

# Balcony Solar

---

## Energy Storage Solutions





# 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.



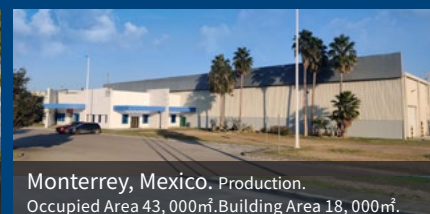
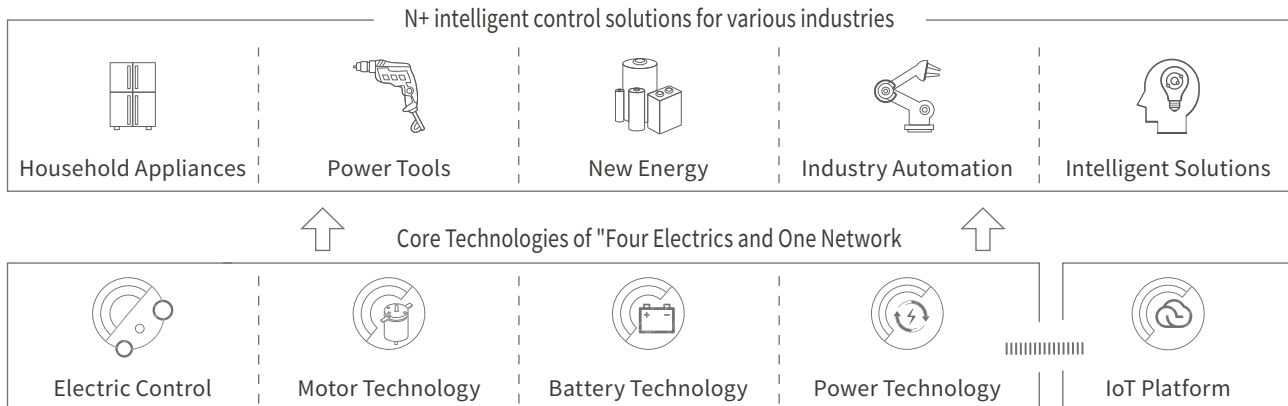
AEO Customs Certification  
(Shenzhen & Huizhou).



