

# 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 and carport applications at 1500 Vdc. 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

- UL 1741-SA/SB and IEEE 1547-2018 certified
- 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 short-circuit current <sup>2</sup>        | 220 A                                                                                                                                                                                                                                                   |                                           |
| Number of DC inputs                               | Distributed Wire Box: 20 PV source circuits, positive and negative fused<br>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>3</sup>                | 100 kW                                                                                                                                                                                                                                                  | 125 kW                                    |
| Max. AC apparent power (selectable <sup>4</sup> ) | 100 kVA / 111 kVA (PF>0.9)                                                                                                                                                                                                                              | 125 kVA / 132 kVA (PF>0.95)               |
| Rated output voltage                              | 600 Vac                                                                                                                                                                                                                                                 |                                           |
| Output voltage range <sup>5</sup>                 | 528-660 Vac                                                                                                                                                                                                                                             |                                           |
| Grid connection type <sup>6</sup>                 | 3Φ / PE / N (neutral optional)                                                                                                                                                                                                                          |                                           |
| Max. AC output current @ 600 Vac                  | 96.2 A (@ 100 kVA) / 106.8 A (@ 111 kVA)                                                                                                                                                                                                                | 120.3 A (@ 125 kVA) / 127.0 A (@ 132 kVA) |
| Rated output frequency                            | 60 Hz                                                                                                                                                                                                                                                   |                                           |
| Output frequency range <sup>5</sup>               | 57-63 Hz                                                                                                                                                                                                                                                |                                           |
| Power factor                                      | >0.99 (±0.8 adjustable)                                                                                                                                                                                                                                 |                                           |
| Current TRD @ rated load                          | < 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>4</sup>          | -22°F to 140°F / -30°C to 60°C                                                                                                                                                                                                                          |                                           |
| Non-operating temperature range                   | -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)<br>Centralized Wire Box: 39.37 × 24.25 × 9.84 in (1000 × 616 × 250 mm)                                                                                                              |                                           |
| Weight                                            | Inverter: 121 lbs (55 kg)<br>Distributed Wire Box: 55 lbs (25 kg)<br>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)<br>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)<br>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                               | Distributed Wire Boxes: 20 A or 25 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 standards                         | IEEE 1547a-2014, IEEE 1547-2018 <sup>7</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) The sum of parallel-connected PV module short-circuit currents.

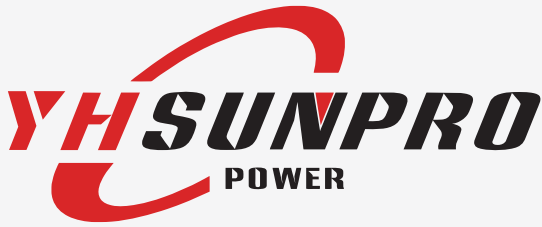
3) 100 kW active power derating begins at 113°F (45°C) when MPPT ≥ Vmin; 125 kW active power derating begins at 107.6°F (42°C) when PF = ±0.95 and MPPT ≥ Vmin, and at 113°F (45°C) when PF=1 and MPPT ≥ Vmin.

4) Inverters are factory set to 100 kVA and 125 kVA by default. Contact CPS to enable the higher kVA setting.

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

6) Delta configurations must not be corner-grounded.

7) Firmware version 12.0 or later required.



