

Mysolar



Installation Manual of Solar Modules

Version: A9 For professional use only

Table of Contents

1. Safety Precautions.....	1
2. Codes and Regulations.....	1
3. Mechanical Installation.....	2
4. Electrical Installation.....	13
5. Operation and Maintenance.....	20
6. Transport, Storage Modules.....	21
7. Module information:.....	21
8. Amendment editions and dates.....	22
9. Contact Information.....	23

Please read the installation manual before using or installing Mysolar Solar modules. This photovoltaic module produces electricity when exposed to sun light. Follow all applicable electrical safety precautions. Only qualified personnel should install or perform maintenance work on this module. Do not damage or scratch the rear surface of the module. Do not handle modules when they are wet, this condition may increase the risk of electric shock.

1. Safety Precautions

- 1.1. Photovoltaic modules have no on/off switch. Modules can be rendered inoperative only by removing them from sunlight, or by fully covering their front surface with cloth, cardboard, or other completely opaque material, or by working with modules face down on a smooth, flat surface.
- 1.2. Photovoltaic modules produce DC electricity when exposed to light and therefore can produce an electrical shock or burn. Modules produce voltage even when not connected to an electrical circuit or load. Modules produce nearly full voltage when exposed to as little as 5% of full sunlight and both current and power increase with light intensity. Use insulated tools and rubber gloves when working with modules in sunlight. It would be best by covering their front surface fully with completely opaque materials when operating on the modules. Artificially concentrated sunlight shall not directed on the module.
- 1.3. Modules may produce higher output than the rated specifications. Industry standard ratings are made at conditions of 1000 watts/m² and 25°C cell temperature, AM 1.5. Reflection from snow or water can increase sunlight and therefore boost current and power. In addition, temperature below 25°C can substantially increase voltage and power.
- 1.4. Mysolar Solar modules are constructed with tempered glass, but still must be handled with care, If the front glass is broken or if the polymer back-skin is torn, contact with any module surface or the frame can produce electrical shock, particularly when the module is wet. Broken or damaged modules must be disposed of properly.
- 1.5. Mysolar Solar modules are intended for use in terrestrial applications only, thus excluding aerospace or maritime conditions or use with sunlight concentration. Excluded applications include, but are not limited to, installations where modules are likely to come in contact with any salt water or where likely to become partially or wholly submerged in fresh or salt water, we suggested that the modules should installed at least 500m away from the sea.

2. Codes and Regulations

The mechanical and electrical installation of Module systems should be performed in accordance with all applicable codes, including electrical codes, building codes, and electric utility interconnect

requirements. Such requirements may vary for mounting location, such as building rooftop or motor vehicle applications.

Requirements may also vary with system voltage, and for DC or AC application. Contact local authorities for governing regulations.

3. Mechanical Installation

The module is considered to be in compliance with UL 1703 only when the module is mounted in the manner specified by the mounting instructions below.

Any module without a frame (laminate) shall not be considered to comply with the requirements of UL 1703 unless the module is mounted with hardware that has been tested and evaluated with the module under this standard or by a field Inspection certifying that the installed module complies with the requirements of UL 1703.

The modules when used with a Listed mounting system that has been rated as a Class C System when installed with type 1 modules, is suitable to maintain the System Class C Fire Rating.

For c US listed products - Class C fire rating..

3.1. Selecting the location

Select a suitable location for installation of the module.

The module should be facing true south in northern latitudes and true north in southern latitudes for best power production.

For detailed information on the best elevation tilt angle for the installation, refer to standard solar photovoltaic installation guides or a reputable solar installer or systems integrator.

The module should not be shaded at any time of the day.

Do not use module near equipment or in LOC collected.

3.2. Selecting the proper support frame

Always observe the instructions and safety precautions included with the support frame to be used with the module.

No attempt must be made to drill holes in the glass surface of the module. To do so will void the warranty.

Do not drill additional mounting holes in the frame of the module. Doing so will void the warranty.

Modules must be securely attached to the mounting structure using four mounting points for normal installation. If additional wind or snow loads are anticipated for this Installation, the support module mounting structure must be made of durable corrosion-resistant and UV-resistant material.

3.3. Ground mount

Select the height of the mounting system to prevent the lowest edge of the module from being covered by snow for a long time in winter in areas that experience heavy snowfalls. In addition, assure the lowest portion of the module is placed high enough so that it is not shaded by plants or trees or damaged by sand and stone driven by wind.

3.4. Roof mount

When installing a module on a roof or building, ensure that it is securely fastened and cannot fall as a result of wind or snow loads. Provide adequate ventilation under a module for cooling (10cm minimum air space between module and mounting surface). Slope should be less than 5 in/ft (127 mm/305 mm) required to maintain a fire Class rating.



When installing module on a roof, ensure that the roof construction is suitable. In addition, any roof penetration required to mount the module must be properly sealed to prevent leaks. In some cases, a special support frame may be necessary. The roof installation of solar modules may affect the fireproofing of the house construction.

The fire rating of this module is valid only when mounted in the manner specified in the mechanical mounting instructions. The modules are rated fire Class C, and are suitable for mounting over a class A roof. When installing the module on a roof or building, do so in calm winds. Installing a module during strong winds may cause accidents.

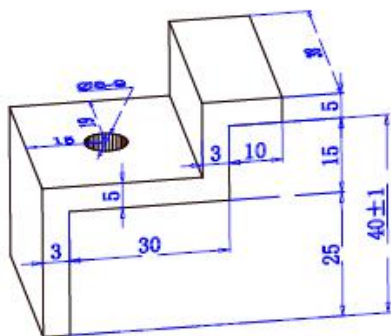
The System Fire Class Rating of the module or panel in a mounting system in combination with a roof covering complete with requirements to achieve the specified System Fire Class Rating for a non-BIPV module or panel

Any module or panel mounting system limitations on inclination required to maintain a specific System Fire Class Rating.

