PRODUCT 2023 CATALOG

HIGON SOLAR
Taste the Sun

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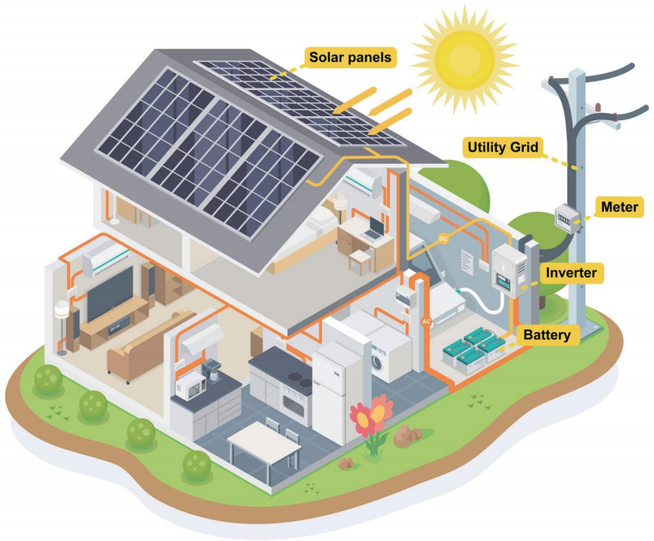
Solar energy is energy derived from sunlight. Whether you realise it or not, the sun already powers our planet, providing the necessary energy to keep the Earth's ecosystem alive and thriving. The amount of sunlight that reaches the earth's atmosphere is enough to power all our needs.

According to the US Department of Energy, 173000 terawatts of solar energy strike the earth continuously, which is more than 10000 times the world's total energy use. The sun is a free, sustainable, clean resource we can utilise in place of conventional electricity to power our day-to-day lives. Solar energy can be used to provide heat, light, and other electricity-dependent needs in residential and commercial buildings.

HOW DO SOLAR PANELS WORK?



Solar panels are made of highly excitable, conductive materials. When the sun's rays hit the solar panels, the reaction creates direct current (DC) electricity. Do they work even on overcast days? Absolutely, since the sun's rays can still penetrate clouds and reach solar panels.

Since most homes and businesses use alternating current (AC) electricity, your solar-generated DC energy will pass through an inverter to become AC electricity. This energy can be rationed into load for everyday essential appliance use, the rest stored into a battery, reverted back into a grid – entirely dependent on your choice and solar power system goals.

Solar panels enable humanity to maximise solar energy – a free, clean, energy resource. This is a major step in lowering carbon footprint and eventually achieving net-zero. V-TAC's new Energy catalogue aims to promote clean energy access with energy supplies at the best prices, and contributing to economic growth by pushing for energy savings.

WHY SOLAR ENERGY IS IMPORTANT?

There's a reason why so many homeowners and businesses are turning to solar power. The benefits are undeniable, and not just for individuals, but for the planet as a whole. Here are just a few of the many reasons that support the importance of solar energy.

IT'S GOOD FOR THE ENVIRONMENT

The difference between solar energy and conventional electricity is that solar energy does not rely on the use of fossil fuels, does not pollute air or water, and does not contribute to global warming, making it the preferable option for many. Solar energy works with the earth's natural resources, whereas conventional electricity depletes or harms them.

IT'S A RELIABLE, COST-EFFECTIVE ENERGY SOURCE

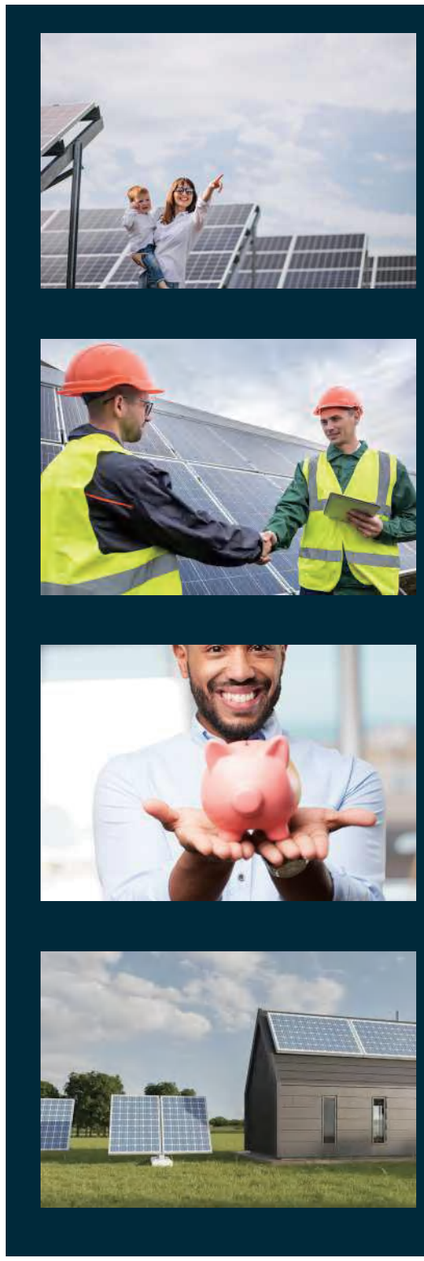
The sun is a renewable energy source. Fossil fuels will eventually run out, but sunlight won't. For that reason, solar energy is highly reliable. And unlike fossil fuels which are expensive to mine and utilize, it doesn't cost anything to receive sunlight. A one-time installation of solar equipment is all that's needed to reap the benefits.

