DYNESS

PowerBrick

The DYNESS battery PowerBrick module is widely used in energy storage sector. It adopts modular design and can be used for residential applications. The reliable LiFeP04 technology ensures maximum safety and a longer life cycle.

Compared to the previous generation ,the size is reduced by 24%, and the capacity increases by 40%

Continuous discharge current 200A, maximum continuous discharge power 10kW

Fire Protection System: Optional Aerosol fire extinguisher

Unlimited Cycles / 10 Years

Maximum can be expanded to 716.8kWh（no HUB）

Technical Specifications

Model	PowerBrick
Battery Type	LiFePO4
Nominal Battery Energy	14.336kWh
Nominal Voltage/Capacity	51.2V/280Ah
Recommended Charge/Discharge Current	140A (0.5C)
Max. Charge Current	200A
Max. Discharge Current	200A
Depth of Discharge	95%
Communication	CAN/RS485
Cycle Life [1]	Unlimited cycles / 10 Years
Protection Level	IP20
Net Weight	114Kg
Dimension[W*D*H]	435*233*857mm (No wall -mounted bracket)
Maximum Parallel Modules	50
Charging Temp. Range	0 ~ 55℃
Discharging Temp. Range	-20 ~ 55℃
WIFI Module	Built-in WIFImodule; APP OTA function
Fire Protection System	Optional Aerosol fire extinguisher
Certification & Safety Standard	UN38.3; CE
Compatible Inverters	SMA/Victron/ngeteam/Delios/Goodwe/Solis /Deye/SAJ/Voltronic/Sungrow etc

[1]Test conditions: 0.2C Charging/Discharging, @25℃, 95% DOD

www.dyness.com
sales@dyness-tech.com

ECO HYBRID

Single-Phase

SNA **12K**

- 2 MPPTs with 4 strings, Max. 24kW PV input
- Max. charging and discharging current: 250A
- Off-grid application for high demand with 12kW output power
- Dual AC output ports for multiple load connections
- Separate GEN port

  -Up to 19.2kW Gen/AC coupling input

  -Auto generator start and stop control
- Integrated Design with Load and Battery Breaker
- PV or AC or Generator wake up battery

Specification

Your Reliable Energy Solution Partner

INPUT (PV DC)	SNA 12K
Max. PV array power (W)	24000 (12000/12000)
Rated PV input voltage (V)	320
Number of independent MPPT inputs	2/(2:2)
PV input voltage range (V)	100-480
MPPT voltage range (V)	120-385
Start-up voltage (V)	100
Max. PV input current per MPPT (A)	35/35
Max. PV short-circuit current input per MPPT (A)	44/44
Battery	
Compatible battery type	Lithium-ion/Lead-Acid
Rated battery voltage (V)	48/51.2
Battery voltage range (V)	46.4-60/38.4-60
Max. charging / discharging current (A)	250
Max. charging / discharging power (W)	12000
Force wake up battery from PV and Grid function	YES
Grid	
Rated AC voltage (V)	230
Acceptable Input Voltage Range (V)	90~280
Rated AC frequency (Hz)	60/50
Rated AC intput current (A)	100
Rated AC intput power (W)	24000
PF	0.99
THDI	<5%
Max. continuous AC passthrough current(A)	100
UPS	
Rated output power (W)	12000
Rated output voltage (V)	230
Rated output current (A)	50
Rated output frequency (Hz)	50/60
Surge power, duration	2Pn, 5s
Switching time (UPS)	<10ms@Single and Parallel
Wave form	Sine wave
THDV	3%
GEN	
Acceptable input voltage range	230
Max. AC input voltage (V)	280
Max. AC input current (A)	63
Rated input frequency	50Hz/60Hz (Auto detection)
Transfer time	<10ms@Single; <20ms@Parallel
THDV	<3%
Overload protection	5s@≥150% load /10s@110%~150% load
Efficiency	
Max. efficiency	93.5%
Max. charging / discharging efficiency	93.0%
Max. MPPT efficiency	99.0%
Protection	
PV reverse polarity protection(Y/N)	YES
Over current / voltage protection(Y/N)	YES
AC Short-circuit current protection(Y/N)	YES
Grid monitoring(Y/N)	YES
DC switch(Y/N)	YES
DC / AC Surge protection Type III	YES
Battery reverse polarity protection(Y/N)	YES
General	
Dimensions (W*H*D mm)	530*830*150mm(17.72*25.59*5.9inch)
Weight	40kg/88.2lbs
Ingress protection rating	IP20
Operating environment temperature range(°C)	0~45
Storage temperature range(°C)	-15~60
Relative humidity	5% ~ 95%
Display & Communication interface	LCD+RGB, RS485 / Wifi / CAN
Warranty	2 years
Cooling method	Smart cooling
Topology on AC / Battery side	Transformer-less / Transformer
Altitude (m)	<2000
Noise emission (typical)	<50dB
Standard & Certification	
CE	

