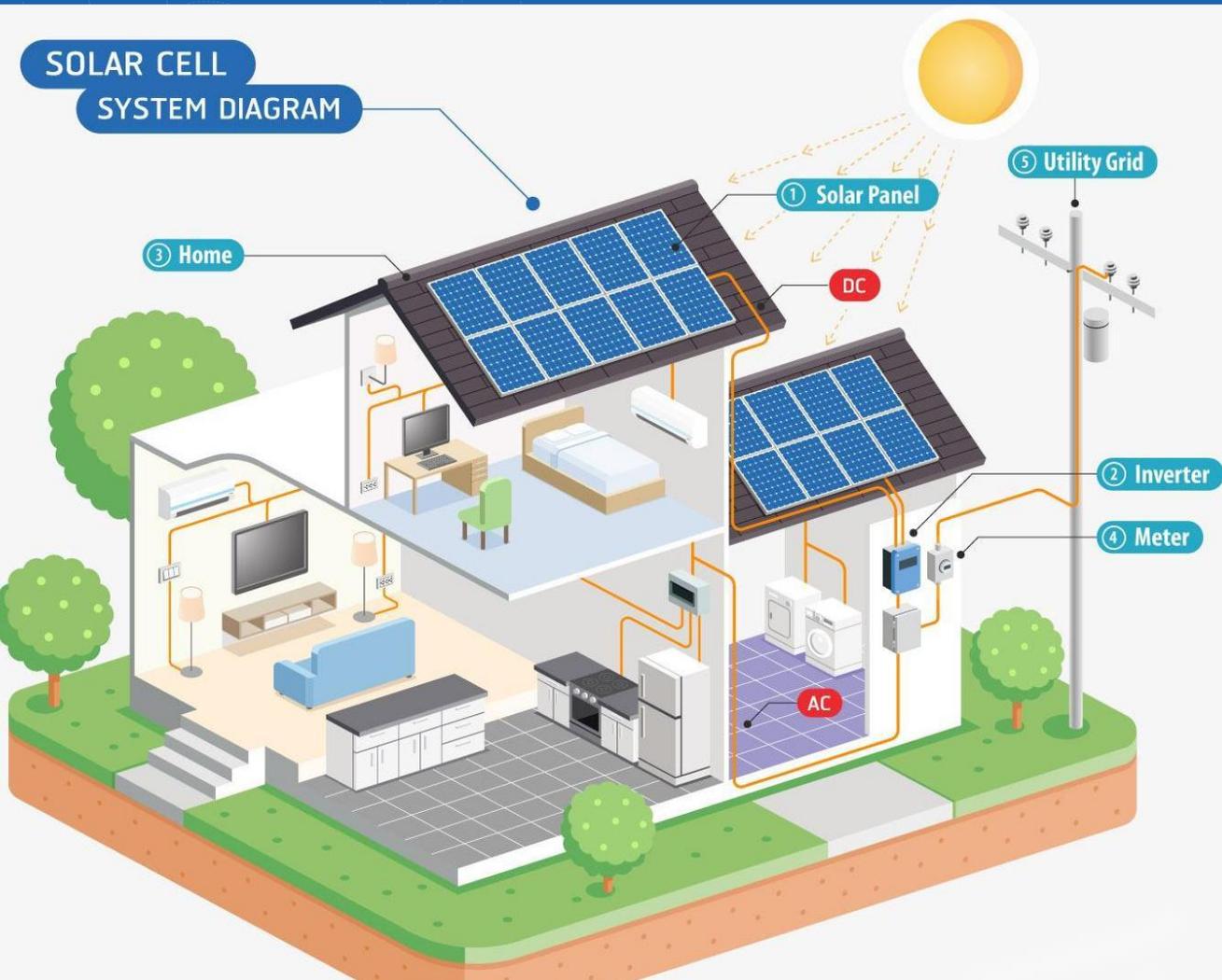


# BLUEPOWERTECH

