

V-TAC

Meaningful Innovation.

10kW

Three Phase Hybrid Solar Inverter

05 YEAR
WARRANTY



Colorful touch LCD, IP65 protection degree

240

Max. charging/discharging current of 240A



DC couple and AC couple to retrofit existing solar system

6

6 time periods for battery charging/discharging

10

Max. 10pcs parallel for on-grid and o-grid operation; Support multiple batteries parallel



Support storing energy from diesel generator



V-TAC.EU

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VTACEXPORTS.COM



CE RoHS

LISTING DETAILS

SKU Code: **11542**
 EAN Code: **3800157697217**

MASTER BOX PACKAGING

Net Weight : **33.6kg**
 Product Size : **422W x 699.3H x 279D**

EFFICIENCY

Max. Efficiency **97.60%**
 Euro Efficiency **97.00%**
 MPPT Efficiency **99.90%**

GENERAL DATA

Operating Temperature Range (°C) **-40~60°C, >45°C derating**
 Cooling **Smart cooling**
 Noise (dB) **<45 dB**
 Communication with BMS **RS485; CAN**
 Protection Degree **IP65**
 Installation Style **Wall-mounted**

PV STRING INPUT DATA

Max. DC Input Power (W) **13000**
 Rated PV Input Voltage (V) **550V(160V~800V)**
 Start-up Voltage (V) **160V**
 MPPT Voltage Range (V) **200V-650V**
 Full Load DC Voltage Range (V) **350V-650V**
 PV Input Current (A) **26+13**
 Max. PV ISC (A) **34+17**
 No.of MPP Trackers **2**
 No.of Strings per MPP Tracker **2+1**

AC OUTPUT DATA

Rated AC Output and UPS Power (W) **10000**
 Max. AC Output Power (W) **11000**
 AC Output Rated Current (A) **15.2/14.5**
 Max. AC Current (A) **22.7/21.7**
 Max. Continuous AC Passthrough (A) **40A**
 Peak Power (off grid) **2 time of rated power, 10 S**
 Power Factor **0.8 leading to 0.8 lagging**
 Grid Type **Three Phase**
 DC injection current (mA) **THD<3% (Linear load<1.5%)**
 Output Frequency and Voltage **50/60Hz; 3L/N/PE 220/380, 230/400Vac**

BATTERY INPUT DATA

Battery Type **Lead-acid or Li-Ion**
 Battery Voltage Range (V) **40~60**
 Max. Charging Current (A) **210A**
 Max. Discharging Current (A) **210A**
 External Temperature Sensor **Yes**
 Charging Curve **3 Stages / Equalization**
 Charging Strategy for Li-Ion Battery **Self-adaption to BMS**

PROTECTION

Integrated **PV Input Lightning Protection, Anti-islanding Protection, PV String Input Reverse Polarity Protection, Insulation Resistor Detection, Residual Current Monitoring Unit, Output Over Current Protection, Output Shorted Protection, Surge protection**

Output Over Voltage Protection **DC Type II/AC Type III**

CERTIFICATIONS AND STANDARDS

Grid Regulation **VDE4105, IEC61727/62116, VDE0126, AS4777.2, CEI 0 21, EN50549-1, G98, G99, C10-11, UNE217002, NBR16149/NBR16150**

Safety EMC / Standard **IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2**

Lithium Ion Batteries



Battery Name	Lithium Ion Batteries
Model Name	VT-12040-1
SKU No	11447-1
Rated capacity (Ah)	200
Nominal voltage (V)	51.2
Nominal Energy(Kwh)	10.24
Standard Charge Current (A)	90
Standard Discharge Current (A)	90
Maximum continuous charge current (A)	100
Maximum continuous discharge current (A)	100
Communication	CAN
Internal resistance (in Ω)	16m Ω
Dimension(W*D*H)	458*265*805mm
Protection Level	IP20
Charge temperature Range ($^{\circ}\text{C}$)	0 ~ 55
Discharge temperature Range ($^{\circ}\text{C}$)	-20 ~ 60
Standard Charge Voltage (V)	58.4
Upper limit Charging Voltage (V)	58.4
End-of-discharge Voltage (V)	43.2
NW(Kg)	95.8
Structure	16 series & 1 parallel
Bar code	3.80017E+12
Recommend charging method declared by the manufacturer	Charge the battery at constant current 90A until voltage reaches 58.4V, then charge at constant voltage 58.4V till charge current is 10.3A