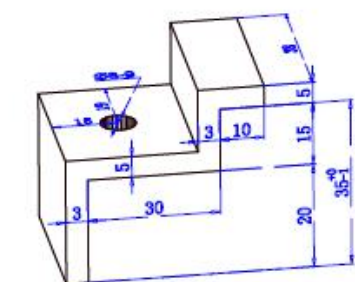
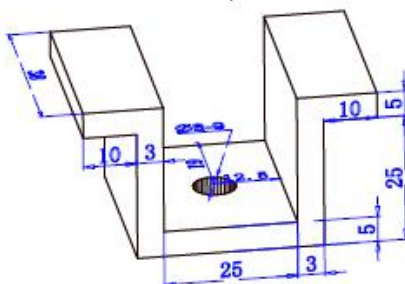
3.5. Pole mount

When installing a module on a pole, choose a pole and module mounting structure that will withstand anticipated winds for the area.

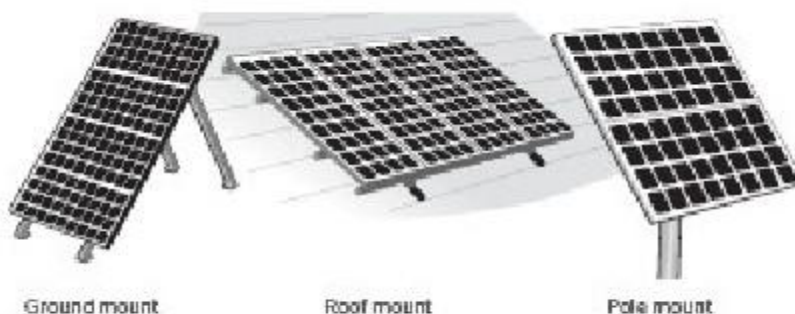
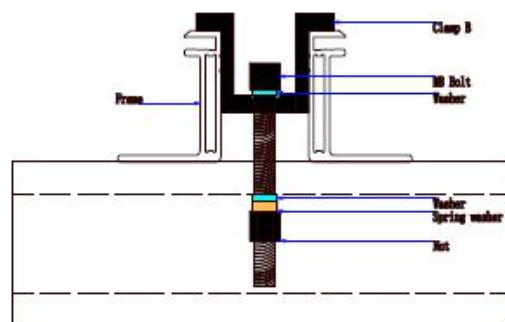
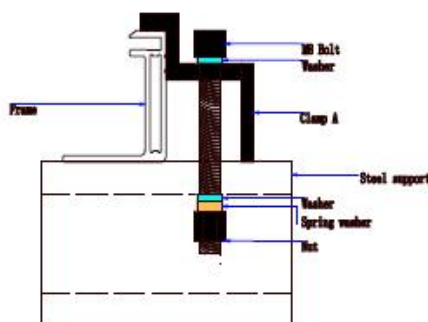
3.6. General installation



Clamp A use for frame with 40mm height



Clamp A use for frame with 35mm height



Ground mount

Roof mount

Pole mount

3.6.1. Installing methods1. Modules installed with mounting holes (Apply to illustration 2,3,4,6,7 in chapter 3.6) Modules should be bolted with M8 bolt(illustration 2, 3,6) and M6 bolt(illustration 4,7) to the support structures through mounting holes located in the frame back flanges. See the table 3.6-1.

The torque should be 12.5N·m-18N·m for tightening the M8 bolt, the torque should be 9N·m-15N·m for tightening the M6 bolt

3.6.2. Modules installed with clamping.(Apply to illustration 2,3,4,6,7), see the table 3.6-1

Modules should be bolted to the support structures rail by metal clamps. It is recommended to use clamp under the following condition or approved by system installation.

Clamps materials: Aluminum Alloy

Bolt torque requirments: 12.5N·m-18N·m

The clamps mustn't contact the front glass or deform frame in any way. Materials and sizes of Bolts, screw nuts, flat washers,spring washers that refer to mounting are as follow:

Bolt: M8 Stainless steel, abbreviated as ss

Flat washer: $\Phi 16-\Phi 8.4$ H1.6 ss

Spring washer: $\Phi 12.6-\Phi 8.4$ H4.7 ss

3.6.3. Modules installed with mounting holes (Apply to illustration 5,10 in chapter 3.6) , see the table

3.6-2. Modules should be bolted with M6 bolt and the torque is 9N.m to 15N.m.

3.6.4. Modules installed with clamping(Apply to illustration 5,10), see the table 3.6-2.

Modules should be bolted to the support structures rail by metal clamps.It is recommended to use clamps

under the following condition or approved by system installation

Clamps materials: Aluminum Alloy

Bolt torque requirments:12.5N·m-18N·m

The clamps mustn't contact the front glass or deform frame in any way.

Materials and sizes of Bolts, screw nuts, flat washers, spring washers that refer to mounting are as follow:

Bolt: M8 Stainless steel, abbreviated as ss

Flat washer: $\Phi 16-\Phi 8.4$ H1.6 ss

Spring washer: $\Phi 12.6-\Phi 8.4$ H4.7 ss

Table 3.6-1 Install methods (Valid for 3.6.1 and 3.6.2)

