


LAMPIRAN

DATASHEET PHOTOVOLTAIC

Mono Multi Solutions

THE TALLMAX^M plus⁺ MODULE



72 CELL
MONOCRYSTALLINE MODULE

330-355W
POWER OUTPUT RANGE


18.3%
MAXIMUM EFFICIENCY

0~+5W
POSITIVE POWER TOLERANCE


As a leading global manufacturer of best generation photovoltaic products, we believe close cooperation with our partners is critical to success. With local presence around the globe, Trina is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, scalable partner. We are committed to building strategic, mutually beneficial collaboration with partners, developers, distributors and other partners as the backbone of our shared success in driving smart energy together.

Trina Solar Limited
www.trinasolar.com

LINEAR PERFORMANCE WARRANTY
25 Year Power Warranty, 30 Year Linear Power Warranty




Trinasolar
Great Energy Together




Maximize limited space with top-end efficiency

- Up to 183 W/m² power density
- Low thermal coefficients for greater energy production at high operating temperatures



Highly reliable due to stringent quality control

- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- 100% EL double inspection




Certified to withstand challenging environmental conditions

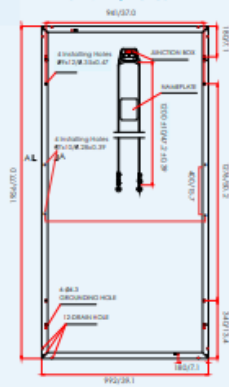
- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h

Comprehensive products and system certificates

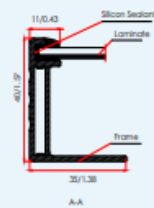
- IEC 61215/IEC 61730/UL 1703/IEC 61701/IEC 62716
- ISO 9001: Quality Management System
- ISO 14001: Environmental Management System
- ISO 14064: Greenhouse Gas Emissions Verification
- OHSAS 18001: Occupation Health and Safety Management System



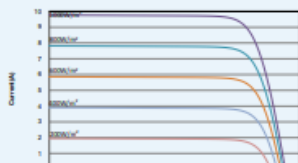
DIMENSIONS OF PV MODULE
unit:mm/inches



Back View



I-V CURVES OF PV MODULE(355W)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	330	335	340	345	350	355
Power Output Tolerance- P_{MAX} (W)	0-+5					
Maximum Power Voltage- V_{MPP} (V)	37.8	37.9	38.2	38.4	38.5	38.7
Maximum Power Current- I_{MPP} (A)	8.73	8.84	8.90	9.00	9.09	9.17
Open Circuit Voltage- V_{OC} (V)	46.2	46.3	46.5	46.7	46.9	47.0
Short Circuit Current- I_{SC} (A)	9.27	9.36	9.45	9.50	9.60	9.69
Module Efficiency η_m (%)	17.0	17.3	17.5	17.8	18.0	18.3

STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5.
*Test tolerance: ±3%.

ELECTRICAL DATA (NOCT)

Maximum Power- P_{MAX} (Wp)	246	250	253	257	261	264
Maximum Power Voltage- V_{MPP} (V)	34.9	35.1	35.2	35.5	35.6	35.8
Maximum Power Current- I_{MPP} (A)	7.04	7.12	7.19	7.25	7.33	7.40
Open Circuit Voltage- V_{OC} (V)	43.0	43.1	43.2	43.4	43.5	43.7
Short Circuit Current- I_{SC} (A)	7.49	7.56	7.63	7.67	7.75	7.82

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

MECHANICAL DATA

Solar Cells	Monocrystalline 156 × 156 mm (6 inches)
Cell Orientation	72 cells (6 × 12)
Module Dimensions	1956 × 992 × 40 mm (77.0 x 39.1 x 1.57 inches)
Weight	26.0 kg (57.3 lb)
Glass	4.0 mm (0.15 inches), High Transmission, AR Coated Tempered Glass
Backsheet	White
Frame	Silver Anodized Aluminium Alloy
J-Box	IP 67 or IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²), 1200 mm (47.2 inches)
Connector	MC4 Compatible or Amphenol H4/UTX
Fire Type	Type 1 or Type 2

TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	44°C (± 2°C)
Temperature Coefficient of P_{MAX}	-0.39%/°C
Temperature Coefficient of V_{OC}	-0.29%/°C
Temperature Coefficient of I_{SC}	0.05%/°C

