

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



CPS SCH275KTL-DO/US-800

The 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 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
- 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

Model Name	CPS SCH275KTL-DO/US-800
DC Input	
Max. DC Input Voltage	1500V
Operating DC Input Voltage Range	500-1500Vdc
Start-up DC Input Voltage / Power	600Vdc / 300W
Number of MPP Trackers	12
MPPT Voltage Range @ PF>0.99 ¹	880-1300Vdc
Max. PV Short-Circuit Current	600A, 50A per MPPT
Number of DC Inputs	36 Fused Inputs, 3 per MPPT or 24 Non-Fused Inputs, 2 per MPPT (determined by SKU)
DC Disconnection Type	Load-rated DC switches
DC Surge Protection	Type II
AC Output	
Rated AC Output Power @ PF>0.99	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	250A
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 / 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)	26.8 x 41.3 x 15.7in (680 x 1050 x 400mm)
Weight	Approx. 260lbs / 118kg
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	UL1741SA-2018, CSA-22.2 NO.107.1-01, IEEE1547-2018, FCC PART15
Selectable Grid Standard	IEEE 1547-2018, CA Rule 21, ISO-NE, HECO Rule 14H
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
DC Arc-Fault Protection	Optional
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.