



Solar PV & Battery Energy Storage Solutions

Brighttech × Australia Building Components

Performance | Integration | Sustainability



Table of Content

| | |
|---|-----|
| • Introduction | P.1 |
| • System Features | P.2 |
| • System Features - Grid Types | P.3 |
| • ROI Engineering | P.4 |
| • SP Series - Solar Panels (550-595W) | P.5 |
| • INV Series - String Inverters | P.6 |
| • BESS-R Series - Residential Storage | P.7 |
| • BESS-C Series - Commercial & Industrial Storage | P.8 |
| • Custom Engineered Solutions | P.9 |

Introduction

Brighttech International, working with Australia Building Components, deliver integrated solar photovoltaic (PV) and lithium battery energy storage systems engineered for performance, integration, and long-term value. Our solutions combine cutting-edge panel technology with advanced storage to maximise energy independence and return on investment.

Design Philosophy

Performance First

580W+ panels with 22.5% cell efficiency and 98.6% inverter efficiency deliver maximum energy harvest per square metre installed.

Integration Focus

Every component — panels, inverters, and battery storage — is pre-tested as a complete system. This ensures seamless communication, optimised charging cycles, and simplified installation.

Engineering Adaptability

Our engineering team adapts every system to site-specific conditions — roof orientation, load profiles, and grid requirements. From residential rooftops to industrial-scale scenario, each solution is tailored for optimal yield and return.

Your Trusted Supply Chain partner

What We Handle:

- Basic System Design:
 - Component matching, string configuration, equipment schedule
- Complete Bill of Materials:
 - Every panel, inverter, cable, bracket itemized and priced
- Technical Documentation:
 - Datasheets, certificates for grid applications
- CIF Delivery:
 - Factory-direct pricing delivered to your local port



System Features

Market-Leading Supply Chain Partners :

We maintains strategic partnerships with internationally recognized manufacturers to ensure bankable performance and supply reliability.

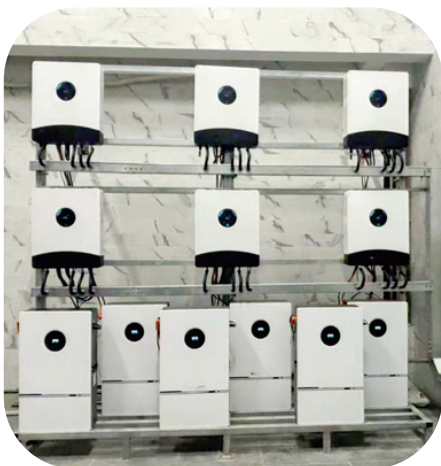
Some of our supply chain partners include:

- Tongli Solar - high-efficiency monocrystalline PERC panels
- Deye Technology - certified string inverters with 98.6% peak efficiency
- TOPA & Gospower - high-tech enterprises with ISO9001/14001/45001 certifications. Trusted by international users.



Performance Standards & Certifications (Extract)

- IP Rating - Environmental ingress protection
- IEC, CE, TUV, CEC - International market certifications
- AS/NZS 4777.2 - Australian grid connection compliance
- UN38.3 / IEC 62619 - Battery transport & safety



EMTEK ACCESS TO THE WORLD

Verification of Conformity

NO.: ENB2411250256E00401C

The following product has been tested by us with the listed standards and found in conformity with the council EMC directive 2014/30/EU. This is to certify that the specimen is in conformity with the assessment requirement mentioned follow. This certificate does not imply assessment to the production of the product.

