SOLAR CHARGE CONTROLLER
POWER INVERTER
CHARGER

SHANGHAI TINGEN ELECTRIC CO .,LTD.

OUR ADVANTAGE

RAPID DEVELOPMENT

Since 2006, we have exported two million Inverters and Controllers for solar and wind systems in more than 120 countries and are in the process of developing many new products.

INNOVATIVE DESIGN

Our technical team has over 20 years professional R&D experience. And our innovation will keep the customer one step ahead for ever.

QUALITY CONTROL

With ISO9001 and ISO14001 certification, we build-up strict quality control systems from incoming components to final products.

DIVERSIFIED PRODUCTS

We have 20 series, more than 100 models of products which can meet customers' different requirements.

QUALITY COMPONENTS

All our products use industrial grade electronic components from global well-known companies.

HIGH COST PERFORMANCE

We design and provide high quality products at reasonable price.

COMPANY PROFILE

TINGEN is a top manufacturer and exporter of new generation power system products: DC (AC) to AC inverter, solar charge controller and battery charger with CE, RoHS, E-mark and FCC certificates.

Our products are widely used on wind and solar system for both home and industrial. To strive for excellence, TINGEN have a great R&D team and professional production workers. Our 99% high efficiency inverter and MPPT solar controller together with exceptional performance and perfect after-sales service are fully approved by market; products are very popular in more than 60 countries.

Since TINGEN was founded in 2006, company has been well developed and strengthened by adhering to business philosophies of “Quality and credibility first, science and technology innovation”.

TINGEN will insist on the enterprise tenet of “Market-oriented and green energy-centered to provide with clients with the first-class products and service”.

Choose us, you will gain beyond of imagination!

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Solar Charge controller

Off Grid Tie Inverter

Battery Charger

New Wind Turbine series

Wind Grid Tie Inverter

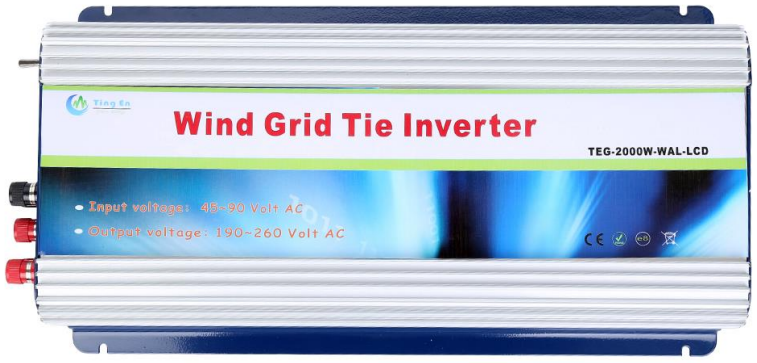
Features：

- Easy installation, this inverter can be paralleled on AC side
- This inverter Can be integrated with internal limit function
- Battery discharge power mode enabled, which can auto regulate depth of discharge ofthe battery bank
- Zigbee wireless communication extended interface, enable inverter power production data collect by energy collect device(ECD)
- Nice LCD display various parameters including input voltage, output power,temperature,power curve,output sine waveform etc

Model NO:\TEG-	1000G-WAL	1000G-WDL	2000G-WAL	2000G-WDL
Normal AC Output Power	950W		1900W	
Maximum AC Output Power	1000W		2000W	
3 phase AC Voltage Range(Input)	22V-65V / 45V-90V	-	45V-90V	-
DC Voltage Range (Input)	-	22V-65V / 45V-90V	-	45V-90V
Output Current Waveform	Pure Sine Wave			
Power Factor	＞0.95			
Output AC Voltage Range	95V~140V / 185V~265V(Auto Detect)		185V~265V	
Frequency	46~65Hz			
Anti-island Protection	Yes			
Over Current Protection	Yes			
Reverse Polarity Protection	Fuse			
Dispaly	LCD			
Standby Power	1.2W	1.2W	1.5W	1.5W
Working temperature	-20℃~ +50℃			
Overall dimension(mm)	350×196×88	350×196×88	460×196×88	460×196×88
Net weight	5.1kg	4.9kg	7.5kg	7.3kg

AC Wind Turbine series

Wind Grid Tie Inverter



Features：

- For 3 Phase AC Output Wind Turbine
- Build In Dump Load Controller
- Build In High Wind Protection
- Build In Electric Brake System
- Pure Sine Wave Output
- LCD Display:voltage,current,power,active power,cumulative running time

Model NO:\TEG-	250W-WAL	300W-WAL	500W-WAL	600W-WAL	1000W-WAL	1500W-WAL	2000W-WAL
Normal AC Output Power	225W	270W	450W	540W	950W	1450W	1850W
Maximum AC Output Power	250W	300W	500W	600W	1000W	1500W	2000W
3 phase AC Voltage range(Input)	10.8V-30V / 22-60V				22V-60V / 45V-90V	45V-90V	
Output Current Waveform	Pure Sine Wave						
Power Factor	＞0.95						
Output AC Voltage Range	90V~130V / 190V~260V						190V~260V
Frequency	46~65Hz						
Anti-island Protection	Yes						
Over Current Protection	Yes						
Stackable	Yes						
Reverse Polarity Protection	Fuse						
Dispaly	LED		LED or LCD				
Standby Power	0.1W		0.2W		1.2W	1.5W	1.5W
Working temperature	-20℃~ +50℃						
Overall dimension(mm)	250×140×55		270×230×90		340×230×90	385×230×95	450×230×95
Net weight	1.9kg		4.5kg		5.5kg	6.5kg	7.5kg

DC Wind Turbine series

Wind Grid Tie Inverter

Features：

- For DC Output Wind Turbine
- Build In Dump Load Controller
- Build In High Wind Protection
- Build In Electric Brake System
- Pure Sine Wave Output
- LCD Display:voltage,current,power,active power,cumulative running time

Model NO:\TEG-	250W-WDL	300W-WDL	500W-WDL	600W-WDL	1000W-WDL	1500W-WDL	2000W-WDL
Normal AC Output Power	225W	270W	450W	540W	950W	1450W	1850W
Maximum AC Output Power	250W	300W	500W	600W	1000W	1500W	2000W
DC Voltage range(Input)	10.8V-30V / 22-60V				22V-60V / 45V-90V	45V-90V	
Output Current Waveform	Pure Sine Wave						
Power Factor	＞0.95						
Output AC Voltage Range	90V~130V / 190V~260V						190V~260V
Frequency	46~65Hz						
Anti-island Protection	Yes						
Over Current Protection	Yes						
Stackable	Yes						
Reverse Polarity Protection	Fuse						
Dispaly	LED		LED or LCD				
Standby Power	0.1W		0.2W		1.2W	1.5W	1.5W
Working temperature	-20℃~ +50℃						
Overall dimension(mm)	250×140×55		270×230×90		340×230×90	385×230×95	450×230×95
Net weight	1.9kg		4.2kg		5.2kg	6.2kg	7.2kg

