



CHINA MACHINERY ENGINEERING SUZHOU CO.,LTD中设 (苏州) 机械设备工程有限公司

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http://www.cmecnewenergy.com/

Atlas of New Energy Products

New Energy, Starting a New Life of High Performance and Consumption

新能源 > 开启高能低耗新生活



Company Profile

China Machinery Engineering Corporation (CMEC), a core subsidiary of SINOMACH, is among the world's top 500 companies.

Founded in 1978, CMEC is China's first engineering & trade company. Through over 40 years of development, CMEC has become an international corporation with engineering contracting and industrial development as its core divisions. It has been underpinned by a full industry chain of trade, design, survey, logistics, research and development. It has offered "one-stop" customized solutions for integrated regional development and various types of engineering projects, covering pre-planning, design, investment, financing, construction, operation and maintenance.

What's more, We have committed ourselves to aide in the development and promotion of clean energy. As always, our main purpose is continuous growth and become part of the leading solar suppliers in the industry.

Our Company is dedicated to innovating and promoting the integration of "photovoltaic, energy storage and charging", that's to say "photovoltaic + energy storage + charging" mode, which is an ideal solution to solve the unbalanced development between new energy automobiles and charging piles. By means of coordinated power supply of energy storage power station and power grid, not only peak-load shifting can be realized, but also the problems such as intermittency and instability of photovoltaic power etc. can be effectively solved.



Product and Service





ZY415M10PH-108

Monocrystalline Half Black Modele

0~+5W

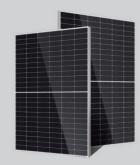
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400-420W Output power Power tolerance

Multiple dimensions and models customized components20-380Wp

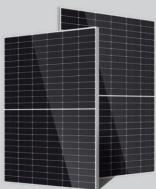
Battery cell quantity: 4-72 (158/166/182/210 batteries) Black/white backplane, black/white frame Component dimensions: 326x370x25 - 1986*992*35mm Component weight: 1.5-21.2kg





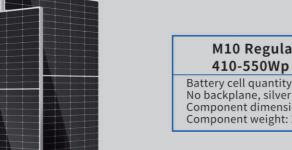
M10 All black single glass component 410-550Wp

Battery cell quantity: 54/60/72 (182 batteries) Black backplane, black frame Component dimensions: 1722x1134x30 - 2278*1135*35mm Component weight: 21.2-28.6kg



M10 Regular single glass component 410-550Wp

Battery cell quantity: 54/60/72 (182 batteries) White backplane, silver frame Component dimensions: 1722x1134x30 - 2278*1135*35mm Component weight: 21.2-28.6kg



M10 Regular double glass component

Battery cell quantity: 54/60/72 (182 batteries) No backplane, silver frame Component dimensions: 1722x1134x30 - 2278*1135*35mm Component weight: 24-31.8kg

Electrical Characterisrics

Module Type		RD400M10H RD405M10H RD410M10		0M10H	RD415M10H		RD420M10H				
Working Conditions		V									e
Maximum Power at STC/NMOT (Pmax)	W	400	298	405	302	410	306	415	310	420	314
Optimum Operating Voltage (Vmp)	V	31.1	28.5	31.30	31.5	31.5	28.9	31.7	29.1	31.7	29.3
Optimum Operating CUurrent (Vmp)	А	12.86	10.45	12.94	13.02	13.02	10.59	13.09	10.65	13.16	10.72
Open Circuit Voltage (Voc) 3%	V	36.5	3.5	36.7	36.9	36.9	33.9	37.1	34.1	37.3	34.3
Short Circuit Current (Voc) +3%	А	13.53	11.38	13.62	13.71	11.54	11.54	13.08	11.62	13.89	1.71
Module Efficiency	%	20).5	20	.7	20	0.9	21	.2	21	5
Maximum System Voltage	V		1500(dc)								
Maximum Series Fuse Rating	А	25									
Operating Module Temperature	С	-40~+85									
Power Tolerance	W		0/+5								

STC:Irradiance 1000w/m2, Cell Temperature 25C, Atmospheric quality Am1.5 NMOT: The irradiance is 800W/m, the ambient temperature is 20 degrees, and the wind speed is 1m/s

Electrical Characterisrics

Solar Cell(No.of cells)	Mono 182x182 54pcs				
Dimensions	1722x1134x30mm(±2mm)				
Weight	21.2kg(±3%)				
Front Glass	3.2mm low-iron tempered glass				
Frame	6063-T5 anodized aluminum alloy				
Junction Box	IP68 rated(3bypass-diodes)				
Output Cables	4mm²/线长2x350mm or (Customized length				
Connectors	MC4(IP68)				
Maxumum Load Capacity	5400Pa/2400Pa				
Safty Rate	Class II (Tue)				