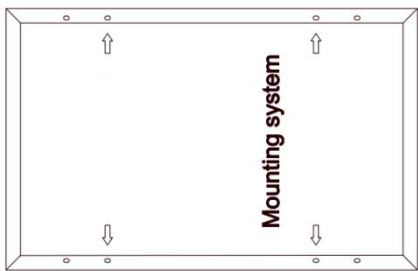
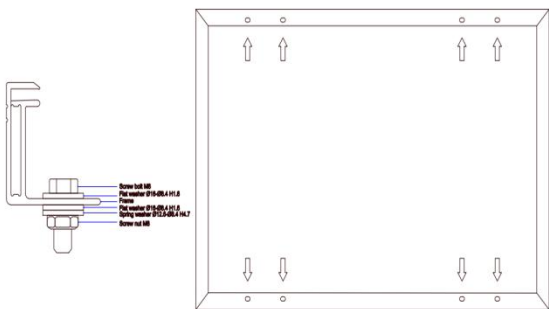
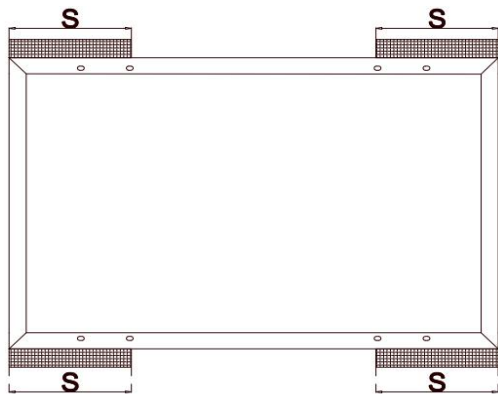
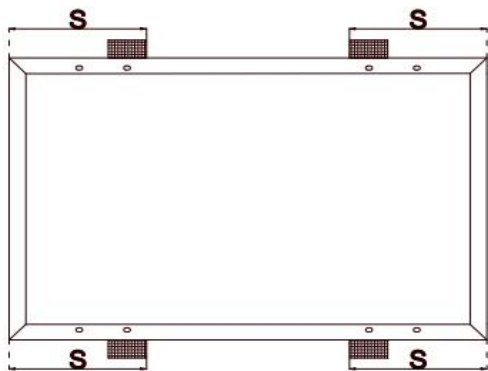
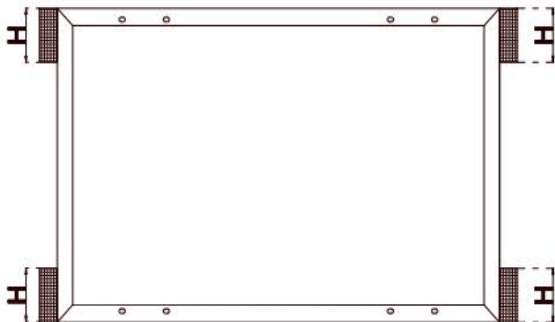
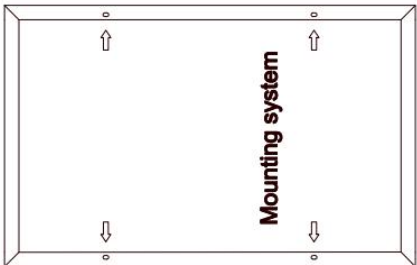
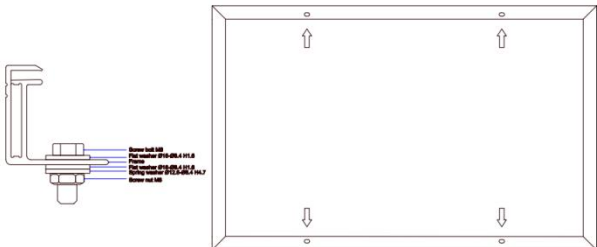
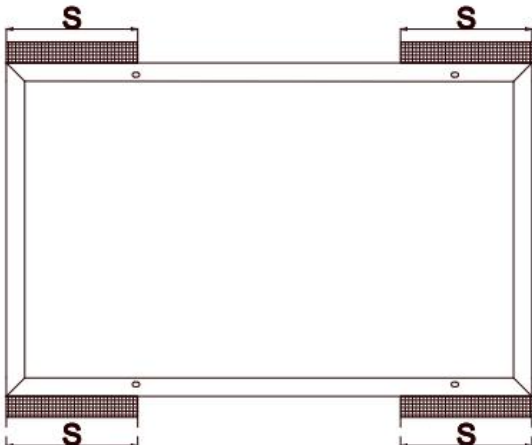
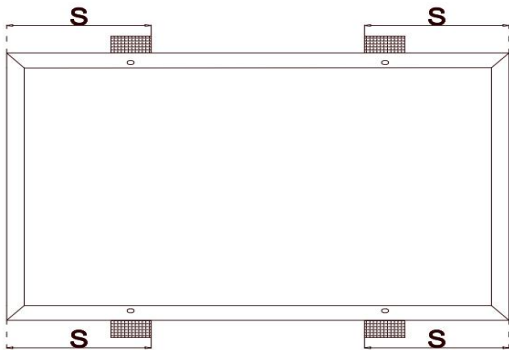
	Low/normal level loading condition(Apply to most of environment conditions, rated load is 1600Pa, safety factor is 1.5)	High level loading condition(Apply to harsher environment conditions, such as storm, heavy snow etc. Rated load is 3600Pa, safety factor is 1.5)
Mounting system	<p>Mounting holes, use 4 mounting holes</p> 	<p>Mounting holes, use 8 mounting holes</p> 
Clamping system(A ttach to the long frame)	<p>Permissible range of clamp $0 < S \leq 1/4L$</p> 	<p>Permissible range of clamp $(1/4L - 50) < S \leq (1/4L + 50)$</p> 
Clamping system(A ttach to the short frame)	<p>Permissible range of clamp $0 < H \leq 1/4W$</p> 	

Table 3.6-2 Install methods (Valid for 3.6.3 and 3.6.4)

	Low/normal level loading condition(Apply to most of environment conditions, rated load is 1600Pa, safety factor is 1.5)	High level loading condition(Apply to harsher environment conditions, such as storm, heavy snow etc. Rated load is 3600Pa, safety factor is 1.5)
Mounting system	<p>Mounting holes, use 4 mounting holes</p> 	<p>Mounting holes, use 4 mounting holes</p> 
Clamping system(Attach to the long frame)	<p>Permissible range of clamp $0 < S \leq 1/4L$</p> 	<p>Permissible range of clamp $(1/4L - 50) < S \leq (1/4L + 50)$</p> 

Select the right installing ways according to the frame section, frame size, corner and holes. Lengths as follows:

Model / Series	Side Rails Length (mm)	End Rail Length (mm)	Frame cross sectional dimensions (mm)	Overall dimensions (mm)	Illustration
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3 MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3	1956/1966	992	35 × 40	1956 /1966×992×40	2
MS265P-ASX 'X'=1 MS265P-ASX "X"=3 MS270P-ASX 'X'=1 MS270P-ASX "X"=3 MS275P-ASX 'X'=1 MS275P-ASX "X"=3	1640/1650	992	35 × 40	1640/1650×992 × 40	3
			27× 35	1640/1650×992 × 35	4
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3	1956/1966	992	27×40	1956 /1966 ×992 ×40	5

MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3					
MS355M-AHX "X"=1 MS355M-AHX "X"=3 MS360M-AHX "X"=1 MS360M-AHX "X"=3 MS365M-AHX "X"=1 MS365M-AHX "X"=3 MS370M-AHX "X"=1 MS370M-AHX "X"=3 MS375M-AHX "X"=1 MS375M-AHX "X"=3 MS380M-AHX "X"=1 MS380M-AHX "X"=3 MS385M-AHX "X"=1 MS385M-AHX "X"=3 MS390M-AHX "X"=1 MS390M-AHX "X"=3 MS395M-AHX "X"=1 MS395M-AHX "X"=3 MS400M-AHX "X"=1 MS400M-AHX "X"=3 MS405M-AHX "X"=1 MS405M-AHX "X"=3 MS410M-AHX "X"=1 MS410M-AHX "X"=3	2000	992	35×40	2000 ×992 ×40	6
	2000	992	27×40	2000 ×992 ×40	10
	2008	1002	35×40	2008×1002×40	11
	2031	1008	35×40	2031×1008×40	
MS290M-AHX "X"=1 MS290M-AHX "X"=3 MS295M-AHX "X"=1 MS295M-AHX "X"=3 MS300M-AHX "X"=1 MS300M-AHX "X"=3 MS305M-AHX "X"=1 MS305M-AHX "X"=3 MS310M-AHX "X"=1 MS310M-AHX "X"=3 MS315M-AHX "X"=1 MS315M-AHX "X"=3 MS320M-AHX "X"=1 MS320M-AHX "X"=3 MS325M-AHX "X"=1 MS325M-AHX "X"=3 MS330M-AHX "X"=1 MS330M-AHX "X"=3 MS335M-AHX "X"=1 MS335M-AHX "X"=3 MS340M-AHX "X"=1 MS340M-AHX "X"=3	1675	992	27× 35	1675 ×992 ×35	7
	1684	1002	27× 35	1684×1002×35	12
	1704	1008	27× 35	1704×1008×35	

3.7. Corner pieces – Aluminum alloy, "L" shape with serrated surfaces, dimension 41.5 by 41.5 by 29.2 mm for frame cross sectional.

Model / Series	Overall dimensions (mm)	Illustration
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3	41.5× 41.5× 29.2 mm	2

MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3		
MS265P-ASX 'X'=1 MS265P-ASX "X"=3 MS270P-ASX 'X'=1 MS270P-ASX "X"=3 MS275P-ASX 'X'=1 MS275P-ASX "X"=3	41.5× 41.5× 29.2 mm	3
MS265P-ASX 'X'=1 MS265P-ASX "X"=3 MS270P-ASX 'X'=1 MS270P-ASX "X"=3 MS275P-ASX 'X'=1 MS275P-ASX "X"=3	40.3 × 40.3× 24.9 mm	4
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3 MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3	40.3 × 40.3 × 30.1 mm	5
MS355M-AHX "X"=1 MS355M-AHX "X"=3 MS360M-AHX "X"=1 MS360M-AHX "X"=3 MS365M-AHX "X"=1 MS365M-AHX "X"=3 MS370M-AHX "X"=1 MS370M-AHX "X"=3 MS375M-AHX "X"=1 MS375M-AHX "X"=3 MS380M-AHX "X"=1 MS380M-AHX "X"=3 MS385M-AHX "X"=1 MS385M-AHX "X"=3 MS390M-AHX "X"=1 MS390M-AHX "X"=3 MS395M-AHX "X"=1 MS395M-AHX "X"=3 MS400M-AHX "X"=1 MS400M-AHX "X"=3 MS405M-AHX "X"=1 MS405M-AHX "X"=3 MS410M-AHX "X"=1 MS410M-AHX "X"=3	41.5× 41.5× 29.2 mm	6,11
	40.3 × 40.3 × 30.1 mm	10
MS290M-AHX "X"=1 MS290M-AHX "X"=3 MS295M-AHX "X"=1 MS295M-AHX "X"=3 MS300M-AHX "X"=1 MS300M-AHX "X"=3 MS305M-AHX "X"=1 MS305-AHX "X"=3 MS310M-AHX "X"=1 MS310M-AHX "X"=3 MS315M-AHX "X"=1 MS315M-AHX "X"=3 MS320M-AHX "X"=1 MS320M-AHX "X"=3 MS325M-AHX "X"=1 MS325M-AHX "X"=3 MS330M-AHX "X"=1 MS330M-AHX "X"=3 MS335M-AHX "X"=1 MS335M-AHX "X"=3 MS340M-AHX "X"=1 MS340M-AHX "X"=3	40.3 × 40.3× 24.9 mm	7,12

3.8. Holes provided in frame for mounting:

Model / Series	Rail	Size (mm)	Number provided	Distance from edge (mm)	Illustration
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3	Side	9× 14	4 (each side)	140,390/140,390 or 145,395/145,395	2

MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3 MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3					
MS265P-ASX 'X'=1 MS265P-ASX "X"=3 MS270P-ASX 'X'=1 MS270P-ASX "X"=3 MS275P-ASX 'X'=1 MS275P-ASX "X"=3	Side	9 × 14	4 (each side)	140,390/140,390	3
	Side	6.5 × 10	4 (each side)	140,390/140,390	4
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3 MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3	Side	6.5 × 10	2 (each side)	390/390 or 395/395	5
MS355M-AHX "X"=1 MS355M-AHX "X"=3 MS360M-AHX "X"=1 MS360M-AHX "X"=3 MS365M-AHX "X"=1 MS365M-AHX "X"=3 MS370M-AHX "X"=1 MS370M-AHX "X"=3 MS375M-AHX "X"=1 MS375M-AHX "X"=3 MS380M-AHX "X"=1 MS380M-AHX "X"=3 MS385M-AHX "X"=1 MS385M-AHX "X"=3 MS390M-AHX "X"=1 MS390M-AHX "X"=3 MS395M-AHX "X"=1 MS395M-AHX "X"=3 MS400M-AHX "X"=1 MS400M-AHX "X"=3	Side	9 × 14	4 (each side)	162,412/162,412	6
	Side	9×14	4 (each side)	166,416/166,416	11
	Side	6.5 × 10	2 (each side)	412/412	10
	Side	6.5 × 10	2(each side)	416/416	10
	Side	9×14	4 (each side)	177.5,427.5/177. 5,427.5	