Micro-Inverter series

Solar Grid Tie Inverter

Features：

- Maximum Power Point Tracking (MPPT)
- AC 0 angle with high precision auto-detection
- Automatic Sensing Function Solar Luminosity
- Power Automatically Locked (APL)
- Directly connected to the solar panels (do not need to connect the battery)
- Automatically Adapt To Different Load Power Factor
- Constant Current, Constant Power
- Automatically Shut Down When The Power Output Of a Fault (Anti-Island Protection)
- Stack Multiple Machines (Multiple small power inverters in parallel can achieve large output power)

Model NO:\TEG-	250W	300W	500W	600W	1000W	1500W	2000W
DC Voltage range(Input)	10.8V-30V / 22-60V				22V-60V / 45V-90V	45V-90V	
Output Current Waveform	Pure Sine Wave						
Power Factor	＞0.95						
Output AC Voltage Range	90V~130V / 190V~260V						190V~260V
Frequency	46~65Hz						
Anti-island Protection	Yes						
Over Current Protection	Yes						
Stackable	Yes						
Reverse Polarity Protection	Fuse						
Dispaly	LED		LED or LCD				
Standby Power	0.1W		0.2W		1.2W	1.5W	1.5W
Working temperature	-20℃~ +50℃						
Overall dimension(mm)	190×126×51		210×165×55		340×230×90	385×230×95	450×230×95
Net weight	1.5kg		2.0kg		5.2kg	6.2kg	7.2kg

Solar PV series

Solar Grid Tie Inverter

Features：

- Over 97.8% Max.efficiency
- Ultra Wide Input Voltage Range,Dual MPPT Design With Precise MPPT algorithm
- IP65,Visually Pleasing For All Environment Conditions
- RS485,WIFI/GPRS(optional) Interface ,WIFI and Monitoring app available
- Numerous protection functions,compact and light design for one-person easy installation
- 5 Yeas standard warranty, 10 Years optional upgrade

Model NO:\TEG-	3.5KW	5KW	10KW	15KW
Max.input power	3.9KW	5.5KW	11.6KW	15.3KW
Max.input voltage	600V		1000V	
Start-up input voltage	120V		250V	
MPPT voltage range	100-550V		200-800V	
Max.input current	11A	10A+10A	17A+17A	
Rated grid voltage	220V (Single)		380V (Three phase)	
Grid voltage range	180-270V(adjustable)		313-470V(adjustable)	
Rated grid frequency	50 / 60Hz			
Power factor	>0.99			
Max.efficiency	97.3%	97.5%	98.2%	98.3%
Ingress protection	IP65			
Topology	transformerless			
DC reverse-polarity protection	Yes			
Short circuit protection	Yes			
Islanding Protection	Yes			
Grid monitoring	Yes			
Overall dimension (mm)	385W*453H*164D		455W*550H*240D	
Net weight	10Kg	12.5Kg	30Kg	30Kg

Waterpoof series

Waterpoof Solar Grid Tie Inverter

Features：

- High performance maximum power point tracking (MPPT)
- IP65,Visually Pleasing For All Environment Conditions
- Reverse power transmission
- Input /output is fully isolated to protect the electrical safety
- Intelligent monitoring management
- Multiple parallel stacking
- Digital control system
- Simplify maintenance (user serviceable)
- Operation and maintenance costs low

Model NO:\TEG-	250W-IP65	300W-IP65	500W-IP65	600W-IP65	1200W-IP65
DC Voltage Range(Vpv)	24V~45V	17V~50V	25V~50V	17V~50V	17V~50V
Maximum Output Power Factor	＞0.95				
AC Standard Voltage Range	90V~130V / 190V~260V AC				
AC Frequency Range	55Hz~63Hz / 45Hz-53Hz				
Output Current Waveform	Pure Sine Wave				
Anti-island Protection	Yes				
Reverse Polarity Protection	Fuse				
Dispaly	LED				
Waterproof Rating	IP65				
Standby Power	0.5W				
Overall dimension(mm)	215×137×30	191×176×38	230×165×30	289×200×38	370×305×38
Net weight	2.0kg	1.3kg	2.5kg	2.5kg	3.5kg
Working temperature	-25℃~ +60℃				

New

Tracer A series
MPPT Solar charge controller

10A,20A,30A,40A 12/24V auto work

Tracer A series adopts advanced MPPT technology. It can fast and accurately MPP of photovoltaic array in any situation and obtain the maximum solar energy at any time, which remarkably improves energy efficiency. With Modbus communication protocol interface, it is convenient for user to expand applications and meet monitoring requirements in various fields like telecommunication base station, household system, lighting system etc.

Application

Features：

- Advanced MPPT technology
- High tracking efficiency no less than 99.5%
- Peak conversion efficiency of 98%
- Ultra-fast tracking speed
- Accurately recognizing and tracking MPP of multiple wave crest
- Automatic PV power limit function
- Multi-function LCD displays system information intuitively
- User programmable for battery types, load control etc.
- 3-Stage charge with PWM output
- Common positive grounding design
- RS485 port with industrial standard MODBUS open architecture
- Fully programmable function via remote meter, PC software and Mobile APP.

Electrical parameters	Tracer1210A	Tracer2210A	Tracer3210A	Tracer4210A
Nominal system voltage	12V/24V auto work			
Rated battery current	10A	20A	30A	40A
Rated load current	10A	20A	30A	40A
MPP voltage range	VBAT+2V～72V			
Max. PV open circuit voltage	100V at minimum operating environment temperature 92V at 25℃ environment temperature			
Max. PV input power	12V 130W	12V 260W	12V 390W	12V 520W
	24V 260W	24V 520W	24V 780W	24V 1040W
Self-consumption	≤20mA(12V), ≤16mA(24V)			
Temp. compensation	-3mV/℃/2V			
Grounding	Common positive			
Overall dimension	172x139x44mm	220x154x52mm	228x164x55mm	252x180x63mm
Net weight	0.6kg	1.1kg	1.2kg	1.9kg
Enclosure	IP30			
Working temperature	-25℃ ~ +45℃			

TRIRON series
MPPT solar charge controller

10A,20A,30A,40A 12/24V auto work

TRIRON series modular design base on MPPT solar charge controller. The modularized controller is composed of MPPT solar controller and different display modules (LED, LCD) or interface modules (Relay, USB and RS485). The controller can recognize and upload the modules driver automatically. Customers can choose the corresponding module according to actual application. Only replace the module and power on the controller, it will be working. It can be widely used in communication station, household system and field monitoring and other fields.

