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MutianSolar[®]

Residential & Commercial Smart PV Solution



We strive to make reliable energy access possible anywhere in the world, any time, and for any income level.



M U T I A N

SOLAR INVERTER EXPERT



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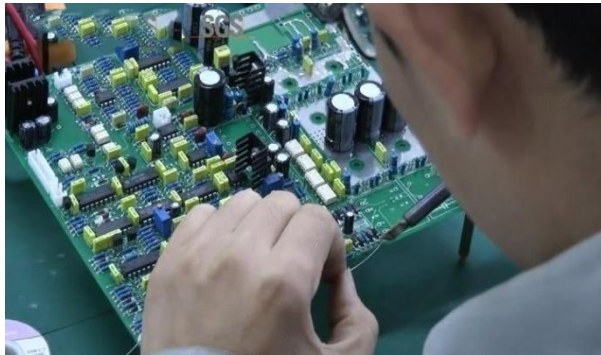


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»We are thinking of tomorrow.«



As a pioneer of the solar power technology we have years of experience behind us and can boast of innovation excellence as an electronics service provider and manufacturer of Mutian brand product lines in solar electronics and battery charging systems. Our day-to-day business dealings are characterised by mutual appreciation, transparent communication and prudent decision making. We passionately serve our customers and provide an unrivalled service. Through technological prominence and global partnerships, we are assured of a successful future together.



.....
Environmental
protection in series
.....



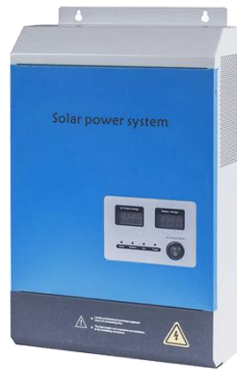
About Mutian

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Mutian Solar Energy Sciencetech Co., Ltd, a professional Chinese solar power inverter manufacturer and a leader in the field of solar power product, which has undertaken over 50,000 successful projects in more than 76 countries all over the world. Since 2006, Mutian has been producing innovative and cost-effective solar power products, which created unsurpassed levels of high-efficiency and reliability on 92 technology patents. Mutian main products include solar power inverter and solar charger chontroller and related PV products etc.

Mutian is also proud and honored of being China Ministry of Commerce authorized brand to provide solar power system and aid emergency challenges for many countries, such as Nepal, Benin and Ethiopia ect. In 2014, a batch of Chinese aid medical equipments including Mutian solar power system has been delivered to Ghana to resist the Ebola virus. These products saved lives every day by supplying power for emergency medical clinics, food distribution stations and rescue efforts, allowing around the clock operations.



Off Grid Solar Inverter/Charger MLW-M Series



FEATURES

- Advanced SPWM technology, high-speed power MOS
- Operating mode selectable: PV priority or utility power priority
- AC input with effective online synchronous stabilization technology
- Pure sine wave output, Automatic frequency selection
- Output isolated transformer, safe and stable
- Mains/diesel generator input interface (optional)
- Excellent overload capacity
- Intelligent battery management function

SPECIFICATION

MODEL-MLW-M	0.3KW	0.5KW	0.7KW	1KW
System Voltage	12VDC		24V/48VDC	
SOLAR CHARGER				
Maximum PV Input	360WP	360WP	720KWP	720WP
Controller Mode	PWM			
Max Charge Current	30A	30A	30A	30A
INVERTER OUTPUT				
Rated Power	300W	500W	700W	1000W
Surge Power	600VA	1KVA	1.4KVA	2KVA
Waveform	Pure sine wave			
AC Voltage	110V/120V/220V/230V/240VAC±5%			
Efficiency (Peak)	90%~93%			
Transfer Time	10ms (For Personal Computers) / 20ms (For Home Appliance)			
AC INPUT				
Voltage	110V/120V/220V/230V/240VAC±5%			
Frequency	50Hz/60Hz (Auto sensing)			
BATTERY				
Normal voltage	12VDC		24VDC	
Floating Charge Voltage	13.7VDC		27.4VDC	
Overcharge Protection	15VDC		30VDC	
MECHANICAL SPECIFICATION				
Net Dimensions (L*W*H)	332*320*220(mm)			
Pack Dimensions (L*W*H)	345*336*240(mm)			
Net Weight(kg)	7	8	14	22
Gross Weight(kg)	8	9	16	24
OTHER				
Humidity	5% to 95% Relative Humidity (Non-condensing)			
Operating Temperature	-10°C -55°C			
Storage Temperature	-15°C -60°C			