**Tier1**

BloombergNEF

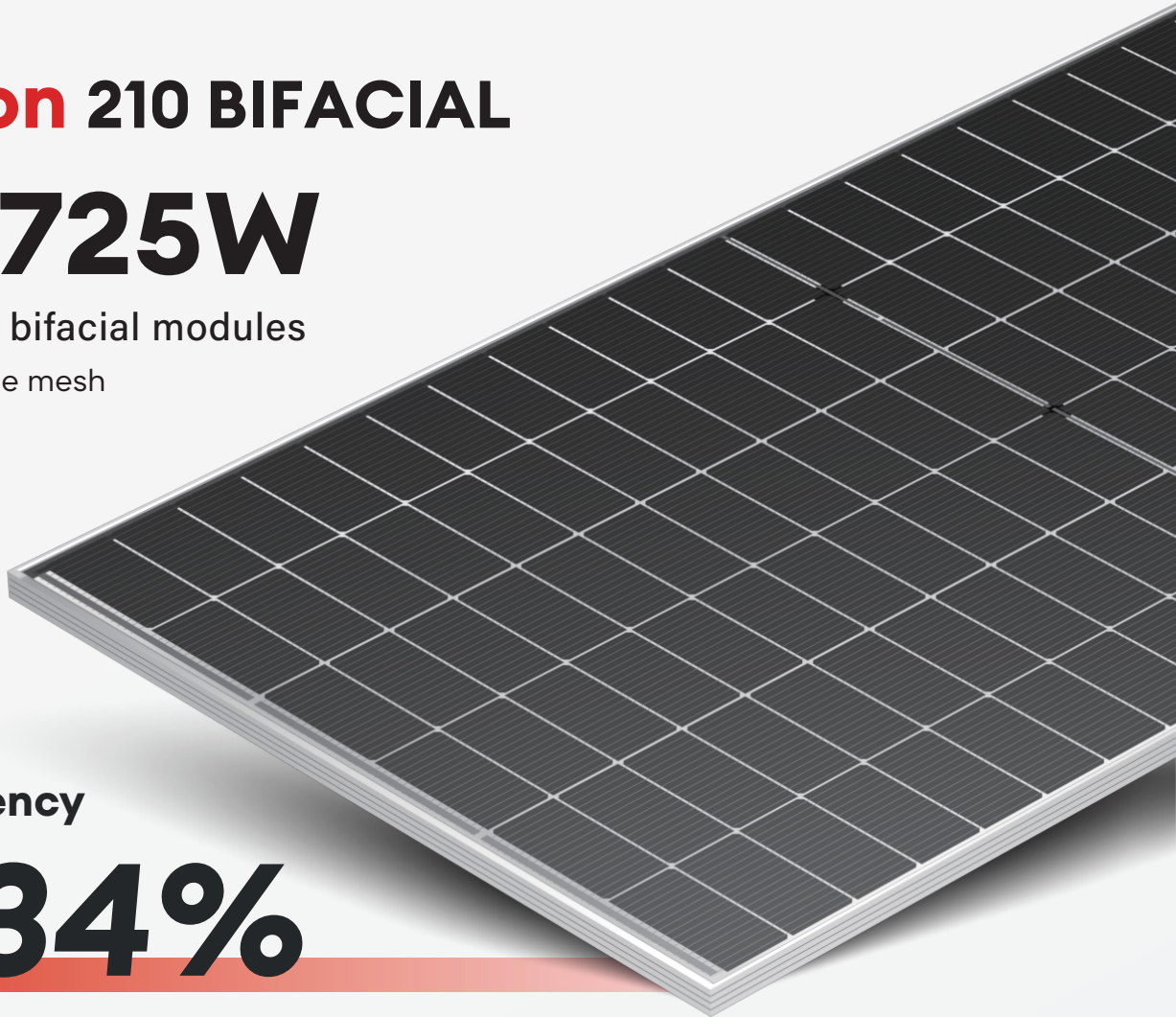
*Power the future*

# TOPCon 210 BIFACIAL

# 700-725W

High efficiency bifacial modules

· Silver frame, White mesh



 UTILITY

 C&I

Module efficiency

# 23.34%



Better leveled cost of energy



Better high temperature stability

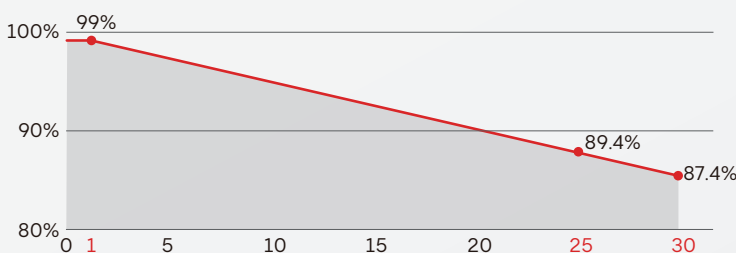


Improved low-light performance



Excellent bifacial performance

Linear performance guarantee for 30 years



## WARRANTY

Quality Guarantee **25 years**

Power Warranty **30 years**

## CERTIFICATE



Ariel Green



## ELECTRIC CHARACTERISTICS

## SPDG (700/725W)-N132M12

| Model of modules              | SPDG700-N132M12 |        | SPDG705-N132M12 |        | SPDG710-N132M12 |        | SPDG715-N132M12 |        | SPDG720-N132M12 |        | SPDG725-N132M12 |        |
|-------------------------------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|--------|-----------------|--------|
|                               | STC             | NMOT   | STC             | NMOT   | STC             | NMOT   | STC             | NMOT   | STC             | NMOT   | STC             | NMOT   |
| Power ( Pmax/W )              | 700.00          | 529.50 | 705.00          | 533.80 | 710.00          | 537.90 | 715.00          | 541.90 | 720.00          | 546.00 | 725.00          | 549.90 |
| Maximum power current ( Vmp ) | 40.51           | 38.00  | 40.69           | 38.20  | 40.88           | 38.40  | 41.07           | 38.60  | 41.27           | 38.80  | 41.46           | 39.00  |