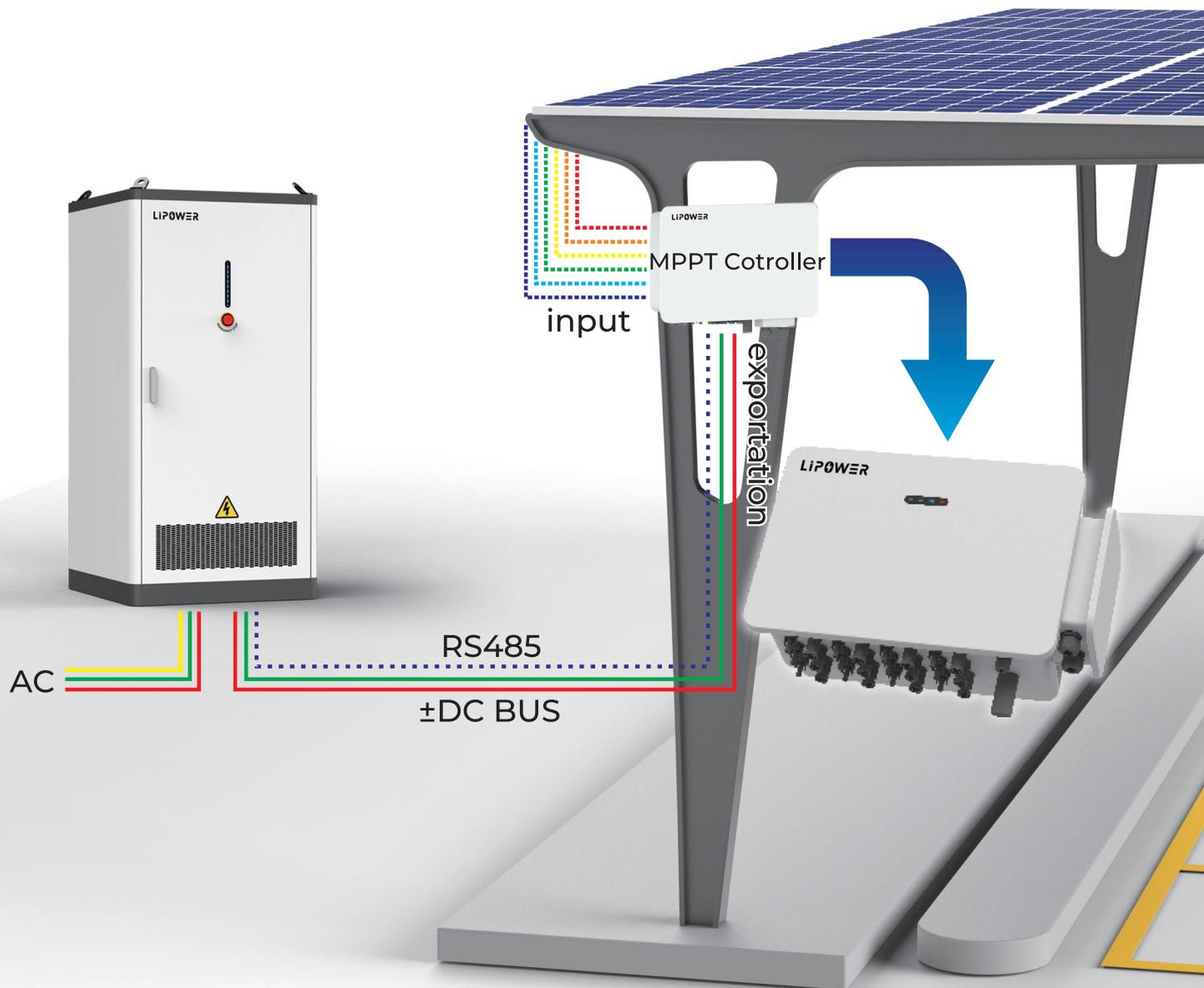
... be your smart energy solution supplier