IT SAVES YOU MONEY IN THE LONG RUN

Though the cost of installing solar panels or a solar electric system has decreased in recent years, some may still find the initial investment in solar energy to be intimidating. However, the key is remembering that installation is a one-time event, whereas paying for conventional electricity is a frequent, ongoing, and an expensive obligation, especially as electric rates continue to rise.

IT PROMOTES ENERGY INDEPENDENCE

Energy independence means not having to rely on the power grid. With no other means of powering your home, you could run into a variety of issues in the event of bad weather or damage to power lines. Using solar energy, especially when paired with a backup battery system, allows you to not be tied to unreliable power grids when you need energy most.



PV MODULE

15 YEAR
PRODUCT WARRANTY

30 YEAR
POWER OUTPUT WARRANTY

Higon Solar Panels are engineered for a positive power tolerance, ensuring that they will always produce more power, equal to or greater than their rated power.
PID Resistance means our solar panels maintain their power efficiency despite high voltages, high temperatures, high humidity, and other potential factors. With advanced glass and cell surface textured design, excellent performance even during overcast days is possible. The 30-year Linear Output Warranty to guarantees that optimal power output will still be achieved even aer decades of installation.

- More energy yield over the same area even on cloudy or hot days
- Regional value creation, made without lead and produced using 100% renewable energy.
- PID — Selected encapsulating material and stringent production process control ensure the product is highly PID resistant and snail trails free
- Sand blowing test, salt mist test and ammonia test passed to endure harsh environments

PV MODULE

ALL BLACK

425W

HG425-54HC10

Less than 2m2

Mechanical Characteristics

Cell Type	182*91 Mono
No. of Cells	108(6*18)
Dimension	1722*1134*30mm
Weight	20.8kg
Junction box	IP68 3diodes
Operating Temperature	-40~+85℃
Qty Per Pallet	31pcs/pallet

Electrical Characteristics

Peak Power(Pmax)	425W
Maximum Power Voltage(Vmp)	31.76V
Maximum Power Current(Imp)	13.39A
Open Circuit Voltage(Voc)	37.53V
Short Circuit Current(Isc)	13.99A
Module Efficiency(%)	21.8%

425W

HG560-72HC10

Mechanical Characteristics

Cell Type	182*91 Mono
No. of Cells	144(6*24)
Dimension	2278*1134*35mm
Weight	27.8kg
Junction box	IP68 3diodes
Operating Temperature	-40~+85℃
Qty Per Pallet	31pcs/pallet

Electrical Characteristics

Peak Power(Pmax)	560W
Maximum Power Voltage(Vmp)	43.22V
Maximum Power Current(Imp)	12.96A
Open Circuit Voltage(Voc)	50.68V
Short Circuit Current(Isc)	13.76A
Module Efficiency(%)	21.7%

BLACK FRAME

425W

HG425-54HC10

Less than 2m2

Mechanical Characteristics

Cell Type	182*91 Mono
No. of Cells	108(6*18)
Dimension	1722*1134*30mm
Weight	20.8kg
Junction box	IP68 3diodes
Operating Temperature	-40~+85℃
Qty Per Pallet	31pcs/pallet

Electrical Characteristics

Peak Power(Pmax)	425W
Maximum Power Voltage(Vmp)	31.76V
Maximum Power Current(Imp)	13.39A
Open Circuit Voltage(Voc)	37.53V
Short Circuit Current(Isc)	13.99A
Module Efficiency(%)	21.8%

