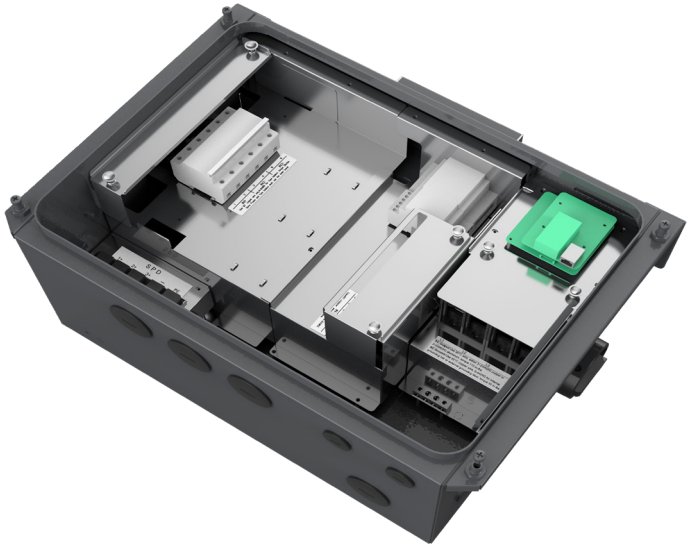
# 25 kW-208 V, 1000 Vdc String Inverters for North America

The CPS 25 kW-208 V three-phase string inverters are designed for rooftop and carport applications. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 97.0% peak and 96.5% 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 25KTL-208V product ships with the Rapid Shutdown wire box, fully integrated and separable with touch-safe fusing, monitoring, and AC and DC disconnect switches. The integrated PLC transmitter in the Rapid Shutdown wire box enables PVRSS-certified module-level rapid shutdown when used with APS RSD-S-PLC/RSD-D products. The CPS FlexOM Gateway enables monitoring, controls, and remote product upgrades.

CPS SCA25KTL-DO/US-208

## Key Features

- NEC 2017/2020 PVRSS-certified rapid shutdown
- NEC 2017-compliant and UL-listed arc-fault circuit protection
- UL 1741-SB and IEEE 1547-2018 certified
- 15-90° mounting orientation for low-profile roof installs
- Optional FlexOM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- 3 MPPTs with 2 inputs each for maximum flexibility
- Copper- and Aluminum-compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- UL 1741-SA certified to CA Rule 21, including SA8-SA18
- Separable wire-box design for fast service
- Standard 10-year warranty with extensions to 20 years
- Generous 1.8 DC/AC inverter load ratio



SCA25KTL (208V) Rapid Shutdown Wire-box

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This device complies with part 15 of the FCC Rules



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| Model name | CPS SCA25KTL-DO/US-208 |
|---|---|
| **DC Input** | |
| Max. PV power | 45 kW (17 kW per MPPT) |
| Max. DC input voltage | 1000 Vdc |
| Operating DC input voltage range | 200-950 Vdc |
| Startup DC input voltage / power | 330 V / 80 W |
| Number of MPPTs | 3 |
| MPPT voltage range for Pnom @ PF>0.99 | 480-850 Vdc |
| Max. PV short circuit current[1] | 108 A (36 A per MPPT) |
| Number of DC inputs | 6 inputs, 2 per MPPT |
| DC disconnection type | Load-rated DC switch |
| DC surge protection | Type II MOV |
| **AC Output** | |
| Rated AC output power @ PF>0.99 | 25 kW |
| Max. AC apparent power | 25 kVA |
| Rated output voltage | 208 Vac |
| Output voltage range[2] | 183-228 Vac |
| Grid connection type | 3Φ / PE / N (neutral optional) |
| Max. AC output current @ 208 Vac | 69.5 A |
| Rated output frequency | 60 Hz |
| Output frequency range[2] | 57-63 Hz |
| Power factor | >0.99 (±0.8 adjustable) |
| Current TRD @ rated load | < 3% |
| Max. fault current contribution (1 cycle RMS) | 64.1 A (0.92 PU) |
| Max. OCPD rating | 125 A |
| AC disconnection type | Load-break rated AC switch |
| AC surge protection | Type II MOV |
| **System and Performance** | |
| Topology | Transformerless |
| Max. efficiency | 97.0% |
| CEC efficiency | 96.5% |
| Standby / night consumption | < 3 W |
| **Environment** | |
| Enclosure protection degree | NEMA 4X |
| Cooling method | Variable speed cooling fans |
| Operating temperature range[3] | -22°F to 140°F (-30°C to 60°C) |
| Non-operating temperature range[4] | -40°F to 158°F (-40°C to 70°C) |
| Operating humidity | 0-100% |
| Operating altitude | 13123 ft / 4000 m (derating from 9843 ft / 3000 m) |
| Audible noise | <60 dBA @ 1 m and 77°F (25°C) |
| **Display and Communication** | |
| User interface and display | LCD+LED |
| Inverter monitoring | SunSpec, Modbus RS485 |
| Site-level monitoring | CPS FlexOM Gateway (1 per 32 inverters) |
| Modbus data mapping | CPS |
| Remote diagnostics / firmware upgrade functions | Standard / (with FlexOM Gateway) |
| **Mechanical** | |
| Dimensions (H × W × D) | 39.4 × 23.6 × 10.2 in (1000 × 600 × 260 mm) |
| Weight | Inverter: 123.5 lb (56 kg)<br>Wire box: 33 lb (15 kg) |
| Mounting / installation angle[5] | 15 to 90 degrees from horizontal (vertical or angled) |
| AC termination | M8 stud type terminal block (wire range: #6-3/0 AWG CU/AL; lugs not supplied) |
| DC termination[6] | Screw clamp, negative busbar[6] wire range: #14-#6 AWG CU |
| Fused string inputs (5 per MPPT) | 20 A fuses provided (fuse values up to 30 A acceptable) |
| **Safety** | |
| Certifications and standards | UL 1741-SA/SB Ed. 3, UL 1699B, UL 1998, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC Part 15 |
| Selectable grid standards | IEEE 1547a-2014, IEEE 1547-2018[7], CA Rule 21, ISO-NE, HECO |
| Smart-grid features | Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt |
| **Warranty** | |
| Standard | 10 years |
| Extended terms | 15 and 20 years |

1) The sum of parallel-connected PV module short-circuit currents.
2) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.
3) Active power derating begins at 45°C when PF=1 and MPPT≥Vmin, and at 50°C when PF=1 and MPPT≥700 Vdc.
4) See user manual for further requirements regarding non-operating conditions.
5) Shade Cover accessory required for installation angles of 75 degrees or less.
6) RSD wire-box only includes fuses and fuse holders on the positive polarity, compliant with NEC 2017/2020 Section 690.9(C).
7) Firmware version 4.0 or later required.