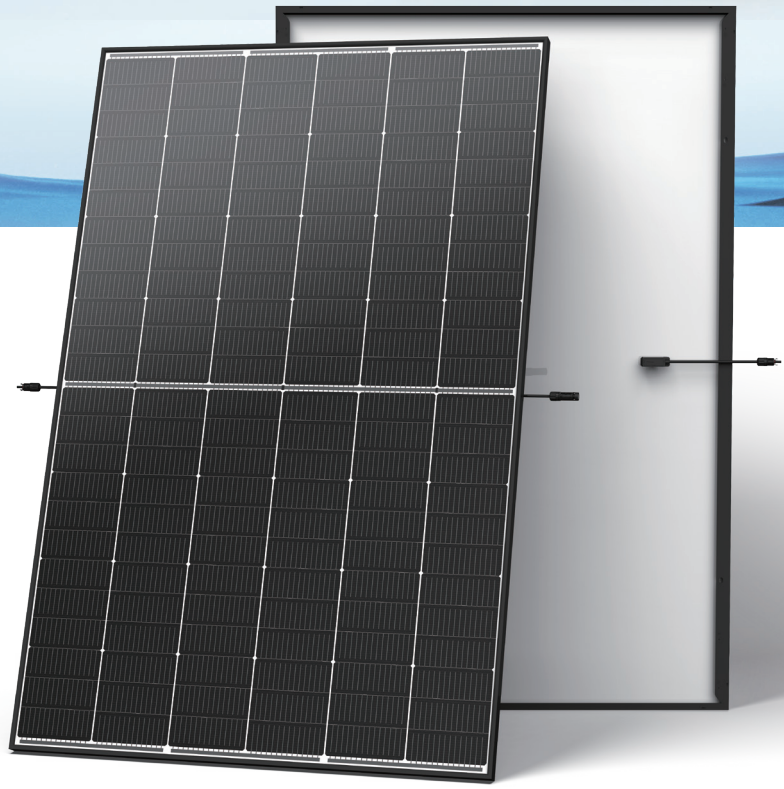
Vertex S+

— i-TOPCon —

Preliminary

Shield

TSM-NED9R.28
445-470W



Key Features

- VFK HW4 Hail Test
- Standard load capacity: +7000/-5000 Pa
  Special load capacity: +8000/-6000 Pa
- Fire rating (IEC 61730-2): Class A+B
  Fire rating (EN13501-1): Class B
- Uneven snow load: 7000Pa,
  Snow depth capacity: 2.2m

High costumer value

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

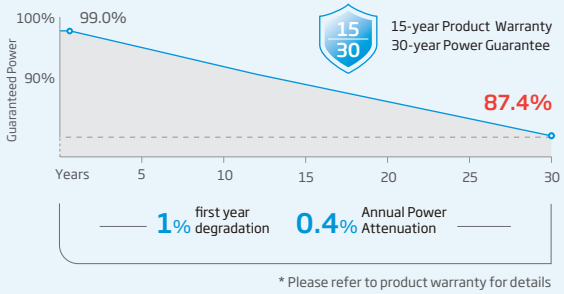
High power up to 470W

- Up to 23.5% module eciency, on 210 innovative platform
- Patented i-TOPCon technology with continuous eciency improvement, including contact resistance reduction, rear reection enhancement and edge quality repairment

High reliability with double glass

- Less prone to micro-cracks and scratches on the back side
- Excellent fire rating, weather resistance, sustainable in harsh environments and extreme weather conditions
- Up to 25 years product warranty and 30 years power warranty

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

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_PA1

Trinasolar
天合光能

Vertex S+

ELECTRICAL DATA (STC)

