



REGIONE
PUGLIA



PROVINCIA
DI LECCE



COMUNE
DI SOLETO



COMUNE
DI GALATINA

Realizzazione di impianto agrivoltaico con produzione agricola e produzione di energia elettrica da fonte rinnovabile fotovoltaica da ubicarsi in agro di Soleto (LE) e delle relative opere di connessione alla Stazione elettrica nel Comune di Galatina (LE)

Potenza nominale cc: 33,568 MWp - Potenza in immissione ca: 30,00 MVA

ELABORATO

COMPONENTI PRINCIPALI - DATASHEET

IDENTIFICAZIONE ELABORATO

Livello progetto	Codice Pratica AU	Documento	Codice elaborato	n° foglio	n° tot. fogli	Nome file	Data	Scala
PD		R	2.1_02			R_2.1_02_DATASHEET	Agosto 2022	n.a.

REVISIONI

Rev. n°	Data	Descrizione	Redatto	Verificato	Approvato
00	10/08/2022	I Emissione	MILELLA	MILELLA	AMBRON

PROGETTAZIONE:

MATE System S.r.l.

Via Papa Pio XII, n.8 70020 Cassano delle Murge (BA)
tel. +39 080 5746758
mail: info@matesystemsrl.it pec: matesystem@pec.it

Progettista:
Ing. Francesco Ambron



Coordinamento al progetto:

PROSVETA s.r.l.

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Coordinatore al progetto:
Ing. Francesco Rollo

DIRITTI

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PROPONENTE:

NEW SOLAR BLUE S.R.L.
VIA E. ESTRAFALLACES 26
73100 LECCE (LE)

Il legale rappresentante
Dott. FRANCO RICCIATO

Committente: NEW SOLAR BLUE S.R.L. Via E. Estrafallaces, 26 - 73100 LECCE		Progettazione: MATE SYSTEM S.R.L. Via Papa Pio XII n.8 - Cassano delle Murge (BA)	
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Allegato III - Caratteristiche pannelli

Preliminary

Mono Multi Solutions

Vertex

BACKSHEET MONOCRYSTALLINE MODULE

PRODUCT: TSM-DE21

PRODUCT RANGE: 635-670W

670W

MAXIMUM POWER OUTPUT

0~+5W

POSITIVE POWER TOLERANCE

21.6%

MAXIMUM EFFICIENCY



High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance of System) cost, shorter payback time
- Lowest guaranteed first year and annual degradation;
- Designed for compatibility with existing mainstream system components
- Higher return on Investment



High power up to 670W

- Up to 21.6% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



High reliability

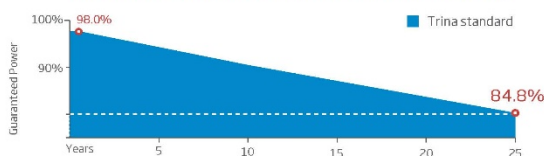
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.34%) and operating temperature

