



Solar Module Installation Manual (IEC)

1.0 GENERAL INFORMATION

This general manual provides important safety information relating to the installation, maintenance and handling of CS-series solar modules. System users and professional installers should read this manual carefully and strictly follow the instructions. Failure to follow these instructions may result in death, injury or property damage.

The installation of solar modules requires specialized skills and should only be performed by licensed professionals.

The word "module" or "PV module" used in this manual refers to one or more CS-Series solar modules.

Please retain this manual for future reference.

1.1 DISCLAIMER OF INSTALLATION MANUAL

The information contained in this manual is subject to change by Canadian Solar Inc. without prior notice. Canadian Solar Inc. makes no warranty of any kind whatsoever, either explicitly or implicitly, with respect to the information contained herein.

1.2 LIMITATION OF LIABILITY

Canadian Solar Inc. shall not be held responsible for damages of any kind, including without limitation bodily harm, injury and property damage, relating to module handling, system installation, or compliance or non-compliance with the instructions set forth in this manual.

2.0 SAFETY PRECAUTIONS



Warning: All instructions should be read and understood before attempting to install, wire, operate and/or maintain the module. Module interconnects pass direct current (DC) when it is exposed to sunlight or other light sources. Contact with electrically active parts of the module, such as terminals, can result in injury or death, whether the module is connected or disconnected.

General Safety

- All installations must be performed in compliance with all applicable regional and local electrical codes or other national or international electrical standards.
- Wear suitable protection (non-slip gloves, clothes, etc.) to prevent direct contact with 30VDC or greater, and to protect your hands from sharp edges during the installation.
- Use electrical insulated tools to reduce the risk of electric shock.
- Remove all metallic jewelry prior to installation to reduce the chance of accidental exposure to live circuits.
- Cover the front of the modules in the PV array with an opaque material to halt production of electricity when installing or working with a module or wiring.
- Do not install or handle the modules when they are wet or during periods of high wind.
- Do not use or install broken modules.
- If the front glass is broken, or the back sheet is torn, contact with any module surface or the frame can cause electric shock.
- Keep the junction box cover closed at all times.
- Do not attempt to repair any part of the module. There're no serviceable parts within the PV module.
- Do not disassemble a module or remove any module part.
- Do not artificially concentrate sunlight on a module.
- Do not connect or disconnect modules when current from the modules or an external source is present.

3.0 MECHANICAL / ELECTRICAL SPECIFICATIONS

The module electrical ratings are measured under Standard Test Conditions (STC) of 1 kW/m² irradiance with an AM1.5 spectrum, and cell temperature of 25°C. The detailed electrical and mechanical characteristics of Canadian Solar crystalline silicon PV modules can be found in table 3 of this manual (see Annex). Main electrical characteristics at STC also appear on each module label. The maximum system voltage for all module series is 1000 V.

Under certain conditions, a module may produce more current or voltage than its Standard Test Conditions rated power. As a precaution, a module's open-circuit voltage and short-circuit current at STC should be multiplied by 1.25 when determining component ratings and capacities. An additional 1.25 multiplier for a short-circuit current (for a total of 1.56), and a correction factor for an open circuit (see Table 1 below) for sizing conductors and fuses may be applicable, depending on your local regulations.

Table 1: Low temperature correction factors table for open-circuit voltage

Lowest Expected Ambient Temperature (°C/°F)	Correction Factor
24 to 20/76 to 68	1.02
19 to 15/67 to 59	1.04
14 to 10/58 to 50	1.06
9 to 5/49 to 41	1.08
4 to 0/40 to 32	1.10
-1 to -5/31 to 23	1.12
-6 to -10/22 to 14	1.14
-11 to -15/13 to 5	1.16
-16 to -20/4 to -4	1.18
-21 to -25/-5 to -13	1.20
-26 to -30/-14 to -22	1.21
-31 to -35/-23 to -31	1.23
-36 to -40/-32 to -40	1.25

4.0 STORAGE AND UNPACKING



Precautions and General Safety

- Store modules in a dry and ventilated room.
- Do not allow children and unauthorized persons near the installation site or storage area of modules.
- Do not transport modules in an upright position.
- Unpacking module pallet with care and follow the unpacking steps marked on the pallet. Be careful when unpacking, transporting and storing the modules.
- Do not carry a module by its wires or junction box. Carry a module by its frame with two or more people.
- Do not place modules on top of each other.
- Do not place excessive loads on the module or twist the module frame.
- Do not stand, step, walk and/or jump on the module.
- Do not drop or place objects on the modules (such as tools.)
- Do not mark the modules with sharp instrument.
- Do not leave a module unsupported or unsecured.
- Do not change the wiring of bypass diodes.
- Keep all electrical contacts clean and dry.