# 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



“ 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

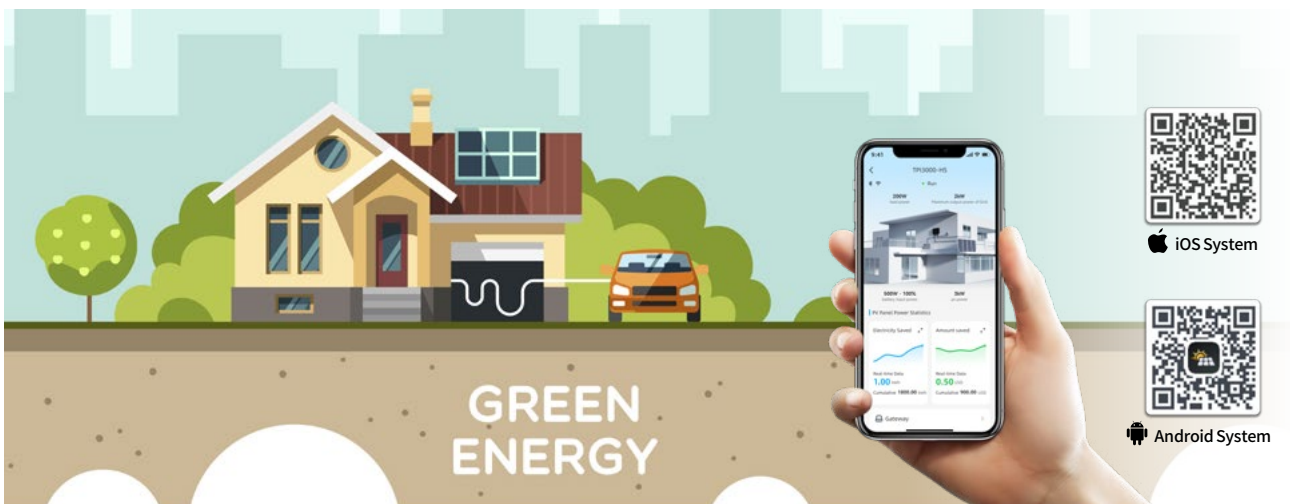
## Residential Energy Storage Solution

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

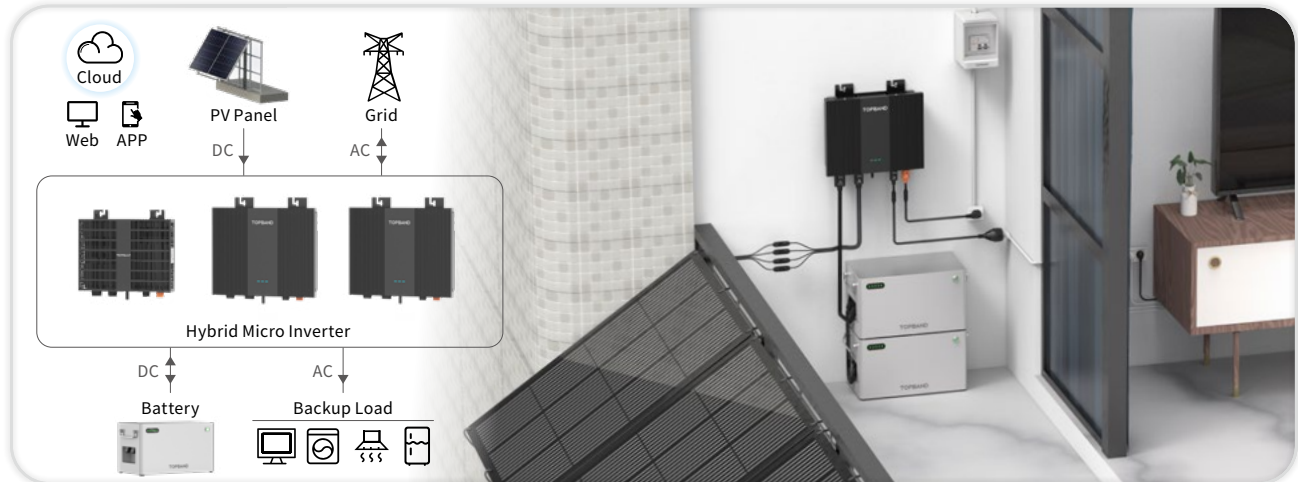
Topband Inverter APP is a smart service platform that offers real-time data upload status, whole systems monitoring and frequent transfer of the recovery data, etc. With remote upgrades, diagnostics, and configurations functions. Our platform provides real-time status to users and reduces maintenance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









# BALCONY SOLAR

---

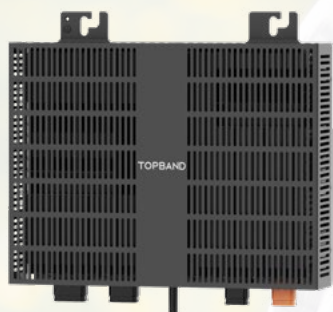
## ENERGY STORAGE SOLUTIONS

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.





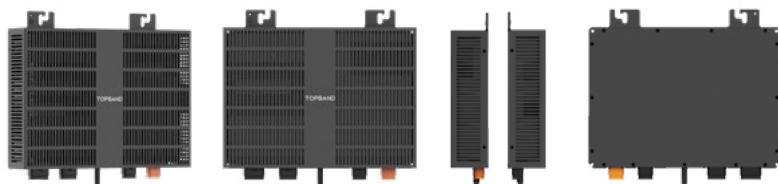


Balcony energy storage Solution

# 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.
- Smart APP real-time monitoring.
- 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.
- Smart APP real-time monitoring.
- 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
AC Input (on-grid)	Max. output current	8.7A
	AC output type	Single phase
	Max. apparent power	2000VA
	Nominal AC voltage	230V
	Max. input current	8.7A
Protection devices	AC grid frequency	50/60 Hz
	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
Others	Constant power output protection	Integrated
	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



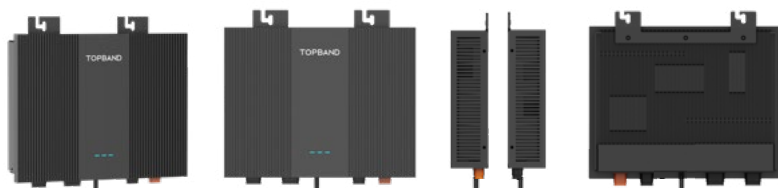


Balcony energy storage Solution

# 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.
- Smart APP real-time monitoring.
- 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



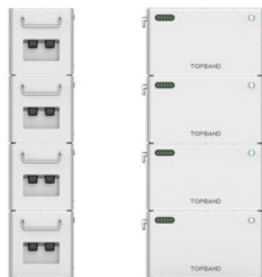


Balcony energy storage Solution

# 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  $\geq 6000$  cycles @ 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 temperature	Charge (With communication): -10~50°C / Discharge (With communication) :-20-50°C
	Operation altitude	<3000m
	Self-discharge rate <sup>2</sup> (Residual capacity)	≤3%/month   ≤15%/years
	Self-discharge rate <sup>2</sup> (Recover capacity)	≤1.5%/Month   ≤8%/ year
	Storage environment <sup>3</sup> (≤3 months)	-10~45°C   5~90%RH
	Storage environment <sup>3</sup> (>3 months)	15~35°C   45~85%RH
	Storage environment <sup>3</sup> (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

# Smart Breaker

Smart Circuit Breaker for household and similar uses

- 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.



