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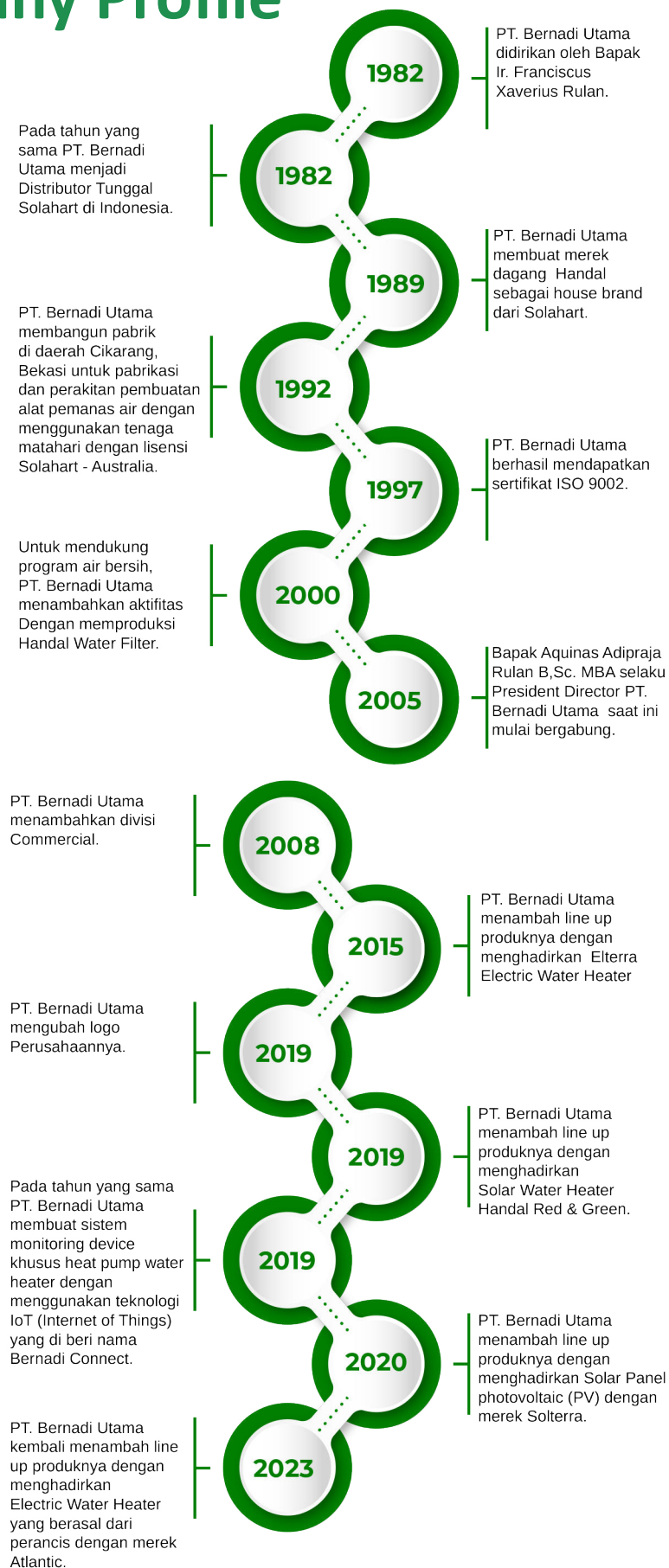


www.solterra.id

Daftar Isi

Daftar Isi	2
Company Profile	3
Mengapa Solar Cell System (PLTS)	5
Solar Panel Solterra Type 510 W	6
Solar Panel Solterra Type 550 W	8
Solar Panel Solterra Type 660 W	10
Solar Panel Solterra N Type 575 W	12
Solar Panel Solterra N Type 580 W	14
Solar Panel Solterra N Type 585 W	16
Solar Panel Solterra N Type 590 W	18
Jenis Jenis Teknologi Solar	20
Cara Kerja Sistem ONGRID.....	21
Cara Kerja Sistem Hybrid	22
Cara Kerja Sistem OFFGRID	23
ONGRID Inverter.....	24
Energi Meter	33
Hybrid Inverter	35
OFFGRID Inverter	38
Baterai	40
Project Reference	43
Proses Pemesanan dan Instalasi.....	51

Company Profile



Hingga kini, PT. Bernadi Utama terus mengembangkan produk-produknya mencakup storage water heater, heat pump water heater, electric water heater, gas water heater, solar cell pv, energy battery storage, Internet of Things dan Handal solar water heater under license dari Solahart Australia .



Mengapa Solar Cell System (PLTS) Adalah Investasi Terbaik Saat Ini ?



Sumber energi berlimpah dan gratis Renewable energi, potensi di Indonesia sangat besar 4,80 kWh/m²/hari. (Ditjen Listrik dan Pemanfaatan Energi, 2009).



Ramah Lingkungan
Listrik PLTS nyaman dinikmati tanpa polusi suara, asap, getaran atau radiasi berbahaya.



Menyelamatkan Bumi PLTS mengurangi bahan bakar fosil untuk listrik & mengurangi emisi gas CO₂.



Hemat Tagihan Listrik
Kelebihan tenaga listrik yang dihasilkan diekspor ke PLN (Peraturan Menteri ESDM Nomor 26 tahun 2021).



Menambah Nilai Jual / Value Properti



Long Lifetime > 25 Tahun

SOLTERRA 510 W

Key Features



Module efficiency up to 21.33%

Highest power brings lowest kilowatt-hour cost, highest lifetime generating capacity, simultaneously lowest annual power attenuation

PID Resistant

Excellent PID resistance test, and also can be improved to meet highest standards for the particularly harsh environment

Low-Light Performance

Excellent power generation performance under low-light conditions with MBB technology

Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress

Strength and Durability

Certified for 5400Pa snow and 2400Pa loads test

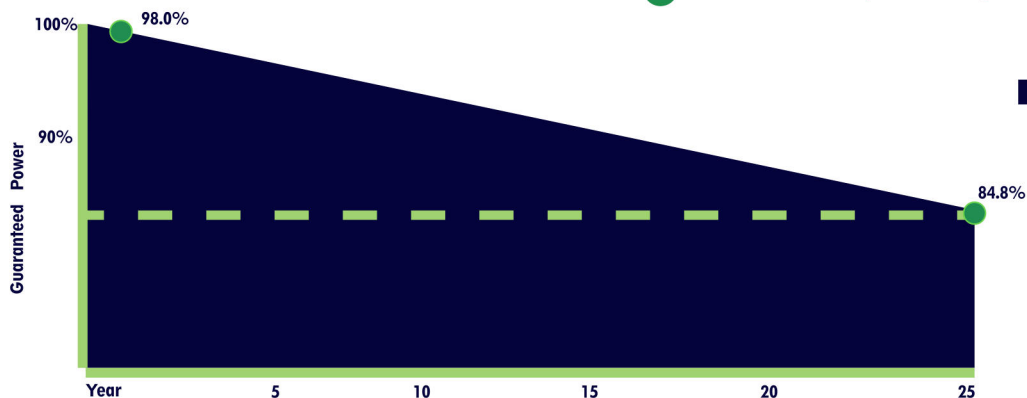


Linear Performance Warranty

Maximum Output Wattage **510W**, Positive Tolerance **0~+3W**, Highest Efficiency **21.33%**

12+ Material & Workmanship Warranty

25+ Linear Power Output Warranty



Electrical Parameters

Module Type

ST - 510W

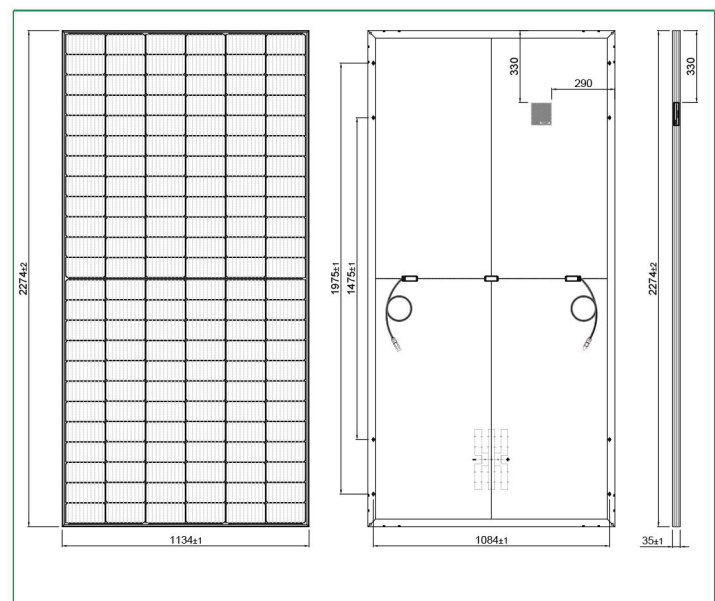
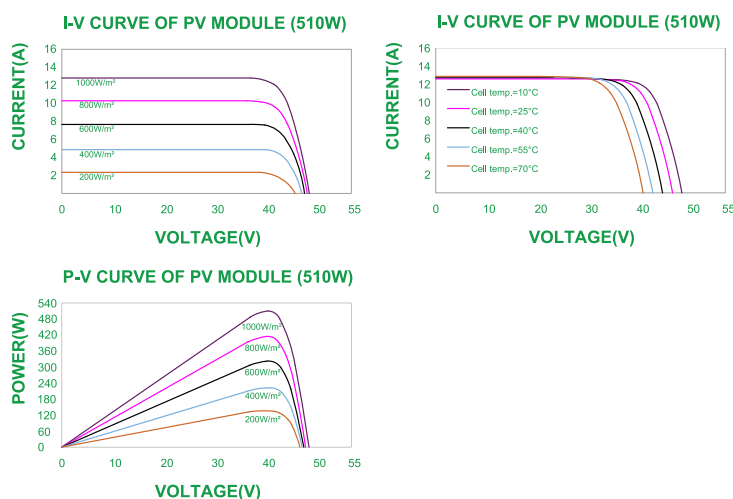
	STC	NOCT
Rated Maximum Power (P _{max}) [W]	510	379
Maximum Power Voltage (V _{mp}) [V]	40.68	38.32
Maximum Power Current (I _{mp}) [A]	12.53	9.89
Open Circuit Voltage (V _{oc}) [V]	48.85	45.98
Short Circuit Current (I _{sc}) [A]	13.12	10.45
Module Efficiency (%)	19.78	

STC Irradiance 1000 W/m² module temperature 25°C AM=1.5

NOCT Irradiance 800 W/m² ambient temperature 20°C wind speed:1m/s

Cell Type	Monocrystalline
Cell Dimensions	182mm
Cell Quantity	144pcs
Weight	29kg
Module Dimensions	2274 X 1134 X 35mm
Cable	4.0 mm ² positive pole:240mm negative pole: 240mm wire length can be customized
Front Glass	3.2 mm Anti-Reflection Coating High Transmission Low Iron Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Connector	MC4-EVO2
Mechanical Load	Front side 5400Pa/ Rear side 2400Pa

Operating Conditions	
Power Tolerance (W)	±5%
Maximum System Voltage	1000/1500VDC(IEC)
Temperature Coefficient P _{max}	-0.35 %/°C
Temperature Coefficient V _{oc}	-0.28 %/°C
Temperature Coefficient I _{sc}	+0.048 %/°C
Nominal Operating Cell Temperature	45±2°C
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	25A
Packing Configurations	
Quantity/Cartoon	30pcs/big cartoon
Pallets/Container	10big pallet/40HQ
Quantity/Container	600pcs/40HQ



SOLTERRA 550 W

Key Features



Module efficiency up to 21.33%

Highest power brings lowest kilowatt-hour cost, highest lifetime generating capacity, simultaneously lowest annual power attenuation

PID Resistant

Excellent PID resistance test, and also can be improved to meet highest standards for the particularly harsh environment

Low-Light Performance

Excellent power generation performance under low-light conditions with MBB technology

Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress

Strength and Durability

Certified for 5400Pa snow and 2400Pa loads test

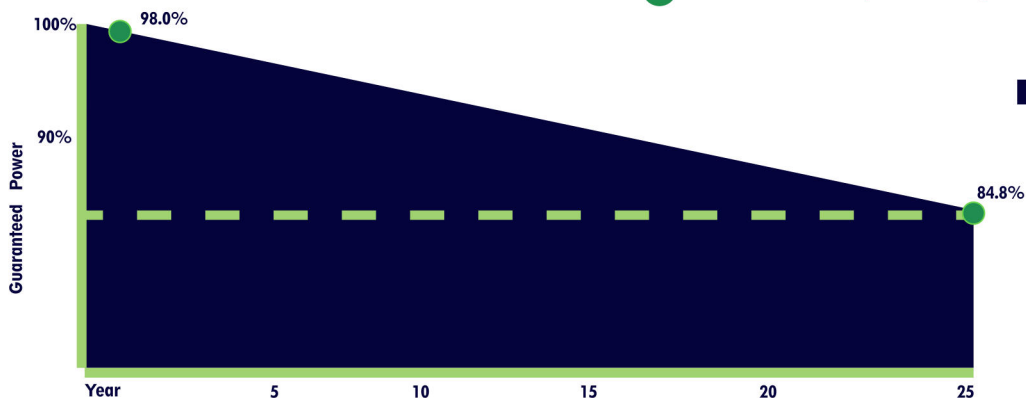


Linear Performance Warranty

Maximum Output Wattage **550W**, Positive Tolerance **0~+3W**, Highest Efficiency **21.33%**

