



**BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE**

PRODUCT: TSM-DEG19C.20

PRODUCT RANGE: 535-555W

**555W**

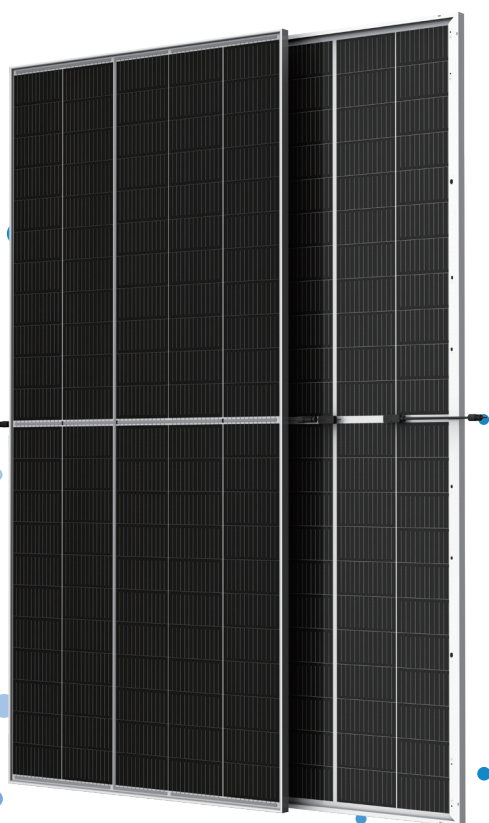
MAXIMUM POWER OUTPUT

**0~+5W**

POSITIVE POWER TOLERANCE

**21.2%**

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 555W**

- Up to 21.2% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



**High reliability**

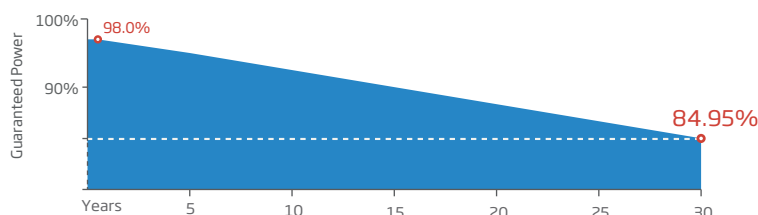
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive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



**High energy yield**

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.34%) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

**Trina Solar's Vertex Bifacial Dual Glass Performance Warranty**



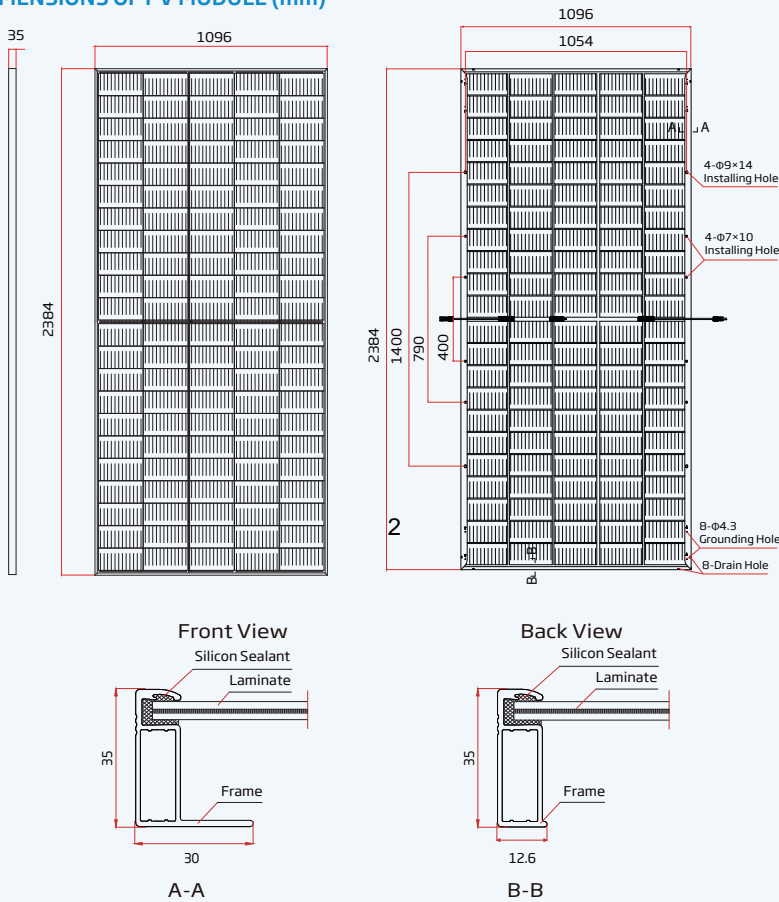
**Comprehensive Products and System Certificates**



