


BIFACIAL N-TYPE MONO CRYSTALLINE HALF-CUT MODULE - DOUBLE GLASS

605 / 610 / 615 / 620 / 625 Watts


TOPCon Series

Overview


N-type solar cells (TOPCon) are seen as the technology of the future. N-type (TopCon) technology guarantees high performance and low degradation of the PV module, substantially improving the results and the yield in the time. "TOPCon" Series module is the ideal solution for end users who want a Quality PV & reliable product over time and a fast turnaround on their investments.



Guaranteed mechanical resistance to severe weather conditions




Positive Tolerance




100 % electroluminescence tested


Key benefits




Zero Light Induced Degradation




0% Front Grid Shading Loss




Low LCOE



30 Years Limited Product Warranty



Low Pmax Temperature Coefficient



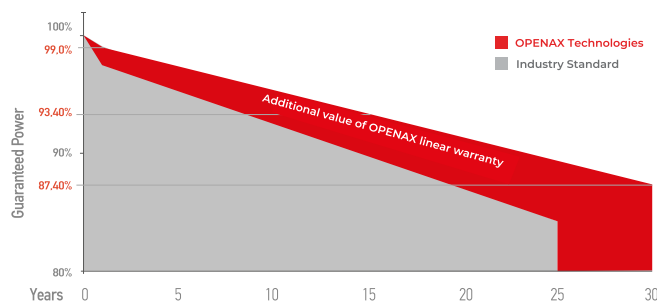
Higher Light Conversion

Tests, Certifications and Guarantees

| | |
|------------------------------------|---|
| Standard tests | IEC 61215, IEC 61730 |
| Factory quality testing | ISO 9001: 2015. ISO 14001: 2015 |
| Certifications | Conformity to CE. PV CYCLE Fire safety Class C according to UL790 |
| Wind and Snow Loads Testing | Module certified to withstand extreme wind [2400 Pascal] and snow loads [5400 Pascal] |
| Withstanding Hail | Maximum Diameter of 25mm with impact speed of 23m/s |
| Power Tolerance | Guaranteed +0/+5W [STC condition] |

| | |
|-------------------|---|
| Warranties | <ul style="list-style-type: none"> 30-year limited product warranty 15-year manufacturer warranty on 93,40% of the nominal performance Linear power output guarantee over 25 years |
|-------------------|---|

Linear performance guarantees



| | | | | | |
|---------------------|---------|------------------------------|---------|--------------------------|----------|
| Production 1st year | ≥ 99.0% | Power between 2 and 25 years | ≤ 0.40% | Power output at 25 years | ≥ 87.40% |
|---------------------|---------|------------------------------|---------|--------------------------|----------|

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OX-xxx-M10TCBVB132-01(xxx=605-625)

Electrical performance

| POWER CLASS ⁽¹⁾ | | | 605 | | 610 | | 615 | | 620 | | 625 | |
|----------------------------|------|------|--------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Measurement condition | | | STC ⁽²⁾ | NMOT ⁽³⁾ | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum power | Pmax | [Wp] | 605 | 457 | 610 | 461 | 615 | 465 | 620 | 469 | 625 | 473 |
| Voltage at Pmax | Vmp | [V] | 40,29 | 37,75 | 40,43 | 37,92 | 40,57 | 38,09 | 40,72 | 38,26 | 40,86 | 38,44 |
| Current at Pmax | Imp | [A] | 15,02 | 12,11 | 15,09 | 12,16 | 15,16 | 12,21 | 15,23 | 12,26 | 15,3 | 12,31 |
| Open Circuit Voltage | Voc | [V] | 48,4 | 46,03 | 48,62 | 46,22 | 48,82 | 46,41 | 49,02 | 46,6 | 49,22 | 46,7 |
| Short circuit current | Isc | [A] | 15,92 | 12,86 | 15,98 | 12,92 | 16,04 | 12,98 | 16,1 | 13,04 | 16,16 | 13,1 |
| Surface efficiency | Eff | [%] | 22,40 | | 22,58 | | 22,77 | | 22,95 | | 23,14 | |
| Max. Reverse Current | Ir | [A] | 30 | | | | | | | | | |
| System voltage max | Vsys | [V] | 1500V CD (IEC) | | | | | | | | | |

