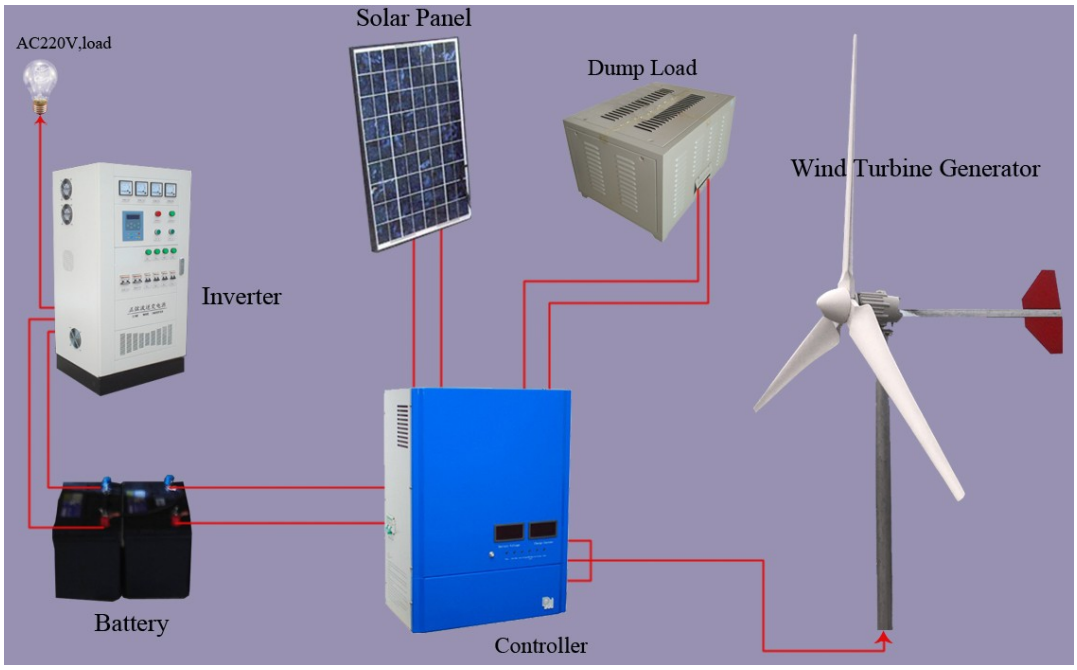
Off Grid Wind Solar Power System

500W – 20KW

A "hybrid" electric system that combines wind and solar technologies offers several advantages over either single system.

In many regions worldwide, wind speeds are relatively lower in the summer when the sun shines brightest and longest. The wind is strongest in the winter when less sunlight is available due to shorter days. Even during the same day, in many regions worldwide, there are different and opposite wind and solar resource patterns.



Because the peak operating times for wind and solar systems occur at different times of the day and year, hybrid systems are more likely to produce electricity consistently throughout the year. It combines the best of both worlds !

Our hybrid systems are a combination of stand-alone wind systems. For the times when neither the wind nor the solar system is producing, our hybrid systems provide power through batteries.

Configuration and Cost

Model	HY-500	HY-1KW	HY-2KW	HY-3KW
Wind Generator	300W $153	500W $177	1.5KW $362	2KW $551
Tower Height	6 meter $75	6 meter $75	9 meter $145	9 meter $187
Solar Power	200W $108	500W $270	500W $270	1KW $540
Wind/Solar Hybrid Controller	500W $73	1KW $82	2KW $116	3KW $165
Inverter	500W $19	1KW $83	2KW $152	3KW $244
Connecting Cable	USD40 for 20 meter length cable for wind turbine USD25 for 20 meter wire for solar panel/controller			
Battery Bank (Users buy it himself)	2 pc 12V/150AH	4 pc 12V/150AH	4 pc 12V/150AH	4 pc 12V/150AH
Total Power &EX WORKS Price	500W $526	1KW $735	2KW $1110	3KW $1752
Mini order qnty	30 set	15 set	10 set	8 set