560W

HG560-72HC10B

BIFACIAL

Mechanical Characteristics

Cell Type	182*91 Mono
No. of Cells	144(6*24)
Dimension	2278*1134*35mm
Weight	27.8kg
Junction box	IP68 3diodes
Operating Temperature	-40~+85℃
Qty Per Pallet	31pcs/pallet

Electrical Characteristics

Peak Power(Pmax)	560W
Maximum Power Voltage(Vmp)	42.43V
Maximum Power Current(Imp)	13.20A
Open Circuit Voltage(Voc)	50.36V
Short Circuit Current(Isc)	13.90A
Module Efficiency(%)	21.7%

460W

HG460-72HC8

Mechanical Characteristics

Cell Type	166*83 Mono
No. of Cells	144(6*24)
Dimension	2094*1038*35mm
Weight	23.3kg
Junction box	IP68 3diodes
Operating Temperature	-40~+85℃
Qty Per Pallet	31pcs/pallet

Electrical Characteristics

Peak Power(Pmax)	460W
Maximum Power Voltage(Vmp)	42.76V
Maximum Power Current(Imp)	10.76A
Open Circuit Voltage(Voc)	50.39V
Short Circuit Current(Isc)	11.40A
Module Efficiency(%)	21.2%

680W

HG680-66HC12B

BIFACIAL

Mechanical Characteristics

Cell Type	210*105Mono
No. of Cells	132 (6*22)
Dimension	2384*1303*35mm
Weight	38.7kg
Junction box	IP68 3diodes
Operating Temperature	-40~+85℃
Qty Per Pallet	31pcs/pallet

Electrical Characteristics

Peak Power(Pmax)	680W
Maximum Power Voltage(Vmp)	38.80V
Maximum Power Current(Imp)	17.53A
Open Circuit Voltage(Voc)	46.60V
Short Circuit Current(Isc)	18.51A
Module Efficiency(%)	21.9%

PV INVERTER

PV Inverters are devices that convert the direct current (DC) from the solar panels into alternating current (AC) which is used by domestic and commercial appliances. It is one of the most critical components of the solar power system as it converts power from the sun into useful energy and is often referred to as the brain of a solar system. PV inverters are a crucial part of a solar system since power from the sun cannot be directly used to run electrical appliances. Higon's range of PV inverters have evolved to become much more smart and intelligent units, performing other functions such as data monitoring, advanced utility controls, energy management, and more.

ON GRID INVERTER

RESIDENTIAL

ON GRID INVERTER

3kW | 5kW | 8kW

Single Phase

Number of MPP Trackers	1/2/3
String per MPPT	1/2/3

05 YEAR WARRANTY

10kW | 15kW | 20kW

Three Phase

Number of MPP Trackers	2
String per MPPT	2/2/4

05 YEAR WARRANTY

Zero export funtion (Optional)

External Inductor

Aluminum Enclosure

Natural Cooling Low Noise

IP65 Rating

COMMERCIAL

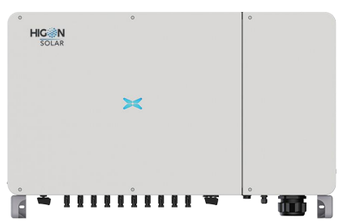
ON GRID INVERTER

50kW | 70kW

Three Phase

Number of MPP Trackers	1/2/3
String per MPPT	1/2/3

05 YEAR WARRANTY



100kW | 110kW

Three Phase

Number of MPP Trackers	2
String per MPPT	2/2/4

05 YEAR WARRANTY

Multi MPP trackers

160% DC Input oversizing

Smart I-V curve diagnosis supported

DC&AC type II SPD

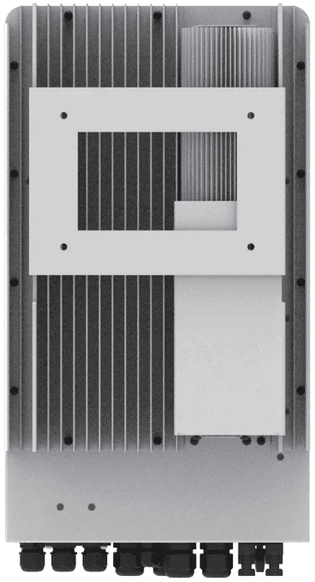
Intelligent fault detection

AFCI function (Optional)

