



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

<p>High quality silicon wafers guarantee high power module output and excellent cost-effectiveness, making it an ideal choice for large power plants</p>	<p>Selected packaging materials and strict process plans to ensure component PID resistance</p>	<p>Lower oxygen and carbon content leads to lower LID</p>
<p>Adapt to harsh outdoor environments through weather resistance tests such as sand and dust, salt spray, and ammonia gas</p>	<p>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</p>	<p>Our company has concluded a reinsurance agreement with Ariel Re - Lloyd's syndicate 1910 Please see http://verification.arielre-cleanenergy.com</p>

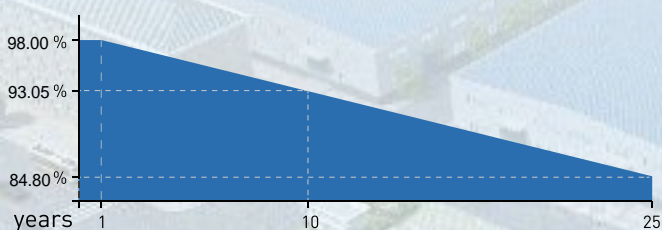
Deliver Reliable Performance Over Time

- 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

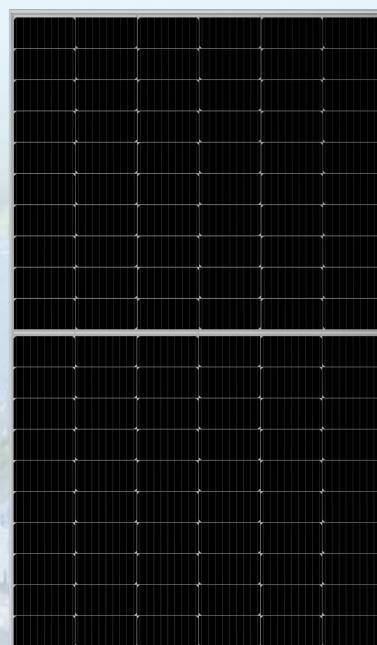
Linear Performance Warranty



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

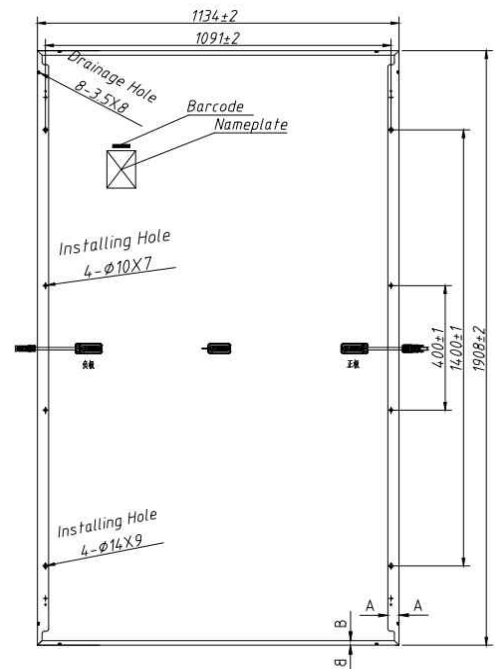
Packaging Configuration

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

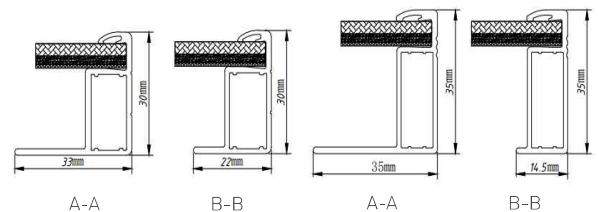
Optional

Connector	Original MC
Cable length	1200mm
Frame	Black
Backsheet	Black

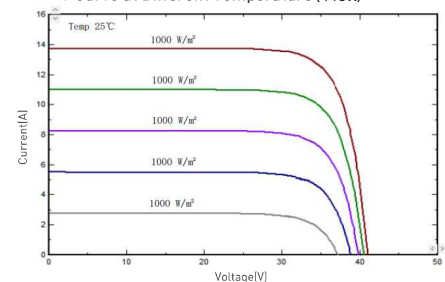
Module Dimension



Back View



I-V Curve at Different Temperature (440W)



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

