

HIGHWAY DG

HT48-156M(PD)
HT48-156M(PD)-F
HT48-156M(PDV)
HT48-156M(PDV)-F
220W-245W

* V means 1500V module

* V means 1500V module



IEC 61215:2016
IEC 61730:2016



10Ys Products Warranty



14.9%
Module Efficiency



30Ys Warranty on power output



Advanced surface treatment, lower surface reflection and 5BB cell design can reduce the series resistance and improve the module efficiency



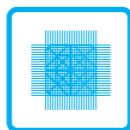
Microcrack resistant
Double glass structure enhance reliability, triple EL tested of high quality control.



Designed for high voltage systems of up to 1500 VDC, increasing the string length of solar systems and saving on BoS costs



All the modules are sorted and packaged by amperage, reducing mismatch losses and maximizing system output.



Double glass structure which enhance the reliability of anti-microcracks, reduce the snail tracks phenomenon



Strict quality control, meeting the highest international standards: ISO 9001, ISO14001 and OHSAS18001



PID resistant



5W Positive tolerance 0~+5w guaranteed

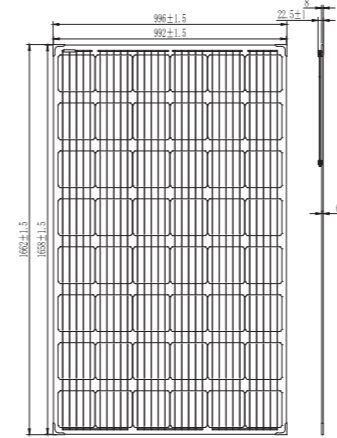
Comprehensive and first-rate certification system

IEC61215:2016, IEC61730:2016 Latest Standard
ISO9001, ISO14001 and OHSAS18001, meeting the highest international standards
Strict quality control

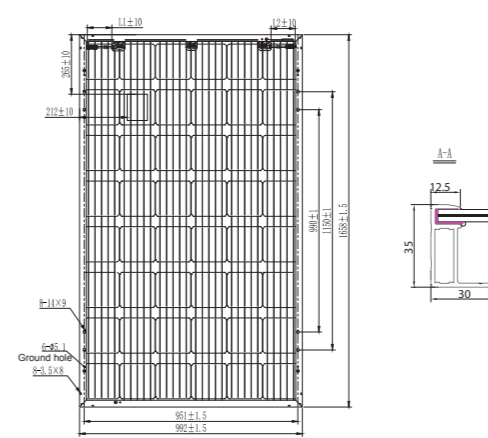


Engineering Drawing

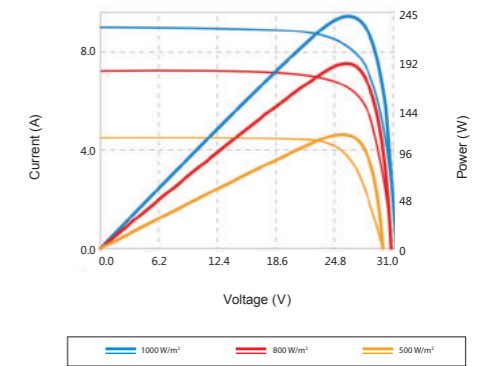
HT48-156M(PD) / HT48-156M(PDV)



HT48-156M(PD)-F / HT48-156M(PDV)-F



Current-Voltage & Power-Voltage Curve



I-V Curves

Electrical Characteristics

Module	HT48-156M(PD) / HT48-156M(PD)-F/HT48-156M(PDV) / HT48-156M(PDV)-F					
Maximum Power at STC(P _{max})	220W	225W	230W	235W	240W	245W
Open-Circuit Voltage(V _{oc})	30.7V	31.0V	31.2V	31.4V	31.5V	31.6V
Short-Circuit Current(I _{sc})	9.23A	9.29A	9.51A	9.62A	9.73A	9.84A
Optimum Operating Voltage (V _{mp})	25.5V	25.6V	25.9V	26.0V	26.4V	26.8V
Optimum Operating Current(I _{mp})	8.63A	8.69A	9.00A	9.05A	9.10A	9.15A
Module Efficiency	13.4%	13.7%	14.0%	14.3%	14.6%	14.9%
Power Tolerance	0 ~ +5W					
Maximum System Voltage	1000V/1500V DC(IEC)					
Maximum Series Fuse Rating	15A					
Operating Temperature	-40 °C to +85 °C					

STC: Irradiance 1000W/m², module temperature 25, AM=1.5
Optional black frame or white frame module according to customer requirements

NOCT

Module	HT48-156M(PD) / HT48-156M(PD)-F/HT48-156M(PDV) / HT48-156M(PDV)-F					
Maximum Power	164W	167W	171W	175W	178W	182W
Open Circuit Voltage (V _{oc})	29.1V	29.4V	29.6V	29.7V	29.8V	29.9V
Short Circuit Current (I _{sc})	7.45A	7.50A	7.68A	7.76A	7.85A	7.94A
Maximum Power Voltage (V _{mp})	24.2V	24.2V	24.5V	24.6V	25.0V	25.4V
Maximum Circuit Current (I _{mp})	6.76A	6.83A	7.06A	7.10A	7.13A	7.17A
NOCT	43 °C ± 2 °C					

NOCT: Irradiance 800W/m², ambient temperature 20 °C, wind speed 1 m/s

Mechanical Characteristics

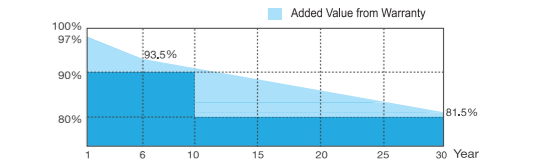
Solar Cells	Monocrystalline 156.75 × 156.75mm
No. of Cells	48 (6 × 8)
Dimensions	1658 × 992 × 6.5mm/1658 × 992 × 35mm
Weight	25kg/27kg(F)
Front Glass	High transmission tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP67
Cable	4mm ² (IEC)
Packaging Configuration	40pcs/box, 858pcs/40'HQ Container 26pcs/box, 1560pcs/17.5m Trailer; 30pcs/box, 780pcs/40'HQ Container (F)

Temperature Characteristics

Temperature Coefficient of P _{max}	γ (P _m)	-0.39%/K
Temperature Coefficient of V _{oc}	β (V _{oc})	-0.29%/K
Temperature Coefficient of I _{sc}	α (I _{sc})	0.049%/K

Warranty

- 10ys 10-year product warranty
- 30ys 30-year warranty on power output



Information Box

Shanghai Aerospace Automobile
Electromechanical Co., Ltd.
website: www.ht-saae.com

Factory: Lianyungang ShenZhou
New Energy Co., Ltd.