12+ Material & Workmanship Warranty

25+ Linear Power Output Warranty



Electrical Parameters

Module Type

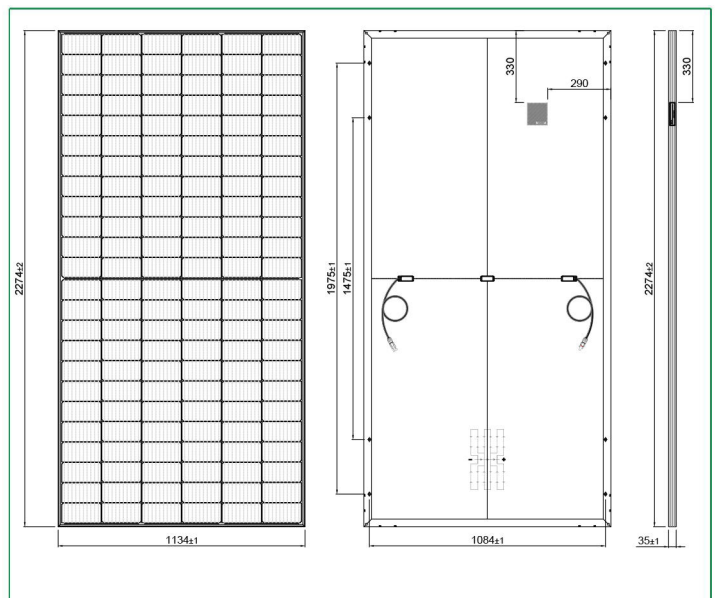
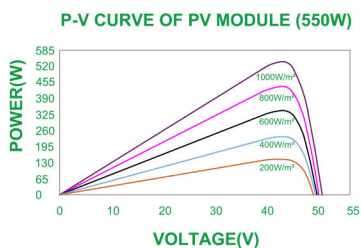
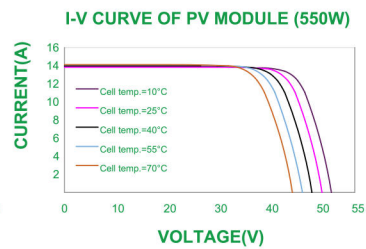
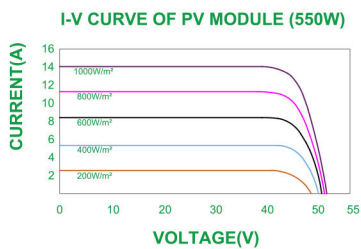
ST - 550W

	STC	NOCT
Rated Maximum Power (P _{max}) [W]	550	409
Maximum Power Voltage (V _{mp}) [V]	40.9	38.42
Maximum Power Current (I _{mp}) [A]	13.45	10.65
Open Circuit Voltage (V _{oc}) [V]	49.62	46.84
Short Circuit Current (I _{sc}) [A]	14.03	11.33
Module Efficiency (%)	21.33	

STC Irradiance 1000 W/m² module temperature 25°C AM=1.5
NOCT Irradiance 800 W/m² ambient temperature 20°C wind speed:1m/s

Cell Type	Monocrystalline
Cell Dimensions	182mm
Cell Quantity	144pcs
Weight	29kg
Module Dimensions	2274 X 1134 X 35mm
Cable	4.0 mm ² positive pole:240mm negative pole:240mm wire length can be customized
Front Glass	3.2 mm Anti-Reflection Coating High Transmission Low Iron Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Connector	MC4-EVO2
Mechanical Load	Front side 5400Pa/ Rear side 2400Pa

Operating Conditions	
Power Tolerance (W)	±5%
Maximum System Voltage	1000/1500VDC(IEC)
Temperature Coefficient P _{max}	-0.35 %/°C
Temperature Coefficient V _{oc}	-0.28 %/°C
Temperature Coefficient I _{sc}	+0.048 %/°C
Nominal Operating Cell Temperature	45 ±2°C
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	25A
Packing Configurations	
Quantity/Cartoon	30pcs/big cartoon
Pallets/Container	10big pallet/40HQ
Quantity/Container	600pcs/40HQ



SOLTERRA 660 W

Key Features



Module efficiency up to 21.25

Highest power brings lowest kilowatt-hour cost, highest lifetime generating capacity, simultaneously lowest annual power attenuation



Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress



Low-Light Performance

Excellent power generation performance under low-light conditions with MBB technology



PID Resistant

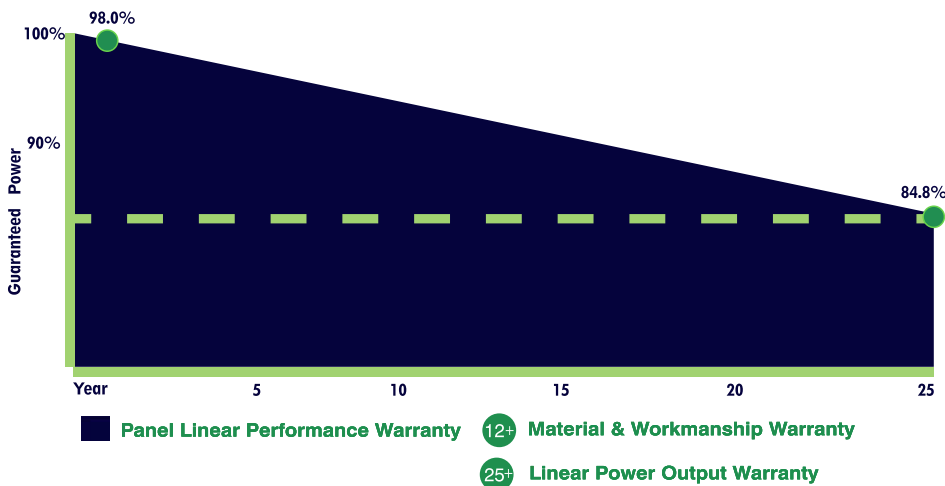
Excellent PID resistance test, and also can be improved to meet highest standards for the particularly harsh environment



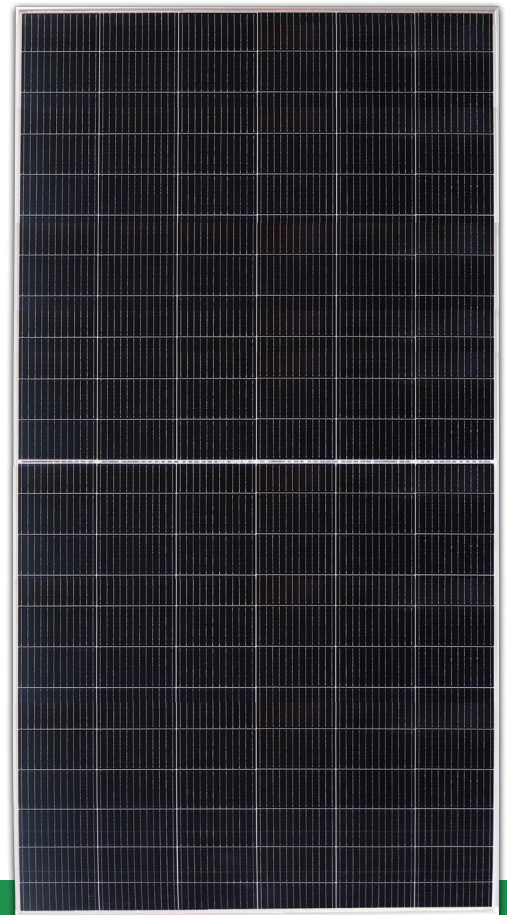
Strength and Durability

Design for 5400Pa snow and 2400Pa loads test

Linear Performance Warranty



Maximum Output Wattage **660W**, Tolerance $\pm 5\%$, Highest Efficiency **21.25%**



HOW YOU BENEFIT



HIGH SOLAR YIELD

Innovative half-cell technology with excellent power efficiency that results in more energy production per square metre.



SAFE OPERATION

Quality components ensure safety and long term performance.



VALUE FOR MONEY

Cost-effective panel solution for a high return on your investment.



TRUSTED WARRANTIES

12-Year Solterra Product Warranty for peace of mind, plus, 25-Year Manufacturer's Performance Guarantee.*



Electrical Parameter

Performance		STC	NOCT
Rated Maximum Power (Pmax)	W	660	499
Maximum Power Voltage (Vmp)	V	37.80	35.26
Maximum Power Current (Imp)	A	17.46	14.16
Open Circuit Voltage (Voc)	V	45.60	42.96
Short Circuit Current (Isc)	A	18.55	14.96
Module Efficiency	%	21.25	

*Under Standard Test Condition(STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25°C

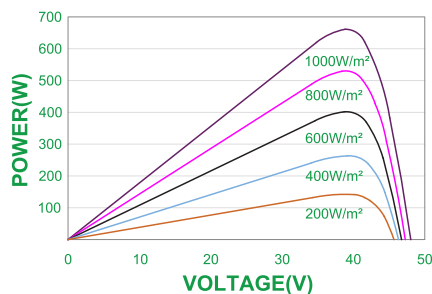
*Under Nominal Operating Cell Temperature (NOCT) irradiance of 800W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1m/s

Specification	
Cell Type	Monocrystalline
Cell Dimensions	210 mm
Cell Quantity	132 pcs
Weight	32.5 kg
Module Dimensions	2384 x 1303 x 35 mm
Cable	2*4mm ² , L= (+)300mm (-)300mm
Front Glass	3.2mm, Low-iron, Misslite, Tempered
Frame	Anodized aluminum alloy
Junction Box	IP68, 3 Diodes 30A, Triple Pole Type
Connector	IP67, MC4 Compatible
Mechanical Load	Front side 5400Pa / Back side 2400Pa

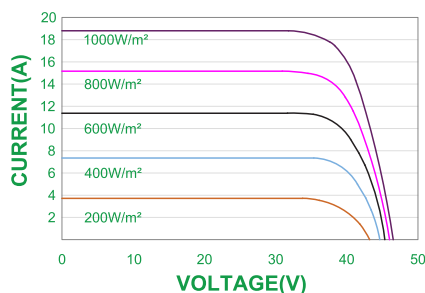
Operating Condition	
Power Tolerance (W)	±5%
Maximum System Voltage (V)	1500 (IEC)
Temperature Coefficient Pmax	-0.34% / °C
Temperature Coefficient Voc	-0.27% / °C
Temperature Coefficient Isc	+0.045% / °C
Nominal Operating Cell Temperature	48±2 °C
Operating Temperature	-40 °C~+85 °C
Maximum Series Fuse	30A

Note : SOLTERRA reserves the right to discontinue, or charge at any time, specification or designs without notices and without incurring obligations.

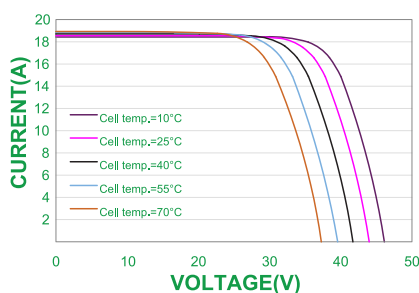
P-V CURVE OF PV MODULE (660W)



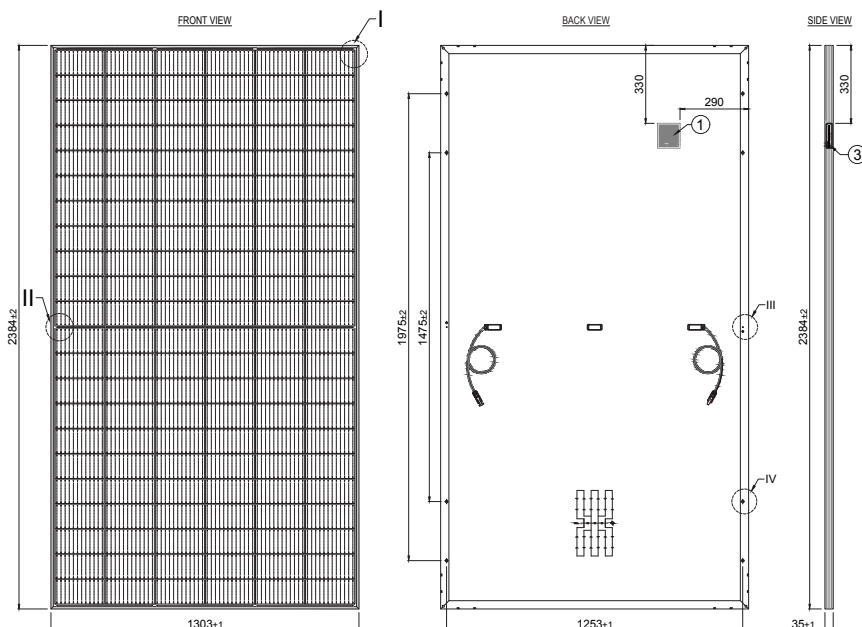
I-V CURVE OF PV MODULE (660W)



I-V CURVE OF PV MODULE (660W)



Dimensions



N TYPE SOLTERRA 575 W

Key Features



Module efficiency up to 22.26

Highest power brings lowest kilowatt-hour cost, highest lifetime generating capacity, simultaneously lowest annual power attenuation



Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress



Low-Light Performance

Excellent power generation performance under low-light conditions with MBB technology



PID Resistant

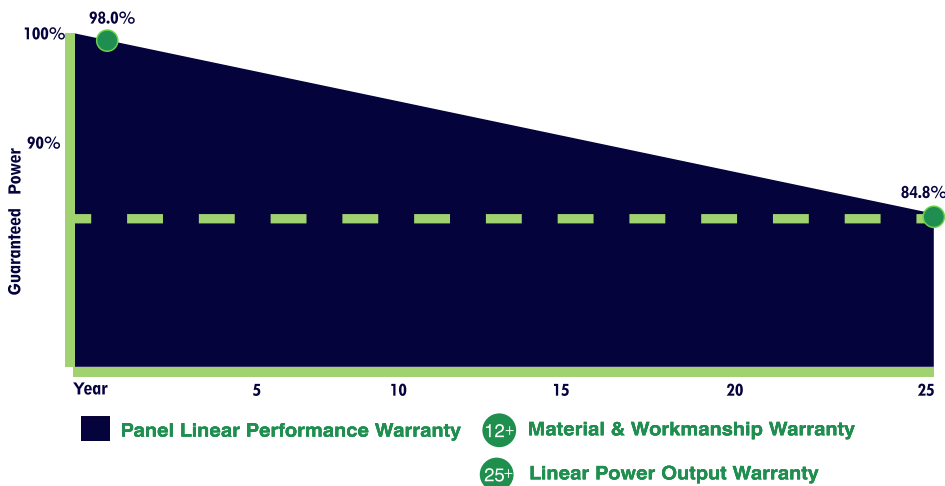
Excellent PID resistance test, and also can be improved to meet highest standards for the particularly harsh environment



Strength and Durability

Design for 5400Pa snow and 2400Pa loads test

Linear Performance Warranty



Maximum Output Wattage **575W**, Tolerance $\pm 5\%$, Highest Efficiency **22.26%**



HOW YOU BENEFIT



HIGH SOLAR YIELD

Innovative half-cell technology with excellent power efficiency that results in more energy production per square metre.



