








MSMDxxxM01A

400W-415W

KEY FEATURES

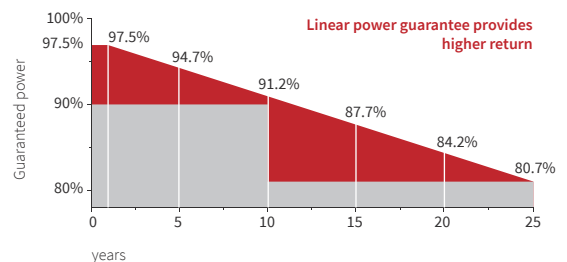
-  **Class A fire resistant (industry standard class C)**
-  **Outstanding performance in low-light conditions**
-  **Low temperature coefficient (Pmax): -0.36 % / °C**
- +5W** 0~+5W positive tolerance - to assure high output
-  **Lower internal current, lower hot spot temperature**
-  **Cell crack risk limited in small region, enhance the module reliability**
- PID FREE** Excellent anti-PID module design, TÜV SÜD certified
-  **Certified to withstand high wind loads (3600pa) and snow loads (8000pa)**
-  **Salt mist and ammonia corrosion resistant**

PRODUCT CERTIFICATES



WARRANTY

- Our linear power guarantee
- Standard linear power guarantee



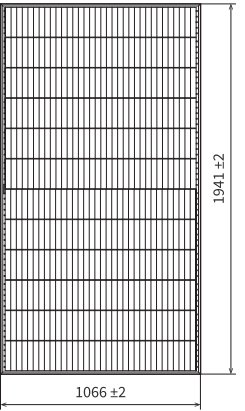
15 years Enhanced product guarantee on product and workmanship

25 years Linear power output warranty

MSMDxxx-M01A

ELECTRICAL CHARACTERISTICS

	MSMD-400-M01A MSMD-400-M01A-HV		MSMD-405-M01A MSMD-405-M01A-HV		MSMD-410-M01A MSMD-410-M01A-HV		MSMD-415-M01A MSMD-415-M01A-HV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmp)	400	296	405	300	410	304	415	308
Open Circuit Voltage (Voc)	45.1	41.7	45.3	41.9	45.5	42.1	45.7	42.3
Short Circuit Current (Isc)	11.34	9.17	11.42	9.23	11.51	9.29	11.58	9.35
Maximum Power Voltage (Vmp)	37.20	34.30	37.40	34.50	37.60	34.70	37.80	34.90
Maximum Power Current (Imp)	10.76	8.63	10.83	8.7	10.91	8.77	10.98	8.83
Module Efficiency at STC (ηm)	19.07		19.36		19.65		19.94	
Power Tolerance	(0,+4.99)							
Maximum System Voltage	1000 VDC / 1500 VDC							
Maximum Series Fuse Rating	20A							



MSMDxxx-M01A: Maximum System Voltage 1000 VDC
 MSMD-XXX-M01A-HV: Maximum System Voltage 1500 VDC
 STC: Irradiance 1000 W/m² module temperature 25°C AM=1.5, Power measurement tolerance: +/-3%;
 NOCT: Irradiance 800 W/m² ambient temperature 20°C wind speed: 1m/s, Power measurement tolerance: +/-3%

TEMPERATURE CHARACTERISTICS

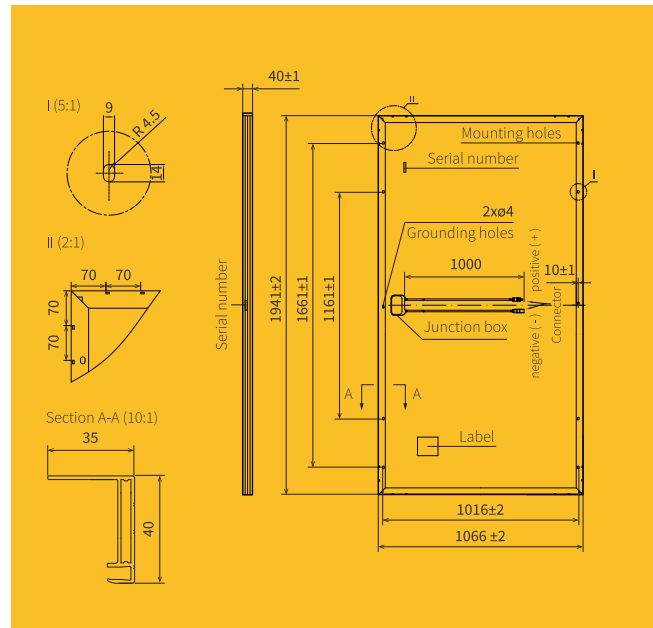
Pmax Temperature Coefficient	-0.36 %/°C
Voc Temperature Coefficient	-0.28 %/°C
Isc Temperature Coefficient	+0.05 %/°C
Operating Temperature	-40~+85 °C
Nominal Operating Cell Temperature (NOCT)	45±2 °C

MECHANICAL SPECIFICATIONS

External Dimensions	1941 x 1066 x 40 mm
Weight	23.5 kg
Solar Cells	PERC Mono crystalline
Front Glass	3.2 mm AR coating tempered glass, low iron
Frame	Anodized aluminium alloy
Junction Box	IP68
Output Cables	4.0 mm ² , cable length: 1000 mm
Connector	MC4 Compatible
Mechanical Load	Front side 5400Pa / Rear side 2400Pa

PACKING CONFIGURATION

	1941 x 1066 x 40 mm
Container	40'HQ
Pieces per pallet	27
Pallets per container	22
Pieces per container	594



I-V Curve