Application

Features：

- Recognize and upload the modules driver automatically
- Modular design is convenient maintenance and upgrade
- LCD, LED, Relay, USB or RS485 modules optional
- Advanced MPPT technology, tracking efficiency up to 99.5%
- Peak conversion efficiency of 98%
- Accurately recognizing and tracking of multiple power points
- Multiple load control modes
- Support 4 charging options: Sealed, Gel, Flooded and User
- RS485 port with industrial standard MODBUS open architecture
- Real-time energy statistics
- Relay design realize the perfect combination of inverter and controller

Model	TRIRON1206N	TRIRON2206N	TRIRON2210N	TRIRON3210N	TRIRON4210N
Nominal system voltage	12/24V auto work				
Rated change current	10A	20A	20A	30A	40A
Rated dischange current	10A	20A	20A	30A	40A
MPP voltage range	(Vbat+2V)～36V		(Vbat+2V)～72V		
Max. PV open circuit voltage	60V(at min operating environment temp.) 46V(at 25℃ environment temp)		100V at minimum operating environment temperature 92V at 25℃ environment temperature		
Max. PV input power	12V 130W	12V 260W		12V 390W	12V 520W
	24V 260W	24V 520W		24V 780W	24V 1040W
Self-consumption	≤20mA(12V), ≤16mA(24V)				
Temp. compensation	-3mV/℃/2V				
Grounding	Common positive				
Overall dimension	180.8x135x47.3mm	216x150x56.7mm		238.3x158x62.7 mm	256.8x183x66.7 mm
Net weight	0.6kg	0.9kg		1.2kg	1.6kg
Enclosure	IP20				
Working temperature	-25℃ ~ +45℃				
Relative humidity	≤95% (N.C.)				

New

Tracer CN series
MPPT Solar charge controller

20A,30A 12/24V auto work

Tracer CN series adopts common negative design and advanced MPPT control algorithm, and introduces original dry contact design to achieve the switch of external equipment. The integration design not only replaces traditional electrical design using external relay, what is more can achieve multiple control modes and working modes, it can be widely used in household system, field monitoring and communication station etc.

Application

Features：

- Dry contact design, achieve the switch of external equipment
- Multiple dry contact control mode, local, remote and cross- network
- Multiple dry contact working modes: manual control, light ON/OFF, light on+timer and time control
- High tracking efficiency no less than 99.5%
- Peak conversion efficiency of 98%
- Accurately recognizing and tracking of multiple power point
- Automatic PV power limit function
- Real-time energy statistics function
- RS485 port with industrial standard MODBUS open architecture
- Fully programmable function via PC software or remote meter
- Support software upgrade

CE RoHS

Model	Tracer2210CN	Tracer3210CN
Nominal system voltage	12/24VDC auto work	
Rated charge current	20A	30A
Battery input voltage range	9V～32V	
Max. PV open circuit voltage	100V(at minimum operating environment temperature) 92V(at 25℃ environment temperature)	
MPP voltage range	(Vbat+2V)～72V	
Max. PV input power	260W(12V); 520W(24V)	390W(12V); 780W(24V)
Self-consumption	≤20mA(12V); ≤23mA(24V)	
Grounding	Common negative	
Temperature compensation coefficient	-3mV/ °C/2V	
Overall dimension	173x150x79.9mm	173x163x86mm
Net weight	1.21kg	1.46kg
Enclosure	IP20	
Working environment temperature	-35 °C ～+55 °C	
Relative humidity	≤95% (N.C.)	

Tracer BN series
MPPT solar charge controller

10A,20A,30A,40A 12/24V auto work

Tracer-BN Series is a flagship member among all tracer MPPT controllers. We design with very long lifespan industrial materials and die-cast aluminum housing cooling system, to improve the controller's performance and life.

Application

Features：

- Peak conversion efficiency of 98%
- High tracking efficiency ≥ 99.5%
- Die-cast aluminum design and nature cooling
- Diversified load control to meet different requirements
- Battery type selection: Sealed, Gel, Flooded and User(programmable)
- RS485 port with industrial standard MODBUS open architecture
- Real-time data monitoring and parameters setting with MT50, APP or PC software
- Field upgradable firmware

Model	Tracer1215BN	Tracer2215BN	Tracer3215BN	Tracer4215BN
Nominal system voltage	12/24V auto work			
Rated battery current	10A	20A	30A	40A
Rated load current	10A	20A	20A	20A
Max. PV open circuit voltage	150V at minimum operating environment temperature 138V at 25℃ environment temperature			
Battery input voltage range	8~32V			
Max. PV input power	130W (12V)	260W (12V)	390W (12V)	520W (12V)
	260W (24V)	520W (24V)	780W (24V)	1040W (24V)
Self-consumption	≤50mA(12V) ≤27mA(24V)			
Grounding	Common negative			
Temp. compensation	-3mV/℃/2V			
Communication port	RS485 / RJ45 interface			
Overall dimension	196x118x36mm	217x143x56mm	281x160x60mm	303x183x64mm
Net weight	0.9kg	1.5kg	2.3kg	2.9kg
Enclosure	IP30			
Working temperature	-25℃ ~ +55℃			

eTracer BND series
MPPT solar charge controller

45A,60A 12/24/36/48V auto work

eTracer is an intelligent, efficient, high-speed solar charge controller with advanced Maximum Power Point Tracking (MPPT) algorithm, which can harvest the maximum power from the solar array to charge battery. It can be applied in the off-grid PV systems up to 3KW, and increase the efficiency up to 30% .

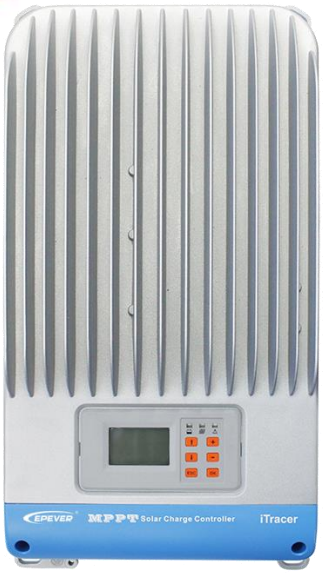
Application

Features：

- High tracking efficiency ≥ 99.5%
- Peak conversion efficiency of 98% and full load efficiency of 97%
- Accurately tracking and recognizing MPP among multiple wave crest
- Battery type selection: Sealed, Gel, Flooded and User(programmable)
- Energy statistics recording
- Built-in running data and event logging
- RS485 port with industrial standard MODBUS open architecture
- Real-time data monitoring and parameters setting with MT50, APP or PC software
- Field upgradable firmware