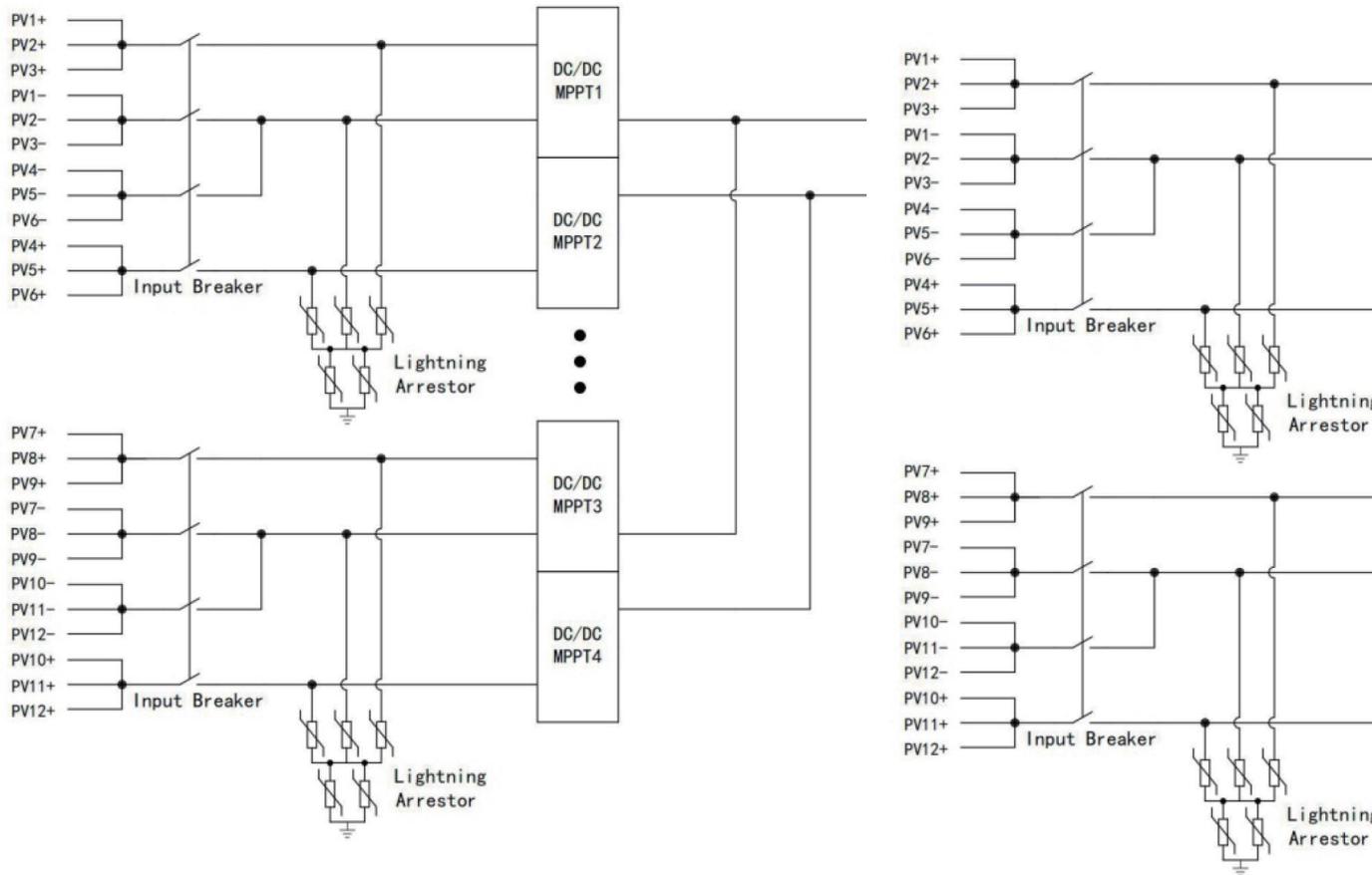
## SOLAR CELL SYSTEM DIAGRAM



# MPPT Controller

- 1.High Efficiency, Short DC Power Path:** Provides high efficiency with direct DC generation and storage, suitable for off-grid applications with excess photovoltaic and energy storage capacity;
- 2.IP65 Protection for Outdoor Use:** Ensures reliability outdoors with IP65 protection. Local MPPT boost and convergence simplify long-distance PV cable transmission;
- 3.Wide Input Voltage Range:** Supports 200V–900V, compatible with high-current PV modules;
- 4.Multiple MPPT Channels:** Accommodates varied panel orientations, optimizing power output;





