

# **EXHIBIT A**

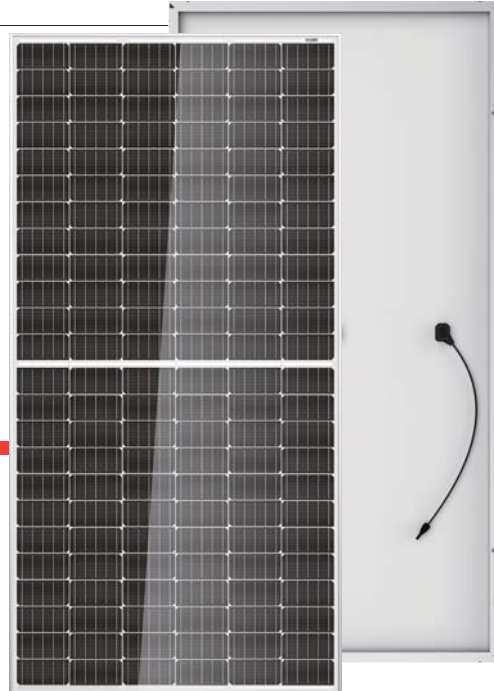
## **Manufacturer's Equipment Specifications**

**Palomino Solar Energy Project  
Case No. 21-0041-EL-BGN**

THE

# TALLMAX<sup>M</sup>plus<sup>+</sup>

## FRAMED 144 HALF-CELL MODULE



### 144-Cell MONOCRYSTALLINE MODULE

### 385-400W POWER OUTPUT RANGE

### 19.7% MAXIMUM EFFICIENCY

### 0~+5W POSITIVE POWER TOLERANCE

PRODUCTS	COLOR OF FRAME	POWER RANGE
TSM-DE15H(II)	Silver	385-400W



#### Increased value

- Reduce BOS cost with high power bin and 1500V system voltage
- Low thermal coefficients for greater energy production at higher temperature



#### Half-cell design brings higher efficiency

- New cell string layout and split J-box location to reduce the energy loss caused by inter-row shading
- Integrated LRF (Light Redirecting Film) to enhance power, specially for ground-mount applications
- Lower cell connection power losses due to half-cell layout (144 monocrystalline)



#### Highly reliable due to stringent quality control

- Over 30 in-house tests (UV, TC, HF etc)
- Increased module robustness to minimize micro-cracks
- PID resistant and free of snail trails
- Internal test requirement of Trina more stringent than certification authority



#### Certified to withstand the most challenging environmental conditions

- 2400 Pa negative load
- 5400 Pa positive load

Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. 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, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

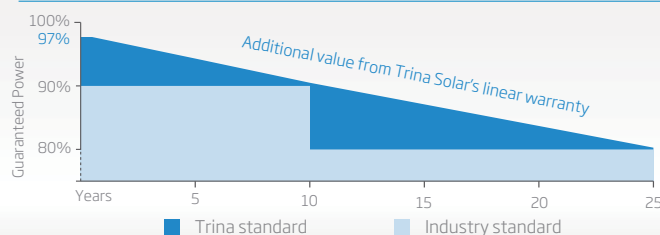
#### Comprehensive Products And System Certificates

IEC61215/UL1703/IEC61730/IEC61701/IEC62716  
 ISO 9001: Quality Management System  
 ISO 14001: Environmental Management System  
 ISO14064: Greenhouse gases Emissions Verification  
 OHSAS 18001: Occupation Health and Safety Management System

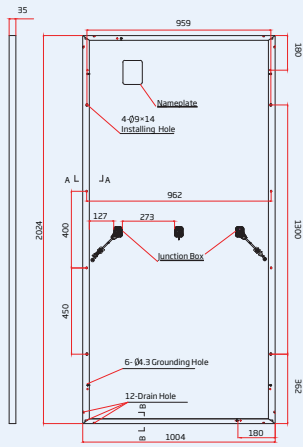


#### LINEAR PERFORMANCE WARRANTY

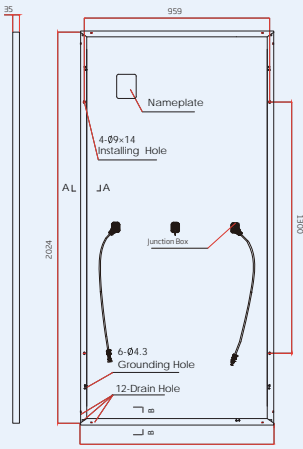
10 Year Product Warranty · 25 Year Linear Power Warranty



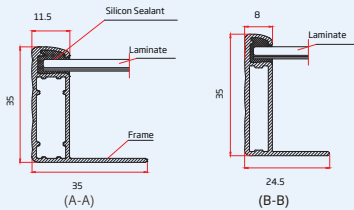
## DIMENSIONS OF PV MODULE(mm)



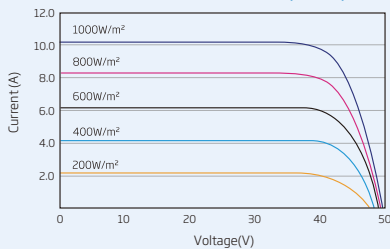
Back View (Portrait)



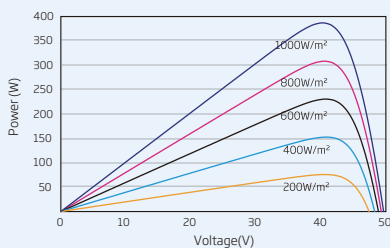
Back View (Landscape)



## I-V CURVES OF PV MODULE(390W)



## P-V CURVES OF PV MODULE(390W)



## ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}$ (Wp)*	385	390	395	400
Power Output Tolerance- $P_{MAX}$ (W)	0 ~ +5			
Maximum Power Voltage- $V_{MPP}$ (V)	40.1	40.5	40.8	41.1
Maximum Power Current- $I_{MPP}$ (A)	9.61	9.64	9.69	9.74
Open Circuit Voltage- $V_{OC}$ (V)	48.5	49.7	50.1	50.4
Short Circuit Current- $I_{SC}$ (A)	10.03	10.08	10.13	10.18
Module Efficiency $\eta_m$ (%)	18.9	19.2	19.4	19.7

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5.  
\*Measurement tolerance:  $\pm 3\%$ .

## ELECTRICAL DATA (NMOT)

Maximum Power- $P_{MAX}$ (Wp)	291	295	298	302
Maximum Power Voltage- $V_{MPP}$ (V)	37.9	38.4	38.7	38.9
Maximum Power Current- $I_{MPP}$ (A)	7.66	7.68	7.71	7.76
Open Circuit Voltage- $V_{OC}$ (V)	45.6	46.8	47.2	47.4
Short Circuit Current- $I_{SC}$ (A)	8.09	8.13	8.17	8.21

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

## MECHANICAL DATA

Solar Cells	Monocrystalline 158.75 × 158.75 mm
Cell Orientation	144 cells (6 × 24)
Module Dimensions	2024 × 1004 × 35 mm (79.69 × 39.53 × 1.38 inches)
Weight	22.8 kg (50.3 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	White
Frame	35 mm (1.38 inches) Anodized Aluminium Alloy w/ 400 m Mounting Holes
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²), Portrait: N 140 mm/P 285 mm(5.51/11.22 inches) Landscape: N 1400 mm /P 1400 mm (55.12/55.12 inches)
Connector	Trina TS4

## TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41°C ( $\pm 3^\circ\text{C}$ )
Temperature Coefficient of $P_{MAX}$	- 0.37%/°C
Temperature Coefficient of $V_{OC}$	- 0.29%/°C
Temperature Coefficient of $I_{SC}$	0.05%/°C

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

## MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC) 1500V DC (UL)
Max Series Fuse Rating	20A

## WARRANTY

10 year Product Workmanship Warranty
25 year Linear Power Warranty

(Please refer to product warranty for details)

## PACKAGING CONFIGURATION

Modules per box: 30 pieces
Modules per 40' container: 660 pieces





## BiHiKu7

BIFACIAL MONO PERC

575 W ~ 600 W

CS7L-575 | 580 | 585 | 590 | 595 | 600MB-AG



### MORE POWER



Module power up to 600 W  
Module efficiency up to 21.2 %



Up to 8.9 % lower LCOE  
Up to 4.6 % lower system cost



Comprehensive LID / LeTID mitigation technology, up to 50% lower degradation



Compatible with mainstream trackers, cost effective product for utility power plant



Better shading tolerance

### MORE RELIABLE



40 °C lower hot spot temperature, greatly reduce module failure rate



Minimizes micro-crack impacts



Heavy snow load up to 5400 Pa, wind load up to 2400 Pa\*



**Enhanced Product Warranty on Materials and Workmanship\***



**Linear Power Performance Warranty\***

**1<sup>st</sup> year power degradation no more than 2%  
Subsequent annual power degradation no more than 0.45%**

\*According to the applicable Canadian Solar Limited Warranty Statement.

### MANAGEMENT SYSTEM CERTIFICATES\*

ISO 9001:2015 / Quality management system  
ISO 14001:2015 / Standards for environmental management system  
ISO 45001: 2018 / International standards for occupational health & safety

### PRODUCT CERTIFICATES\*

IEC 61215 / IEC 61730 / INMETRO / UKCA  
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68  
Take-e-way

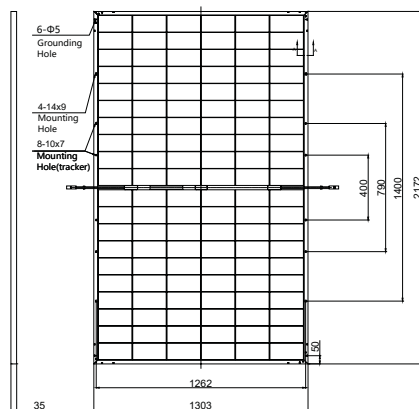


\* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your Product and applicable in the regions in which the products will be used.

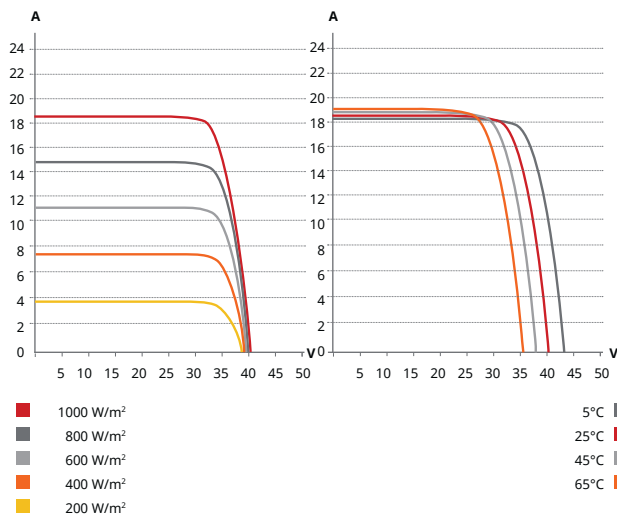
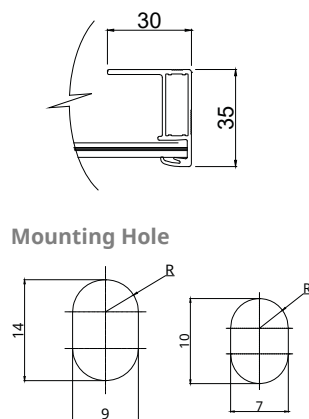
**CSI Solar Co., Ltd.** is committed to providing high quality solar products, solar system solutions and services to customers around the world. Canadian Solar was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey, and is a leading PV project developer and manufacturer of solar modules, with over 55 GW deployed around the world since 2001.

\* For detailed information, please refer to the Installation Manual.

Rear View



Frame Cross Section A-A



## ELECTRICAL DATA | STC\*

		Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)	Module Efficiency
CS7L-575MB-AG		575 W	33.9 V	16.97 A	40.3 V	18.22 A	20.3%
	Bifacial Gain**	5% 604 W	33.9 V	17.82 A	40.3 V	19.13 A	21.3%
		10% 633 W	33.9 V	18.68 A	40.3 V	20.04 A	22.4%
		20% 690 W	33.9 V	20.36 A	40.3 V	21.86 A	24.4%
CS7L-580MB-AG		580 W	34.1 V	17.02 A	40.5 V	18.27 A	20.5%
	Bifacial Gain**	5% 609 W	34.1 V	17.87 A	40.5 V	19.18 A	21.5%
		10% 638 W	34.1 V	18.72 A	40.5 V	20.10 A	22.5%
		20% 696 W	34.1 V	20.42 A	40.5 V	21.92 A	24.6%
CS7L-585MB-AG		585 W	34.3 V	17.06 A	40.7 V	18.32 A	20.7%
	Bifacial Gain**	5% 614 W	34.3 V	17.91 A	40.7 V	19.24 A	21.7%
		10% 644 W	34.3 V	18.78 A	40.7 V	20.15 A	22.8%
		20% 702 W	34.3 V	20.47 A	40.7 V	21.98 A	24.8%
CS7L-590MB-AG		590 W	34.5 V	17.11 A	40.9 V	18.37 A	20.8%
	Bifacial Gain**	5% 620 W	34.5 V	17.98 A	40.9 V	19.29 A	21.9%
		10% 649 W	34.5 V	18.82 A	40.9 V	20.21 A	22.9%
		20% 708 W	34.5 V	20.53 A	40.9 V	22.04 A	25.0%
CS7L-595MB-AG		595 W	34.7 V	17.15 A	41.1 V	18.42 A	21.0%
	Bifacial Gain**	5% 625 W	34.7 V	18.02 A	41.1 V	19.34 A	22.1%
		10% 655 W	34.7 V	18.88 A	41.1 V	20.26 A	23.1%
		20% 714 W	34.7 V	20.58 A	41.1 V	22.10 A	25.2%
CS7L-600MB-AG		600 W	34.9 V	17.20 A	41.3 V	18.47 A	21.2%
	Bifacial Gain**	5% 630 W	34.9 V	18.06 A	41.3 V	19.39 A	22.3%
		10% 660 W	34.9 V	18.92 A	41.3 V	20.32 A	23.3%
		20% 720 W	34.9 V	20.64 A	41.3 V	22.16 A	25.4%

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

\*\* Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

## ELECTRICAL DATA

Operating Temperature	-40°C ~ +85°C
Max. System Voltage	1500 V (IEC/UL) or 1000 V (IEC/UL)
Module Fire Performance	TYPE 29 (UL 61730) or CLASS C (IEC61730)
Max. Series Fuse Rating	35 A
Application Classification	Class A
Power Tolerance	0 ~ + 10 W
Power Bifaciality*	70 %

\* Power Bifaciality =  $P_{max, rear} / P_{max, front}$ , both  $P_{max, rear}$  and  $P_{max, front}$  are tested under STC, Bifaciality Tolerance:  $\pm 5\%$

\* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice.

Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

## ELECTRICAL DATA | NMOT\*

	Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)
CS7L-575MB-AG	431 W	31.8 V	13.56 A	38.1 V	14.69 A
CS7L-580MB-AG	435 W	32.0 V	13.60 A	38.3 V	14.73 A
CS7L-585MB-AG	439 W	32.2 V	13.64 A	38.5 V	14.77 A
CS7L-590MB-AG	442 W	32.3 V	13.70 A	38.7 V	14.80 A
CS7L-595MB-AG	446 W	32.5 V	13.73 A	38.8 V	14.85 A
CS7L-600MB-AG	450 W	32.7 V	13.77 A	39.0 V	14.89 A

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

## MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline
Cell Arrangement	120 [2 x (10 x 6)]
Dimensions	2172 x 1303 x 35 mm (85.5 x 51.3 x 1.38 in)
Weight	34.6 kg (76.3 lbs)
Front / Back Glass	2.0 mm heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 diodes
Cable	4.0 mm² (IEC), 10 AWG (UL)
Cable Length (Including Connector)	460 mm (18.1 in) (+) / 340 mm (13.4 in) (-) (supply additional jumper cable: 2 lines / Pallet) or customized length*
Connector	T4 series or MC4-EVO2
Per Pallet	31 pieces
Per Container (40' HQ)	527 pieces

\* For detailed information, please contact your local Canadian Solar sales and technical representatives.

## TEMPERATURE CHARACTERISTICS

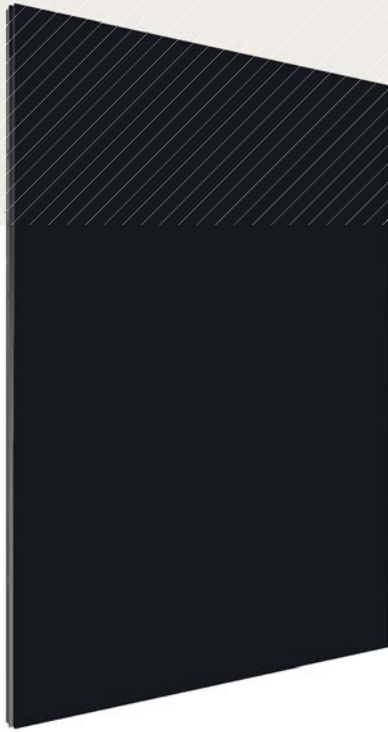
Specification	Data
Temperature Coefficient (Pmax)	-0.34 % / °C
Temperature Coefficient (Voc)	-0.26 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	41 ± 3°C

## PARTNER SECTION



### HIGH-POWER PV MODULES

First Solar Series 6™ photovoltaic (PV) module sets a new industry benchmark for reliable energy production, optimized design and environmental performance. Series 6 modules are optimized for every stage of your application, significantly reducing balance of system, shipping, and operating costs.



**420-450 Watts**  
**17%+ Efficiency**



### MORE ENERGY PER MODULE

- More watts per connection and per lift (420+ watts) than 72-cell silicon modules
- With superior temperature coefficient, spectral response and shading behavior, Series 6 modules generate up to 8% more energy per watt than conventional crystalline silicon solar modules
- Anti-reflective coated glass enhances energy production



### INNOVATIVE MODULE DESIGN

- Under-mount frame allows for simple and fast installation
- SpeedSlots™ combine the robustness of bottom mounting with the speed of top clamping while utilizing fewer fasteners
- Dual junction box optimizes module-to-module connections
- Under-mount frame provides the cleaning and snow-shedding benefits of a frameless module, protects edges against breakage and enables horizontal stacking



### PROVEN LONG-TERM RELIABILITY

- Manufactured using methods and process adapted from Series 4 modules – the most tested solar modules in the industry
- Independently tested and certified for reliable performance that exceeds IEC standards in high temperature, high humidity, extreme desert and coastal applications
- Inherently immune to power loss due to cell-cracking typically seen in extreme weather events such as hail or strong winds
- Durable glass/glass construction with market-leading 75mm hail impact certification



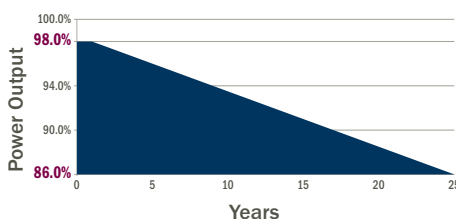
### BEST ENVIRONMENTAL PROFILE

- Fastest energy payback time and smallest carbon and water footprint in the industry
- Global PV collection and recycling services available through First Solar or customer-selected third-party

### INDUSTRY-LEADING MODULE WARRANTY<sup>1</sup>

**98%** WARRANTY START POINT

**0.5%** WARRANTED ANNUAL DEGRADATION RATE



- 25-Year Linear Performance Warranty
- 10-Year Limited Product Warranty



## MODEL TYPES AND RATINGS AT STANDARD TEST CONDITIONS (1000W/m<sup>2</sup>, AM 1.5, 25°C)<sup>2</sup>

NOMINAL VALUES		FS-6420 FS-6420A	FS-6425 FS-6425A	FS-6430 FS-6430A	FS-6435 FS-6435A	FS-6440 FS-6440A	FS-6445 FS-6445A	FS-6450 FS-6450A
Nominal Power <sup>3</sup> (-0/+5%)	P <sub>MAX</sub> (W)	420.0	425.0	430.0	435.0	440.0	445.0	450.0
Efficiency (%)	%	17.0	17.2	17.4	17.6	17.8	18.0	18.2
Voltage at P <sub>MAX</sub>	V <sub>MAX</sub> (V)	180.4	181.5	182.6	183.6	184.7	185.7	186.8
Current at P <sub>MAX</sub>	I <sub>MAX</sub> (A)	2.33	2.34	2.36	2.37	2.38	2.40	2.41
Open Circuit Voltage	V <sub>OC</sub> (V)	218.5	218.9	219.2	219.6	220.0	220.4	221.1
Short Circuit Current	I <sub>SC</sub> (A)	2.54	2.54	2.54	2.55	2.55	2.56	2.57
Maximum System Voltage	V <sub>SYS</sub> (V)	1500 <sup>5</sup>						
Limiting Reverse Current	I <sub>R</sub> (A)	5.0						
Maximum Series Fuse	I <sub>CF</sub> (A)	5.0						

## RATINGS AT NOMINAL OPERATING CELL TEMPERATURE OF 45°C (800W/m<sup>2</sup>, 20°C air temperature, AM 1.5, 1m/s wind speed)<sup>2</sup>

Nominal Power	P <sub>MAX</sub> (W)	317.2	320.9	324.7	328.5	332.4	336.0	339.9
Voltage at P <sub>MAX</sub>	V <sub>MAX</sub> (V)	168.7	169.8	170.9	172.0	173.1	174.1	175.2
Current at P <sub>MAX</sub>	I <sub>MAX</sub> (A)	1.88	1.89	1.90	1.91	1.92	1.93	1.94
Open Circuit Voltage	V <sub>OC</sub> (V)	206.3	206.6	207.0	207.3	207.7	208.0	208.8
Short Circuit Current	I <sub>SC</sub> (A)	2.04	2.05	2.05	2.06	2.06	2.06	2.07