SAFE OPERATION

Quality components ensure safety and long term performance.



VALUE FOR MONEY

Cost-effective panel solution for a high return on your investment.



TRUSTED WARRANTIES

12-Year Solterra Product Warranty for peace of mind, plus, 25-Year Manufacturer's Performance Guarantee.*

Electrical Parameter

Performance		STC	NOCT
Rated Maximum Power (Pmax)	W	575	432
Maximum Power Voltage (Vmp)	V	42.22	39.60
Maximum Power Current (Imp)	A	13.62	10.92
Open Circuit Voltage (Voc)	V	50.88	48.33
Short Circuit Current (Isc)	A	14.39	11.62
Module Efficiency	%	22.26	

*Under Standard Test Condition(STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25°C

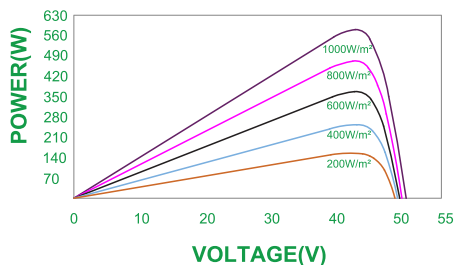
*Under Nominal Operating Cell Temperature (NOCT) irradiance of 800W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1m/s

Specification	
Cell Type	Monocrystalline
Cell Dimensions	182 mm
Cell Quantity	144 pcs
Weight	25.9 kg
Module Dimensions	2278 x 1134 x 30 mm
Cable	2*4mm ² , L= (+)240mm (-)240mm
Front Glass	3.2mm, Low-iron, Misslite, Tempered
Frame	Anodized aluminum alloy
Junction Box	IP68, 3 Diodes 25A, Triple Pole Type
Connector	IP67, MC4 Compatible
Mechanical Load	Front side 5400Pa / Back side 2400Pa

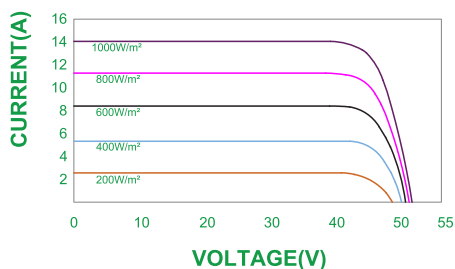
Operating Condition	
Power Tolerance (W)	±5%
Maximum System Voltage (V)	1500 (IEC)
Temperature Coefficient Pmax	-0.29% / °C
Temperature Coefficient Voc	-0.25% / °C
Temperature Coefficient Isc	+0.045% / °C
Nominal Operating Cell Temperature	45±2 °C
Operating Temperature	-40 °C~+85 °C
Maximum Series Fuse	25 A

Note : SOLTERRA reserves the right to discontinue, or change at any time, specification or designs without notices and without incurring obligations.

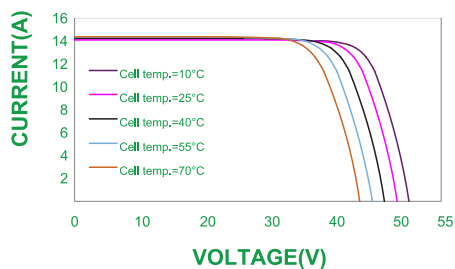
P-V CURVE OF PV MODULE (575W)



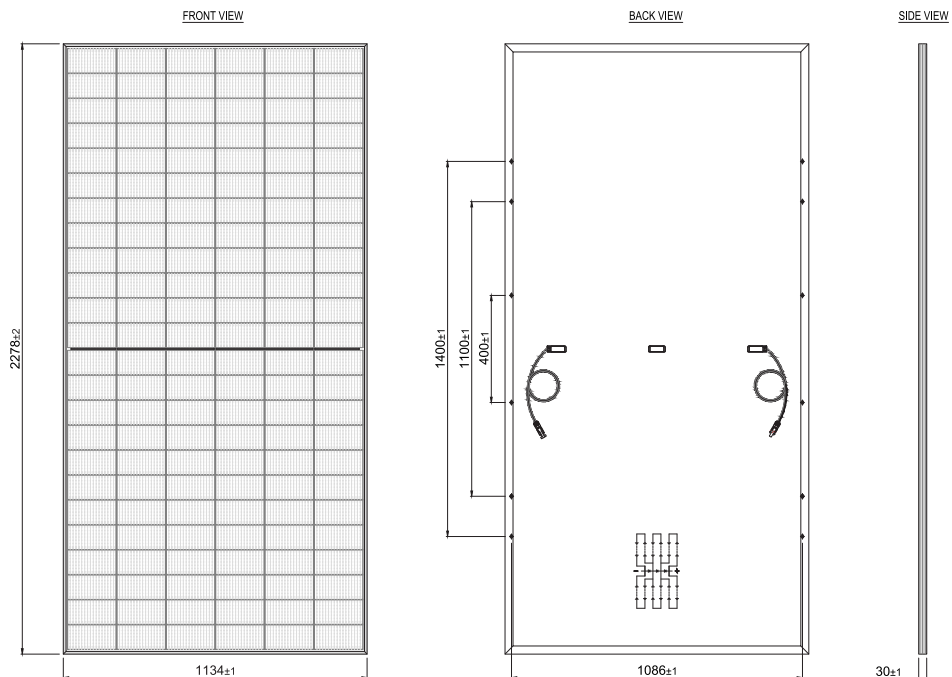
I-V CURVE OF PV MODULE (575W)



I-V CURVE OF PV MODULE (575W)



Dimensions



N TYPE SOLTERRA 580 W

Key Features



Module efficiency up to 22.45

Highest power brings lowest kilowatt-hour cost, highest lifetime generating capacity, simultaneously lowest annual power attenuation



Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress



Low-Light Performance

Excellent power generation performance under low-light conditions with MBB technology



PID Resistant

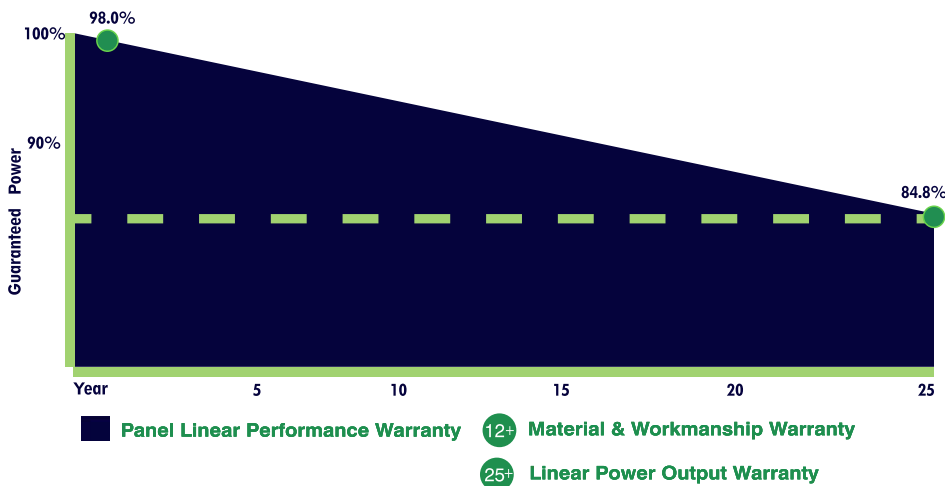
Excellent PID resistance test, and also can be improved to meet highest standards for the particularly harsh environment



Strength and Durability

Design for 5400Pa snow and 2400Pa loads test

Linear Performance Warranty



Maximum Output Wattage **580W**, Tolerance $\pm 5\%$, Highest Efficiency **22.45%**



HOW YOU BENEFIT



HIGH SOLAR YIELD

Innovative half-cell technology with excellent power efficiency that results in more energy production per square metre.



SAFE OPERATION

Quality components ensure safety and long term performance.



VALUE FOR MONEY

Cost-effective panel solution for a high return on your investment.



TRUSTED WARRANTIES

12-Year Solterra Product Warranty for peace of mind, plus, 25-Year Manufacturer's Performance Guarantee.*

Electrical Parameter

Performance		STC	NOCT
Rated Maximum Power (Pmax)	W	580	436
Maximum Power Voltage (Vmp)	V	42.37	39.69
Maximum Power Current (Imp)	A	13.69	10.99
Open Circuit Voltage (Voc)	V	51.02	48.46
Short Circuit Current (Isc)	A	14.47	11.68
Module Efficiency	%	22.45	

*Under Standard Test Condition(STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25°C

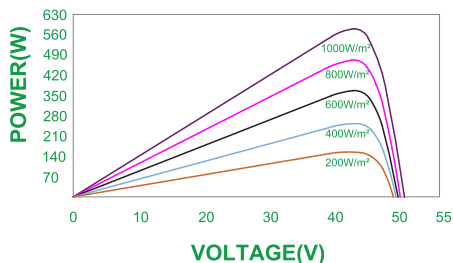
*Under Nominal Operating Cell Temperature (NOCT) irradiance of 800W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1m/s

Specification	
Cell Type	Monocrystalline
Cell Dimensions	182 mm
Cell Quantity	144 pcs
Weight	25.9 kg
Module Dimensions	2278 x 1134 x 30 mm
Cable	2*4mm ² , L= (+)240mm (-)240mm
Front Glass	3.2mm, Low-iron, Misslite, Tempered
Frame	Anodized aluminum alloy
Junction Box	IP68, 3 Diodes 25A, Triple Pole Type
Connector	IP67, MC4 Compatible
Mechanical Load	Front side 5400Pa / Back side 2400Pa

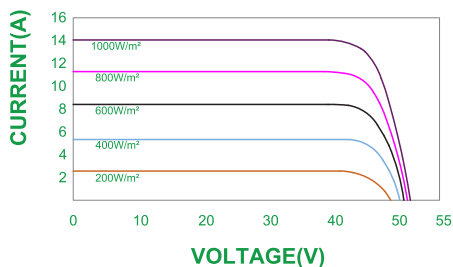
Operating Condition	
Power Tolerance (W)	±5%
Maximum System Voltage (V)	1500 (IEC)
Temperature Coefficient Pmax	-0.29% / °C
Temperature Coefficient Voc	-0.25% / °C
Temperature Coefficient Isc	+0.045% / °C
Nominal Operating Cell Temperature	45±2 °C
Operating Temperature	-40 °C~+85 °C
Maximum Series Fuse	25 A

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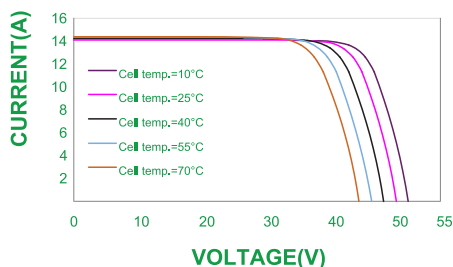
P-V CURVE OF PV MODULE (580W)



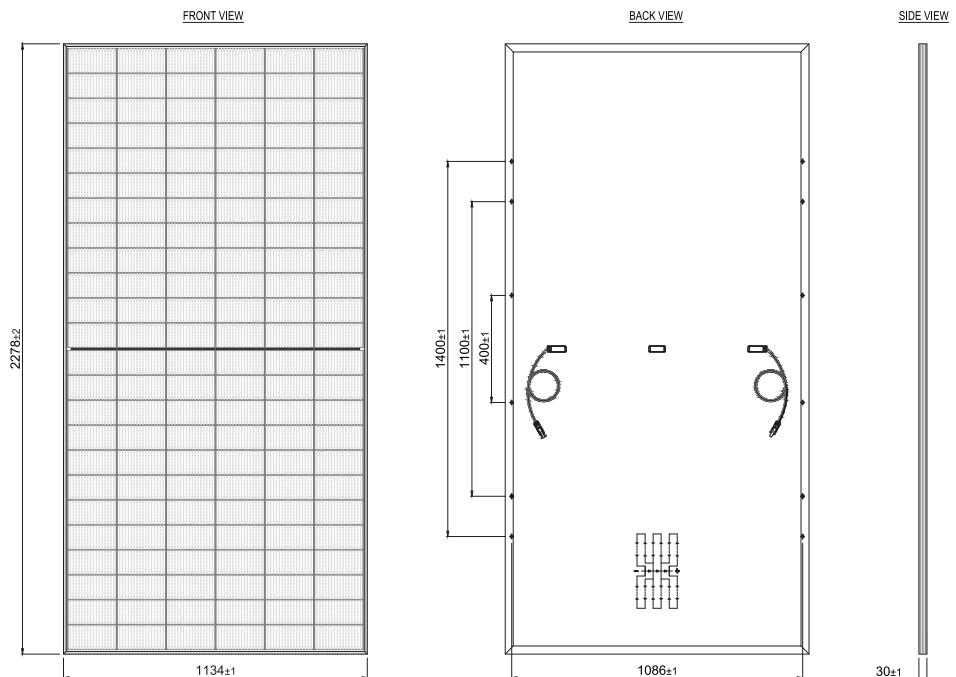
I-V CURVE OF PV MODULE (580W)