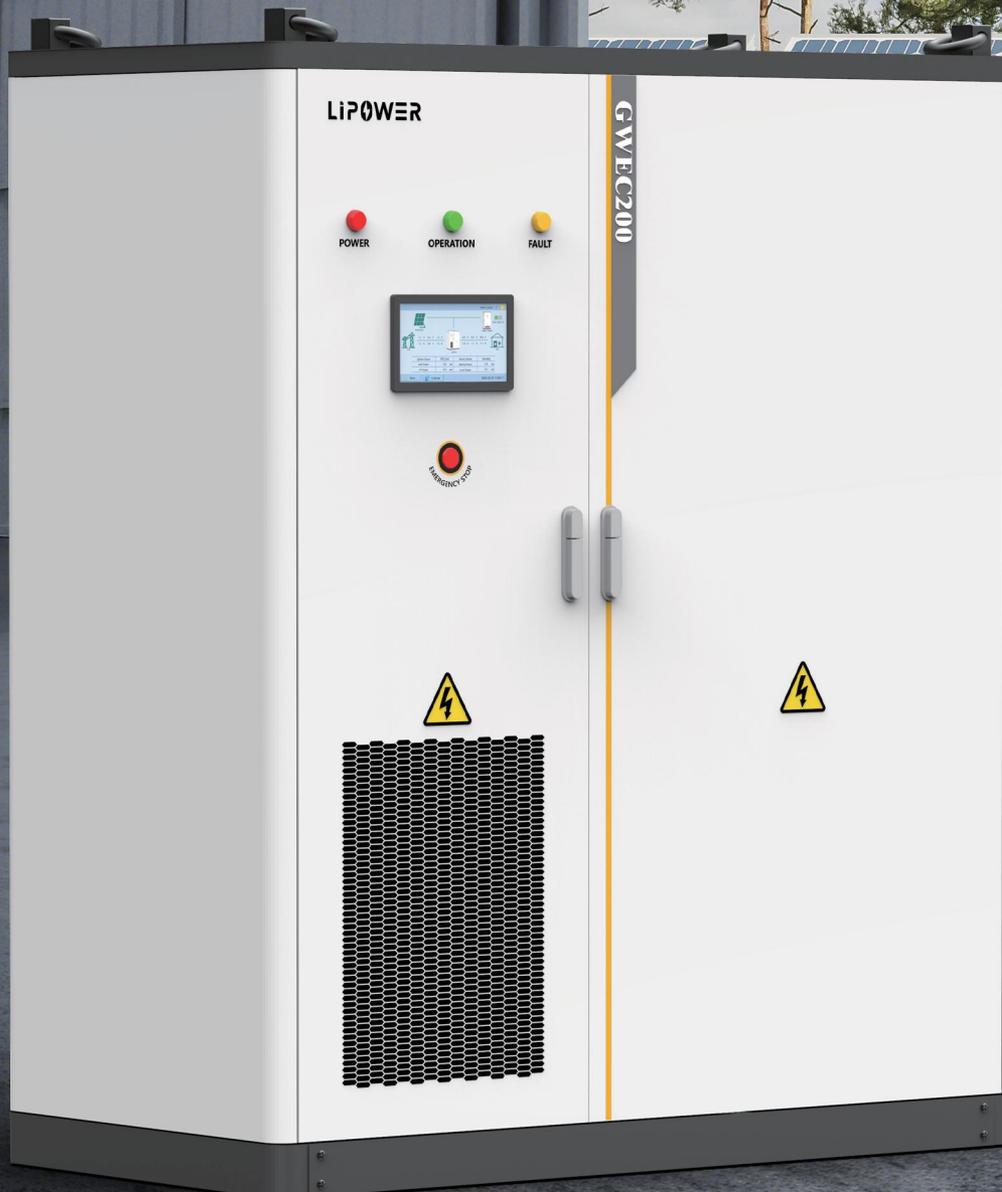
## System Parameter

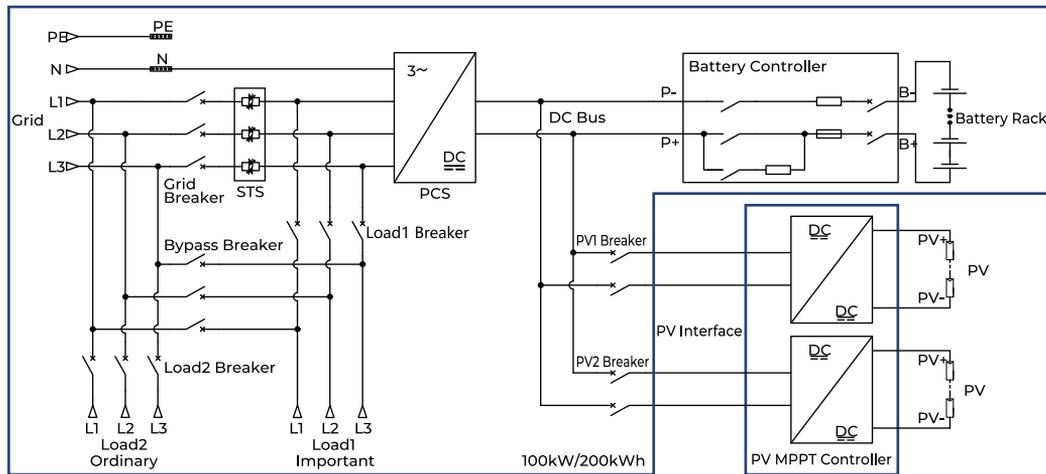
Product Model		CWMPPT-8 (About to be discontinued)	CWMPPT-6	CWMPPT-12
PV Input Parameters	Maximum Photovoltaic Array Voltage	900V		
	MPPT Voltage Range	200V-900V		
	Full Load MPPT Voltage Range	545V-900V		
	Maximum Branch Current	24A	20A	
	Number of PV Branches	8	6	12
	MPPT Quantity	8	2	4
	MPPT Current of Each Channel	20A	55A	
Output Parameter	Rated Voltage	The default value is 716.8V. You can change it to 832V		
	Voltage Range	600-950V		
	Rated Output Current	118A	84A	168A
	Rated Output Power	84kW	60kW	120kW
	Maximum Output Current	192A	120A	240A
	European Efficiency	99.4%		
	Protection Level	IP65		
System Parameters	Cooling Method	Air cooling		
	Dimensions (W x D x H)	550*530*280mm		
	Weight	42kg		
	Operating Temperature	-30~55°C		
	Power Supply	Self-Powered (no night power consumption)		
	Communication Interface	4G/RS485		