Product identification

- Each module is fitted with two identical barcodes (one on the laminate under the glass, the second on the module frame) for its unique identification. Each module has a unique serial number with 13 digits.
- A nameplate is also affixed on the rear side of each module. This nameplate defines the model type, as well as the main electrical and safety characteristics of the module.

5.0 MODULE INSTALLATION



Precautions and General Safety

- Before installing modules, contact the appropriate authorities for site, installation and inspection permission and requirement.
- Check applicable building codes to ensure that the construction or structure (roof, facade, support, etc.) can withstand the module system load.
- When installing modules, please ensure the assembly is mounted over a fire resistant roof covering rated for the application. Canadian Solar modules have been listed as Class C according to UL790 standard.
- CS-series solar modules have been qualified for Application Class A (equivalent to Safety Class II requirements). Modules rated under this class should be used in systems operating at voltage above 50V or power above 240W, where general contact access is anticipated.

Environmental conditions

- The module is intended for use in general open climates, as defined in IEC 60721-2-1: Classification of environmental conditions Part 2-1: Environmental conditions appearing in nature - temperature and humidity.
- Do not install modules near naked flames or flammable materials.
- Do not expose modules to artificially concentrated light sources.
- Do not immerse modules in water or constantly expose modules to water (either fresh or salt) (i.e. from fountains, sea spray).
- Exposing modules to salt (i.e. marine environments) and sulfur (i.e. sulfur sources, volcanoes) risks module corrosion.

Requirements of installation

- Ensure that the module meets the technical requirements of the system as a whole.
- Ensure that other systems components do not exert damaging mechanical or electrical influences on the modules.
- Modules can be wired in a series to increase voltage or in parallel to increase current. To connect in series, connect cables from the positive terminal of one module to the negative terminal of the next module. To connect in parallel, connect cables from the positive terminal of one module to the positive terminal on the next module.
- Quantity of bypass diodes provided can vary depending on model series.
- Connect the quantity of modules that match the voltage specifications of the inverters used in the system. Modules must not be connected together to create a voltage higher than the permitted maximum system voltage, even under the worst local temperature conditions (see table 1 for correction coefficients to apply for open-circuit voltage).
- A maximum of two strings can be connected in parallel without using over-current protection device (fuses). Incorporated in series within each string. Three or more strings can be connected in parallel if an appropriate and certified over-current protection device is installed in series with each string.
- Similar electrical performance modules should be connected in same series to avoid or minimize mismatch effects in arrays.
- To minimize risk in the event of an indirect lightning strike, avoid forming loops when designing the system.
- The recommended maximum series fuse rating is tabulated in annex.
- Modules should be firmly fixed in place in a manner suitable to withstand all expected loads, including wind and snow loads. A minimum clearance of 6.5 mm (1/4 of an inch) or more between modules is required to allow for thermal expansion of the frames.
- Small openings for water draining on the underside of the module should not be blocked after mounting.

Optimum orientation and tilt

- Find out the optimum orientation and tilt of the PV modules for your region to achieve the maximum annual yield. Generation of maximum power occurs when sunlight shines perpendicularly onto the PV modules.

Avoid shading

- Even the slightest partial shading (e.g. From dirt deposits) will cause a reduction in yield. A module is considered "shadow-free" if it is unobstructed across its entire surface for the whole year. Even on the shortest day of the year, unobstructed sunlight can reach the module.

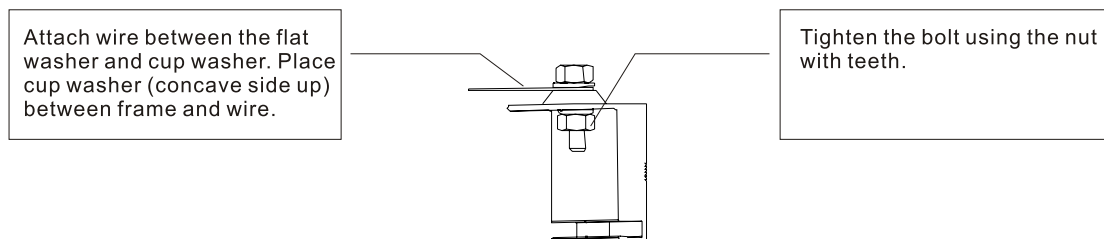
Reliable ventilation

- Sufficient clearance (at least 10 cm) between the module frame and the mounting surface is required to allow for cooling air to circulate around the back of the module. This also allows for condensation or moisture to dissipate.

