VA	FA-HIN VX-48V-3000VA	FA-HIN VX-48V-4000VA	FA-HIN VX-48V-5000VA	FA-HIN VX-48V-6000VA
Max. PV Array Power	1000W	2000W	4000W	4000W	6000W	6000W
Rated Output Power	1000W	2000W	3000W	4000W	5000W	6000W
Maximum PV Array Open Circuit Voltage	145 VDC					
MPPT Range @ Operating Voltage	15 VDC - 115 VDC	30 VDC - 115 VDC		60 VDC - 115 VDC		
MPP Tracker Number	1			2		
GRID OUTPUT (AC)						
Nominal Output Voltage	220/230/240 VAC					
Output Voltage Range	184-264.5 VAC or 195-253 VAC (Selectable)					
Nominal Output Current	4.3A	8.7A	13A	17.4A	21.7A	26A
Power Factor	> 0.99					
Maximum Conversion Efficiency (DC/AC)	90%			95%		
GRID INPUT						
Acceptable Input Voltage Range	170-280 VAC					
Frequency Range	50Hz/60Hz (Auto sensing)					
Maximum AC Input Current	30A			40A		
BATTERY MODE OUTPUT (AC)						
Nominal Output Voltage	220/230/240 VAC					
Output Waveform	Pure sine wave					
Efficiency (DC to AC)	93%					
Nominal DC Voltage	12 VDC	24 VDC		48 VDC		
Maximum Solar Charge Current			80A			120A
Maximum AC Charge Current			60A			60A
Maximum Charge Current			140A			180A
GENERAL						
Dimension, D x W x H (mm)	100 X 300 x 440	120 X 295 x 468	120 X 295 x 468	190 X 295 x 483	140 x 365 x 468	
Net Weight (kgs)	8		11	16	14	
Parallel Function	N/A			Up to 9 Unit		
External Safety Box (Optional)				Yes		
Communication Ports	Yes					
ENVIRONMENT	USB or RS232/Dry-Contact					
Humidity	0-90% RH (Non-condensing)					
Operating Temperature	0 to 50°C					

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Inverter, AC/DC  
charger or PV charger



Technology protects against short  
circuit



Technology for instant change-  
over between power and battery  
and vice-versa



Technology protects against  
reverse polarity

# 3PH HYBRID SOLAR INVERTER

## (10KVA - 15KVA)



UPS

INVERTERS

ACCESSORIES



Parallel Operation  
up to 3 units



Self-consumption and  
feed-in to the grid



Programmable supply  
priority for PV, Battery

## BENEFITS

- ✓ Pure sine wave output
- ✓ Self-consumption and feed-in to the grid
- ✓ Programmable supply priority for PV, Battery, or Grid
- ✓ User-adjustable charging current and voltage
- ✓ Programmable multiple operation modes: Grid-tie (with the battery connected), off-grid, and grid-tie with backup
- ✓ Built-in timer for various modes of on/off operation
- ✓ Multiple communication for USB, RS-232, Modbus, and SNMP
- ✓ Monitoring software for real-time status display and control
- ✓ Parallel operation of up to 3 units

## APPLICATION



Communication center



Air conditioners



Oil and gas fields



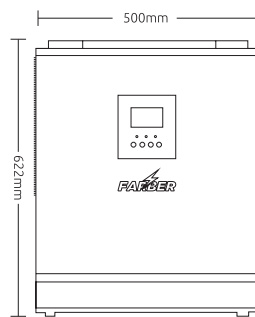
House Backup



Factories

AVR

## SCHEMATIC



(10KVA)

BATTERIES

SOLAR SOLUTION

## FEATURES



Pure sine wave output



Bi-direction concept



Separated to operate  
in different operation  
modes



Automatic load sharing  
on AC and DC output

# SPECIFICATION

MODEL NUMBER	FA-HIN VX-48V-10KVA	FA-HIN VX-48V-15KVA
PHASE	3-phase in /3-phase-out	
Max. PV Array Power	14850W	22500W
Rated Output Power	10000W	15000W
Maximum Charging Power	9600W	15000W
Nominal DC Voltage/Max. DC Voltage	720 VDC/900 VDC	
Start-up Voltage/Initial Feeding Voltage	320 VDC /350 VDC	
MPP Voltage Range	400 VDC-800 VDC	
Number of MPP Trackers/Maximum Input Current	2/2*18.6A	2 / A: 37.65A; B: 18.6A
Nominal Output Voltage	230 VAC (P-N)/ 400 VAC (P-P)	
Output Voltage Range	184-265 VAC* per phase	184 - 264.5VAC per phase
Nominal Output Current	14.5A per phase	21.7A per phase
Power Factor	> 0.99	
Maximum Conversion Efficiency (DC/AC)	96%	
European Efficiency@Vnominal	95%	
AC start-up Voltage/Auto Restart Voltage	120-140 VAC per phase /180 VAC per phase	
Acceptable Input Voltage Range	170-280 VAC per phase	
Max. AC Input Current	40A	
Max. DC Voltage	900 VDC	
MPP Voltage Range	400 VDC - 800 VDC	350 VDC ~ 850 VDC
Number of MPP Trackers/Max. Input Current	2/2*18.6A	2 / A: 37.65A; B: 18.6A
<b>BATTERY MODE OUTPUT (AC)</b>		
Nominal Output Voltage	230 VAC (P-N)/400 VAC (P-P)	
Output Waveform	Pure sine wave	
Efficiency (DC to AC)	91%	
<b>HYBRID OPERATION</b>		
Nominal DC Voltage/Max. DC Voltage	720 VDC/ 900 VDC	
Start-up Voltage/Initial Feeding Voltage	320 VDC/ 350 VDC	
MPP Voltage Range	400 VDC~800 VDC	350 VDC ~ 850 VDC
Number of MPP Trackers/Max. Input Current	2/2x18.6A	2 / A: 37.65A; B: 18.6A
Nominal Output Voltage	230 VAC (P-N)/400 VAC (P-P)	
Output Voltage Range	184-264.5 VAC* per phase	
Nominal Output Current	14.5A per phase	21.7A per phase
Dimension, D x W x H (mm)	167.5 x 500 x 622	219 x 650 x 820
Net weight (kgs)	45	62
Operating Temperature	-10 to 55 °C	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Inverter, AC/DC charger or PV charger



Technology protects against short circuit



Technology for instant change-over between power and battery and vice-versa



Technology protects against reverse polarity

# 1PH & 3PH OUTDOOR SOLAR INVERTER

(2KVA - 30KVA)



UPS

INVERTERS

ACCESSORIES



Parallel Operation  
up to 4 units



2 Years Warranty



IP67 Level

## BENEFITS

- ✓ Pure sine wave output
- ✓ Self-consumption and feed-in to the grid
- ✓ Programmable supply priority for PV, Battery, or Grid
- ✓ User-adjustable charging current and voltage
- ✓ Programmable multiple operation modes: Grid-tie (with the battery connected), off-grid, and grid-tie with backup
- ✓ Built-in timer for various modes of on/off operation
- ✓ Multiple communication for USB, RS-232, Modbus, and SNMP
- ✓ Monitoring software for real-time status display and control
- ✓ Parallel operation of up to 4 units