**Note:** It is recommended that the maximum open circuit voltage of the PV string should not exceed the nominal voltage rating of the back-end optical storage integrated machine, which is designed to withstand the highest voltage.

# 100kW/200kWh 125kW/225kWh Hybrid ESS

- 1.High power density, compact size, small footprint, and easy installation and transportation;
- 2.Supports photovoltaic integration and matches distributed MPPT controllers;
- 3.4G and Wi-Fi online intelligent monitoring enables remote inspection and reduces the need for on-site manual tasks;
- 4.Deploys on demand and operates automatically during peak shaving and valley filling, supporting integrated control of BMS, PCS, and EMS systems with multiple protection mechanisms;
- 5.Includes load,grid,PV and bypass switches,true all in one design,no additional accessories required;
- 6.Features a built-in STS for grid-tie switching and an EMS for energy management, with switching time of less than 20 milliseconds between multiple power sources.





## :: System Parameter

Product Model		GWESTS100- 200kWh-400-A	GWESTS125- 225kWh-400-A
Dc Battery Parameters	Cell Type	LFP 280Ah	LFP 314Ah
	Battery Pack Capacity and Configuration	14.336kWh/IP16S	16.077kWh/IP16S
	Battery Capacity/Number of Packs	200kWh/ 14	225kWh/ 14
	Battery Voltage Range	627V~806V	
	Rated Charge and Discharge Ratio and Current	0.5C,140A	0.5C,157A
	Number of Cycles	>8000	
Dc Side PV Parameters	Number of Temperature Detections	112	
	Maximum Input Power	200kW	
	Maximum Input Current	320A	
	Voltage Range/System Bus Voltage	650V~800V	
Ac Side PCS Parameters (Grid-Connected)	Input Breaker	2P/250A/1000Vdc/2P,Supports Dual MPPT Input	
	Ac Power Rating	100kW	125kW
	Ac maximum Power	110kW	137.5kW
	Rated Current	152A	190A
	Current Distortion Rate	<3%	
	Dc Component	<0.5% pn	
	System Voltage System	3W+N+PE	
	Voltage Range	360VAC~440VAC	
Ac Side PCS Parameters (Off-Grid)	Frequency Range	45~55Hz/55~65Hz	
	Power Factor	-1~1	
	Rated Output Power	100kW	125kW
	Maximum Single-phase Output Power	33kW	42kW
	Rated Output Voltage	400V	
	Rated Output Frequency	50/60Hz	
Off-Grid Switch and Switch Configuration	Voltage Distortion THDu	<3%	
	Overload Capacity	110% Long-Term 10 Minutes	
	Bypass Maintenance Switch	250A/400Vac	
	Load Breaker	250A/400Vac	
	Grid Breaker	400A/400Vac	
System Parameters	STS	305A/200kW	
	Convert Time	STS<20ms	
	Maximum System Efficiency	≥90%	
	Operating Temperature	-30 ~ 55°C (over 40°C Derated Use)	
	Relative Humidity	0 to 95%RH, No Condensation	
	Dimensions (L x D x H)	1600×1050×2050mm	
	Weight	2300kg	
	Grade of Protection	Complete Machine IP54	
Noise	<70dB		
Networked Form	4G/WiFi/ Ethernet		
Fire Protection	Aerosol		
Display	LCD		

Commercial & Power Plants BNT series

**BLUEPOWERTECH**

# BNT

## 30-60 kW



The Afore BNT Series Three-phase string inverters are designed for commercial and power plant PV system applications, rating from 30kW to 60kW. All models with aluminum housings which is anodized, increasing durability and effectively prevents corrosion. Equipped with external inductors, ensure efficient heat dissipation, which significantly improves the reliability and extends the life of the inverters.

The inverter menu is activated by sensor touch buttons. Communication implements are via the Wi-Fi module (can be changed to Ethernet / GPRS). Check the system status anytime and anywhere via online portal or APP.