Off Grid Solar Inverter/Charger MLW-B Series



FEATURES

- Independent MPPT control microprocessor system
- Advanced SPWM technology, high-speed power MOS
- Operating mode selectable: PV priority or utility power priority
- AC input with effective online synchronous stabilization technology
- Pure sine wave output, Automatic frequency selection
- Output isolated transformer, safe and stable
- Mains/diesel generator input interface (optional)
- Excellent overload capacity
- Intelligent battery management function

SPECIFICATION

MODEL-MLW-B	1KW	2KW	3KW	4KW	5KW	6KW
System Voltage	24VDC		48VDC			
SOLAR CHARGER						
Maximum PV Input	1KWP	2KWP	3KWP	4KWP	5KWP	6KWP
MPPT Voltage Range	45Vdc~180Vdc					
Max Charge Current	60A	60A	60A	80A	120A	125A
INVERTER OUTPUT						
Rated Power	1000W	2000W	3000W	4000W	5000W	6000W
Surge Power	2KVA	4KVA	6KVA	8KVA	10KVA	12KVA
Waveform	Pure sine wave					
AC Voltage	110V/120V/220V/230V/240VAC±5%					
Efficiency (Peak)	90%~93%					
Transfer Time	10ms (For Personal Computers) / 20ms (For Home Appliance)					
AC INPUT						
Voltage	110V/120V/220V/230V/240VAC±5%					
Frequency	50Hz/60Hz (Auto sensing)					
BATTERY						
Normal voltage	24VDC		48VDC			
Floating Charge Voltage	27.4VDC		54.8VDC			
Overcharge Protection	30VDC		60VDC			
MECHANICAL SPECIFICATION						
Net Dimensions (L*W*H)	290*125*430(mm)		280*460*600(mm)			
Pack Dimensions (L*W*H)	365*205*473(mm)		360*550*680(mm)			
Net Weight(kg)	8	14	22	28	36	48
Gross Weight(kg)	9	16	24	35	45	52
OTHER						
Humidity	5% to 95% Relative Humidity (Non-condensing)					
Operating Temperature	-10°C -55°C					
Storage Temperature	-15°C -60°C					

Off Grid Solar Inverter/Charger

MLW-D- Series



FEATURES

- Independent MPPT control microprocessor system
- Advanced SPWM technology, high-speed power MOS
- Operating mode selectable: PV priority or utility power priority
- AC input with effective online synchronous stabilization technology
- Pure sine wave output, Automatic frequency selection
- Output isolated transformer, safe and stable
- Mains/diesel generator input interface (optional)
- Excellent overload capacity
- Intelligent battery management function