## APPLICATION



Air conditioners



Hospitals and testing laboratories



Servers



Oil and gas fields



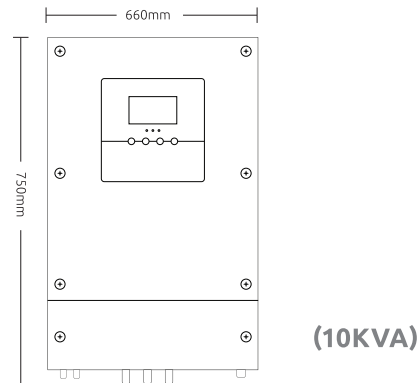
Communication center



House Backup

AVR

## SCHEMATIC



BATTERIES

## FEATURES



Pure sine wave output



Bi-direction concept



Separated to operate in different operation modes



Automatic load sharing on AC and DC output

SOLAR SOLUTION



# SPECIFICATION

MODEL NUMBER	FA-WINVX-48V-2KVA	FA-WINVX-48V-4KVA	FA-WINVX-48V-5KVA	FA-WINVX-48V-6KVA	FA-WINVX-48V-8KVA
Phase	1-phase in /1-phase-out				
Maximum PV Input Power	3000W	4500W	6000W	6500	8000W
Rated Output Power	2000VA/2000W	3000VA/3000W	5000VA/5000W	6000VA/6000W	8000VA/8000W
Maximum Charging Power	2000 W	3000 W	4000 W	2000 W	6000W
Maximum DC Voltage	400 VDC	500 VDC	500 VDC	550 VDC	550 VDC
Start-up Voltage / Initial Feeding Voltage	120VDC / 150 VDC				
MPP Voltage Range	120 VDC ~ 400 VDC	120 VDC ~ 450 VDC	120 VDC ~ 450 VDC	120 VDC ~ 450 VDC	
Number of MPP Trackers / Maximum Input Current	1 / 13A	1 / 18A	1 / 27A	1 / 27A	2 / 18A
Nominal Output Voltage	220/230/240 VAC				
Output Voltage Range	184 - 264.5 VAC or 195.5 - 253 VAC (Selectable)				184 - 264.5 VAC or 195.5 - 253 VAC or 184 - 264.4 VAC (Selectable)
Nominal Output Current	8.7A	13A	21.7A	26A	34.7A
Power Factor	> 0.99				
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC				
Acceptable Input Voltage Range	90 - 280 VAC or 170 - 280 VAC				
Frequency Range	50 Hz/60 Hz (Auto sensing)				
Maximum AC Input Current	20A	30A	40A	40A	60A
Maximum DC Voltage	400 VDC	500 VDC	500 VDC	550 VDC	550 VDC
MPP Voltage Range	120 VDC ~ 400 VDC	120 VDC ~ 450 VDC	120 VDC ~ 450 VDC	120 VDC ~ 450 VDC	
Number of MPP Trackers/Max. Input Current	1 / 13A	1 / 18A	1 / 27A	1 / 27A	2 / 18A
BATTERY MODE OUTPUT (AC)					
Nominal Output Voltage	220/230/240 VAC				
Output Waveform	Pure sine wave				
Efficiency (DC to AC)	93%				
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC				
Acceptable Input Voltage Range	90 - 280 VAC or 170 - 280 VAC				
Maximum AC Input Current	20A	30A	40A	40A	60A
Nominal Output Voltage	220/230/240 VAC				
Efficiency (DC to AC)	93%				
Nominal DC Voltage	48 VDC				
Maximum Solar Charging Current	40A	60A	100A	120A	
Maximum AC Charging Current	40A	60A	100A	120A	
Maximum Charging Current	40A	60A	100A	120A	
Dimension, D x W x H (mm)	192 x 360 x 665				
Net weight (kgs)	22.5				32
Parallel Function	Yes, 9 units				



Inverter, AC/DC charger or PV charger



Technology protects against short circuit



Technology for instant change-over between power and battery and vice-versa



Technology protects against reverse polarity

# SPECIFICATION

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

MODEL NUMBER	FA-WIN VX-48V-10KVA-3PH	FA-WIN VX-48V-12KVA-3PH
Phase	3-phase in /3-phase-out	
Maximum PV Input Power	14500W	16000W
Rated Output Power	10000 W	12000W
Maximum Charging Power	10000 W	12000W
Nominal DC Voltage / Maximum DC Voltage	720 VDC / 1000 VDC	
Start-up Voltage / Initial Feeding Voltage	320 VDC / 350 VDC	
MPP Voltage Range	350 VDC ~ 850 VDC	
Number of MPP Trackers / Maximum Input Current	2 / A: 27A, B:13A	2 / A: 27A, B: 27A
Number of Strings Per MPP Tracker	A: 2, B: 1	A: 2, B: 2
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)	
Output Voltage Range	184 - 265 VAC per phase	
Nominal Output Current	14.5 A per phase	17.4 A per phase
APower Factor range	0.9 lag ~ 0.9 lead	
Maximum Conversion Efficiency (DC/AC)	>96%	
European Efficiency@ Vnominal	>95%	
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC	
Acceptable Input Voltage Range	170 - 290 VAC per phase	
170 - 290 VAC per phase	40A	40A
Maximum AC Input Current	14500W	16000W
<b>BATTERY MODE OUTPUT (AC)</b>		
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)	
Output Waveform	Pure sine wave	
Efficiency (DC to AC)	91%	
<b>HYBRID OPERATION</b>		
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC	
Acceptable Input Voltage Range	170 - 290 VAC per phase	
Maximum AC Input Current	40A	40A
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)	
Efficiency (DC to AC)	91%	
Battery Voltage Range	40 ~ 62 VDC	
Maximum Charging Current	220 A	250 A
Communication Port	RS-232, RS-485, USB, CAN and Wi-Fi	
Maximum Charging Current	Optional for SNMP and Modbus cards	
Dimension, D x W x H (mm)	247 x 500 x 650	255 x 660 x 750
Net weight (kgs)	42	70
Operating Temperature	-25 to 60°C, > 45°C power derating	



wide input voltage range



Monitor and calculate the accurate saving energy



Technology protects against reverse polarity



Log data stored in centralized PC database

# SPECIFICATION

MODEL NUMBER	FA-WIN VX-48V-15KVA-3PH	FA-WIN VX-48V-30KVA-3PH
Phase	3-phase in /3-phase-out	
Maximum PV Input Power	16000W	40000W
Rated Output Power	15000W	30000W
Maximum Charging Power	15000W	18000W
Nominal DC Voltage / Maximum DC Voltage	720 VDC / 1000 VDC	720 VDC / 1000 VDC
Start-up Voltage / Initial Feeding Voltage	320 VDC / 350 VDC	320 VDC / 350 VDC
MPP Voltage Range	350 VDC ~ 850 VDC	350 VDC ~ 900 VDC
Number of MPP Trackers / Maximum Input Current	2 / A: 27A, B: 27A	3 / A: 26A, B: 26A, C: 26A
Number of Strings Per MPP Tracker	A: 2, B: 2	A: 2, B: 2, C: 2
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)	
Output Voltage Range	184 - 265 VAC per phase	
Nominal Output Current	21.7 A per phase	43.5 A per phase
Power Factor Range	0.9 lag ~ 0.9 lead	
Maximum Conversion Efficiency (DC/AC)	>96%	96.5%
European Efficiency@ Vnominal	>95%	96.5%
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC	
Acceptable Input Voltage Range	170 - 290 VAC per phase	
Maximum AC Input Current	40A	40A
Maximum AC Input Current	16000W	16000W
BATTERY MODE OUTPUT (AC)		
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)	
Output Waveform	Pure sine wave	
Efficiency (DC to AC)	96%	
HYBRID OPERATION		
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC	120 - 140 VAC / 180 VAC per phase
Acceptable Input Voltage Range	170 - 290 VAC per phase	170 - 280 VAC per phase
Maximum AC Input Current	40A	50A
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)	
Efficiency (DC to AC)	91%	96%
Battery Voltage Range	40 ~ 62 VDC	500 ~ 1000 VDC
Maximum Charging Current	300A	50A
Communication Port	RS-232, RS-485, USB, CAN and Wi-Fi	
Maximum Charging Current	Optional for SNMP and Modbus cards	
Dimension, D x W x H (mm)	255 x 660 x 750	255 x 660 x 750
Net weight (kgs)	73	70
Operating Temperature	-25 to 60°C, > 45°C power derating	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Allows remote control and monitoring of UPS



support grid-tie, off-grid and grid-tie with backup modes



Technology protects against low battery

# 3PH HYBRID TRANSFORMER SOLAR INVERTER (10KVA - 30KVA)



UPS

INVERTERS

ACCESSORIES



Parallel Operation  
up to 4 units



Self-consumption and  
feed-in to the grid



Programmable supply  
priority for PV, Battery

## BENEFITS

- ✓ Pure sine wave output
- ✓ Self-consumption and feed-in to the grid
- ✓ Programmable supply priority for PV, Battery, or Grid
- ✓ User-adjustable charging current and voltage
- ✓ Programmable multiple operation modes: Grid-tie (with the battery connected), off-grid, and grid-tie with backup
- ✓ Built-in timer for various modes of on/off operation
- ✓ Multiple communication for USB, RS-232, Modbus, and SNMP
- ✓ Monitoring software for real-time status display and control
- ✓ Parallel operation of up to 4 units for 30KVA

## APPLICATION



Air conditioners



Factories



Oil and gas  
fields



Hospitals and  
testing laboratories

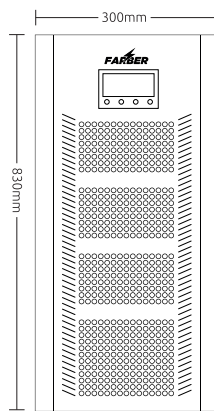


Servers

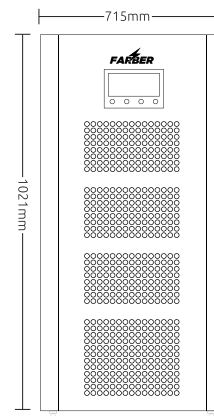
AVR

## SCHEMATIC

(6KVA)



(30KVA)



