TOPBAND
CO-INNOVATING A SMARTER FUTURE

Residential Solar

Energy Storage Solutions

2024 V1.3.3

TOPBAND

CO-INNOVATING A SMARTER FUTURE

Shenzhen Topband Co., Ltd, the first listed company in the intelligent controller field in China. Stock code: SZ002139.

In 1996, TOPBAND was officially established, marking the beginning of the home appliance intelligent control industry in China. In 2007, TOPBAND was successfully listed on the Shenzhen Stock Exchange (002139. SZ), becoming the first listed company in the field of intelligent control in China.

After more than 20 years of rapid development, Topband as the leader of renewable energy products, providing the Residential Energy Storage, Commercial Energy Storage and Portable Power Station ect solution and products.

No.1

Intelligent Control Industry Status

Exchange Rate: $1=¥7.23
Data as of March 2024

$1, 2 Million
Sales Revenue Reaches USD 1, 326 Million in 2022.

26.1%
CAGR for 9 Consecutive Years

1.5 Billion
Smart Devices Using TOPBAND Solutions in Total.

15
15 Global Productions/ R&D Bases.

$115 Million
R&D Investment

3200+
R&D Investment in 2023.

9.28%
RR&D Investment Ratio in 2023.

2000+
R&D Staff

Awarded as Manufacturing Champion Product at National Level.

Hidden Champion of China Manufacturing, 2023.

CNAS National Laboratory.

AEO Customs Certification (Shenzhen & Huizhou).

TÜV Rheinland · TÜV SÜD · DEKRA · SGS · CNAS · BUREAU VERITAS

Business Layout

The primary business of TOPBAND is the research and development, production, and sales of intelligent control system solutions. With the "four electrics and one network" technology of electric control, motor, battery, power supply, and IoT platform as its core, TOPBAND provides various customized solutions for industries such as home appliances, power tools, new energy, and intelligent solutions.

A global leading provider of intelligent control technology

N+ intelligent control solutions for various industries

Household Appliances | Power Tools | New Energy | Industry Automation | Intelligent Solutions

Core Technologies of "Four Electrics and One Network"

Electric Control | Motor Technology | Battery Technology | Power Technology | IoT Platform

Shenzhen, China. R&D.
Occupied Area 35, 000㎡.Building Area 75, 000㎡.

Huizhou, China. R&D.
Occupied Area 75, 000㎡.Building Area 190, 000㎡.

Ningbo, China. Operation/Production.
Occupied Area 35, 000㎡.Building Area 124, 000㎡.

Chongqing, China. R&D.
Occupied Area 16, 000㎡.Building Area 57, 000㎡.

Hangzhou, China. R&D.
Occupied Area 1, 750㎡.Building Area 7, 050㎡.

Timisoara, Romania. Production.
Occupied Area 12, 000㎡.Building Area 26, 000㎡.

Pune, Maharashtra, India. Production.
Occupied Area 17, 000㎡.Building Area 22, 000㎡.

Dong Nai & Ho Chi Minh, Vietnam. Production.
Occupied Area 60, 000㎡.Building Area 116, 000㎡.

Monterrey, Mexico. Production.
Occupied Area 43, 000㎡.Building Area 18, 000㎡.

> In order to respond to the customer's demand as soon as possible, TOPBAND has laid out 17 production/R&D bases around the world, such as China, Vietnam, India, Romania, Mexico and other countries to provide customers with agile delivery services.

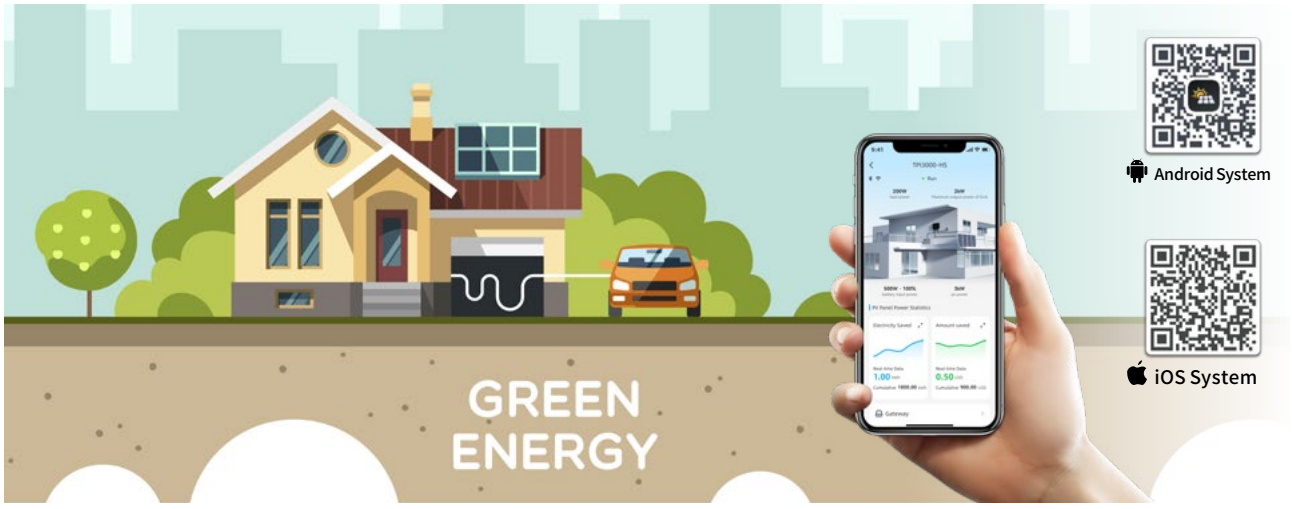
Energy Storage Solutions

Residential Energy Storage Solution

Topband’s Residential Energy Storage Solutions cover a series of products like Hybrid Inverter, Micro Inverter, Balcony micro inverter, Portable Power Station and Charger module ect . With the different applications of energy storage solutions, and make the users with cleaner and more friendly energy.