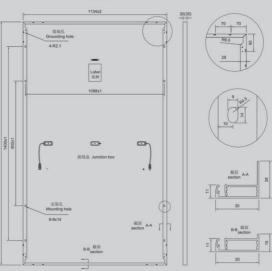
Electrical Characterisrics

Temperature Coefficient of Pmax	[%/C]	-0.37
Temperature Coefficient of Voc	β[%/C]	-0.30
Temperature Coefficient of lsc	α[%/C]	+0.046
Nominal Mondule Operating Temperature	NMOT	44°C±2°C

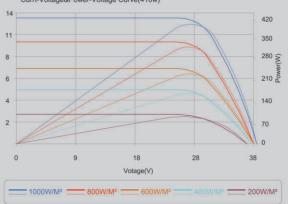
Electrical Characterisrics

Container	20	20'CP		'HQ
Frame	30mm	35mm	30mm	35mm
Piece per pallt	62	57	36	31
Pallts per container	6	6	26	26
Pieces per container	372	342	936	806
Domestic Transport				
9.6米平板车装货数量	30边框	36pcs/	托-20托/3	车-720pcs/车
13.5米平板车装货数量	30边框	36pcs/	托-28托/3	车-1008pcs/车
17.5米平板车装货数量	30边框	36pcs/	任-48托/3	车-1728pcs/车

装配图纸 Assembly Drawing (Unit:mm)







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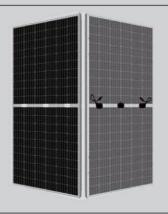


Poly Solar Panel



270W-280W

Weight/No of cells:17KG±3%60 (6*10) Dimensions:1640-990-35mm



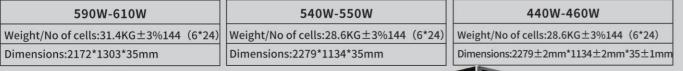
590W-610W Dimensions:2172*1303*35mm



320W-340W Weight/No of cells: $25KG\pm3\%72$ (6*12) Dimensions:1950*992*45mm



540W-550W Dimensions:2279*1134*35mm





Component characteristics

wind load and 5400pa snowload.

- The whole assembly has passed the certification of 2400pa
- First year attenuation: 2%; Linear attenuation: 0.55%.
- The overlapping welding technology independently developed by JC can effectively eliminate the battery gap and improve Component power(up to 21.48% for single-sided components).

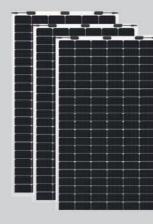


- 12-year product warranty; Five-year power warranty.
- 9 main gate technology reduces the distance between main gate and thin gate, effectively reducing current. Loss, improve the output power of components.
- 9 The main grid assembly adopts special round wire welding tape, which can effectively avoid the broken grid of the assembly, And the problem of cracked



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Output Power	Working Voltage	Size	Package	GROSSWEIGHT
100W	18V	1080*540*3MM	110*565*28MM	3KG
140W	18V	1090*700*3MM	110*720*35MM	3.8KG
200W	18V	1585*700*3MM	1605*720*35MM	6KG
220 ETFE	18V	1585*700*3MM	1605*720*35MM	6KG





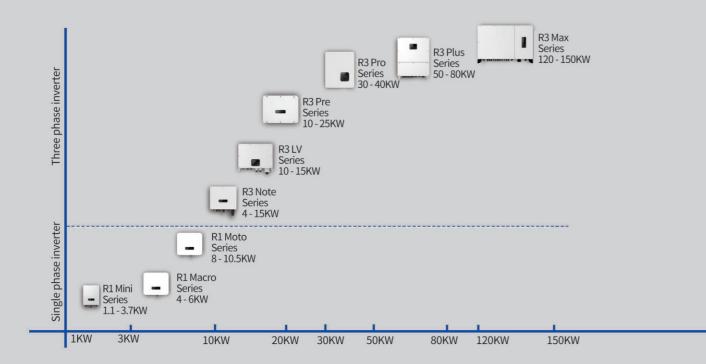




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Poly Solar Panel





O1-HF Series Off-Grid Storage Inverter

3.6-5kW, Single Phase Off-Grid Storage inverter, 1 MPPT Compatible with 48V Batteries independently



TITAN SOLAR CLOUD



Titan Solar Cloud provides systematic O&M management for solar projects based on the IoT Technology, via data and cloud computing.