SPECIFICATION

MODEL-MLW-D	3KW	4KW	5KW	6KW	8KW	10KW
System Voltage	48VDC				96VDC	
SOLAR CHARGER						
Maximum PV Input	3KWP	4KWP	5KWP	6KWP	8KWP	10KWP
MPPT Voltage Range	45Vdc~180Vdc				96Vdc~200Vdc	
Max Charge Current	60A	80A	120A	125A	100A	120A
INVERTER OUTPUT						
Rated Power	3000W	4000W	5000W	6000W	8000W	10000W
Surge Power	6KVA	8KVA	10KVA	12KVA	16KVA	20KVA
Waveform	Pure sine wave					
AC Voltage	110V/120V/220V/230V/240VAC±5%					
Efficiency (Peak)	90%~93%					
Transfer Time	10ms (For Personal Computers) / 20ms (For Home Appliance)					
AC INPUT						
Voltage	110V/120V/220V/230V/240VAC±5%					
Frequency	50Hz/60Hz (Auto sensing)					
BATTERY						
Normal voltage	48VDC				96VDC	
Floating Charge Voltage	54.8VDC				110VDC	
Overcharge Protection	60VDC				120VDC	
MECHANICAL SPECIFICATION						
Net Dimensions (L*W*H)	300*460*600(mm)				330*625*500(mm)	
Pack Dimensions (L*W*H)	360*550*680(mm)				350*700*560(mm)	
Net Weight(kg)	22	28	36	48	82	95
Gross Weight(kg)	24	35	45	52	98	110
OTHER						
Humidity	5% to 95% Relative Humidity (Non-condensing)					
Operating Temperature	-10°C -55°C					
Storage Temperature	-15°C -60°C					

Off Grid Solar Inverter/Charger MLW-S Series



FEATURES

- Max. efficiency up to 95%
- Isolated output transformer, durable load impact
- Pure sine wave output, suitable for all sorts of electrical appliances
- Excellent overload capacity
- Complete protections e.g. Input and output over voltage, over temperature protection, overload protection, short circuit protection, etc.
- LCD display + LED status indicator
- Smart fan speed control and trouble shooting function
- RS485, dry contact communication to realize remote monitoring
- City power / diesel generator input (optional)

SPECIFICATION

Model MLW-S	10KW	15KW	20KW	30KW	40KW	50KW
System Voltage	96VDC	192VDC		384VDC		
SOLAR CHARGER						
Maximum PV Input	10KWP	15KWP	20KWP	30KWP	40KWP	50KWP
Rated Current (A)	100A	100A	100A	100A	120A	140A
AC Input						
AC Input Voltage (Vac)	110/120/220/230/240±20% Single Phase					
AC Input Frequency (Hz)	50/60±1%					
Output						
Rated Power (kW)	10KW	15KW	20KW	30KW	40KW	50KW
Voltage (V)	110/120/220/230/240±20% Single Phase					
Frequency (Hz)	50/60±1%					
Voltage Total Harmonic Distortion	THDU<3% (Full load, linear load)					
	THDU<5% (Full load, nonlinear load)					
Output Voltage Regulation	<5% (Load 0~100%)					
Power Factor	0.8					
Overload Capacity	105~110%, 101mins; 110~125%, 1mins; 150%, 10S					
Crest Factor	3					
General Data						
Max. Efficiency	>95.0%					
Operating Temperature(°C)	-20~50 (>50°C derating)					
Relative Humidity	0~95% (non-condensing)					
Ingress Protection	IP20					
Max. Operating Altitude (m)	6000 (>3000m derating)					
Display	LCD+LED					
Cooling method	Smart forced air cooling					
Protection	AC&DC over/under voltage, AC overload, AC short circuit, over temperature, etc					
EMC	EN 61000-4, EN55022(Class B),					
Safety	IEC60950					
Dimension (D*W*H mm)	350*700*950			555*750*1200		
Weight (kg)	75	82	103	181	205	230

Off Grid Solar Inverter/Charger MLW-T Series



FEATURES

- Integrated design with controller, inverter and isolated technique
- Solar controller modular design, hot plug function, flexible configuration, easy capacity expansion
- Pure sine wave output, output isolated transformer, safe and stable
- It supports mains/generator input (optional)
- Three phase AC output, support 100% unbalanced load
- Intelligent battery management and temperature compensation function
- LCD display + LED status indicator
- Complete protections
- 92% system efficiency
- Strong environment adaptability