Intelligent Online Management Solution

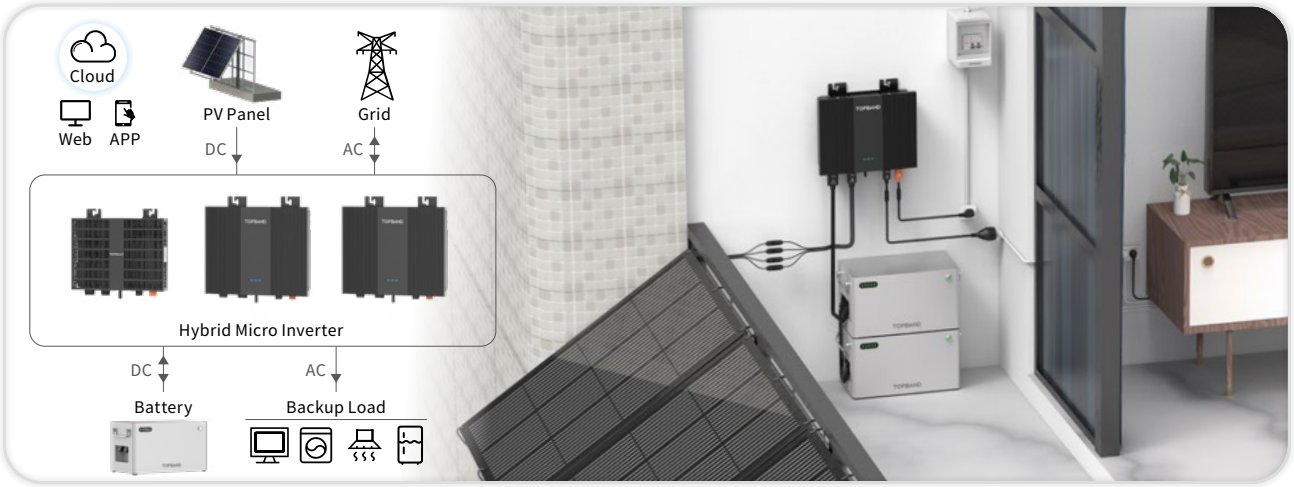
Topband Inverter APP is a smart service platform that offers real-time data upload status, whole systems monitoring and frequent transfer of the recovery data, etc. With remote upgrades, diagnostics, and configurations functions. Our platform provides real-time status to users and reduces maintenance and operation costs, smarter and more efficient experience.



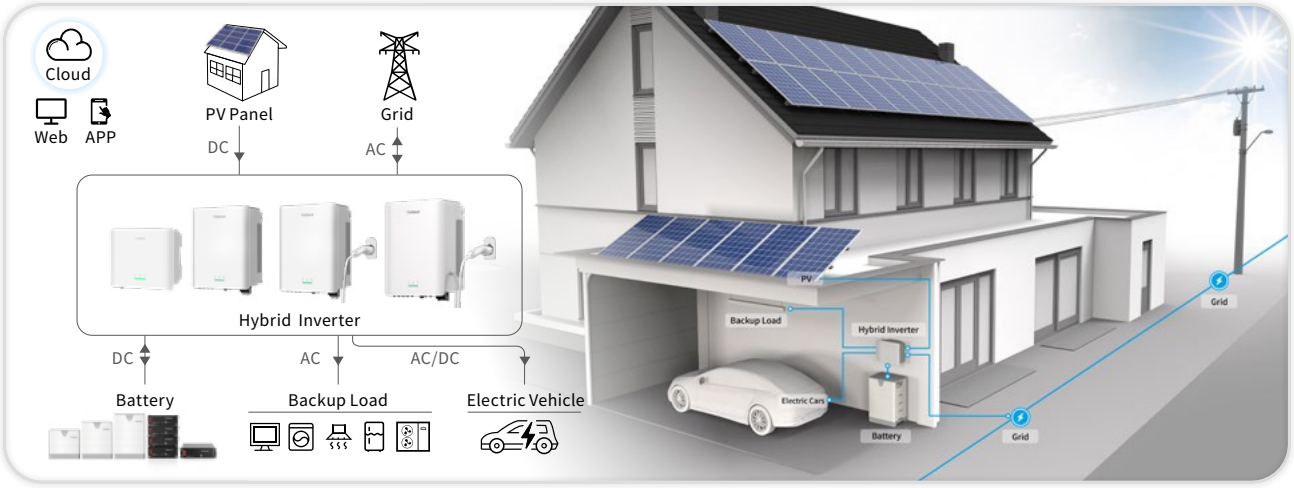
Ultra-compact balcony energy storage system

Topband storage inverter could be integrated into flexible battery system options as the whole systems meets the multiple applications scenarios.

Balcony Energy Storage Solution



Residential Energy Storage Solutions



TOPBAND

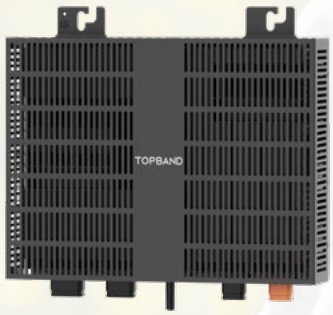
CO-INNOVATING A SMARTER FUTURE

BALCONY SOLAR

ENERGY STORAGE SOLUTIONS

Balcony energy storage solutions are ultra-small distributed photovoltaic systems, also known as plug-in photovoltaic systems, that are compact in layout, small in size, and easy to install or move away from. Users only need to fix the photovoltaic system to the balcony railing, plug the system cable into the home outlet, and use solar power to generate electricity supply.

The upfront investment cost of installing balcony energy storage solutions is small, there is no need to spend expensive money, no courtyard or roof, but also to achieve energy transformation and save electricity bills. Become the best choice for apartment residents and bring green energy to many urban families.

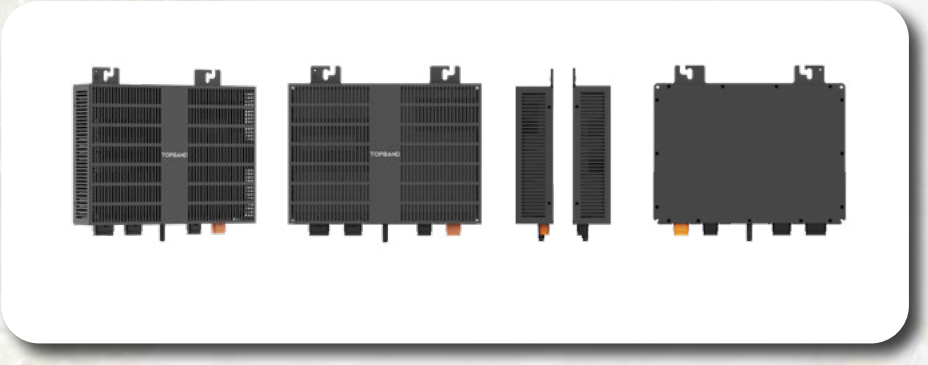


Balcony energy storage Solution

Hybrid Micro Inverter

Single-phase 1200W

- On grid: 800W.
- Back up: 1200W.
- Battery voltage: 28~59Vdc, 35A max.
- 2 MPPT trackers, 1220W max.
- UPS level switching <10ms.
- Controlled via an app, with Bluetooth/Wi-Fi communication.
- Support Intelligent shutoff.
- IP class: IP65.