BATTERIES

## FEATURES



Pure sine wave output



Bi-direction concept



Separated to operate in  
different operation modes



Automatic load sharing  
on AC and DC output

SOLAR SOLUTION

# SPECIFICATION

MODEL NUMBER	FA-HINV-192V-10KVA	FA-HINV-384V-20KVA	FA-HINV-384V-30KVA
PHASE	3-phase in /3-phase-out		
Max. PV Array Power	15KW	30KW	45KW
Rated Output Power	10KW	20KW	30KW
Maximum Charging Power	10KW	20KW	30KW
Nominal DC Voltage/Max. DC Voltage	500 VDC / 750 VDC		720 VDC / 950 VDC
Start-up Voltage/Initial Feeding Voltage	220 VDC / 250 VDC		500 VDC / 550 VDC
MPP Voltage Range	250 VDC - 700 VDC	550 VDC - 900 VDC	460 VDC - 900 VDC
Number of MPP Trackers/Maximum Input Current	1 / 33 A	1 / 48 A	1 / 72 A
Full Power MPP Voltage Range	450 VDC - 700 VDC		625 VDC - 900 VDC
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)		
Output Voltage Range	184 - 265 VAC per phase		195.5 - 253 VAC per phase
Output Frequency Range	47.5 - 51.5 Hz or 59.3 - 60.5 Hz		49 - 51 Hz or 59.3 - 60.5 Hz
Nominal Output Current	14.3 A per phase	24.5 A per phase	43.5 A per phase
Power Factor	> 0.99		1
Maximum Conversion Efficiency (DC/AC)	0.91		0.95
AC start-up Voltage/Auto Restart Voltage	120 - 140 VAC per phase / 180 VAC per phase		150 - 170 VAC per phase / 180 VAC per phase
Acceptable Input Voltage Range	170 - 280 VAC per phase		
Max. AC Input Current	30A per phase	40A per phase	43.5 A per phase
Max. DC Voltage	750 VDC	950 VDC	
MPP Voltage Range	250 VDC - 700 VDC	550 VDC - 900 VDC	460 VDC - 900 VDC
Number of MPP Trackers/Max. Input Current	1 / 33 Amp	1 / 48 Amp	1 / 72 A
<b>BATTERY MODE OUTPUT (AC)</b>			
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)		
Output Waveform	Pure sine wave		
Efficiency (DC to AC)	91%		
<b>HYBRID OPERATION</b>			
Nominal DC Voltage/Max. DC Voltage	500 VDC / 750 VDC		720 VDC / 950 VDC
Start-up Voltage/Initial Feeding Voltage	220 VDC / 250 VDC		500 VDC / 550 VDC
MPP Voltage Range	250 VDC - 700 VDC	550 VDC - 900 VDC	460 VDC - 900 VDC
Number of MPP Trackers/Max. Input Current	1 / 33 Amp	1 / 48 Amp	1 / 72 Amp
Nominal Output Voltage	230 VAC (P-N) / 400 VAC (P-P)		
<b>BATTERY &amp; CHARGER</b>			
Maximum Charging Current	52A	50A	80 A
Nominal Battery Voltage	192 VDC	384 VDC	
<b>GENERAL</b>			
Dimension, D x W x H (mm)	559 x 320 x 909		430 x 715 x 1021
Net weight (kgs)	115	120	223
Humidity	0 - 90% RH (No condensing)		
Operating Temperature	-10 to 55 °C		

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Inverter, AC/DC  
charger or PV charger



Technology protects against short  
circuit



Technology for instant change-  
over between power and battery  
and vice-versa



Technology protects against  
reverse polarity

# ON-GRID SOLAR INVERTER

(1500VA - 5000VA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



DSP control technology



Parallel Mode



1PH/3PH

Suitable for either single phase or three-phase applications

## BENEFITS

- ✓ Advanced DSP control technology delivers accurate data
- ✓ Built-in smart MPPTs to enhance overall efficiency
- ✓ Up to 96% high conversion efficiency
- ✓ Modulized design for easy maintenance
- ✓ Industrial-grade components used for robust operation
- ✓ Data logging up to 15 years
- ✓ IP 65 protection for outdoor and harsh environment
- ✓ 1-year product warranty
- ✓ Optional monitoring software
- ✓ Parallel operation up to 6 units only for 3K/4K/5K models

## APPLICATION



Air cooler



Washing machine



Micro-oven



Refrigerator



Server



Vacuum cleaner



Control center

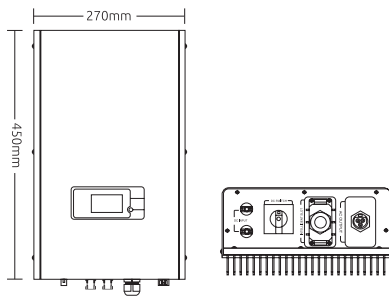


Dishwasher

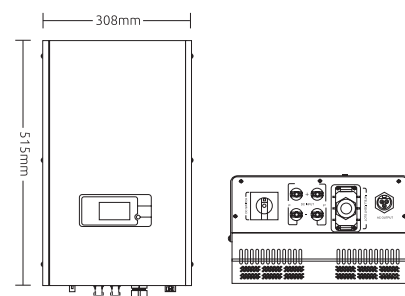


Air conditioners

## SCHEMATICS



(1.5KVA & 2KVA & 3KVA)



(5KVA)

## FEATURES



Pure sine wave output



Backup time capability



Technology protects against short circuit



Protection for outdoor and harsh environment

# SPECIFICATION

MODEL NUMBER	FA-ON-INV-1500VA	FA-ON-INV-2000VA	FA-ON-INV-3000VA	FA-ON-INV-5000VA
Max. PV Array Power	1650W	2200W	3300W	5000W
Rated Output Power	1500W	2000W	3000W	5000W
Maximum PV Array Open Circuit Voltage	500 VDC			
MPPT Range @ Operating Voltage	15 VDC - 450 VDC	170 VDC - 450 VDC	180 VDC - 500 VDC	250 VDC - 500 VDC
MPP Tracker Number	1		2	
GRID OUTPUT (AC)				
Nominal Output Voltage	220/230/240 VAC			
Output Voltage Range	184-264 VAC			
Nominal Output Current	6.6A	8.7A	13A	20A
AC Grid Frequency	50H Hz/60 Hz			
Power Factor	>99.9%			
Maximum Efficiency	96%			
PROTECTION				
DC Reserve-Polarity Protection	Yes			
Ground Fault Monitoring	Yes			
Grid Monitoring	Yes			
AC Short Circuit Protection	Yes			
Over Current Protection	Yes			
GENERAL				
Dimension, D x W x H (mm)	160 X 270 x 450		182 x 308 x 515	
Net Weight (kgs)	12.7		20.5	
Intelligent Slot	USB & RS-232 Card/Option: SNMP card and Modbus card			
Humidity	0-100% RH (Non-condensing)			
Operating Temperature	-25°C to 50°C			
Altitude	0 ~ 1000			

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Technology protects against overload



Up to 96% high conversion efficiency



wide input voltage range



Monitor and calculate the accurate saving energy



Technology protects against reverse polarity

# 3PH ON - GRID SOLAR INVERTER

(10KVA - 1250KVA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



DSP control technology



Parallel Mode



1PH/3PH

Suitable for either single phase or three-phase applications

## BENEFITS

- ✓ Advanced DSP control technology delivers accurate data
- ✓ Built-in smart MPPTs to enhance overall efficiency
- ✓ Up to 98.6% high conversion efficiency
- ✓ Modulized design for easy maintenance
- ✓ Industrial-grade components used for robust operation
- ✓ High-performance redundancy cooling system
- ✓ IP 65 protection for outdoor and harsh environment
- ✓ 1-year product warranty
- ✓ Optional monitoring software
- ✓ Option parallel operation

## APPLICATION



House Backup



Factories



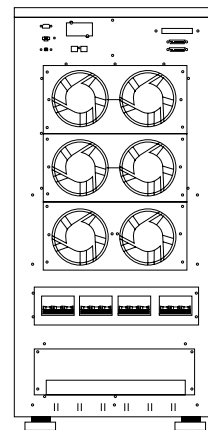
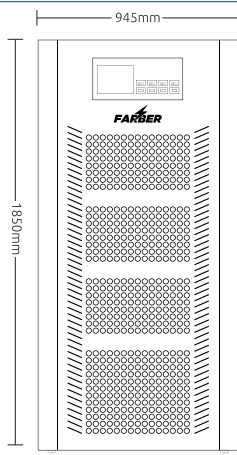
Oil and gas fields



Electricity plants

## SCHEMATIC

(500KVA-630KVA)