MS405M-AHX "X"=1 MS405M-AHX "X"=3 MS410M-AHX "X"=1 MS410M-AHX "X"=3					
MS290M-AHX "X"=1 MS290M-AHX "X"=3 MS295M-AHX "X"=1 MS295M-AHX "X"=3 MS300M-AHX "X"=1 MS300M-AHX "X"=3 MS305M-AHX "X"=1 MS305-AHX "X"=3 MS310M-AHX "X"=1 MS310M-AHX "X"=3 MS315M-AHX "X"=1 MS315M-AHX "X"=3 MS320M-AHX "X"=1 MS320M-AHX "X"=3 MS325M-AHX "X"=1 MS325M-AHX "X"=3 MS330M-AHX "X"=1 MS330M-AHX "X"=3 MS335M-AHX "X"=1 MS335M-AHX "X"=3 MS340M-AHX "X"=1 MS340M-AHX "X"=3	Side	6.5 × 10	2 (each side)	157.5, 407.5/157.5, 407.5	7
	Side	6.5 × 10	4 (each side)	162,412/162,412	12
	Side	9×14	4 (each side)	172,422/172,422	

3.9. Holes provided in frame for attachment of grounding hardware:

Model / Series	Rail	Size	Number provided	Thickness of frame at hole position.(mm)	Illustration
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3 MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3	Each long side	Φ 4 mm	1 (each side)	1.5	2
MS265P-ASX 'X'=1 MS265P-ASX "X"=3 MS270P-ASX 'X'=1 MS270P-ASX "X"=3 MS275P-ASX 'X'=1 MS275P-ASX "X"=3	Each long side	Φ 4 mm	1 (each side)	1.5	3
	Each long side	Φ 6.5mm	1 (each side)	1.3	4
MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3 MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3 MS365M-ASX "X"=1 MS365M-ASX "X"=3 MS370M-ASX "X"=1 MS370M-ASX "X"=3	Each long side	Φ 6.5 mm	1 (each side)	1.3	5

MS375M-ASX "X"=1 MS375M-ASX "X"=3					
MS355M-AHX "X"=1 MS355M-AHX "X"=3 MS360M-AHX "X"=1 MS360M-AHX "X"=3 MS365M-AHX "X"=1 MS365M-AHX "X"=3 MS370M-AHX "X"=1 MS370M-AHX "X"=3 MS375M-AHX "X"=1 MS375M-AHX "X"=3 MS380M-AHX "X"=1 MS380M-AHX "X"=3 MS385M-AHX "X"=1 MS385M-AHX "X"=3 MS390M-AHX "X"=1 MS390M-AHX "X"=3 MS395M-AHX "X"=1 MS395M-AHX "X"=3 MS400M-AHX "X"=1 MS400M-AHX "X"=3 MS405M-AHX "X"=1 MS405M-AHX "X"=3 MS410M-AHX "X"=1 MS410M-AHX "X"=3	Each long side	Φ 4 mm	1 (each side)	1.5	6,11
	Each long side	Φ 6.5 mm	1 (each side)	1.3	10
MS290M-AHX "X"=1 MS290M-AHX "X"=3 MS295M-AHX "X"=1 MS295M-AHX "X"=3 MS300M-AHX "X"=1 MS300M-AHX "X"=3 MS305M-AHX "X"=1 MS305M-AHX "X"=3 MS310M-AHX "X"=1 MS310M-AHX "X"=3 MS315M-AHX "X"=1 MS315M-AHX "X"=3 MS320M-AHX "X"=1 MS320M-AHX "X"=3 MS325M-AHX "X"=1 MS325M-AHX "X"=3 MS330M-AHX "X"=1 MS330M-AHX "X"=3 MS335M-AHX "X"=1 MS335M-AHX "X"=3 MS340M-AHX "X"=1 MS340M-AHX "X"=3	Each long side	Φ 6.5 mm	1 (each side)	1.3	7,12

Do not lift the module by grasping the module's junction box or electrical leads.

Do not stand or step on module.

Do not drop module or allow objects to fall on module.

To avoid glass breakage, do not place any heavy objects on the module.

Do not set the module down hard on any surface.

Inappropriate transport and installation may break the glass of the module.

4. Electrical Installation

The electrical characteristics are within $\pm 3\%$ percent of the indicated values of I_{sc} , V_{oc} , and P_{max} under standard test conditions (irradiance is 100 mW/cm^2 , AM 1.5 spectrum, and a cell temperature of 25°C (77°F)).

A module with exposed conductive parts is considered to be in compliance with UL 1703 only when it is electrically grounded in accordance with the instructions presented below and the requirements of the National Electrical Code.

installation shall be in accordance with CSA C22.1, Safety Standard for Electrical Installations, Canadian Electrical Code, Part 1.

4.1. Modules should be mounted to maximize direct exposure to sunlight and to eliminate or minimize shadowing. Even partial shadowing can substantially reduce module and system output. Furthermore, partial shadowing can elevate the shaded portion's internal temperature, which may lower output and shorten module life. Bypass diodes are factory installed. Blocking diodes should be installed in series with each module or series string to prevent possible back flow of energy through the modules when modules or strings are connected in parallel or used in conjunction with a battery.

4.2. Whenever necessary to comply with local codes, use a listed fuse or circuit breaker, rated for the maximum series fuse rating of the module and the system voltage.

4.3. All electrical components should have ratings equal or greater to the system rating. Do not exceed the maximum allowable system voltage as listed on the module label. All module frames should be grounded for safety.

4.4. Under normal conditions, a photovoltaic module may experience conditions that produce more current and/or voltage than reported at Standard Test Conditions. Accordingly, the values of short circuit current, and open circuit voltage, marked on modules should be multiplied by a factor of more than 1.25 when determining component voltage ratings, conductor capacities, fuse sizes, and size of controls connected to the module output. Rated electrical characteristics are more than 10 percent of measured values at Standard Test Conditions of: 1000 W/m², 25°C cell temperature and solar spectral irradiance per ASTM E 892.

4.5. Mysolar Solar modules are equipped with factory-installed wires and quick connectors. These modules have been designed to be easily interconnected in series. Each module has two single-conductor wires, one positive and one negative, that are pre-wired inside the junction box. The connectors at the opposite end of these wires allow easy series connection of adjacent modules by firmly inserting the male connector of a module into the female connector of an adjacent module until the connector is fully seated. For more information, please See module literature for appropriate mating connectors.