SYSTEMATIC SOLUTIONS

Titan Solar Cloud collects comprehensive data from solar projects, including data from inverters, meteorological station, combiner box, DC combiner, electric and module strings.



DATA CONNECTION COMPATIBILITY

Titan Cloud is compatible with and able to connect to more than 40 inverter brands globally.



INTELLIGENT O&M

Titan Solar Cloud platform realizes centralized O&M, including intelligent fault diagnosis, faut automatic positioning and close-cycle O&M, etc.



GROUP AND FLEET MANAGEMENT

It can realize the fleet O&M management for the solar plants around the world and is also suitable for residential solar projects after sales service. It can dispatch the service orders to the service team nearby the fault site.

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On-grid Inverters

3kW//3.68kW/5kW/6kW

High Voltage Hybrid Inverter

Energy Storage Products

N1 HL Series

3kW/3.68kW/5kW

Batteries

Batteries

5:3 kWh

Turbo L1 Series

Low Voltage Battery

Turbo H1 Series

14.97kWh/18.7kWh

High Voltage Battery

3:74kWh/7:48kWh/11:23kWh

Single Phase, 2 MPPTs

Low Voltage Hybrid Inverter

Single Phase, 2 MPPTs

N1 HV Series

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1-phase inverter with one MPPT

EFFICIENCY OF MAXIMUM 97.5% IP65 PROTECTION

STS-1K-3.3KTL-S

1-phase inverter with 2 MPPT STS-3K-6KTL-P

EFFICIENCY OF MAXIMUM 98.1% IP65 PROTECTION

1-phase inverter with 2 MPPT STS=7K=11KTL

EFFICIENCY OF MAXIMUM 98.1% IP65 PROTECTION

3-phase inverter with 2 MPPT STT - 4K - 25KTL - P

EFFICIENCY OF MAXIMUM 98.6%

IP65 PROTECTION



3-phase inverter with 4 MPPT

STT - 30K - 60KTL

EFFICIENCY OF MAXIMUM 98.8% P66 PROTECTION



8-phase inverter with 6MPPT

STIT-50K-60KTL-P

EFFICIENCY OF MAXIMUM 98.8% P65 PROTECTION



3-phaseinverterwith8/10MPPP

STIT-80K-1110KIIL 100K/125KIIL-HV

EFFICIENCY OF MAXIMUM 98.8%

IP65 PROTECTION



1-phase energy storage inverter with 2MPPT

STH=3K=3.6KTL=HSS STH=42K=8KTL=HS

EFFICIENCY OF MAXIMUM 97.6% IP65 PROTECTION



3-phase energy storage inverter with 2 MPPT

STH-4K-12KTL-HT

EFFICIENCY OF MAXIMUM 98.2% IP65 PROTECTION



3-phase energy storage inverter with 2 MPPT

STH-15K-33KTL-HT

EFFICIENCY OF MAXIMUM 98.2% IP66 PROTECTION



Batch assembly, saving time and mone Battery life (6000) cycles) Remote diagnosis and upgrade support Charge your battery in half an hour Optional battery capacity of 5.12-20.48 kWh Perfectly matched to inverters for households and businesses



WIFI-Module

Reliability Flexibility Extendability



LAN-Module

Reliability Flexibility



GPRS-Module

Reliability Flexibility Extendability



Extendability



Intelligent counter STM

Export limit and control High accuracy of current



Energy manager

STK

Export limit and control Various CT models available Compatible with various network types High accuracy of current measurement 24/7/Real-time consumption monitoring Integrated functions of WiFi/LAN/RS485

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On-grid PV System with Microinverter Low DC Voltage, Module-level MPPT, Safe and Efficient!

More efficient

PV solar systems have always been affected by 'Shadow Effect' since they were put into use.

The output current of PV modules will be greatly affected when the modules were sheltered by shadow. In a PV array, the current change of a single PV module will affect the current of entire PV array, thus affecting the generating efficiency of the whole PV system.

As a representative technical route in MLPE, TSUN Microinverter has multi-channel MPPT, which can track and converts power for single PV module.

The single shadowed PV module will not affect the power generation of other PV modules, so as to maximum the energy generation efficiency and energy production.

What's more, multi-channel MPPT design makes microinverters more suitable for complex roof environments and meet more customized installation requirements

More Safe

As a solar energy conversion device, PV modules output energy under sun radiation and cannot be turned off, which leads to high DC voltage continuously existing in the area of PV array when there is radiation.