## FEATURES



Pure sine wave output



Technology protects against short circuit



Technology increases battery lifetime



Technology protects loose connection



Technology protects against low battery



Technology protects against reverse polarity



# SPECIFICATION

MODEL NUMBER	10KVA	50KVA	100KVA	250KVA	500KVA	630KVA
Capacity	10KW	50KVA	100KVA	250KW	500KW	630KW
<b>DC INPUT</b>						
Max. DC power	12 KW	55 KW	110 KW	275KW	550KW	690KW
Max. DC voltage				900VDC	1000VDC	
Operating Voltage Range	200~850VDC			-		
MPPT voltage range	250~850Vdc (Rated voltage 580Vdc)		450~850Vdc (Rated voltage 576Vdc)			
Number of MPPT trackers	3			1		
Max. input current per MPPT Tracker	12A/12A/12A	120A	240A	600A	1200A	1440A
<b>AC OUTPUT</b>						
Rated output power	10KW	50KVA	100KVA	250KW	500KW	630KW
Rated output voltage	400VAC					
AC output topology	Hardwire 5-wire (3 Ph+N+G)					
Output voltage range	400VAC±20% (adjustable)		(1+15%) * Normal AC Voltage (Adjustable ±5%,±10%,±15%,±20%)			
Grid frequency range	50 / 60Hz (±5Hz) , (adjustable)					
Rated AC output current	15.2A	72A	144A	361A	722A	909A
Max. output current	17A	79A	158A	397A	794A	1000A
Power factor	1 (Lagging0.9~Leading0.9) (adjustable)					
THDI	< 3%					
<b>PROTECTION</b>						
DC Reserve-Polarity Protection	Yes					
Ground Fault Monitoring	Yes					
Grid Monitoring	Yes					
AC Short Circuit Protection	Yes					
Over Current Protection	Yes					
<b>SYSTEM FEATURES</b>						
Max. efficiency	> 98.0%	> 97.0%	> 97.5%	> 97.6%	> 98.10%	> 98.10%
Euro efficiency	> 97.5%	> 96.5%	> 97.0%	> 97.0%	> 97.6%	> 97.6%
MPPT efficiency	99.9%					
Cooling	Forced air cooling					
Communication interface	RS485, external Ethernet (optional)					
<b>ENVIRONMENT</b>						
Operating temperature	-20°C to 60°C (optional)					
Humidity range	0- 95% (non-condensing)					
Noise level	<40dB	<58dB		<60dB		
<b>PHYSICAL</b>						
Dimension, D x W x H (mm)	506×670×210	600×1600×945	835×1850×945	1200×1850×945	1600×1850×945	
Net weight (kg)	44	520	900	1470	2800	3150

Available capacity: 10KVA, 12.5KVA, 15KVA, 17KVA, 20KVA, 30KVA, 50KVA, 100KVA, 250KVA, 500KVA, 630KVA, 750KVA, 1000KVA & 1250KVA

Modeling number: FA-ON-INV-XXXKVA-3PH, Where XX=INVERTER capacity



Technology for instant change-over between power and battery and vice-versa



Allows remote control and monitoring of UPS



Quick charge / normal charge options



Log data stored in centralized PC database



Technology protects against overload



support grid-tie, off-grid and grid-tie with backup modes

# SOLAR PUMP INVERTER

(750VA-160KVA)



UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Support Grid or Diesel Power Back Up



Self-communication



Water Level Switch

## BENEFITS

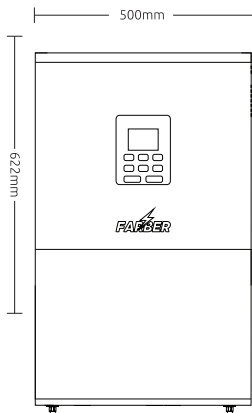
- ✓ Compatible with submersible pumps, surface pumps, swimming pool pumps and other pumps using three-phase/ single-phase asynchronous motors.
- ✓ Leading MPPT algorithm, fast response, good stability and maximum 99% MPPT efficiency.
- ✓ Faster speed of response and good stability.
- ✓ Fully automatic operation. Pump operation frequency range can be set based on project requirement.
- ✓ Support soft start of pump. Full motor protections. Optional water level switch to protect overow and dry running.
- ✓ Optional power supply automatic switching function to support grid/diesel back-up, meeting running requirement for day and night.
- ✓ Optional boost module for low power models (2.2 kW and below) to achieve normal operation under minimum 150 V input.

## APPLICATION



Agricultural fields

## SCHEMATIC



(1KVA & 160KVA)

## FEATURES



Pure sine wave output



Separated to operate in different operation modes



Automatic load sharing on AC and DC output



Technology protects against reverse polarity

# SPECIFICATION

MODEL NUMBER	FA-INVA-750VA	FA-INVA-1500VA	FA-INVA-2200VA	FA-INVA-4KVA	FA-INVA-5.5KVA	FA-INVA-7.5KVA
Power (kW)	0.75KW	1.5KW	12.2KW	4KW	6.5KW	7.5W
AC Input Voltage	3PH380 - 440 V					
Max. AC Input Current	3.4A	58A	5.8A	54A	17.5A	22.5A
Input String.	1					
Max. DC Input Current of Each String	8.35A	8.5A	14A	23A	23A	35A
Max. DC Input Voltage	780A					
Recommended MPP Voltage*	500-600V					
Adapting Motor Power	0.75KW	1.5KW	12.2KW	4KW	6.5KW	7.5W
Adapting Motor Voltage	3PH380 - 440 V					
Rated AC Output Current	2.5A	3.7A	5.3A	9.5A	14A	17.5A
Output Frequency	0 - 50 / 60 Hz					
MPPT Efficiency	99%					
Rated Conversion Efficiency	>97%					
Ambient Temperature*	-10 ~ 50°C					
Cooling Method	forced air cooling					
Display	LED					
Protection Grade	IP 20					
GENERAL						
Product Dimension	126x186x155mm	126x186x155mm	126x186x155mm	140x230x172mm	140x230x172mm	165x285x200mm
Packing Size	238x180x216mm	238x180x216mm	238x180x216mm	310x220x260mm	310x220x260mm	365x245x290mm
Net Weight	1.7 kg	1.7 kg	1.7 kg	2.7 kg	2.7 kg	4.6kg
Gross Weight	2.0 kg	2.0kg	2.0kg	3.5kg	3.5kg	5.4kg

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Inverter, AC/DC charger or PV charger



Technology protects against short circuit



Technology for instant change-over between power and battery and vice-versa



Up to 96% high conversion efficiency

# SPECIFICATION

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

MODEL NUMBER	FA-INVA-11KHVA	FA-INAV-150HVA	FA-INVA-18KHVA	FA-INVA-22KHVA	FA-INVA-30KHVA	FA-INVA-37KHVA
Power (kW)	11KW	15KW	18.5KW	22KW	30KW	37W
AC Input Voltage	3PH380 - 440 V					
Max. AC Input Current	30A	39A	45A	54A	68A	84A
Input String.	1					
Max. DC Input Current of Each String	35A	50A	50A	75A	75A	100A
Max. DC Input Voltage	780A					
Recommended MPP Voltage*	500-600V					
Adapting Motor Power	11KW	15KW	18.5KW	22KW	30KW	37W
Adapting Motor Voltage	3PH380 - 440 V					
Rated AC Output Current	25A	32A	37A	45A	60A	75A
Output Frequency	0 - 50 / 60 Hz					
MPPT Efficiency	99%					
Rated Conversion Efficiency	>97%					
Ambient Temperature*	-10 ~ 50°C					
Cooling Method	forced air cooling					
Display	LED					
Protection Grade	IP 20					
GENERAL						
Product Dimension	165x285x200mm	214x402x205mm	214x402x205mm	214x402x205mm	250x442x230mm	250x442x230mm
Packing Size	365x245x290mm	490x300x300mm	490x300x300mm	490x300x300mm	545x328x338mm	545x328x338mm
Net Weight	4.6 kg	8.8 kg	8.8 kg	10.8 kg	19kg	19kg
Gross Weight	5.4 kg	11kg	11kg	12kg	21kg	21kg



wide input voltage range



Monitor and calculate the accurate saving energy



Technology protects against reverse polarity



Log data stored in centralized PC database

# SPECIFICATION

MODEL NUMBER	FA-INVA-45KHVA	FA-INVA-55HVA	FA-INVA-75KHVA	FA-INVA-90KHVA	FA-INVA-110KHVA	FA-INVA-132KHVA	FA-INVA-160KHVA
Power (kW)	45KW	55KW	75KW	90KW	110KW	132W	160KW
AC Input Voltage	3PH 380 - 440 V						
Max. AC Input Current	98A	123A	157A	300A	221A	267A	324A
Input String.	1						
Max. DC Input Current of Each String	100A	150A	157A	300A	375A	450A	750A
Max. DC Input Voltage	780V	780V	780V	780V	780V	780V	1200V
Recommended MPP Voltage*	500-600V						
Adapting Motor Power	45KW	55KW	75KW	90KW	110KW	132KW	160KW
Adapting Motor Voltage	3PH 380 - 440 V						
Rated AC Output Current	92A	115A	150A	180A	215A	260A	315A
Output Frequency	0 - 50 / 60 Hz						
MPPT Efficiency	99%						
Rated Conversion Efficiency	>97%						
Ambient Temperature*	-10 ~ 50°C						
Cooling Method	forced air cooling						
Display	LED						
Protection Grade	IP 20						
GENERAL							
Product Dimension	299x602x 276mm	299x602x 276mm	329x660x 332mm	329x660x 332mm	329x660x 332mm	485x850x 355mm	485x850x 355mm
Packing Size	695x393x 462mm	695x393x 462mm	760x425x 528mm	760x425x 528mm	760x425x 528mm	950x450x 700mm	950x450x 700mm
Net Weight	27.2 kg	27.2 kg	41.8kg	41.8kg	41.8kg	110kg	120kg
Gross Weight	37kg	37kg	53kg	53kg	53kg	130kg	140kg