Technical datasheet

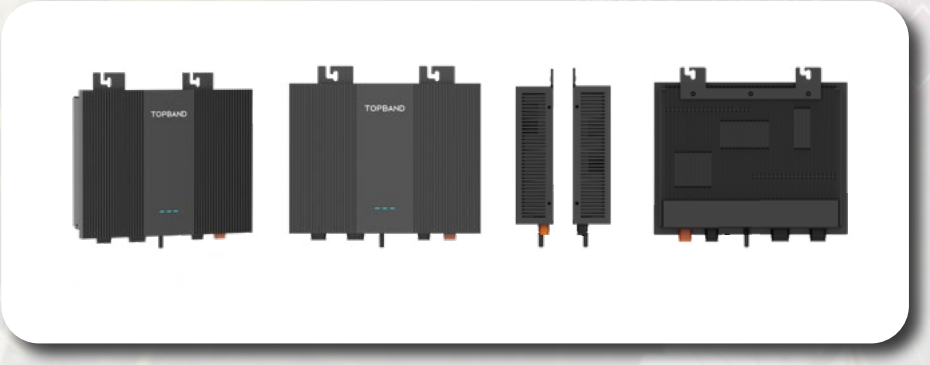
	Model	P1-1200HMI
DC Input (PV)	Nominal voltage range	12~53Vdc
	Input voltage range	12~57Vdc
	Max. Input DC voltage	Max.59Vdc
	Input current	14A
	Standby power dissipation	Max.4W
	Reverse input	Nonsupport
	MPPT Tracker	2
DC Input (battery)	Input voltage range	28-59Vdc
	Max. Input DC Voltage	Max.59Vdc
	Inrush current	No requirement
	Input current	35A
	Leakage current	Max.0.5A
	No-load power dissipation	Max.6W
	Reverse Input	Nonsupport
AC output (on-grid)	Output voltage	176~ 260Vac
	Rated output power	800W
	Max. AC apparent power	1000VA
	AC grid frequency	50/60 Hz
	Max. output current	3.7A
	Power factor	0.8leading…0.8lagging
	THDI	Max.3 (Full of load)
AC output (off-grid)	Battery to AC efficiency	94%Max
	PV to Battery efficiency	97% max
	AC grid connection type	Single phase
	AC nominal power	1200W
	Max. AC apparent power	1200VA
	Nominal AC voltage	230V
	AC grid frequency	50/60 Hz
	Max. output current	5.2A
AC Input (on-grid)	AC output type	Single phase
	Max. apparent power	1600VA
	Nominal AC voltage	230V
	Max. input current	8A
	AC grid frequency	50/60 Hz
Protection devices	Input over voltage protection	Integrated
	Input under voltage protection	Integrated
	Over temperature protection	Integrated
	Output over power protection	Integrated
	Short output protection	Integrated
	Output under voltage protection	Integrated
	Output over voltage protection	Integrated
	Constant power output protection	Integrated
Others	Ingress Protection	IP65
	Protective Class	Class I
	Operating Ambient Temp.	-40°C~+50°C
	Power factor range	0.8leading~0.8lagging
	Display	LED+APP (Wi-Fi+Bluetooth)
	Interfaces	RS485, CAN
	Warranty	5 Years
	Dimensions (LxWxH)	324x285x63.5mm
	Weight	≈5kg

Balcony energy storage Solution

Hybrid Micro Inverter

Single-phase 2000W

- On grid: 2000W.
- Back up: 2000W.
- Battery voltage: 40~59Vdc, 41.5A max.
- 2 MPPT trackers, 2100W max.
- UPS level switching <10ms.
- Controlled via an app, with Bluetooth/Wi-Fi communication.
- Support Intelligent shutoff.
- IP class: IP65.



Technical datasheet

	Model	P1-2000HMI
DC Input (PV)	Nominal voltage range	12~53Vdc
	Input voltage range	12~57Vdc
	Max. Input DC voltage	Max.59Vdc
	Input current	20A
	Standby power dissipation	Max.4W
	Reverse input	Nonsupport
	MPPT Tracker	2
DC Input (battery)	Input voltage range	40-59Vdc
	Max. Input DC Voltage	Max.59Vdc
	Inrush current	No requirement
	Input current	40A
	Leakage current	Max.0.5A
	No-load power dissipation	Max.6W
	Reverse Input	Nonsupport
AC output (on-grid)	Output voltage	176~ 260Vac
	Rated output power	2000W
	Max. AC apparent power	2000VA
	AC grid frequency	50/60 Hz
	Max. output current	8.7A
	Power factor	0.8leading…0.8lagging
	THDI	Max.3 (Full of load)
AC output (off-grid)	Battery to AC efficiency	92%max
	PV to Battery efficiency	95% max
	AC grid connection type	Single phase
	AC nominal power	2000W
	Max. AC apparent power	2000VA
	Nominal AC voltage	230V
	AC grid frequency	50/60 Hz
	Max. output current	8.7A
AC Input (on-grid)	AC output type	Single phase
	Max. apparent power	2000VA
	Nominal AC voltage	230V
	Max. input current	8.7A
	AC grid frequency	50/60 Hz
Protection devices	Input over voltage protection	Integrated
	Input under voltage protection	Integrated
	Over temperature protection	Integrated
	Output over power protection	Integrated
	Short output protection	Integrated
	Output under voltage protection	Integrated
	Output over voltage protection	Integrated
	Constant power output protection	Integrated
Others	Ingress Protection	IP65
	Protective Class	Class I
	Operating Ambient Temp.	-40°C~+50°C
	Power factor range	0.8leading~0.8lagging
	Display	LED+APP (Wi-Fi+Bluetooth)
	Interfaces	RS485, CAN
	Warranty	5 Years
	Dimensions (LxWxH)	378x345x86mm
	Weight	≈6kg

Balcony energy storage Solution

Hybrid Micro Inverter

Single-phase 3000W

- On grid: 2300W.
- Back up: 3000W.
- Battery voltage: 40~59Vdc, 62.5A max.
- 2 MPPT trackers, 3200W max.
- UPS level switching <10ms.
- Controlled via an app, with Bluetooth/Wi-Fi communication.
- Support Intelligent shutoff.
- IP class: IP65.