Trina Solar's Backsheet Performance Warranty

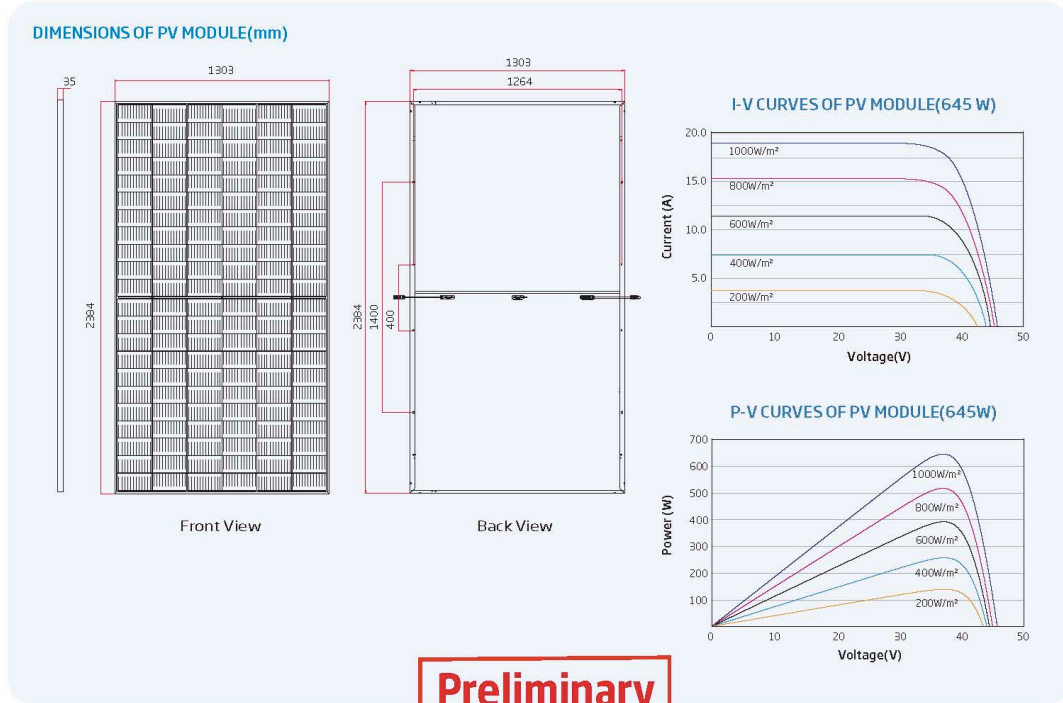


Comprehensive Products and System Certificates



IEC61215/IEC61730/IEC61701/IEC62716
 ISO 9001: Quality Management System
 ISO 14001: Environmental Management System
 ISO 14064: Greenhouse Gases Emissions Verification
 ISO 45001: Occupational Health and Safety Management System

Trinasolar



ELECTRICAL DATA (STC)

Peak Power Watts-P _{MAX} (Wp)*	635	640	645	650	655	660	665	670
Power Tolerance-P _{MAX} (W)	0 ~ +5							
Maximum Power Voltage-V _{MPP} (V)	36.9	37.0	37.2	37.4	37.6	37.8	38.0	38.2
Maximum Power Current-I _{MPP} (A)	17.26	17.30	17.35	17.39	17.43	17.47	17.51	17.55
Open Circuit Voltage-V _{OC} (V)	44.7	44.9	45.1	45.3	45.5	45.7	45.9	46.1
Short Circuit Current-I _{SC} (A)	18.30	18.34	18.39	18.44	18.48	18.53	18.57	18.62
Module Efficiency η _m (%)	20.4	20.6	20.8	20.9	21.1	21.2	21.4	21.6

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass 1.5. *Measuring tolerance: ±3%.

ELECTRICAL DATA (NOCT)

Maximum Power-P _{MAX} (Wp)	481	485	488	492	496	500	504	508
Maximum Power Voltage-V _{MPP} (V)	34.3	34.6	34.8	34.9	35.1	35.3	35.4	35.6
Maximum Power Current-I _{MPP} (A)	13.97	14.01	14.05	14.09	14.13	14.17	14.22	14.26
Open Circuit Voltage-V _{OC} (V)	42.1	42.3	42.5	42.7	42.9	43.0	43.2	43.4
Short Circuit Current-I _{SC} (A)	14.75	14.78	14.82	14.86	14.89	14.93	14.96	15.01

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	132 cells
Module Dimensions	2394×1303×35 mm (93.86×51.30×1.38 inches)
Weight	33.9 kg (74.7 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA
Backsheet	White
Frame	35mm(1.38 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²), Portrait: 280/280 mm(11.02/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4*

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P _{MAX}	-0.34%/°C
Temperature Coefficient of V _{OC}	-0.25%/°C
Temperature Coefficient of I _{SC}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	30A

WARRANTY

12 year Product Workmanship Warranty
25 year Power Warranty
2% first year degradation
0.55% Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 31 pieces
Modules per 40' container: 558 pieces



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

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Allegato IV – Caratteristiche power station