IP66 rating

HYBRID INVERTER

SINGLE PHASE
HYBRID INVERTER



5kW | 6kW | 8kW

05 YEAR WARRANTY

Number of MPP Trackers	2
String per MPPT	1

- Colorful touch LCD, IP65 protection degree
- DC couple and AC couple to retrofit existing solar system
- 16 — Max. 16pcs parallel for on-grid and o³-grid operation; Support multiple batteries parallel
- 135 — Max. charging/discharging current of 135A
- 6 — 6 time periods for battery charging/discharging
- Support storing energy from diesel generator

SINGLE PHASE
HYBRID INVERTER

8kW | 10kW | 12kW

05 YEAR WARRANTY

Number of MPP Trackers	2
String per MPPT	2+1

- Colorful touch LCD, IP65 protection degree
- DC couple and AC couple to retrofit existing solar system
- 16 — Max. 16pcs parallel for on-grid and o³-grid operation; Support multiple batteries parallel
- 135 — Max. charging/discharging current of 135A
- 6 — 6 time periods for battery charging/discharging
- Support storing energy from diesel generator

HYBRID INVERTER

Datasheet

COMMCERCIAL

STORAGE INVERTER

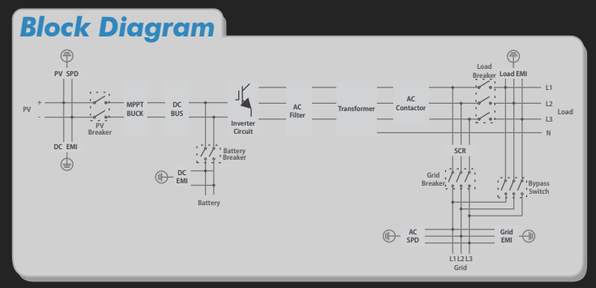
Overview

Large capacity all-in-one hybrid inverter for commercial application, supporting up to 600kW system capacity

Features

- *All in one hybrid inverter*
- *Seamless on/off grid transfer*
- *Programmable working mode*
- *Supports remote control of DG*
- *Touchscreen LCD*
- *Quadruple capacity by paralleling 4 units*

Block Diagram



	HPS30	HPS50	HPS100	HPS120	HPS150
AC (Grid-connected)					
Apparent power	33kVA	55kVA	110kVA	132kVA	165kVA
Rated power	30kW	50kW	100kW	120kW	150kW
Rated voltage	400V	400V	400V	400V	400V
Rated current	43A	72A	144A	173A	217A
Voltage range	360V - 440V	360V - 440V	360V - 440V	360V - 440V	360V - 440V
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Frequency range	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz	45~55/55~65Hz
THDI	<3%	<3%	<3%	<3%	<3%
PF	0.8lagging~0.8leading	0.8lagging~0.8leading	0.8lagging~0.8leading	0.8lagging~0.8leading	0.8lagging~0.8leading
AC connection	3/N/PE	3/N/PE	3/N/PE	3/N/PE	3/N/PE
AC input	60kVA	100kVA	200kVA	240kVA	240kVA
AC(Off-grid)					
Apparent power	33kVA	55kVA	110kVA	132kVA	165kVA
Rated power	30kW	50kW	100kW	120kW	150kW
Rated voltage	400V	400V	400V	400V	400V
Rated current	43A	72A	144A	173A	217A
THDU	≤2%linear	≤2%linear	≤2%linear	≤2%linear	≤2%linear
Rated frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Overload capability	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min	110%-10 mins 120%-1 min
DC (Battery and PV)					
Max. PV open-circuit voltage	1000V DC	1000V DC	1000V DC	1000V DC	1000V DC
Max. PV power	45kWp	75kWp	150kWp	180kWp	225kWp
PV MPPT voltage range	480V-800V DC	480V-800V DC	480V-800V DC	480V-800V DC	480V-800V DC
Battery voltage range at Max. charge power	450V-600V	500V-600V	500V-600V	517V-600V	500V-600V
Battery voltage range	352-600V	352-600V	352-600V	352-600V	352-600V
Max. charge power	45kW	75kW	150kW	180kW	225kW
Max. discharge power	33kW	55kW	110kW	132kW	165kW
Max. charge current	100A	150A	300A	350A	450A
Max. discharge current	93A	156A	313A	374A	467A
General Information					
Protection degree	IP20	IP20	IP20	IP20	IP20
Noise emission	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m	<65dB(A)@1m
Operating temperature	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C	-25 °C~+55 °C
Cooling	Forced-air	Forced-air	Forced-air	Forced-air	Forced-air
Relative humidity	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing	0-95% non-condensing
Maximum altitude	6000m (derate over 3000m)	6000m (derate over 3000m)	6000m (derate over 3000m)	6000m (derate over 3000m)	6000m (derate over 3000m)
Dimension (W/H/D)	700/1660/600mm	950/1860/750mm	1200/1900/800mm	1200/1900/800mm	1200/1900/800mm
Weight	355kg	610kg	948kg	1025kg	1230kg
Build-in transformer	Yes	Yes	Yes	Yes	Yes
Transfer between on/off grid	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms	Automatic≤10ms
Standby consumption	<30W	<30W	<30W	<30W	<30W
Communication					
Display	Touch screen	Touch screen	Touch screen	Touch screen	Touch screen
Communication	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN	RS485/CAN