I-V CURVE OF PV MODULE (580W)



Dimensions



N TYPE SOLTERRA 585 W

Key Features



Module efficiency up to 22.65

Highest power brings lowest kilowatt-hour cost, highest lifetime generating capacity, simultaneously lowest annual power attenuation



Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress



Low-Light Performance

Excellent power generation performance under low-light conditions with MBB technology



PID Resistant

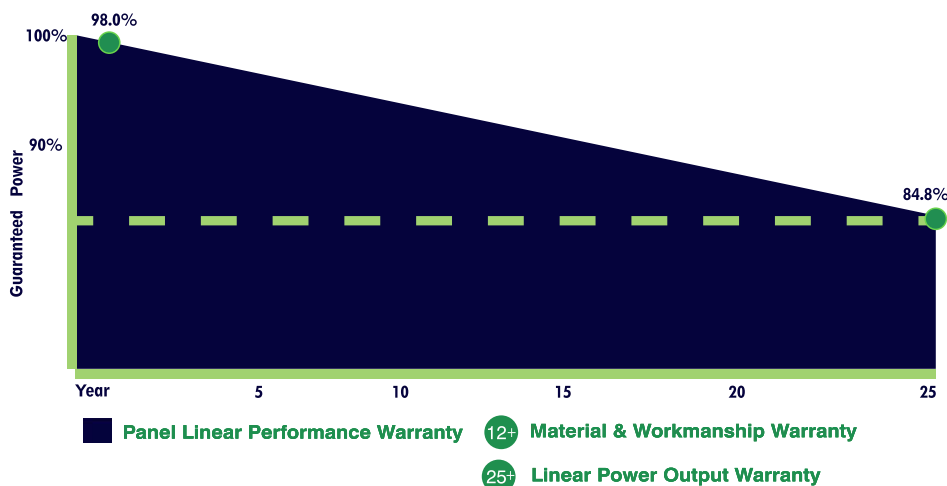
Excellent PID resistance test, and also can be improved to meet highest standards for the particularly harsh environment



Strength and Durability

Design for 5400Pa snow and 2400Pa loads test

Linear Performance Warranty



Maximum Output Wattage **585W**, Tolerance $\pm 5\%$, Highest Efficiency **22.65%**



HOW YOU BENEFIT



HIGH SOLAR YIELD

Innovative half-cell technology with excellent power efficiency that results in more energy production per square metre.



SAFE OPERATION

Quality components ensure safety and long term performance.



VALUE FOR MONEY

Cost-effective panel solution for a high return on your investment.



TRUSTED WARRANTIES

12-Year Solterra Product Warranty for peace of mind, plus, 25-Year Manufacturer's Performance Guarantee.*

Electrical Parameter

Performance		STC	NOCT
Rated Maximum Power (Pmax)	W	585	440
Maximum Power Voltage (Vmp)	V	43.53	39.78
Maximum Power Current (Imp)	A	13.44	11.06
Open Circuit Voltage (Voc)	V	52.47	48.59
Short Circuit Current (Isc)	A	14.07	11.75
Module Efficiency	%	22.65	

*Under Standard Test Condition(STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25°C

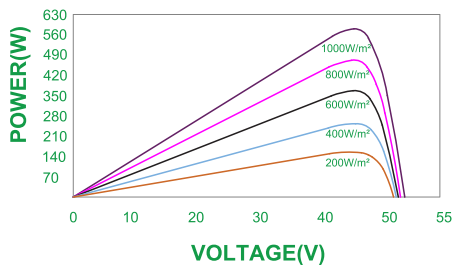
*Under Nominal Operating Cell Temperature (NOCT) irradiance of 800W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1m/s

Specification	
Cell Type	Monocrystalline
Cell Dimensions	182 mm
Cell Quantity	144 pcs
Weight	25.9 kg
Module Dimensions	2278 x 1134 x 30 mm
Cable	2*4mm ² , L= (+)240mm (-)240mm
Front Glass	3.2mm, Low-iron, Misslite, Tempered
Frame	Anodized aluminum alloy
Junction Box	IP68, 3 Diodes 25A, Triple Pole Type
Connector	IP67, MC4 Compatible
Mechanical Load	Front side 5400Pa / Back side 2400Pa

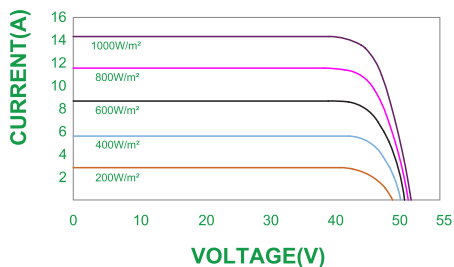
Operating Condition	
Power Tolerance (W)	±5%
Maximum System Voltage (V)	1500 (IEC)
Temperature Coefficient Pmax	-0.29% / °C
Temperature Coefficient Voc	-0.25% / °C
Temperature Coefficient Isc	+0.045% / °C
Nominal Operating Cell Temperature	45±2 °C
Operating Temperature	-40 °C~+85 °C
Maximum Series Fuse	25 A

Note : SOLTERRA reserves the right to discontinue, or charge at any time, specification or designs without notices and without incurring obligations.

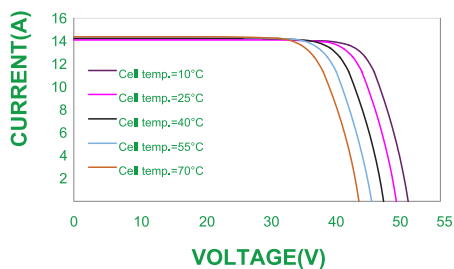
P-V CURVE OF PV MODULE (585W)



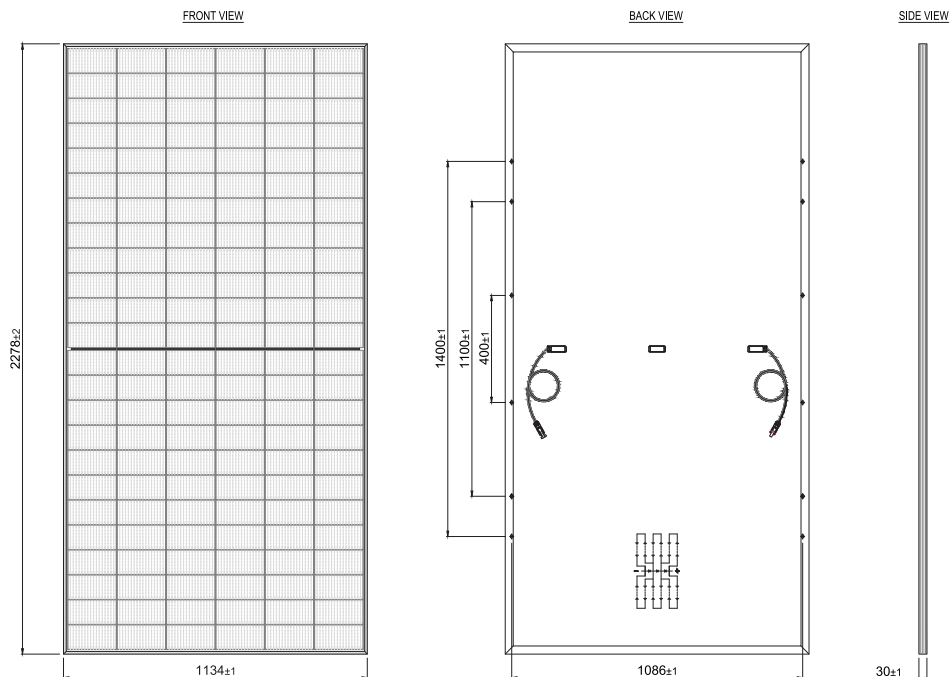
I-V CURVE OF PV MODULE (585W)



I-V CURVE OF PV MODULE (585W)



Dimensions



N TYPE SOLTERRA 590 W

Key Features



Module efficiency up to 22.84

Highest power brings lowest kilowatt-hour cost, highest lifetime generating capacity, simultaneously lowest annual power attenuation



Anti-Crack

Excellent anti-microcracking performance with more balanced interior stress



Low-Light Performance

Excellent power generation performance under low-light conditions with MBB technology



PID Resistant

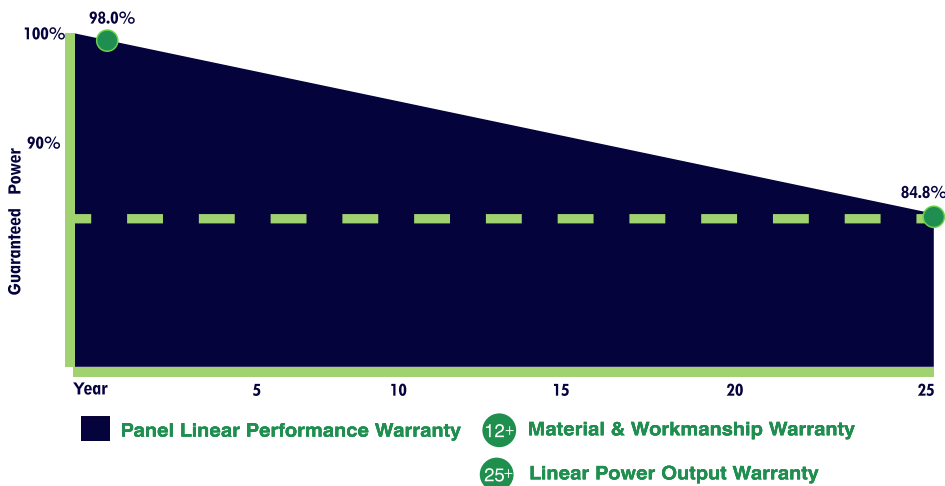
Excellent PID resistance test, and also can be improved to meet highest standards for the particularly harsh environment



Strength and Durability

Design for 5400Pa snow and 2400Pa loads test

Linear Performance Warranty



Maximum Output Wattage **590W**, Tolerance $\pm 5\%$, Highest Efficiency **22.84%**



HOW YOU BENEFIT



HIGH SOLAR YIELD

Innovative half-cell technology with excellent power efficiency that results in more energy production per square metre.



SAFE OPERATION

Quality components ensure safety and long term performance.



VALUE FOR MONEY

Cost-effective panel solution for a high return on your investment.



TRUSTED WARRANTIES

12-Year Solterra Product Warranty for peace of mind, plus, 25-Year Manufacturer's Performance Guarantee.*

Electrical Parameter

Performance		STC	NOCT
Rated Maximum Power (Pmax)	W	590	444
Maximum Power Voltage (Vmp)	V	43.71	39.87
Maximum Power Current (Imp)	A	13.50	11.13
Open Circuit Voltage (Voc)	V	52.63	48.72
Short Circuit Current (Isc)	A	14.13	11.82
Module Efficiency	%	22.84	

*Under Standard Test Condition(STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25°C

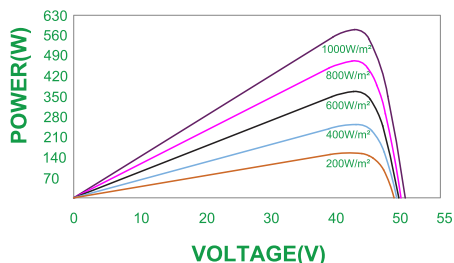
*Under Nominal Operating Cell Temperature (NOCT) irradiance of 800W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1m/s

Specification	
Cell Type	Monocrystalline
Cell Dimensions	182 mm
Cell Quantity	144 pcs
Weight	25.9 kg
Module Dimensions	2278 x 1134 x 30 mm
Cable	2*4mm ² , L= (+)240mm (-)240mm
Front Glass	3.2mm, Low-iron, Misslite, Tempered
Frame	Anodized aluminum alloy
Junction Box	IP68, 3 Diodes 25A, Triple Pole Type
Connector	IP67, MC4 Compatible
Mechanical Load	Front side 5400Pa / Back side 2400Pa

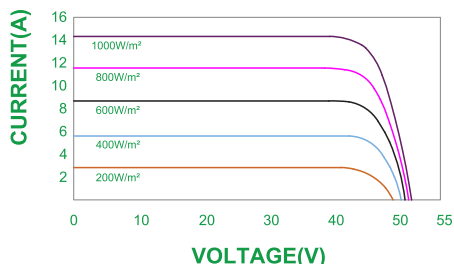
Operating Condition	
Power Tolerance (W)	±5%
Maximum System Voltage (V)	1500 (IEC)
Temperature Coefficient Pmax	-0.29% / °C
Temperature Coefficient Voc	-0.25% / °C
Temperature Coefficient Isc	+0.045% / °C
Nominal Operating Cell Temperature	45±2 °C
Operating Temperature	-40 °C~+85 °C
Maximum Series Fuse	25 A

Note : SOLTERRA reserves the right to discontinue, or charge at any time, specification or designs without notices and without incurring obligations.

