

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

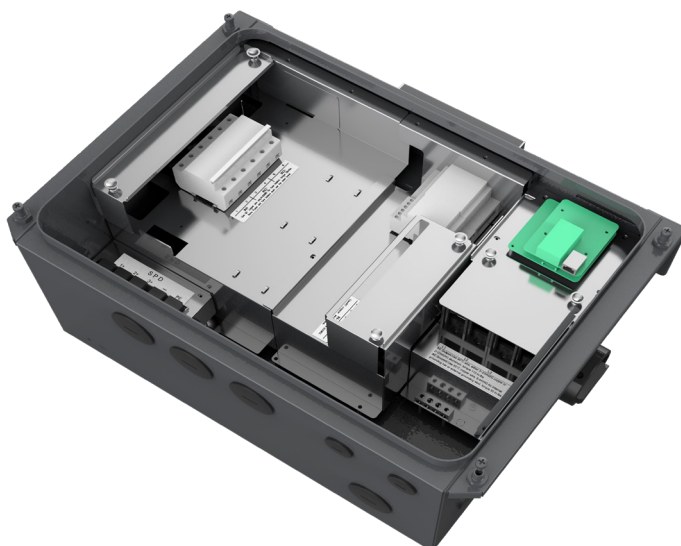
The CPS 25 kW-208 V three-phase string inverters are designed for rooftop and carport applications. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 97.0% peak and 96.5% CEC, wide operating voltages, 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

- PVRSS-certified rapid shutdown
- UL-1699B compliant 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

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 P _{nom} @ 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) 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 (2 per MPPT)	20 A or 25 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≥V_{min}, 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.

7) Firmware version 4.0 or later required.