CE RoHS IEC62109

Model	ET4415BND	ET6415BND	ET6420BND
Nominal system voltage	12/24/36/48V auto work		
Rated Battery current	45A	60A	
Max. PV open circuit voltage	150V at minimum operating environment temperature 138V at 25℃ environment temperature		190V at minimum operating environment temperature 180V at 25℃ environment temperature
Battery input voltage range	8V～68V		
MPP voltage range	(Vbat+2V)～108V		
Max. PV input power	600W (12V)	800W (12V)	
	1200W (24V)	1600W (24V)	
	1800W (36V)	2400W (36V)	
	2400W (48V)	3200W (48V)	
Self-consumption	1.4～2.2W		
Grounding	Common negative		
Temp. compensation	-3mV/℃/2V		
Overall dimension	398.6x208x107mm	449x208x107mm	
Net weight	4.3kg	5.5kg	
Enclosure	IP20		
Working temperature	-25℃ ~ +55℃		
Relative humidity	≤95% (N.C.)		



iTracer ND series
MPPT controller with load control

45A,60A 12/24/36/48V auto work

iTracer is an intelligent, efficient, high-speed solar charge controller with advanced Maximum Power Point Tracking (MPPT) algorithm, which can harvest the maximum power from the solar array to charge battery. It can be applied in the off-grid PV systems up to 3KW, and increase the efficiency up to 30% .

Application

Features：

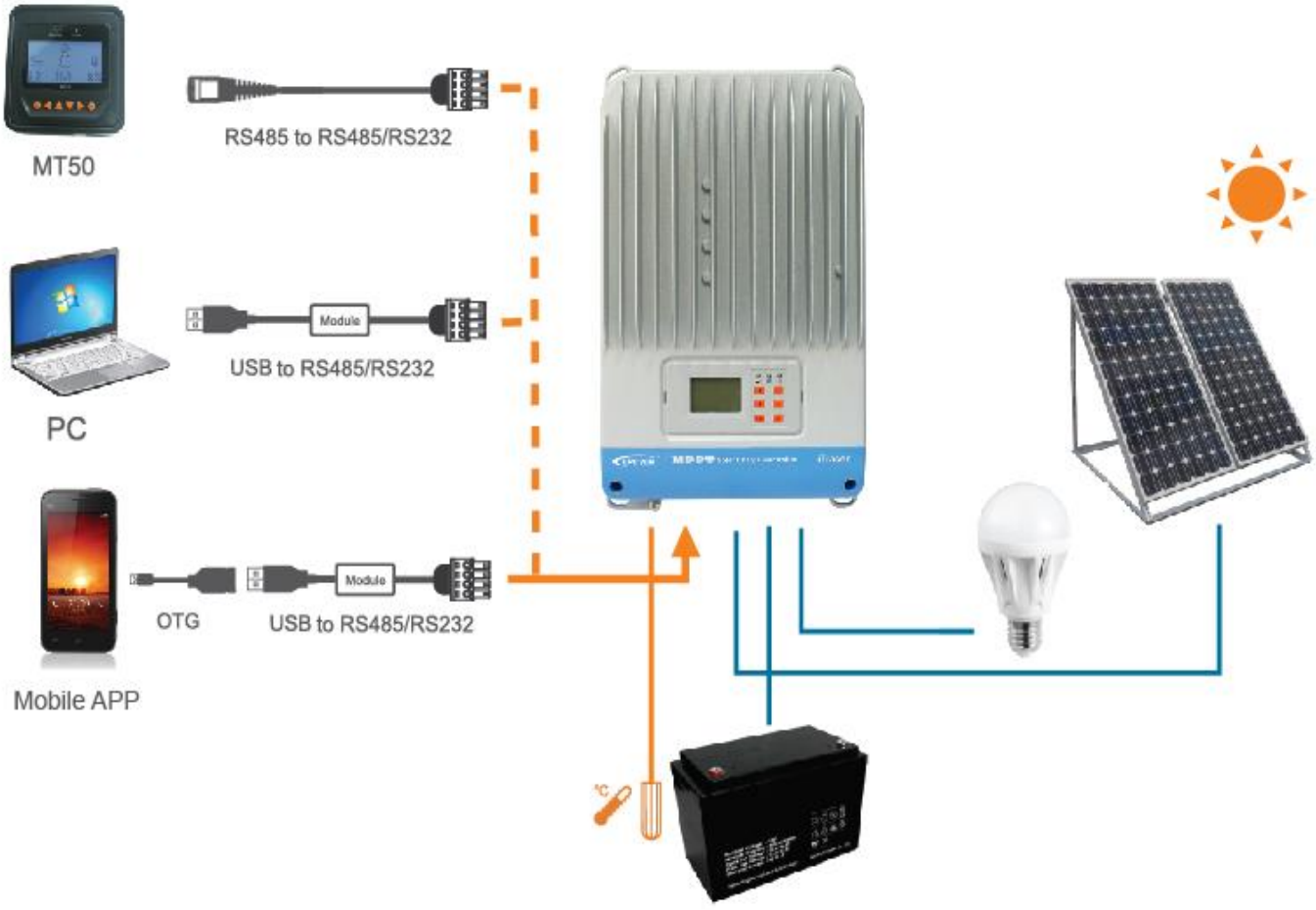
- High tracking efficiency ≥ 99.5%
- Peak conversion efficiency of 98% and full load efficiency of 97%
- Accurately tracking and recognizing MPP among multiple wave crest
- Battery type selection: Sealed, Gel, Flooded and User(programmable)
- Multiple load control modes
- Built-in running data and event logging
- RS485 port with industrial standard MODBUS open architecture
- Real-time data monitoring and parameters setting with MT50, APP or PC software
- Field upgradable firmware

CE RoHS ETL IEC62109

Model	IT4415ND	IT6415ND
Nominal system voltage	12/24 /36/48V auto work	
Rated battery current	45A	60A
Rated load current	45A	60A
Max. PV open circuit voltage	150V at minimum operating environment temperature 138V at 25℃ environment temperature	
Battery input voltage range	8~68V	
MPP voltage range	(Vbat+2V)～108V	
Max. PV input power	600W (12V)	800W (12V)
	1200W (24V)	1600W (24V)
	1800W (36V)	2400W (36V)
	2400W (48V)	3200W (48V)
Self-consumption	1.4~2.2W	
Grounding	Common negative	
Temp. compensation	-3mV/℃/2V	
Overall dimension	382x231x107mm	440x231x110mm
Net weight	4.6kg	5.9kg
Enclosure	IP20	
Working temperature	-25℃ ~ +45℃	
Relative humidity	≤95% (N.C.)	

Accessories:

Option		Standard			
					
MT50 Remote meter with 2m communication cable	OTG-12CM OTG cable (12cm)	Remote temp. sensor RTS300R10K5.08A (3m)	PC communication cable CC-USB-RS485-150U-3.81 (1.5m)	Connector (for battery voltage sampling)	Software



NEW

VS-AU series
PWM solar charge controller

10A,20A,30A,45A,60A 12/24/36/48V auto work

The VS-AU controller is a PWM charge controller with built in LCD display that adopts the most advanced digital technique. The multiple load control modes enable it can be widely used on solar home system, traffic signal, solar street light, solar garden lamp, etc.

