

250/275kW V2, 1500Vdc 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

- **Anti-PID function**
- **Reactive Power at Night function**
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated DC disconnect switch
- 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, **CAN**)
- UL 1741-SB and IEEE 1547-2018 certified

Model Name	CPS SCH275KTL-DO/US-800-36 V2	CPS SCH275KTL-DO/US-800-24 V2
DC Input		
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 ¹	900-1300 Vdc	
Number of MPP trackers	12	
Max. PV input current (clipping point)	30 A per MPPT	
Max. PV short-circuit current	600 A, 50 A 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	250 kW / 275 kW	
Max. AC apparent power	275 kVA	
Rated output voltage	800 Vac	
Output voltage range ²	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 ²	57-63 Hz	
Power factor	>0.99 (±0.8 adjustable)	
Current THD @ rated load	< 3%	
Max. fault current contribution (1 cycle RMS)	135.2 A	
Max. OCPD rating	300 A	
AC surge protection	Type II	
System and Performance		
Max. efficiency	99.0%	
CEC efficiency	98.5%	
Standby / night consumption	5 W	
Environment		
Enclosure protection degree	NEMA 4X	
Cooling method	Variable speed cooling fans	
Operating temperature range ³	-22°F to 140°F / -30°C to 60°C (derate from 107°F / 42°C)	
Non-operating temperature range ³	-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 77°F (25°C)	
Display and Communication		
User interface and display	LED indicators, Wi-Fi and app	
Inverter monitoring	Modbus RS485 / PLC ⁴ / 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 × W × D)	27.2 × 41.3 × 15.7 (690 × 1050 × 400 mm)	
Weight	Inverter: 262 lbs (119 kg)	
Mounting / installation angle	Vertical installation	
AC termination	Stud type terminal (wire range: 4/0 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) ⁵	
Fused string inputs (3 per MPPT) ⁶	25 A fuses provided (values up to 30 A acceptable)	
Safety		
Certifications and standards	UL1741-SA/SB Ed.3, CSA-C22.2 NO.107.1-16, IEEE1547a-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, Vol-Watt	
Protection Functions		
Reactive Power at Night	Yes	
Anti-PID function	Yes	
Insulation resistance monitoring	Yes	
Onboard fault oscillography	Yes	
PV MPPT current monitoring	Yes	
Residual current monitoring	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) CPS AC-PLC Kit required for AC PLC communication.

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

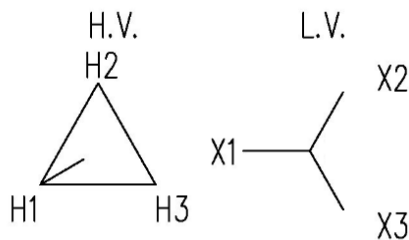
6) Fused string inputs only applicable to the SCH275KTL 36-input model.

4.2 MVA Medium Voltage Transformer Skid

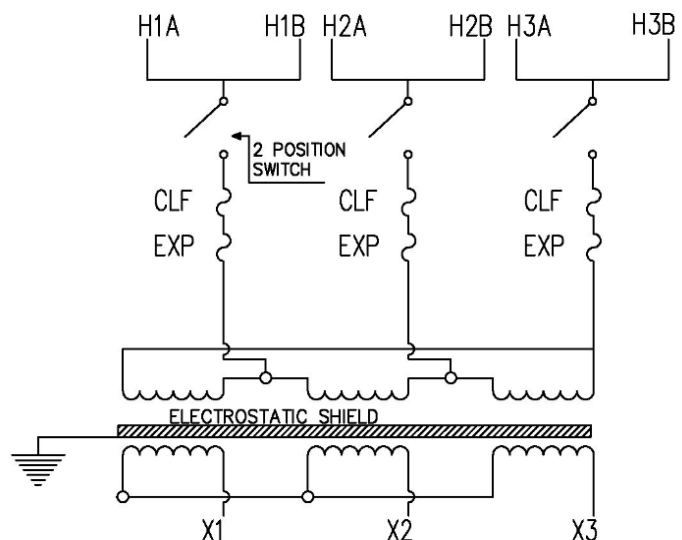


The CPS three-phase 4.2 MVA Medium-Voltage Transformer Skid Solution is the last step in the conversion chain that brings electrical energy to the power grid. The transformers are designed for superior reliability, efficiency, and environmental performance. A modular architecture paired with design options ensures cost efficiency and easy, minimal maintenance. The Skid Solution includes the Low-Voltage Cabinet, Auxiliary Transformer, communications and controls.