Technical datasheet

	Model	P1-3000HMI
DC Input (PV)	Nominal voltage range	12~53Vdc
	Input voltage range	12~57Vdc
	Max. Input DC voltage	Max.59Vdc
	Input current	30A
	Standby power dissipation	Max 4W
	Reverse input	Nonsupport
	MPPT Tracker	2
DC Input (battery)	Input voltage range	40-59Vdc
	Max. Input DC Voltage	Max.59Vdc
	Inrush current	No requirement
	Input current	60A
	Leakage current	Max.0.5A
	No-load power dissipation	Max.6W
	Reverse Input	Nonsupport
AC output (on-grid)	Output voltage	176~ 260Vac
	Rated output power	2300W
	Max. AC apparent power	2300VA
	AC grid frequency	50/60 Hz
	Max. output current	10A
	Power factor	0.8leading…0.8lagging
	THDI	Max.3 (Full of load)
AC output (off-grid)	Battery to AC efficiency	93%max
	PV to Battery efficiency	97% max
	AC grid connection type	Single phase
	AC nominal power	3000W
	Max. AC apparent power	3000VA
	Nominal AC voltage	230V
	AC grid frequency	50/60 Hz
	Max. output current	13A
AC Input (on-grid)	Max. input current	Single phase
	Max. apparent power	3000VA
	Nominal AC voltage	230V
	Max. input current	13A
	AC grid frequency	50/60 Hz
Protection devices	Input over voltage protection	Integrated
	Input under voltage protection	Integrated
	Over temperature protection	Integrated
	Output over power protection	Integrated
	Short output protection	Integrated
	Output under voltage protection	Integrated
	Output over voltage protection	Integrated
	Constant power output protection	Integrated
Others	Ingress Protection	IP65
	Protective Class	Class I
	Operating Ambient Temp.	-40°C~+50°C
	Power factor range	0.8leading~0.8lagging
	Display	LED+APP (Wi-Fi+Bluetooth)
	Interfaces	RS485, CAN
	Warranty	5 Years
	Dimensions (LxWxH)	378x345x86mm
	Weight	≈6.5kg

Balcony energy storage Solution

Balcony Battery

Maximum storage: 4*2kWh

- Cell type: high quality LiFePO4 cells.
- Max 4 pcs batteries in parallel.
- Rated voltage: 51.2Vdc, charge and discharge rate : 40A max.
- Long cycle life⩾6000cycles@ 80% DOD.
- Long-life design and superior performance.
- Wi-Fi communication, smart APP real-time monitoring.
- Safe and Reliable: compliant with CE, UN38.3, IEC62619, UL1973.
- IP class: IP65.

Technical datasheet

	Model	TPB2000L-LPF
Data (DC battery)	Nominal voltage	51.2V
	Nominal energy@0.2C	2.048kWh
	Usable energy@0.2C	1.97KWh
	Nominal capacity@0.2C	40Ah
	Internal resistance@1khz AC	≤30 mOhm
	Operation voltage range	(With communication): 48V-56V / (Without communication): 44.8V-57.6V
	Charge voltage	56.0V
	Float voltage	54.6V
	Allowed MAX charge current	40A max.
	Recommend charge current	≤20A
	Allowed MAX discharge current	40A max.
	Recommend discharge current	≤20A
	Peak/Surge current limit	50A@15S/60A@1s
	Short circuit protection	Yes
	End Discharge (Re-charge voltage)	50.0V
	End Discharge (Inverter/Load cut off)	48.0V
	End Discharge (Re-start voltage)	52.0V
	Communication	CAN/RS485
	Parallel and Series connection	Support Max. 4 in parallel
	Cycle life	24000 cycles. After Normal charge, discharge @0.2C current with 90%DOD, Repeat above process until discharge capacity reduce to 60% of initial value.
Use environment	Operation temperature1	Charge (With communication): -10~50°C / Discharge (With communication) :-20-50°C
	Operation altitude	<3000m
	Self-discharge rate[2] (Residual capacity)	≤3%/month | ≤15%/years
	Self-discharge rate[2] (Recover capacity)	≤1.5%/Month | ≤8%/ year
	Storage environment[3] (≤3 months)	-10~45°C | 5~90%RH
	Storage environment[3] (>3 months)	15~35°C | 45~85%RH
	Storage environment[3] (Recommend environment)	15~35°C | 45~85%RH
	Installation types	Stack
	IP rating	IP65
	Dimension(W*H*D)	427*234*246mm
	Weight (without accessories)	~23kg(50.7lb)

Application Scenarios

Balcony energy storage Solution

Intelligent Shutoff

Intelligent Circuit Breaker for household

- Digital intelligent communication.
- Advanced low-voltage electrical technology.
- Electromagnetic drive and other technologies.
- Factory high-power equipment circuit.
- Intelligent control, measurement, early warning, protection and other safety and convenient functions.

Technical datasheet

	Model	TPS63-1PN
Performance indicators	Rated operational voltage	230V
	Pole No.	1P+N
	Breaking ability	6kA
	Rated current	16/20/25/32/40/50
	Mechanical life	20，000次
	Wiring capacity	25mm²
	Installation	2M（2P）
Electrical Specs	Voltage metering accuracy	0.5%FS
	Current metering accuracy	0.5%FS
	Power metering accuracy	1%FS
	Electricity metering accuracy	1%FS
	Switch on acting time	20ms
	Switch off acting time	5ms
Protection Feature	Overload protection	Integrated
	Overvoltage protection	Integrated
	Undervoltage protection	Integrated
	Leakage alarm realized by software	Integrated
	Over temperature alarm	Integrated
	Power limit protection	Integrated
	Overvoltage recovery delay	Integrated
	Undervoltage auto recovery	Integrated
	Leakage protection realized by hardware	Integrated
	Operating temperature	Altitude<2000m
Others	Dimensions (LxWxH)	105x100x147mm
	Weight	≈1kg

TOPBAND

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RESIDENTIAL SOLAR

ENERGY STORAGE SOLUTIONS

Topband TBE series inverter can meet the needs of grid-connected and off-grid systems at the same time. It can not only realize grid-connected and off-grid functions but also realize bidirectional control of electric energy. Intelligent control can realize highly autonomous energy scheduling.

