

**Tier1**

BloombergNEF



ISO 9001 ISO 14001 SA 8000  
ISO 45001 OHSAS 18001

## M10 TOPCON MONO

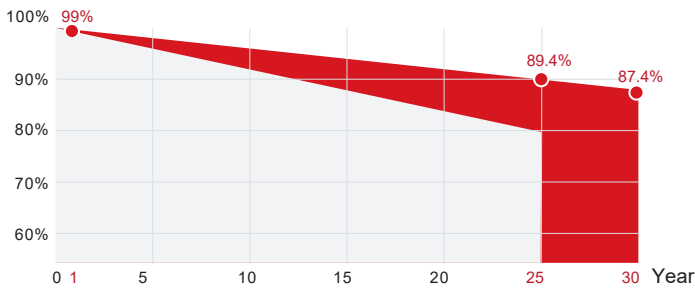
**SPxxx-N144M10**

**565~590W**

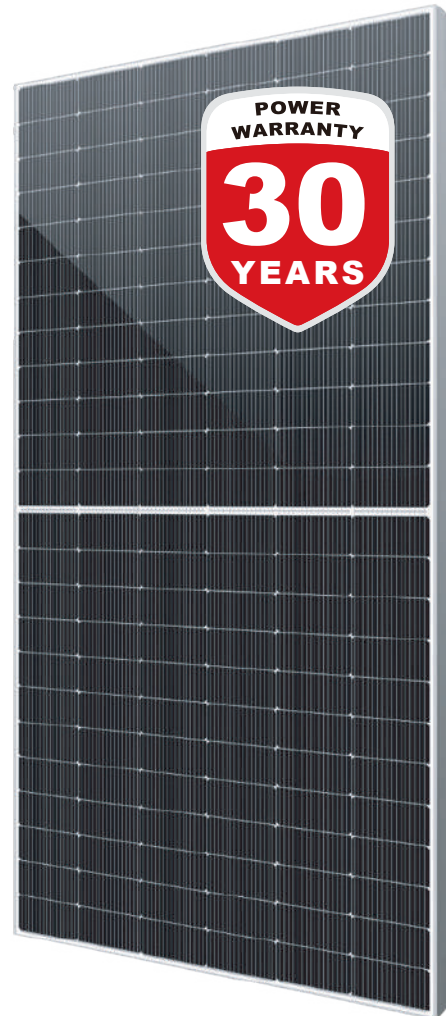
- Silver frame
- Black frame
- Full black

**15 Yr quality guarantee | 30 Yr power warranty**

SUNPRO TOPCon module (Additional value from 30-year warranty)  
 Common module



\*SUNPRO Standard tiered warranty



### WARRANTY & GUARANTEE

Linear output power guarantee  
25 years: 89.4% power output  
30 years: 87.4% power output



### WITHSTAND STRONG

Snow load 5400Pa  
Wind load 2400Pa



### PID RESISTANCE

Power positive tolerance 0~+5W.  
The attenuation probability of PID phenomenon is minimized through battery production technology optimization and material control



### R&D AND PRODUCTION

Advanced production line. The leading solar cell cutting process and multi busbar design with SUNPRO Technology.



### HIGH EFFICIENCY

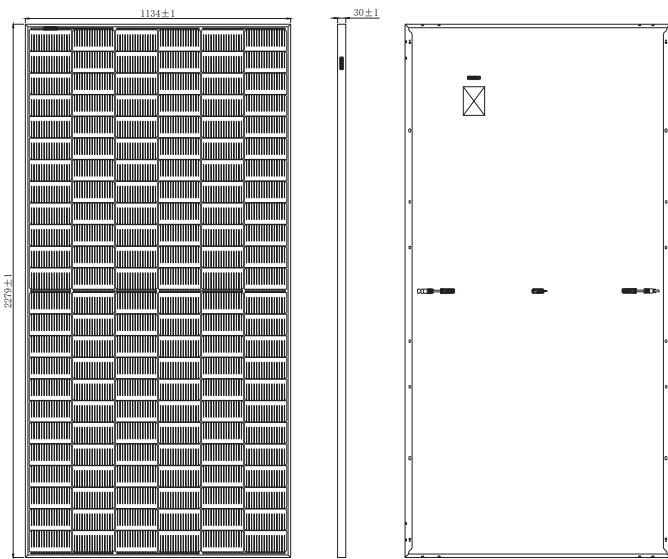
N-type, Components have better reliability and lower LID/LETID attenuation. Efficiency can reach 22.83%. Excellent low light performance. Higher power output under the conditions of haze, overcast, etc.