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Allows remote control and monitoring of UPS



support grid-tie, off-grid and grid-tie with backup modes



Technology protects against low battery

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

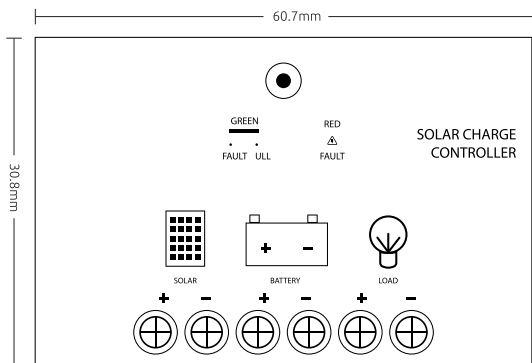
SOLAR SOLUTION



## APPLICATION



## SCHEMATIC



(120W)

## FEATURES



Technology increases battery lifetime



Technology protects against low battery



Technology protects against short circuit



Technology protects loose connection

## BENEFITS

- ✓ Intelligent Pulse Width Modulation technology
- ✓ Built-in DSP controller with high performance
- ✓ Automatic battery voltage detection (Only for 600W and 3KW)
- ✓ Three-stage charging optimizes battery performance
- ✓ Auto load-detection
- ✓ Multi-functional LCD displays detailed information
- ✓ Reverse polarity protection of solar panels and battery
- ✓ Overcharge and overload protection
- ✓ Suitable for different battery types

# SPECIFICATION

MODEL	FA-PWCHR-12V-120W	FA-PWCHR-12V-240W	FA-PWCHR-12V-360W	FA-PWCHR-12V-600W	FA-PWCHR-12V-720W	FA-PWCHR-12V-1200W
<b>INPUT</b>						
Maximum PV Array Open Circuit Voltage	25 V	50 V			75V	
Maximum PV Array Power	120 W	240 W	360 W	600 W	720 W	1200 W
Maximum PV Array Power	120 W	240 W	360 W	600 W	720 W	1200 W
Maximum Current	10 A		30 A	50 A	30 A	50 A
<b>OUTPUT</b>						
Charging Method	Two stages: bulk and floating 1 / floating 2			Three stages: bulk, abs cv, floating		
Connected Battery Type	Sealed lead acid battery					
Maximum Charging Current	10 A		30A	50A	30A	50A
Nominal Battery Voltage	12 V	24 V		12 V		24 V
Ripple Voltage	< ± 1 V					
<b>INDICATORS</b>						
LED Display	Green LED indicating charging status					
<b>ENVIRONMENT</b>						
Altitude	0~3000 m					
Operating Temperature	-20°C to 55°C					
<b>PHYSICAL</b>						
Dimension, D X W X H (mm)	92.6 x 60.7 x 30.8		107.6 x 75 x 30.8	131 x 85 x 40.5	107.6 x 75 x 30.8	131 x 85 x 40.5
Net Weight (kgs)	210 g		340 g	490 g	340 g	490 g
Type of Mechanical Protection	IP 31					
Connector	Input/Output terminal block					
<b>ENVIRONMENT</b>						
Storage Temperature	-40°C to 75°C					

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Quick charge / normal charge options



Technology protects against overload



Technology protects against reverse polarity

UPS

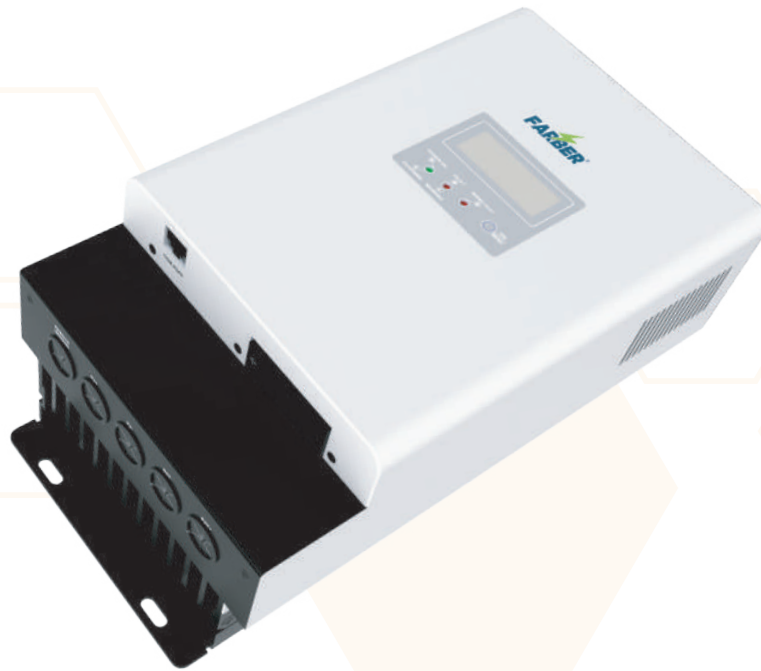
INVERTERS

ACCESSORIES

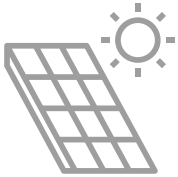
AVR

BATTERIES

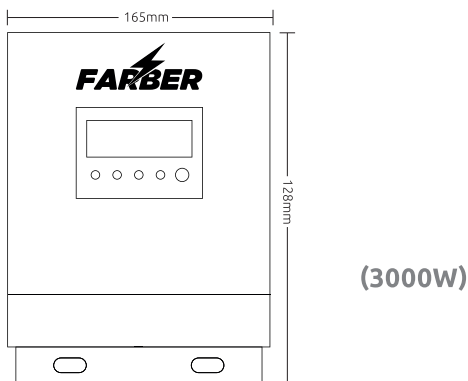
SOLAR SOLUTION



## APPLICATION



## SCHEMATIC



## BENEFITS

- ✓ Intelligent Maximum PowerPoint Tracking technology
- ✓ Built-in DSP controller with high performance
- ✓ Automatic battery voltage detection (Only for 600W and 3KW)
- ✓ Battery temperature sensor (BTS) automatically provides
- ✓ temperature compensation (only for 3KW)
- ✓ Three-stage charging optimizes battery performance
- ✓ Auto load-detection
- ✓ Multi-functional LCDs detailed information
- ✓ Reverse polarity protection of solar panels and battery
- ✓ Overcharge and overload protection
- ✓ Suitable for different battery types