Residential Energy Storage Solution

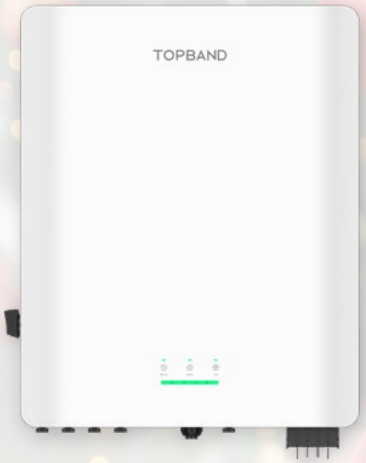
Hybrid Inverter

Single-phase 5kW/6kW

- On grid: 6kW.
- Back up: 5kW.
- Input voltage: 40~60Vdc.
- 2 MPPT trackers, 9kW max.
- UPS level switching <10ms.
- DC ARC protection, DC Surge class 2 protection.
- Support Intelligent shutoff.
- IP class: IP65.

Technical datasheet

	Model	P1-5000HI	P1-6000HI
Input data (PV)	Max. recommended PV power	7500W	9000W
	Max. DC voltage	600V	600V
	Start voltage	58V	58V
	Nominal voltage	360V	360V
	MPPT voltage range	60V~550V	60V~550V
	strings per MPPT tracker	2	2
	Max. input current per MPPT tracker	16A	16A
	Max. short-circuit current per MPPT trackers	23A	23A
Input data (DC battery)	Compatible battery	Li-Ion	Li-Ion
	Operating voltage range	40V~60V	40V~60V
	Max.operating current	120A	150A
	Max.charge power	5000W	6000W
	Max.discharge power	5300W	6300W
Output data (AC)	AC nominal power	5000W	6000W
	Max. AC apparent power	5000VA	6000VA
	Nominal AC voltage	220V/230V/240V	220V/230V/240V
	AC grid frequency	50/60 Hz	50/60 Hz
	Max. output current	22.7A	27.3A
	Adjustable power factor	0.8leading…0.8lagging	0.8leading…0.8lagging
	THDi	<3%	<3%
	AC grid connection type	Single phase	Single phase
Output data (Backup*)	Max. apparent power	5000VA	6000VA
	Nominal AC voltage	220V/230V/240V	220V/230V/240V
	AC grid frequency	50/60 Hz	50/60 Hz
Efficiency	Max.efficiency	98.20%	98.20%
	European efficiency	96.80%	96.80%
	MPPT efficiency	99.90%	99.90%
Input data (DC)	DC reverse polarity protection	Integrated	Integrated
	DC switch	Integrated	Integrated
	DC/AC surge protection	Type 3	Type 3
	Insulation resistance monitoring	Integrated	Integrated
	AC short-circuit protection	Integrated	Integrated
	Ground fault monitoring	Integrated	Integrated
	Grid monitoring	Integrated	Integrated
	Anti-islanding protection	Integrated	Integrated
	Residual-current monitoring unit	Integrated	Integrated
	AFCI protection	Optional	Optional
Others	Operating temperature range	–25°C ... +60°C	–25°C ... +60°C
	Altitude	3,000m(>2,000m Derating)	3,000m(>2,000m Derating)
	Self-Consumption night	< 10W	< 10W
	Topology	Transformerless	Transformerless
	Cooling	Natural convection	Natural convection
	Protection degree	IP66	IP66
	Relative humidity	0%~95%	0%~95%
	DC connection	MC4(Optional)	MC4(Optional)
	AC connection	Connector	Connector
	Display	LED/WLAN+APP	LED/WLAN+APP
	Interfaces	RS485, CAN, WLAN, LAN, 4G	RS485, CAN, WLAN, LAN, 4G
	Warranty	5 Years	5 Years
	Dimensions (LxWxH)	503x162x423mm	503x162x423mm
	Weight	≈22kg	≈22kg



Residential Energy Storage Solution

Hybrid Inverter

Three-phase 15kW/20kW

- On grid: 15kW/20kW.
- Back up: 15kW/20kW.
- Input voltage: 200~850Vdc.
- 2 MPPT trackers, 30kW max.
- UPS level switching <10ms.
- DC ARC protection, DC Surge class 2 protection.
- Support Intelligent shutoff.
- IP class: IP65.

Technical datasheet

	Model	P1-15000HI	P1-20000HI
Input data (PV)	Max. recommended PV power	20000W	25000W
	Max. DC voltage	1000V	1000V
	Start voltage	180V	180V
	Nominal voltage	630V	630V
	MPPT voltage range	200V~800V	200V~800V
	strings per MPPT tracker	2	2
	Max. input current per MPPT tracker	30A	30A
	Max. short-circuit current per MPPT trackers	38A	38A
Input data (DC battery)	Compatible battery	Li-Ion	Li-Ion
	Operating voltage range	200Vdc~850Vdc	200Vdc~850Vdc
	Max.operating current	25A	25A
	Max.charge power	12000W	20000W
	Max.discharge power	10500W	12600W
Output data (AC)	AC nominal power	15000VA	20000VA
	Max. AC apparent power	16500VA	22000VA
	Nominal AC voltage	380V/400V	380V/400V
	AC grid frequency	50/60 Hz	50/60 Hz
	Max. output current	25A	33.3A
	Adjustable power factor	0.8leading…0.8lagging	0.8leading…0.8lagging
	THDi	<3%	<3%
	AC grid connection type	Three phase	Three phase
Output data (Backup*)	Max. apparent power	15000VA	20000VA
	Nominal AC voltage	380V/400V	380V/400V
	AC grid frequency	50/60 Hz	50/60 Hz
Efficiency	Max.efficiency	98%	98%
	European efficiency	97.50%	97.50%
	MPPT efficiency	99.90%	99.90%
Input data (DC)	DC reverse polarity protection	Integrated	Integrated
	DC switch	Integrated	Integrated
	DC/AC surge protection	Type 3	Type 3
	Insulation resistance monitoring	Integrated	Integrated
	AC short-circuit protection	Integrated	Integrated
	Ground fault monitoring	Integrated	Integrated
	Grid monitoring	Integrated	Integrated
	Anti-islanding protection	Integrated	Integrated
	Residual-current monitoring unit	Integrated	Integrated
	AFCI protection	Optional	Optional
Others	Operating temperature range	–25°C ... +60°C	–25°C ... +60°C
	Altitude	3,000m(>2,000m Derating)	3,000m(>2,000m Derating)
	Self-Consumption night	< 15W	< 15W
	Topology	Transformerless	Transformerless
	Cooling	Natural convection	Natural convection
	Protection degree	IP65	IP65
	Relative humidity	0%~95%	0%~95%
	DC connection	MC4(Optional)	MC4(Optional)
	AC connection	Connector	Connector
	Display	LED/WLAN+APP	LED/WLAN+APP
	Interfaces	RS485, CAN, WLAN, LAN, 4G	RS485, CAN, WLAN, LAN, 4G
	Warranty	5 Years	5 Years
	Dimensions (LxWxH)	530x256x660mm	530x256x660mm
	Weight	≈36kg	≈36kg