MAXIMUM RATINGS

Operational Temperature	-40-+85°C
Maximum System Voltage	1000V DC (IEC) 1000V DC (UL)
Max Series Fuse Rating	15A

WARRANTY

DATASHEET CONVERTER



X3-Hybrid G4

5.0kW/6.0kW/8.0kW/10.0kW/12.0kW/15.0kW



Features

Three-phase Hybrid inverter



Intelligent

- 150% 120s overload output for 10s
- Switchover time <10ms
- Lithium-ion & lead-acid battery compatible
- CT compatible, loads respond within 0.5s
- Intelligent load management (e.g. heat pump)
- On & Off-grid parallel function, up to 100kW
- 5 work modes, 2 charging periods available
- VPP ready, ancillary service in power market
- Three-phase unbalanced output Maximum 50kW output power in single phase at once
- Super backup ready, EPS operation without batteries



Safe

- IP65 protection level
- Integrated SPD



High-efficient

- 200% PV overload and up to 210% AC overload output
- Higher efficiency on charging and discharging, up to 97.5%
- Built-in shadow tracking function



Economic

- 18A DC single string input current, support high power solar panel
- Up to 100% PV input
- Store the surplus energy from PV to battery
- Low start output voltage makes inverter longer working time
- Less energy loss on battery to inverter
- Dual peak limit value, flexible optimization of electricity bills



X3-HYBRID G4 (THREE PHASE)

X3-HYBRID-5.0-D X3-HYBRID-6.0-D X3-HYBRID-8.0-D X3-HYBRID-10.0-D X3-HYBRID-12.0-D X3-HYBRID-15.0-D

DC INPUT	X3-HYBRID-5.0-D	X3-HYBRID-6.0-D	X3-HYBRID-8.0-D	X3-HYBRID-10.0-D	X3-HYBRID-12.0-D	X3-HYBRID-15.0-D
Max. PV array power [Wp]	10000	12000	16000	20000	24000	30000
Max. PV input voltage [V]	1000	1000	1000	1000	1000	1000
Start output voltage [V]	200	200	200	200	200	200
Nominal input voltage [V]	640	640	640	640	640	640
MPP voltage range [V]	180 ~ 950	180 ~ 950	180 ~ 950	180 ~ 950	180 ~ 950	180 ~ 950
No. of MPP trackers / Strings per MPP tracker	2 (1 / 1)	2 (1 / 1)	2 (2 / 1)	2 (2 / 1)	2 (2 / 1)	2 (2 / 1)
Max. input current (input PV1 / input PV2) [A]	16 / 16	16 / 16	28 / 16	28 / 16	28 / 16	28 / 16
Max. short circuit current (input PV1 / input PV2) [A]	20 / 20	20 / 20	35 / 20	35 / 20	35 / 20	35 / 20
AC INPUT & OUTPUT						
Nominal AC output power [W]	5000	6000	8000	10000	12000	15000
Max. AC output apparent power [VA]	5500	6600	8800	11000	13200	15000
Max. AC output current [A]	8.1	9.7	12.9	16.1	19.3	24.1
Nominal AC input apparent power [VA]	10000	12000	16000	20000	20000	20000
Max. AC input apparent power [VA]	10000	12000	16000	20000	22000	22000
Nominal AC voltage [V]	415 / 240; 400 / 230; 380 / 220					
Nominal grid frequency [Hz]	50 / 60					
Displacement power factor	0.8 leading ~ 0.8 lagging					
THDi (rated power) [%]	< 3					

BATTERY DATA						
Battery type	Lithium-ion battery / Lead-acid Battery					
Battery voltage range [V]	180 ~ 800					
Max. continuous charge / discharge current [A]	30					
EPS(OFF-GRID OR BACK-UP) OUTPUT (WITH BATTERY)						
Nominal output power [W]	5000	6000	8000	10000	12000	15000
Peak apparent power [VA]	12000, 10s	12000, 10s	18000, 10s	18000, 10s	22500, 10s	22500, 10s
Max. continuous current [A]	7.2	8.7	11.6	14.5	17.5	21.8
Nominal voltage [V], Frequency [Hz]	400 / 230; 50 / 60					
Switch time [ms]	< 10					
Parallel operation	YES					
SYSTEM DATA						
Max. efficiency [%]	98.0					
Euro. efficiency [%]	97.7					
Battery charge / discharge efficiency [%] ³	98.5 / 97.5					
Degree of protection	IP65					
Operating temperature range [°C]	-35 ~ +60 (Derating above +45)					
Max. operation altitude [m]	< 3000					
Relative humidity [%]	4-100 (condensing)					
Typical noise emission [dB]	< 35			< 45		
Storage temperature [°C]	-40 ~ +70					
Dimensions (WxHxD) [mm]	503 x 503 x 199					
Net weight [kg]	30					
Cooling concept	Nature cooling			Smart cooling		
Communication interfaces	CT / Meter (optional), External control R5485, Pocket WiFi (Optional: Pocket Lan / 4G), DRM, USB Upgrade, NTC, (optional)					
POWER CONSUMPTION						
Internal consumption (night) [W]	< 40W for standby, < 5W for idle					