Certificate **CE , MEA , PEA , AS 4777.2, EN 61000-6-4:2007+A1:2011 , EN61000-6-2:2005 , EN62109-1:2010 , EN62109-2:2011 , EN 50549-1:2019 , IEC62109.1 , IEC62109.2, NRS 097-2-1:2017, G99, VDE-AR-N 4105:2018,DIN VDE V 0124-100:2020-06**

LITHIUM BATTERY

Having batteries in your solar power system gives you more energy self-sufficiency, and helps you achieve your ROI. We offer different types of safe, reliable battery solutions to meet power storage needs depending on a variety of factors – the solar array size, on-grid or off-grid system, backup power requirements, and overnight energy consumption in kWh. Our batteries are modular and scalable to easily build your target load with each usable capacity. IP65 options are available for a weatherproof performance all year round.

LITHIUM BATTERY

RACK MOUNTING
LITHIUM BATTERY

2.56kWh
S4850LV
51.2V Voltage

10 YEAR WARRANTY

5.12kWh
S48100LV
51.2V Voltage

10 YEAR WARRANTY

WALL MOUNTING
LITHIUM BATTERY

5.12kWh
PW48100
51.2V Voltage

10 YEAR WARRANTY

10.24kWh
PW48200
51.2V Voltage

10 YEAR WARRANTY

- **Management** — Samrt BMS
- **Commnunication** — CAN/RS485
- **Wide Temperature Range** — Range of -20~55℃
- **Deeper DOD** — Upto 90% Discharge
- **Lighter Weight** — Compact Design
- **Longer Liftspan** — ⩾6000 Cycles

- **Expandable** — 5 systems in parallel with capacity up to 50kWh
- **Easier to Install** — Plug and play Wall mounted design
- **Wide Temperature Range** — Range of -20~55℃
- **Higher Safety** — LFP & Smart BMS
- **Wide Compatibility** — Matching with leading inverter brands
- **IP65** — High protection level even for outdoor

LITHIUM BATTERY

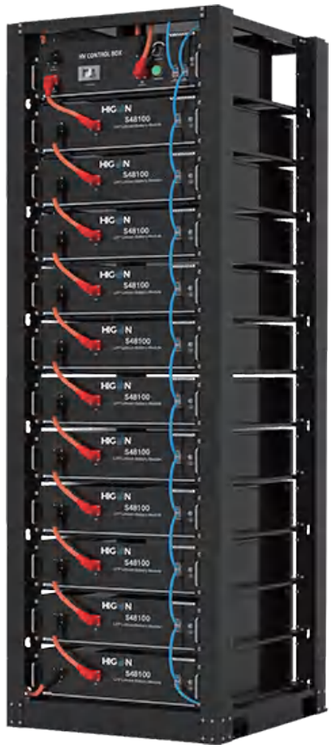
COMMERCIAL
LITHIUM BATTERY

41kWh-56kWh

410V-530V Battery Voltage

10 YEAR WARRANTY

The HIGON Hi-Rack system is designed for commercial battery storage system, with more than 10 years design life and deeper DOD. Hi-Rack system is equipped with an intelligent battery control unit in each battery cluster, ensuring high-safety and high-efficiency system operation.