Applicant : NINGBO DEYE INVERTER TECHNOLOGY CO., LTD.
Address : No. 26 South Yong Jiang Road, Daqi, Beilun, NingBo, Zhejiang, China
Manufacturer : NINGBO DEYE INVERTER TECHNOLOGY CO., LTD.
Address : No. 26 South Yong Jiang Road, Daqi, Beilun, NingBo, Zhejiang, China
Trade Mark : Deye
EUT : Grid-Connected PV Inverter
M/N : See ATTACHMENT/ Model List
Test Standards : EN IEC 61000-6-1:2019, EN IEC 61000-6-2:2019
EN IEC 61000-6-3:2021, EN IEC 61000-6-4:2019
EN IEC 61000-3-2:2019+A1:2021+A2:2024,
EN 61000-3-3:2013/A2:2021/AC:2022-01
EN IEC 61000-3-11:2019, EN 61000-3-12:2011+A1:2024
EN 55011:2016/A2:2021

Version : Ver.1.0

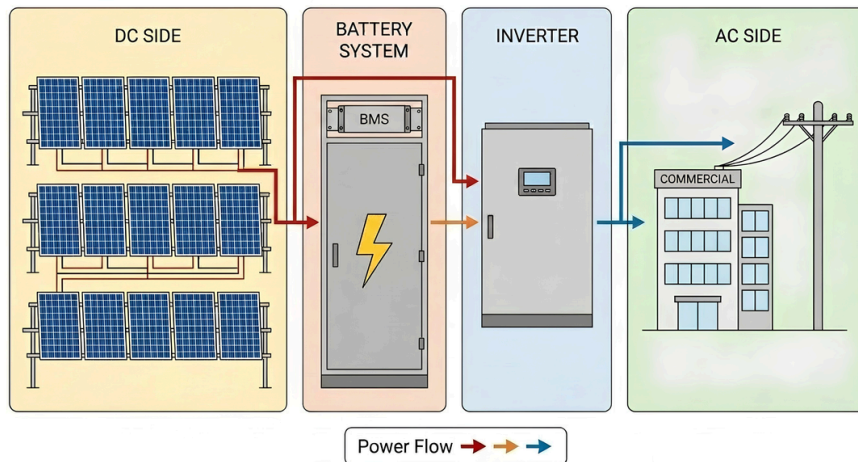
Tony Wei
Tony Wei/Maigo
September 09, 2025

The certificate is based on a single evaluation of one sample of above-mentioned products, it does not imply an assessment of the whole production and does not permit the use of the test lab logo.

EMTEK (Ningbo) Co., Ltd.
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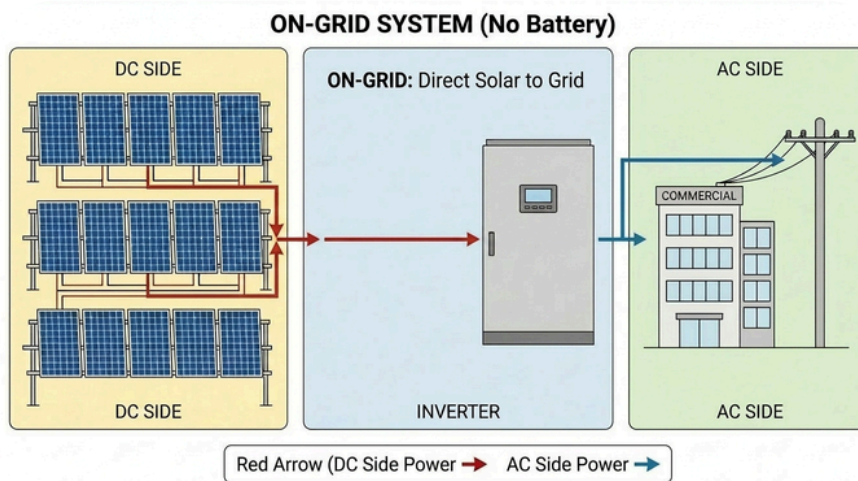
System Features - Grid Types

Hybrid Grid System Diagram (Simplified)



A hybrid grid system combines solar panels, DC/AC protection devices, a battery system (BESS), and an inverter with MPPT controllers to supply power. Solar energy can either charge the batteries or be converted by the inverter to power the building and feed the grid. The system intelligently switches between solar, battery, and grid sources to ensure stable and efficient energy supply.