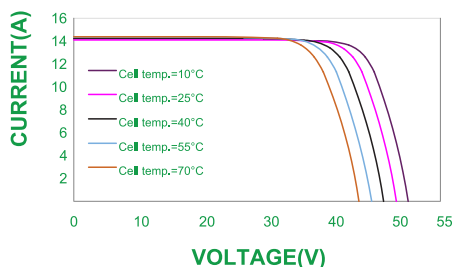
P-V CURVE OF PV MODULE (590W)



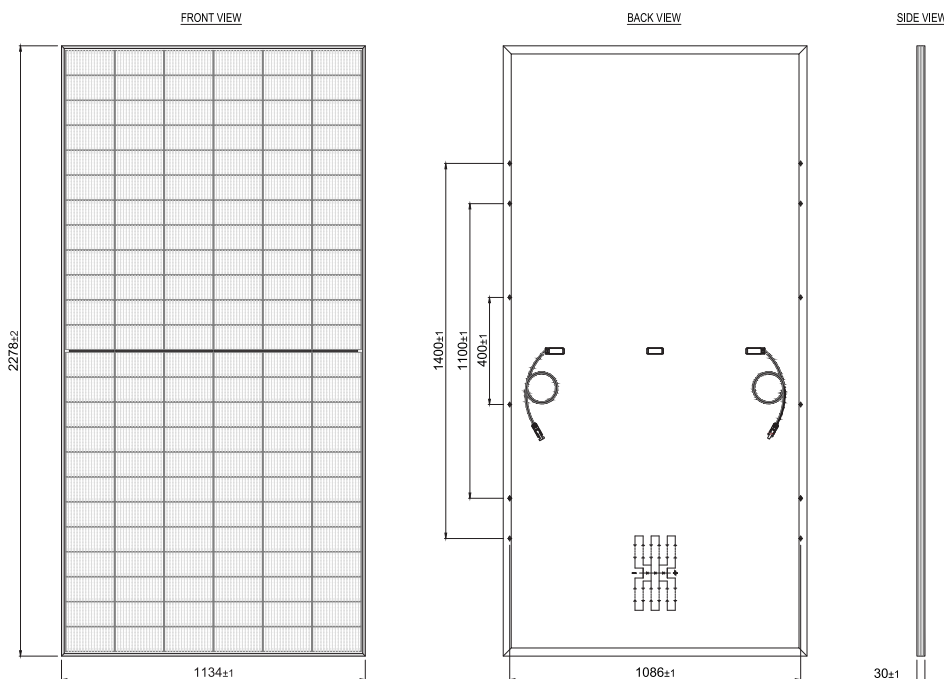
I-V CURVE OF PV MODULE (590W)



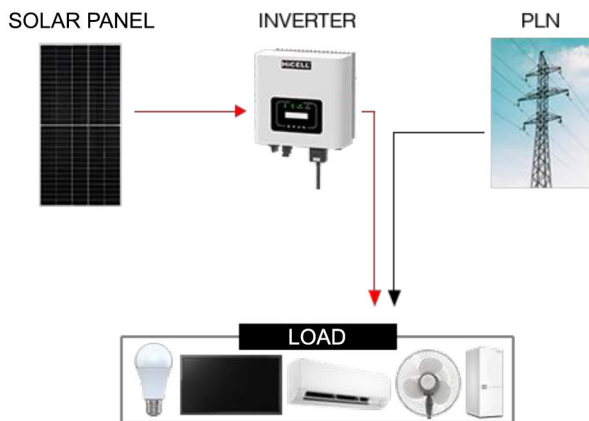
I-V CURVE OF PV MODULE (590W)



Dimensions

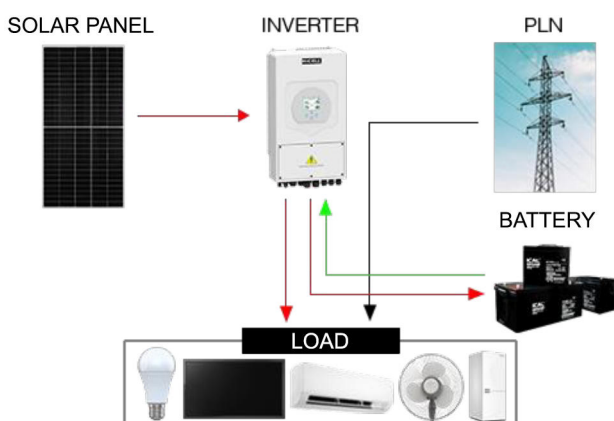


Types of Solar Cell Technology



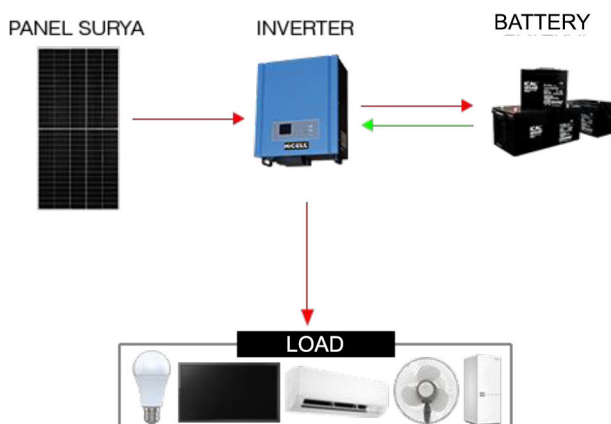
ONGRID Without Battery

- ✓ Connected to the PLN grid
- ✓ Reduces PLN electricity bills
- ✓ If the PLN power goes out, the solar power system also shuts down



ONGRID With Battery (Hybrid)

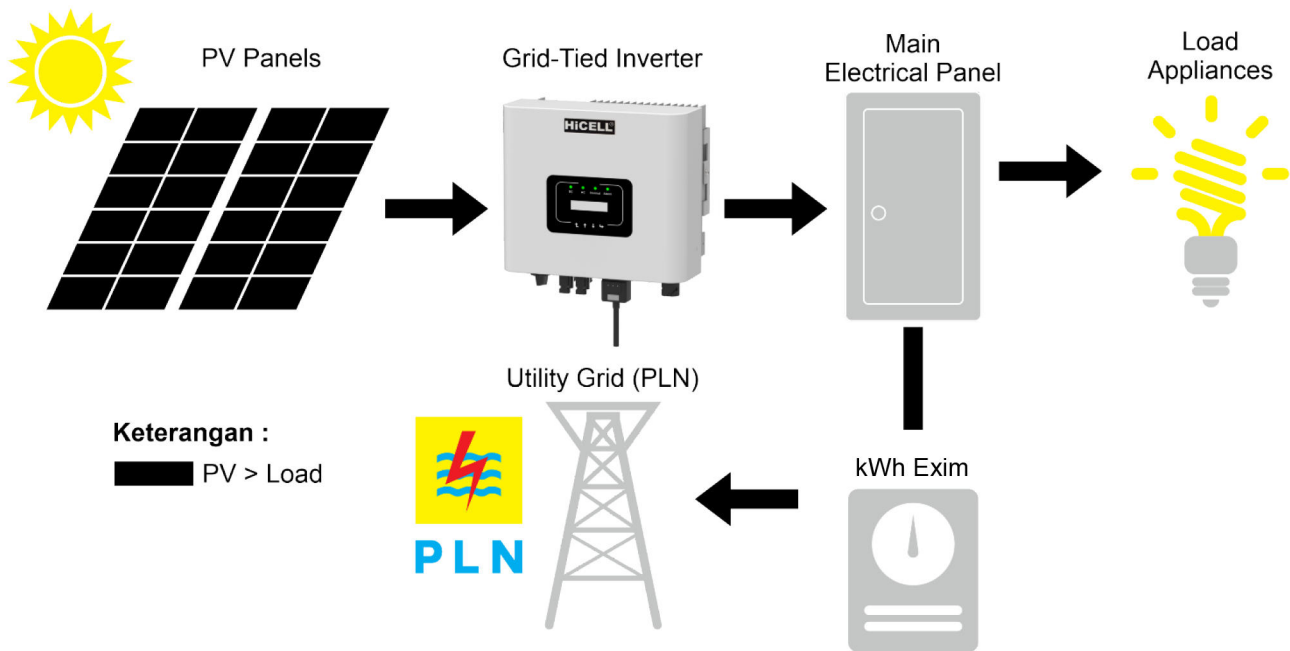
- ✓ Connected to the PLN grid
- ✓ Reduces PLN electricity bills
- ✓ Utilizes battery energy during a power outage



OFFGRID (Stand Alone)

- ✓ The solar power system continues to operate even without PLN
- ✓ The battery serves as the primary electricity source

ONGRID System (Without Battery)

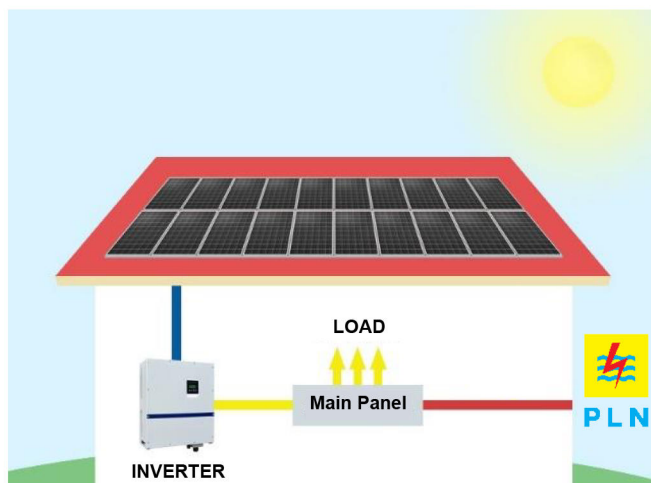


How the On-Grid System Works

1. Solar Panel converts sunlight into DC electricity.
2. Inverter converts DC electricity into AC electricity, which is synchronized to the power grid.
3. AC electricity is sent to the main electrical panel that is directly connected to the grid.
4. Advanced meter measures the energy output from the solar panel for PLN needs.

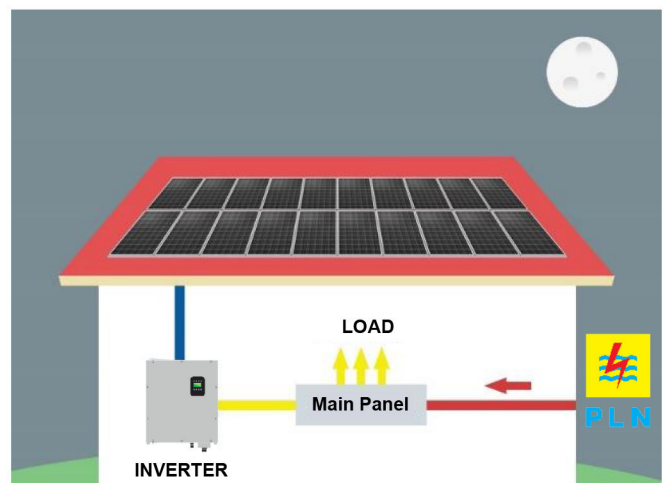
Clear Weather

Excess direct sunlight energy is used by the load and automatically reduces the electricity load.

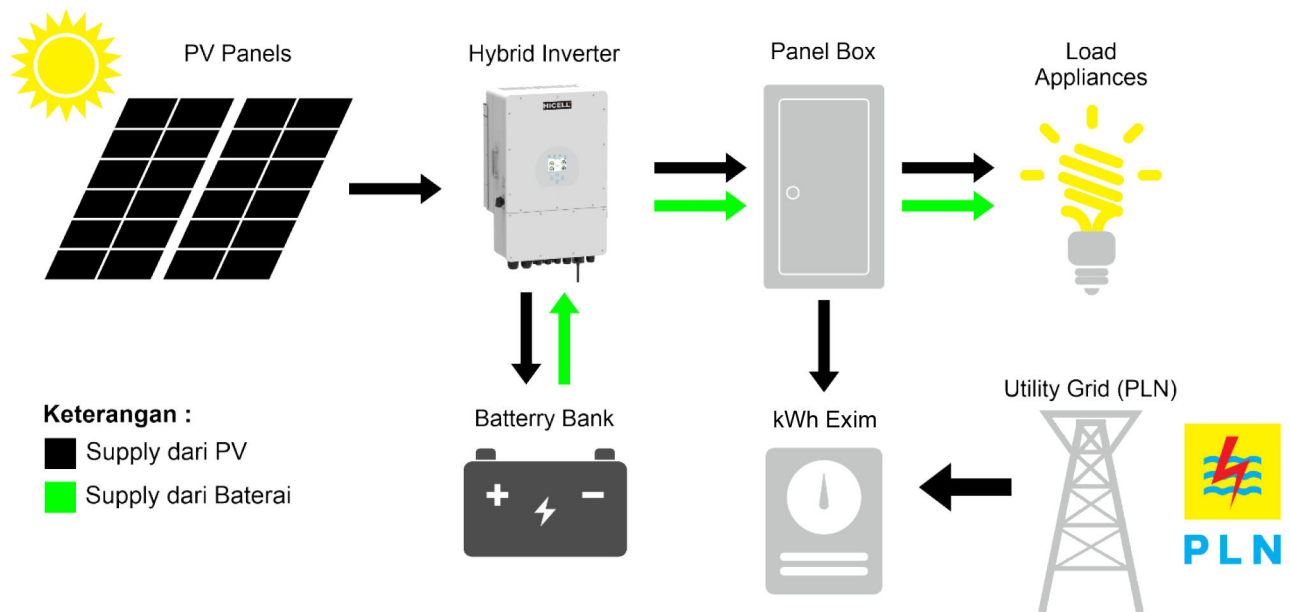


Cloudy Weather / Night time

Solar energy is insufficient, the remaining energy will be imported from the power grid.