Max.  
**20A**

**MAX. 20Adc**  
String Current Up To 20A

Max.  
**1.5**

**PV OVERSIZE**  
Max. 1.5 Time  
PV Oversize Input



**PROTECTION**  
Multiple Intelligent  
Protections



**ANTI-FLOW**  
Anti-Feed-in Function



**Wi-Fi**  
Wi-Fi Standard,  
Ethernet/GPRS Optional



**CONFIGURATION**  
Quick & Easy  
Config. via Wi-Fi



**MODBUS**  
MODBUS  
Communication Ready

MPPT efficiency > 99.9%



Intelligent Temperature Control System



Active and reactive power compensation, adjust power factor



IP 68 Cooling Fan



Type II DC & AC lightning protection



AC output 1.1x continuous operation

PV Input Data	BNT030KTL	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
Max. DC Power ( W )	45000	54000	60000	75000	90000
Max. DC Voltage ( V )	1100				
MPPT Voltage Range ( V )	200 -1000				
MPPT Full Power Voltage Range ( V )	500 - 850				
Rated Input Voltage ( V )	620				
Start-up Voltage ( V )	200				
Max. Input Current ( A )	38 x3		40 x3		38 x4
Max. Short Current ( A )	48 x3		48 x3		48 x4
No. of MPP Tracker / No. of PV String	3/6		3/7		4/8
Input Connector Type	MC4				

AC Output Data	BNT030KTL	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
Max. Output Power ( W )	33000	39600	44000	55000	66000
Nominal Output Power ( W )	30000	36000	40000	50000	60000
Max. Output Current ( A )	48	60	65	80	96
Nominal Output Voltage ( V )	3P+N+PE /3P+PE 230/400				
Grid Voltage Range	260Vac-519Vac (according to local standard)				
Nominal Output Frequency ( Hz )	50/60				
Grid Frequency Range	45-55Hz/55-65Hz (according to local standard)				
Output Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)				
Output Current THD	<3%				

Efficiency	BNT030KTL	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
Max. Efficiency	98.50%	98.65%	98.65%	98.80%	99.00%
Euro Efficiency	98.10%	98.20%	98.25%	98.45%	98.50%

Protection	BNT030KTL	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
PV Reverse Polarity Protection	YES				
PV Insulation Resistance Detection	YES				
AC Short Circuit Protection	YES				
AC Over Current Protection	YES				
AC Over Voltage Protection	YES				
Anti-Islanding Protection	YES				
Residual Current Detection	YES				
Over Temperature Protection	YES				
Integrated DC switch	YES				
Surge Protection	Integrated (Type II)				
Smart IV Curve Scanning	YES				
Quick Arc Fault Circuit Interruption	Optional				

General Data	BNT030KTL	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
Dimensions (H x W x D, mm)	712 x 427 x 232				
Weight ( kg )	42		43	45	51
Protection Degree	IP65				
Enclosure Material	Aluminum				
Ambient Temperature Range (°C)	-25 to 60				
Humidity Range	0-100%				
Topology	Transformerless				
Communication Interface	RS485 / WiFi / Wire Ethernet / GPRS (optional)				
Cooling Concept	Intelligent Fan Cooling				
Noise Emission ( db )	<51		<55		
Night Power Consumption ( W )	<1				
Max. Operation Altitude ( m )	≤4000				

Certifications and Standards	BNT030KTL	BNT036KTL	BNT040KTL	BNT050KTL	BNT060KTL
EMC Standard	EN/IEC 61000-6-2, EN/IEC 61000-6-3, EN61000-3-2, EN61000-3-3, EN61000-3-11, EN61000-3-12				
Safety Standard	IEC 60068, UL1741, EN62109				
Grid-connection	IEEE1547, CSA C22, EN50549, VDE4105, VDE0126, RD1699, ABNT NBR16149 & 16150, AS4777.2, NB/T32004, G98/G99, IEC61727				



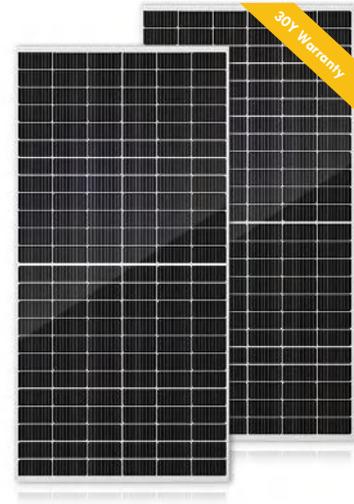
## 166M HALF CELL 430W-460W

**Outstanding mechanical load resistance**  
2400 Pa wind load, 5400 Pa snow load

**Anti-PID (potential induced degradation)**  
Passed anti-PID test under 85% damp heat, 85% relative humidity for 96 hours