| Maximum power current ( Imp ) | 17.28           | 13.94  | 17.33           | 13.98  | 17.37           | 14.01  | 17.41           | 14.04  | 17.45           | 14.07  | 17.49           | 14.11  |
| Open circuit voltage ( Voc )  | 48.27           | 45.80  | 48.46           | 46.00  | 48.65           | 46.20  | 48.84           | 46.40  | 49.03           | 46.60  | 49.23           | 46.80  |
| Short circuitcurrent ( Isc )  | 18.32           | 14.74  | 18.36           | 14.77  | 18.40           | 14.80  | 18.44           | 14.83  | 18.48           | 14.86  | 18.52           | 14.90  |
| Module efficiency             | 22.53%          |        | 22.70%          |        | 22.86%          |        | 23.02%          |        | 23.18%          |        | 23.34%          |        |

STC ( Electrical parameters at standard test conditions (STC:AM=1.5, 1000W/m<sup>2</sup>, Cells Temperature25°C )

NMOT ( Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C,AM1.5,Wind Speed 1m/s )

## ELECTRICAL CHARACTERISTICS WITH 15% REAR SIDE POWER GAIN

|                               |        |        |        |        |        |        |
|-------------------------------|--------|--------|--------|--------|--------|--------|
| Front power Pmax/W            | 805.00 | 810.75 | 816.50 | 822.25 | 828.00 | 833.75 |
| Maximum power voltage ( Vmp ) | 40.51  | 40.69  | 40.88  | 41.07  | 41.27  | 41.46  |
| Maximum power current ( Imp ) | 19.87  | 19.93  | 19.97  | 20.02  | 20.06  | 20.11  |
| Open circuit voltage ( Voc )  | 48.27  | 48.46  | 48.65  | 48.84  | 49.03  | 49.23  |
| Short circuitcurrent ( Isc )  | 21.07  | 21.11  | 21.16  | 21.21  | 21.25  | 21.30  |