4.6. A separate return wire or wires may be required to run the positive and negative terminations of the series string of modules to the load. Male and/or female connectors pre-attached to wires may be used at the string terminations for return wire connections and/or for source circuit box terminations.

4.7. All modules also have a bypass diode installed.

4.8. Grounding.

Common grounding hardware (nuts, bolts, star washers, split-ring lock washers, flat washers and the like) is used to attach a listed grounding/bonding device, the attachment must be made in conformance with the grounding device manufacturer's instructions. Details for wiring in accordance with the NEC, and that the grounding method of the frame of arrays shall comply with the NEC, article 250

Common hardware items such as nuts, bolts, star washers, lock washers and the like have not been evaluated for electrical conductivity or for use as grounding devices and should be used only for maintaining mechanical connections and holding electrical grounding devices in the proper position for electrical conductivity. Such devices, where supplied with the module and evaluated through the

requirements in UL 1703, may be used for grounding connections in accordance with the instructions provided with the module. All the PV modules frame and installing support must be earthed rightly accord to electrician laws of local, right ways of grounding is using suitable grounding wires to connect PV modules and frame supports. Grounding wires' materials can be copper, cooper alloy or other conductors which correspond with electrician laws. Grounding wires must be connected with earth with suitable grounding electrode. Use Bolt M4, cup washer, grounding wires, flat washer, tooth washer, screw nut M4 and install like the photo below, torque should be 2N·M-3N·M, in this way it can be grounded firmly.

Materials and sizes are as follow:

Bolt M4: Stainless steel, abbreviated to SS

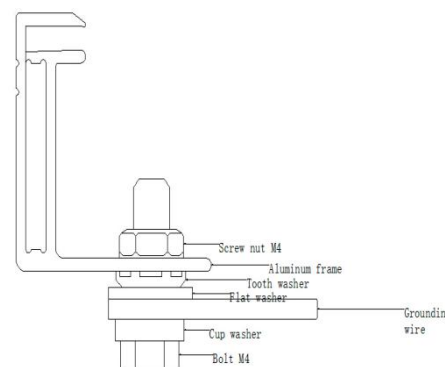
cup washer: SS $\Phi 9$ $\Phi 4.3$ h8

Grounding wires: single conductor, the cross section of conductor is no less than 4mm²

Flat washer: SS $\Phi 9$ $\Phi 4.3$ h8

Tooth washer: SS $\Phi 7.8$ $\Phi 4.3$ Thickness: 0.5 number of gears: 11

screw nut M4: SS



4.9. Module Size, type, rated temperature and electrical parameters

Module Size	Type	Rated temperature
1956×992×40	VNS-72P"X"-4-XXXW(X=1)	-40℃~+85℃
1640×992×40	VNS-60P"X"-4-XXXW(X=1)	-40℃~+85℃
1956(1966)×992×40	MS320P-ASX 'X'=1 MS315P-ASX "X"=3 MS325P-ASX 'X'=1 MS320P-ASX "X"=3 MS330P-ASX 'X'=1 MS325P-ASX "X"=3 MS335P-ASX 'X'=1 MS330P-ASX "X"=3 MS335P-ASX "X"=3	-40℃~+85℃
1640(1650)×992×40 or 1640(1650)×992×35	MS265P-ASX 'X'=1 MS265P-ASX "X"=3 MS270P-ASX 'X'=1 MS270P-ASX "X"=3 MS275P-ASX 'X'=1 MS275P-ASX "X"=3	-40℃~+85℃
1956(1966)×992×40	MS335M-ASX "X"=1 MS335M-ASX "X"=3 MS340M-ASX "X"=1 MS340M-ASX "X"=3 MS345M-ASX "X"=1 MS345M-ASX "X"=3 MS350M-ASX "X"=1 MS350M-ASX "X"=3 MS355M-ASX "X"=1 MS355M-ASX "X"=3 MS360M-ASX "X"=1 MS360M-ASX "X"=3	-40℃~+85℃

	MS365M-ASX "X"=1 MS365M-ASX "X"=3 MS370M-ASX "X"=1 MS370M-ASX "X"=3 MS375M-ASX "X"=1 MS375M-ASX "X"=3	
1640(1650)×992×40 or 1640(1650)×992×35	MS290M-AHX "X"=1 MS290M-AHX "X"=3 MS295M-AHX "X"=1 MS295M-AHX "X"=3 MS300M-AHX "X"=1 MS300M-AHX "X"=3 MS305M-AHX "X"=1 MS305-AHX "X"=3 MS310M-AHX "X"=1 MS310M-AHX "X"=3 MS315M-AHX "X"=1 MS315M-AHX "X"=3 MS320M-AHX "X"=1 MS320M-AHX "X"=3 MS325M-AHX "X"=1 MS325M-AHX "X"=3 MS330M-AHX "X"=1 MS330M-AHX "X"=3 MS335M-AHX "X"=1 MS335M-AHX "X"=3 MS340M-AHX "X"=1 MS340M-AHX "X"=3	-40℃~+85℃
2000×992×40 2008×1002×40	MS355M-AHX "X"=1 MS355M-AHX "X"=3 MS360M-AHX "X"=1 MS360M-AHX "X"=3 MS365M-AHX "X"=1 MS365M-AHX "X"=3 MS370M-AHX "X"=1 MS370M-AHX "X"=3 MS375M-AHX "X"=1 MS375M-AHX "X"=3 MS380M-AHX "X"=1 MS380M-AHX "X"=3 MS385M-AHX "X"=1 MS385M-AHX "X"=3 MS390M-AHX "X"=1 MS390M-AHX "X"=3 MS395M-AHX "X"=1 MS395M-AHX "X"=3 MS400M-AHX "X"=1 MS400M-AHX "X"=3 MS405M-AHX "X"=1 MS405M-AHX "X"=3 MS410M-AHX "X"=1 MS410M-AHX "X"=3	-40℃~+85℃
1675×992×35 1684×1002×35	MS290M-AHX "X"=1 MS290M-AHX "X"=3 MS295M-AHX "X"=1 MS295M-AHX "X"=3 MS300M-AHX "X"=1 MS300M-AHX "X"=3 MS305M-AHX "X"=1 MS305-AHX "X"=3 MS310M-AHX "X"=1 MS310M-AHX "X"=3 MS315M-AHX "X"=1 MS315M-AHX "X"=3 MS320M-AHX "X"=1 MS320M-AHX "X"=3 MS325M-AHX "X"=1 MS325M-AHX "X"=3 MS330M-AHX "X"=1 MS330M-AHX "X"=3 MS335M-AHX "X"=1 MS335M-AHX "X"=3 MS340M-AHX "X"=1 MS340M-AHX "X"=3	-40℃~+85℃