MV POWER STATION
4400 / 4950 / 5000 / 5500 / 6000



<p>Robust</p> <ul style="list-style-type: none"> Station and all individual components type-tested Optimally suited to extreme ambient conditions 	<p>Easy to Use</p> <ul style="list-style-type: none"> Plug and play concept Walk-in control rooms Completely pre-assembled for easy setup and commissioning 	<p>Cost-Effective</p> <ul style="list-style-type: none"> Easy planning and installation Low transport costs due to 40-foot container 	<p>Flexible</p> <ul style="list-style-type: none"> Global solution for international markets Numerous options Compatible with MVPS 2200 – MVPS 3000
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MV POWER STATION 4400 / 4950 / 5000 / 5500 / 6000

Turnkey Solution for PV Power Plants

With the double power of the new robust central inverters, the Sunny Central or Sunny Central Storage, and with perfectly adapted medium-voltage components, the new MV Power Station offers even more power density and is a turnkey solution available world-wide. The solution is the ideal choice for new generation PV power plants operating at 1800 V_{DC}. Delivered pre-configured in a 40-foot container, the solution is easy to transport and quick to assemble and commission. The MVPS and all components are type-tested. The MV Power Station combines rigorous plant safety with maximum energy yield and minimized deployment and operating risk.

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1) Data based on inverter
2) ONMF = Mineral oil with forced air cooling; ONAF = Organic oil with forced air cooling
3) Efficiency measured at inverter without internal power supply
4) Efficiency measured at inverter with internal power supply
5) Transport dimensions

MV Power Station 4950	MV Power Station 5000	MV Power Station 5500	MV Power Station 6000
2 x SC 3475 or 2 x SC5 3475	2 x SC 2500EV or 2 x SC5 2500EV	2 x SC 2750EV or 2 x SC5 2750EV	2 x SC 3000EV or 2 x SC5 3000EV
1100 V	1500 V	1500 V	1500 V
2 x 3960 A	2 x 3200 A	2 x 3200 A	2 x 3200 A
0	2 x 24 double pole fused (2 x 32 single pole fused)	0	0
	300 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A		
4950 kVA / 4500 kVA / 0 kVA	5000 kVA / 4500 kVA / 0 kVA	5500 kVA / 5000 kVA / 0 kVA	6000 kVA / 5400 kVA / 0 kVA
4950 kVA / 4500 kVA / 0 kVA	5000 kVA / 4500 kVA / 0 kVA	5500 kVA / 5000 kVA / 0 kVA	6000 kVA / 5400 kVA / 0 kVA
11 kV to 35 kV	11 kV to 35 kV	11 kV to 35 kV	11 kV to 35 kV
50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
● / 0	● / 0	● / 0	● / 0
● / 0	● / 0	● / 0	● / 0
87 A	88 A	97 A	105 A
3.1 kW / 4.0 kW	3.1 kW / 4.0 kW	3.1 kW / 4.0 kW	3.2 kW / 4.5 kW
37.5 kW / 37.5 kW	37.5 kW / 37.5 kW	40.0 kW / 40.0 kW	45.5 kW / 45.5 kW
< 3%	< 3%	< 3%	< 3%
0 up to 60% of AC power	0 up to 60% of AC power	0 up to 60% of AC power	0 up to 60% of AC power
1 / 0.8 oversized to 0.8 undersized	1 / 0.8 oversized to 0.8 undersized	1 / 0.8 oversized to 0.8 undersized	1 / 0.8 oversized to 0.8 undersized
98.6%	98.6%	98.7%	98.8%
98.4%	98.3%	98.6%	98.6%
98.0%	98.0%	98.5%	98.5%
DC load-break switch	DC load-break switch	DC load-break switch	DC load-break switch
Medium-voltage vacuum circuit breaker	Medium-voltage vacuum circuit breaker	Medium-voltage vacuum circuit breaker	Medium-voltage vacuum circuit breaker
Surge arrester type I	Surge arrester type I	Surge arrester type I	Surge arrester type I
●	●	●	●
IAC A 20kA 1s	IAC A 20kA 1s	IAC A 20kA 1s	IAC A 20kA 1s
12192 mm / 2896 mm / 2438 mm	12192 mm / 2896 mm / 2438 mm	12192 mm / 2896 mm / 2438 mm	12192 mm / 2896 mm / 2438 mm
< 26 t	< 26 t	< 26 t	< 26 t
< 16.2 kW / < 3.6 kW / < 4.0 kW	< 16.2 kW / < 3.6 kW / < 4.0 kW	< 16.2 kW / < 3.6 kW / < 4.0 kW	< 16.2 kW / < 3.6 kW / < 4.0 kW
< 600 W	< 740 W	< 740 W	< 740 W
Control system IP20, inverter electronics IP65			
● / 0 / 0	● / 0 / 0	● / 0 / 0	● / 0 / 0
● / 0 / 0	● / 0 / 0	● / 0 / 0	● / 0 / 0
15% to 95%	15% to 95%	15% to 95%	15% to 95%
● / 0 / 0 / 0 (cellar temperature-dependent derating)	● / 0 / 0 / - (cellar temperature-dependent derating)		
20000 m ² /h	20000 m ² /h	20000 m ² /h	20000 m ² /h
Terminated lug	Terminated lug	Terminated lug	Terminated lug
Outer-core angle plug	Outer-core angle plug	Outer-core angle plug	Outer-core angle plug
● / 0	● / 0	● / 0	● / 0
● / 0	● / 0	● / 0	● / 0
0	0	0	0
RAL 7004	RAL 7004	RAL 7004	RAL 7004
● / 0 / 0 / 0 / 0	● / 0 / 0 / 0 / 0	● / 0 / 0 / 0 / 0	● / 0 / 0 / 0 / 0
● / 0 / 0	● / 0 / 0	● / 0 / 0	● / 0 / 0
● / 0 / 0 / 0 / 0	● / 0 / 0 / 0 / 0	● / 0 / 0 / 0 / 0	● / 0 / 0 / 0 / 0
● / 0	● / 0	● / 0	● / 0
IEC 62271-202, IEC 62271-200, IEC 60076, CSC certificate, EN 50588-1			
MVPS-4950-20	MVPS-5000-20	MVPS-5500-20	MVPS-6000-20