## STRUCTURAL CHARACTERISTICS

|                       |                                                                          |
|-----------------------|--------------------------------------------------------------------------|
| Module size (L*W*H)   | 2384 × 1303 × 33mm                                                       |
| Weight                | 37.5kg                                                                   |
| Cell                  | 132cells ( Half-Cell ), Mono-Crystalline, N type Bifacial, 210mm x 105mm |
| Front glass           | 2.0mm ultra clear embossed double layer colorless glass                  |
| Back glass            | 2.0mm white mesh glazed tempered glass                                   |
| Frame                 | Anodized aluminum alloy                                                  |
| Junction box          | IP68                                                                     |
| Output wire           | 4mm <sup>2</sup>                                                         |
| Wire length           | symmetrical lengths 1300mm                                               |
| Connector             | MC4 compatible IP68                                                      |
| Packing Specification | 33 pcs/Pallet ; 594 pcs/40' HQ                                           |

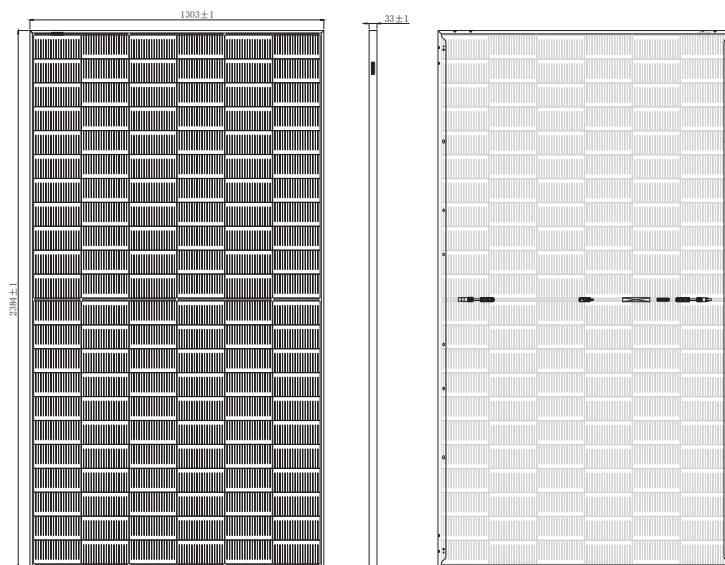
## OPERATING PARAMETERS

|                                   |                 |
|-----------------------------------|-----------------|
| Power tolerance (W)               | (0~+5W)         |
| Maximum system voltage (V)        | 1500V           |
| Maximum rated fuse current (A)    | 35A             |
| Current operating temperature (C) | -40~+85°C       |
| Mechanical load                   | +5400Pa/-2400Pa |

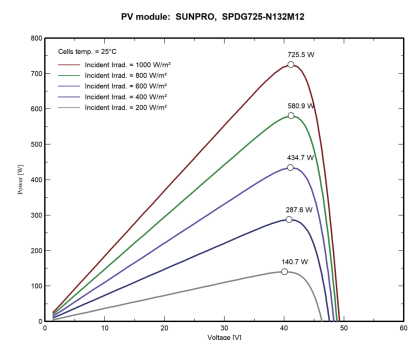
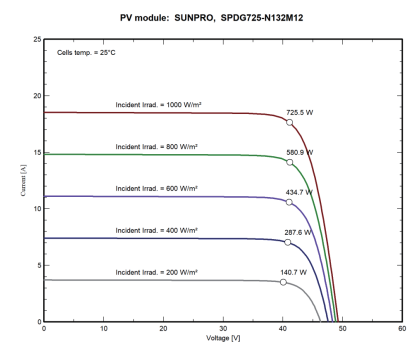
## TEMPERATURE CHARACTERISTICS

|                                   |             |
|-----------------------------------|-------------|
| Temp. Coeff. of Isc (TK Isc)      | 0.045% / °C |
| Temp. Coeff. of Voc (TK Voc)      | -0.25% / °C |
| Temp. Coeff. of Pmax (TK Pmax)    | -0.30% / °C |
| Normal Operating Cell Temperature | 45 ± 2°C    |

## MODULE DIMENSIONS(MM)



## I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



**SUNPRO POWER NORTH AMERICA INC.**

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\*All data may have a lag, for reference only. Sunpro has the final right of interpretation.