SPECIFICATION

Model MLW-S	10KW	15KW	20KW	30KW	40KW	50KW
System Voltage	96VDC	192VDC		384VDC		
SOLAR CHARGER						
Maximum PV Input	10KWP	15KWP	20KWP	30KWP	40KWP	50KWP
Rated Current (A)	100A	100A	100A	100A	120A	140A
AC Input						
AC Input Voltage (Vac)	3/N/PE, 220/240/380/400/415V Three Phase					
AC Input Frequency (Hz)	50/60±1%					
Output						
Rated Power (kW)	10KW	15KW	20KW	30KW	40KW	50KW
Voltage (V)	3/N/PE, 220/240/380/400/415V Three Phase					
Frequency (Hz)	50/60±1%					
Voltage Total Harmonic Distortion	THDU<3% (Full load, linear load)					
	THDU<5% (Full load, nonlinear load)					
Output Voltage Regulation	<5% (Load 0~100%)					
Power Factor	0.8					
Overload Capacity	105~110%, 101mins; 110~125%, 1mins; 150%, 10S					
Crest Factor	3					
General Data						
Max. Efficiency	>95.0%					
Operating Temperature(°C)	-20~50 (>50°C derating)					
Relative Humidity	0~95% (non-condensing)					
Ingress Protection	IP20					
Max. Operating Altitude (m)	6000 (>3000m derating)					
Display	LCD+LED					
Cooling method	Smart forced air cooling					
Protection	AC&DC over/under voltage, AC overload, AC short circuit, over temperature, etc					
EMC	EN 61000-4, EN55022(Class B),					
Safety	IEC60950					
Dimension (D*W*H mm)	350*700*950			555*750*1200		
Weight (kg)	75	82	103	181	205	230

Solar Charging Controller MPPT MC-W Series



FEATURES

- High efficient MPPT: Multiple Power Point Trackers (MPPTs) enable the output power of solar panel array to improve the energy conversion 20% ~ 30%.
- High reliability: Adopt advanced microprocessor to achieve "MPPT + SOC" dual intelligent optimized charging control to ensure the product to be stable and reliable
- Intelligent charging management: Adopt charging mode combined constant current and constant voltage to ensure effective battery charging and battery life.
- High efficiency: Adopt low power consumption MOSFET and PWM soft switch and synchronous rectifier technology, effectively improving the system operating efficiency.
- Intelligent: Auto-start by Illumination recognition (optional) - the system can configure auto start the load in the event of insufficient sunshine, such as fog, rain, night etc.
- Protections: Overcharge / overdischarge, short circuit, overload, reverse connection, TVS lightning protection etc.

SPECIFICATION

Model (MPPT MC-W-)		20A	30A	40A	50A	60A
Product category	Controller Properties	MPPT (maximum power point tracking)				
	MPPT efficiency	≥99.5%				
	Standby power	0.5W~1.2W				
Input Characteristics	Max.PV input voltage(VOC)	DC180V				
	Start the charge voltage point	Battery voltage + 3V				
	Low input voltage protection point	Battery voltage + 2V				
	Over voltage protection point	DC200V				
	Over voltage recovery point	DC145V				
Charge Characteristics	Selectable Battery Types	Sealed lead acid, Gel battery, Flooded				
	(Default Gel battery)	(Other types of the batteries also can be defined)				
	Charge rated current	20A	30A	40A	50A	60A
	Temperature Compensation	-3mV/°C/2V (default)				
Display &	Display mode	High-definition LCD segment code backlight display				
Communication	Communication mode	8-pin RJ45 port/RS485/support PC software monitoring/				
Other Parameters	Protect function	Input-output over \ under voltage protection, Prevention of connection reverse protection,battery shedding protection etc.				
	Operation Temperature	-20°C~+50°C				
	Storage Temperature	-40°C~+75°C				
	IP(Ingress protection)	IP21				
	Noise	≤40dB				
	Altitude	0~3000m				
	Max. connection size	20mm ²			30mm ²	
	Net Weight (kg)	2.3			2.6	
	Gross Weight (kg)	3			3.5	
	Product Size (mm)	240*168*66			270*180*85	
	Packing Size(mm)	289*204*101			324*223*135	

Portable Solar Power Kit
 MLW-Z10W

Features

Solar system MLW-10W is applicable to all kinds of conditions under the power supply and lighting and emergency situations.