Application

Features：

- 3-Stage intelligent PWM charging： Bulk, Boost/Equalize, Float
- Support 3 charging options: Sealed, Gel, and Flooded
- LCD display design, dynamically displaying device's operating data and working condition
- Double USB design, the power supply charge for electronic equipment
- With humanized button settings, operation will be more comfortable and convenient
- Multiple load control modes
- Energy statistics function
- Extensive Electronic protection

CE RoHS

Model	VS1024AU	VS2024AU	VS3024AU VS3048AU	VS4524AU VS4548AU	VS6024AU VS6048AU
Nominal system voltage	VS**24AU 12/24V auto work VS**48AU 12/24/36/48V auto work				
Battery input voltage range	VS**24AU 9～32V VS**48AU 9V～64V				
Rated charge/discharge current*	10A	20A	30A	45A	60A
Max. PV open circuit voltage	VS**24AU 50V VS**48AU 96V				
Grounding	Common positive				
USB output	5VDC/2.4A(Total)				
Overall dimension	142x85x41.5 mm	160x94.9x49.3 mm	181x100.9x59.8 mm	194x118.4x63.8 mm	214x128.7x72.2 mm
Terminals	12AWG(4mm$^{2)}$	8AWG(10mm$^{2)}$	6AWG(16mm$^{2)}$	6AWG(16mm$^{2)}$	3AWG(25mm$^{2)}$
Net weight	0.22kg	0.35kg	0.55kg	0.76kg	1.02kg
			0.58kg	0.88kg	1.04kg
Enclosure	IP30				
Working environment temperature	-25℃～+55℃(Product can work continuously at full load)				
Relative humidity	≤95% (N.C.)				

USB outpu

LandStar EU series
PWM solar charge controller

5A,10A,20A,30A 12V/24V

LS-EU series is reliable, stable, and economical solar charge controller, easy for operation.
USB output can charge mobile phone, DC fans, and other DC electronic device.

Application

Features：

- With USB port
- PWM charging
- Use MOSFET as electronic switch
- Intuitive LED indicators showing battery voltage status
- Battery type selection: Gel, Sealed, and Flooded
- Manual control the output of the load
- Temperature compensation
- Industrial grade design

Model	LS0512EU	LS1012EU	LS1024EU	LS2024EU	LS3024EU
Rated battery current	5A	10A	10A	20A	30A
Rated load current	5A	10A	10A	20A	30A
Nominal system voltage	12V	12V	12/24V auto work	12/24V auto work	12/24V auto work
Battery input voltage range	8~16V	8~16V	8~32V	8~32V	8~32V
Self-consumption	12V≤5mA; 24V≤7mA				
Grounding	Common positive				
Temp. compensation	-5mV/℃/2V				
USB output	5VDC/1.2A				5VDC/2A
Overall dimension (mm)	109.7x65.5x20.8	120.3x67x21.8	120.3x67x21.8	148x85.6x34.8	148x106.8x43.7
Net weight	95g	103g	102g	179.6g	290g
Enclosure	IP20				
Working temperature	-35℃ ~ +55℃				

TES series
PV Solar Charge Controller

30A,50A,60A,75A ,85A,100A
24V/48V/96V/110V/120V/192V/216V/220V/240V Work Voltage Optional

Features：

- LCD equipped (backlighting) to show parameters of system running status
- Control using common positive polarity way, double lines for solar array
- Digital design, module structure, high stability and reliability
- High efficiency with by PWM charging method
- Anti-reverse connection, no charging reversely while night. And Over-charge, limited charging current & voltage protections for battery
- User can adjust setting of system parameters as over-charge voltage, recovery charging voltage, and time delay, etc.
- With alarm function in system abnormal status
- Wall mounting type is easy for installation
- Equipped with data communication function (optional)

Model	TES-30A	TES-50A	TES-60A	TES-75A	TES-85A	TES-100A
Rated battery current	30A	50A	60A	75A	85A	100A
Nominal System Voltage	24V/48V/96V/110V/120V/192V/216V/220V/240V					
Method of control	PWM					
Self-consumption	≤60mA					
Maximum PV Open Voltage	suggest be 1.5 times					
Maximum PV Work Voltage	suggest be 1.2 times					
Time delay to cut-off charge	default are 60 seconds (adjustable)					
Time delay to charge recovery	default are 10 seconds (adjustable)					
Communication	RS232/485 data transfer (optional)					
Overall dimension (mm)	380x355x155mm					
Net weight	9.5kg					
Enclosure	IP20					
Working temperature	-25℃ ~ +55℃					

TEH Hbyrid series
Solar & Wind Charge Controller

600W,1KW,2KW,3KW ,5KW,10KW
12V/24V/48V/96V/120V/240V/360V/380V Work Voltage Optional

Features：

- Control using common positive polarity way, double lines for solar array
- Wind-turbine brake setting with user-key be programable
- Digital design,module structure, stable and reliable
- User can adjust setting of system parameters as voltage protection point, boost voltage, light
- LCD equipped (backlighting) to show parameters of system running status
- With perfect protection, such as over-charge, over-discharge, open circuit, anti-reverse connection, overload, short-circuit, PMG over speed brake, over current brake, solar anti-reverse charging on night

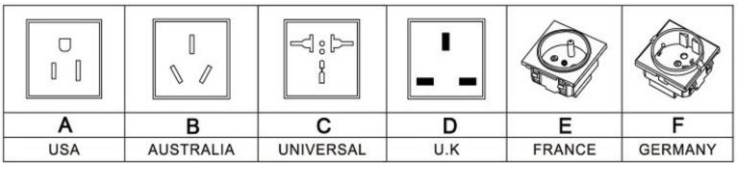
Model	TEH-600W	TEH-1KW	TEH-2KW	TEH-3KW	TEH-5KW	TEH-10KW
Wind turbine power	600W	1000W	2000W	3000W	5000W	10000W
Solar Rated Power	150W/300W	300W	600W	1000W	1500W	3000W
Rated battery voltage	12/24V auto	24v or 48v	48v or 96v	48v/96v/120v/240v	120v/240v/360v	240v/380v
Wind-turbine input power max.	600W	1500W	3000W	5000W	9000W	15000W
Self-consumption	≤60 mA					
Method of control	Two way control with PWM					
Over-load	1.25times 60sec./ 1.5times 5sec. action					
Communication	RS232/485 data transfer (optional)					
dimension (LxWxh)mm	155x150x80	380x355x155	380x355x155	380x355x155	380x355x155	540x505x150
Net weight	2.0kg	9.0kg	9.0kg	9.5kg	9.5kg	15kg
Dump Disension(mm)	-	112x448x144	192x425x144	192x425x144	302x400x292	300x400x600
Dump N.W.	-	4.0kg	7.0kg	7.0kg	14.0kg	30.0kg
Enclosure	IP20					
Working temperature	-25℃ ~ +55℃					