## FEATURES



Technology increases battery lifetime



Technology protects against low battery



Technology protects against short circuit

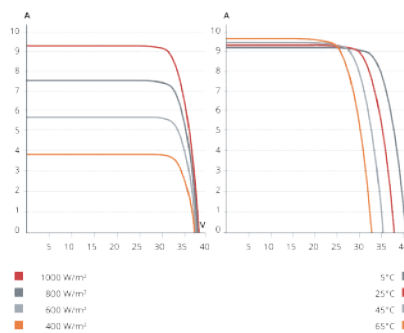


Technology protects loose connection



# SPECIFICATION

MODEL	FA-MPCHR-12V-300W	FA-MPCHR-12V/24V-600W	FA-MPCHR-36V-850W	FA-MPCHR-12V/48V-3000W			
<b>INPUT</b>							
MPPT Range @ Operating Voltage	15 VDC ~ 37 VDC	15 VDC ~ 33 VDC	30 VDC ~ 66 VDC	45 VDC ~ 88 VDC	60 VDC ~ 115 VDC		
Maximum PV Array Open Circuit Voltage	50 VDC	50 VDC	75 VDC	98VDC	145VDC		
Maximum PV Array Power	300 W	300 W	600 W	850 W	800W	1600W	3200W
Maximum Current		18 A		17A		50 A	
<b>OUTPUT</b>							
Nominal Battery Voltage	12 VDC	12 VDC	24 VDC	36 VDC	12 VDC	24 VDC	48 VDC
Connected Battery Type	Sealed lead acid, vented, Gel, NiCd battery			Sealed lead acid, AGM or Gel			
Maximum Charging Current		25 A		20A		60 A	
Maximum Efficiency	98%						
Charging Method	Three stages: bulk, absorption, and floating						
<b>PROTECTION</b>							
Overload Protection	> 110% : audible alarm						
Overcharge Protection	Yes						
Polarity Reversal Protection @ Solar Cell & Battery	Yes						
<b>INDICATORS</b>							
LCD Panel	LCD panel indicating solar power, load level, battery voltage/capacity, charging current, and fault conditions						
LED Display	Three indicators for solar, charging, and load status						
<b>PHYSICAL</b>							
Dimension, D x W x H (mm)	135 x 170 x 57.5		220 x 170 x 57.5		315 x 165 x 128		
Net Weight (Kgs)	0.92		1.85		4.5		
IP Protection	IP 43			IP 31			
Connector	Input/Output terminal block						
<b>ENVIRONMENT</b>							
Humidity	0 ~ 100% RH (Non-condensing)			5 ~ 95% RH (Non-condensing)			
Operating Temperature	-20°C to 55°C			0°C to 55°C			
Storage Temperature	-40°C to 75°C			-15°C to 60°C			
Altitude	0 ~ 3000 m						



Quick charge / normal charge options



Technology protects against overload



Technology protects against reverse polarity

# SOLAR PANEL

(530W-550W)

UPS

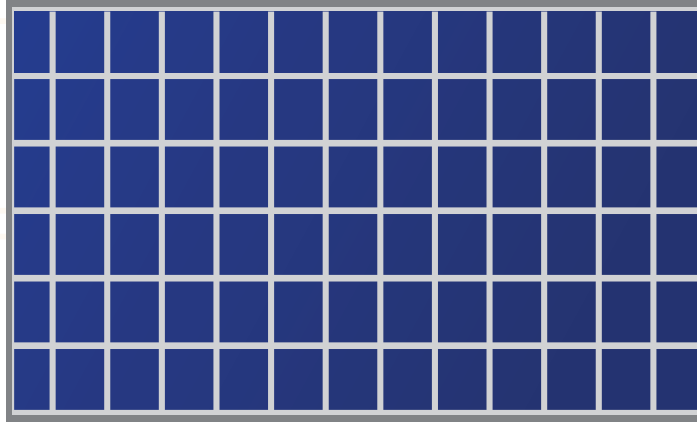
INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



## APPLICATION



Agricultural fields



Oil and gas fields



Hospital & testing laboratories



Factories



Lighting for road



Residential area



School park

## BENEFITS

- ✓ High module conversion efficiency:  
Module efficiency up to 21.3 % achieved through advanced cell technology and manufacturing process.
- ✓ Suntech's current sorting process:  
Up to 2 % power loss caused by the current mismatch could be diminished by the current sorting technique to maximize system power output.
- ✓ Excellent weak light performance:  
More power output in weak light conditions, such as cloudy, morning and sunset.
- ✓ Lower operating temperature:  
Lower operating temperature and temperature coefficient increases the power output.
- ✓ Extended wind and snow load tests:  
Module certified to withstand extreme wind (2400 Pascal) and snow loads (5400 Pascal).
- ✓ Withstanding harsh environment:  
Reliable quality leads to better sustainability even in harsh an environment like desert, farm, and coastline.

## FEATURES



Excellent module efficiency  
of up to 16.97%



Cell efficiency of up to 21.5%



Outstanding low-light  
performance

# SPECIFICATION

MODEL	FA-SP-40V-550W	FA-SP-40V-545W	FA-SP-40V-540W	FA-SP-40V-535W	FA-SP-40V-530W
Maximum Power at STC (Pmax)	550W	545W	540W	535W	530W
Optimum Operating Voltage (Vmp)	42.05V	41.87	41.75V	41.57V	41.39V
Optimum Operating Current (Imp)	13.08A	13.02A	12.94A	12.87A	12.81A
Open Circuit Voltage (Voc)	49.88V	49.69V	49.54V	49.39V	49.24V
Short Circuit Current (Isc)	14.01A	13.96A	13.89A	13.83A	13.76A
Module Efficiency	21.3%	21.1%	20.9%	20.7%	20.5%
Operating Module Temperature	40 °C to +85 °C				
Maximum System Voltage	1500 V DC (IEC)				
Maximum Series Fuse Rating	25 A				
Power Tolerance	0/+5 W				
<b>MECHANICAL CHARACTERISTICS</b>					
Solar Cell	Monocrystalline silicon 182 mm				
No. of Cells	144 (6 × 24)				
Dimensions(mm)	2279 × 1134 × 35 mm (89.7 × 44.6 × 1.4 inches)				
Weight	29.1 kgs (64.2 lbs.)				
Front Glass	3.2 mm (0.126 inches) fully tempered glass				
Frame	Anodized aluminum alloy				
Junction Box	IP68 rated (3 bypass diodes)				
Output Cables	4.0 mm <sup>2</sup> , Portrait: (-) 350 mm and (+) 160 mm in length or customized length				
<b>TEMPERATURE CHARACTERISTICS</b>					
Nominal Module Operating Temperature (NMOT)	42 ± 2 °C				
Temperature Coefficient of Pmax	-0.36%/°C				
Temperature Coefficient of Voc	-0.304%/°C				
Temperature Coefficient of Isc	0.050%/°C				

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

**No. 1  
PTC**

High PTC rating of up to 91.55%



Junction box for long term weather endurance



Heavy snow load up to 5400 Pa, wind load up to 2400 Pa

# SOLAR PANEL

(635W - 660W)

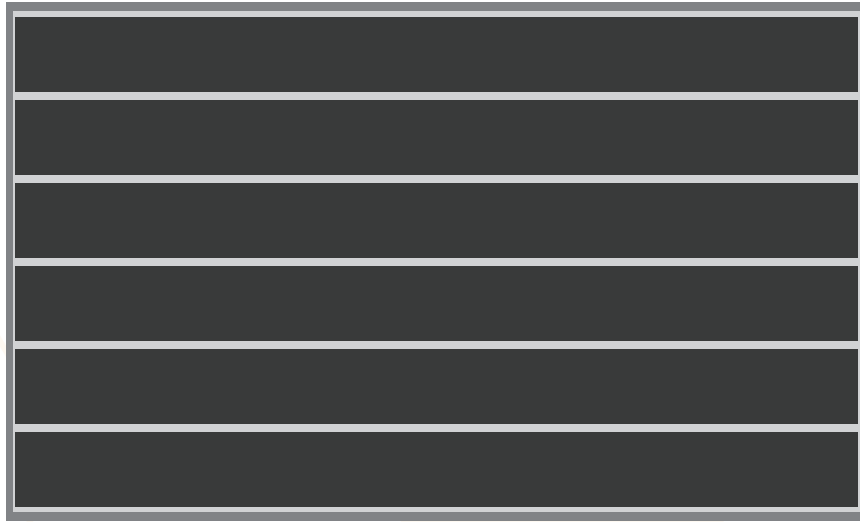
UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES



## APPLICATION



Agricultural fields



Oil and gas fields



Hospital & testing laboratories



Factories



Lighting for road



Residential area



School park

## BENEFITS

- ✓ Widely using of the most popular and mature type of modules for the solar system.
- ✓ High power output and highest conversion efficiency of 21.50%.
- ✓ Anti-reflective and anti-soiling surface reduces power loss from dirt and dust.
- ✓ Outstanding Performance in low-light irradiance environments.
- ✓ Excellent mechanical load resistance: Certified to withstand high wind loads (2400Pa) and Snow loads (5400Pa).
- ✓ Positive power tolerance: 0~+5W.