## TEMPERATURE CHARACTERISTICS

Module Operating Temperature Range	(°C)	-40 to +85	
Temperature Coefficient of P <sub>MAX</sub>	T <sub>K</sub> (P <sub>MAX</sub> )	-0.32%/°C [Temperature Range: 25°C to 75°C]	
Temperature Coefficient of V <sub>OC</sub>	T <sub>K</sub> (V <sub>OC</sub> )	-0.28%/°C	
Temperature Coefficient of I <sub>SC</sub>	T <sub>K</sub> (I <sub>SC</sub> )	+0.04%/°C	

## MECHANICAL DESCRIPTION

Length	2009mm
Width	1232mm
Thickness	49mm
Area	2.47m <sup>2</sup>
Module Weight	34.5kg
Leadwire <sup>6</sup>	2.5mm <sup>2</sup> , 720mm (+) & Bulkhead (-)
Connectors	MC4-EVO 2 or alternate
Bypass Diode	N/A
Cell Type	Thin film CdTe semiconductor, up to 264 cells
Frame Material	Anodized Aluminum
Front Glass	Heat strengthened Series 6A™ includes anti-reflective coating
Back Glass	Heat strengthened
Encapsulation	Laminate material with edge seal
Frame to Glass Adhesive	Silicone
Load Rating <sup>7</sup>	2400Pa

## PACKAGING INFORMATION

Modules Per Pallet	27	Pallet Dimensions (L x W x H)	2200 x 1300 x 1164mm (86 x 51 x 45.8in)
Pallet Weight	1032kg	Pallets per 40' Container	18

## Disclaimer

The information included in this Module Datasheet is subject to change without notice and is provided for informational purposes only. No contractual rights are established or should be inferred because of user's reliance on the information contained in this Module Datasheet. Please refer to the appropriate Module User Guide and Module Product Specification document for more detailed technical information regarding module performance, installation and use.

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## CERTIFICATIONS AND TESTS

### IEC

61215:2016 & 61730-1:2016<sup>5</sup>, CE  
61701 Salt Mist Corrosion  
60068-2-68 Dust and Sand Resistance

### UL

UL 1703 1500V Listed<sup>5</sup>

## REGIONAL CERTIFICATIONS

MCS SII  
InMetro<sup>4</sup> FSEC  
BIS<sup>4</sup> MyHijau

## EXTENDED DURABILITY TESTS

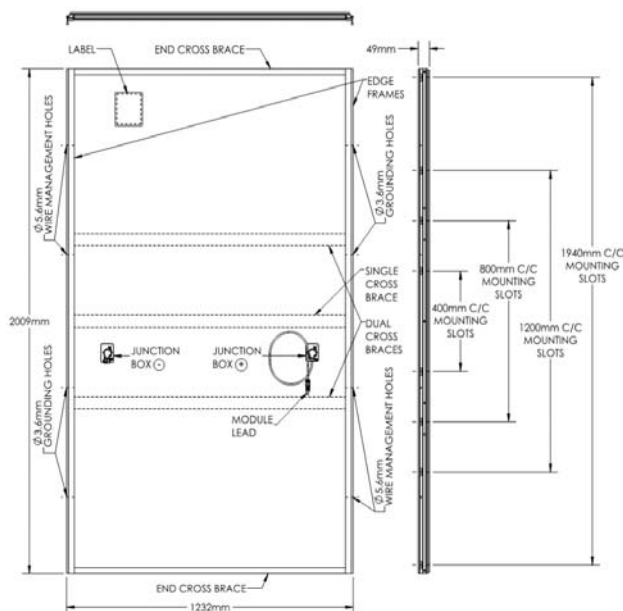
ANSI/CAN/CSA-C450-18  
Long-Term Sequential  
Thresher Test  
PID Resistant

## QUALITY & EHS

ISO 9001:2015  
ISO 14001:2015  
ISO 45001:2018



## MECHANICAL DRAWING



Install in portrait only

- Limited power output and product warranties subject to warranty terms and conditions
- All ratings ±10%, unless specified otherwise. Specifications are subject to change
- Measurement uncertainty applies
- Testing Certifications/Listings pending
- IEC 61730-1: 2016 Class II | ULC 1703 1000V listed
- Leadwire length from junction box exit to connector mating surface
- 1000Pa tentative design load rating for 1940mm mounting slots. Higher loads may be acceptable, subject to testing

# SG3425/3600UD-MV

**SUNGROW**  
Clean power for all

Turnkey Station for North America 1500 Vdc System - MV  
Transformer Integrated



## HIGH YIELD

- Advanced three-level technology, max. efficiency 98.9%
- Full power operation at 45 °C (113 °F)
- Effective cooling, wide operation temperature
- Max. DC/AC ratio up to 2.0

## EASY O&M

- Integrated current, voltage and MV parameters monitoring function for online analysis and trouble shooting
- Modular design, easy for maintenance

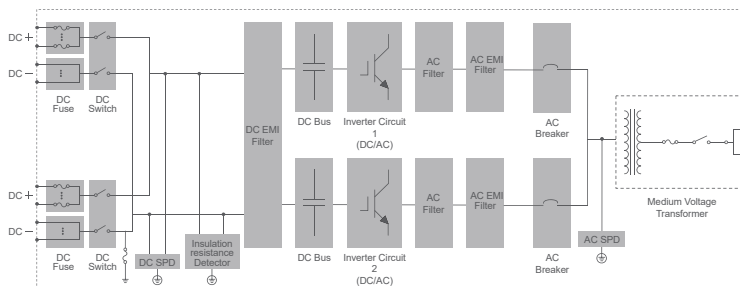
## SAVED INVESTMENT

- Low transportation and installation cost due to 20-foot container size design
- DC 1500V system, low system cost
- Integrated MV transformer and LV auxiliary power supply
- Q at night optional

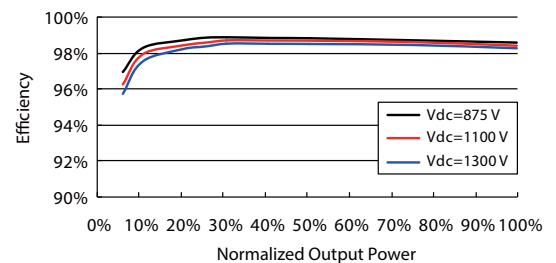
## GRID SUPPORT

- Compliance with standards: UL 1741, UL 1741 SA, IEEE 1547, Rule 21 and NEC code
- Low / High voltage ride through (L/HVRT), L/HFRT, soft start / stop
- Active & reactive power control and power ramp rate control