Residential Energy Storage Solution

Hybrid Inverter

Three-phase 15kW/20kW, AC EV charger: 11kW

- On grid: 15kW/20kW.
- Back up: 15kW/20kW.
- Input voltage: 200~850Vdc.
- 2 MPPT trackers, 30kW max.
- UPS level switching <10ms.
- DC ARC protection, DC Surge class 2 protection.
- Support Intelligent shutoff.
- IP class: IP65.

Technical datasheet

	Model	P1-15000HI-ACEV	P1-20000HI-ACEV
Input data (PV)	Max. recommended PV power	22000W	30000W
	Max. DC voltage	1000V	1000V
	Start voltage	200V	200V
	Nominal voltage	630V	630V
	MPPT voltage range	200V~800V	200V~800V
	strings per MPPT tracker	2	2
	Max. input current per MPPT tracker	30A	30A
	Max. short-circuit current per MPPT trackers	38A	38A
Input data (DC battery)	Compatible battery	Li-Ion	Li-Ion
	Operating voltage range	200Vdc~850Vdc	200Vdc~850Vdc
	Max.operating current	50A	50A
	Max.charge power	15000W	20000W
	Max.discharge power	15000W	20000W
Output data (AC)	AC nominal power	15000VA	20000VA
	Max. AC apparent power	16500VA	22000VA
	Nominal AC voltage	380V/400V	380V/400V
	AC grid frequency	50/60 Hz	50/60 Hz
	Max. output current	25A	33.3A
	Adjustable power factor	0.8leading…0.8lagging	0.8leading…0.8lagging
	THDi	<3%	<3%
	AC grid connection type	Three phase	Three phase
Output data (Backup*)	Max. apparent power	15000VA	20000VA
	Nominal AC voltage	380V/400V	380V/400V
	AC grid frequency	50/60 Hz	50/60 Hz
Output data (EV Charger)	Charge Power	7/11kW, 380V/400Vac	7/11kW, 380V/400Vac
Efficiency	Max.efficiency	98%	98%
	European efficiency	97.50%	97.50%
	MPPT efficiency	99.90%	99.90%
Input data (DC)	DC reverse polarity protection	Integrated	Integrated
	DC switch	Integrated	Integrated
	DC/AC surge protection	Type 3	Type 3
	Insulation resistance monitoring	Integrated	Integrated
	AC short-circuit protection	Integrated	Integrated
	Ground fault monitoring	Integrated	Integrated
	Grid monitoring	Integrated	Integrated
	Anti-islanding protection	Integrated	Integrated
	Residual-current monitoring unit	Integrated	Integrated
	AFCI protection	Optional	Optional
Others	Operating temperature range	–25°C ... +60°C	–25°C ... +60°C
	Altitude	3,000m(>2,000m Derating)	3,000m(>2,000m Derating)
	Self-Consumption night	< 15W	< 15W
	Topology	Transformerless	Transformerless
	Cooling	Natural convection	Natural convection
	Protection degree	IP65	IP65
	Relative humidity	0%~95%	0%~95%
	DC connection	MC4(Optional)	MC4(Optional)
	AC connection	Connector	Connector
	Display	LED/WLAN+APP	LED/WLAN+APP
	Interfaces	RS485, CAN, WLAN, LAN, 4G	RS485, CAN, WLAN, LAN, 4G
	Warranty	5 Years	5 Years
	Dimensions (LxWxH)	530x256x660mm	530x256x660mm
	Weight	≈36kg	≈36kg

Residential Energy Storage Solution

Hybrid Inverter

Three-phase 15kW/20kW, DC EV charger: 10kW/15kW

- On grid: 15kW/20kW.
- Back up: 15kW/20kW.
- Input voltage: 200~850Vdc.
- 2 MPPT trackers, 30kW max.
- UPS level switching <10ms.
- DC ARC protection, DC Surge class 2 protection.
- Support Intelligent shutoff.
- IP class: IP65.