Grounding

- Although the modules are certified to safety class II, it is recommended that they be grounded and the module installation complies with all local electrical codes and regulations.
- The earth grounding connection should be made by a qualified electrician.
- Connect module frames to each other using adequate grounding cables (recommended size 4-14mm², copper wires). Holes provided for this purpose are identified with a green label. All the junctions on the conductive connection must be fixed.
- The bolts, nuts, flat washers, lock washers or other relevant hardware should be made with stainless steel.
- Grounding hardware is not provided by Canadian Solar Inc..
- Two specific grounding methods are recommended for Canadian Solar PV modules with 5 mm grounding holes, as described below. Other grounding methods can be acceptable, provided they comply with all local electrical codes and regulations. For some modules (SunTuile or NewEdge), standard grounding methods cannot be applied, please refer to the most updated relevant technical notes (IM/IEC/SUNT-EN and IM/IEC/NEW-EN).

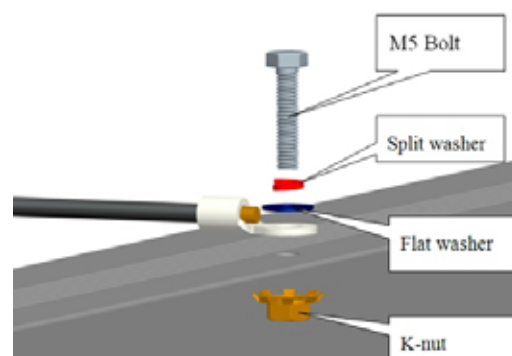
Method A: Bolt + Nut with teeth + Cup washer.



- A grounding kit with M5 size SS cap bolt, M5 size SS flat washer, M5 size SS cup washer, and M5 size SS nut (with teeth) is used to attach a copper grounding wire to grounding hole on the frame (see picture above).
- Attach the wire between the flat washer and the cup washer. Ensure the cup washer is between the frame and wire with concave side up to prevent corrosion due to dissimilar metal. Tighten the bolt securely using the SS nut with teeth. A wrench may be used in this application. The tightening torque is 1 Nm.

Method B: Bolt + K-nut + Ring terminal (copper).

- Connect the grounding hardware (M5) to the grounding hole on the frame as shown in the picture.
- A K-nut is used to penetrate anodizing (protective coating) on the frame to create conductive connection.
- A torque moment of about 3 Nm should be used to fasten the grounding parts to module frame.

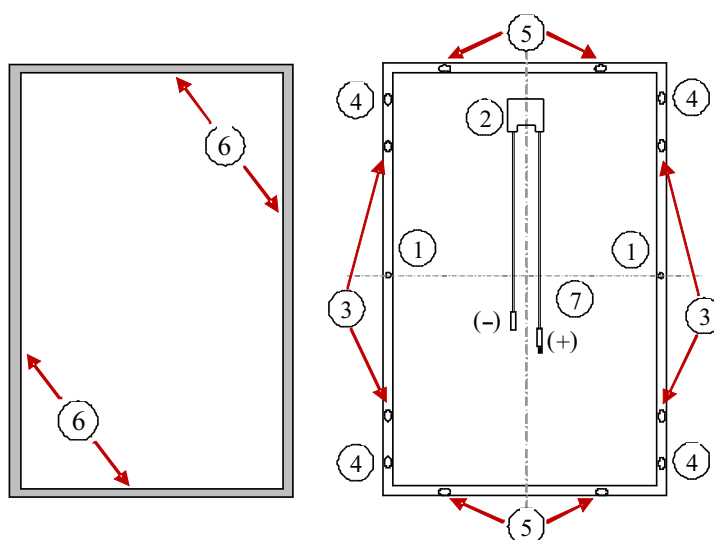


5.1 MOUNTING INSTRUCTIONS

Canadian Solar PV Modules

- For a clear understanding of module, please refer to the illustration of a module shown below:

Reference	Designation
1	Grounding holes
2	Junction box
3	Standard mounting holes (long side)
4	Additional mounting holes (high wind or snow loads)
5	Standard mounting holes (short side)
6	Module frame
7	Cables and connectors

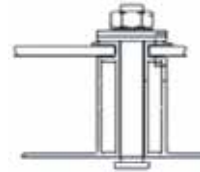


- The mounting design must be certified by a registered professional engineer. The mounting design and procedures shall comply with local electrical and building codes.
- Mounting hardware is not provided by Canadian Solar Inc..
- Canadian Solar modules can be mounted to a support structure with several approved methods, either using the mounting holes on the back frame. (see Example A), or by means of clamps (see Example B). For inlay-systems or other installation hardware, please contact your local representative for further information.