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Allegato V – Caratteristiche tracker



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CONVERT TRJ - TECHNICAL DATA SHEET

TECHNICAL SPECIFICATIONS

Type of tracking system	Horizontal Single Axis Tracker with balanced structure, North-South axis alignment and East-West tracking with independent rows and backtracking
Type of control	Control based on an astronomical clock algorithm, self-configuring, without irradiation sensors
Maximum tracking error	± 2°
Control System Architecture	1 control board each 10 rows with integrated GPS and anemometer for wind safety - control in closed loop with encoder
PV- Module Type	Structure adaptable to available PV modules types on market: Monocrystalline and Bifacial (Thin Film, Framed and Frameless)
Configurations	<ul style="list-style-type: none"> - 1 module in portrait - 2 modules in landscape - 2 modules in portrait
Rotation angle	Up to 120° (±60°)
Motors	Linear actuator with induction AC motor (oil-free transmission) with integrated encoder
Power Supply	<ul style="list-style-type: none"> - AC power supply from auxiliary services - Self-powered by PV string (with patented backup isolation without batteries) - Smartpower by distributed inverters
Monitoring and data stream	Real-time communication or remote mode communication via ModBus
Communication	Communication between SCADA and control board: Wired (RS485) or Wireless (LoRa)
Maximum wind speed	In compliance with local codes
Operation temperature range	Standard Range: -30°C / +50°C ; Extended Range Available
Foundation	Compatible with all widespread types: Driven Piles, Pre-filled and concrete backfilled, Concrete Ballasts
Electrical Grounding	Self-grounding system
Materials	Galvanized steel or Weathering Steel (CorTen) in compliance with site environmental conditions
Occupation factors	Totally configurable based on project specifications
Availability	> 99%
Warranty	10 years for structural components; 5 years for motors and electronic components (Extended warranty available)

INSTALLATION TOLERANCES

ASSEMBLY ERROR RECOVERY	
Height	± 20mm
Misalignment North/South	± 45mm
Misalignment East/West	± 45mm
Inclination	± 2°
Twisting	± 5°
Maximum Land Slope	15% North-South; Unlimited East-West



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