**Great Durability against extreme conditions**  
Passed salt mist corrosion test, ammonia corrosion test, dust&sand test, fire test, all certified by TUV

**Double electroluminescence (EL) tests**  
Carefully inspected before and after lamination to guarantee fault-free modules



### ELECTRICAL PERFORMANCE

Model Type	YH430W-36MH		YH440W-36MH		YH450W-36MH		YH460W-36MH	
Dimensions (L / W / H)	2094*1038*30		2094*1038*30		2094*1038*30		2094*1038*30	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power at STC (Pmax)	430	321	440	329	450	336	460	343
Maximum Power Voltage (Vmp)	40.7V	37.9V	41.1V	38.3V	41.5V	38.6V	41.9V	39.0V
Maximum Power Current (Imp)	10.57A	8.47A	10.71A	8.6A	10.85A	8.7A	10.99A	8.8A
Open Circuit Voltage (Voc)	48.5±3%	45.5±3%	48.9±3%	45.8±3%	49.3±3%	46.2±3%	49.7±3%	46.6±3%
Short Circuit Current (Isc)	11.31±3%	9.15±3%	11.46±3%	9.27±3%	11.6±3%	9.38±3%	11.72±3%	9.48±3%
Module Efficiency( % )	19.78		20.24		20.7		21.16	

### THERMAL CHARACTERISTICS & OPERATING CONDITIONS

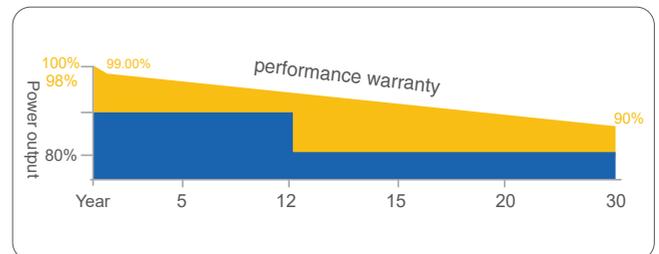
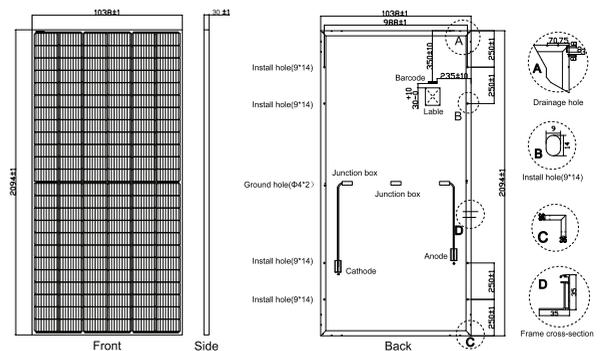
Maximum System Voltage(V)	1500V
Maximum Series Fuse Rating(A)	20A
Power Tolerance	0~+3W
Pmax Temperature Coefficients(W/°C)	-0.350%
Voc Temperature Coefficients(V/°C)	-0.270%
Isc Temperature Coefficients(A/°C)	+0.048%
NOCT Nominal Operating Cell Temperature(°C)	45±2°C
Operating and Storage Temperature(°C)	-40°C~+85°C

### CONSTRUCTION MATERIALS

Front Cover (Material / Thickness)	low-iron tempered glass / 3.2mm
Cell (Quantity/Type/Dimensions)	166*83 Mono
No. of Cells	144 (6*12)*2
Frame (Material)	Anodized Aluminium Alloy
Junction Box (Protection Degree)	IP67/IP68
Cable (Length/Cross-Sectional Area)	4mm <sup>2</sup> cable 30cm+mc4
Weight	22.00kg

### PACKAGING SPECIFICATIONS FOR 2 THICKNESS

	20FT container	40HQ container
■ 2094*1038*30mm	5Packages/330PCS	11Packages/836PCS
■ 2094*1038*35mm	5Packages/285PCS	11Packages/726PCS





## 182M HALF CELL

### 535W-550W



**Outstanding mechanical load resistance**  
2400 Pa wind load, 5400 Pa snow load



**Anti-PID (potential induced degradation)**  
Passed anti-PID test under 85% damp heat, 85% relative humidity for 96 hours



**Great Durability against extreme conditions**  
Passed salt mist corrosion test, ammonia corrosion test, dust&sand test, fire test, all certified by TUV



**Double electroluminescence (EL) tests**  
Carefully inspected before and after lamination to guarantee fault-free modules