(1) Measurement tolerances: Pmax (± 3%), Isc & Voc (± 3%) - Power classification 0/+5W

(2) STC (Standard Test Conditions): Irradiance 1000W/m² Cell Temperature 25°C, AM 1.5

(3) NMOT (Nominal Module Operating Temperature): Irradiance 800W/m² Ambient Temperature 20°C, AM

Bi Facial Output (4)

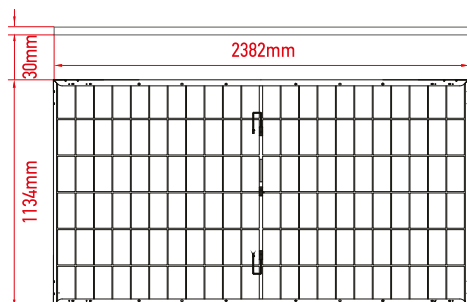
| POWER CLASS | | | 605 | | 610 | | 615 | | 620 | | 625 | |
|--------------------------|----|-----|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|
| Power with Backside Gain | | | Pmax (Wp) | Eff (%) | Pmax (Wp) | Eff (%) | Pmax (Wp) | Eff (%) | Pmax (Wp) | Eff (%) | Pmax (Wp) | Eff (%) |
| | 5 | (%) | 635,3 | 23,5% | 640,5 | 23,7% | 645,8 | 23,9% | 651,0 | 24,1% | 656,3 | 24,3% |
| | 10 | (%) | 665,5 | 24,6% | 671,0 | 24,8% | 676,5 | 25,0% | 682,0 | 25,2% | 687,5 | 25,5% |
| | 15 | (%) | 695,8 | 25,8% | 701,0 | 24,8% | 707,3 | 26,2% | 713,0 | 26,4% | 718,8 | 26,6% |
| | 20 | (%) | 726,0 | 26,9% | 732,0 | 27,1% | 738,0 | 27,3% | 744,0 | 27,5% | 750,0 | 27,8% |
| | 25 | (%) | 756,0 | 28,0% | 762,5 | 28,2% | 768,8 | 28,5% | 775,0 | 28,7% | 781,3 | 28,9% |
| | 30 | (%) | 786,5 | 29,1% | 793,0 | 29,4% | 799,5 | 29,6% | 806,0 | 29,8% | 812,5 | 30,1% |

(4) Bifaciality Factor > 90% - Back-side power gain depends upon the specific projet albedo - Efficiency is according to the module

Mechanical characteristics

| | |
|--------------|--|
| Dimensions | 2382mm x 1134 x 30mm |
| Weight | 33,5 Kg |
| Cells | N-type 210mm x 105mm (2x66 Pcs) - G12R |
| Front panel | 2.0mm Tempered and low iron glass + ARC |
| Rear panel | 2.0mm Tempered and low iron glass |
| Frame | Anodized aluminum alloy (Black) |
| Junction box | IP68 - 3 Bypass Diodes |
| Connectors | MC4 Compatible |
| Cables | Cross-section: 4mm ² - Length: 300mm or can be customized |

Dimensions



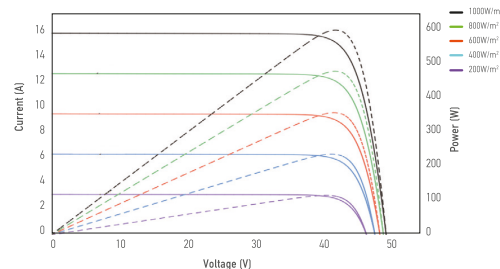
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I-V curve

Power loss in low-light environments: 200W/m² is less than 3%.



Thermal coefficients

| | |
|---|-------------|
| Coeff./ Pmax | -0.30% / °C |
| Coeff./ Voc | -0.24% / °C |
| Coeff./ Isc | +0.04% / °C |
| Operating temperature | -40~+85 °C |
| Nominal module operating temperature (NMOT) | 42 ± 2 °C |

Packaging configuration

| | |
|-----------------------|--------------------|
| Container | 40' (HC) |
| Pieces per Pallet | 36 |
| Pallets per Container | 20 |
| Pieces per Container | (36+36)x10=720 pcs |