Example A: Bolting



Example B: Clamping on

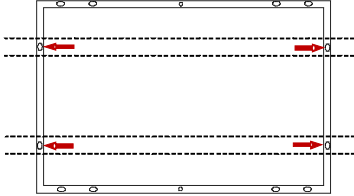
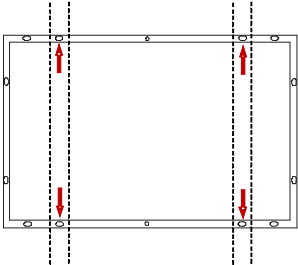


- Use appropriate corrosion-proof fastening materials. All mounting hardware (bolt/spring washer/flat washer/nut) should be made with stainless steel, M6 size for bolting method (A), and M8 size for clamping method (B).
- Use a torque wrench for installation. The above figure shows methods of fastening module to support structure. Tightening torques should respectively be within 4~6 Nm and 10~17 Nm for M6x1 (Example A) and M8x1.5 (Example B) coarse thread bolts, depending on bolt class. Different recommendations from specific clamping hardware suppliers should prevail.
- Canadian Solar modules can be installed in either landscape or portrait position, refer to the detailed instructions in table 2 for further guidance. Note that further countermeasures such as the use of additional support bars should be considered in heavy snow areas (> 2400 Pa), to avoid damage by the snow accumulating in the lowest row of modules.

Method A: Bolting

- Modules should be bolted to support structures through mounting holes located in the frame's back flanges only. Do not drill additional holes or modify the module frame. Doing so will void the warranty.
- Each module must be securely fastened at a minimum of 4 points on two opposite sides. If additional wind loads are anticipated for this installation, additional mounting points should be used. System designer and installer are responsible for load calculation and for proper support structure design.
- Modules should be bolted at the following hole locations depending on the configuration and load:

Table 2: Authorized attachments for bolting/clamping method

	Bolting/clamping on short side frame	Bolting/clamping on long side frame
	Use 4 standard mounting holes (short side)	Use 4 standard mounting holes (long side)
Uplift load $\leq 2400 \text{ Pa}$ Downforce load $\leq 5400 \text{ Pa}$		

Method B: Clamping

- Top or bottom clamping methods will vary depending on mounting structures. Follow mounting guidelines recommended by the mounting system supplier.
- The clamps should be positioned according to table 2, using the mounting holes as reference locators then install and tighten the module clamps to the torque stated by the mounting hardware manufacturer.
- Canadian Solar's limited warranty will be void in cases where improper clamps or installation methods deviating from this manual are used. When installing inter-modules or end type clamps, take measures so as:
 1. Not to bend the module frame
 2. Not to touch or cast shadow on the front glass
 3. Not to damage the surface of the frame
 4. To ensure the clamps overlap the module frame by at least 9 mm
- Clamp positions are of crucial importance for the reliability of the installation, the clamp centerlines must only be positioned as indicated in table 2, depending on the configuration and load.

Specific module ranges

- For SunTuile module frames (SunTuile series: CS5A-xxxMF and CS6A-xxxPF models), please refer to the most updated IM/IEC/ SUNT-EN technical note.
- For NewEdge module frames (NewEdge series: CS5A-xxxMX and CS6P-xxxPX models), please refer to the most updated IM/IEC/ NEWE-EN technical note.
- For frameless laminates (CS5A-xxxM-L and CS6A-xxxP-L models), please refer to the most updated IM/IEC/INTCL-EN technical note.

5.2 MODULE WIRING

Correct wiring scheme

- When designing the system, avoid forming loops (to minimize risk in the event of an indirect lightning strike). Make sure that wiring is correct before starting up the system. If the measured open circuit voltage (Voc) and short-circuit current (Isc) differ from the specifications, then there is a wiring fault.