Just in case the DC terminal contact is poor, it's easy to cause DC arc, resulting in PV system fire accident. Meanwhile, if the PV array wire is damaged, the electric shock risk might exist, threatening the safety of firefighters. However, TSUN Microinverter adopts multi-channel

MPPT design, each input with low DC voltage as well as the entire system.

Therefore, the PV system with TSUN microinverter has no risk of DC high voltage and DC arc.

And in emergency situations such as fire, the firefighters safety can be guaranteed with no risks of electric shock.

Much Easier to Install

PV system requires professional installers to install. But TSUN Microinverters adopt plug-and-play design, most connecting work can be finished on the roof.

Therefore, compared with other traditional inverters, the installation of TSUN Microinverter is much easier and only needs simple training.

Much Easier to Monitor

Meanwhile, the monitoring system of TSUN Microinverter can collect the information of single PV module to indicate the real time situation of each PV module.

If the abnormal situation exists in PV system, the users can quickly locate the exception, analyze and rectify the problems, and then restore the system by using the monitoring system



Batter Data	LiFePO4					
			5.	12		
Batter Type	51.2					
Batter Capacity per Kit [kWh]						
Batter Voltage per Kit [V] Max. Batter Quantities per System	T.	1	4 (Up to 20	0.48 KWh)	1	1
Max. Charging Power [W]	3000	3600	4000	4600	5000	6000
Max. Charging/ Discharging Current [A]	60/60	72/72	80/80	92/92	100/100	120/120
Batter Data	3000	3600	4000	4600	5000	6000
	3300	3680	4400	4600	5500	6000
Rated Output Power[W]	13	16	17.4	20	21.7	26.1
Max. Output Power [VA]						0.00016766616170
Rated Output Current [A]	15	16.7	20	23	25	27.3
Max. Output Current [A] Rated Output Voltage [V]			220/230/2	40, L/N/PE		
Rated Grid Frequency [Hz]						
Power Factor [cos φ])/60		
Total Harmonic Distorion [THDi]			0.8 leading~	0.8 lagging		
			<	3%		
AC Output [Back-up Moo	de] ₃₀₀₀	3600	4000	4600	5000	6000
Rated Output Power [W]	15	16.7	20	23	25	27.3
Max. Output Current [A]			220 / 230 / 2	240, L/ N/ PE		
Rated Output Voltage [V]				/60		
Rated Output Frequency [Hz]						
Total Harmonic Distorion of Voltage				3%		
Switch Time [ms]			<	20		
Peak Output Apparent Power [VA]	3600VA, 60se	ec 4200VA, 60se	4800VA, 60sec	5500VA, 60sec	6000VA, 60sec	7200VA, 60sec

Efciency

Max. Batter Charging/ Discharging Efciency

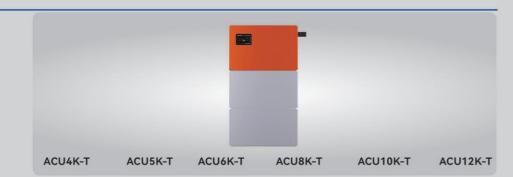
95% / 95%

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All-in-one AC Coupled Unit (Three phase)

Technical Data



50/60

<3%

Batter Data

Batter Type	LiFePO4					
Batter Capacity per Kit [kWh]	5.12					
No. of Battery Input	2					
Battery Voltage Range [V]	125~600					
Rated Charge/Discharge power [W]	4000	5000	6000	8000	10000	12000
Max. Charging/Discharging Current [A]	25					
Communication Interfaces	CAN/RS485					

AC Output Data [On-grid]

Rated AC Power[W]	4000	5000	6000	8000	10000	12000
Max. AC Power Output to Grid [VA]	4400	5500	6600	8800	11000	13200
Max. AC Power from Grid [VA]	8000	10000	12000	16000	20000	20000
Max. AC Current Output to Grid [A]	6.7	8.3	10	13.3	16.7	20
Max. AC Current from Grid [A]	12.1	15.2	18.2	24.2	30.3	36.4

Rated Grid Voltage 3/N/PE, 220/380Vac, 230/400Vac

Grid Voltage Range 184Vac~276Vac

Rated Grid Frequency [Hz]

Grid Frequency Range 45Hz~55Hz/55Hz~65Hz

Power Factor [cos o] ~1(0.8 leading to 0.8 lagging)

