



The Nanosolar Utility Panel™ is the industry's first solar power panel specifically designed for utility-scale deployment. Its unique features and benefits include:

A Thin Panel of 160-220 Watts

- High power per panel.
- Reduces installation cost.

High-Current Design

- Enables longer panel arrays.
- Reduces cabling and labor.

Nanosolar Edge Connector™

- Simplifies electrical connection.
- Reduces labor time.

High System Voltage

- Industry-first 1500V certification.
- More efficient inverter utilization.

Rugged Glass/Glass Panel with Edge Seal

- Designed for maximum durability.
- Wide-span mounting.

Designed for Multi-MW Deployment Logistics

- Dense, re-usable pallet packing.
- Reduces shipping cost.

Performance

Maximum Rated Power	160W – 220W
Tolerance*	+/- 5%
Limited Warranty*	5 years material & workmanship 90% nominal power output for first 10 years 80% nominal power output for first 20 years

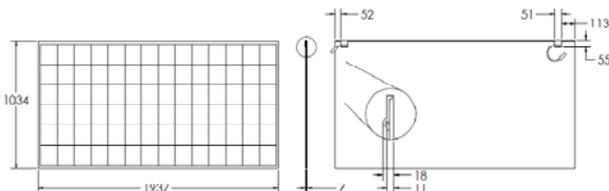
Mechanical Characteristics

Dimensions	Length: 1937 mm (76") Width: 1034 mm (41") Height: 7 mm (0.28")
Weight	32 kg (69 lbs)
Construction	Frameless glass/glass laminate 3 mm tempered solar glass front 3 mm tempered glass back
Solar Cells	84 MWT CIGS cells in series
Cell Layout	6 cells per string 14 strings per module
Output Cables	80 mm cable (positive) 300 mm cable (negative)
Output Terminal	MC3 compatible
Mounting Systems	4-clip for 2400 Pa uniform load Additional 2-rail for 5400 Pa

Shipping Quantities

Per Pallet	60
Per 20' ISO Container	660

Mechanical Drawing



Electrical Characteristics at STC†

Rated Power (W)	160	170	180	190	200	210	220
V_{MPP} (V)	28.1	28.8	29.5	30.7	31.5	32.4	33.4
I_{MPP} (A)	5.7	5.9	6.1	6.2	6.4	6.5	6.6
V_{OC} (V)	39.5	40.1	40.8	42.1	43.1	44.0	44.8
I_{SC} (A)	7.3	7.4	7.5	7.5	7.6	7.6	7.6
Max System Voltage	1500V						
Max Series Circuit Fuse	25A						
Normal Operating Cell Temperature	47°C						

Electrical Characteristics at NOCT‡

Rated Power (W)	160	170	180	190	200	210	220
V_{MPP} (V)	24.2	24.9	25.6	26.8	27.5	28.4	29.2
I_{MPP} (A)	4.6	4.8	4.9	5.0	5.1	5.2	5.3
V_{OC} (V)	35.6	36.2	36.9	37.9	38.8	39.6	40.2
I_{SC} (A)	6.0	6.1	6.1	6.1	6.2	6.2	6.2

Qualifying Test Conditions

Temperature Cycling	-40°C to +85°C, 200 cycles
Damp Heat	85% RH, 85°C, 1000 hr
Static Load Front and Back	2400 Pa (50 psf)
Hailstone Impact	25 mm diameter at 23 m/s

Quality and Safety

- IEC 61646 & 61730
- UL 1703, Fire Resistance Class A
- TUV Safety Class II up to 1500VDC

* Contact Nanosolar for full warranty terms

† Standard Test Conditions (STC): 25°C, 1000 W/m², AM1.5G.

‡ NOCT Test Conditions: 47°C, 800 W/m², ≤ Wind 1m/s.