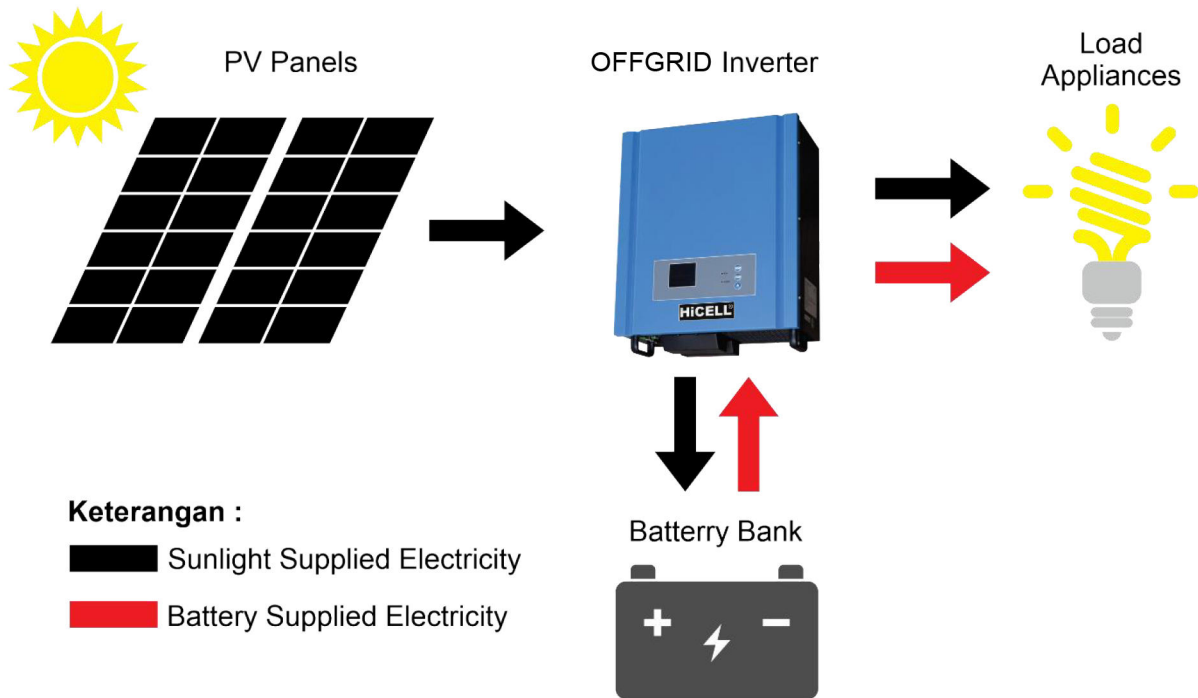
HYBRID System



How the Hybrid System Works

1. Solar Panel converts sunlight into DC electricity.
2. Inverter converts DC electricity into AC electricity.
3. Inverter sends excess electricity produced by the solar panel to the battery.
4. AC electricity is sent to the main electrical panel that is directly connected to the grid.

OFFGRID System (Standalone)



How the Offgrid System Works

1. Solar panels convert sunlight into DC electricity.
2. The Solar Charge Controller limits the addition or withdrawal of electricity from the battery to prevent overvoltage or overcharging that can reduce battery life and also serves as a safety device.
3. The off-grid PV system uses deep cycle batteries that can supply power in large amounts for both short and long periods.
4. The inverter converts the DC electricity from the solar panels into AC electricity for everyday use.

ONGRID Inverter

String Inverter & Microinverter



Inverter is an electrical converter that converts DC (Direct Current) into AC (Alternating Current), the result of the AC current has a certain voltage and frequency according to the load requirements.

The use of inverters can be found in various electronic equipment, ranging from small ones such as computers to PLTS systems that have a higher electric current.



ONGRID String Inverter 3 kW – 7,5 kW

1 phase

Feature Highlights:

- ✓ Wifi Plugin (included)
- ✓ Up to 2 MPPT Module Level Monitoring
- ✓ IP65 Protection Degree
- ✓ Zero Export Application (optional)
- ✓ Wide Output Range Voltage



ONGRID String Inverter 6 kW - 30 kW

3 phase

Feature Highlights:

- ✓ Wifi Plugin (included)
- ✓ 2 MPPT Module Level Monitoring
- ✓ IP65 Protection Degree
- ✓ Zero Export Application (optional)
- ✓ Wide Output Range Voltage



ONGRID String Inverter 50 kW – 60 kW

3 phase

Feature Highlights:

- ✓ Wifi Plugin (included)
- ✓ 4 MPPT Module Level Monitoring
- ✓ IP65 Protection Degree
- ✓ Zero Export Application (optional)
- ✓ Wide Output Range Voltage



ONGRID String Inverter 80 kW – 100 kW

3 phase

Feature Highlights:

- ✓ Wifi Plugin (included)
- ✓ 6 MPPT Module Level Monitoring
- ✓ IP65 Protection Degree
- ✓ Zero Export Application (optional)
- ✓ Wide Output Range Voltage



ONGRID Microinverter 1 kW

1 phase

Feature Highlights:

- ✓ Wifi Plugin (included)
- ✓ 2 MPPT Module Level Monitoring
- ✓ IP67 Protection Degree
- ✓ Easy Cable Management



ONGRID Microinverter 2 kW

1 phase

Feature Highlights:

- ✓ Wifi Plugin (included)
- ✓ 4 MPPT Module Level Monitoring
- ✓ IP67 Protection Degree
- ✓ Max. DC input current of 13A, adapt to 550W PV module
- ✓ Wide Output Range Voltage
- ✓ Easy Cable Management

ONGRID String Inverter, 1 Phase 3 kW – 7,5 kW

Model	SI-3K-1PH	SI-4K-1PH	SI-5K-1PH	SI-7.5K-1PH
Input Side				
Max. DC Input Power (kW)	3.9	5.2	6.5	9.8
Max. DC Input Voltage (V)		550		
Start-up DC Input Voltage (V)		80		
MPPT Operating Range (V)		70~500		
Max. DC Input Current (A)	13	13+13	13+13	13+26
Max. Short Circuit Current (A)	19.5	19.5+19.5		19.5+39
Number of MPPT / Strings per MPPT	1 / 1	2 / 1		2 / 1+2
Output Side				
Rated Output Power (kW)	3	4	5	7.5
Apparent Power (KVA)	3	4	5	7.5
Nominal Output Voltage / Range (V)	L/N/PE 220V/187V-242V, 230V/ 195.5V-253V (Optional)			
Rated Grid Frequency (Hz)	50 / 60 (Optional)			
Operating Phase	Single phase			
Rated AC Grid Output Current (A)	13	17.4	21.7	32.6
Max. AC Output Current (A)	14.3	19.1	23.9	35.9
Output Power Factor	0.8 leading to 0.8 lagging			
Grid Current THD	<3%			
DC Injection Current (mA)	<0.5%			
Grid Frequency Range	47~52 or 57~62 (Optional)			
Efficiency				
Max. Efficiency		97.5%		97.7%
Euro Efficiency		97.3%		97.5%
MPPT Efficiency		>99%		
Protection				
DC Reverse-Polarity Protection		Yes		
AC Short Circuit Protection		Yes		
AC Output Overcurrent Protection		Yes		
Output Overvoltage Protection		Yes		
Insulation Resistance Protection		Yes		
Ground Fault Monitoring		Yes		
Anti-islanding Protection		Yes		
Temperature Protection		Yes		
Integrated DC Switch		Yes		
Remote software upload		Yes		
Remote change of operating parameters		Yes		
Surge protection		DC Type II / AC Type II		
General Data				
Size (mm) (WxHxD)	280×272.5×184	330×323×190		330×410×198.5
Weight (kg)	4.8	7.5		15.7
Topology		Transformerless		
Internal Consumption		<1W (Night)		
Running Temperature		-25~65°C, >45°C derating		
Ingress Protection		IP65		
Noise Emission (Typical)		<25 dB		
Cooling Concept		Natural cooling		
Max. Operating Altitude Without Derating		2000m		
Warranty		5 years		
Grid Connection Standard	CEI 0-21, VDE-AR-N 4105, NRS 097, IEC 62116, IEC 61727, G99, G98, VDE 0126-1-1, RD 1699, C10-11			
Operating Surroundings Humidity	0-100%			
Safety EMC / Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2			
Features				
DC Connection	MC-4 mateable			
AC Connection	IP65 rated plug			
Display	LCD1602			
Interface	RS485/RS232/Wifi/LAN			

ONGRID String Inverter, 3 Phase 6 kW – 30 kW

Model	SI-6K-3PH	SI-10K-3PH	SI-15K-3PH	SI-20K-3PH	SI-30K-3PH
Input Side					
Max. DC Input Power (kW)	7.8	13	19.5	26	39
Max. DC Input Voltage (V)	1000				
Start-up DC Input Voltage (V)	140		250		
MPPT Operating Range (V)	120~850		200~850		
Max. DC Input Current (A)	13+13		13+26	32+32	40+40
Max. Short Circuit Current (A)	19.5+19.5		19.5+39	48+48	60+60
Number of MPPT / Strings per MPPT	2 / 1		2/1+2	2 / 2	2 / 3
Output Side					
Rated Output Power (kW)	6	10	15	20	30
Apparent Power (KVA)	6	10	15	20	30
Nominal Output Voltage / Range (V)	3L/N/PE 380V/323V-418V, 400V/340V-440V				
Rated Grid Frequency (Hz)	50 / 60 (Optional)				
Operating Phase	Three phase				
Rated AC Grid Output Current (A)	8.7	14.5	21.7	29	43.5
Max. AC Output Current (A)	9.6	15.9	23.9	31.9	47.9
Output Power Factor	0.8 leading to 0.8 lagging				
Grid Current THD	<3%				
DC Injection Current (mA)	<0.5%				
Grid Frequency Range	47~52 or 57~62 (Optional)				
Efficiency					
Max. Efficiency	98.3%		98.5%	98.6%	
Euro Efficiency	97.5%			97.8%	
MPPT Efficiency	>99%				
Protection					
DC Reverse-Polarity Protection	Yes				
AC Short Circuit Protection	Yes				
AC Output Overcurrent Protection	Yes				
Output Overvoltage Protection	Yes				
Insulation Resistance Protection	Yes				
Ground Fault Monitoring	Yes				
Anti-islanding Protection	Yes				
Temperature Protection	Yes				
Integrated DC Switch	Yes				
Remote software upload	Yes				
Remote change of operating parameters	Yes				
Surge protection	DC Type II / AC Type II				
General Data					
Size (mm) (WxHxD)	330×457×185		333x472x202	330×508×206	362×577×215
Weight (kg)	10		15	20.8	25.5
Topology	Transformerless				
Internal Consumption	<1W (Night)				
Running Temperature	-25~65°C, >45°C derating				
Ingress Protection	IP65				
Noise Emission (Typical)	<25 dB			<45 dB	
Cooling Concept	Natural cooling			Smart cooling	
Max. Operating Altitude Without Derating	2000m				
Warranty	5 years				
Grid Connection Standard	CEI 0-21, VDE-AR-N 4105, NRS 097, IEC 62116, IEC 61727, G99, G98, VDE 0126-1-1, RD 1699, C10-11				
Operating Surroundings Humidity	0-100%				
Safety EMC / Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				
Features					
DC Connection	MC-4 mateable				
AC Connection	IP65 rated plug				
Display	LCD1602				
Interface	RS485/RS232/Wifi/LAN				

Note : Model, varian, harga dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

ONGRID String Inverter, 3 Phase 50 kW – 100 kW

Model	SI-50K-3PH	SI-60K-3PH	SI-70K-3PH	SI-80K-3PH	SI-100K-3PH
Input Side					
Max. DC Input Power (kW)	65	78	91	104	150
Max. DC Input Voltage (V)	1000				
Start-up DC Input Voltage (V)	250				
MPPT Operating Range (V)	200~850				
Max. DC Input Current (A)	40+40+40+40				40+40+40+40+40+40
Max. Short Circuit Current (A)	60+60+60+60				60+60+60+60+60+60
Number of MPPT / Strings per MPPT	4 / 3		4 / 4		6 / 4
Output Side					
Rated Output Power (kW)	50	60	70	80	100
Apparent Power (VA)	50	60	70	80	100
Nominal Output Voltage / Range (V)	3L/N/PE 380V/323V-418V, 400V/340V-440V				
Rated Grid Frequency (Hz)	50 / 60 (Optional)				
Operating Phase	Three phase				
Rated AC Grid Output Current (A)	72.4	87	101.5	115.9	144.9
Max. AC Output Current (A)	79.7	95.7	111.6	127.5	159.4
Output Power Factor	0.8 leading to 0.8 lagging default 1				
Grid Current THD	<3%				
DC Injection Current (mA)	<0.5%				
Grid Frequency Range	47~52 or 57~62 (Optional)				
Efficiency					
Max. Efficiency	98.7%				
Euro Efficiency	98%		98.3%		
MPPT Efficiency	>99%				
Protection					
DC Reverse-Polarity Protection	Yes				
AC Short Circuit Protection	Yes				
AC Output Overcurrent Protection	Yes				
Output Overvoltage Protection	Yes				
Insulation Resistance Protection	Yes				
Ground Fault Monitoring	Yes				
Anti-islanding Protection	Yes				
Temperature Protection	Yes				
Integrated DC Switch	Yes				
Remote software upload	Yes				
Remote change of operating parameters	Yes				
Surge protection	DC Type II / AC Type II				
General Data					
Size (mm) (WxHxD)	647.5×537×303.5		838×568×323		
Weight (kg)	44.5		73.7		
Topology	Transformerless				
Internal Consumption	<1W (Night)				
Running Temperature	-25~65°C, >45°C derating				
Ingress Protection	IP65				
Noise Emission (Typical)	<45 dB		<55 dB		
Cooling Concept	Smart cooling				
Max. Operating Altitude Without Derating	2000m				
Warranty	5 years				
Grid Connection Standard	CEI 0-21, VDE-AR-N 4105, NRS 097, IEC 62116, IEC 61727, G99, G98, VDE 0126-1-1, RD 1699, C10-11				
Operating Surroundings Humidity	0-100%				
Safety EMC / Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2				
Features					
DC Connection	MC-4 mateable				
AC Connection	IP65 rated plug				
Display	LCD1602				
Interface	RS485/RS232/Wifi/LAN				



ONGRID String Inverter

40kW **3 phase**



Feature Highlights:

- ✓ Wifi Plugin (included)
- ✓ 3 MPPT Module Level Monitoring
- ✓ IP65 Protection Degree
- ✓ Zero Export Application (optional)
- ✓ Wide Output Range Voltage