## CIRCUIT DIAGRAM



## EFFICIENCY CURVE (SG3425UD)





Type designation	SG3425UD-MV	SG3600UD-MV
Input (DC)		
Max. PV input voltage	1500V	
Min. PV input voltage / Startup input voltage	875 V / 915 V	915 V / 955 V
Available DC fuse sizes	250A, 315A, 400A, 450A, 500A	
MPP voltage range for nominal power	875 – 1300 V	915 – 1300 V
No. of independent MPP inputs	1	
No. of DC inputs	20 (optional: 22 / 24 / 26 / 28)	
Max. DC short-circuit current	10000 A	
PV array configuration	Negative grounding or floating	
Output (AC)		
AC output power	3425 kVA @ 45 °C (113 °F), 3083 kVA @ 50 °C (122 °F)	3600 kVA @ 45 °C (113 °F), 3240 kVA @ 50 °C (122 °F)
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 50 – 65 Hz	
THD	< 3 % (at nominal power)	
DC current injection	< 0.5 % In	
Efficiency		
Inverter Max. efficiency	98.9 %	
Inverter CEC efficiency	98.5 %	
Transformer		
Transformer rated power	3425 kVA	3600 kVA
Transformer max. power	3425 kVA	3600 kVA
LV / MV voltage	0.6 kV / (12 – 35) kV	0.63 kV / (12 – 35) kV
Transformer vector	Dy1 or Dy11	
Transformer cooling type	ONAN (Optional: KNAN)	
Protection		
DC input protection	Load break switch + fuse	
Inverter output protection	Circuit breaker	
AC MV output protection	Load break switch + fuse	
Overvoltage protection	DC Type II / AC Type II	
Grid monitoring / Ground fault monitoring	Yes / Yes	
Insulation monitoring	Yes	
Overheat protection	Yes	
General Data		
Dimensions (W * H * D)	6058 * 2896 * 2438 mm 238.5" * 114.0" * 96.0"	
Weight	18000 kg 39683.2 lbs	
Degree of protection	NEMA 4X (Electronic for Inverter) / NEMA 3R (Others)	
Auxiliary power supply	5kVA, 120Vac/240Vac; Optional: 30kVA, 480Vac/277Vac	
Operating ambient temperature range	-35 to 60 °C (> 45 °C derating) / optional: -40 to 60 °C (> 45 °C derating) -22 to 140 °F (> 113 °F derating) / optional: -40 to 140 °F (> 113 °F derating)	
Allowable relative humidity range	0 - 100 %	
Cooling method	Temperature controlled forced air cooling	
Max. operating altitude	1000 m (Standard) / > 1000 m (Customized) (3280.8 ft (standard) / > 3280.8 ft (Customized))	
DC-Coupled storage interface	Optional	
Charging power from the grid	Optional	
Communication	Standard: RS485, Ethernet; Optional: optical fiber	
Compliance	UL 1741, IEEE 1547, UL1741 SA, NEC 2017, CSA C22.2 No.107.1-01	
Grid support	Q at night function (optional), L/HVRT, L/HFRT, Active & reactive power control and power ramp rate control, Volt-var, Frequency-watt	

# SUNNY CENTRAL

## 4000 UP-US / 4200 UP-US / 4400 UP-US / 4600 UP-US



### Efficient

- Up to 4 inverters can be transported in one standard shipping container
- Overdimensioning up to 150% is possible
- Full power at ambient temperatures of up to 35°C

### Robust

- Intelligent air cooling system OptiCool for efficient cooling
- Suitable for outdoor use in all climatic ambient conditions worldwide

### Flexible

- Conforms to all known grid requirements worldwide
- Q on demand
- Available as a single device or turn-key solution, including medium-voltage block

### Easy to Use

- Improved DC connection area
- Connection area for customer equipment
- Integrated voltage support for internal and external loads

## SUNNY CENTRAL

### 4000 UP-US / 4200 UP-US / 4400 UP-US / 4600 UP-US

The new Sunny Central: more power per cubic meter

With an output of up to 4600 kVA and system voltages of 1500 V DC, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV power plants. A separate voltage supply and additional space are available for the installation of customer equipment. True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.

# SUNNY CENTRAL 4000 UP-US / 4200 UP-US

Technical data	SC 4000 UP-US	SC 4200 UP-US
<b>Input (DC)</b>		
MPP voltage range V <sub>DC</sub> (at 25 °C / at 50 °C)	880 to 1325 V / 1050 V	921 to 1325 V / 1050 V
Min. input voltage V <sub>DC, min</sub> / Start voltage V <sub>DC, Start</sub>	849 V / 1030 V	891 V / 1071 V
Max. input voltage V <sub>DC, max</sub>	1500 V	1500 V
Max. input current I <sub>DC, max</sub>	4750 A	4750 A
Max. short-circuit current I <sub>DC, sc</sub>	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused)	
Number of DC inputs with optional DC coupling of battery	18 double pole fused (36 single pole fused) for PV, 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Available battery fuse size (per input)	750 A	
<b>Output (AC)</b>		
Nominal AC power at cos φ =1 (at 35 °C / at 50 °C)	4000 kVA <sup>11)</sup> / 3600 kVA	4200 kVA <sup>11)</sup> / 3780 kVA
Nominal AC power at cos φ =0.8 (at 35 °C / at 50 °C)	3200 kW <sup>11)</sup> / 2880 kW	3360 kW <sup>11)</sup> / 3024 kW
Nominal AC current I <sub>AC, nom</sub> (at 35 °C / at 50 °C)	3850 A / 3465 A	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range <sup>1) 8)</sup>	600 V / 480 V to 720 V	630 V / 504 V to 756 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz > 2	
Min. short-circuit ratio at the AC terminals <sup>9)</sup>	> 2	
Power factor at rated power / displacement power factor adjustable <sup>8) 10)</sup>	1 / 0.8 overexcited to 0.8 underexcited	
<b>Efficiency</b>		
Max. efficiency <sup>2)</sup> / European efficiency <sup>2)</sup> / CEC efficiency <sup>3)</sup>	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
<b>Protective Devices</b>		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
AC overvoltage protection (optional)	Surge arrester, class I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection	NEMA 3R	
<b>General Data</b>		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	
Weight	<3700 kg / < 8158 lb	
Self-consumption (max. <sup>4)</sup> / partial load <sup>5)</sup> / average <sup>6)</sup>	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Internal auxiliary power supply	○ Integrated 8.4 kVA transformer	
Operating temperature range <sup>8)</sup>	-25 °C to 60 °C / -13 °F to 140 °F	
Noise emission <sup>7)</sup>	67.0 dB(A)*	
Temperature range (standby)	-40 °C to 60 °C / -40 °F to 140 °F	
Temperature range (storage)	-40 °C to 70 °C / -40 °F to 158 °F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL <sup>8)</sup> 1000 m / 2000 m	● / ○ (earlier temperature-dependent derating)	
Fresh air consumption	6500 m³/h	
<b>Features</b>		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply transformer for external loads	○ (2.5 kVA)	
Standards and directives complied with	UL 62109-1, UL 1741 (Chapter 31, CDR 61), UL 1741-SA, UL 1998, IEEE 1547, MIL-STD-810G	
EMC standards	FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
● Standard features    ○ Optional		

1) At nominal AC voltage, nominal AC power decreases in the same proportion

2) Efficiency measured without internal power supply

3) Efficiency measured with internal power supply

4) Self-consumption at rated operation

5) Self-consumption at < 75% P<sub>n</sub> at 25 °C

6) Self-consumption averaged out from 5% to 100% P<sub>n</sub> at 25 °C

7) Sound pressure level at a distance of 10 m

8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.

