MITSUBISHI ELECTRIC – PV-TD185MF5

Solar modules are the key element of every solar power system as they convert sunlight into electricity. Their quality, reliability and performance are therefore critical for the yield and profit of your system. Polycrystalline solar modules provide reliable performance based on more than 40 years of use and have a long track-record of delivering excellent yields.

Phoenix Solar selects the best solar modules from leading international manufacturers based on strict quality criteria. They are tested by our own technical experts as well as independent institutes. This provides you with investment security whilst optimising your return at the same time.

The advantages at a glance:

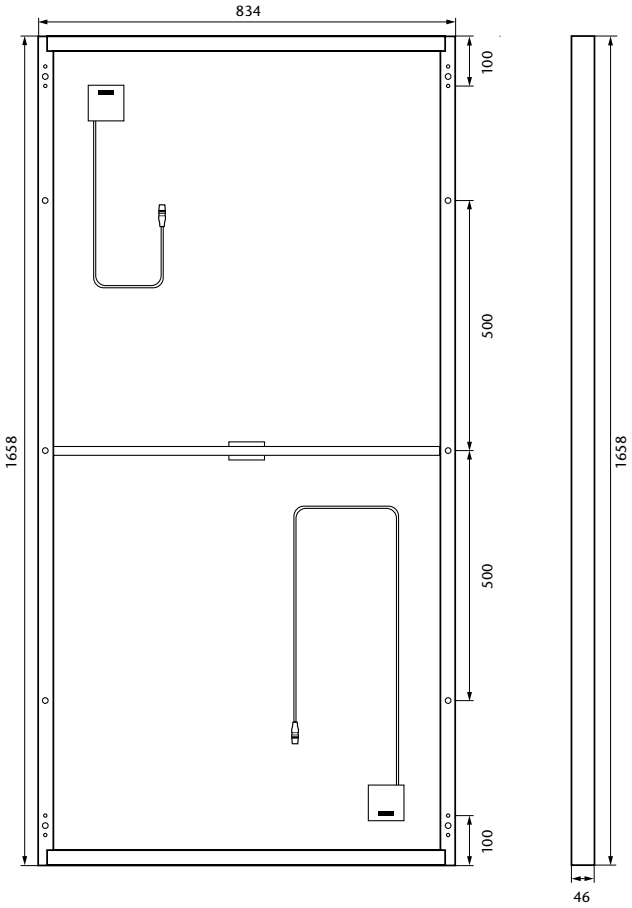
- 185 Wp power output available
- Tested in a RAL certificated process, independent of the manufacturer
- Polycrystalline high-performance cells with module efficiency of up to 13.4 %
- 25-year performance guarantee* at 80 % of the minimal rated power output
- 10-year performance guarantee* at 90 % of the minimal rated power output
- The anti-reflecting coating of the module glass ensures optimum absorption of sunlight by the cells and thus optimum performance
- Robust, non-corroding aluminium frame and tempered glass for high impact-resistance and protection against hail, snow, ice and storms
- Innovative connection sockets equipped with a triple-protected housing for optimum water-proofing
- Static load test 5400 Pa passed with new protection bar

* The manufacturer's warranty conditions apply

Experience that pays

Phoenix Solar or your local Phoenix Solar partner individually match the solar modules and all additional system components to ensure that you get the ideal system to meet your requirements. All of our sales partners have a considerable amount of expertise and many years of experience in solar technology and have been personally chosen by us according to the strictest quality criteria.

Parameters



Mechanical parameters

Length [mm]	1658
Width [mm]	834
Depth [mm]	46
Depth with connection socket [mm]	46
Weight [kg]	17
Connection socket (manufacturer/material/ number of diodes)	Melco/PPE/3
Positive cable (manufacturer/length [mm]/ cable cross-section [mm²])	Melco/800/min 2.5
Negative cable (manufacturer/length [mm]/ cable cross-section [mm²])	Melco/1250/min 2.5
Plug connector (manufacturer/type)	Multi-contact/MC4
Front cover (material/thickness [mm])	Glass/4
Cell type (quantity/technology)	50/polycrystalline
Cell embedding (material)	Ethylene vinyl acetate (EVA)
Rear cover (material/thickness [mm])	PET/0.17
Frame (material/profile type)	Aluminium/ U-shaped section

Warranties

Product warranty	5-year product limited warranty*
Performance guarantee	10 years at 90 % of the minimal rated power output* 25 years at 80 % the minimal rated power output*

* The manufacturer's warranty conditions apply

MITSUBISHI ELECTRIC
Changes for the Better

The Japanese company Mitsubishi Electric began researching and developing photovoltaics back in 1974. Above all, the company's experience in applying solar modules in space technology, which means that they were tested under the most extreme conditions, has been key in achieving the high quality of their products. Today, Mitsubishi Electric is one of the leading manufacturers of high quality photovoltaic products.

