

High Efficiency Solar PV Module German Std.



Salient Features

- High Quality
- High efficiency, the module efficiency 14.5%
- Mono crystalline silicon solar cell
- High transmission, low-iron tempered glass
- Heavy duty anodized aluminum frame
- Narrow power tolerance $\pm 3\%$
- Plug & play connectors with MC-4
- Electroluminescence screening

MIN&T SunPac Solar

MN&T Sdn.Bhd. Kuala Lumpur, Malaysia www.mnt.my

MONO SOLAR PANEL SPECS:

(Standard Tes Condition: Irradiance 1000W/m², AM:1.5, Module Temperature 25⁰C)

Model	P _{MAX}	V _{MP}	I _{MP}	V _{OC}	I _{SC}	Cell
MS-72M-190	190W	36.60V	5.20A	44.60V	5.62 A	72
MS-72M-185	185W	36.50 V	5.07 A	44.50 V	5.48 A	72
MS-72M-180	180W	36.40 V	4.95 A	44.40 V	5.35 A	72
MS-72M-175	175W	35.90 V	4.87 A	44.20 V	5.29 A	72
MS-72M-170	170 W	35.80 V	4.75 A	44.10 V	5.16 A	72
MS-72M-165	165 W	35.70 V	4.62 A	43.90 V	5.02 A	72
MS-60M-155	155 W	30.30 V	5.11 A	37.20 V	5.56 A	60
MS-60M-150	150 W	30.20 V	4.96 A	37.10 V	5.40 A	60
MS-60M-145	145 W	30.10 V	4.81 A	37.00 V	5.23 A	60
MS-60M-140	140 W	30.20 V	4.66 A	36.80 V	5.07 A	60
MS-60M-135	135 W	29.90 V	4.51 A	36.70 V	4.90 A	60
MS-60M-130	130 W	29.80 V	4.36 A	36.60 V	4.74 A	60
MS-60M-125	125 W	29.50 V	4.13 A	36.60 V	4.27 A	54
MS-54M-125	125 W	27.00 V	4.63 A	33.20 V	5.03 A	54
MS-54M-115	115 W	26.80 V	4.28 A	29.60 V	4.66 A	54
MS-36M-90	90 W	18.10 V	4.92 A	22.20 V	5.41 A	36
MS-36M-85	85 W	18.00 V	4.72 A	22.10 V	5.13 A	36
MS-36M-80	80 W	18.00 V	4.46 A	22.00 V	4.84 A	36
MS-36M-75	75 W	17.90 V	4.19 A	22.00 V	4.55 A	36
MS-36M-70	70 W	17.90 V	3.97 A	22.00 V	4.27 A	36
MS-36M-65	65 W	17.50 V	3.66 A	21.47 V	3.99 A	36
MS-36M-60	60 W	17.50 V	3.43 A	21.47 V	3.73 A	36
MS-36M-55	55 W	17.20 V	3.20 A	21.15 V	3.47 A	36
MS-36M-50	50 W	17.20 V	2.91 A	21.15 V	3.20 A	36
MS-36M-45	45 W	17.50 V	2.57 A	21.47 V	2.80 A	36
MS-36M-40	40 W	17.20 V	2.33 A	21.15 V	2.60 A	36
MS-36M-35	35 W	17.40 V	2.03 A	22.70 V	2.27 A	36
MS-36M-25	25 W	17.20 V	1.46 A	22.50 V	1.64 A	36
MS-36M-20	20 W	17.20 V	1.16 A	22.50 V	1.30 A	36
MS-36M-10	10 W	17.41 V	0.58 A	21.20 V	0.65 A	36

P_{MAX} – Maximum Power, **V_{OC}** – Open Circuit Voltage, **V_{MP}** - Optimum Operating Voltage, **I_{MP}**- Optimum Operating Current, **I_{SC}**-Short Circuit Current.

Operating Temperature	-40 ⁰ C~+85 ⁰ C
Power Tolerance	±3%
Maximum System Voltage	1000VDC
Nominal Operating Cell Temperature	45±2%
Temperature Coefficient of Power(%/C)	-0.35
Temperature Coefficient of V _{OC} (%/C)	-0.45
Temperature Coefficient of I _{SC} (%/C)	0.035
Product Certification	IEC61215, 61730 & CE

Electrical Characteristics

Model	XH	MS-70	MS-85	MS-160	MS-190	MS-250	MS-280
Maximum Power	P MAX	70w	85w	160w	190w	250w	280w
Optimum operating voltage	VMP	16.90V	18.05V	35.62V	44.60V	43.49V	44.50V
Optimum operating current	MP	4.14A	4.71A	4.49A	5.62A	7.67A	8.39A
Open-circuit voltage	VOC	21.47V	22.01V	43.90V	36.60V	35.44V	36.27V
Short-circuit current	ISC	4.45A	5.29A	5.07A	5.20A	7.05A	7.72A
Number of Cell		36		60		72	
Operating temperature	C	-40°C ~ + 85°C					
Power tolerance	%	±3%					
Maximum system voltage	VDC	1000V DC					
Nominal Operating Cell Temp.	C	45±2%					
Temperature Coefficient of Power	%/C	-0.35					
Temperature Coefficient of Voc	%/C	-0.45					
Temperature Coefficient of ISC	%/C	0.035					
Product Certification		IEC61215, 61730 & CE					
Max. Series Fuse Rating		7A		10A		15A	
Standard Test Condition	STC	STC: Irradiance 1000W/m ² , AM:1.5, Module temperature 25°C					



TYPE	CELL NUMBER	CELL SIZE	POWER(W)
MS-72M-195	72	125X125	195
MS-72M-190	72	125X125	190
MS-72M-185	72	125X125	185
MS-72M-180	72	125X125	180
MS-72M-170	72	125X125	170
MS-72M-165	72	125X125	165
MS-60M-160	60	125X125	160
MS-60M-155	60	125X125	155
MS-60M-150	60	125X125	150
MS-60M-145	60	125X125	145
MS-60M-140	60	125X125	140
MS-60M-135	60	125X125	135
MS-60M-130	60	125X125	130
MS-60M-125	60	125X125	125
MS-54M-135	54	125X125	135
MS-54M-125	54	125X125	125
MS-54M-115	54	125X125	115
MS-36M-90	36	125X125	90
MS-36M-85	36	125X125	85
MS-36M-75	36	125X125	75
MS-36M-70	36	125X125	70
MS-36M-65	36	125X125	65
MS-36M-60	36	125X83.3	60
MS-36M-55	36	125X83.3	55
MS-36M-50	36	125X83.3	50
MS-36M-45	36	125X62.2	45
MS-36M-40	36	125X62.2	40
MS-36M-35	36	125X125	35
MS-36M-30	36	125X125	30
MS-36M-25	36	125X125	25
MS-36M-20	36	125X125	20
MS-36M-10	36	125X125	10

Product Advantage

- Applies to commercial, residential and utility scale applications.
- Easily installed ground, roof, building face and tracking system.
- Smart choice for on-grid and off-grid applications.
- Reduces electricity charge and create energy independence.
- Modular design, no moving parts, fully upgraded and easily installed.
- Reliable and nearly maintenance-free power generation.
- Helps environment by reducing pollution of air, water and land pollution
- Provides clean, quiet, and reliable electricity generation.
- Outstanding low-light performance.
- Design to meet unique demand of customer. 20 year power output warranty.