Technical datasheet

	Model	P1-15000HI-DCEV	P1-20000HI-DCEV
Input data (PV)	Max. recommended PV power	22000W	30000W
	Max. DC voltage	1000V	1000V
	Start voltage	200V	200V
	Nominal voltage	630V	630V
	MPPT voltage range	200V~800V	200V~800V
	strings per MPPT tracker	2	2
	Max. input current per MPPT tracker	30A	30A
	Max. short-circuit current per MPPT trackers	38A	38A
Input data (DC battery)	Compatible battery	Li-Ion	Li-Ion
	Operating voltage range	200Vdc~850Vdc	200Vdc~850Vdc
	Max.operating current	50A	50A
	Max.charge power	15000W	20000W
	Max.discharge power	15000W	20000W
Output data (AC)	AC nominal power	15000VA	20000VA
	Max. AC apparent power	16500VA	22000VA
	Nominal AC voltage	380V/400V	380V/400V
	AC grid frequency	50/60 Hz	50/60 Hz
	Max. output current	25A	33.3A
	Adjustable power factor	0.8leading…0.8lagging	0.8leading…0.8lagging
	THDi	<3%	<3%
	AC grid connection type	Three phase	Three phase
Output data (Backup*)	Max. apparent power	15000VA	20000VA
	Nominal AC voltage	380V/400V	380V/400V
	AC grid frequency	50/60 Hz	50/60 Hz
Output data (EV Charger)	Charge voltage	300~1000Vdc	300~1000Vdc
	Charge power	DC 10kW	DC 15kW
	Charge current	33.3A max	50A max
Efficiency	Max.efficiency	98%	98%
	European efficiency	97.50%	97.50%
	MPPT efficiency	99.90%	99.90%
Input data (DC)	DC reverse polarity protection	Integrated	Integrated
	DC switch	Integrated	Integrated
	DC/AC surge protection	Type 3	Type 3
	Insulation resistance monitoring	Integrated	Integrated
	AC short-circuit protection	Integrated	Integrated
	Ground fault monitoring	Integrated	Integrated
	Grid monitoring	Integrated	Integrated
	Anti-islanding protection	Integrated	Integrated
	Residual-current monitoring unit	Integrated	Integrated
	AFCI protection	Optional	Optional
Others	Operating temperature range	–25°C ... +60°C	–25°C ... +60°C
	Altitude	3,000m(>2,000m Derating)	3,000m(>2,000m Derating)
	Self-Consumption night	< 15W	< 15W
	Topology	Transformerless	Transformerless
	Cooling	Natural convection	Natural convection
	Protection degree	IP65	IP65
	Relative humidity	0%~95%	0%~95%
	DC connection	MC4(Optional)	MC4(Optional)
	AC connection	Connector	Connector
	Display	LED/WLAN+APP	LED/WLAN+APP
	Interfaces	RS485, CAN, WLAN, LAN, 4G	RS485, CAN, WLAN, LAN, 4G
	Warranty	5 Years	5 Years
	Dimensions (LxWxH)	530x256x660mm	530x256x660mm
	Weight	≈36kg	≈36kg

Residential Energy Storage Solution

Residential Battery

Stack-mounted Residential Lithium-iron battery

- **Compact & Flexible**
  Each cluster can stack up to four 5.12kWh modules to form 20.48kWh, and can support up to eight clusters in parallel, scale up to 163.84kWh.

- **Ultra performance**
  More than 6000 cycles, self-developed BMS/Cell/Pack to ensure best quality.

- **Compatibility**
  Cptblewithmosthybrid/battery invrtrinslconsumption, Backup and off-grid applications.

- **Intellegence**
  Strong pre-charge and balancing capability. Remote data history & firmware upgrading function via T-smart Cloud platform. (Pending).

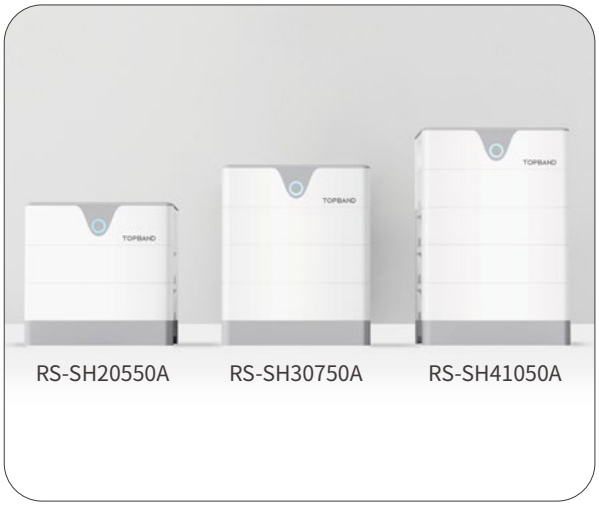
- **Modular**
  Modular design, stackable installation, easy to install and maintain.

- **Safe & Reliable**
  Cobalt free with safe LiFePO4 chemistry, Compliance with IEC62619, UL1973, UN38.3, CE, UKCA, etc.

Technical datasheet

	Model	RS-SH20550A	RS-SH30750A	RS-SH41050A
Data	Number of battery modules	2	3	4
	Nominal voltage	204.8V	307.2V	409.6V
	Nominal capacity	50Ah	50Ah	50Ah
	Nominal energy	10.24kWh	15.36kWh	20.48kWh
	Usable energy	9.73kWh	14.59kWh	19.46kWh
	Operation voltage range	185.6V~233.6V	278.4V~350.4V	371.2V~467.2V
	Charge voltage	56.0A	56.0A	56.0A
	Float voltage	54.0A	54.0A	54.0A
	Recommend charge current	25A	25A	25A
	Max. continuous charge current	50A	50A	50A
	Recommend discharge current	25A	25A	25A
	Max. continuous discharge current	50A	50A	50A
	Communication	RS485 / CAN, Wi-Fi	RS485 / CAN, Wi-Fi	RS485 / CAN, Wi-Fi
Others	IP level	IP55	IP55	IP55
	Cycle life	≥6000 cycles	≥6000 cycles	≥6000 cycles
	Cell type	Lithium-iron phosphate (LiFePO4)	Lithium-iron phosphate	Lithium-iron phosphate
	Design life	15years	15years	15years
	Operation temperature	Charge: 0-45°C (32-113°F), Discharge:-20~60°C (-4~140°F)		
	Storage temperature	-10~30°C (14~86°F)	-10~30°C (14~86°F)	-10~30°C (14~86°F)
	Relative humidity	5~90%, No condensation	5~90%, No condensation	5~90%, No condensation
	Install altitude	≤4000m	≤4000m	≤4000m
	Install location	Indoor, or outdoor without sunlight exposure		
	Installation	Stack mounted	Stack mounted	Stack mounted
	Certification	Cell: UL9540A standard, Pack: CE / IEC62619 / UL1973 / UN38.3		
	Dimension(LxWxH)	630x440x590mm(24.8*17.3*23.2inch)	630x440x745mm(24.8*17.3*29.3inch)	630x440x900mm(24.8*17.3*35.4inch)
	Net weight	≈141kg (310.8 lbs)	≈199kg (438.7 lbs)	≈257kg (566.5 lbs)

Details



Residential Energy Storage Solution

Residential Battery

Rack-mounted Residential Lithium-iron battery

- **Compact & Flexible**
  Support up to 32 units in parallel, scale from 5 kWh to 160 kWh configuration without external controller.