Output THDi (@Rated output)

AC Output Data [Back-up Mode]

Nominal Output Power [W]	4000	5000	6000	8000	10000	12000
Max. Output Power [VA]	4400	5500	6600	8800	11000	13200
Peak Output Power, Duration	8000VA, 60s	10000VA, 60s	12000VA, 60s	16000VA, 60s	20000VA, 60s	2000VA, 60s
Max. Output Current [A]	6.4	8	10	13	16.7	20
Peak Output Current, Duration	13.6A, 60s	15A, 60s	18A, 60s	24A, 60s	30A, 60s	30A, 60s

Rated Output Voltage [V] 3/N/PE, 220/380Vac, 230/400Vac

Rated Output Frequency [Hz] 50/60
Output THDv (@Liner load) <3%
Switch Time [ms] <10

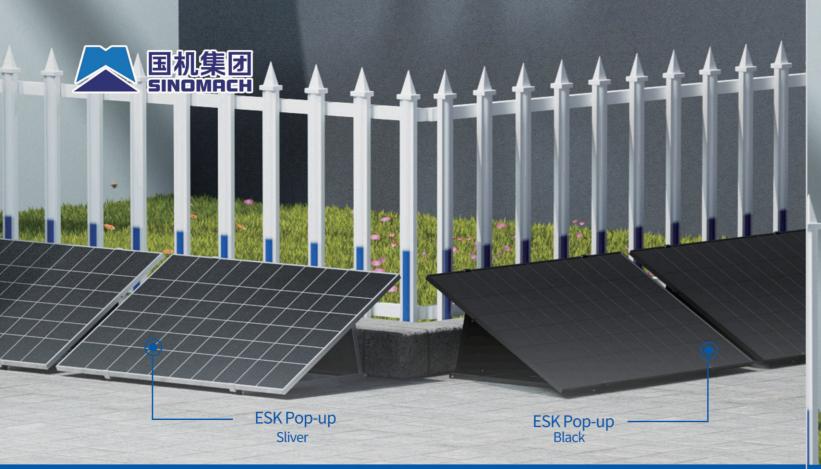
Protection

Battery Input Reverse Polarity Protection	Integrated
AC Short Circuit Protection	Integrated
Overload Protection	Integrated
Surge Protection	Integrated
Residual Current Protection	Integrated
AC Overvoltage/Undervoltage Protection	Integrated
AC Overfrequency/Underfrequency Protection	Integrated
Over Temperature Protection	Integrated
Anti-islanding protection	Integrated

General Data

Topology	Transformerless
Ingress Protection	P65
Operating Temperature Range	-30-+60°C
Ambient Humidity	0100%
Altitude	4000m(>3000m power derating)
Noise[dBA]	<25
Cooling method	Natural Convection
Dimensions [WxHxD mm]	408x652x195 (Inverter)/388x652x195 (Battery)
Weight [kg]	20 (Inverter)/50 (Battery)
Communication	Wi-Fi / 4G (Optional)





Applicable scenarios

Easy Solar Kit Pop-Up

Technical Data





DC Power Data

Module Power (Pnom) 400-460 Module Efciency 20.5% Power Tolerance 0/+5W Temp. Coef. (Power) -0.35%/°C Quantity of modules

AC Electrical Data

Max. Continous Output Power [W] 400 2 Max. Output Current [A] Nominal Output Voltage [V]* 220/230/240 Nominal Frequency [Hz]* 50/60 Power Factor >0.99 **Output Current Harmonic Distorion** <3%

Cerifcation

Solar Module CE,TUV,INMETRO,SEC

Microinverer CE-LVD,CE-EMC,VDE 4105,VDE 0126,EN 50549

IP67

Environmental Data

17

Environmental Protection Rating

-40 °C to 60 °C Operating Ambient Temperature Range **Relative Humidity** 0-100% Max. Operating Altitude Without Derating [m]

Environmental Data

30 Weight [kg] 1724*1144*80 Dimensions [W \times H \times D mm]

12 pcs kit / pallet, 26 pallet/40HQ

Packing Confguration Warranty 12 years

Microinverer Parameter

300-550 Recommanded Module Power (STC Pmax) Max. DC Voltage per Input [V] Max. DC Current per Input [A] 14 Max. DC Shor Circuit Current per Input [A] 20 MC4 Input Connector Type 400 Max. Continous Output Power [W] Max. Output Current [A] 220/230/240 Nominal Output Voltage [V]* 50/60 Nominal Frequency [Hz]* Power Factor >0.99 <3% Output Current Harmonic Distorion