Application

It is applied in lighting, camping expedition, charging, emergency power demand.

SPECIFICATION

Solar Panel	Peak Power	10W Solar Panel
	Seal	Encapsulated with tempered glass
Battery	Type	LiFePO4 Lithium battery
	Voltage Capacity	3.2V 16000mAh
	Input/Output	DC 5V/2A
Standard Fittings	Radio	3W
	LED Tube Light	T8 tube light
	LED Bulb	3W LED bulb
Performance	Battery fully charged in sunlight in 10hrs Fully battery charging 10times for mobiles 3W bulb working for 18hours when battery full	

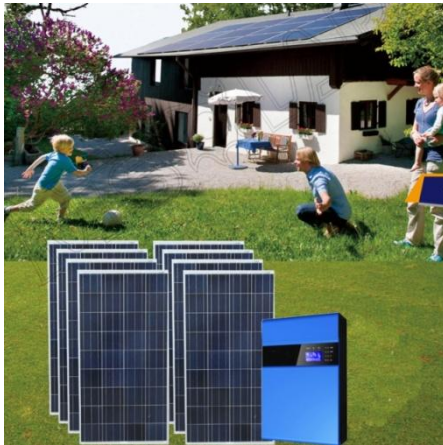
 Portable Solar Power Kit
 MLW-Z100W


SPECIFICATION

Model ID	MLW-Z100	MLW-Z200	MLW-Z300W
Rated Power	100W	200W	300W
Solar Panel	100Wp × 1pc	100Wp × 2pcs	150Wp × 2pcs
Battery	12AH/12V	24AH/12V	40AH/12V
Output Power	USB 5VDC+12VDC		
Accessories			
LED Bulb	2 pcs	4 pcs	4pcs
Fan	1pcs	1pcs	2pcs



Solar Power System Home Solution MLW 1KW-10KW

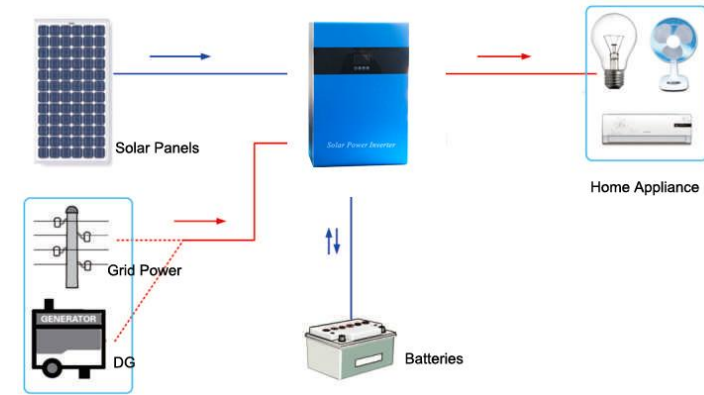


- Solar energy storage system, Integrated inverter, battery and solar charger
- User friendly, easy installation and convenient mobile
- Suitable for any kind of applications

FEATURES

- Controllable panel with LCD
- DC start and automatic self-diagnostic function
- Designed to operate under harsh environment
- Low heat dissipation in long time operation
- Innovative MPPT technology, conversion efficiency up to 98%
- Clear readable display of charge/discharge, battery and error description
- Four stage charge way: MPPT, boost, equalization, float
- Full automatic electronic protect function
- Mobile solar system
- High efficiency design for energy storage