9) A short-circuit ratio of < 2 requires a special approval from SMA

10) Depending on the DC voltage

11) Nominal power at 35 °C max DC voltage of 1050 V

# SUNNY CENTRAL 4400 UP-US / 4600 UP-US

Technical data	SC 4400 UP-US	SC 4600 UP-US
<b>Input (DC)</b>		
MPP voltage range $V_{DC}$ (at 25 °C / at 50 °C)	962 to 1325 V / 1050 V	1003 to 1325 V / 1050 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	934 V / 1112 V	976 V / 1153 V
Max. input voltage $V_{DC, max}$	1500 V	1500 V
Max. input current $I_{DC, max}$	4750 A	4750 A
Max. short-circuit current $I_{DC, sc}$	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused)	
Number of DC inputs with optional DC coupling of battery	18 double pole fused (36 single pole fused) for PV, 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Available battery fuse size (per input)	750 A	
<b>Output (AC)</b>		
Nominal AC power at $\cos \varphi = 1$ (at 35 °C / at 50 °C)	4400 kVA <sup>1)</sup> / 3960 kVA	4600 kVA <sup>1)</sup> / 4140 kVA
Nominal AC power at $\cos \varphi = 0.8$ (at 35 °C / at 50 °C)	3520 kW <sup>1)</sup> / 3168 kW	3680 kW <sup>1)</sup> / 3312 kW
Nominal AC current $I_{AC, nom}$ (at 35 °C / at 50 °C)	3850 A / 3465 A	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range <sup>1) 8)</sup>	660 V / 528 V to 759 V	690 V / 552 V to 759 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals <sup>9)</sup>	> 2	
Power factor at rated power / displacement power factor adjustable <sup>8) 10)</sup>	1 / 0.8 overexcited to 0.8 underexcited	
<b>Efficiency</b>		
Max. efficiency <sup>2)</sup> / European efficiency <sup>2)</sup> / CEC efficiency <sup>3)</sup>	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
<b>Protective Devices</b>		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
AC overvoltage protection (optional)	Surge arrester, class I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection	NEMA 3R	
<b>General Data</b>		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	
Weight	<3700 kg / < 8158 lb	
Self-consumption (max. <sup>4)</sup> / partial load <sup>5)</sup> / average <sup>6)</sup>	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Internal auxiliary power supply	○ Integrated 8.4 kVA transformer	
Operating temperature range <sup>8)</sup>	-25 °C to 60 °C / -13 °F to 140 °F	
Noise emission <sup>7)</sup>	67.0 dB(A)*	
Temperature range (standby)	-40 °C to 60 °C / -40 °F to 140 °F	
Temperature range (storage)	-40 °C to 70 °C / -40 °F to 158 °F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL <sup>8)</sup> 1000 m / 2000 m	● / ○ (earlier temperature-dependent derating)	
Fresh air consumption	6500 m³/h	
<b>Features</b>		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply transformer for external loads	○ (2.5 kVA)	
Standards and directives complied with	UL 62109-1, UL 1741 (Chapter 31, CDR 6I), UL 1741-SA, UL 1998 IEEE 1547, MIL-STD-810G	
EMC standards	FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
● Standard features    ○ Optional		

1) At nominal AC voltage, nominal AC power decreases in the same proportion

2) Efficiency measured without internal power supply

3) Efficiency measured with internal power supply

4) Self-consumption at rated operation

5) Self-consumption at < 75% Pn at 25 °C

6) Self-consumption averaged out from 5% to 100% Pn at 25 °C

7) Sound pressure level at a distance of 10 m

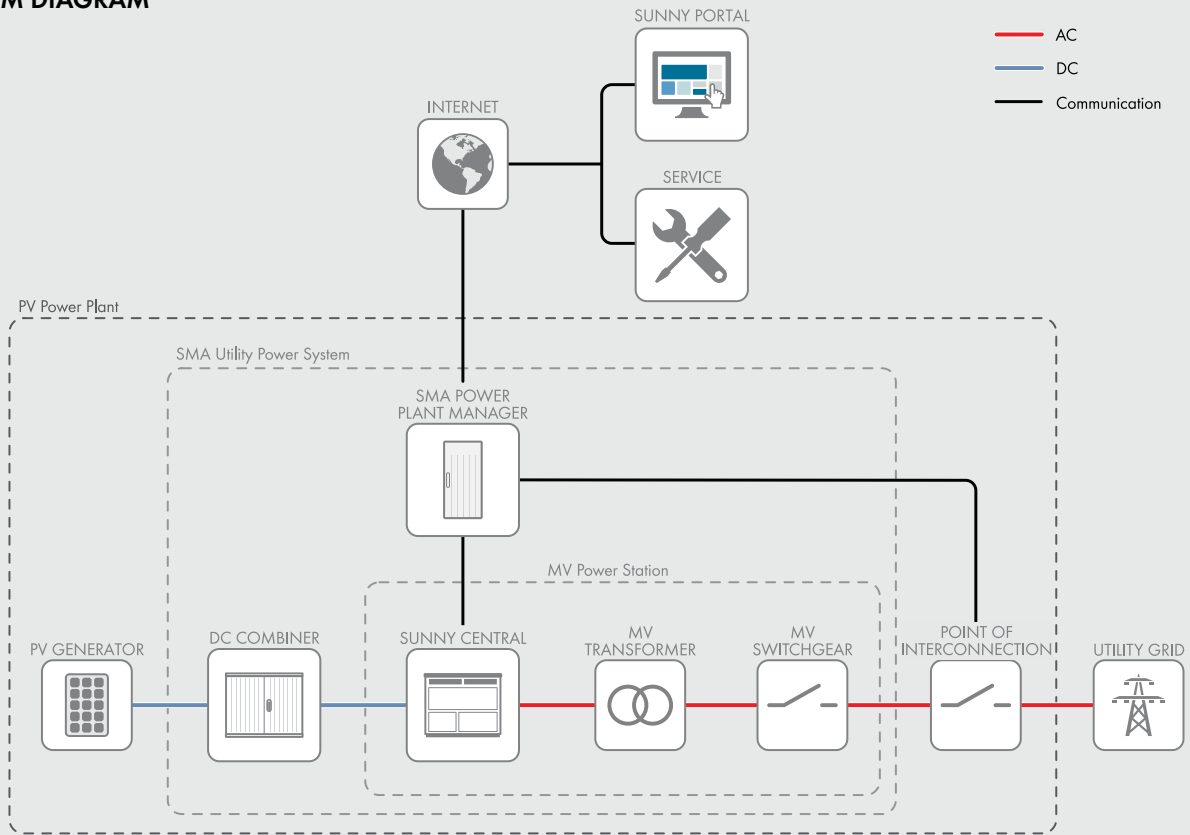
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.