Upto 10 units Hi-Rack System in parallel

Technical Specification

Battery Type	LiFePO4	LiFePO4	LiFePO4
Nominal Capacity(kWh)	40.96kWh	46.08kWh	56.32kWh
Nominal Voltage(V)	409.6V	460.8V	563.2V
Nominal Amper(Ah)	100Ah	100Ah	100Ah
Battery Module Quantity	8	9	11
Battery Module Type	S48100	S48100	S48100
Cycle Life	⩾6000 (25℃)	⩾6000 (25℃)	⩾6000 (25℃)
Operating Voltage Range(V)	358.4~460.8	403.2~518.4	492.8~633.6
Charge Voltage(V)	56-58.4	56-58.4	56-58.4
Max. Power Output	40.96kW	46.08kW	56.32kW
Discharge Current(A)	100A	100A	100A
Depth of Discharge	90%	90%	90%
Operating Temperature Range	-20℃~50℃	-20℃~50℃	-20℃~50℃
Communication	CAN/RS485	CAN/RS485	CAN/RS485
Dimension(mm)	482*177.8*1583	610*610*1743	610*610*2063
Weight(kg)	372	490	608

Voltage Range
179-864V

High Safety LFP
LFP & smart BMS

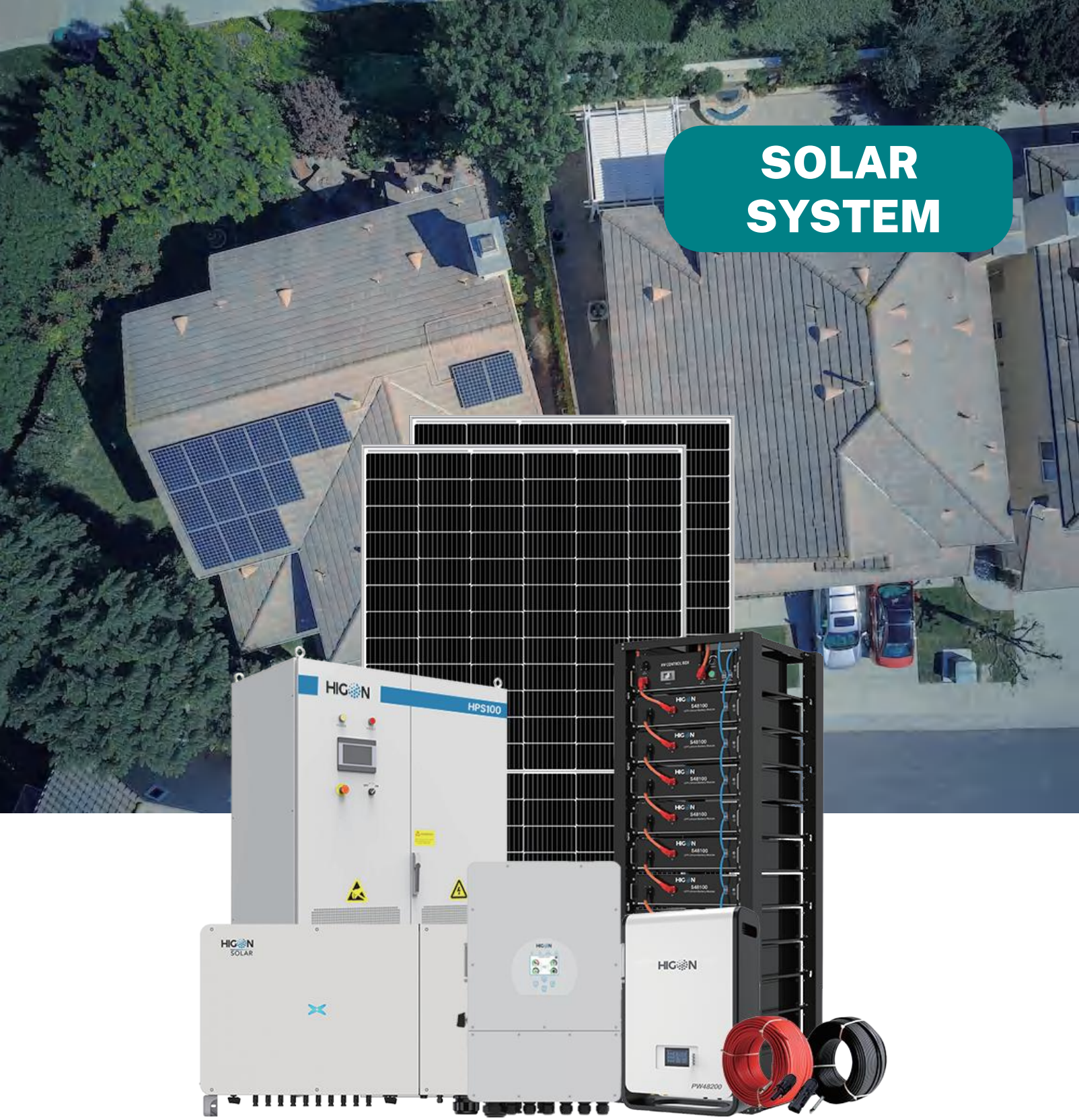
Expandable
capacity upto 56.32kWh per cluster