Off Grid series

Pure Sine Wave Inverter

Features：

- Input & output fully isolation
- Adoption of advanced SPWM technology, pure sine wave output
- Wide DC input voltage range
- Low output harmonic distortion（THD≤3%）
- LED Indicators For Normal Output & Failure State



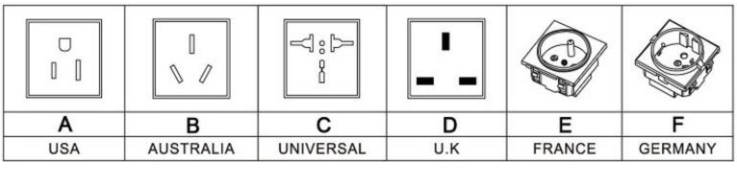
Model		TEP-300W	TEP-500W	TEP-600W	TEP-800W	TEP-1000W
Output	Rated Power	300W	500W	600W	800W	1000W
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC				
	Peak Power	600W	1000W	1200W	1600W	2000W
	Waveform	Pure Sine Wave (THD≤3%)				
	Frequency	50Hz or 60Hz(±2%)				
	Standard Receptacles	USA or UK or Australia or Universal				
Input	No Load Current Draw	<0.4A	<0.5A	<0.5A	<0.6A	<0.7A
	DC Voltage	12V or 24V or 48V DC				
	Voltage Range	10.5V~15V or 21V~30V or 42V~60V DC				
	Efficiency(Typ.)	88~92%				
Protection	Bat. Low Alarm	10.5V or 21V or 42V				
	Bat. Low Shutdown	10V or 20V or 40V				
	Over Load	Shut off output voltage, re-power on to recover				
	Over Voltage	15.5V or 31V or 62V DC				
	Input Reverse Connection	Fuse burn-out				
Others	Working Temperature	-5 ℃ ~ 50℃				
	Work Humidity	20%~90% RH non-condensing				
	Dimension (Lx W x H)mm	205x118x62	225x118x62	225x118x62	245x140x72	275x140x72
	N.W.	1.5Kg	1.8Kg	1.9Kg	2.5Kg	3.2Kg

Off Grid series

Pure Sine Wave Inverter

Features：

- Input & output fully isolation
- Adoption of advanced SPWM technology, pure sine wave output
- Wide DC input voltage range
- Low output harmonic distortion（THD≤3%）
- LED Indicators For Normal Output & Failure State



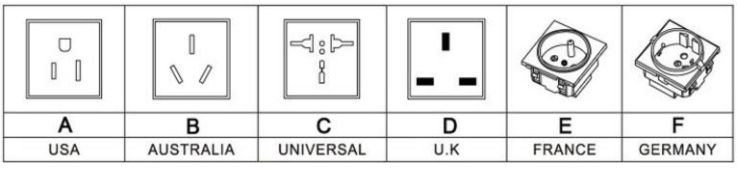
Model		TEP-1500W	TEP-2000W	TEP-2500W	TEP-3000W	TEP-3500W
Output	Rated Power	1500W	2000W	2500W	3000W	3500W
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC				
	Peak Power	3000W	4000W	5000W	6000W	7000W
	Waveform	Pure Sine Wave (THD≤3%)				
	Frequency	50Hz or 60Hz(±2%)				
	Standard Receptacles	USA or UK or Australia or Universal				
Input	No Load Current Draw	<0.8A	<1.0A	<1.0A	<1.2A	<1.3A
	DC Voltage	12V or 24V or 48V or 72V DC				
	Voltage Range	10.5V~15V or 21V~30V or 42V~60V DC				
	Efficiency(Typ.)	88~92%				
Protection	Bat. Low Alarm	10.5V or 21V or 42V				
	Bat. Low Shutdown	10V or 20V or 40V				
	Over Load	Shut off output voltage, re-power on to recover				
	Over Voltage	15.5V or 31V or 62V DC				
	Input Reverse Connection	Fuse burn-out				
Others	Working Temperature	-5 ℃ ~ 50℃				
	Work Humidity	20%~90% RH non-condensing				
	Dimension (Lx W x H)mm	369x200x74	440x200x74	440x200x74	420x200x148	400x200x148
	N.W.	5.5Kg	6.8Kg	7.0Kg	10.5Kg	11.0Kg

Off Grid series

Pure Sine Wave Inverter

Features：

- Input & output fully isolation
- Adoption of advanced SPWM technology, pure sine wave output
- Wide DC input voltage range
- Low output harmonic distortion（THD≤3%）
- LED Indicators For Normal Output & Failure State



A	B	C	D	E	F
USA	AUSTRALIA	UNIVERSAL	U.K	FRANCE	GERMANY

Model		TEP-4000W	TEP-5000W	TEP-6000W	TEP-8000W
Output	Rated Power	4000W	5000W	6000W	8000W
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC			
	Peak Power	8000W	10000W	12000W	14000W
	Waveform	Pure Sine Wave (THD≤3%)			
	Frequency	50Hz or 60Hz(±2%)			
	Standard Receptacles	USA or UK or Australia or Universal			
Input	No Load Current Draw	<1.5A	<1.6A	<1.8A	<2.0A
	DC Voltage	12V or 24V or 48V or 72V DC			48V DC
	Voltage Range	10.5V~15V or 21V~30V or 42V~60V DC			
	Efficiency(Typ.)	88~92%			
Protection	Bat. Low Alarm	10.5V or 21V or 42V			
	Bat. Low Shutdown	10V or 20V or 40V			
	Over Load	Shut off output voltage, re-power on to recover			
	Over Voltage	15.5V or 31V or 62V DC			
	Input Reverse Connection	Fuse burn-out			
Others	Working Temperature	-5 ℃ ~ 50℃			
	Work Humidity	20%~90% RH non-condensing			
	Dimension (Lx W x H)mm	436x200x150	544x200x150	544x200x150	620x200x150
	N.W.	12.0Kg	14.5Kg	16.0Kg	18.0Kg

Off Grid series

Pure Sine Wave Inverter With Charger

Features：

- Input & output fully isolation
- Adoption of advanced SPWM technology, pure sine wave output
- Wide DC input voltage range
- Low output harmonic distortion（THD≤3%）
- LED Indicators For Normal Output & Failure State