Phasor Diagram



Connection Diagram

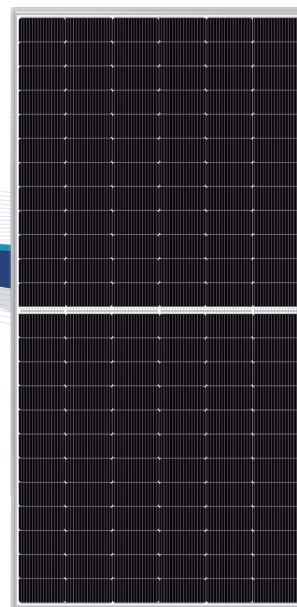


Model Name	TX4200-34.5/0.8-Dy1	TX4200-13.8/0.8-Dy1
Electrical Ratings		
Rated power	4.2 MVA	
Low voltage rating	800 Vac	
Medium voltage rating	34.5 kV	13.8kV
No-load loss @ 20°C	4.9 kW	
Load loss @ 85°C	33.6 kW	
Impedance (low-voltage to high-voltage)	Two windings typ. $\approx 7.0\% \pm 7.5\%$	Two windings typ. $\approx 9.0\% \pm 7.5\%$
Average winding temperature rise	65°C	
Frequency	60 Hz	
Efficiency	99.32% @ 50% load; 99% @ full Load	
Vector group	Dy1	
Configuration		
Cooling class	KNAN	
Number of windings	2	
Electrostatic shielding	Electrostatic shield between high-voltage and low-voltage windings (2 windings)	
Insulating fluid	Biodegradable oil, FR3 type or equivalent	
High-voltage conductor material	Aluminum	
Voltage taps	2-2.5% taps above, and 2-2.5% taps below nominal voltage	
High-voltage bushing	600A, 35 kV deadbreak bushing, 150 kV BIL (quantity: 6)	
Low-voltage bushing	4 holes, blade type 4515 A , 30 kV BIL	
High-voltage configuration	Loop-feed, dead front	
Load-break switching	630A 2-position load-break switch	
Overcurrent protection	38 kV bayonet fuses 120A	15 kV bayonet fuses 230A
	38 kV partial-range CLF 100A x 2	15 kV partial-range CLF 180A x 2
Standard Accessories		
Liquid level gauge with alarm contacts	Included	
Liquid temperature indicator with alarm contacts	Included	
Pressure vacuum gauge with alarm contacts	Included	
Off-load tap changer	Included	
Pressure relief valve	Included	
Oil filling tube	Included	
Drain valve with sampler	Included	
Nitrogen blanket	Included	
Environment		
Enclosure protection degree	NEMA Type 3S	
Total weight	25353 lb / 11500 kg (approx.)	
Coatings	RAL 7035	
Operating temperature range	-22°F to +104°F / -30°C to +40°C	
Operating humidity	0 to 95%	
Operating altitude	3280 ft / 1000 m (optional: 6560 ft / 2000 m)	
Dimentions	4800(W)x2476(H)x2200(D)	
Safety		
Certifications and standards	UL certified to IEEE C57.12.00, IEEE C57.12.28, IEEE C57.12.90, CSA C2.1-06, CAN / CSA-C227.3, C227.4	
Warranty		
Standard	3 year	
Extended terms	5 years	

HY-DH144N8

560-585W

144 Pieces | HALF-CELL | N-Type



22.6%
Max. Efficiency
N-Type
Bifacial & Dual Glass



High Conversion Efficiency

Module efficiency up to 22.6% based on N-Type wafer and advanced N-Type cell technology



Excellent Energy Yield

More power output in field operation due to better thermal behaviors, weak-light performance and bifaciality



Outstanding Anti-degradation

Unsusceptible to LID, LeTID and less annual degradation due to special characteristics of N-Type



