



TS-M10/120H

Monocrystalline Module

435W-455W



455W
Maximum Power Output

21.20%
Maximum Module Efficiency

±3%
Power Output Guarantee

P-Type



9BB/10BB(182mm)

- FIRE CLASS A**
Maximum fire protection through double glazing according to the highest safety requirements
- REINSURANCE COVERAGE**
Taoistic is reinsured for 25 years of performance guarantee



High quality silicon wafers guarantee high power module output and excellent cost-effectiveness, making it an ideal choice for large power plants



Selected packaging materials and strict process plans to ensure component PID resistance



Lower oxygen and carbon content leads to lower LID



Adapt to harsh outdoor environments through weather resistance tests such as sand and dust, salt spray, and ammonia gas



The design of series and parallel connection reduces the series resistance R_s of components, reduces internal electrical performance losses, and improves the power generation capacity of the system end



Our company has concluded a reinsurance agreement with Ariel Re - Lloyd's syndicate 1910. Please see <http://verification.arielre-cleanenergy.com>

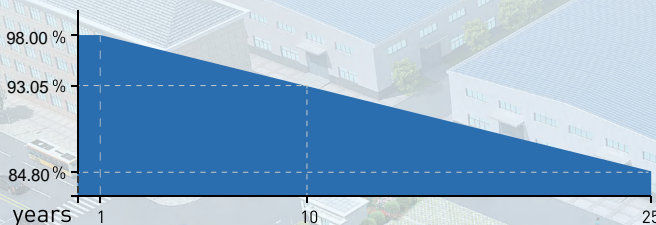
Deliver Reliable Performance Over Time

- manufacturer of crystalline silicon photovoltaic modules
- Fully automatic facility and world-class technology
- Rigorous quality control to meet the highest standard: ISO9001:2015, ISO14001: 2015 and ISO45001:2008
- Tested for harsh environments (salt mist, ammonia corrosion and sand blowing test: IEC 61701, IEC 62716)
- Long term reliability tests
- 2×100% EL inspection ensuring defect-free modules
- Fire class1 certificate for ITALY

WARRANTY

- 12 years product warranty
- 25 years performance warranty

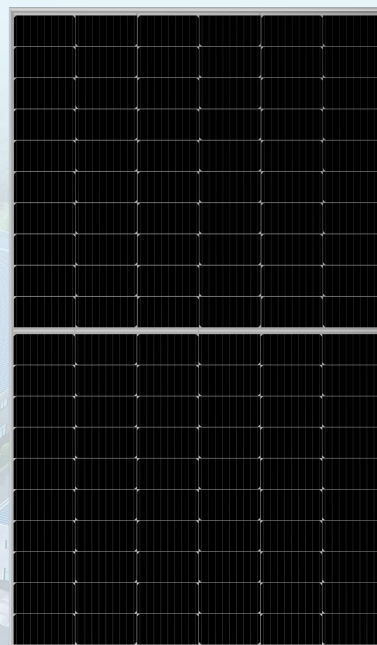
Linear Performance Warranty



12 Years Product Warranty 25 Years Linear Power Warranty

* Please refer to standard warranty for details

Product Certification



TS-M10/120H

Monocrystalline Module

435W-455W

Electrical Specification [STC*]

Maximum Power	P _{max} [W]	435	440	445	450	455
Maximum Power Voltage	V _{mp} [V]	33.63	33.72	33.82	33.91	34.06
Maximum Power Current	I _{mp} [A]	12.93	13.05	13.16	13.27	13.36
Open Circuit Voltage	V _{oc} [V]	40.94	41.02	41.10	41.18	41.33
Short Circuit Current	I _{sc} [A]	13.68	13.73	13.79	13.85	13.93
Module Efficiency	[%]	20.40	20.60	20.80	21.00	21.20
Power Output Tolerance	[W]	0~+3%				

* Irradiance 1000W/m², Module Temperature 25°C, Air Mass 1.5

Electrical Specification [NOCT*]