ELECTRICAL PARAMETERS

TYPE	MS335M- ASX, "X"=1 or "X"=3	MS340M- ASX, "X"=1 or "X"=3	MS345M- ASX, "X"=1 or "X"=3	MS350M- ASX, "X"=1 or "X"=3	MS355M- ASX, "X"=1 or "X"=3	MS360M- ASX, "X"=1 or "X"=3	MS365M- ASX, "X"=1 or "X"=3
Rated Maximum Power at STC(W)	335	340	345	350	355	360	365
Open Circuit Voltage(Voc/V)	46.04	46.16	46.61	46.89	47.16	47.44	47.67
Maximum Power Voltage(Vmp/V)	37.44	37.57	37.96	38.34	38.63	39.01	39.38
Short Circuit Current(Isc/A)	9.41	9.48	9.51	9.58	9.66	9.73	9.81
Maximum Power	8.95	9.05	9.09	9.13	9.19	9.23	9.27

Current(Imp/A)							
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ELECTRICAL PARAMETERS							
TYPE	MS370M- ASX, "X"=1 or "X"=3	MS375M- ASX, "X"=1 or "X"=3					
Rated Maximum Power at STC(W)	370	375					
Open Circuit Voltage(Voc/V)	47.91	48.16					
Maximum Power Voltage(Vmp/V)	39.84	40.21					
Short Circuit Current(Isc/A)	9.89	9.95					
Maximum Power Current(Imp/A)	9.29	9.33					

ELECTRICAL PARAMETERS					
TYPE	MS255P- ASX, "X"=1 or "X"=3	MS260P- ASX, "X"=1 or "X"=3	MS265P- ASX, "X"=1 or "X"=3	MS270P- ASX, "X"=1 or "X"=3	MS275P- ASX, "X"=1 or "X"=3
Rated Maximum Power at STC(W)	255	260	265	270	275
Open Circuit Voltage(Voc/V)	37.82	37.98	38.14	38.31	38.5
Maximum Power Voltage(Vmp/V)	30.29	30.63	30.96	31.26	31.46
Short Circuit Current(Isc/A)	8.98	9.04	9.1	9.15	9.24
Maximum Power Current(Imp/A)	8.42	8.49	8.56	8.64	8.74

ELECTRICAL PARAMETERS

TYPE	MS315P- ASX, "X"=1 or "X"=3	MS320P- ASX, "X"=1 or "X"=3	MS325P- ASX, "X"=1 or "X"=3	MS330P- ASX, "X"=1 or "X"=3	MS335P- ASX, "X"=1 or "X"=3
Rated Maximum Power at STC(W)	315	320	325	330	335
Open Circuit Voltage(Voc/V)	45.6	45.82	45.92	45.97	46.45
Maximum Power Voltage(Vmp/V)	37.28	37.56	37.66	37.80	37.98
Short Circuit Current(Isc/A)	8.91	9.03	9.15	9.28	9.30
Maximum Power Current(Imp/A)	8.45	8.52	8.63	8.73	8.82

ELECTRICAL PARAMETERS							
TYPE	MS355M- AHX, "X"=1 or "X"=3	MS360M- AHX, "X"=1 or "X"=3	MS365M- AHX, "X"=1 or "X"=3	MS370M- AHX, "X"=1 or "X"=3	MS375M- AHX, "X"=1 or "X"=3	MS380M- AHX, "X"=1 or "X"=3	MS385 M-AHX, "X"=1 or "X"=3
Rated Maximum Power at STC(W)	355	360	365	370	375	380	385
Open Circuit Voltage(Voc/V)	46.82	47.01	47.21	47.40	47.61	47.80	48.00
Maximum Power Voltage(Vmp/V)	39.01	39.2	39.39	39.60	39.81	40.02	40.21
Short Circuit Current(Isc/A)	9.6	9.69	9.77	9.85	9.93	10.01	10.08
Maximum Power Current(Imp/A)	9.1	9.18	9.27	9.35	9.43	9.50	9.58

ELECTRICAL PARAMETERS							
TYPE	MS390M- AHX, "X"=1 or	MS395M- AHX, "X"=1 or	MS400M- AHX, "X"=1 or	MS405M- AHX, "X"=1 or	MS410M- AHX, "X"=1 or		

	"X"=3	"X"=3	"X"=3	"X"=3	"X"=3		
Rated Maximum Power at STC(W)	390	395	400	405	410		
Open Circuit Voltage(Voc/V)	48.18	48.37	48.55	48.73	48.91		
Maximum Power Voltage(Vmp/V)	40.37	40.55	40.77	40.95	41.12		
Short Circuit Current(Isc/A)	10.48	10.56	10.64	10.71	10.79		
Maximum Power Current(Imp/A)	9.66	9.74	9.81	9.89	9.97		

ELECTRICAL PARAMETERS							
TYPE	MS290M-AHX, "X"=1 or "X"=3	MS295M-AHX, "X"=1 or "X"=3	MS300M-AHX, "X"=1 or "X"=3	MS305M-AHX, "X"=1 or "X"=3	MS310M-AHX, "X"=1 or "X"=3	MS315M-AHX, "X"=1 or "X"=3	MS320M-AHX, "X"=1 or "X"=3
Rated Maximum Power at STC(W)	290	295	300	305	310	315	320
Open Circuit Voltage(Voc/V)	38.87	39.05	39.23	39.42	39.58	39.74	39.92
Maximum Power Voltage(Vmp/V)	31.70	31.93	32.15	32.37	32.58	32.79	33.01
Short Circuit Current(Isc/A)	9.59	9.68	9.77	9.86	9.95	10.04	10.13
Maximum Power Current(Imp/A)	9.15	9.24	9.33	9.42	9.51	9.60	9.69