Correct connection of plug connectors

- Make sure that the connection is safe and tight. The plug connector should not receive outer stress. The connector should only be used to connect the circuit. It should never be used to turn the circuit on and off.

Use of suitable materials

- Use special solar cable and suitable plugs only (wiring should be placed in conduit that is sunlight-resistant if exposed) in accordance with local fire, building and electrical codes. Ensure that they are in perfect electrical and mechanical condition.
- The permitted type of solar cable is single conductor, 2.5-10 mm² (8-14 AWG), 90°C wet rated, with proper insulation to withstand the maximum possible system open-circuit voltage (such as TUV 2PFG1169 approved). The conductor material should be copper only. Select a suitable conductor gauge to minimize voltage drop.

Cable protection

- Secure the cables to the mounting system using UV-resistant cable ties. Protect exposed cables from damage with appropriate precautions (e.g. locate them within plastic conduit). Avoid exposure to the direct sunlight.

6.0 MAINTENANCE

- Regular maintenance is required to keep modules clear of snow, bird droppings, seeds, pollen, leaves, branches, dirt spots and dust.
- When there is a noticeable buildup of soiling deposits on the module surface, wash the PV array with water and a gentle cleaning implement (a sponge) during the cool part of the day. Dirt must never be scraped or rubbed away when dry, as this will cause micro-scratches.
- If snow is present, a brush with soft bristles can be used to clean the surface of the module.
- Periodically inspect the system to make sure all wiring and supports stay intact.
- If you need electrical or mechanical inspection or maintenance, it is recommended to have a licensed, authorized professional carry out the job to avoid hazards of electric shock or injury.
- Do not change the PV components (diode, junction box, plug connectors).

ANNEX: MECHANICAL AND ELECTRICAL RATINGS

Standard Test Conditions are: irradiance of 1 kW/m², AM1.5 spectrum, and cell temperature of 25°C. P_{max} of any individual module will be within [0; +5W] of these specified values. Specifications are subject to change without notice.

Table 3: Specifications for CS-series photovoltaic modules under STC

Model Type	Maximum power P _{max} <W>	Operating Voltage (V _{mp}) <V>	Operating current I _{mp} <A>	Open Circuit Voltage V _{oc} <V>	Short Circuit Current I _{sc} <A>	Max. Series Fuse Rating <A>	Overall Dimension <mm>	Weight <Kg>
CS5A-155M/MF/MX	155.0	35.1	4.42	43.6	4.80	10.00	1595X801X40 (standard Ed1) or 1580 X808X40 (standard Ed2) or 1639X827X17 (MF only)	15.80 (standard) or 17.50 (MX only)
CS5A-160M/MF/MX	160.0	35.1	4.55	43.8	4.91	10.00		
CS5A-165M/MF/MX	165.0	35.3	4.68	44.1	5.01	10.00		
CS5A-170M/MF/MX	170.0	35.6	4.78	44.3	5.12	10.00		
CS5A-175M/MF/MX	175.0	35.8	4.89	44.4	5.23	10.00		
CS5A-180M/MF/MX	180.0	36.1	4.99	44.6	5.34	10.00		
CS5A-185M/MF/MX	185.0	36.4	5.09	44.6	5.46	10.00		
CS5A-187.5MF	187.5	36.5	5.14	44.7	5.49	10.00		

