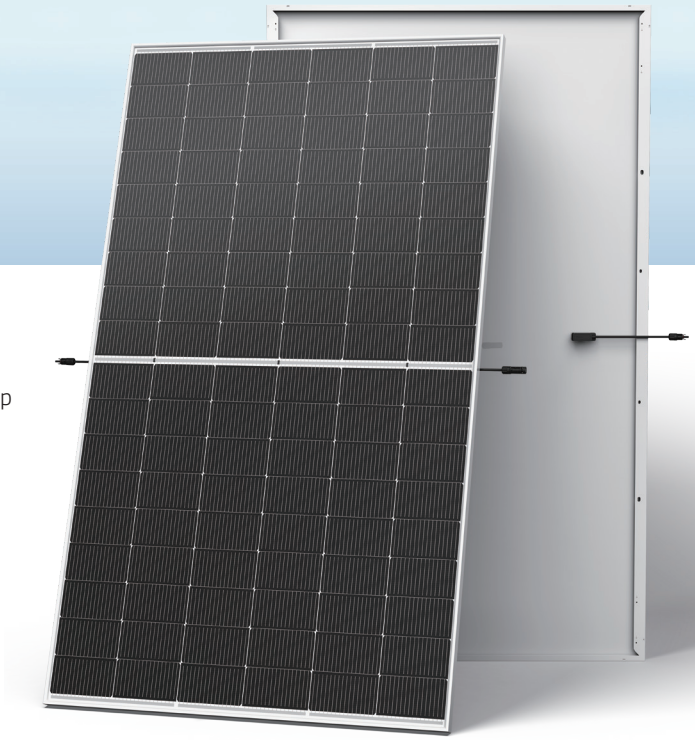
Vertex N

— i-TOPCon Ultra —

TSM-NEL18R **495-520W**



Key Features

- 7.1kg/㎡ light design to lose 35% weight, fitting for low-bearing rooftop
- Low attenuation, easy maintenance. No compromise on power yield
- Same way of construction and installation. No specialization
- High efficiency with golden size, flexible in various scenarios

High Customer Value

- Suitable for residential and C&I rooftop with less bearing capacity
- Perfect size and low weight for handling and installation
- Compatible with mainstream inverters and diverse mounting systems

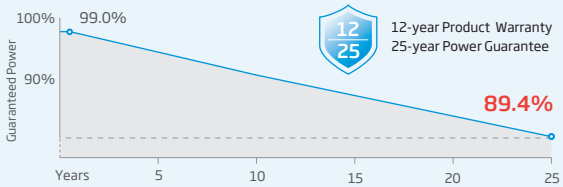
High reliability with lightweight design

- Mechanical test load up to 3600 Pa front side and 2400 Pa back side
- Excellent Hail test performance
- Less prone to micro-cracks， excellent mechanical performance
- Excellent weather resistance, sustainable in harsh environments and extreme weather conditions
- Certified resistance against salt spray, sand dust, ammonia, PID
- Up to 15 years product warranty and 25 years power warranty

High power up to 520W

- Up to 23.4% module efficiency, on 210 innovative platform
- Patented i-TOPCon technology with continuous efficiency improvement, including contact resistance reduction, rear reflection enhancement and edge quality repairment
- Excellent low irradiation performance, validated by 3rd party
- Lower temperature efficient (-0.29%/°C) and lower working temperature

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO14064: Greenhouse Gases Emissions Verification

ISO45001: Occupational Health and Safety Management System

Version number: TSM_EN_2025_A

Trinasolar

Vertex S+

N-type i-TOPCon Ultra BACKSHEET MONOCRYSTALLINE MODULE

ELECTRICAL DATA (STC)

Peak Power Watts-PMAX(Wp)*	495	500	505	510	515	520
Power Selection (W)**			0 ~ +5			
Maximum Power Voltage-VMPP (V)	33.10	33.30	33.50	33.70	33.90	34.10
Maximum Power Current-IMPP (A)	14.97	15.03	15.09	15.14	15.20	15.25
Open Circuit Voltage-VOC (V)	39.80	40.10	40.30	40.60	40.90	41.20
Short Circuit Current-ISC (A)	15.83	15.86	15.89	15.93	15.96	15.99
Module Efficiency η m (%)	22.3	22.5	22.7	22.9	23.2	23.4

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: ±3%. **Power selection up to: +3%.