Vertex N

N-type i-TOPCon bifacial dual glass
Monocrystalline module

PRODUCT: TSM-NEG19RC.20

POWER RANGE: 590-620W

620W

MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

23.0%

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

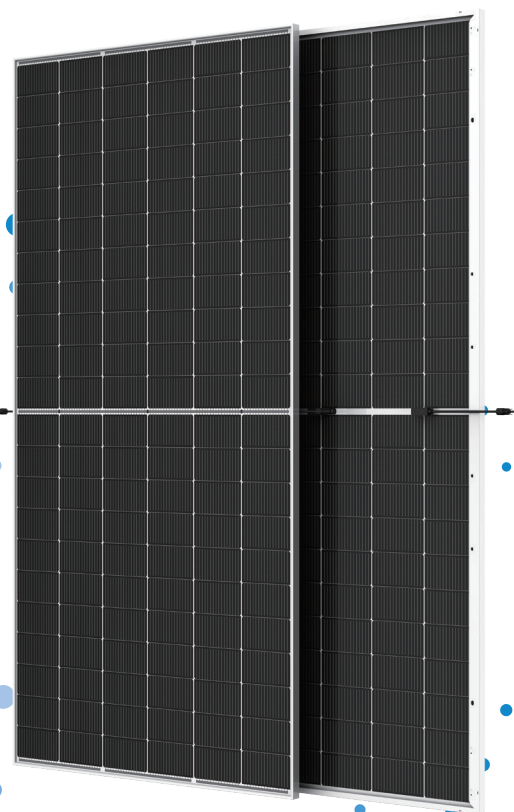
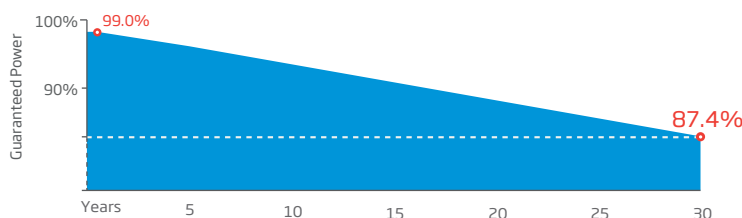
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive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



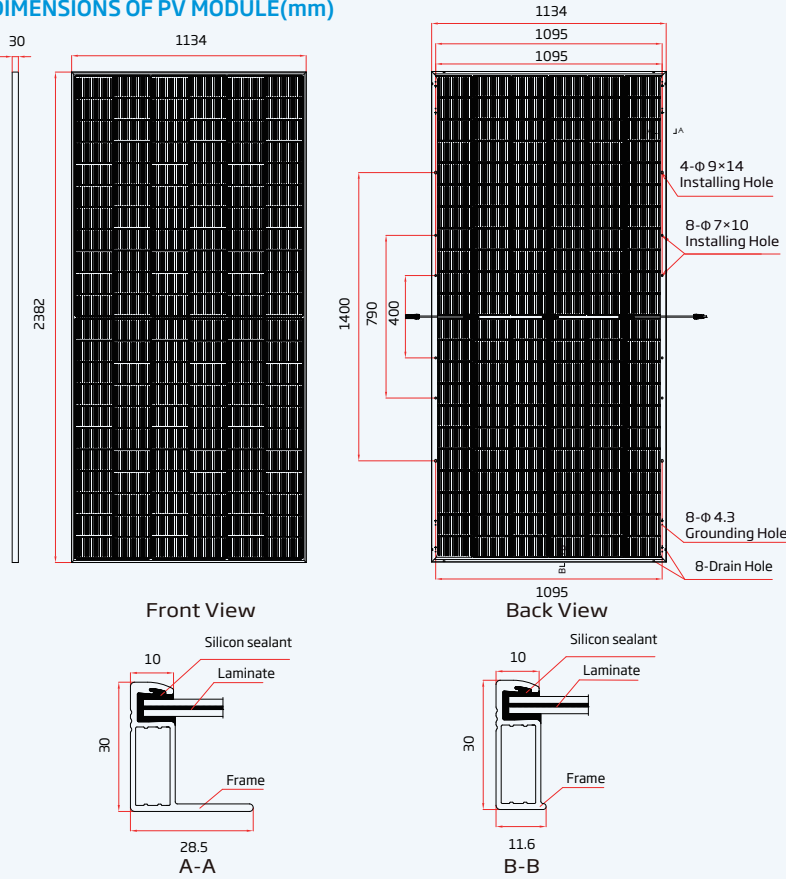
Comprehensive Products and System Certificates



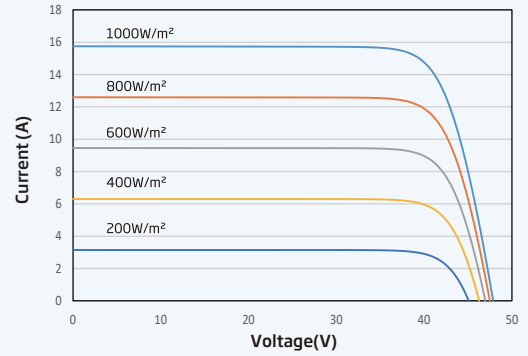
IEC61215/IEC61730/IEC61701/IEC62716/UL61730
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO14064: Greenhouse Gases Emissions Verification
 ISO45001: Occupational Health and Safety Management System



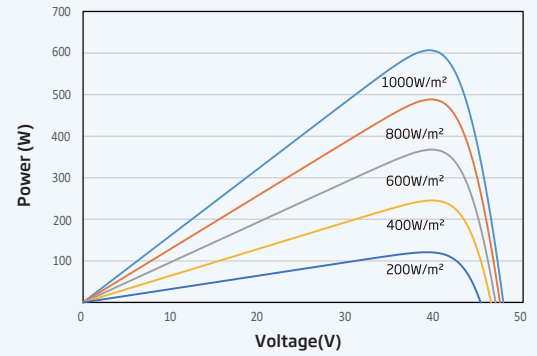
DIMENSIONS OF PV MODULE(mm)



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	
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: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5. 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%	
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