Vertex N

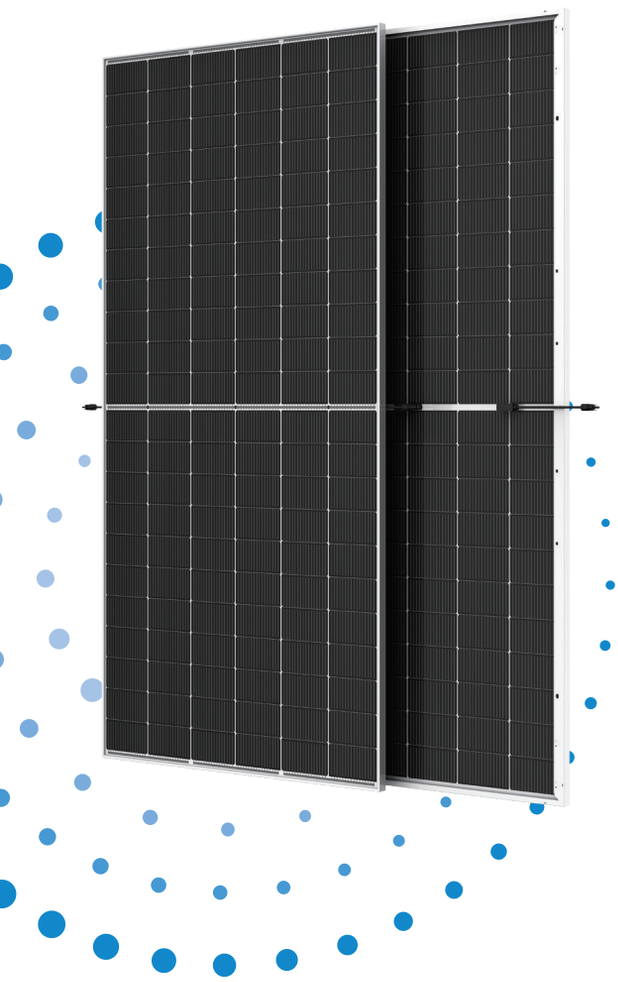
N-type i-TOPCon bifacial dual glass

Monocrystalline module

PRODUCT: TSM-NEG19RC.20

POWER RANGE: 590-620W

620W	0~+5W	23.0%
MAXIMUM POWER OUTPUT	POSITIVE POWER TOLERANCE	MAXIMUM EFFICIENCY



High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance of System) cost, shorter payback time
- More energy harvest with cutting-edge N-type i-TOPCon technology
- Designed for compatibility with existing mainstream system components
- Higher container space utilization effectively reduces the freight cost

High power up to 620 W

- Up to 23.0% module efficiency with high density interconnect technology
- SMBB (Super multi-busbar)technology for better light trapping effect, lower series resistance and improved current collection