Model	SI-40K-3PH
Input Side	
Max. DC Input Power (kW)	52
Max. DC Input Voltage (V)	1000
Start-up DC Input Voltage (V)	250
MPPT Operating Range (V)	200~850
Max. DC Input Current (A)	40+40+40
Max. Short Circuit Current (A)	60+60+60
Number of MPPT / Strings per MPPT	3 / 3
Output Side	
Rated Output Power (kW)	40
Max. Active Power (kW)	44
Nominal Output Voltage / Range (V)	3L/N/PE 380V/323V-418V, 400V/340V-440V
Rated Grid Frequency (Hz)	50 / 60 (Optional)
Operating Phase	Three phase
Rated AC Grid Output Current (A)	58
Max. AC Output Current (A)	63.8
Output Power Factor	0.8 leading to 0.8 lagging
Grid Current THD	<3%
DC Injection Current (mA)	<0.5%
Grid Frequency Range	47~52 or 57~62 (Optional)
Efficiency	
Max. Efficiency	98.7%
Euro Efficiency	98%
MPPT Efficiency	>99%

ONGRID String Inverter, 3 Phase 40 kW

Model	SI-40K-3PH
Protection	
DC Reverse-Polarity Protection	Yes
AC Short Circuit Protection	Yes
AC Output Overcurrent Protection	Yes
Output Overvoltage Protection	Yes
Insulation Resistance Protection	Yes
Ground Fault Monitoring	Yes
Anti-islanding Protection	Yes
Temperature Protection	Yes
Integrated DC Switch	Yes
Remote software upload	Yes
Remote change of operating parameters	Yes
Surge protection	DC Type II / AC Type II
General Data	
Size (mm) (WxHxD)	647.5×537×303.5
Weight (kg)	44.5
Topology	Transformerless
Internal Consumption	<1W (Night)
Running Temperature	-25~65°C, >45°C derating
Ingress Protection	IP65
Noise Emission (Typical)	<45 dB
Cooling Concept	Smart Cooling
Max. Operating Altitude Without Derating	2000m
Warranty	5 years
Grid Connection Standard	CEI 0-21, VDE-AR-N 4105, NRS 097, IEC 62116, IEC 61727, G99, G98, VDE 0126-1-1, RD 1699, C10-11
Operating Surroundings Humidity	0-100%
Safety EMC / Standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2
Features	
DC Connection	MC-4 mateable
AC Connection	IP65 rated plug
Display	LCD 240 × 160
Interface	RS485/RS232/Wifi/LAN

ONGRID Microinverter, 1Phase 1 kW – 2 kW

Model	MI-1000	MI-2000
Input Data (DC)		
Recommended input Power (STC)	210~600W (2 Pieces)	210~600W (4 Pieces)
Maximum input DC Voltage	60V	
MPPT Voltage Range	25~55V	
Operating DC Voltage Range	20~60V	
Max. DC Short Circuit Current	19.5A×2	19.5A×4
Max. input Current	13A×2	13A×4
Number of MPPT / Strings per MPPT	2 / 1	4 / 1
Output Data (AC)		
Rated output Power	1000 VA	2000 VA
Rated output Current	4.4A	8.7A
Nominal Voltage / Range (this may vary with grid standards)	220V/187~242V	220V/176~242V
Nominal Frequency / Range	50 / 60Hz	
Extended Frequency / Range	47.5~51.5Hz	
Power Factor	>0.99	
Maximum units per branch	5	3
Efficiency		
CEC Weighted Efficiency	95%	
Peak Inverter Efficiency	96.5%	
Static MPPT Efficiency	99%	
Night Time Power Consumption	50mW	
Mechanical Data		
Ambient Temperature Range	-40~65°C	
Size (mm) (Without mounting bracket and cable) (W×H×D)	212×230×40	267×300×42
Weight (kg)	3.15	5.2
Cooling Concept	Natural cooling	
Enclosure Environmental Rating	IP67	
Features		
Compatibility	Compatible with 60~72 cell PV modules	
Communication	Power line / WIFI / Zigbee	
Warranty	10 years	

Note : Model, varian, harga dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

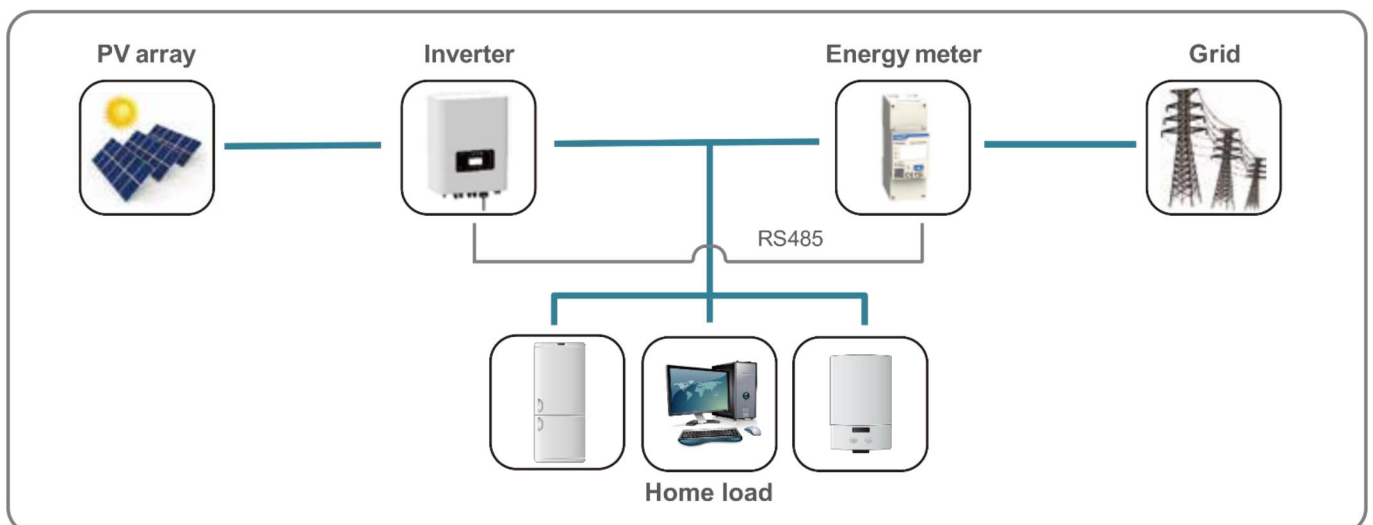
Energi Meter



Feature Highlights:

- ✓ 1 Phase & 3 Phase Input
- ✓ Module DIN rail mounted
- ✓ Backlit display
- ✓ Simple menu navigation
- ✓ Built in Modbus and pulsed outputs or optional Mbus interface
- ✓ Four kWh measurement modes for PV and battery storage

Application Diagram



Energy Meter

Model	EASTRON SDM120CT-M	EASTRON SDM 630-Modbus V2	EASTRON SDM 630 MCT
Battery Data			
Max. direct current measurement (A)	5-9999A	100A	1-9999A (with CT)
Direct Voltage measurement between phases	/	147-480V	50-950V
			50-550V
Direct measurement between phase and neutral	176V-276V	85~480V	20-550V
Accuracy Class			
Active power	Class1		
Reactive power	Class2		
Power Supply			
Power consumption	≤2W / 10VA		
AC power supply input voltage	176~276V	85-480V	85-275V / 120-380V
AC power supply input frequency	50/60Hz ±10%	50/60Hz ±2%	
Generation Specifications			
Dimenstions (L/H/W) in mm 36×85×66	18×118×64	72×100×66	72×94.5×65
Weight (kg) 0.21	0.21	0.42	0.29
Mounting options	DIN Rail	DIN Rail	
Degree of protection	IP51	IP51	
Display	LCD	LCD	
Communication interface	RS485	RS485	
Max. number of devices to connect	64	32	
Regulated working temperature range	-25℃~+55℃		
Limited working temperature range	/		
Humidity	0~95%, non-Condensing		
Warranty	1 year		

Note : Model, varian, harga dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

HYBRID Inverter

1 phase



HYBRID Inverter 3,6 kW – 5 kW

1 phase

Feature Highlights:

- ✓ 6 time periods for battery charging/discharging
- ✓ IP65 Protection Degree
- ✓ DC couple & AC couple to retrofit existing solar system
- ✓ Max. charging/discharging current of 135A
- ✓ Support storing energy from diesel generator
- ✓ Frequency droop control, Max.16pcs parallel

Model	HI-3.6K-1PH	HI-5K-1PH
Battery Input Data		
Battery Type	Lead-acid or Lithium-ion	
Battery Voltage Range (V)	40~60	
Max. Charging Current (A)	90	120
Max. Discharging Current (A)	90	120
Charging Curve	3 Stages / Equalization	
External Temperature Sensor	Yes	
Charging Strategy for Li-Ion Battery	Self-adaption to BMS	
PV String Input Data		
Max. DC Input Power (W)	4680	6500
PV Input Voltage (V)	370 (125~500)	
MPPT Range (V)	150~425	
Full Load DC Voltage Range (V)	300~425	
Start-up Voltage (V)	125	
PV Input Current (A)	13+13	
Max. PV ISC (A)	17+17	
No.of MPPT Trackers	2	
No.of Strings Per MPPT Tracker	1+1	

Note : Model, varian, harga dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

HYBRID inverter, 1 Phase 3,6 kW – 5 kW

Model	HI-3.6K-1PH	HI-5K-1PH
AC Output Data		
Rated AC Output and UPS Power (W)	3600	5000
Apparent Power (VA)	3600	5000
Peak Power (off grid)	2 times of rated power, 10 S	
AC Output Rated Current (A)	15.7	22.7
Max. AC Current (A)	18	25
Max. Continuous AC Passthrough (A)	35	
Power Factor	0.8 leading to 0.8 lagging	
Output Frequency and Voltage	50/60Hz; 220/230 Vac (single phase)	
Grid Type	Single Phase	
Current Harmonic Distortion	THD<3% (Linear load<1.5%)	
Efficiency		
Max. Efficiency	97.60%	
Euro Efficiency	96.50%	
MPPT Efficiency	99.90%	
Protection		
PV Input Lightning Protection	Integrated	
Anti-islanding Protection	Integrated	
PV String Input Reverse Polarity Protection	Integrated	
Insulation Resistor Detection	Integrated	
Residual Current Monitoring Unit	Integrated	
Output Over Current Protection	Integrated	
Output Shorted Protection	Integrated	
Output Over Voltage Protection	Integrated	
Surge protection	DC Type II / AC Type II	
General Data		
Operating Temperature Range (°C)	-45~60°C, >45°C Derating	
Cooling	Natural cooling	
Noise (dB)	<30 dB	
Communication with BMS	RS485; CAN	
Weight (kg)	20.5	
Size (mm) (WxHxD)	330×580×232	
Protection Degree	IP65	
Installation Style	Wall-mounted	
Warranty	5 years	

Note : Model, varian, harga dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

HYBRID inverter, 3 Phase 8 kW – 10 kW

Model	HI-8K-3PH	HI-10K-3PH
Battery Input Data		
Battery Type	Lead-acid or Li-Ion	
Battery Voltage Range (V)	40~60	
Max. Charging Current (A)	190	210
Max. Discharging Current (A)	190	210
Charging Curve	3 Stages / Equalization	
External Temperature Sensor	Yes	
Charging Strategy for Li-Ion Battery	Self-adaption to BMS	
PV String Input Data		
Max. DC Input Power (W)	10400	13000
Rated PV Input Voltage (V)	550	
Max. PV Input Voltage (V)	800	
Min. PV Input Voltage (V)	150	
Start-up Voltage (V)	160	
MPPT Range (V)	200-650	
Full Load DC Voltage Range (V)	350-650	
PV Input Current (A)	13+13	34+17
Max. PV ISC (A)	17+17	34+17
Number of MPPT / Strings per MPPT	2/1+1	2/2+1
AC Output Data		
Rated AC Output and UPS Power (W)	8000	10000
Apparent Power (VA)	8000	10000
Peak Power (off grid)	2 times of rated power, 10 S	
AC Output Rated Current (A)	12.1	15.2/14.5
Max. AC Current (A)	18.2	22.7/21.7
Max. Continuous AC Passthrough (A)	45	
Output Frequency and Voltage	50/60Hz; 220/380, 230/400Vac	
Grid Type	Three Phase	
Current Harmonic Distortion	THD<3% (Linear load<1.5%)	
Efficiency		
Max. Efficiency	97.60%	
Euro Efficiency	97.00%	
MPPT Efficiency	99.90%	
Protection		
PV Input Lightning Protection	Integrated	
Anti-islanding Protection	Integrated	
PV String Input Reverse Polarity Protection	Integrated	
Insulation Resistor Detection	Integrated	
Residual Current Monitoring Unit	Integrated	
Output Over Current Protection	Integrated	
Output Shorted Protection	Integrated	
Output Over Voltage Protection	Integrated	
Surge protection	DC Type II / AC Type II	
General Data		
Operating Temperature Range (°C)	-45~60°C, >45°C Derating	
Cooling	Smart cooling	
Noise (dB)	<45 dB	
Communication with BMS	RS485; CAN	
Weight (kg)	33.6	
Size (mm) (WxHxD)	422×699.2×279	
Protection Degree	IP65	
Installation Style	Wall-mounted	
Warranty	5 years	

Note : Model, varian, harga dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

OFFGRID Inverter

500W – 2000W



Features :

- ✓ High reliability: adopt high-speed DSP control system, combine advanced SPWM technology and high-speed power MOS.
 - ✓ Operating mode selectable: energy storage priority or power supply priority.
 - ✓ No PID attenuation damage for solar panels to ensure their service life.
 - ✓ Flexible battery management system: auto switch three-stage charging mode shortens recharge time; wide charging current is selectable according to configured battery; flexible DOD (Depth of discharge) is settable to meet more applications.
-
- ✓ AC input with effective online synchronous stabilizing technology.
 - ✓ Broad MPPT input voltage range.
 - ✓ No-load auto shutdown function (optional).
 - ✓ Settable frequency (50Hz / 60Hz).
 - ✓ Auto Power-On/Off function; real-time monitoring, test and intelligent startup / shutdown by RS232 or USB interface communicating with PC; remote monitoring by optional SNMP networks.