Model	HY-5KW	HY-10KW	HY-15KW	HY-20KW
Wind Generator	2.5KW $720	5KW $1,216	8KW $1,850	10KW $2,358
Tower Height	9 meter $224	12 meter $326	15 meter $480	15 meter $590

Solar Power	2.5KW $1,350	5KW $2,700	6.9KW $3,726	10KW $5,400
Wind/Solar Hybrid Controller	5KW $300	10KW $730	15KW $973	20KW $1,130
Inverter	5KW $558	10KW $1,234	15KW $2,380	20KW $2,901
Connecting Cable	USD60 for 30 meter length cable for wind turbine USD38 for 30 meter wire for solar panel/controller			
Battery Bank (Users buy it himself)	4 pc 12V/200AH	10 pc 12V/200AH	20 pc 12V/200AH	20 pc 12V/150AH
Total Power & EX WORKS Price	5KW $3,250	10KW $6,304	15KW $9,507	20KW $12,477
Mini order qnty	5 set	3 set	2 set	1 set

1. Wind Turbine Generator Specification

Model	WFD300W	WFD500W
Rated Power	300W at rated wind speed	500W at rated wind speed
Max Power	400W	600W
Kilowatt Hours Per Month /average 5.8 m/s	43 kWh	87 kWh
Voltage Options	24V/36V /48V	36V/48V& Grid Tie
Start Wind Speed	2.5 m/s	
Rated Wind Speed	11 m/s	
Survival Wind Speed	40 m/s	

Cut-Out Wind Speed	13 m /s	
Over speed Protection	Side furling with gravity return	
Temperature Range	-40 to +60 Deg. C	-40 to +60 Deg. C
Rotor Diameter	1.75 m	2.0 m
Swept Area	2.74 m^2	3.14 m^2
Rotor speed	600 rpm	485 rpm
Blade material	Aluminum Alloy	
Generator	3 phase Neodymium permanent magnet	
Rotor thrust(at 20 meters/second)	160 Newton	175 Newton
Noise	Max 1-4 dBA above background	
Tower Top Weight	17 kg	25 kg

Model	WFD1.5KW	WFD2KW	WFD2.5KW	WFD5KW	WFD10KW
Rated Power	1.5KW	2KW	2.5KW	5KW	10KW
Max Power	2KW	3KW	3KW	6KW	11KW
Voltage options	48V/96V/120 V& Grid Tie	96V/120V& Grid Tie			
Start wind speed	3 m/s				
Rated Wind Speed	11 m/s				

Survival Wind Speed	50m/s				
Cut-Out Wind Speed	13 m/s				
Over Speed Protection	Side furling plus dump loading				
Body	Press aluminum alloy				
Rotor Diameter	2.7 m	3.2 m	3.80 m	4.80 m	6.40 m
Swept Area	5.72 m^2	13.58 m^2	11.33 m^2	18.08 m^2	32 m^2
Rotor speed	500rpm	380rpm	400rpm	280 rpm	
Noise	Max 1-4 dBA above background				
Blade number	5	3			
Blade material	Aluminum	Fiberglass			
Generator	3 phase Neodymium permanent magnet alternator				
Turbine Weight(kg)	65	120	140	163	220

2. 250W Solar Panel

Specification of solar panel	
Module type	GYP-250P
Cell	Poly-crystal silicon
No. of Cells and Connections	72 (6 x 12)

Maximum Power(Pm)	240W±3%
Maximum Power Voltage(Vpm)	34.4V
Maximum Power Current(Ipm)	7.26A
Open Circuit Voltage(Voc)	43.2 V
Short Circuit Current(Isc)	7.52A
Module Efficiency	14.2%
Cell Efficiency	15.7%
dimensions	1854 x 983 x 40 mm
Weight	23 kg
Operating temperature	-40 ℃to 85℃