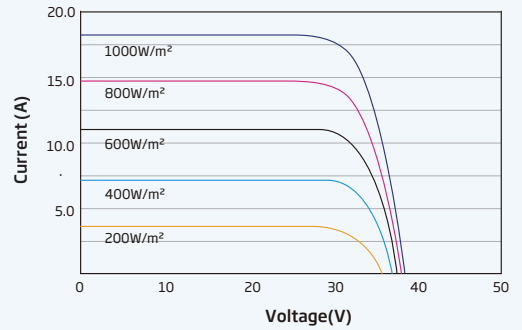
IEC61215/IEC61730/IEC61701/IEC62716/UL61730  
 ISO 9001: Quality Management System  
 ISO 14001: Environmental Management System  
 ISO14064: Greenhouse Gases Emissions Verification  
 ISO45001: Occupational Health and Safety Management System



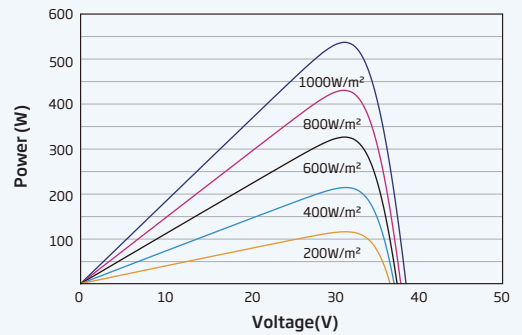
### DIMENSIONS OF PV MODULE (mm)



### I-V CURVES OF PV MODULE (540W)



### P-V CURVES OF PV MODULE (540W)



### ELECTRICAL DATA (STC)

Peak Power Watts - P <sub>MAX</sub> (Wp)*	535	540	545	550	555
Power Tolerance - P <sub>MAX</sub> (W)			0 ~ +5		
Maximum Power Voltage - V <sub>MPP</sub> (V)	31.2	31.4	31.6	31.8	32.0
Maximum Power Current - I <sub>MPP</sub> (A)	17.16	17.21	17.24	17.29	17.35
Open Circuit Voltage - V <sub>OC</sub> (V)	37.5	37.7	37.9	38.1	38.3
Short Circuit Current - I <sub>SC</sub> (A)	18.24	18.30	18.35	18.39	18.43
Module Efficiency η <sub>m</sub> (%)	20.5	20.7	20.9	21.0	21.2

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5. \*Measuring tolerance: ±3%.

### Electrical characteristics with different power bin (reference to 10% Irradiance ratio)

Total Equivalent power - P <sub>MAX</sub> (Wp)	573	578	583	589	594
Maximum Power Voltage - V <sub>MPP</sub> (V)	31.2	31.4	31.6	31.8	32.0
Maximum Power Current - I <sub>MPP</sub> (A)	18.36	18.41	18.45	18.50	18.56
Open Circuit Voltage - V <sub>OC</sub> (V)	37.5	37.7	37.9	38.1	38.3
Short Circuit Current - I <sub>SC</sub> (A)	19.52	19.58	19.63	19.68	19.72
Irradiance ratio (rear/front)	10%				

Power Bifaciality: 70±5%.