Peak Power Watts-PMAX(Wp)*	445	450	455	460	465	470
Power Selection (W)**			0 ~ +5			
Maximum Power Voltage-VMPP (V)	44.3	44.6	45.0	45.4	45.7	46.1
Maximum Power Current-IMPP (A)	10.05	10.09	10.11	10.14	10.16	10.19
Open Circuit Voltage-VOC (V)	52.6	52.9	53.4	53.8	54.2	54.5
Short Circuit Current-ISC (A)	10.71	10.74	10.77	10.81	10.85	10.89
Module Efficiency η m (%)	22.3	22.5	22.8	23.0	23.3	23.5

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)	341	344	348	352	355	359
Maximum Power Voltage-VMPP (V)	41.7	42.0	42.3	42.7	42.8	43.2
Maximum Power Current-IMPP (A)	8.17	8.19	8.22	8.25	8.28	8.31
Open Circuit Voltage-VOC (V)	49.9	50.2	50.6	51.0	51.4	51.7
Short Circuit Current-ISC (A)	8.63	8.66	8.68	8.71	8.74	8.78

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

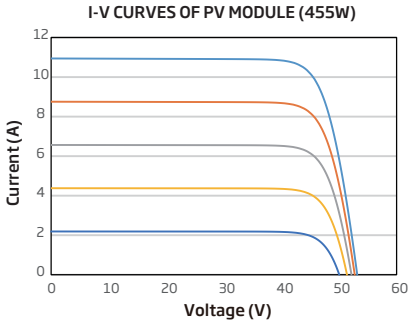
Due to different testing methods, the actual performances might differ from the declared specifications.

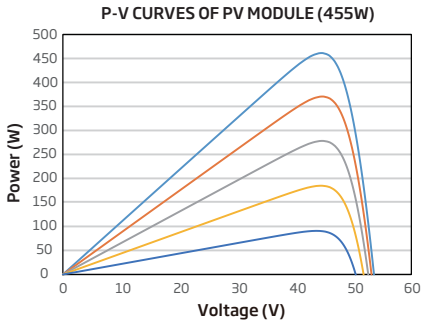
MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	25A

CURVES OF PV MODULE

Preliminary

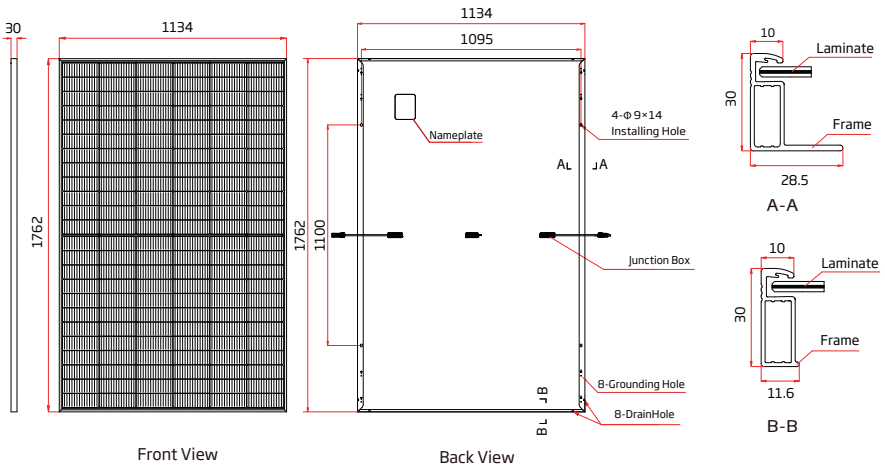




MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	144 cells
Module Dimensions	1762×1134×30 mm (69.37×44.65×1.18 inches)
Weight	27.5 kg (60.63lb)
Front Glass	AR Coating Heat Strengthened Glass
Back Glass	Heat Strengthened Glass
Frame	30mm(1.18 inches) Anodized Aluminium Alloy, Black
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm² (0.006 inches²) Portrait: 350/280 mm(13.78/11.02 inches) Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 36 pieces Modules per 40' container: 900pieces

*Please refer to regional datasheet for specified connector.



Version number: TSM_EN_2025_PA1

www.trinasolar.com