Model Type	Maximum power Pmax<W>	Operating Voltage (Vmp) <V>	Operating current Imp <A>	Open Circuit Voltage Voc <V>	Short Circuit Current Isc <A>	Max. Series Fuse Rating <A>	Overall Dimension <mm>	Weight <Kg>
CS5A-190M/MF/MX	190.0	36.6	5.19	44.8	5.52	10.00		
CS5A-195M/MF	195.0	37.0	5.27	45.0	5.62	10.00		
CS5A-200M/MF	200.0	37.4	5.35	45.3	5.71	10.00		
CS5P-200M	200.0	46.7	4.29	57.8	4.69	10.00	1602X1061X40	21.00
CS5P-205M	205.0	46.7	4.39	58.0	4.77	10.00		
CS5P-210M	210.0	46.8	4.49	58.2	4.86	10.00		
CS5P-215M	215.0	46.8	4.59	58.4	4.95	10.00		
CS5P-220M	220.0	47.0	4.68	58.8	5.01	10.00		
CS5P-225M	225.0	47.4	4.74	59.0	5.09	10.00		
CS5P-230M	230.0	47.5	4.84	59.1	5.18	10.00		
CS5P-235M	235.0	47.7	4.93	59.2	5.27	10.00		
CS5P-240M	240.0	48.1	4.99	59.4	5.34	10.00		
CS5P-245M	245.0	48.4	5.06	59.5	5.43	10.00		
CS5P-250M	250.0	48.7	5.14	59.6	5.49	10.00		
CS5P-255M	255.0	49.0	5.21	59.8	5.55	10.00		
CS5P-260M	260.0	49.3	5.27	60.0	5.62	10.00		
CS5T-130M	130.0	29.2	4.45	36.3	4.82	10.00	1638X982X40	20.00
CS5T-135M	135.0	29.3	4.60	36.6	4.95	10.00		
CS5T-140M	140.0	29.5	4.74	36.8	5.08	10.00		
CS5T-145M	145.0	29.8	4.87	37.0	5.21	10.00		
CS5T-150M	150.0	30.1	4.99	37.1	5.34	10.00		
CS6P-200M	200.0	29.2	6.86	36.5	7.56	15.00	1638X982X40	20.00
CS6P-205M	205.0	29.2	7.02	36.5	7.66	15.00		
CS6P-210M	210.0	29.3	7.17	36.7	7.77	15.00		
CS6P-215M	215.0	29.3	7.33	36.8	7.89	15.00		
CS6P-220M	220.0	29.5	7.45	36.9	7.97	15.00		
CS6P-225M	225.0	29.7	7.58	37.0	8.07	15.00		
CS6P-230M	230.0	29.9	7.70	37.1	8.22	15.00		
CS6P-235M	235.0	30.1	7.82	37.2	8.34	15.00		
CS6P-240M	240.0	30.2	7.95	37.3	8.46	15.00		
CS6P-245M	245.0	30.3	8.09	37.4	8.61	15.00		
CS6P-250M	250.0	30.4	8.22	37.5	8.74	15.00	1638X982X40	20.00 (standard) or 22.00 (PX only)
CS6P-165PE	165.0	27.7	5.96	35.6	6.73	15.00		
CS6P-170PE	170.0	28.0	6.07	35.7	6.85	15.00		
CS6P-175PE	175.0	28.2	6.21	35.8	7.00	15.00		
CS6P-180PE	180.0	28.2	6.38	35.8	7.16	15.00		
CS6P-185PE	185.0	28.5	6.49	35.9	7.27	15.00		
CS6P-190PE	190.0	28.6	6.64	36.0	7.42	15.00		
CS6P-195PE	195.0	28.7	6.80	36.1	7.54	15.00		
CS6P-200P/PE/PX	200.0	28.9	6.93	36.2	7.67	15.00		
CS6P-205P/PE/PX	205.0	28.9	7.09	36.2	7.78	15.00		
CS6P-210P/PE/PX	210.0	29.0	7.25	36.4	7.89	15.00		
CS6P-215P/PE/PX	215.0	29.0	7.40	36.5	8.01	15.00		
CS6P-220P/PE/PX	220.0	29.2	7.53	36.6	8.09	15.00		
CS6P-225P/PX	225.0	29.4	7.65	36.7	8.19	15.00		
CS6P-230P/PX	230.0	29.6	7.78	36.8	8.34	15.00		
CS6P-235P/PX	235.0	29.8	7.90	36.9	8.46	15.00		
CS6P-240P	240.0	29.9	8.03	37.0	8.59	15.00		
CS6P-245P	245.0	30.0	8.17	37.1	8.74	15.00		
CS6P-250P	250.0	30.1	8.30	37.2	8.87	15.00		
CS6P-255P	255.0	30.2	8.43	37.4	9.00	15.00		
CS6P-260P	260.0	30.4	8.56	37.5	9.12	15.00		
CS6A-160M	160.0	23.3	6.86	29.2	7.56	15.00		
CS6A-165M	165.0	23.4	7.06	29.2	7.71	15.00		