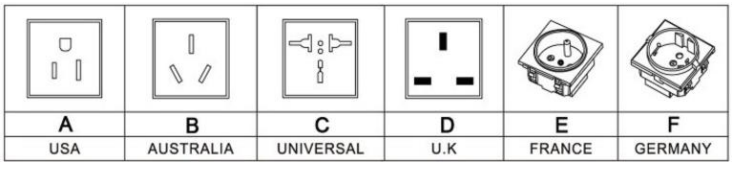
Model		TEPC-300W	TEPC-500W	TEPC-1000W	TEPC-1500W	TEPC-2000W	TEPC-3000W
Output	Rated Power	300W	500W	1000W	1500W	2000W	3000W
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC					
	Peak Power	600W	1000W	2000W	3000W	4000W	6000W
	Waveform	Pure Sine Wave (THD≤3%)					
	Frequency	50Hz or 60Hz(±2%)					
	Standard Receptacles	USA or UK or Australia or Universal					
Input	No Load Current Draw	<0.4A	<0.5A	<0.6A	<0.8A	<1.0A	<1.2A
	DC Voltage	12V or 24V or 48V DC					
	Voltage Range	10.5V~15V or 21V~30V or 42V~60V DC					
	Efficiency(Typ.)	88~92%					
Protection	Bat. Low Alarm	10.5V or 21V or 42V					
	Bat. Low Shutdown	10V or 20V or 40V					
	Over Load	Shut off output voltage, re-power on to recover					
	Over Voltage	15.5V or 31V or 62V DC					
	Input Reverse Connection	Fuse burn-out					
Charger	AC Input Voltage	100V-120V / 210V-240V					
	AC Frequency	58-62HZ / 48-52HZ					
	Charging Current	2.5A~30A(optional)					
Others	Working Temperature	-5 ℃ ~ 50℃					
	Work Humidity	20%~90% RH non-condensing					
	Dimension (Lx W x H)mm	245x118x62	265x118x62	360x140x74	420x200x74	480x200x74	420x200x150
	N.W.	1.8Kg	2.0Kg	4.5Kg	7.8Kg	9.0Kg	13.5Kg

Off Grid series

Modified Sine Wave Inverter

Features：

- Input & output fully isolation
- Modified sine wave output
- Wide DC input voltage range
- Excellent EMC design
- LED Indicators For Normal Output & Failure State

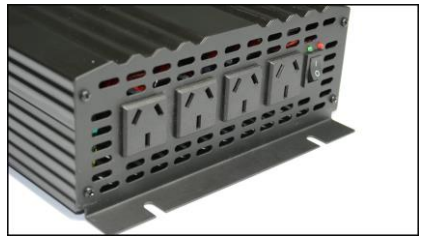


A	B	C	D	E	F
USA	AUSTRALIA	UNIVERSAL	U.K	FRANCE	GERMANY

Model		TEM-75W	TEM-150W	TEM-300W	TEM-500W	TEM-1000W
Output	Rated Power	75W	150W	300W	500W	1000W
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC				
	Peak Power	150W	300W	600W	1000W	2000W
	Waveform	Modified Sine Wave				
	Frequency	50Hz or 60Hz(±2%)				
	Standard Receptacles	USA or UK or Australia or Universal				
Input	No Load Current Draw	<0.15A	<0.2A	<0.3A	<0.4A	<0.7A
	DC Voltage	12V or 24V or 48V DC				
	Voltage Range	10.5V~15V or 21V~30V or 42V~60V DC				
	Efficiency(Typ.)	88~92%				
Protection	Bat. Low Alarm	10.5V or 21V or 42V				
	Bat. Low Shutdown	10V or 20V or 40V				
	Over Load	Shut off output voltage, re-power on to recover				
	Over Voltage	15.5V or 31V or 62V DC				
	Input Reverse Connection	Fuse burn-out				
Others	Working Temperature	-5 ℃ ~ 50℃				
	Work Humidity	20%~90% RH non-condensing				
	Dimension (Lx W x H)mm	122x65x35	120x68x35	150x95x55	185x95x55	250x165x62
	N.W.	155g	350g	0.8Kg	1.4Kg	2.5Kg

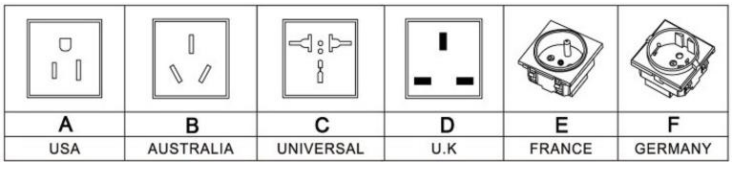
Off Grid series

Modified Sine Wave Inverter



Features：

- Input & output fully isolation
- Modified sine wave output
- Wide DC input voltage range
- Excellent EMC design
- LED Indicators For Normal Output & Failure State



A	B	C	D	E	F
USA	AUSTRALIA	UNIVERSAL	U.K	FRANCE	GERMANY

Model		TEM-1500W	TEM-2000W	TEM-3000W	TEM-5000W	TEM-6000W
Output	Rated Power	1500W	2000W	3000W	5000W	6000W
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC				
	Peak Power	3000W	4000W	6000W	10000W	12000W
	Waveform	Modified Sine Wave				
	Frequency	50Hz or 60Hz(±2%)				
	Standard Receptacles	USA or UK or Australia or Universal				
Input	No Load Current Draw	<0.8A	<0.9A	<1.2A	<1.5A	<1.8A
	DC Voltage	12V or 24V or 48V DC				
	Voltage Range	10.5V~15V or 21V~30V or 42V~60V DC				
	Efficiency(Typ.)	88~92%				
Protection	Bat. Low Alarm	10.5V or 21V or 42V				
	Bat. Low Shutdown	10V or 20V or 40V				
	Over Load	Shut off output voltage, re-power on to recover				
	Over Voltage	15.5V or 31V or 62V DC				
	Input Reverse Connection	Fuse burn-out				
Others	Working Temperature	-5 ℃ ~ 50℃				
	Work Humidity	20%~90% RH non-condensing				
	Dimension (Lx W x H)mm	350x200x74	369x200x74	450x200x74	544x200x150	544x200x150
	N.W.	4.1Kg	5.5Kg	8.5Kg	13.5Kg	14.5Kg

Off Grid series

Frequency Pure Sine Wave Inverter

Features：

- 35A ~70A automatic 3-stage battery charger
- Charge current is Adjustable(25% ,50% ,75%, 100%)
- Inbuilt pure copper transformer
- Low voltage, overload, and high voltage, over temperature protection
- Battery/AC priority(option); RS232/Remote switch(option) ;Generator compatible