On-Grid System Diagram (Simplified)



An on-grid system connects solar panels to an inverter and feeds the converted AC power directly into the building and the utility grid. All generated solar energy is either consumed immediately by the load or exported to the grid, without any battery storage. The system relies on the grid for stability and shuts down during outages for safety, making it simple, efficient, and cost-effective for locations with reliable grid supply.

ROI Engineering

ROI Engineering Framework Example - On Grid System

Assume a residential user, electricity prices (traiff) is \$0.3 per kWh, with system cost at \$45,000. It will only take less than 3 years to payback the system cost.



$$\text{Annual Energy Yield} = \text{Panel Capacity} \times \text{Peak Sun Hour} \times 365 \text{ days} \times \text{Performance Ratio}$$



$$\text{Annual Savings} = \text{Energy Yield} \times \text{Electricity Tariff}$$



$$\text{Simple Payback} = \text{Total System Cost} \div \text{Annual Saving}$$

Example Input



30 kWp System



365 days



4.5 Peak Sun Hours



0.82 Performance Ratio

Energy Yield Result



40,406 kWh/year

Annual Energy Production



Savings Calculation



$$40,406 \text{ kWh} \times \$0.30/\text{kWh} \rightarrow$$

Annual Savings



\$12,122/year

Your Annual Savings



Payback Period

\$45,000
system cost



\$12,122
savings



3.7 Years
Payback ✓

Key Benefits

269% ROI
over 10 years

\$1,010/month
reduction

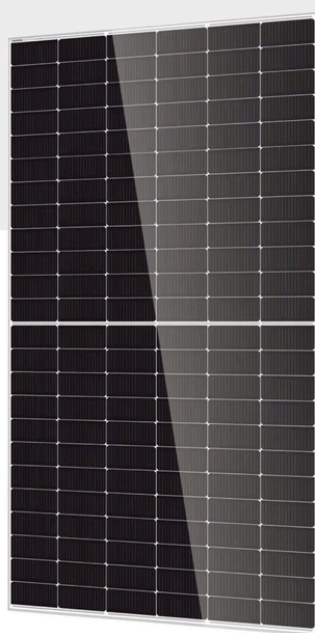
6.3 years
pure profit

SP Series - Solar Panels (550-595W)




High-efficiency monocrystalline PERC modules engineered for maximum energy harvest in commercial and residential installations.

550-595W

Monocrystalline Silicon Solar Module



Product Specialty

-  High power
High reliability
-  Low attenuation, Low heat spot risk
Low cover loss
-  Nice appearance
Green initiative

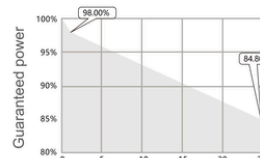
First class warranty



15 years material
process guarantee



25 years of linear
workRate export
warranty



Specifications

| | | | |
|--------------|---|------------------|---|
| Cell Type | MONO (182mm) | Junction box | IP68, TUV, 3 diodes |
| No. of Cells | 120pcs (6*20) | Cable | 4mm ² , +400, -200/±1400mm Wire length can be customized |
| Dimensions | 2278*1134*30mm | Mechanical load | front 5400 Pa/back 2400 Pa |
| Weight | 27.5kg/Pcs | Packing number | 36pcs/pallet |
| Structure | 3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass + EVA Film + White Back | Packing volume | 2400 cbm/pallet |
| Frame | Anodized Aluminum Alloy | 40' HQ container | 720pcs |

Electrical Parameters

Electrical Parameters at STC

| Module Type | TYL550 | TYL560 | TYL580 | TYL595 |
|---------------------------------|--|--------|--------|--------|
| Rate Maximum Power(Pmax/W) | 550 | 560 | 580 | 595 |
| Module Efficiency(%) | 21.30 | 21.70 | 22.50 | 23.00 |
| Open Circuit Volatge(Voc/V) | 49.89 | 50.19 | 50.59 | 50.89 |
| Short Circuit Current(Isc/A) | 14.11 | 14.25 | 14.68 | 14.97 |
| Voltage at Pmax(Vmp/V) | 41.48 | 41.80 | 42.05 | 42.30 |
| Current at Pmax(Imp/A) | 13.26 | 13.40 | 13.79 | 14.07 |
| Power Tolerance | 0~+5W | | | |
| Temperature Coefficient of Isc | +0.046°C | | | |
| Temperature Coefficient of Voc | -0.276°C | | | |
| Temperature Coefficient of Pmax | -0.350°C | | | |
| STC | Irradiance 1000W/ m ² Cell Temperature 25°C AM1.5 | | | |