ELECTRICAL PARAMETERS							
TYPE	MS325M-AHX, "X"=1 or "X"=3	MS330M-AHX, "X"=1 or "X"=3	MS335M-AHX, "X"=1 or "X"=3	MS340M-AHX, "X"=1 or "X"=3			

Rated Maximum Power at STC(W)	325	330	335	340			
Open Circuit Voltage(Voc/V)	40.1	40.27	40.44	40.62			
Maximum Power Voltage(Vmp/V)	32.71	32.91	33.11	33.31			
Short Circuit Current(Isc/A)	10.43	10.51	10.6	10.69			
Maximum Power Current(Imp/A)	9.93	10.02	10.11	10.21			

4.10. Overcurrent protection type: None.

Number of By-pass diodes:3

4.11. Diameter of cables. Every module have 2 cables whose diameter is 4mm² for any one of them , and it can endure 90℃ insulation and can be exposed under sun light.

Ways of connecting. Every modules with 2 connectors and they are respectively positive electrode and negative electrode. When modules are installed in series, the first positive connector should connect with the negative connective of the next module.

The modules are equipped with PV wiring connectors that comply with the Standard for Connectors for Use in Photovoltaic Systems, UL 6703, the specific allowable mating connector manufacturer(s) and model number(s) are listed as below, different model connectors couldn't be mated with each other to use:

Connector model name	Allowable mating connector model name
PV-ZH202-SBN	PV-ZH202-SBN
TL-Cable01	TL-Cable01
PV-JM601	PV-JM601
PV-ZH202B Series	PV-ZH202B Series
TL-CABLE01S-FM	TL-CABLE01S-FF
PV-JM601A	PV-JM601A
PV-JM608	PV-JM608
PV-KST4-EVO2/6II-UR	PV-KBT4-EV02/6II-UR
PV-KST4/6II-UR	PV-KBT4/6II-UR
UTXCFA4AI	UTXCMA4AI

5. Operation and Maintenance

5.1. No routine maintenance is required. However it is advisable to perform periodic inspection of the modules for damage to glass, back-skin, or frame. Check electrical connections for loose connections and corrosion.

5.2. Photovoltaic modules can operate effectively without ever being washed, although removal of dirt from the front glass can increase output. The glass can be washed with a wet sponge or cloth. Wear rubber gloves for electrical insulation.

6. Transport, Storage Modules

6.1. Modules should be put vertically when transport.

6.2. When move the module, use both hands to catch the module frame, not directly pull the cable on the junction box by hands.

6.3. It's prohibition to tear at the modules.

6.4. Do not put any other goods on the modules.

6.5. Do not make the modules to impacted, and stand on the module is also prohibition.

6.6. Do not scratch the rear surface of the modules.

6.7. To keep all of the electrical contact working in a dry and un-contaminated condition.

6.8. If a temporary storage is needed, the storage space must be under a dry, ventilated condition.

7. Module information:

7.1. Type: MS320P-ASX ("X"=1 or 3, wattage ranges from 315 to 335); MS275P-ASX ("X"=1 or 3, wattage ranges from 265 to 275)

(320 is power rating, P=POLY, X is different appearance module, X=1, modules should be with silver frames and white backsheets, X=3, modules should be with black frames and black backsheets)

Standard test condition: 1000W/m², AM1.5, at 25°C;

Module application: Class A;

Module Fire Performance: Type 1 or Class C (for CUL)

Recommended maximum Series/Parallel module configuration: 16/1 for MS320P-ASX ("X"=1 or 3, wattage ranges from 315 to 335); 20/1 for MS275P-ASX ("X"=1 or 3, wattage ranges from 265 to 275)
maximum series fuse:20A

Maximum system voltage:1500V

7.2. Type: MS375M-ASX ("X"=1 or 3, wattage from 335 to 375)

(355 is power rating, X is different appearance module, X=1, modules should be with silver frames and white backsheets; X=3, modules should be with black frames and black backsheets)

Standard test condition: 1000W/m², AM1.5, at 25°C

Module application: Class A

Module Fire Performance: Type 1 or Class C (for CUL)

Recommended maximum Series/Parallel module configuration: 24/1 for models as follow

MS375M-ASX ("X"=1 or 3, wattage from 335 to 375)

maximum series fuse:20A

Maximum system voltage: 1500V

7.3. Type: MS400M-AHX ("X"=1 or 3, wattage ranges from 355 to 410), MS330M-AHX ("X"=1 or 3, wattage ranges from 290 to 340,)

(400 is power rating, X is different appearance module, X=1, modules should be with silver frames and white backsheets; X=3, modules should be with black frames and black backsheets)

Standard test condition: 1000W/m², AM1.5, at 25°C

Module application: Class A

Module Fire Performance: Type 1 or Class C (for CUL)

Recommended maximum Series/Parallel module configuration: 24/1 for models as follow

MS400M-AHX ("X"=1 or 3, wattage ranges from 355 to 410) 29/1

for models as follow

MS330M-AHX ("X"=1 or 3, wattage ranges from 290 to 340,)

maximum series fuse:20A

Maximum system voltage: 1500V

7.4. Product Identification

Each individual module has a unique serial number laminated behind the glass and another permanently attached to the back-sheet of the module. Note all serial numbers in an installation for your future records.

How to read the series numbers:

827032020010001

8 = Mysolar

2 = cutted cell

7 = Mono crystalline

03=Production line

202001=Production year 2020, month January

0001 = production series numbers of each module, ranges from 1 to 9999

8. Amendment editions and dates

Edition	Date	Revised info	Remarks
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A8	Jan 1-2020	N/A	The 1 st edition
A9	Feb 24-2020	Deleted whole Clause 3.5 Bifacial Mount in edition A8; In Clause 7.1, revised “ Maximum Series Fuse: 15A ” to “ Maximum Series Fuse: 20A ”, “ Maximum System Voltage:1000V ” to “ Maximum System Voltage:1500V ” Added Clause 7.4. Product Identification , explained meaning of a series number and where the number is attached Added Clause 8. Amendment editions and dates	The 2 nd edition

9. Contact Information

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