Qualifications and Certificates

IEC 61215

TÜV safety class II

Electrical parameters

Electrical parameters for STC (1000 W/m², 25 (+/- 2)°C, AM 1.5 according to EN 6090-4)

Article number	100784
Power output [P_{mpp}]	185
Power output tolerances [%]	+ 3 % / - 3 %
Efficiency [%]	13.40
Max. voltage V_{mpp} [V]	24.40
Max. current I_{mpp} [A]	7.58
Open circuit voltage V_{oc} [V]	30.60
Short circuit current I_{sc} [A]	8.13

Electrical parameters for 800 W/m², NOCT, AM 1.5 NOCT = Nominal Operating Cell Temperature, cell temperature under nominal operating conditions

Max. power output P_{max} [Wp]	128.50
Max. voltage V_{max} [V]	21.71
Max. current I_{mpp} [A]	5.92
Open circuit voltage V_{oc} [V]	27.59
Short circuit current I_{sc} [A]	6.49
Reverse current loading capability I_R [A]	3x Isc
Max. permissible system voltage V_{max} [V]	1000

Parameters of the thermal characteristics

NOCT [° C]	45
Temperature coefficient of the short circuit current I_{sc} [%/K]	+ 0.057
Temperature coefficient of the open circuit voltage V_{oc} [%/K]	- 0.346
Temperature coefficient of the MPP power P_{mpp} [%/K]	- 0.478

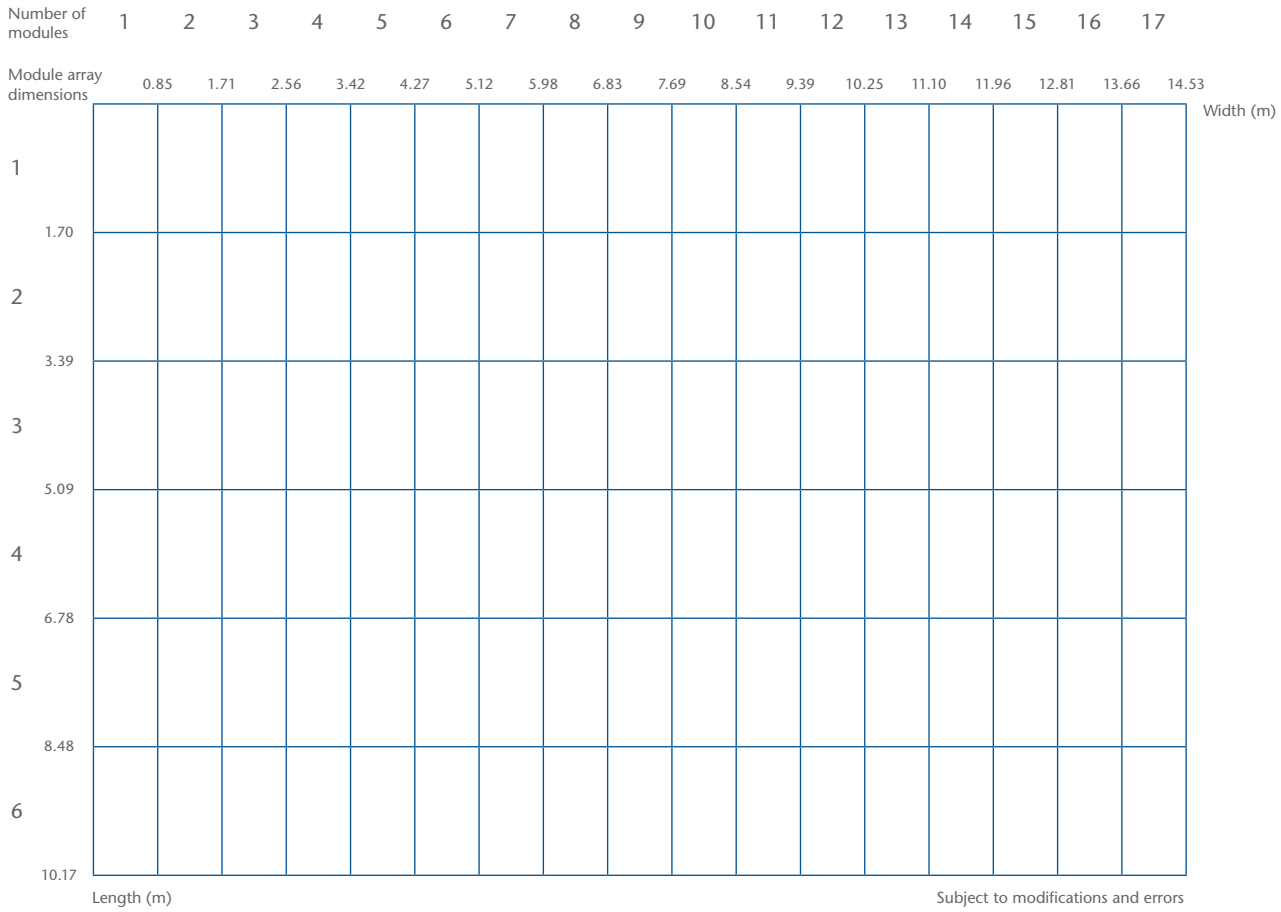
Operating conditions

Max. operating temperature [° C]	- 40 to + 85
Max. snow load [Pa]	according to IEC 61215, Ed. 2
Max. wind load [Pa]	according to IEC 61215, Ed. 2

PLANNING GUIDE

The module array displayed below applies specifically to Mitsubishi Electric-PV-TD185MF5 modules, including the distances for connecting them together (using the Tecto-Sun mounting system, scale: 1:100).

Notes on use: Draw a scale diagram of the roof (1:100) with all the details (windows, dormer windows, chimneys, etc.) on transparent paper and place it over this module array. Copy the intersecting points of the grid on the roof diagram and connect them with a line. If the roof diagram is larger than the grid, it can be moved as required. Doing this allows you to determine the maximum allocation of modules while taking shading and objects on the roof into account.



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Making energy together