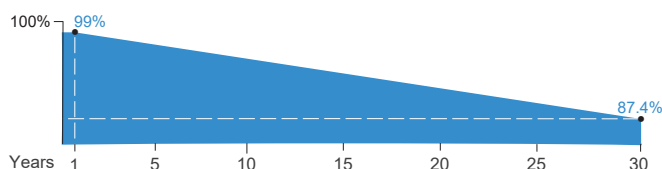
Quality Guarantee

High module quality ensures long-term reliability



Munich RE 

IEC61215 / IEC61730 / UL61730
IEC61701 / IEC62716 / IEC60068
ISO9001 / ISO14001 / ISO45001



Hyperion N-Type Dual Glass Product Performance Warranty

12 Years Product Warranty

30 Years Linear Power Warranty

1% First Year Degradation

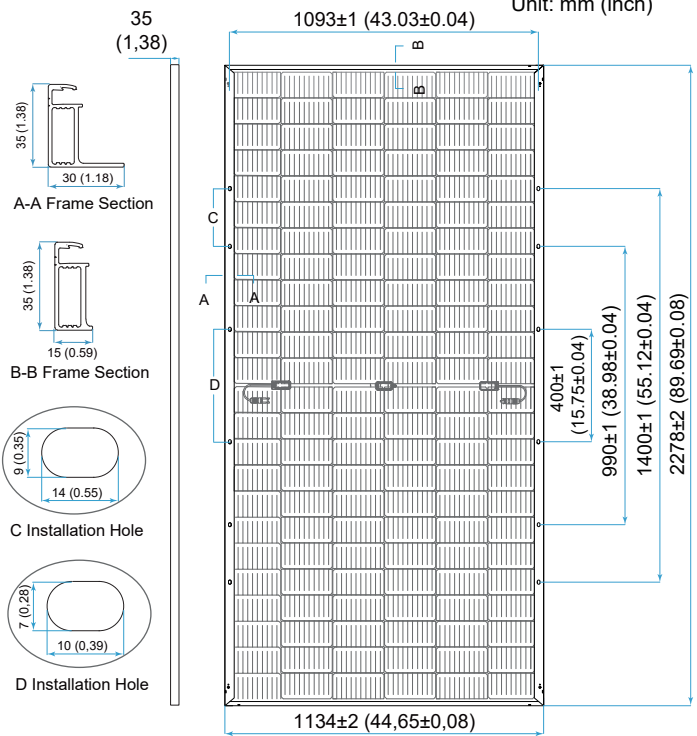
0.4% Annual Power Degradation

Mechanical Parameters

Solar Cell	Mono N-Type 182 mm
No. of Cells	144(6 × 24)
Dimensions	2278 × 1134 × 35mm(89.69 × 44.65 × 1.38in.)
Weight	32.7kg(72.09lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cable	4mm ² (IEC), 12 AWG(UL) +400/-200mm (+15.75/-7.87in.) or customized
Connector	RY01 or similar
Front Cover	2.0mm (0.079in.)semi-tempered AR glass
Back Cover	2.0mm (0.079in.)semi-tempered glass
Container	31 pcs/Pallet, 558 pcs/40' HC

Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +85°C(-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa(112lb/ft ²)
Backside Max. Loading	2400Pa(50lb/ft ²)
Bifaciality	80%±10%
Fire Resistance	IEC Class A , UL Type 29



Electrical Characteristics - STC

Irradiance 1000 W/m², ambient temperature 25 °C, AM1.5.

Maximum Power at STC (Pmax/W)	585	580	575	570	565	560
Power Tolerance (W)	0 ~ +5					
Optimum Operating Voltage (Vmp/V)	42.74	42.59	42.44	42.29	42.14	41.95
Optimum Operating Current (Imp/A)	13.69	13.62	13.55	13.48	13.41	13.35
Open Circuit Voltage (Voc/V)	51.67	51.47	51.27	51.07	50.87	50.67
Short Circuit Current (Isc/A)	14.43	14.37	14.31	14.25	14.19	14.13
Module Efficiency	22.6%	22.5%	22.3%	22.1%	21.9%	21.7%

Electrical Characteristics - NMOT

Irradiance 800 W/m², ambient temperature 20 °C, AM1.5, wind speed 1 m/s.

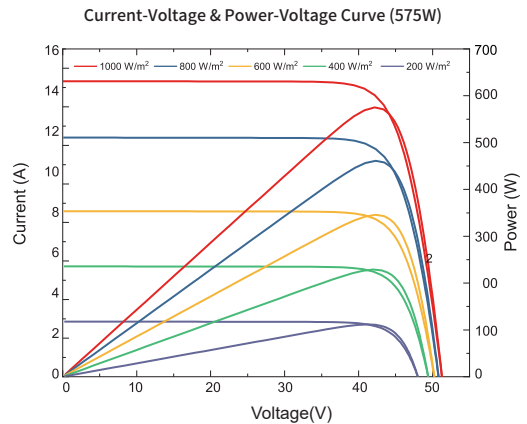
Maximum Power at NMOT (Pmax/W)	446.5	442.7	438.9	435.0	431.3	427.4
Optimum Operating Voltage (Vmp/V)	40.92	40.77	40.63	40.49	40.34	40.16
Optimum Operating Current (Imp/A)	10.91	10.86	10.80	10.75	10.69	10.64
Open Circuit Voltage (Voc/V)	49.47	49.27	49.08	48.89	48.70	48.51
Short Circuit Current (Isc/A)	11.61	11.56	11.51	11.46	11.41	11.37