Remark:Electrical data in this catalogue does not refer to a single module,and it's not part of the offer.It only serves for the comparison among different module types.

INV Series - String Inverters

Deye Three-phase string inverter for commercial and residential uses. Combines efficiency with comprehensive grid compliance for international markets.

| Model | SUN-30K-G04 | SUN-33K-G04 | SUN-35K-G04 | SUN-36K-G04 |
|--|---|-------------|-------------|-------------|
| PV String Input Data | | | | |
| Max. PV Input Power (kW) | 39 | 42.9 | 45.5 | 46.8 |
| Max. PV Input Voltage (V) | 1100 | | | |
| Start-up Voltage (V) | 250 | | | |
| MPPT Voltage Range (V) | 200-1000 | | | |
| Rated PV Input Voltage (V) | 600 | | | |
| Max. Operating PV Input Current (A) | 40+40 | | | |
| Max. Input Short Circuit Current (A) | 60+60 | | | |
| No. of MPP Trackers/ No. of Strings MPP Tracker | 2/3+3 | | | |
| AC Output Side | | | | |
| Rated AC Output Active Power (kW) | 30 | 33 | 35 | 36 |
| Max. AC Output Apparent Power (kVA) | 33 | 36.3 | 38.5 | 39.6 |
| Rated AC Output Current (A) | 45.5/43.5 | 50/47.8 | 53/50.7 | 54.5/52.2 |
| Max. AC Output Current (A) | 50/47.9 | 55/52.6 | 58.3/55.8 | 60/57.4 |
| Rated Output Voltage/Range (V) | 220/380V, 230/400V 0.85Un-1.1Un | | | |
| Grid Connection Form | 3L/N/PE | | | |
| Rated Output Grid Frequency/Range(Hz) | 50/45-55, 60/55-65 | | | |
| Power Factor Adjustment Range | 0.8 leading to 0.8 lagging | | | |
| Total Current Harmonic Distortion THDi | <3% | | | |
| DC Injection Current | <0.5%In | | | |
| Efficiency | | | | |
| Max. Efficiency | 98.6% | | | |
| Euro Efficiency | 98.1% | | | |
| MPPT Efficiency | >99% | | | |
| Equipment Protection | | | | |
| DC Polarity Reverse Connection Protection | Yes | | | |
| AC Output Overcurrent Protection | Yes | | | |
| AC Output Overvoltage Protection | Yes | | | |
| AC Output Short Circuit Protection | Yes | | | |
| Thermal Protection | Yes | | | |
| DC Terminal Insulation Impedance Monitoring | Yes | | | |
| DC Component Monitoring | Yes | | | |
| Ground Fault Current Monitoring | Yes | | | |
| Arc Fault Circuit Interrupter (AFCI) | Optional | | | |
| Power Network Monitoring | Yes | | | |
| Island Protection Monitoring | Yes | | | |
| Earth Fault Detection | Yes | | | |
| Overvoltage Load Drop Protection | Yes | | | |
| Residual Current (RCD) Detection | Yes | | | |
| Surge Protection Level | TYPE II(DC), TYPE II(AC) | | | |
| Interface | | | | |
| Communication Interface | RS485/RS232 | | | |
| Monitor Mode | GPRS/WIFI/Bluetooth/4G/LAN(optional) | | | |
| General Data | | | | |
| Operating Temperature Range (°C) | -25 to +60°C, >45°C Derating | | | |
| Permissible Ambient Humidity | 0-100% | | | |
| Permissible Altitude (m) | 4000m | | | |
| Noise (dB) | ≤60 | | | |
| Ingress Protection(IP) Rating | IP 65 | | | |
| Inverter Topology | Non-Isolated | | | |
| Over Voltage Category | OVC II(DC), OVC III(AC) | | | |
| Cabinet Size (WxHxD mm) | 330×572×206 (Excluding Connectors and Brackets) | | | |
| Weight (kg) | 28.7 | | | |
| Warranty | 5 Years | | | |
| Type of Cooling | Intelligent Air Cooling | | | |
| Grid Regulation | IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105 | | | |
| Safety EMC/Standard | IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2 | | | |



