

# 350kW, 1500Vdc String Inverters for North America



**CPS SCH350KTL-DO/US-800**

The 350kW high power CPS three-phase string inverters are designed for 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.

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
- 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
- Supported comm protocols (Modbus RTU, TCP/IP, PLC)

Model Name	SCH350KTL-DO/US-800
<b>DC Input</b>	
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
MPPT voltage range @ PF>0.99 <sup>1</sup>	880-1300 Vdc
Number of MPP trackers	15
Max. PV input current (clipping point)	40 A per MPPT
Production limits	40 A/MPPT or 48 kW/MPPT or 350 kW total output
Max. PV short-circuit current	900 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
<b>AC Output</b>	
Max AC output power (selectable) @ PF>0.99	350 kW
Max. AC apparent power	350 kVA
Rated output voltage	800 Vac
Output voltage range <sup>2</sup>	680-880 Vac
Grid connection type	3Φ/PE
Max. AC output current @ 800 Vac	253 A
Rated output frequency	60 Hz
Output frequency range <sup>2</sup>	57-63 Hz
Power factor	>0.99 (±0.8 adjustable)
Current THD @ rated load	<3%
Max. fault current contribution (1 cycle RMS)	133 A
Max. OCPD rating	350 A
AC surge protection	Type II
<b>System and Performance</b>	
Max. efficiency	98.8%
CEC efficiency	98.5%
Standby / night consumption	<5 W
<b>Environment</b>	
Enclosure protection degree	NEMA 4X
Cooling method	Variable speed cooling fans
Operating temperature range <sup>3</sup>	22°F to 140°F / -30°C to 60°C (derate from 45°C)
Non-operating temperature range	No low temp. minimum to 158°F / 70°C maximum
Operating humidity	0-100%
Operating altitude	13,123.4 ft / 4000 m (derating from 9,842 ft / 3000 m)
Audible noise	<80 dBA @ 1 m and 77°F (25°C)
<b>Display and Communication</b>	
User interface and display	LED+ APP (Wi-Fi)
Inverter monitoring	Modbus RS485 / PLC <sup>4</sup> / CAN / Modbus TCP
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)
Modbus data mapping	SunSpec / CPS
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)
<b>Mechanical</b>	
Dimensions (H × W × D)	41.6 in × 31.9 in × 15.75 in (1057 mm × 810 mm × 400 mm)
Weight	Inverter: 284.4 lbs (129 kg)
Mounting / installation angle	70-90 degrees from horizontal (vertical or angled)
AC termination	M12 lug type terminal block (wire range: 4/0 AWG - 750 kcmil CU/AL)
DC termination	Screw clamp terminal (wire range #14-#8 and #6-#4 AWG CU) <sup>5</sup>
<b>Safety</b>	
Certifications and standards	UL1741-SB, CSA-C22.2 NO.107.1-01, IEEE1547a-2018; FCC PART15
Selectable grid standard	IEEE 1547a-2018, CA Rule 21, ISO-NE
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Vol-Watt
<b>Protection Functions</b>	
IV curve tracing <sup>6</sup>	Yes
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
<b>Warranty</b>	
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.  
 6) CPS FlexOM Gateway and Portal access required for IV curve tracing.