

# 250/275 kW, 1500 Vdc String Inverters for North America



## CPS SCH275KTL-DO/US-800

The 250/275 kW 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. The SCH275KTL inverters include a selectable active power of either 250 kW or 275 kW (factory default) with 12 MPPTs and are available with either 36 fused PV string inputs or 24 unfused PV string inputs. The CPS FlexOM solution enables communication, controls and remote product upgrades.

### Key Features

- NFPA 70, NEC 2017/2020 compliant
- Touch-safe DC fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated DC disconnect switches
- Protection functions for enhanced reliability and safety
- Selectable max AC active power of 250 kW or 275 kW
- UL 1741-SA certified to CA Rule 21, including SA14-SA18
- 12 MPPTs with 36 fused inputs or 24 unfused inputs
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Full power capacity up to 42°C
- Standard 5-year warranty with extensions to 20 years
- Supported comm protocols (Modbus RTU, TCP/IP, PLC)
- UL 1741-SB and IEEE 1547-2018 certified

Model Name	CPS SCH275KTL-DO/US-800-36	CPS SCH275KTL-DO/US-800-24
<b>DC Input</b>		
Max. DC input voltage		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>		900-1300 Vdc
Number of MPP trackers	12	12
Max. PV input current (clipping point)	26 A per MPPT	26 A per MPPT
Max. PV short-circuit current	600 A, 50 A per MPPT	600 A, 50 A per MPPT
Number of DC inputs	36 fused inputs, 3 per MPPT	24 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		250 kW / 275 kW
Max. AC apparent power		275 kVA
Rated output voltage		800 Vac
Output voltage range <sup>2</sup>		704-880 Vac
Grid connection type		3-phase / PE
Max. AC output current @ 800 Vac		198.5 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)		215.2 A
Max. OCPD rating		300 A
AC surge protection		Type II
<b>System and Performance</b>		
Max. efficiency		99.0%
CEC efficiency		98.5%
Stand-by / night consumption		5 W
<b>Environment</b>		
Enclosure protection degree		NEMA Type 4X
Cooling method		Variable speed cooling fans
Operating temperature range <sup>3</sup>		-22°F to +140°F / -30°C to +60°C (derating from +107°F / +42°C)
Non-operating temperature range <sup>3</sup>		-40°F to +140°F / -40°C to +60°C
Operating humidity		0-100%
Operating altitude		8202 ft / 2500 m (no derating)
Audible noise		<80 dBA @ 1 m and 25°C
<b>Display and Communication</b>		
User interface and display		LED indicators, WiFi + App
Inverter monitoring		Modbus RS485 / Ethernet TCP/ IP <sup>4</sup> / PLC <sup>5</sup>
Site-level monitoring		CPS FlexOM (1 per 32 inverters)
Modbus data mapping		SunSpec / CPS
Remote diagnostics / firmware upgrade functions		Standard / (with FlexOM Gateway)
<b>Mechanical</b>		
Dimensions (H x W x D)		27.2 x 41.3 x 15.7 in (690 x 1050 x 400 mm)
Weight		Approx. 262 lbs (119 kg)
Mounting / installation angle		Vertical installation
AC termination		Stud type terminal (wire range: 3/0 AWG – 750 kcmil AL/CU, lugs not supplied)
DC termination		36 fused input: screw clamp fuse holder (wire range: #14 - #8 AWG CU) 24 non-fused input: screw clamp terminal (wire range: #14 - #8 and #6 - #4 AWG CU) <sup>6</sup>
Fused string inputs (3 per MPPT) <sup>7</sup>		20 A fuses provided (fuse values up to 30 A acceptable)
<b>Safety</b>		
Certifications and standards		UL 1741-SA/SB Ed. 3, CSA-22.2 NO.107.1-16, IEEE 1547a-2014, IEEE 1547-2018, FCC PART 15
Selectable grid standard		IEEE 1547a-2014, IEEE 1547-2018, CA Rule 21, ISO-NE
Smart-grid features		Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Volt-Watt
<b>Protection Functions</b>		
IV curve tracing <sup>8</sup>		Yes
Insulation resistance monitoring		Yes
Onboard fault oscillography		Yes
PV MPPT current monitoring		Yes
Residual current monitoring		Yes
Input reverse polarity protection		Yes
Output overcurrent protection		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 FlexOM Gateway required for Ethernet Modbus TCP/IP communication.

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

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

7) Fused string inputs only applicable to the SCH275KTL 36-input model.

8) CPS FlexOM Gateway and Portal access required for IV curve tracing.