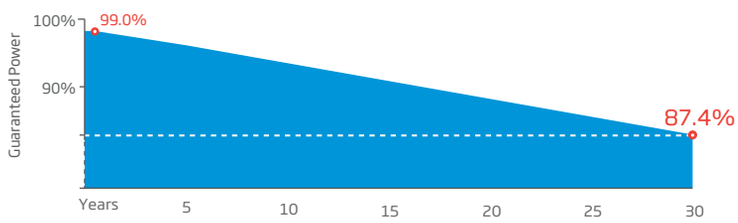
High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load

High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- Lower degradation: 1% first year, 0.4% annually thereafter
- Lower temperature coefficient (-0.29%/°C)
- Up to 30% additional power gain from back side depending on albedo

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty



Comprehensive Products and System Certificates

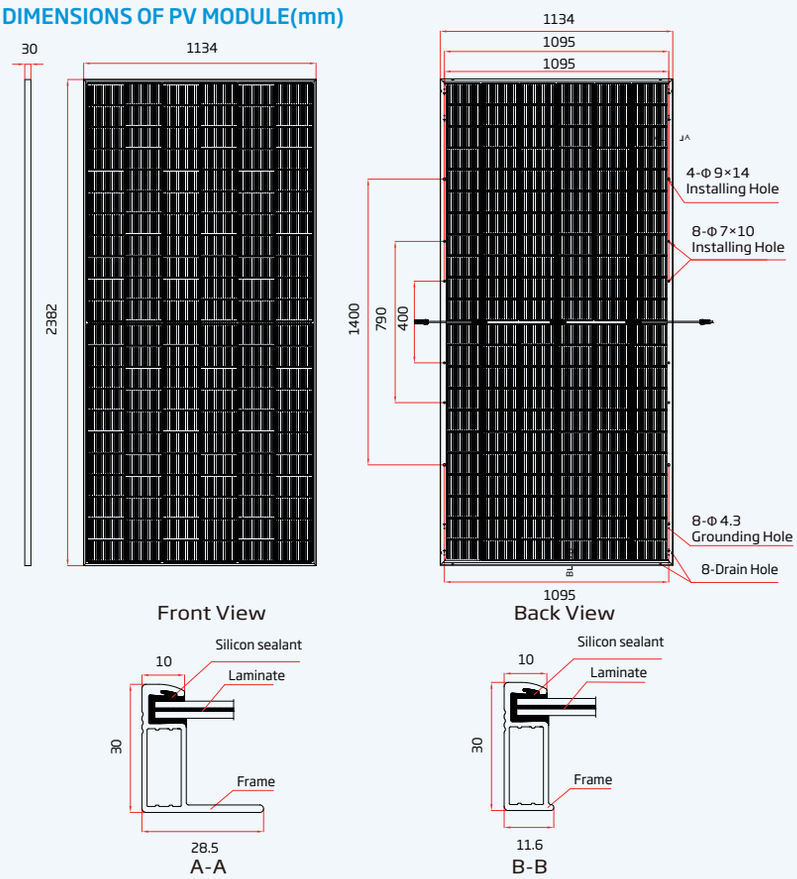
IEC61215/IEC61730/IEC61701/IEC62716/UL61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