Maximum Power	P _{max} [W]	323	327	331	335	339
Maximum Power Voltage	V _{mp} [V]	31.78	31.83	31.87	31.92	31.97
Maximum Power Current	I _{mp} [A]	10.19	10.29	10.39	10.49	10.60
Open Circuit Voltage	V _{oc} [V]	39.06	39.12	39.17	39.23	39.29
Short Circuit Current	I _{sc} [A]	10.83	10.94	11.04	11.15	11.26

* Irradiance 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s

Mechanical Data

Number of Cells	120 pieces [6 × 20]
Dimensions of Module L*W*H [mm]	1908 × 1134 × 30/35mm
Weight [kg]	Approx 23.7/24.0 kg
Front Side Glass	3.2 , Anti-reflection coating glass
Backsheet	White
Frame	Anodized aluminium
J-Box	Protection level IP68
Cable	4.0mm ² , 300mm
Number of diodes	3
Wind/Snow Load	2400 Pa/5400 pa*
Connector	MC4 compatible or MC compatible

* For more details please check the installation manual

Temperature Ratings

Nominal Operating Cell Temperature [NOCT]	44 ± 2
Temperature Coefficient of I _{sc}	+0.048%/
Temperature Coefficient of V _{oc}	-0.270%/
Temperature Coefficient of P _{MAX}	-0.350%/

Temperature Ratings

Operational Temperature	-40~+85
Maximum System Voltage	1500V DC-[H]
Max Series Fuse Rating	25A

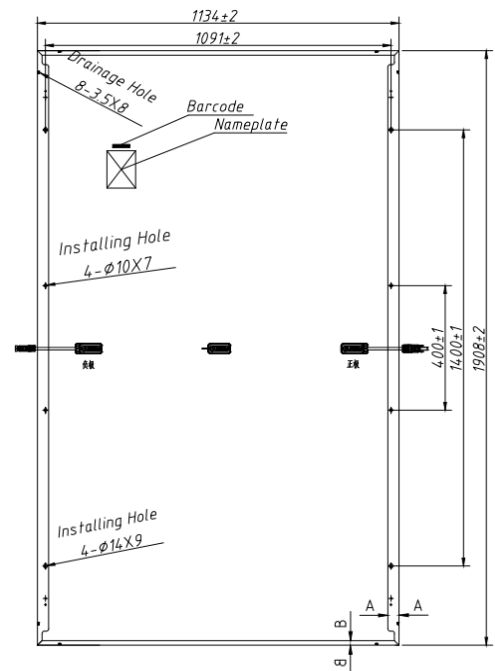
Packaging Configuration

Module per box	36/31 pieces
Module per 17.5 flatcar	1118/1116 pieces
Module per 40 container	864/744 pieces

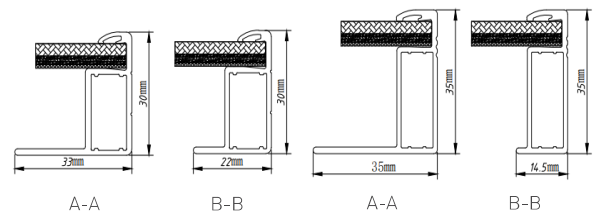
Optional

Connector	Original MC
Cable length	1200mm
Frame	Black
Backsheet	Black

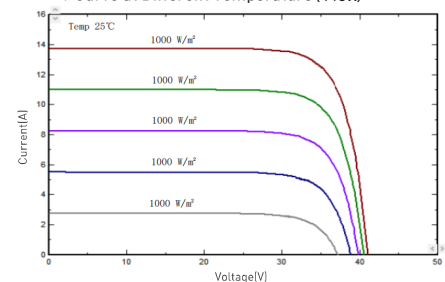
Module Dimension



Back View



I-V Curve at Different Temperature (440W)



I-V/P-V Curve at Different Irradiation (440W)