### ELECTRICAL DATA (NOCT)

Maximum Power - P <sub>MAX</sub> (Wp)	405	409	413	416	420
Maximum Power Voltage - V <sub>MPP</sub> (V)	29.0	29.2	29.4	29.5	29.7
Maximum Power Current - I <sub>MPP</sub> (A)	13.97	14.02	14.08	14.10	14.14
Open Circuit Voltage - V <sub>OC</sub> (V)	35.3	35.5	35.7	35.9	36.1
Short Circuit Current - I <sub>SC</sub> (A)	14.70	14.75	14.79	14.82	14.85

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

### MECHANICAL DATA

Solar Cells	Monocrystalline 210mm PERC
No. of cells	110 cells
Module Dimensions	2384×1096×35 mm (93.86×43.15×1.38 in)
Weight	32.3 kg (71.2 lb)
Front Glass	2.0 mm (0.08 in), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Back Glass	2.0 mm (0.08 in), Heat Strengthened Glass (White Grid Glass)
Frame	35mm (1.38 in) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 in <sup>2</sup> ) Portrait: 350/280 mm (13.78/11.02 in)* Landscape: 1400/1400 mm (55.1/55.1 in)*
Connector	MC4 EV02 / TS4

\*Lengths can be customized.

### TEMPERATURE RATINGS

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

\*Recommended.

### WARRANTY

12 year Product Workmanship Warranty  
30 year Power Warranty  
2% first year degradation  
0.45% Annual Power Attenuation

(Please refer to product warranty for details)

### MAXIMUM RATINGS

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

### PACKAGING CONFIGURATION

Modules per box: 31 pieces  
Modules per 40' container: 527 pieces

# 100/125 kW, 1500 Vdc String Inverters for North America

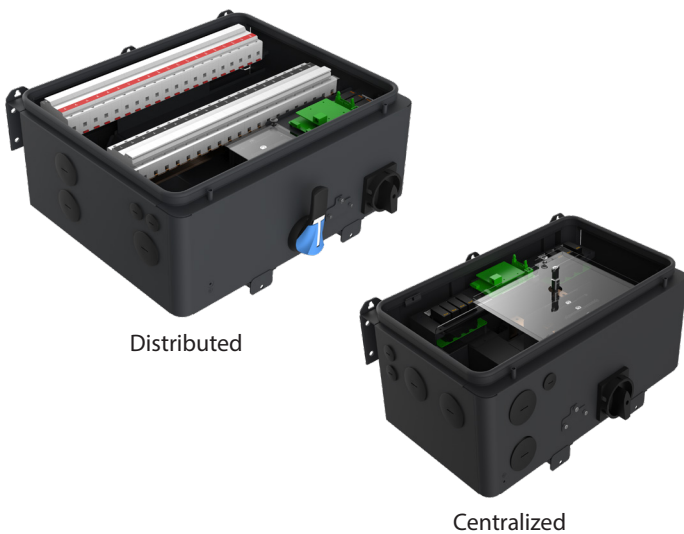


**CPS SCH100/125KTL-DO/US-600**

The 100 and 125 kW high power CPS three-phase string inverters are designed for ground mount applications. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 99.1% peak and 98.5% CEC, wide operating voltages, broad temperature ranges, and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 100/125 kW products ship with the Distributed or Centralized Wire Box, each fully integrated and separable with AC and DC disconnect switches. Enhanced DC Wire Boxes are available to allow DC disconnection under short circuit conditions. The CPS FlexOM Gateway enables communication, controls, and remote product upgrades.

## Key Features

- NFPA 70 and NEC compliant
- Touch-safe DC Fuse holders add convenience and safety
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper- and aluminum-compatible AC connections
- NEMA Type 4X outdoor rated enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA headroom yields 100 kW @ 0.9 PF and 125 kW @ 0.95 PF
- Generous 1.87 (100 kW) and 1.5 (125 kW) DC/AC inverter load ratios
- Separable wire box design for fast service
- Enhanced DC wire boxes available