9) A short-circuit ratio of < 2 requires a special approval from SMA

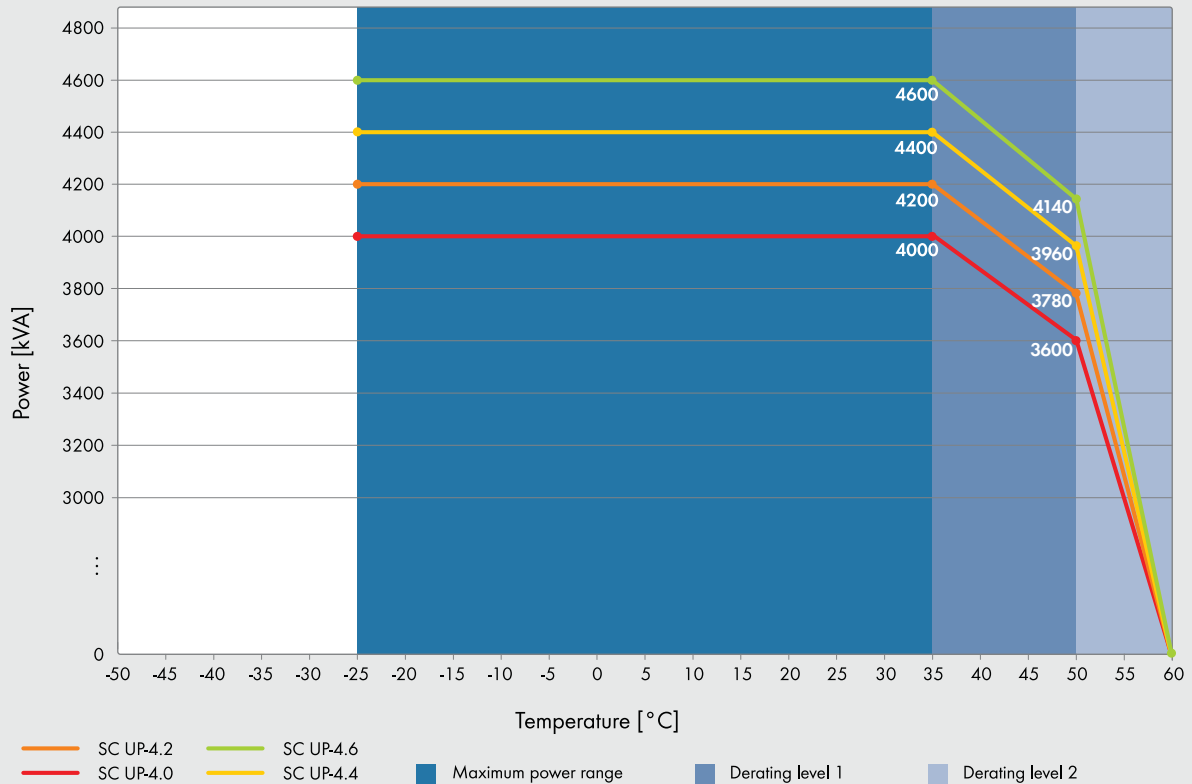
10) Depending on the DC voltage

11) Nominal power at 35 °C max DC voltage of 1050 V

## SYSTEM DIAGRAM



## TEMPERATURE BEHAVIOR (at 1000 m)



SCXXXXUP-US-DS-en-2.5 All products and services described and all technical data are subject to change, even for reasons of country-specific deviations, at any time without notice. SMA assumes no liability for typographical or other errors. For current information, please see [www.SMA-Solar.com](http://www.SMA-Solar.com).

# Solar Ware Ninja™

**TMEiC**  
We drive industry

## Multiple Configurations for Maximum Flexibility

TMEiC's Solar Ware Ninja is the latest evolution of the highly successful Solar Ware family of inverters, joining over 30GW of TMEiC's globally installed photovoltaic inverters. Continuing the legacy of high efficiency, cutting-edge features, and unmatched reliability, the new Ninja modular inverter system is the culmination of input from utilities, developers, and technicians.

The Ninja is a global product, performing the duties of both generation and energy storage. The modular system introduces multiple layers of flexibility to allow designers an almost unlimited number of options for every project. The advanced controls system is packed with features to meet not only today's smart inverter requirements, but also new requirements as they are introduced. Like the award-winning Samurai series of inverters, the Ninja utilizes the same highly reliable IGBT based power conversion system.



## Customizable Block

Up to 6 Ninja units on the same skid. Able to combine PV and ESS inverters in the same lineup. A skid controller will manage output of the Ninja power station.

- Fully Modular design means:
  - Completely independent inverters for increased availability
  - Individual MPPT for greater energy yield
  - Latest generation of Smart Inverter controls platform
  - 800kW-5280kW integrated skid sizes
- DC Zone monitoring is standard
- UL or IEC certified global design
- PV or Energy Storage (bi-directional)
- Outdoor rated enclosure

## TMEiC is Bankable

- Stable, with multi billion \$USD revenue
- Diversified, with decades of power electronics

experience in a variety of heavy industries, including metals, oil & gas, mining, and container cranes industries

- Manufacturing in the US and several other locations

## TMEiC is Reliable

- Over 30GW of PV and ESS inverters globally
- Own exclusive use of Mitsubishi Electric's 3 level NPS technology
- Industry leading fleet availability

## TMEiC is Support

- Interconnect Application and Modeling Support
- 24/7 US based hot line
- Over 30 years PV inverter manufacturing and R&D experience
- Comprehensive customer training programs
- Authorized Service Provider program available



Type	PV-PCS			ESS-PCS		
	PVU-L0800GR	PVU-L0840GR	PVU-L0880GR	BSU-L0640GR	BSU-L0800GR	BSU-L0840GR
Output side (AC)	Rated Power@25°C	800kW	840kW	880kW	640kW	840kW
	Rated Power@50°C	730kW	765kW	800kW	550kW	730kW
	Rated Voltage	600V +10%, -12%	630V +10%, -12%	660V +10%, -12%	480VAC	630VAC
	Rated Frequency	50Hz / 60Hz (+0.5Hz, -0.7Hz)				
Environ. Conditions	Rated Power Factor	>0.99				
	Reactive Capability	±421 kVAR	±442 kVAR	±464 kVAR	±448 kVAR	±560 kVAR
	Rated Current	702 Arms @50 °C				
	Maximum Current	770 Arms @25 °C				
Input side (DC)	Maximum Efficiency	98.72% *	98.72%	98.72% *	98.72% *	98.72% *
	CEC Efficiency	98% *	98%	98% *	98% *	98% *
	Maximum Voltage	1500 Vdc				
	MPPT Operation Range	875-1300VDC	915-1300VDC	960-1300VDC	710-1100VDC	875-1300VDC
Protective Functions	Ingress Protection Ratings	NEMA3R				
	Installation	Outdoor				
	Ambient Temperature Range	-25° to 50°C				
	Maximum Altitude	>2000 m power derating (Max. 4000m)				
Communication	Input (DC) Side	DC Protection: Input Fuses, Ground Fault Detection, DC Reverse Current, Over Voltage, Over Current				
	Grid (AC) Side	AC Protection: Disconnect Switch and Fuse, Anti-islanding, Over/Under Voltage, Over/Under Frequency, Over Current				
	Grid Assistance	Reactive/Active Power Control, Power Factor Control, Fault Ride Through (optional)				
	Harmonic Distortion of AC Current	≤ 3% THD (at rated power)				
Fault Analysis	Communication	Modbus/TCP				
	Fault Analysis	Fault Event Log, Waveform Acquisition via memory card				
	Compliance	UL1741, UL1745A / IEEE1547 / NEC2017 / IEC62109-1,2 / IEC61000-6-2,4 / IEC61727, IEC62116 / IEC61400, BDEW / IEC61683 / IEC60068				
	Cooling Method	Heat Pipes and Forced Air Cooling				
Standard Control Power Supply	Number of Inputs	Standard 6 inputs for PV (maximum 8 per inverter)				
	Standard Control Power Supply	Control Power Supply from Inverter output and Capacitor backup circuit (3 sec. compensation)				
	Short Circuit Withstand Current	AC side – 65kA; DC side – 30kA				
	Weight	AC side – 65kA; DC side – 100kA				
Floor Space	Weight	<1000kgs				
	Dimensions (H x W x D)	1100 X 1100 X 1900 mm (L x W x H)				
	Floor Space	1875.5 sq. in. (1.21 m <sup>2</sup> )				
	Color	Cabinet: Munsell N7.0, Roof: Munsell N4.5				

Note: Standard configuration not limited configuration. Contact TMEIC for detailed information.  
\*Preliminary specification

# NX Horizon

## Smart Solar Tracking System

Serving as the backbone on over 35 gigawatts of solar power plants around the world, the NX Horizon™ smart solar tracker system combines best-in-class hardware and software to help EPCs and asset owners maximize performance and minimize operational costs.

### Flexible and Resilient by Design

With its self-aligning module rails and vibration-proof fasteners, NX Horizon can be easily and rapidly installed. The self-powered, decentralized architecture allows each row to be commissioned in advance of site power, and is designed to withstand high winds and other adverse weather conditions. On a recent 838 megawatt project in Villanueva, Mexico, these design features allowed for the project to go online nine months ahead of schedule.

