

350 kW, 1500 Vdc String Inverters for North America



CPS SCH350KTL-DO/US-800

The CPS 350 kW three-phase string inverters are designed for large-scale ground mount applications. 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 NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications.

The SCH350KTL inverters are rated for 350kW. Each inverter includes 15 MPPTs and is available with 30 unfused PV string inputs. The CPS FlexOM solution enables communication, controls and remote product upgrades.

Key Features

- NFPA 70, NEC 2017/2020 compliant
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated DC disconnect switches
- Protection functions for enhanced reliability and safety
- UL 1741-SB and IEEE 1547-2018 certified
- Supported comm protocols (Modbus RTU, TCP/IP, PLC, CAN)
- 15 MPPTs with 30 unfused inputs
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Full power capacity up to 45°C
- Standard 5-year warranty with extensions to 20 years
- PID mitigation and reative power at night functions included

Model Name	SCH350KTL-DO/US-800
DC Input	
Max. DC input voltage range	1500 V
Operating DC input voltage range	500-1450 Vdc
Start-up DC input voltage / power	550 Vdc / 500 W
Full power MPPT voltage range (@ 113°F / 45°C PF>0.99 ¹)	880-1300 Vdc
Number of MPPT trackers	15
Max. operating current per MPPT	40 A per MPPT
Production limits	48 kW/MPPT or 350 kW total output
Max. PV short-circuit current	975 A, 65 A per MPPT
Number of DC inputs	30 non-fused inputs, 2 per MPPT
DC disconnection type	Load-rated DC switches
DC surge protection	Type II
AC Output	
Max AC output power (selectable) @ PF>0.99	350 kW
Max. AC apparent power	350 kVA
Rated output voltage	800 Vac
Output voltage range ²	680-880 Vac
Grid connection type	3-phase / PE
Max. AC output current @ 800 Vac	253 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)	373.65 A
Max. OCPD rating	400 A
AC surge protection	Type II
System and Performance	
Max. efficiency	99.00%
CEC efficiency	98.50%
Standby / night consumption	< 100 W / < 30 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 (derate from 113°F / 45°C)
Non-operating temperature range	-40°F to 158°F / -40°C to 70°C
Operating humidity	0-100%
Operating altitude	13123.4 ft / 4000 m
Audible noise	≤ 82 dBA @ 1 m and 77°F (25°C)
Display and Communication	
User interface and display	LED indicators, Bluetooth, and app
Inverter monitoring	Modbus RS485 / PLC ⁴ / CAN
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 (H × W × D)	31.9 × 41.6 × 15.75 (810 × 1057 × 400 mm)
Weight	315.3 lb (143 kg)
Mounting / installation angle	75-90 degrees from horizontal (vertical or angled)
AC termination	M12 lug type terminal block (wire range: 4/0 AWG - 750 kcmil AL/CU)
DC termination	Screw clamp terminal (wire range #14-#8 and #6-#4 AWG CU) ⁵
Safety	
Certifications and standards	UL1741-SA Ed. 2, UL1741-SB, CSA-C22.2 NO.107.1-16, IEEE 1547-2018, IEEE 1547a-2020; FCC PART 15, UL 1998, IEEE 2030.5
Selectable grid standard	IEEE 1547a-2018, CA Rule 21, ISO-NE, HECO
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Vol-Watt
Protection Functions	
Insulation resistance monitoring	Yes
Onboard fault oscillography	Yes
PV MPPT current monitoring	Yes
Residual current monitoring	Yes
Output short-circuit protection	Yes
Output overvoltage protection	Yes
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) The output voltage and frequency ranges may differ according to the specific grid standard.

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

4) CPS AC-PLC Kit required for AC PLC communication.

5) One threaded hole per MPPT for connecting #6 - #4 AWG CU.