Model Type	Maximum power Pmax<W>	Operating Voltage (Vmp) <V>	Operating current Imp <A>	Open Circuit Voltage Voc <V>	Short Circuit Current Isc <A>	Max. Series Fuse Rating <A>	Overall Dimension <mm>	Weight <Kg>
CS6A-170M	170.0	23.5	7.24	29.4	7.80	15.00	1324X982X40	16.00
CS6A-175M	175.0	23.6	7.41	29.5	7.92	15.00		
CS6A-180M	180.0	23.8	7.58	29.6	8.07	15.00		
CS6A-185M	185.0	23.9	7.74	29.7	8.26	15.00		
CS6A-190M	190.0	24.1	7.87	29.8	8.38	15.00		
CS6A-195M	195.0	24.2	8.04	29.9	8.56	15.00		
CS6A-200M	200.0	24.3	8.22	30.0	8.74	15.00		
CS6A-135PE	135.0	22.3	6.05	28.5	6.82	15.00	1324X982X40 (standard) 1368X1008X17 (PF only)	16.00
CS6A-140PE	140.0	22.5	6.21	28.6	7.00	15.00		
CS6A-145PE	145.0	22.7	6.41	28.7	7.19	15.00		
CS6A-150PE	150.0	22.9	6.56	28.8	7.35	15.00		
CS6A-155PE	155.0	22.9	6.76	28.8	7.51	15.00		
CS6A-160P/PE	160.0	23.1	6.93	28.9	7.67	15.00		
CS6A-165P/PE/PF	165.0	23.1	7.13	29.0	7.82	15.00		
CS6A-170P/PE/PF	170.0	23.2	7.32	29.2	7.92	15.00		
CS6A-175P/PE/PF	175.0	23.4	7.49	29.3	8.04	15.00		
CS6A-180P/PE/PF	180.0	23.5	7.65	29.4	8.19	15.00		
CS6A-185P/PF	185.0	23.7	7.82	29.4	8.39	15.00		
CS6A-190P/PF	190.0	23.9	7.95	29.6	8.50	15.00		
CS6A-195P/PF	195.0	24.0	8.13	29.6	8.69	15.00		
CS6A-200P	200.0	24.1	8.30	29.8	8.87	15.00		
CS6A-205P	205.0	24.2	8.47	29.9	9.03	15.00		
CS6A-210P	210.0	24.3	8.63	30.0	9.19	15.00		
CS6C-120M	120.0	17.3	6.92	21.7	7.52	15.00	1485X666X40	12.00
CS6C-125M	125.0	17.6	7.12	22.0	7.71	15.00		
CS6C-130M	130.0	17.6	7.38	22.1	7.95	15.00		
CS6C-135M	135.0	17.8	7.58	22.2	8.07	15.00		
CS6C-140M	140.0	18.0	7.76	22.3	8.28	15.00		
CS6C-145M	145.0	18.1	8.01	22.4	8.52	15.00		
CS6X-250P	250.0	34.7	7.21	43.6	7.85	15.00	1954X982X40	27.00
CS6X-255P	255.0	34.8	7.33	43.7	7.95	15.00		
CS6X-260P	260.0	34.9	7.45	43.8	8.04	15.00		
CS6X-265P	265.0	35.1	7.55	43.9	8.10	15.00		
CS6X-270P	270.0	35.3	7.65	44.1	8.19	15.00		
CS6X-275P	275.0	35.5	7.76	44.1	8.31	15.00		
CS6X-280P	280.0	35.6	7.86	44.2	8.42	15.00		
CS6X-285P	285.0	35.8	7.96	44.3	8.53	15.00		
CS6X-290P	290.0	35.9	8.08	44.4	8.64	15.00		
CS6X-295P	295.0	36.0	8.19	44.5	8.76	15.00		
CS6X-300P	300.0	36.1	8.30	44.6	8.87	15.00		
CS6X-305P	305.0	36.3	8.41	44.8	8.97	15.00	1954X982X40	27.00
CS6X-260M	260.0	35.3	7.37	44.1	7.92	15.00		
CS6X-265M	265.0	35.5	7.47	44.3	7.98	15.00		
CS6X-270M	270.0	35.6	7.58	44.4	8.07	15.00		
CS6X-275M	275.0	35.8	7.68	44.5	8.19	15.00		
CS6X-280M	280.0	36.0	7.78	44.6	8.30	15.00		
CS6X-285M	285.0	36.1	7.89	44.7	8.40	15.00		
CS6X-290M	290.0	36.3	8.00	44.7	8.51	15.00		
CS6X-295M	295.0	36.4	8.11	44.9	8.63	15.00		
CS6X-300M	300.0	36.5	8.22	45.0	8.74	15.00		
CS6X-305M	305.0	36.6	8.33	45.2	8.84	15.00		
CS6X-310M	310.0	36.7	8.44	45.3	8.95	15.00		

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