### TrueCapture and Bifacial Enabled

Incorporating the most promising innovations in utility scale solar, NX Horizon with TrueCapture™ smart control system can add additional energy production by up to six percent. Further unlocking the advantages of independent-row architecture and the data collected from thousands of sensors across its built-in wireless network, the software continuously optimizes the tracking algorithm of each row in response to site terrain and changing weather conditions. NX Horizon can also be paired with bifacial PV module technology, which can provide even more energy harvest and performance. With bifacial technology, NX Horizon outperforms conventional tracking systems with over 1% more annual energy.

### Quality and Reliability from Day One

Quality and reliability are designed and tested into every NX Horizon component and system across our supply chain and manufacturing operations. Nextracker is the leader in dynamic wind analysis and safety stowing, delivering major benefits in uptime and long-term durability. NX Horizon is certified to UL 2703 and UL 3703 standards, underscoring Nextracker's commitment to safety, reliability and quality.

### Features and Benefits

**5 years** in a row

Global Market Share Leader (2015-18)

**35 GW**

Delivered on 5 Continents

**Best-in Class**

Software Ecosystem and  
Global Services

**Up to 6%**

Using TrueCapture Smart  
Control System



## GENERAL AND MECHANICAL

Tracking type	Horizontal single-axis, independent row.
String voltage	1,500 V <sub>DC</sub> or 1,000 V <sub>DC</sub>
Typical row size	78-90 modules, depending on module string length.
Drive type	Non-backdriving, high accuracy slew gear.
Motor type	24 V brushless DC motor
Array height	Rotation axis elevation 1.3 to 1.8 m / 4'3" to 5'10"
Ground coverage ratio (GCR)	Configurable. Typical range 28-50%.
Modules supported	Mounting options available for virtually all utility-scale crystalline modules, First Solar Series 6 and First Solar Series 4.
Bifacial features	High-rise mounting rails, bearing + driveline gaps and round torque tube.
Tracking range of motion	Options for $\pm 60^\circ$ or $\pm 50^\circ$
Operating temperature range	SELF POWERED: $-30^\circ\text{C}$ to $55^\circ\text{C}$ ( $-22^\circ\text{F}$ to $131^\circ\text{F}$ ) AC POWERED: $-40^\circ\text{C}$ to $55^\circ\text{C}$ ( $-40^\circ\text{F}$ to $131^\circ\text{F}$ )
Module configuration	1 in portrait. 3 x 1,500 V or 4 x 1,000 V strings per standard tracker. Partial length trackers available.
Module attachment	Self-grounding, electric tool-actuated fasteners.
Materials	Galvanized steel
Allowable wind speed	Configurable up to 225 kph (140 mph) 3-second gust
Wind protection	Intelligent wind stowing with symmetric dampers for maximum array stability in all wind conditions
Foundations	Standard W6 section foundation posts

## ELECTRONICS AND CONTROLS

Solar tracking method	Astronomical algorithm with backtracking. TrueCapture™ upgrades available for terrain adaptive backtracking and diffuse tracking mode
Control electronics	NX tracker controller with inbuilt inclinometer and backup battery
Communications	Zigbee wireless communications to all tracker rows and weather stations via network control units (NCUs)
Nighttime stow	Yes
Power supply	SELF POWERED: NX provided 30 or 60W Smart Panel AC POWERED: Customer-provided 120-240 V <sub>AC</sub> circuit

## INSTALLATION, OPERATIONS AND SERVICE

PE stamped structural calculations and drawings	Included
Onsite training and system commissioning	Included
Installation requirements	Simple assembly using swaged fasteners and bolted connections. No field cutting, drilling or welding.
Monitoring	NX Data Hub™ centralized data aggregation and monitoring
Module cleaning compatibility	Compatible with NX qualified cleaning systems
Warranty	10-year structural, 5-year drive and control components.
Codes and standards	UL 3703 / UL 2703 / IEC 62817





From both  
sides now

The next-generation-now horizontal single-axis solar tracker



# TECHNICAL DATASHEET



Single-Axis Tracker

## MAIN FEATURES

Tracking System	Horizontal Single-Axis with independent rows
Tracking Range	± 55° Optional: ± 60°
Drive System	Enclosed Slewing Drive, DC Motor
Power Supply	Dedicated Panel Optional: 120/240 Vac or 24 Vdc power-cable
Tracking Algorithm	Astronomical with TeamTrack® Backtracking
Communication	Open Thread Full Wireless Optional: RS-485 Full Wired RS-485 cable not included in Soltec scope
Wind Resistance	Per Local Codes
Land Use Features	
Independent Rows	YES
Slope North-South	3% Optional: up to 15%
Slope East-West	10% (4% under the tracker)
Ground Coverage Ratio	Configurable. Typical range: 30-50%
Foundation	Driven Pile   Ground Screw   Concrete
Temperature Range	
Standard	- 4°F to +131°F   -20°C to +55°C
Extended	-40°F to +131°F   -40°C to +55°C
Availability	>99%
Modules	Bifacial

## SPAIN / Headquarters

Pol. Ind. La Serreta  
Gabriel Campillo, s/n, 30500  
Molina de Segura, Murcia, Spain  
info@soltec.com  
+34 968 603 153

## MADRID

Núñez de Balboa 33, 1ªA  
28001 Madrid  
emea@soltec.com  
+34 91 449 72 03

## UNITED STATES

usa@soltec.com  
+1 510 440 9200

## BRAZIL

brasil@soltec.com  
+55 071 3026 4900

## MEXICO

mexico@soltec.com  
+52 1 55 5557 3144

## CHILE

chile@soltec.com  
+56 2 25738559

## PERU

peru@soltec.com  
+51 1422 7279

## INDIA

india@soltec.com  
+91 124 4568202

## AUSTRALIA

australia@soltec.com  
+61 2 9275 8806

## CHINA

china@soltec.com  
+86 21 66285799

## ARGENTINA

argentina@soltec.com  
+54 9 114 889 1476

## EGYPT

egypt@soltec.com

## B&V Bankability report

DNV GL Technology  
Review available

RWDI WIND TUNNEL TESTED

2 year background  
industrial operation



## MODULE CONFIGURATIONS Approximate Dimensions

	Length	Height	Width		Length	Height	Width
2x27	28.1 m (92' 3")	4.21 m (13' 10")	4.17 m (13' 8")	2x40.5	42.4 m (139' 3")	4.21 m (13' 10")	4.17 m (13' 8")
2x28	29.6 m (97' 1")			2x42	44 m (144' 4")		

## SERVICES

Pull Test Plan	Commissioning Plan
Factory Support Plan	Operation & Maintenance Plan
Onsite Advisory Plan	Tracker Monitoring System Plan
Construction Plan	Solmate Customer Care

## MAINTENANCE ADVANTAGES

Self-lubricating Bearings  
Face to Face Cleaning Mode  
2x Wider Aisles

## WARRANTY

Structure 10 years (extendable)  
Motor 5 years (extendable)  
Electronics 5 years (extendable)

[www.soltec.com](http://www.soltec.com)

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**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**10/20/2021 12:05:19 PM**

**in**

**Case No(s). 21-0041-EL-BGN**

Summary: Exhibit PUBLIC Exhibit A (Manufacturer's Equipment Specifications) electronically filed by Ina Avalon on behalf of Palomino Solar, LLC