Distributed

Centralized

**Standard Wire Boxes**



Distributed

Centralized

**Enhanced DC Wire Boxes**



Model Name	CPS SCH100KTL-DO/US-600	CPS SCH125KTL-DO/US-600
<b>DC Input</b>		
Max. PV power	187.5 kW	
Max. DC input voltage	1500 V	
Operating DC input voltage range	860-1450 Vdc	
Start-up DC input voltage / power	900 V / 250 W	
Number of MPP trackers	1	
MPPT voltage range <sup>1</sup>	870-1300 Vdc	
Max. PV input current (Isc x1.25)	275 A	
Number of DC inputs	Distributed Wire Box: 20 PV source circuits, positive and negative fused Centralized Wire Box: 1 input circuit, 1-2 terminations per pole, non-fused	
DC disconnection type	Load-rated DC switch	
DC surge protection	Type II MOV (with indicator/remote signaling)	
<b>AC Output</b>		
Rated AC output power <sup>2</sup>	100 kW	125 kW
Max. AC apparent power (selectable)	100 kVA (111 kVA @ PF > 0.9)	125 kVA (132 kVA @ PF > 0.95)
Rated output voltage	600 Vac	
Output voltage range <sup>3</sup>	528-660 Vac	
Grid connection type <sup>4</sup>	3Φ / PE / N (neutral optional)	
Max. AC output current @ 600 Vac	96.2 / 106.8 A	120.3 / 127.0 A
Rated output frequency	60 Hz	
Output frequency range <sup>3</sup>	57-63 Hz	
Power factor	>0.99 (±0.8 adjustable)	
Current THD	< 3%	
Max. fault current contribution (1 cycle RMS)	41.47 A	
Max. OCPD rating	200 A	
AC disconnection type	Load-rated AC switch	
AC surge protection	Type II MOV (with indicator/remote signaling)	
<b>System</b>		
Topology	Transformerless	
Max. efficiency	99.1%	
CEC efficiency	98.5%	
Standby / night consumption	< 4 W	
<b>Environment</b>		
Enclosure protection degree	NEMA Type 4X	
Cooling method	Variable speed cooling fans	
Operating temperature range <sup>2</sup>	-22°F to 140°F / -30°C to 60°C	
Non-operating temperature range <sup>5</sup>	-40°F to 158°F / -40°C to 70°C	
Operating humidity	0-100%	
Operating altitude	8202 ft / 2500 m (no derating)	
Audible noise	< 65 dBA @ 1 m and 77°F (25°C)	
<b>Display and Communication</b>		
User interface and display	LED indicators, Wi-Fi and app	
Inverter monitoring	Modbus RS485	
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)	
Modbus data mapping	SunSpec / CPS	
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)	
<b>Mechanical</b>		
Dimensions (W × H × D)	Distributed Wire Box: 45.28 × 24.25 × 9.84 in (1150 × 616 × 250 mm) Centralized Wire Box: 39.37 × 24.25 × 9.84 in (1000 × 616 × 250 mm)	
Weight	Inverter: 121 lbs (55 kg) Distributed Wire Box: 55 lbs (25 kg) Centralized Wire Box: 33 lbs (15 kg)	
Mounting / installation angle	15-90 degrees from horizontal (vertical or angled)	
AC termination	M10 stud type terminal [3Φ] (wire range: 1/0 AWG-500 kcmil CU/AL; lugs not supplied) Screw clamp terminal block [N] (#12-1/0 AWG CU/AL)	
DC termination	Distributed Wire Box: Screw clamp fuse holder (wire range: #12-#6 AWG CU) Centralized Wire Box: Busbar, M10 bolts (wire range: #1 AWG-500 kcmil CU/AL [1 termination per pole], #1 AWG-300 kcmil CU/AL [2 terminations per pole]; lugs not supplied)	
Fused string inputs	Standard/Distributed Wire Boxes: 25 A fuses provided (fuse values up to 30 A acceptable) Enhanced DC Wire Boxes: 20 A fuses provided (fuse values up to 30 A acceptable)	
<b>Safety</b>		
Certifications and standards	UL 1741-SA/SB Ed. 3, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC PART15	
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018 <sup>6</sup> , CA Rule 21, ISO-NE	
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Vol-Watt	
<b>Warranty</b>		
Standard	5 years	
Extended terms	10, 15, and 20 years	

1) See user manual for further information regarding MPPT voltage range when operating at non-unity PF.

2) 100 kW active power derating begins at 113°F (45°C) when MPPT ≥ Vmin; 125 kW active power derating begins at 107.6°F (42°C) when PF = ±0.95 and MPPT ≥ Vmin, and at 113°F (45°C) when PF=1 and MPPT ≥ Vmin.

3) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.

4) Delta configurations must not be corner-grounded.

5) See user manual for further requirements regarding non-operating conditions.

6) Firmware version 12.0 or later required.