## FEATURES



Excellent module efficiency of up to 16.97%



Cell efficiency of up to 21.5%



Outstanding low-light performance

SOLAR SOLUTION

# SPECIFICATION

MODEL	FA-SP-38V-635W	FA-SP-38V-640W	FA-SP-38V-645W	FA-SP-38V-650W	FA-SP-38V-655W	FA-SP-38V-660W
Encapsulation	Class/Eva/Cell/Eva/Back sheet					
Maximum Power Pmax (W)	635	640	645	650	655	660
Maximum Power Voltage (Vmp/V)	38.10	38.20	38.30	38.30	38.40	38.50
Optimum Operating Current (Imp)	16.67	16.76	16.86	16.95	17.04	17.13
Open-Circuit Voltage (Voc)	45.90	46.00	46.10	46.20	46.30	46.40
Short-Circuit Current (Isc)	17.73	17.83	17.93	18.03	18.13	18.23
Module Efficiency (%)	20.70	20.90	21.00	21.20	21.30	21.50
Power Tolerance (W)	0 ~ +5W					
Temperature Coefficient of Isc (alsc)	+0.04%/°C					
Temperature Coefficient of Voc (βVoc)	-0.28%/°C					
Temperature Coefficient of Pmax (γPmp)	-0.36%/°C					
STC	Irradiance 1000W/m <sup>2</sup> , Cell Temperature 25°C, Air Mass 1.5					
<b>WORKING CONDITIONS</b>						
Maximum System Voltage	DC1500V					
Operating Temperature	-40°C ~ +85°C					
Maximum Series Fuse	30A					
Maximum Static Load, Front (e.g., snow and wind)	5400Pa (112 lb/ft <sup>2</sup> )					
Maximum Static Load, Back (e.g., wind)	2400Pa (50 lb/ft <sup>2</sup> )					
NOCT	43±2°C					
Positive Power Tolerance	0~ +5W					
Application Class	Class A					
<b>MECHANICAL PARAMETERS</b>						
Cell(mm)	Mono					
Weight(kg)	38.5kg					
Dimensions(mm)	2355*1303*35mm					
Cable Cross-Section Size (mm <sup>2</sup> )	4					
Cable Cross- Section Length (mm)	300mm					
Glass Thickness	2mm Tempered Glass					
Junction Box	IP68, with Bypass Diodes					
Connector	MC4 Compatible					

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION

**No. 1**  
**PTC**

High PTC rating of up to 91.55%



Junction box for long term weather endurance



Heavy snow load up to 5400 Pa, wind load up to 2400 Pa

# SOLAR STREETLIGHT ALPHA AND PI SERIES

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



## APPLICATION



Houses



Oil and gas fields



Hospital & testing laboratories



Factories



Lighting for road

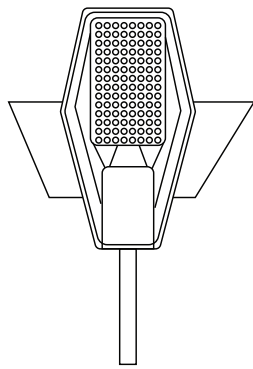
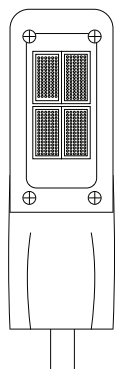


Residential area



School park

## SCHEMATIC



## BENEFITS

- ✓ Integrated all-in-one, standardized protection, easy installation
- ✓ life and better performance to guarantee the whole products service life
- ✓ 1 Year warranty
- ✓ Aluminum material for the main body corrosion prevention and rust protection
- ✓ Water resistance structure, safe and reliable

## FEATURES



Energy saving



Long life  
(8-10 years)



Water resistance structure

# SPECIFICATION

MODEL	FA-SSL-6V48-400W	FA-SSL-6V100-400W	FA-SSL-18V180-400W	FA-SSL-6V200-400W	FA-SSL-10V12-100W	FA-SSL-10V18-200W	FA-SSL-10V24-300W
Light Output							
Lamp Power	400W			100W		200W	300W
Led Type	SMD 3030						
Led Chip Type	Double Chip LED						
Led Chip Lumen Efficiency	130lm/W						
Led Quantity	150Pcs						
Light Distribution	150°						
Color	3000K/4000K/6500K						
Total Lumen	Up to 4000 lm	Up to 6000 lm	Up to 8000 lm	Up to 10000 lm	Up to 2000 lm	Up to 4000 lm	Up to 5000 lm
Beam Angle	75*135°					110°	
Charging Time	6-8 hours						
Working Time	16-20Hours					12hours * 365days	
Color	3000K/4000K/6500K						
SOLAR & MPPT System							
Solar Type	Polycrystalline silicon						
Solar Panel capacity / Voltage	50W/6V	90W/6V	110W/6V	150W/6V	25W/10V	35W/35V	45W/10V
Controller System	MPPT® Solar System						
Conversion Efficiency	18.3%						
Intelligent Control Of Charge and Discharge	Yes						
Working Weather	Sunny/Cloudy/Rainy						
Sensor	Day-night Sensor						
Current(Max)	30A						
Surface Material	Tempered Glass						
Battery							
Battery Type	Lifepo4						
Battery Capacity	48Ah/3.2V	100Ah/3.2V	180Ah/3.2V	200Ah/3.2V	12Ah/6.4V	18Ah/6.4V	24Ah/6.4V
Overcharge Protection	Yes						
Overdischarge Protection	Yes						
Over Temp. Protection	Yes						
Other							
Installation Distance	10-20m	15-25m	20-30m		10-20m		
Installation Height	4-6m	6-10m		4-6m			
Housing	High Purity Aluminum						
Lamp Size	600*350mm						

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Alloy material for corrosion prevention the main body



Intelligent power control



Junction box for long term weather endurance

# ENERGY STORAGE SYSTEM

(5KVA & 8KVA)



UPS

INVERTERS

ACCESSORIES



Parallel Operation  
up to 4 units



2 Years Warranty



IP20 Level

## BENEFITS

- ✓ Integrated 8kw off-grid inverter and lithium-ion battery module
- ✓ Built-in Wi-Fi for mobile monitoring (Android/iOS App is available)
- ✓ Supports USB On-the-Go function
- ✓ Reserved communication port for BMS (RS485, CAN-BUS, or RS232)
- ✓ Configurable AC/PV output usage timer and prioritization
- ✓ Selectable high-power charging current
- ✓ Selectable input voltage range for home appliances and personal computers
- ✓ Compatible with Utility Mains or generator input
- ✓ Scalable Li-Ion battery expansion
- ✓ IP20

## APPLICATION



Air conditioners



Hospitals and testing laboratories



Servers



Oil and gas fields



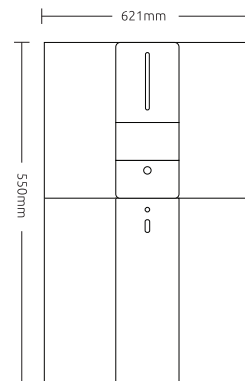
Communication center



House Backup

AVR

## SCHEMATIC



(5KVA)

BATTERIES

## FEATURES



Pure sine wave output



Bi-direction concept



Separated to operate in different operation modes



Automatic load sharing on AC and DC output

SOLAR SOLUTION



# SPECIFICATION

MODEL NUMBER	FA-ESS-8KVA	FA-ESS-5KVA
Rated Inverter Power	8000VA/8000W	5000VA/5000W
Input Voltage	230 VAC	230 VAC
Selectable Voltage Range	170-280 VAC (For Computers); 90-280 VAC (For Home Appliances)	170-280 VAC (For Computers); 90-280 VAC (For Home Appliances)
Frequency Range	50 Hz/60 Hz (Auto sensing)	50 Hz/60 Hz (Auto sensing)
AC Voltage Regulation (Batt. Mode)	230VAC ± 5%	230VAC ± 5%
Surge Power	16000VA	10000VA
Efficiency (Peak)	93%	93%
Transfer Time	15 ms (For Personal Computers), 20 ms (For Home Appliances)	15 ms (For Personal Computers) 20 ms (For Home Appliances)
Waveform	Pure Sine Wave	
No. Load Power Consumption	<75W	
Solar Charger type	MPPT	
Maximum PV Array Power	8000W (4000W x 2)	5000W
MPPT Range @ Operating Voltage	90 ~ 450 VDC	120~ 450 VDC
Maximum PV Array Open Circuit Voltage	500 VDC	500 VDC
Maximum Solar Charge Current	150 A	100A
Maximum AC Charge Current	120 A	100A
Maximum Charge Current	150 A	100A
Dimension, D x W x H (mm)	214 x 621 x 500	210 x 621 x 551
Net Weight (kgs)	25	55
BATTERY MODULE		
Capacity	5000Wh	5120Wh
Nominal Voltage	51.2VDC	51.2VDC
Full Charge Voltage (FC)	56V	56V
Full Discharge Voltage (FD)	42V	42V
Typical Capacity	100Ah	100Ah
Max Continuous Discharging Current	150A	150A
Max Discharging Current	192A at 1min	192A at 1min
Protection	BMS, breaker	
Charge Voltage	56V	
Charge Current	20A (0.2C)	
Maximum Charge Current	50A (0.5C)	
Standard Charge Method	0.2C CC (Constant current) charge to FC, CV (Constant voltage FC) charge till charge current decline to <0.05C	
Inner Resistance	<20m ohm	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Inverter, AC/DC charger or PV charger



Technology protects against short circuit



Technology for instant change-over between power and battery and vice-versa



Technology protects against reverse polarity

# ENERGY STORAGE SYSTEM

(5.5KVA & 6.5KVA)