Specification :

MODEL	OFI-0.5-1PH	OFI-1-1PH	OFI-3-1PH
PV INPUT			
Max. input voltage (VoC)	60 Vdc	100 Vdc	150 Vdc
Optimum operating voltage (Vmp)	16~48Vdc	33~80 Vdc	65~120 Vdc
Max. charging current	50 A	50 A	65 A
Recommended PV configuration	700 W	1400 W	3500 W
AC INPUT			
AC input range (bypass mode)	0~132 Vac / 0~264 Vac (high-end limit)		
Rated input voltage	100 Vac / 110 Vac / 115 Vac / 120 Vac or 200 Vac / 220 Vac / 230 Vac / 240 Vac $\pm$ 25% (2500 W is only for 110 Vac; 3000 W is only for 220 Vac)		
Rated input frequency	50 Hz / 60 Hz $\pm$ 5% / 10% / 15% (settable)		
Max. charging current	20 A		30 A

MODEL		OFI-0.5-1PH	OFI-1-1PH	OFI-3-1PH
INVERTER OUTPUT				
Output voltage		100 Vac / 110 Vac / 115 Vac / 120 Vac ± 2% or 200 Vac / 220 Vac / 230 Vac / 240 Vac ± 2% (settable) (2500 W is only for 110 Vac; 3000 W is only for 220 Vac)		
Rated output power		500 W	1000 W	3000 W
Power factor		1	1	1
Rated output frequency		50 Hz / 60 Hz ± 1% (inverter mode)		
Waveform		Sinusoidal		
Max. efficiency (resistive load)		≥ 78 %	≥ 82 %	≥ 85 %
Sleep mode		Settable (< 3% load) access in ≤ 2min		
Output voltage harmonic		≤ 3% (linear load)		
BATTERIES				
Battery voltage		12 Vdc	24 Vdc	48 Vdc
Battery type		VRLA battery (default)		
Charging current		5~50 A (settable)		5~65 A (settable)
DOD	Settable	10.5~13.2 Vdc	21~26.4 Vdc	42~52.8 Vdc
	Default	12 Vdc	24 Vdc	48 Vdc
EOD	Settable	9.6~12 Vdc	19.2~24 Vdc	38.4~48 Vdc
	Default	10.5 Vdc (default)	21 Vdc	42 Vdc
Equalizing	Settable	13.8~15 Vdc	27.6~30 Vdc	55.2~60 Vdc
charge voltage	Default	14.1 Vdc	28.2 Vdc	56.4 Vdc
Floating	Settable	13.2~13.8 Vdc	26.4~27.6 Vdc	52.8~55.2 Vdc
charge voltage	Default	13.6 Vdc	27.2 Vdc	54.5 Vdc
Restoration point of overvoltage		15.5 Vdc	31 Vdc	62 Vdc
OTHERS				
Transfer time		3~6 ms (typical); ≤ 10 ms (max.)		
Overload (linear load)		110% for 2 min, 125% for 1 min, 150% for 10s, 180% for 1s		
ECO mode (optional)		Load < 3% (settable, Yes / No settable)		
No-load shutdown (optional)		Load < 3%~50%, Yes / No settable		
Load adaptation		Inductive load: ≤ 30%; capacitive load: ≤ 50%; resistive load: ≤ 100%		
Protections		Output overload - short- circuit - overdischarge - overcharge - battery reverse polarity		
		- PV reverse polarity		
Lightning protection		Class III		
Communications		RS232 / USB / RS485 ; SNMP / Wi-Fi / GPRS (optional)		
Standards		IEC62040, IEC / EN 61000		
IP rating		IP21		
Display		LCD & LED		
Operating temperature		0° ~40°C		
Relative humidity		≤ 93%		
Noise		< 50 dB		
Dimensions (WxDxH) (mm)		365.5 x 442 x 210		
Packaged dimensions (WxDxH) (mm)		455 x 520 x 283		
Net weight (kg)		16.6	19.5	38.5
Gross weight (kg)		18.1	21	40

Note : Model, varian dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

Deep Cycle Gel Battery

100Ah – 200Ah



Deep Cycle Gel Battery uses the sealed gel technology and is designed for high reliable, maintenance-free power for renewable energy applications. Depending on the advantage gel technology, optimum grid and plate design, the HiCELL gel battery offers highest power and reliability for your equipments.

APPLICATION :

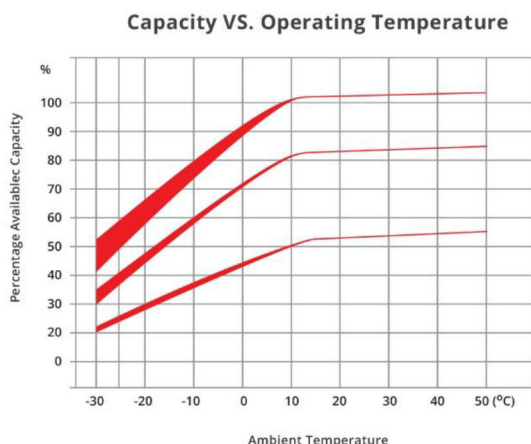
- ✓ Electric Powered Vehicles
- ✓ Golf cars
- ✓ Commercial deep cycle applications
- ✓ Power plant
- ✓ UPS system
- ✓ Water Pumping
- ✓ Wind Generation
- ✓ Cathodic Protection
- ✓ Communications
- ✓ Solar System

DISCHARGE & CYCLING ABILITY

Battery discharge capacity and cyclic life are depended on the depth of discharge (DOD), and the ambient temperature.

The HiCELL gelled battery is designed to the “acid limited.” This means that the power in the acid is used before the power in the plates. This design prevents the plates from ultra-deep discharges. Ultra-deep discharging is what causes life-shortening plates shedding and accelerates positive grid corrosion which destroy a battery.





CAPACITY VS OPERATING TEMPERATURES:

shown are the changes in capacity for a wider ambient temperature range, giving the available capacity, as a percentage of the rated capacity, at different ambient temperatures, for 3 different load examples, with uninterrupted discharge to the appropriate discharge cut-off voltage.

The values for the upper edge of the curves were obtained from charging at an ambient temperature of +20°C with a voltage limit to 2.30V/Cell. For the lower edge, charging was carried out at the specified ambient temperature. The curves show the behavior of battery after a number of cycle.

SPECIFICATION :

Model	Voltage (V)	Capacity (Ah)	Internal Resistance (M)	Dimensions								Terminal		Weight (Kg)
				Length		Width		Height		Total Height				
				mm	in	mm	in	mm	in	mm	in	Type	Position	
Hi-12100-V	12	100	5	330	13	171	6.7	214	8.4	220	8.7	T9	C	32
Hi-12150-V	12	150	4.2	485	19	172	6.8	240	9.4	240	9.4	T11	C	44
Hi-12200-V	12	200	3.3	522	21	238	9.4	222	8.7	222	8.7	T11	E	66

Note : Model, varian dan spesifikasi dapat berubah sewaktu-waktu tanpa pemberitahuan.

Lithium Battery

Lithium Iron Phosphate (LiFePO₄)



BMS Specification

- ✓ Overcharge detection function
- ✓ Discharge detection function
- ✓ Current detection function
- ✓ Temperature protection
- ✓ Short detection function
- ✓ Balance function

Features of LiFePO₄ battery

- ✓ **Longer Cycle Life:** Offers up to 10times longer cycle life and five times longer float /calendar life than lead acid battery, helping to minimize replacement cost and reduce total cost of ownership.
- ✓ **Lighter Weight:** About 40% of the weight of a comparable lead acid battery. A 'drop in' replacement for lead acid batteries.
- ✓ **Higher Power:** Delivers twice power of lead acid battery, even high discharge rate, while maintaining high energy capacity.
- ✓ **Wider Temperature Range:** -20°C~60°C.
- ✓ **Superior Safety:** Lithium Iron Phosphate chemistry eliminates the risk of explosion or combustion due to high impact, overcharging or short circuit situation.
- ✓ **Increased Flexibility:** Modular Design enables deployment of up to 15 batteries in parallel.

SPECIFICATION

Capacity	100 Ah @ 0.5C, 25°C
Cathode Material	LiFePO ₄
Rated Voltage	48V
Operating Voltage Range	42V~54V
Max. Discharging Power	4800W
Cycle Life	5000 cycles @ 0.5C, 90% DOD, 25°C EOF 70 %
Cell Connection	IP15S
Weight	~37kg
Dimensions(WxDxH)	≤442 mmx420 mmx130 mm (excluding latches and terminals)
Self-discharging Rate	<3%/month/-20-45°C@95%RH
Charging and Discharging Capacity Efficiency	≥96%(@250°C)
Communication Port	CAN & RS485;
Status Indication	SOC/ ALM/ RUN

Maximum Number of Parallel-connected Battery	16
Installation	19-inch rack installation (horizontal or vertical)
Protection & Alarm	Protection or alarm against over-temperature, over-current, over charge, over-discharge, short circuit, etc.
Certification	TKDN, SNI IEC 61427-1:2018
IP Rate	≥IP20
Cooling	Natural Cooling
Storage Temperature	7 days @(-30°C ~ -20°C) @(45°C~60°C), 95%RH ; 6 months @ -20°C~45°C, 95%RH
Operating Temperature	Charge: -10°C~55°C; Discharge: -20°C~55°C (Degrading application with temperature beyond 0°C~45°C)
Operating Relative Humidity	5%-95%
Altitude	≤4000m (Degrading application with altitude ranging from 2000m to 4000m)

PROJECT REFERENCE



**@ Bea Cukai Banjarmasin -
50 kW ONGRID**



**@ Ambon - 15 kW
ONGRID**



**@ Menteng - 5 kW
Hybrid**



**@ Daanmogot - 1 kW
ONGRID**

PROJECT REFERENCE



**@ Depok - 13 kW
ONGRID**



**@ Bandung - 5 kW
ONGRID**



**@ Jakarta Timur - 5 kW
ONGRID**



**@ Universitas Terbuka
Surabaya - 100 kW ONGRID**

PROJECT REFERENCE



**@ Universitas Jambi -
350 kW ONGRID**



**@ Klaten - 5 kW
ONGRID**



**@ Lombok - 10 kW
ONGRID**



**@ Bekasi - 15 kW
ONGRID**

PROJECT REFERENCE



**@ Bekasi - 5 kW
Hybrid**



**@ Universitas Malikusaleh
Aceh - 50 kW ONGRID**



**@ Semarang - 5kW
Hybrid 1 phase**



**@ Samarinda - 10 kW
ONGRID 3 phase**

PROJECT REFERENCE



**@ Universitas Mercubuana -
50 kW ONGRID**



**@ Kemang - 15 kW
ONGRID**



**@ 200 Puskesmas - 10 kW
Hybrid**

PROJECT REFERENCE



**@ Poliklinik Sanglah Bali -
80 kW ONGRID**



**@ Kejaksaan Agung Jakarta -
50 kW ONGRID**



**@ RSUD dr. Soedomo
Trenggalek - 50 kW ONGRID**



**@ FIA UI Depok -
50 kW ONGRID**

PROJECT REFERENCE



**@ RSUP Dr Sardjito
Yogyakarta - 50 kW ONGRID**



**@ FT UI Depok -
50 kW ONGRID**

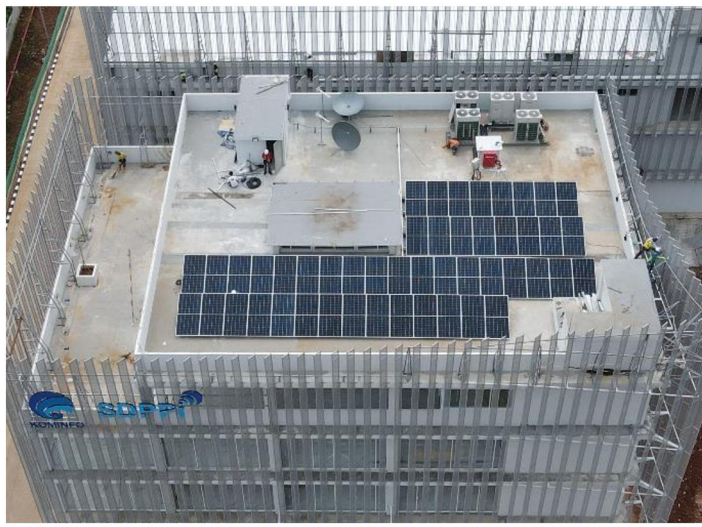


**@ UMRAH Riau -
50 kW ONGRID**



**@ Science Techno Park UI
Depok - 30 kW ONGRID**

PROJECT REFERENCE



**@ Kemkominfo Depok -
30 kW ONGRID**



**@ UGM Yogyakarta -
10 kW ONGRID**



**@ BRI Majene - 20 kW
ONGRID**



**@ Rumah Tinggal Jakarta -
6.6 kW ONGRID**

Ordering and Installation Process

1

CONSULTATION

Consultation with the property owner to obtain initial information regarding electricity capacity, electricity consumption, and the condition of the property.

2

SITE SURVEY

The Solterra team will conduct a site survey at the property where the Solar Panels will be installed.

3

SYSTEM INSTALLATION

The Solterra team prepares all the equipment and supplies necessary to install the solar cell system.

4

MONITORING AND MAINTENANCE

The owner of the solar cell system can contact the Solterra team for performance monitoring and to request maintenance if needed.

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WORLD
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TECHNOLOGY**

www.solterra.id