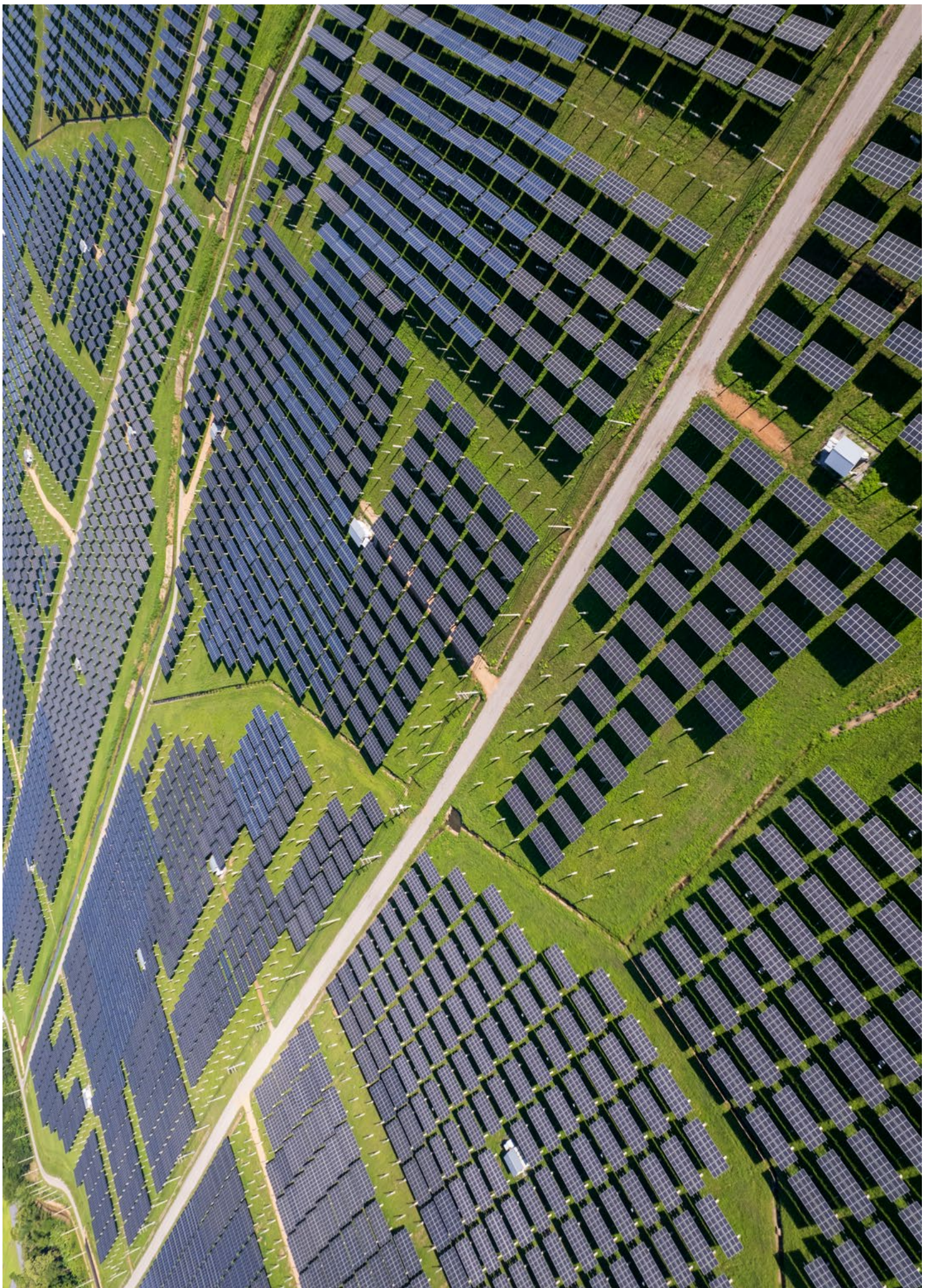
## Technical datasheet

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 cycles
	Wiring capacity	25mm <sup>2</sup>
	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
Others	Operating temperature	Altitude<2000m
	Dimensions (LxWxH)	105x100x147mm
	Weight	≈1kg













[www.topband.com.cn](http://www.topband.com.cn)

**TOPBAND**  
CO-INNOVATING A SMARTER FUTURE

SHENZHEN TOPBAND CO., LTD.

Stock code: SZ002139

Tel: +86-755-2765 1888-2658 · E-mail: [powersystem@topband.com.cn](mailto:powersystem@topband.com.cn)  
Add: Topband Industrial Park, LiYuan Industrial Zone, ShiYan Town, Bao'an District, Shenzhen, China