Flexible Installation
Outdoor and indoor

Deeper DOD
Suitable for mulit-module installation

Wide Application
Cover all needs in C&I

SOLAR SYSTEM



We are dedicated to helping you shift to clean energy – our solar system kits are designed so anyone can easily jumpstart their journey to having a sustainable, solar power system. On-grid and hybrid options are available, so you can either keep your local electric connection or live off-the-grid at your choice. Whether residential, commercial, or industrial, we offer complete solar systems to meet your power needs at your specifications.

HYBRID SOLAR SYSTEM

10KW

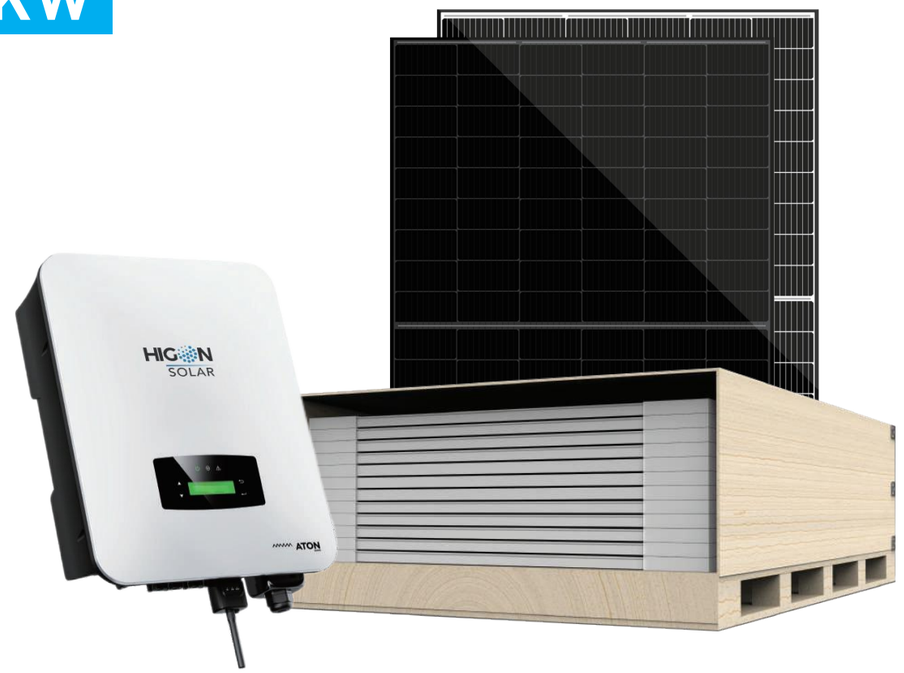
LiFePO4 Battery | Hybrid Inverter | Half Cell Panels

Product	Specification	Quantity
Half Mono Solar Panel	425W Full Black/Black Frame	24 Pieces
Three Phase Hybrid Solar Inverter	10kW	1 Piece
LiFePO4 Wall Mounting Battery	PW4820(10.24kWh)	1 Piece
Assorted Accessories		

With a 10kW solar system, businesses, manufacturing facilities, and offices can operate independently without relying on government power. PV systems generate electricity during the day, which is initially supplied to loads. Hybrid Inverters will then charge the battery with the excess energy. Lastly, the stored energy can be released when needed.

ON GRID SOLAR SYSTEM

10KW



On Grid Inverter | Half Cell Panels

Product	Specification	Quantity
Half Mono Solar Panel	425W Full Black/Black Frame	24 Pieces
Three Phase On Grid Solar Inverter	10kW	1 Piece
Assorted Accessories		