BESS-R Series - Residential Storage

Modular LiFePO4 battery systems for residential energy independence. Scalable from 5kWh to 30kWh+ with intelligent BMS and remote monitoring.

| | GPLB-48280W | GPLB-48314W |
|-----------------------|------------------------------|-----------------------|
| Nominal energy (kWh) | 14.34 | 16.08 |
| Nominal voltage (V) | 51.2 | |
| Nominal capacity(Ah) | 280 | 314 |
| IP rating | IP20 | |
| Output power (kW) | 10.24 | |
| Voltage range (V) | 43.2~58.4 | |
| Charge voltage (V) | 56.8~58.4 | |
| Charge current (A) | 150 | |
| Discharge current(A) | 200 | |
| Charge mode | CC-CV | |
| Communication | CAN/RS485/RS232/ Dry Contact | |
| Charge temperature | 0°C~ 55°C | |
| Discharge temperature | -20°C~ 55°C | |
| Warranty | 5 Years | |
| Cycle life | >6000(@25°C, 80% DOD) | >8000(@25°C, 80% DOD) |
| Weight (kg) | 117 | 120.5 |

Dimensions






BESS-C Series - Commercial & Industrial

High-capacity lithium storage systems for peak shaving, demand charge reduction, and grid resilience applications. Engineered for continuous duty cycle operation with advanced thermal management.



Industrial and commercial storage products

| Product picture |  |  |  |
|---------------------------|---|--|---|
| Item | TCS-60 | TCS-217FL | TCS-215FL |
| DC side parameter | | | |
| Material system | iFePO4 | | |
| Nominal voltage | 614.4V | 691.2V | 768V |
| voltage range | 556.8V-681V | 604.8V-788.4V | 672V~864V |
| Nominal Capacity | 100Ah | 314Ah | 280Ah |
| Nominal energy | 61.44kWh | 217kWh | 215kWh |
| Product size | 600*600*2150mm | 1490*1050*2003mm | 1800*1200*2300mm |
| Product weight | 592kg | 2500kg | 2400kg |
| IP Rating | IP20 | IP55 | IP54 |
| Communication method | -30°C~55°C | | |
| Maximum working altitude | 3000m (Degrade at 2000m) | | |
| Fire Protection System | / | Aerosol | |
| Communication method | CAN2.0/RS485/ WIFI(Optional) | RS485/CAN/Ethernet | |
| Thermal management method | Natural cooling | Intelligent air cooling | |
| AC side parameter | | | |
| Rated AC power | / | 50KW | 100KW |
| Connection | / | Three Phase+PE | |
| Rated AC voltage | / | 380V/400V | 400V |
| Rated AC frequency | 50/60Hz | | |

Custom Engineered Solutions

Beyond Standard Configurations:

The system models featured in this catalogue represent standard configurations from our extensive product ranges. Nevertheless, every installation site requires unique energy demands and commercial objectives. As your dedicated supply partner, we provide tailored hardware packages and basic design support - you focus on winning projects and local execution.

Engineering Process

- **Requirements Analysis:**
 - Load profiling
- **Component Selection, hardware specification based on:**
 - Performance requirements
 - Budget parameters
 - Local conditions
- **Compliance Design:**
 - Grid application preparation
 - Technical documentation
 - Regulatory approval support
- **Delivery:**
 - CIF logistics available



Contact Us



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