Trinasolar

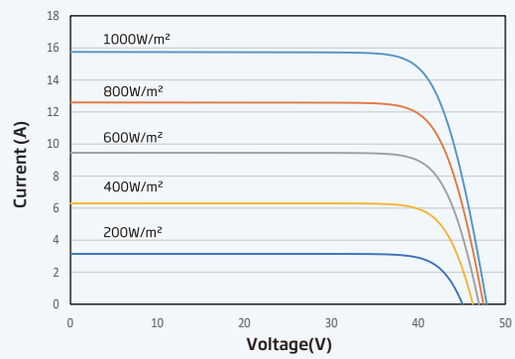
Vertex N

N-type i-TOPCon bifacial dual glass Monocrystalline module

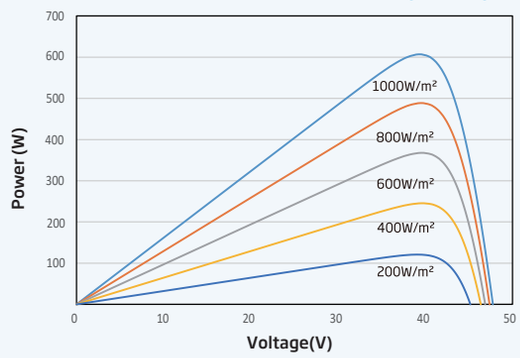
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE (605 W)



P-V CURVES OF PV MODULE (605 W)



MECHANICAL DATA

Solar Cells	N-type Monocrystalline
No. of cells	132 cells
Module Dimensions	2382×1134×30 mm (93.78×44.65×1.18 inches)
Weight	33.7kg (74.3 lb)
Front Glass	2.0 mm (0.08 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	POE/EVA
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Grid Glass)

Frame	30mm(1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 PLUS / TS4*

*Please refer to regional datasheet for specified connector.

ELECTRICAL DATA (STC & NOCT)

Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power Watts-P_{MAX} (Wp)*	590	450	595	454	600	459	605	462	610	466	615	470	620	474
Power Tolerance-P_{MAX} (W)	0 ~ +5													
Maximum Power Voltage-V_{MPP} (V)	39.7	37.4	40.0	37.6	40.3	37.9	40.5	38.1	40.8	38.3	41.1	38.6	41.4	38.8
Maximum Power Current-I_{MPP} (A)	14.86	12.05	14.89	12.07	14.91	12.11	14.94	12.13	14.96	12.16	14.98	12.19	14.99	12.20
Open Circuit Voltage-V_{OC} (V)	47.8	45.4	48.1	45.7	48.4	46.0	48.7	46.2	49.0	46.5	49.3	46.8	49.6	47.1
Short Circuit Current-I_{SC} (A)	15.72	12.67	15.76	12.69	15.80	12.73	15.83	12.75	15.86	12.78	15.89	12.80	15.91	12.82
Module Efficiency η m (%)	21.8		22.0		22.2		22.4		22.6		22.8		23.0	

STC: Irrdiance 1000W/m2, Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. *Measuring tolerance: ±3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Total Equivalent power -P_{MAX} (Wp)	620	649	625	655	630	660	635	666	641	671	646	677	651	682
Maximum Power Voltage-V_{MPP} (V)	39.7	39.7	40.0	40.0	40.3	40.3	40.5	40.5	40.8	40.8	41.1	41.1	41.4	41.4
Maximum Power Current-I_{MPP} (A)	15.60	16.35	15.63	16.38	15.66	16.40	15.69	16.43	15.71	16.46	15.73	16.48	15.74	16.49
Open Circuit Voltage-V_{OC} (V)	47.8	47.8	48.1	48.1	48.4	48.4	48.7	48.7	49.0	49.0	49.3	49.3	49.6	49.6
Short Circuit Current-I_{SC} (A)	16.51	17.29	16.55	17.34	16.59	17.38	16.62	17.41	16.65	17.45	16.68	17.48	16.71	17.50

Power Bifaciality:80±5%.

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P_{MAX}	- 0.29%/°C
Temperature Coefficient of V_{OC}	- 0.24%/°C
Temperature Coefficient of I_{SC}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85° C
Maximum System Voltage	1500V DC (IEC) 1500V DC (UL)
Max Series Fuse Rating	35A

WARRANTY

12 year Product Workmanship Warranty

30 year Power Warranty

1% first year degradation

0.40% Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 36 pieces

Modules per 40' container: 720 pieces

Trinasolar

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

© 2024 Trina Solar Limited, All rights reserved, Specifications included in this datasheet are subject to change without notice.

Version number: TSM_EN_2024_A

www.trinasolar.com