ELECTRICAL DATA (NOCT)

Peak Power Watts-PMAX(Wp)	378	382	386	390	394	396
Maximum Power Voltage-VMPP (V)	31.30	31.50	31.80	31.90	32.20	32.30
Maximum Power Current-IMPP (A)	12.08	12.11	12.15	12.21	12.23	12.26
Open Circuit Voltage-VOC (V)	37.70	38.00	38.30	38.50	38.80	39.00
Short Circuit Current-ISC (A)	12.76	12.78	12.81	12.84	12.86	12.89

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

TEMPERATURE RATINGS

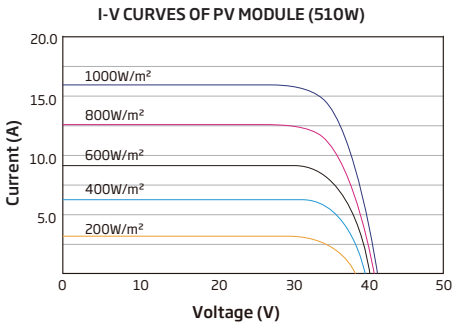
NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of PMAX	- 0.29% /°C
Temperature Coefficient of VOC	- 0.24% /°C
Temperature Coefficient of ISC	0.04% /°C

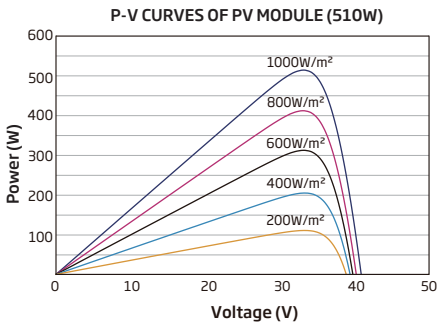
Due to different testing methods, the actual performances might differ from the declared specifications.

APPLICATION CONDITIONS

Operating Temperature	-40~+70°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	30A

CURVES OF PV MODULE

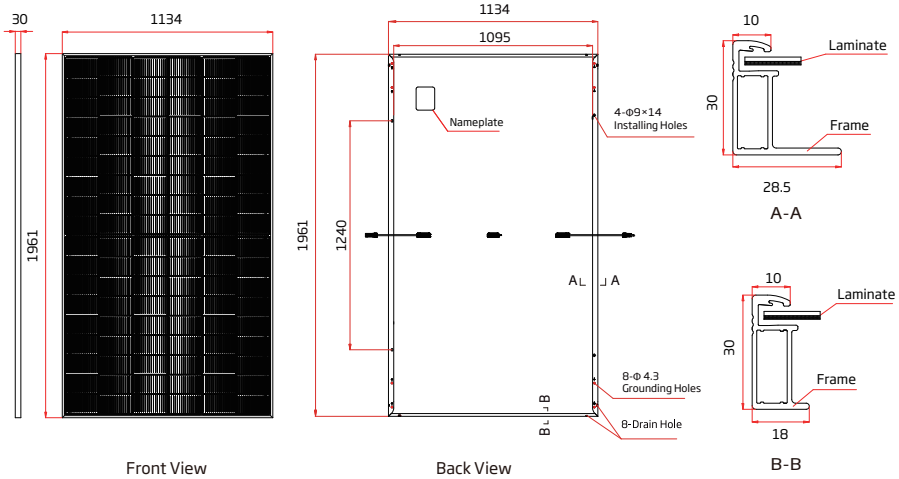




MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	108 cells
Module Dimensions	1961×1134×30 mm (77.20×44.65×1.18 inches)
Weight	15.8±3% kg
Front Glass	1.6mm (0.06inches), AR Coating Heat Strengthened Glass
Backsheet	White
Frame	30mm(1.18 inches) Anodized Aluminium Alloy, Silver
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait: 200/320 mm(7.87/12.60 inches) Length can be customized
Connector	TS4 Plus / TS4 / MC4 EVO2*
Packaging	Modules per box: 36 pieces Modules per 40' container: 864 pieces

*The connector names listed are general names; specific types are subject to the certification documents.



Version number: TSM_EN_2025_A

www.trinasolar.com

Trinasolar