3. Hybrid Charge Controller

Model	HD-500W	HD-1KW	HD-2KW
Rated output power	500W	1KW	2KW
Input voltage range	11~15V	22~30V	48~58 V
Rated battery voltage	12V	24V	48V
rated input wind power	300W	600W	1.5KW
Max input solar power	200 W	400 W	500W
Over charge protection	15V±0.5V	30V±0.5V	58V±0.5V
Recommended battery	1 x 12VDC/150AH	2 x 12VDC/150AH	48VDC/200AH
Maximum Input Current	25A		
Protection Function	Over charge, battery reverse-connection , load short-circuit, wind turbine automatic brake.		
Self Consumption	< 50 mA		

Size	440 x 430 x 270mm 8 kg 440 x 430 x 100mm 5 kg

Model	HD-3KW	HD-5KW	HD-10KW	HD-20KW
Rated output power	3KW	5000W	10 KW	20KW
Input voltage range	50~58V	80~120V	100~290 V	
Rated battery voltage	48 V	120V	240V	
rated input wind power	2KW	3000W	5 KW	10KW
Max input solar power	1KW	2200 W	5 KW	10KW
Over charge protection	59V±0.5V	150V±0.5V	290V±0.5V	
Recommended battery	48VDC/200AH	120VDC/200AH	240VDC/200AH	
Rated Wind Turbine Maximum Input Current	50A	75 A	30A	50A
Protection Function	over charge, battery reverse-connection Solar cells reverse charging, battery reverse, over load, load short-circuit, lighting, wind turbine current limiting, wind turbine automatic brake and manual brake.			
Self Consumption	< 100 mA			

Size	Controller: 60x50x33cm 23KG Dump load: 69x45x53cm 31kg	Controller: 60x50x33cm 21KG Dump load: 80x58x45cm 27kg

4. Inverter Specification

Model	PI-500-24	PI-1000-48	PI-2000-48

Output power	Continuous 500W/peak 1KW	Continuous 1KW/peak 2KW	Continuous 2KW/peak 4KW
Output voltage	100/110/120/220/230/240VAC		
Optimum efficiency	＞85%		
No-load draw	＜0.6A	＜1 A	
Output wave form	Pure Sine Wave		
Input voltage range	21~30VDC	42~60VDC	42~60VDC
Over voltage shutdown	30.5V	61.2V	61.2V
Under voltage shutdown	19.5V	42V	42V
Over load shutdown	700W	1200W	2400W
Low voltage alarm	Audible		
Protection	Over Voltage , Under Voltage, Over load, Over Heat, Reverse Polarity, Short-circuit , Ground fault, Output Transient Voltage.		
Weight	1.4 kg	3.8 kg	5.2 kg
Dimension(W x H x D)	21 x 15 x 7 cm	26 x 18 x 10 cm	35 x 18 x 10 cm

Model	PI-3000-48	PI-5000-48	PI-10KW-120	PI-20KW-240
Output power	Continuous 3KW /peak 6KW	Continuous 5KW /peak 10KW	Continuous 10KW /peak 30KW	Continuous 20KW /peak 60KW

Output voltage	100/110/120/220/230/240VAC			
Optimum efficiency	up to 95%			
No-load draw	＜1.2 A	＜2 A		
Output wave form	Pure Sine Wave			
Input voltage range	42~60VDC	42~60VDC	120~150VDC	200~300VDC
Over voltage shutdown	61.2V	61.2V	120V	310V
Under voltage shutdown	42V	42V	120V	220V
Over load shutdown	4000W	6000W	15KW	30KW
Low voltage alarm	Audible			
Protection	Over Voltage , Under Voltage, Over load, Over Heat, Reverse Polarity, Short-circuit , Ground fault, Output Transient Voltage.			
Weight	7.5 kg	15 kg	123 kg	250 kg
Dimension/cm	37 x 15 x 15	56 x 24 x 15	55 x 48 x 110	

We have fixed, open and published pricing policy with a fixed discount structure based on order value. Discount structure:

Orders > USD 50,000 = 2.5%

Orders > USD 100,000 = 5%

All of our off grid kits are supplied with good quality components on the market. If you buy cheap it ends up more expensive in the long run.

Errors expected and possible alternations without prior notice