DATASHEET BATERAI

Item		Description
Basic Parameters	Product Model	SmartLi
	Battery Cell Material	LiFePO4(6C)
	Charging Current	≤ 1C, 0.5C by default
	Maximum discharge current (battery module)	459A
	Maximum discharge current (battery cabinet)	630A (6+6) (7+7) (8+8) , 315A (6+0) (7+0) (8+0)
	Cycle Life	5000 cycles @ 50% DOD
	Nominal Capacity	162Ah / 82.94kWh (8+8) ; 162Ah / 72.57kWh (7+7) ; 162Ah / 62.20kWh (6+6) ;
	Capacity for calculating the backup time ²⁾	153Ah / 78.33kWh (8+8) ; 153Ah / 68.54kWh (7+7) ; 153Ah / 58.75kWh (6+6) ;
	Weight	1100kg (8+8) ; 1000kg (7+7) ; 900kg (6+6)
	Dimension (W*D*H)	600mm*850mm*2000mm
	Self Discharge	≤5% (0-30°C/3 months)
	Fire protection	Module-level
	Communication Interface	FE, RS485, Dry contacts
	Protection	Over temperature, over current, short circuit, over charge/discharge, etc.
	Design Life	15 years
	Certification	UL1642, UL1973, UN38.3, UL9540A, IEC62619, IEC62133, IEC62477, IEC62040
	Compatibility	Huawei UPS, third-party UPS/HVDC
	Discharge capability	300 kW@10 minutes or 200 kW@15 minutes (7+7, 20-30° C)
IP Protection Level	IP21 according to IEC60529 standard	
Environment	Storage Temperature	0°C - 40°C
	Transportation Temperature	-40°C to 60°C
	Operating Temperature	0°C - 40°C (20-25° C is recommended)
	Relative Humidity	5% - 95%
	Max. Operating Altitude	0 - 4000m. Derating is required if the altitude exceeds 1000 m*

DATASHEET MOTOR GESITS

Drivetrain	
Throttle Control	Ride-By-Wire Electric Throttle
Drive Mode	Eco - Urban - Sport
Motor	Permanent Magnet Synchronous Motor -BLDC
Cooling System	Air Cooled System
Transmission	Pulley Belt
Power Output	2000 Watt - PP 5000 Watt
Max. Horsepower	6,7 HP
Max. Torque	30 Nm
Frame	
Chassis	Steel Chassis
Front Suspension	Telescopic
Rear Suspension	Swing Arm with Mono Shock
Brake System	Double Disc Brake (Front & Rear)
Wheel	Front 80/80-R14 / Rear 100/80-R14
Safety	
Headlight	HID Projection
Hazard Light	LED Pair of Intermittent Flashing Indicator Light
Warning & alert	Engine Error Indicator
Start Protection	Safety Stand Switch
Dimension	
Length x Width x Height	1947mm x 674 mm x 1135 mm
Wheel Base	1290 mm
Curb Weight	94,5 kg
Feature	
Additional Feature	Reverse Transmission System
Port Charging	USB Port 5 V 1.2 A
Performance	
Acceleration (0-50 km/h)	5 second
Max. Speed	70 km/h
Max. Range per Battery	50 km
Charging Time	3 hour
Battery	Li-NCM 72 V 20 Ah

Model	CTSN7220
Jenis Sel Kimia	NCM
Kapasitas yang Ternilai	20 Ah
Tegangan Terukur	72 V
Energi	1440 Wh
Ukuran	75*210*375 mm
Bobot	11 KG
Pengisian Tegangan Terbatas	84 V
penyaranan Arus	5 A

DOKUMENTASI PENGUKURAN RADIASI MATAHARI