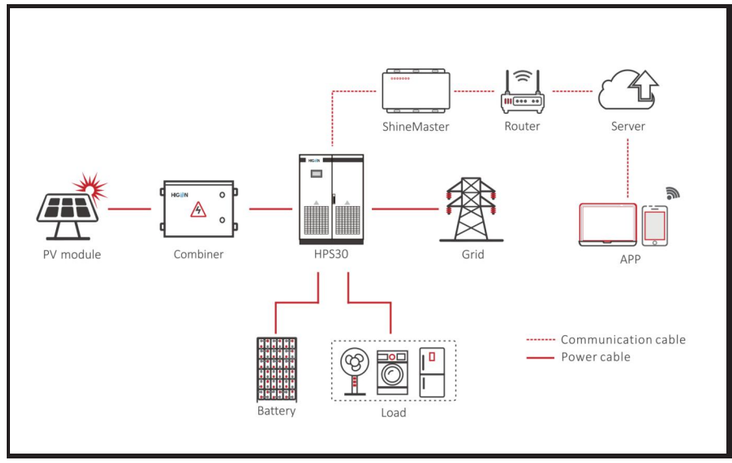
On-Grid PV systems are those that utilize utility (grid) power - whether for utility, commercial, residential or stand-alone buildings. On-grid systems are designed to partially or entirely satisfy a user's energy needs, thereby offsetting utility grid energy demand.

COMMERCIAL STORAGE

100KW

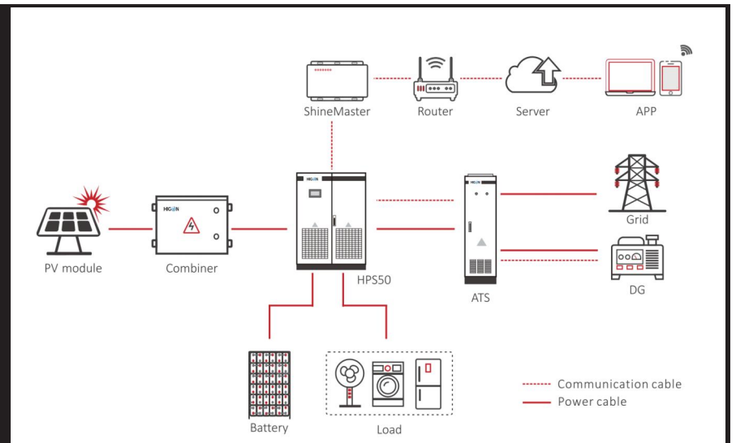
Product	Specification	Quantity
Half Mono Solar Panel	560W	180 Pieces
Three Phase Hybrid Solar Inverter	100kW	1 Piece
LiFePO4 Lithium Battery Cluster	92.16kWh(Customized)	1 Piece
Container Storage	Optional	
Assorted Accessories		

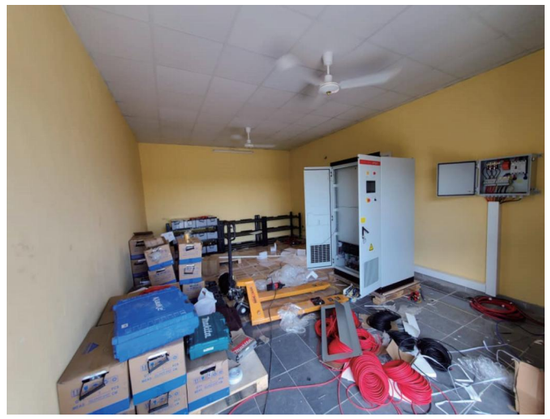
Higon Commercial Battery Storage System aims to solve customers' problem which is unstable power supply. With a 100kW solar system, businesses, manufacturing facilities, and offices can operate independently without relying on government power. PV systems generate electricity during the day, which is initially supplied to loads. Hybrid Inverters will then charge the battery with the excess energy. Lastly, the stored energy can be released when needed.



Peak Shaving Mode

Back-up Mode
Working with Grid/DG





SOLAR ACCESSORIES

Compatible with all Higon Solar Systems

END CLAMP 35MM

MIDDLE CLAMP 35MM

SILVER RAIL

ROOFTOP HOOK-01

L FEET GROUP

STEEL HORSE-SHAPED KLIPLOCK01 SET

STEEL HORSE-SHAPED KLIPLOCK02 SET

TT-NUT

SPLICE FOR RAIL

GROUNDING PLATE

ADJUSTABLE FRONT LEG

ADJUSTABLE REAR LEG

PV CABLE CONNECTOR-MC4

TRIANGLE SUPPORT-1700

PV CABLE 100M

PV6 CABLE WITH MC4 CONNECTORS 2 END FOR SOLAR PANEL CONNECTION

WIFI LOGGER FOR INVERTERS

HIGON

SOLAR

Taste the Sun

www.higonsolar.com