Rearside Power Gain (Reference to 585W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	614	673	731
Optimum Operating Voltage (Vmp/V)	42.74	42.84	42.84
Optimum Operating Current (Imp/A)	14.37	15.70	17.07
Open Circuit Voltage (Voc/V)	51.67	51.77	51.77
Short Circuit Current (Isc/A)	15.15	16.56	18.00
Module Efficiency	23.8%	26.1%	28.3%

Temperature Characteristics

Nominal Module Operating Temperature	42 ± 2 °C
Nominal Cell Operating Temperature	45 ± 2 °C
Temperature Coefficient of Pmax	-0.31%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Isc	0.05%/°C



Essex A North Lot Solar, LLC Perimeter Fence Specifications

Project Fencing Specs:

Corner/ End/ Gate Posts

6-7 inches round x 12 feet Pressure treated Southern yellow pine

Line Posts:

4-5 inches round x 12 feet Pressure treated Southern yellow pine
Posts every 20 feet on average

Wire: [Home of the Fixed Knot Fence](#) (see attached cut sheet)

20966 Black Benzial coated
20 Horizontal Wires
96 inches(8 feet) High
6 inch Vertical spacing

Gates:

2 double drive heavy duty 2" gates (12' each in length) [Applegate Heavy Duty Gate](#) (see attached cut sheet)

Example of Fencing:



TEXAS GATE & PANEL CO.

SALES CATALOG

BRYAN, TEXAS

1-800-795-7655

"built by ranchers, for ranchers"

All gates are designed with galvanized American made tubing. All gates are 8ft. 2in. tall, with round corners. Gates come with three heavy duty hinges with 12 inch bolt hook. Vertical supports 1-8, 1-10, 2-12, 2-14, 3-16. All vertical and horizontal bars are saddle notched for superior strength. All gates are 4 inches shorter than advertised length for hinge placement. All gates come with 6 gauge 4X4 mesh panel welded to the gate frame.

Details:

- Part #DM-12
- 1.90 diameter galvanized tubing, 16 gauge in thickness with a 4"X4" 6 gauge wire panel that is welded to the frame. All tube joints are saddle-notched and welded.

DEER MASTER GATES

1-7/8 16 ga. GALVANIZED TUBING

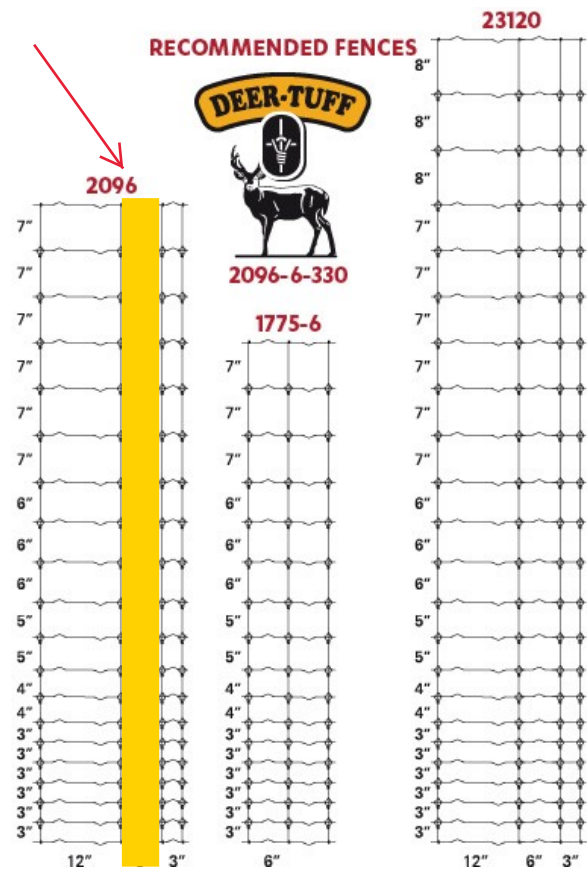
4X4 WIRE MESH GATE

<u>ORDER</u>	<u>LENGTH</u>	<u>WT.</u>
TG-DM-04	4FT.	44
TG-DM-06	6FT.	66
TG-DM-08	8FT.	88
TG-DM-10	10FT.	110
TG-DM-12	12FT.	132
TG-DM-14	14FT.	154
TG-DM-16	16FT.	176
TG-DM-18	18FT.	198
TG-DM-20	20FT.	220

***Gates also made with walkthrough man gate.**



23120-6	Boundary fence, medium to high pressure	Strong, cost-saving 6" spacing
23120-3	Breeding & Fawn Pens, high pressure areas	Strongest fence with 3" spacing



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