Appliance



Model (MLW)		1KW	2KW	3KW	5KW	6KW	10KW
Solar panel	Rated Power	1KW	2KW	3KW	5KW	6KW	10KW
	Power Production(kWh)	4	8	13	22	26	43
	Roof Area (m ²)	6	12	16	27	32	55
Inverter	Output voltage	110V/127V/220V/240V±5%					
	Frequency	50Hz/60Hz±1%					
	Waveform	(Pure sine wave) THD<2%					
	Phase	Single phase/ Three Phase Optional					
	efficiency	Max 92%					
Battery	Battery type	Deep cycle maintenance-free lead-acid battery (Customized and Designed)					
Cables		√	√	√	√	√	√
PV Bracket		√	√	√	√	√	√
Battery Rack		√	√	√	√	√	√
Accessories and Tools		√	√	√	√	√	√

Solar Power System Commercial / Industrial Solution MLW 10KW-50KW



Appliance

Off-grid solar power system is an independent renewable power supply system, widely applied in places without effective power such as remote mountain areas, pasturing areas, sea islands, communication base stations, led operation areas and street lights, etc. The off grid system consists of solar modules, solar controllers, battery bank, off-grid inverter, AC load etc.

In case of effective sun light, PV array will convert the solar light into electricity to supply the load and the rest to charge battery bank, in case of insufficient power generation, the battery supply power through inverter to AC load. The control system intelligently manages the battery bank and meets the power requirements as well.

SPECIFICATION

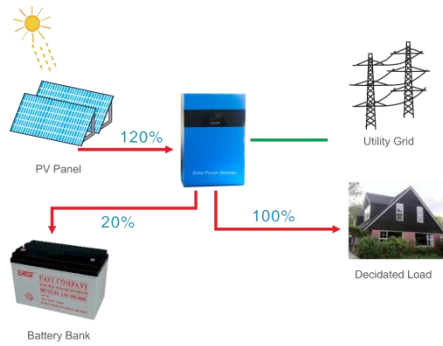
Model (MLW)		10KW	20KW	30KW	40KW	50KW	100KW
Solar panel	Rated Power	10KW	20KW	30KW	50KW	60KW	100KW
	Power Production(kWh)	43	87	130	174	217	435
	Roof Area (m ²)	55	110	160	220	280	550
Inverter	Output voltage	110V/127V/220V/240V±5% 3/N/PE, 220/240/380/400/415V					
	Frequency	50Hz/60Hz±1%					
	Waveform	(Pure sine wave) THD<2%					
	Phase	Single phase/ Three Phase Optional					
Battery	efficiency	Max 92%					
	Battery type	Deep cycle maintenance-free lead-acid battery (Customized and Designed)					
Cables		√	√	√	√	√	√
DC Distributor		√	√	√	√	√	√
AC Distributor		√	√	√	√	√	√
PV Bracket		√	√	√	√	√	√
Battery Rack		√	√	√	√	√	√
Accessories and Tools		√	√	√	√	√	√