Model		1012C 1024C	2012C 2024C	3012C 3024C/3048C	4024C 4048C	5024C 5048C	6024C 6048C
Inverter	Rated Power	1000W	2000W	3000W	4000W	5000W	6000W
	DC Input	12V	12V	12V	24V	24V	24V
		24V	24V	24V/48V	48V	48V	48V
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC					
	Peak Power	3000VA	6000VA	9000VA	12000VA	15000VA	18000VA
	starting electric motor capable	1HP		2HP		3HP	
	Waveform	Pure Sine Wave (THD≤5%)					
	Frequency	50Hz or 60Hz(Auto detection)					
	Efficiency(Typ)	>80%					
Charger	AC Input	155-265V / 96-127V ac					
	Max.Charger Current	35A	65A	65A	65A	65A	65A
		20A	40A	45A/25A	35A	40A	50A
Line	Low Line Disconnect	155Vac±4% / 96Vac±4%					
	High Line Disconnect	272Vac±4% / 132Vac±4%					
	Battery priority	Yes					
	Grid tie priority (UPS)	Yes					
	Transfer time	10ms					
	bypass overload current	30A		40A			
Others	Work Temp	-5℃~ +50℃					
	Dimension (Lx W x H)	570x 320x 300mm			755x 320x 300mm		
	N.W.	19Kg	23Kg	27Kg	39Kg	48Kg	56Kg

Off Grid series

Solar Charge Controller Inverter

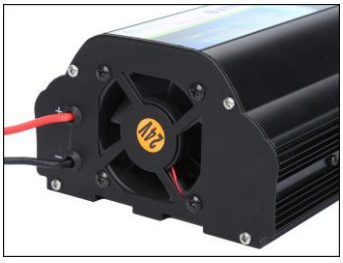
Features：

- CPU management and control，modular design
- Easy to install. To configure a solar system, customers only need to connect it with solar panels and batteries
- Multifunction design，customers don’t need to buy solar, controller, charger and stabilizer，etc
- LCD display，can visually display various parameters(such as the output voltage, frequency, working mode, etc)

Model		500VA	700VA	1000VA	1500VA	2000VA	3000VA	5000VA	6000VA
Inverter	Rated Power	350W	500W	700W	1000W	1500W	2000W	3500W	4000W
	AC Voltage	100V or 110V or 120V or 220V or 230V or 240VAC							
	Peak Power	700W	1000W	1400W	2000W	3000W	4000W	7000W	8000W
	Waveform	Pure Sine Wave							
	Frequency	50Hz or 60Hz(±2%)							
	Battery Voltage	12V or 24V		24V		24V or 48V		48V	
	Working Mode (Setting)	01:Utility First,Battery Standby							
		02：Sleep Mode,no utility,load's power higher than 5% of rated power, start to work automatically							
		03：Battery first, utility standby							
	Overload Ability	＞120% 1 min，＞130% 10s							
	Transfer Time	5ms (DC to AC / AC to DC)							
	power saver	≤6W							
Grid Charger	AC Input	220V±35% or 110V+35%（Optional）							
	Max.Charger Current	0~15A							
Solar Charge Controller	Voltage	12V or 24V		24V		24V or 48V		48V	
	Current	10A	20A	20A		30A		50A	60A
	PV Max Input Voltage	12V System：25V / 24V System：50V / 48V System：100V							
Others	Work Temp	-10℃~ +50℃							
	Dimension (Lx W x H)	335x165x375mm				350x220x460mm		420x260x605mm	
	N.W.	8Kg	9Kg	13Kg	16Kg	22Kg	25Kg	33Kg	55Kg

Charger series

Lead-Acid Battery Charger



Features：

- Three Stage Trickle Charging Mode
- Battery Protection
- High Frequency Charger For GEL or LEAD acid Battery
- Excellent EMC design
- Over Current Protection, Over Voltage Protection, Short Circuit Protection, Polarity Error Protection, Over Charge Protection

Model	TEC-10A	TEC-15A	TEC-20A	TEC-30A	TEC-50A
Max Output Current(A)	10A	15A	20A	30A	50A
AC Input Voltage	100V~120V / 220V~ 240V AC				
AC Frequency	58-62HZ / 48-52HZ				
Battery Rated Voltage	12V /24V /48V				12V
DC Output Voltage	13.6V-14.8V / 27.2-29.6V / 54.4-59.2V				
Charge Mode	Constant Current; Constant Voltage;Float Charger				
Over Voltage Protection	Yes				
Over Current Protection	Yes				
Short Circuit Protection	Yes				
Polarity Error Protection	Yes				
Over Charge Protection	Yes				
Working Temperature	-5℃~ 40℃				
Thermal Shutdown Protection	50℃~65℃				
Work Humidity	20%~90% RH non-condensing				
Dimension (Lx W x H)mm	150x85x50	190x135x85	190x135x85	210x135x85	350x135x85
N.W.	1.0Kg	1.8Kg	1.9Kg	2.0Kg	3.5Kg



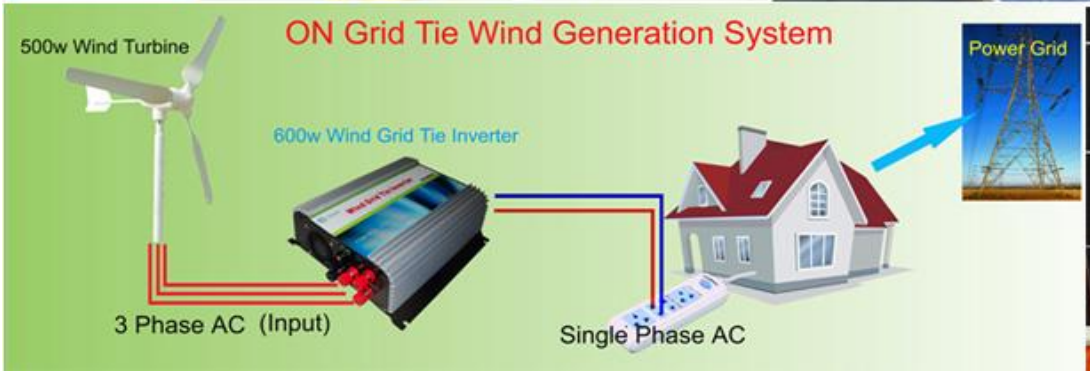
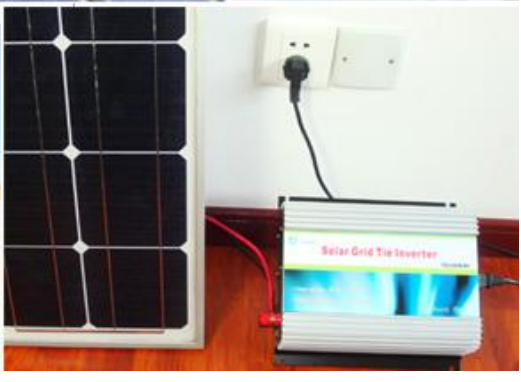











500w Wind Turbine
ON Grid Tie Wind Generation System
Power Grid
600w Wind Grid Tie Inverter
3 Phase AC (Input)
Single Phase AC


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