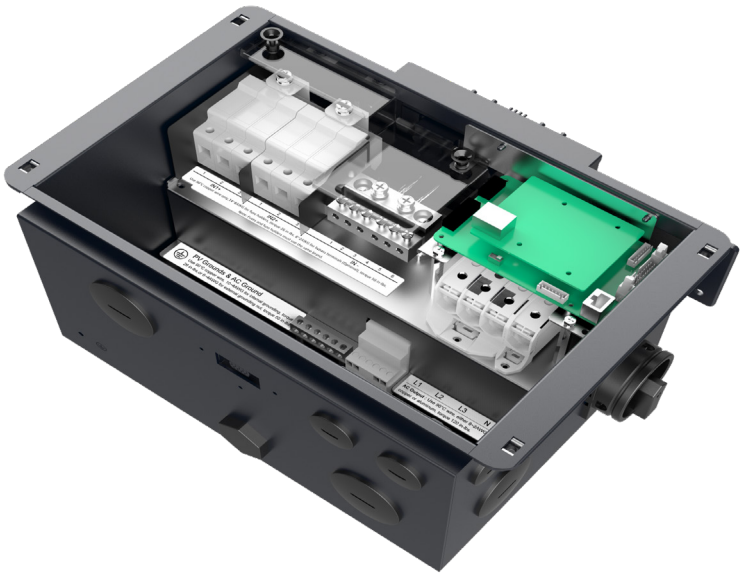
25 kW-480 V, 1000 Vdc String Inverters for North America

The CPS 25 kW-480 V three-phase string inverter is designed for rooftop and carport applications. These units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiency at 98.5% peak and 98.0% 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 25 kW-480 V product ships with a 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.

CPS SCA25KTL-DO-R/US-480

Key Features

- PVRSS-certified rapid shutdown
- UL-1699B compliant arc-fault circuit protection
- 15-90° mounting orientation for low profile roof installs
- 15° tilt Inverter Rack Assembly available from CPS
- Integrated AC & DC disconnect switches
- 2 MPPTs with 3 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 SA14 - SA18
- UL 1741-SB and IEEE 1547-2018 certified
- Separable wire-box design for fast service
- Standard 10-year warranty with extensions to 20 years



SCA25KTL (480V) Rapid Shutdown Wire-box

Intertek 4004522
Conforms to UL Std. 1741
Cert.to CSA Std.C22.2 No.107.1-01

This device complies with part 15 of the FCC Rules

© CHINT POWER SYSTEMS AMERICA 2026/8-MKT NA

Chint Power Systems America
1380 Presidential Drive, Suite 100, Richardson, TX 75081
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

Model Name	CPS SCA25KTL-DO-R/US-480
DC Input	
Max. PV power	37.5 W (22 kW per MPPT)
Max. DC input voltage	1000 Vdc
Operating DC input voltage range	200-950 Vdc
Start-up DC input voltage / power	330 V / 80 W
Number of MPP trackers	2
MPPT voltage range for Pnom @ PF > 0.99	560-850 Vdc
Max. operating current per MPPT	23.2 A per MPPT
Production limits	13.1 kW per MPPT or 25 kW total output
Max. PV short-circuit current[1]	72 A (36 A per MPPT)
Number of DC inputs	6 inputs, 3 per MPPT
DC disconnection type	Load-rated DC switch
DC surge protection	Type II MOV
AC Output	
Rated AC output power @ PF=1	25 kW
Max. AC apparent power	25 kVA
Rated output voltage	480 Vac
Output voltage range[2]	422-528 Vac
Grid connection type	3Φ / PE / N (neutral optional)
Max. AC output current @ 480 Vac	30.5 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)	31 A (1.02 PU)
Max. OCPD rating	50 A
AC disconnection type	Load-rated AC switch
AC surge protection	Type II MOV
System	
Topology	Transformerless
Max. efficiency	98.5%
CEC efficiency	98.0%
Night consumption	< 4 W
Environment	
Enclosure protection degree	NEMA Type 4X
Cooling method	Variable speed cooling fans
Operating temperature range	-22°F to 140°F / -30°C to 60°C
Non-operating temperature range[3]	-40°F to 158°F (-40°C to 70°C)
Operating humidity	0-100%
Operating altitude	13123 ft / 4000 m (derating 9843 ft / 3000 m)
Audible noise	< 60 dBA @ 1 m and 77°F (25°C)
Display and Communication	
User interface and display	LED indicators, Wi-Fi, and App
Inverter communication	Modbus RS485
Modbus data mapping	CPS
Mechanical	
Dimensions (H × W × D)	Inverter: 15.95 × 15.75 × 7.87 in (405 × 400 × 200 mm) Wire Box: 10.24 × 15.75 × 7.87 in (260 × 400 × 200 mm)
Weight	Inverter: 48.5 lb (22 kg) Wire Box: 13.23 lb (6 kg)
Mounting / installation angle[4]	15 to 90° from horizontal (vertical or angled)
AC termination	Screw clamp (wire range: #8-#2 AWG CU/AL)
DC termination[5]	Screw clamp (wire range: #14-#8 AWG CU)
Fused string inputs (3 per MPPT)	25 A fuses provided (fuse values up to 30 A acceptable)
Safety	
Certifications and standards	UL 1741-SA/SB Ed. 3, UL 1699B, UL1998, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC Part 15
Selectable grid standards	IEEE 1547a-2014, IEEE 1547-2018[6], 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) See user manual for further requirements regarding non-operating conditions.
4) Shade Cover accessory required for installation angles of 75 degrees or less.
5) Wire box only includes fuses and fuse holders on the positive polarity.
6) Firmware version 5.00 or later required.