#### ELECTRICAL PERFORMANCE

Model Type	YH535W-36MH		YH540W-36MH		YH545W-36MH		YH550W-36MH	
Dimensions (L / W / H)	2279*1134*35		2279*1134*35		2279*1134*35		2279*1134*35	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power at STC (Pmax)	535	397.7	540	401.4	545	405.1	550	408
Maximum Power Voltage (Vmp)	41.62V	38.62V	41.77V	38.78V	41.93V	38.93V	42.13V	39.09V
Maximum Power Current (Imp)	12.86A	10.3A	12.94A	10.35A	13.0A	10.41A	13.06A	10.46A
Open Circuit Voltage (Voc)	49.5±3%	46.36±3%	49.7±3%	46.54±3%	49.9±3%	46.73±3%	50.1±3%	46.92±3%
Short Circuit Current (Isc)	13.61±3%	10.97±3%	13.72±3%	11.05±3%	13.81±3%	11.13±3%	13.9±3%	11.2±3%
Module Efficiency( % )	20.70		20.89		21.09		21.28	

#### THERMAL CHARACTERISTICS & OPERATING CONDITIONS

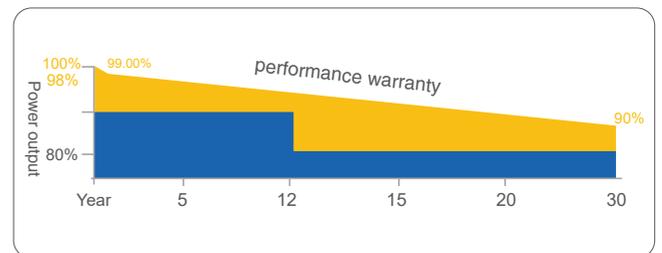
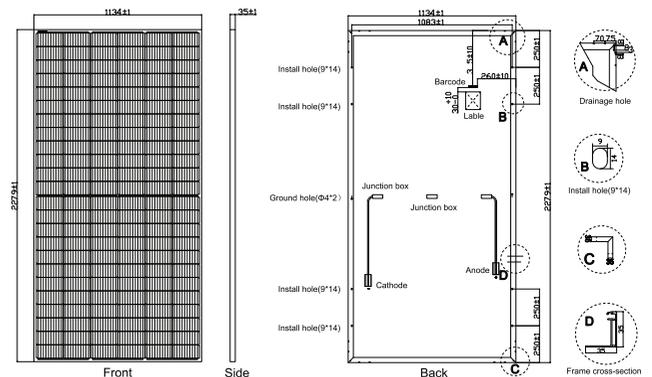
Maximum System Voltage(V)	1500V
Maximum Series Fuse Rating(A)	25A
Power Tolerance	0~+3W
Pmax Temperature Coefficients(W/°C)	-0.350%
Voc Temperature Coefficients(V/°C)	-0.250%
Isc Temperature Coefficients(A/°C)	+0.04%
NOCT Nominal Operating Cell Temperature(°C)	45±2°C
Operating and Storage Temperature(°C)	-40°C~+85°C

#### CONSTRUCTION MATERIALS

Front Cover (Material / Thickness)	low-iron tempered glass / 3.2mm
Cell (Quantity/Type/Dimensions)	182*91 Mono
No. of Cells	144 (6*12)*2
Frame (Material)	Anodized Aluminium Alloy
Junction Box (Protection Degree)	IP67/IP68
Cable (Length/Cross-Sectional Area)	4mm² cable 30cm+mc4
Weight	27.00kg

#### PACKAGING SPECIFICATIONS

■ 2279*1134*30mm	20FT container	40HQ container
■ 2279*1134*35mm	5Packages/315PCS	10Packages/720PCS
	5Packages/275PCS	10Packages/620PCS



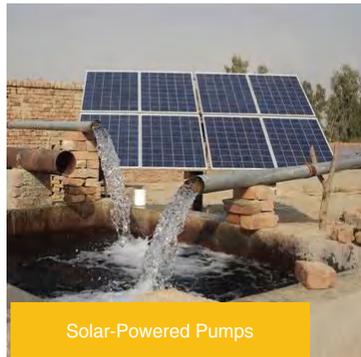
# APPLICATION DIAGRAM



5KW Roof Project



Solar Bicycle



Solar-Powered Pumps



Solar Street Lights



Color Steel Tile  
530KW Solar Power Project

Fenghua District



Rooftop Installation  
10KWSolar Project

Netherlands



Flat Cement Floor  
3MW Solar Plant

Ningbo City



Ground Installation  
5MW Solar Plant

Qinghai Province

**CASE STUDY**





**BLUEPOWERTECH**

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