Bracket Parameter

Easy Solar Kit Transformer

Length of Solar Module [mm] Width of Solar Module [mm] Thickness of Solar Module [mm] **Optional Accessaries**

Bracket Parameter

Length of Cable [m] 2.1 3 * 1.5 mm² Wire Gauge Depending on specifc countr Plug Type

>900

>500;<1114

35 (30 / 25 optional)

Clevises * 2; Wire Ropes * 4

Bracket Parameter

Dimensions [W×H×D mm] 885×360×108 Weight [kg] 12 **Environmental Protection Rating** IP67 Operating Ambient Temperature Range -40 °C to 60 °C **Relative Humidity** 0-100% Max. Operating Altitude Without Derating [m] 2000







60KW DC CHARGER



Features:

Elegant Design

All aluminum Z-shaped shutter patented technology Clear display of SOC status Sunshade protection, cold light assistance

Intelligent Control

Online status diagnosis OTA remote upgrade 4G Connection OCPP1.6J

Strong Performance

Equal power distribution between 2 connectors
Wide constant charging power range 300V~1000V
Low standby power consumption
Charging efficiency up to 95%

Smart Wallbox 7kW

7kW smart wallbox, ideal choice for home charging: smart, safe and simple.

Features:

AC 30mA+DC 6mA RCD Inside

Provide a more comprehensive detection capability for various residual fault currents.

IP55 Protection

Better protect the product integrity, produce a longer charger lifespan. ü Remote sched-

ule the chargin

With WiFi connection and mobile APP, you can schedule the charging remotely.

LCD Display

The 3.8 inch screen display the charger status, charging power, etc.

· OCPP1.6

- · WiFi Connection
- · Over-the-Air updates . · AC30mA+DC 6mA RCD
- · 7kW power · Tethered with 5m cable
- · Post mount available

Smart Wallbox 11/22kW

11/22kW Multipurpose Wallbox, intelligent and flexible for various applications: fleets, retail, workplace

Features:

Flexible authentication

RFID, mobile APP, plug & charge. ü MID energy meter (external connection from RS485)

More precise metering, comply with the most demanding billing requirements.

4G communication (optional)

A variety of communication interfaces ensure the charger can be connected to the background system.

LCD display

The 3.8 inch screen display the charger status, charging power, etc.

- · OCPP1.6
- · WiFi Connection
- · Over-the-Air updates . · AC30mA+DC 6mA RCD
- · 11/22kW power · Tethered with 5m cable
- · Post mount available

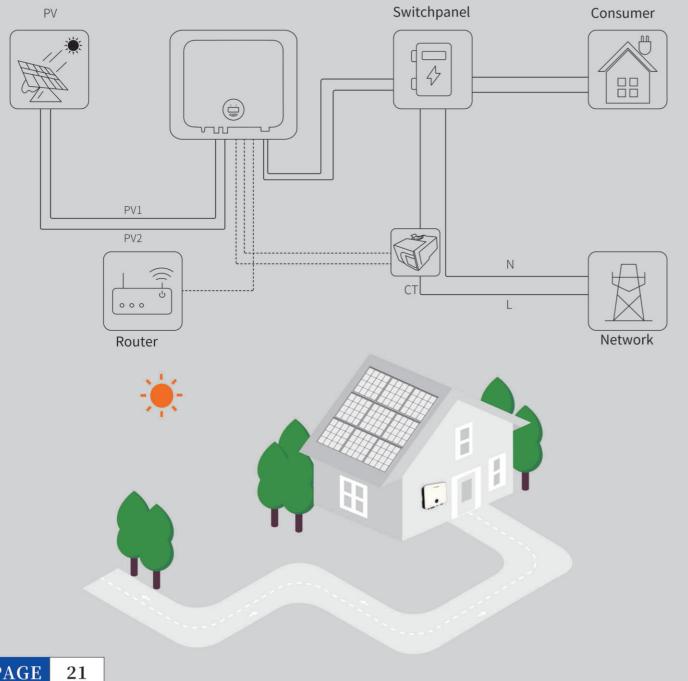


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Application scenarios

Generally, grid-tied PV inverters are used for residential and commercial roofs. The photovoltaic system consists of a photovoltaic system, a grid-connected inverter, a power grid and a consumer. Whether the consumer is connected to the system depends on whether the selected application scenario delivers all the grid-tied power or only the remaining power.



Monitoring 03

WEB take a look at what our portal has prepared for you