- **Intellegence**
  Strong pre-charge and balancing capability. Remote data history & firmware upgrading function via T-smart Cloud platform. (Pending).

- **Ultra performance**
  More than 6000 cycles, self-developed BMS/Cell/Pack to ensure best quality.

- **Modular**
  3U(133mm) standard height design. Optional bracket kits for different installation senarios.

- **Compatibility**
  Cptblewithmosthybrid/battery invrtrinslconsumption, Backup and off-grid applications.

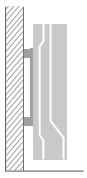
- **Safe & Reliable**
  Cobalt free with safe LiFePO4 chemistry, Compliance with IEC62619, UL1973, UN38.3, CE, UKCA, etc.

Technical datasheet

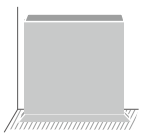
	Model	RS-R51100A
Data	Nominal voltage	51.2V
	Nominal capacity	100Ah
	Nominal energy	5.12kWh
	Usable energy	4.92kWh
	Max. voltage range	44.8V~57.6V
	Charge voltage	56A
	Float voltage	54.6V
	Recommend charge current	50A
	Max. charge current	70A
	Recommend discharge current	50A
	Max. discharge current	100A
	Communication	RS485 / CAN, Wi-Fi
	Peak discharge current	101~119A@5mins | 120~149A@15S
Others	IP rating	IP20
	Cycle life	≥6000 cycles
	Cell type	LiFePO4
	Design life	15years
	Operation temperature	-10~50°C (-14~122°F)
	Storage temperature	-10~45°C (14~113°F)
	Relative humidity	5~90%, No condensation
	Install altitude	≤3000m
	Install location	Indoor, or outdoor without sunlight exposure. No direct contact with rain.
	Installation	Wall mounted/ Floor mounted/ Stack/ Rack mounted
	Certification	IEC62619/UL1973/UN38.3/CE/UKCA/CEC
	Dimension (LxWxH)	482x133.5x460mm (18.9*5.2*18.1 inch)
	Net weight	≈46kg (101.4 lbs)

Installation method

[1] Test conditions: 90% depth of discharge (DOD), 0.2C rate charge & discharge at 25°C.
[2] System Usable Energy may vary different inverter brand.
[3] Derating occurs when the operating temperature from -10°°C to 10°C & 40°C to 50°C.



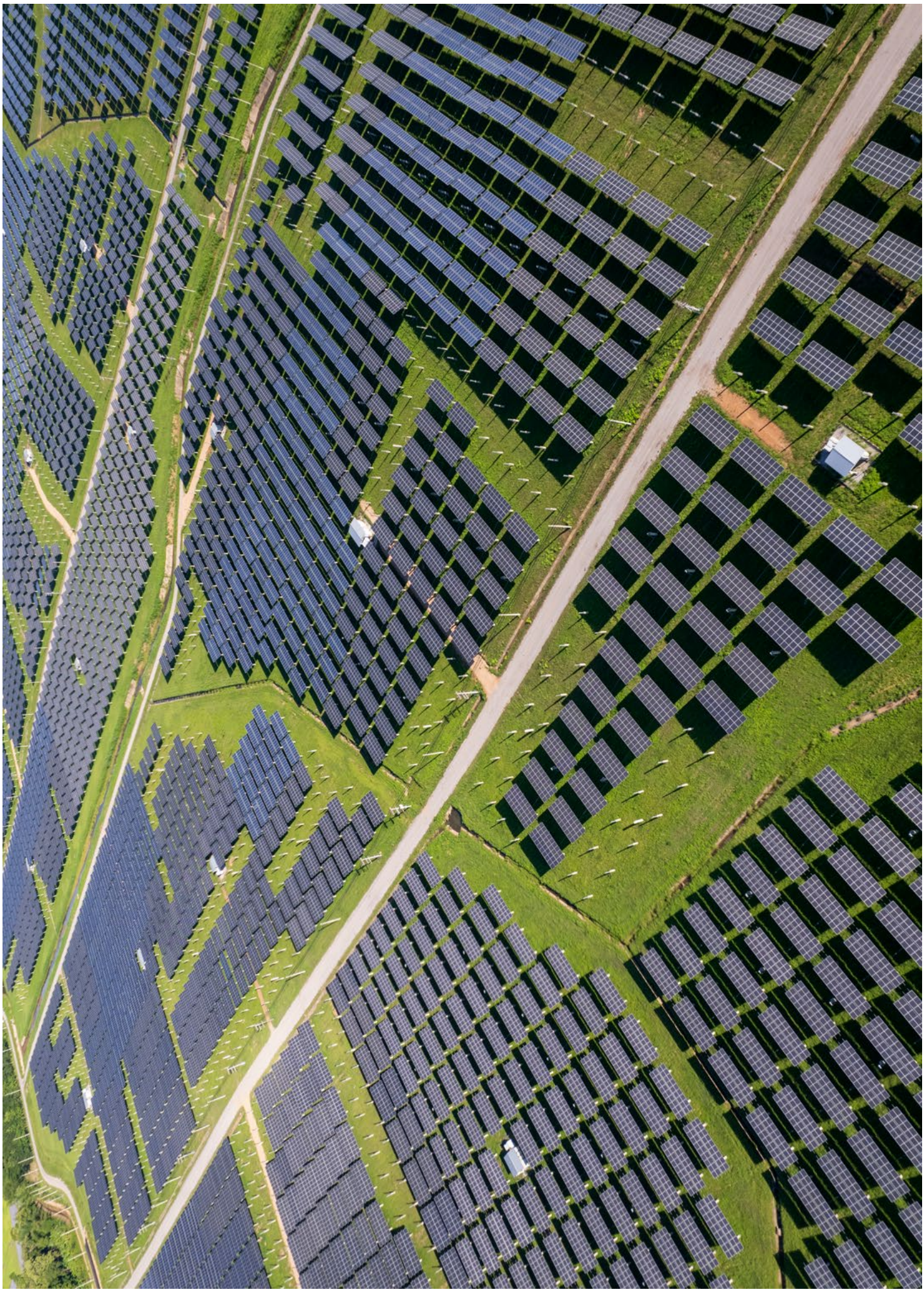
Wall mounted



Floor mounted

Stack

Rack mounted



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