UPS

INVERTERS

ACCESSORIES



Parallel Operation  
up to 4 units



2 Years Warranty



IP20 Level

## BENEFITS

- ✓ Integrated 5.5kw hybrid solar inverter and lithium-ion battery module
- ✓ Self-consumption and Feed-back to the Grid
- ✓ Programmable supply priority for PV, battery, or Grid
- ✓ User-adjustable battery charging current
- ✓ Programmable multiple operation modes: Grid-tie, off-grid, and grid-tie with backup
- ✓ Built-in timer for various modes of on/off operation
- ✓ Multiple communication for USB, RS232, Modbus, SNMP, GPRS, and Wi-Fi
- ✓ Monitoring software for real-time status display and control
- ✓ Enhance AC/Solar charger to 100A
- ✓ Scalable Li-Ion battery expansion
- ✓ Li-Ion battery life cycle: 8000 cycles at 25 °C
- ✓ High surge discharging current up to 3C

## APPLICATION



Air conditioners



Hospitals and testing laboratories



Servers



Oil and gas fields



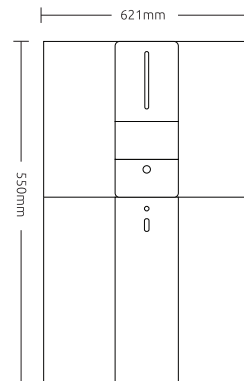
Communication center



House Backup

AVR

## SCHEMATIC



(5.5KVA)

BATTERIES

## FEATURES



Pure sine wave output



Bi-direction concept



Separated to operate in different operation modes



Automatic load sharing on AC and DC output

SOLAR SOLUTION

# SPECIFICATION

MODEL NUMBER	FA-ESS-5.5KVA	FA-ESS-6.5KVA
Maximum PV Input Power	6500W	8000W
Rated Output Power	5500W	6500W
Maximum Charging Power	2880W	6500W
Nominal DC Voltage / Maximum DC Voltage	360 VDC / 500 VDC	
Start-up Voltage / Initial Feeding Voltage	116 VDC / 150 VDC	
MPP Voltage Range	120 VDC ~ 450 VDC	90 ~ 230 VDC
Maximum PV Array Open Circuit Voltage	250 VDC	
Maximum Solar Charge Current	120A	
Number of MPP Trackers / Maximum Input Current	2 / 2 x 13 A	2 / 2 x 18 A
Nominal Output Voltage	208/220/230/240 VAC	
Output Voltage Range	184 - 264.5 VAC	
Max. Output Current	23.9A	29.5A
Maximum Conversion Efficiency (DC/AC)	>96%	
European Efficiency@ Vnominal	>95%	
AC Start-up Voltage / Auto Restart Voltage	120 - 140 VAC / 180 VAC	
Acceptable Input Voltage Range	170 - 280 VAC	90-140 VAC (For Computers) 80-140 VAC (For Home Appliances)
Maximum AC Input Current	40A	60A
Nominal DC Voltage	48 VDC	
Maximum Charging Current	100 A	120 A
Dimension, D x W x H (mm)	214 x 621 x 500	214 x 621 x 500
Net weight (kgs)	25	25
Nominal Output Voltage	208/220/230/240 VAC	120 VAC
Efficiency (DC to AC)	93%	
BATTERY MODULE		
Capacity	5000Wh	5120Wh
Nominal Voltage	51.2VDC	51.2VDC
Full Charge Voltage (FC)	56V	56V
Full Discharge Voltage (FD)	42V	42V
Typical Capacity	100Ah	100Ah
Max Continuous Discharging Current	150A	150A
Max Discharging Current	192A at 1min	192A at 1min
Protection	BMS, breaker	
Charge Voltage	56V	
Charge Current	20A (0.2C)	
Maximum Charge Current	50A (0.5C)	
Standard Charge Method	0.2C CC (Constant current) charge to FC,CV (Constant voltage FC) charge till charge current decline to <0.05C	
Inner Resistance	<20m ohm	

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES

SOLAR SOLUTION



Inverter, AC/DC  
charger or PV charger



Technology protects against short  
circuit



Technology for instant change-  
over between power and battery  
and vice-versa



Technology protects against  
reverse polarity

# ENERGY STORAGE SYSTEM CUSTOMIZED SOLUTION

(UP TO 50 MWH)

UPS

INVERTERS

ACCESSORIES

AVR

BATTERIES



## TYPE OF ENERGY STORAGE SOLUTIONS COOLING



Air Cooling solution



Liquid Cooling solution

## BENEFITS

Farber energy storage solutions exemplify remarkable qualities, combining lightweight and compact designs with remarkable capacity and energy density. These solutions demand minimal maintenance and boast an impressively extended lifespan. Furthermore, they harness the advantageous features of lithium-ion batteries, enabling rapid and efficient charging alongside a low self-discharge rate.

## FEATURES



Maintenance Free



Install the battery in a properly ventilated



After discharge, charge the battery immediately

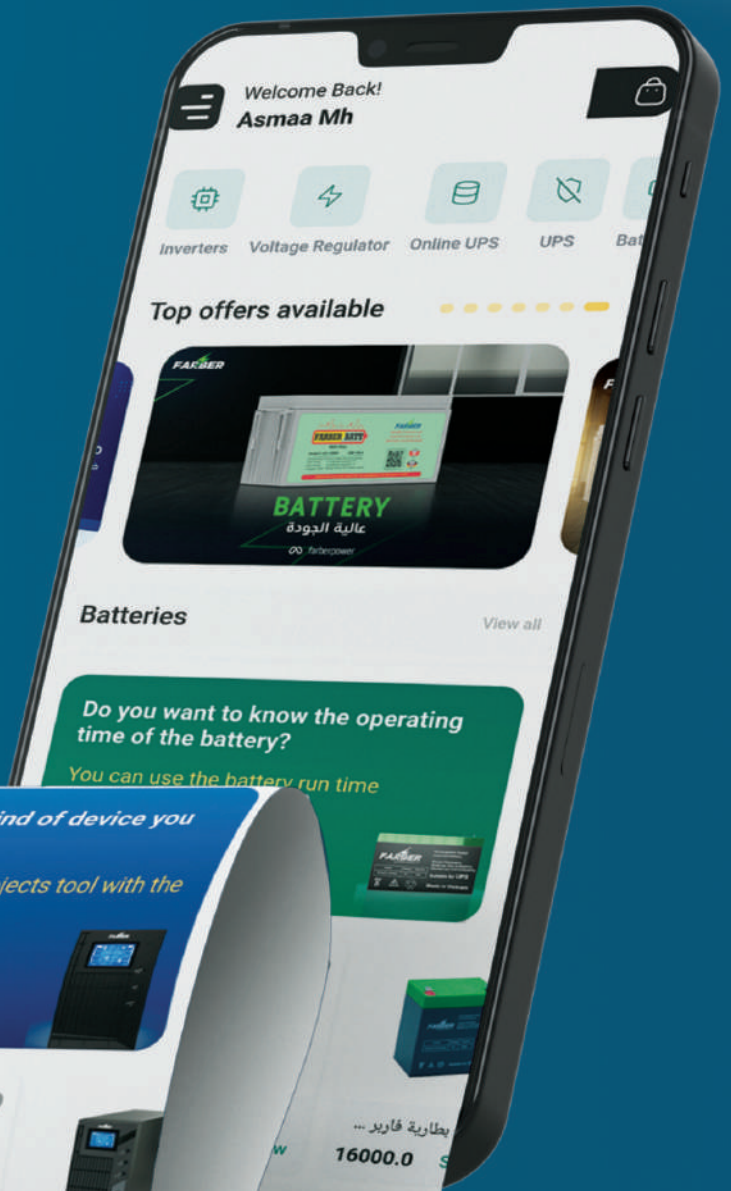


Unique Design

SOLAR SOLUTION



# DOWNLOAD APP

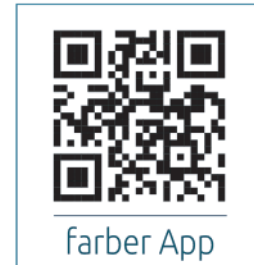


Design, discover and deliver a variety of power solutions through our online solutions:

## Farber App

Farber app is not an only e-commerce app, it also includes Power calculators for both Batteries and power devices to help you choose the best solution for your problems.

Download the “Farber” app from APP Store or Google Play to your mobile.



## Farber.online

Farber.online permits to purchase all our small business solutions with delivery service in max 2 working days for all cities inside Iraq.

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Farber.tech allows you to design your solution based on your needs by answering a few questions only with installation and delivery service.

To have an instant solution with installation and delivery service, please scan:



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