ENERGY FLOW

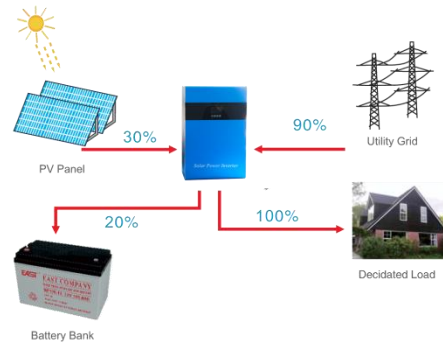
Energy storage priority

Case 1



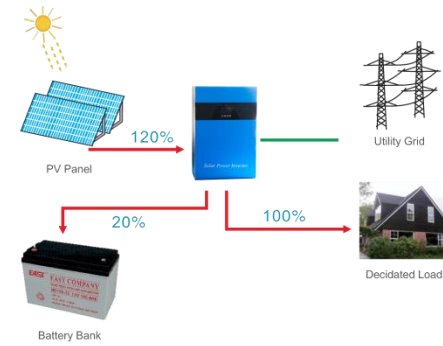
PV is sufficient

Case 2



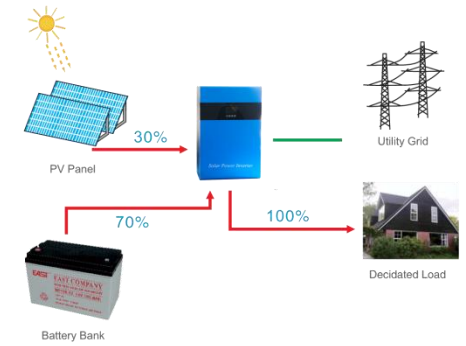
PV is sufficient

Case 1



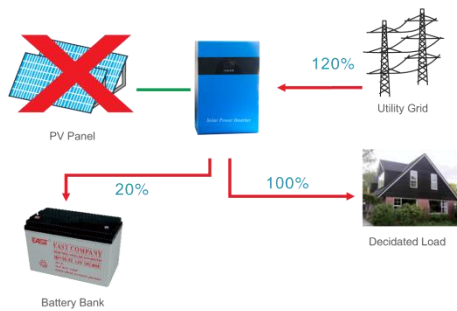
insufficient

Case 2



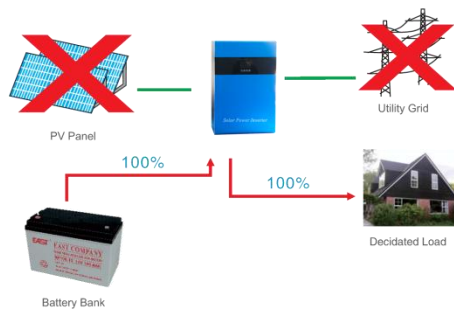
PV is sufficient, battery > 60%

Case 3



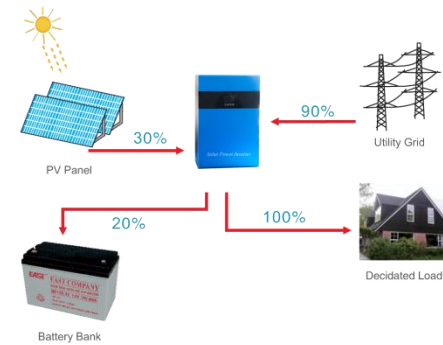
No PV

Case 4



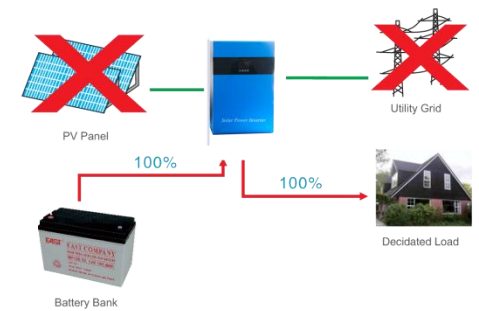
No PV, No AC

Case 3



PV is insufficient, battery < 30%

Case 4



No PV, No AC

What We Do

We have the experience and capacity to support solar projects from inception, throughout the development and construction stages.

Mutian is expert across the full range of solar power applications, ranging from Solar energy system solutions for homes, commercial applications and power plants to complex projects with integrated energy storage.

Mutian is strongly focused on serving clients in the solar power sector, with a customer portfolio which includes some of the leading renewables investors globally. We aim to develop long-term partnerships with our clients, supporting their growth by consistently delivering quality projects around the world.



Bucarest Romania **200KW**



Denmark Europe **8KW**



Port-Au-Prince Haiti **3KW**



Ulanbator Mongolia **10KW**



Hout Bay South Africa **20KW**



Inner Mongolia China **2MW**



Manila Philippines **20KW**



Bamako Mali **300KW**



Papua New Guinea **5KW**

300,000 Tons

We have already reduced 300,000 tons carbon emissions for the earth.