

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 compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote FW upgrades
- Integrated DC disconnect switch
- Protection Functions for enhanced reliability and safety
- Selectable Max AC Active Power of 250kW or 275kW
- 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)

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	30A 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 to 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 / FW Upgrade Functions	Standard / (with FlexOM Gateway)	
Mechanical		
Dimensions (HxWxD)	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 - #6 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 Ed. 2, CSA-22.2 NO.107.1-16, IEEE1547-2018, FCC PART15	
Selectable Grid Standard	IEEE 1547a-2014, 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 String 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 further 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.