## Electrical parameters at standard test conditions (STC:AM=1.5, 1000W/m<sup>2</sup>, Cells Temperature 25°C)

### Typical type

|                            | 565W           | 570W  | 575W  | 580W  | 585W  | 590W  |
|----------------------------|----------------|-------|-------|-------|-------|-------|
| Max power(Pmax)            | 565            | 570   | 575   | 580   | 585   | 590   |
| Max power voltage(Vmp)     | 42.13          | 42.26 | 42.41 | 42.56 | 42.72 | 42.87 |
| Max power current(Imp)     | 13.41          | 13.49 | 13.56 | 13.63 | 13.7  | 13.77 |
| Open circuit voltage(Voc)  | 50.98          | 51.13 | 51.28 | 51.43 | 51.58 | 51.7  |
| Short circuit current(Isc) | 14.13          | 14.2  | 14.27 | 14.34 | 14.41 | 14.48 |
| Module Efficiency(%)       | 21.86          | 22.06 | 22.25 | 22.44 | 22.64 | 22.83 |
| Max system voltage         | DC 1500V (TÜV) |       |       |       |       |       |
| Maximum Series Fuse Rating | 25A            |       |       |       |       |       |

### DIMENSIONS AND STRUCTURE



### Electrical parameters at NMOT test conditions

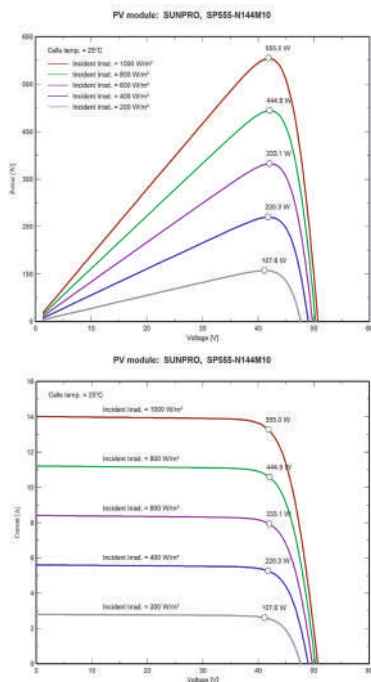
(Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s)

| Typical type               | 565W  | 570W  | 575W  | 580W  | 585W  | 590W  |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Max power(Pmax)            | 425   | 429   | 433   | 437   | 437   | 441   |
| Max power voltage(Vmp)     | 39.7  | 39.7  | 39.9  | 40.1  | 39.9  | 40.0  |
| Max power current(Imp)     | 10.72 | 10.79 | 10.85 | 10.90 | 10.96 | 11.02 |
| Open circuit voltage(Voc)  | 48.1  | 48.2  | 48.4  | 48.5  | 48.3  | 48.4  |
| Short circuit current(Isc) | 11.39 | 11.44 | 11.50 | 11.56 | 11.61 | 11.67 |

### Mechanical Data

|                 |  |
|-----------------|--|
| Dimensions      | 2279x1134x30mm                                   |
| Weight          | 27kg   |
| Glass           | 3.2mm ultra clear embossed tempered coated glass |
| Output cables   | 4mm <sup>2</sup> , symmetrical lengths 1300mm    |
| Connectors      | MC4 compatible IP68                              |
| Cell type       | N type Mono-Crystalline, 182x91mm                |
| Number of cells | 144cells ( Half-Cell )                           |

### I-V CHARACTERISTICS AT DIFFERENT IRRADIATION



### Temperature Characteristics

|                                   |           |
|-----------------------------------|-----------|
| Temp.Coeff.of Isc(TK Isc)         | 0.046%/°C |
| Temp.Coeff.of Voc(TK Voc)         | -0.25%/°C |
| Temp.Coeff.of Pmax(TK Pmax)       | -0.30%/°C |
| Operating temperature             | -40~+85°C |
| Normal operating cell temperature | 45±2°C    |

### Packing Configuration

|                       |       |
|-----------------------|-------|
| Container             | 40'HQ |
| Pieces per pallet     | 36    |
| Pallets per container | 20    |
| Pieces per container  | 720   |

### Tests, Certifications and Warranties

|                                     |   |
|-------------------------------------|---|
| Standard tests                      | IEC 61215, IEC 61730  |
| System certs                        | ISO 9001, ISO14001, ISO45001                                    |
| Certifications                      | TÜV, CE, CEC, WEEE  |
| Extreme wind and snow loads testing | Withstand extreme wind(2400 Pascal) and snow loads(5400 Pascal) |
| Power tolerance                     | 0~+5W   |
| Junction box                        | IP 68   |
| Warranties                          | 15 years product warranty and 30 years 87.4% of power           |