

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



CPS SCH275KTL-DO/US-800

The 250/275kW 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 250kW or 275kW (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 switch
- Protection functions for enhanced reliability and safety
- Selectable max AC active power of 250kW or 275kW
- 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, CAN)
- UL 1741-SB and IEEE 1547-2018 certified

Model Name	CPS SCH275KTL-DO/US-800-36	CPS SCH275KTL-DO/US-800-24
DC Input		
Max. DC input voltage		1500V
Operating DC input voltage range		500-1450Vdc
Start-up DC input voltage / power		550Vdc / 500W
MPPT voltage range @ PF>0.99 ¹		900-1300Vdc
Number of MPP trackers	12	12
Max. PV input current	26A per MPPT	26A per MPPT
Max. PV short-circuit current	600A, 50A per MPPT	600A, 50A per MPPT
Number of DC inputs	36 fused inputs, 3 per MPPT	24 non-fused inputs
DC disconnection type		Load-rated DC switches
DC surge protection		Type II
AC Output		
Max AC output power (selectable) @ PF>0.99		250kW / 275kW
Max. AC apparent power		275kVA
Rated output voltage		800Vac
Output voltage range ²		704-880Vac
Grid connection type		3-phase / PE
Max. AC output current @ 800Vac		198.5A
Rated output frequency		60Hz
Output frequency range ²		57 - 63Hz
Power factor		>0.99 (±0.8 adjustable)
Current THD @ rated load		<3%
Max. fault current contribution (1 cycle RMS)		215.2A
Max. OCPD rating		300A
AC surge protection		Type II
System and Performance		
Max. efficiency		99.0%
CEC efficiency		98.5%
Stand-by / night consumption		5W
Environment		
Enclosure protection degree		NEMA Type 4X
Cooling method		Variable speed cooling fans
Operating temperature range ³		-22°F to +140°F / -30°C to +60°C (derating from +107°F / +42°C)
Operating humidity		0-100%
Operating altitude		8202ft / 2500m (no derating)
Audible noise		<80dBA @ 1m and 25°C
Display and Communication		
User interface and display		LED indicators, WiFi + APP
Inverter monitoring		Modbus RS485 / Ethernet TCP/IP / PLC / 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 x W x D)		27.2 x 41.3 x 15.7in (690 x 1050 x 400mm)
Weight		Approx. 262lbs / 119kg
Mounting / installation angle		Vertical installation
AC termination		Stud type terminal (wire range: 3/0AWG – 600kcmil 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)
Fused string inputs (3 per MPPT) ⁴		20A fuses provided (fuse values up to 30A acceptable)
Safety		
Certifications and standards		UL1741-SA/SB Ed. 3, CSA-22.2 NO.107.1-16, IEEE1547a-2014, IEEE1547-2018, FCC PART15
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
Protection Functions		
Reactive power at night		Yes
IV curve tracing		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
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 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) Fused string inputs only applicable to the SCH275KTL 36-input model.