

100 kW, 1500 Vdc/480 Vac String Inverters for North America



CPS SCH100KTL-DO/US-480

The 100 kW high power CPS three-phase string inverters are designed for ground-mount applications with 480 Vac service voltage. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiencies, 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 kW products ship with the Standard or Centralized Wire-box, each fully integrated and separable with AC and DC disconnect switches. The Standard Wire-box includes touch-safe fusing for up to 20 strings. The CPS FlexOM solution enables communication, controls and remote product upgrades.

Key Features

- NFPA 70 and NEC compliant
- Touch-safe DC fuse holders adds 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, tough tested enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA headroom yields 100 kW @ 0.95 PF
- Generous DC/AC inverter load ratios
- Separable wire-box design for fast service
- Standard 5-year warranty with extensions to 20 years



100KTL Standard Wire-box



100KTL Centralized Wire-box



Model Name	CPS SCH100KTL-DO/US-480
DC Input	
Max. DC input voltage	1500 Vdc
Operating DC input voltage range	750-1450 Vdc
Start-up DC input voltage / power	900 Vdc / 200 W
Number of MPP trackers	1
MPPT voltage range @ PF>0.99 ¹	760-1300 Vdc
Max. PV input current (Isc x 1.25)	275 A
Number of DC inputs	Standard Wire-box: 20 PV source circuits, pos. and neg. 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)
AC Output	
Rated AC output power @ PF>0.99	100 kW
Max. AC apparent power ²	100 kVA (105.3 kVA @ PF>0.95)
Rated output voltage	480 Vac
Output voltage range ³	423-528 Vac
Grid connection type ⁴	3-Phase / PE / N (neutral optional)
Max. AC output current @ 480 Vac	120.3 A / 126.7 A
Rated output frequency	60 Hz
Output frequency range ³	57 - 63 Hz
Power factor	>0.99 (±0.8 adjustable)
Current THD @ 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)
System and Performance	
Topology	Transformerless
Max. efficiency	98.9%
CEC efficiency	98.0%
Stand-by / 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 (derating from +108°F / +42°C)
Non-operating temperature range ⁵	No low temp minimum to +158°F / +70°C maximum
Operating humidity	0-100%
Operating altitude	8202 ft / 2500 m (no derating)
Audible noise	<65 dBA @ 1 m and 25°C
Display and Communication	
User interface and display	LED indicators, WiFi + APP
Inverter monitoring	Modbus RS485
Site level monitoring	CPS FlexOM (1 per 32 inverters)
Modbus data mapping	SunSpec / CPS
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)
Mechanical	
Dimensions (W x H x D)	Standard Wire-box: 45.28 x 24.25 x 9.84 in (1150 x 616 x 250 mm) Centralized Wire-box: 39.37 x 24.25 x 9.84 in (1000 x 616 x 250 mm)
Weight	Inverter: 121 lbs (55 kg) Standard 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	Standard 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	25 A fuses provided (fuse values up to 30 A acceptable)
Safety	
Certifications and standards	UL 1741-SA/SB Ed. 3, CSA-22.2 NO.107.1-01, IEEE 1547-2018, FCC PART 15
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018 ⁶ , CA Rule 21, ISO-NE, HECO Rule 14H
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt
Warranty	
Standard	5 years
Extended terms	10, 15, and 20 years

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

2) "Max AC apparent power" rating valid within MPPT voltage range and temperature range of -30°C to +40°C (-22°F to +104°F).

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

4) Wye neutral-grounded; Delta may not be corner-grounded.

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

6) Firmware version 12.0 or later required.