



The polycrystalline photovoltaic module series **ESM230P** cover a wide range of modules between 115 to **310 W** with 36 to 72 cells connected in series. The polycrystalline cells of dimension 156x156 mm, are encapsulated under vacuum at a temperature of circa 150 C° between two layers of EVA (ethylene vinyl acetate) a highly transparent tempered glass and an insulating back sheet with UV protection. The **ESM230P** modules are framed with a robust, non corroding anodized aluminum frame with holes both for anchorage and humidity drainage. **ECOPROGETTI's** production process, developed with more than 15 years of continuous innovation and research, guarantees a maximum protection to the photovoltaic cells, even when subjected to tough working and climatic conditions. Thanks to the high reliability and excellent performance, the **ESM230P** modules are suitable both to be connected with the grid and for standalone systems. The modules are equipped with 100 cm long H&S quick coupling cables. Available also in BIPV version without frame or like glass-glass for greenhouses or architectural sheds.

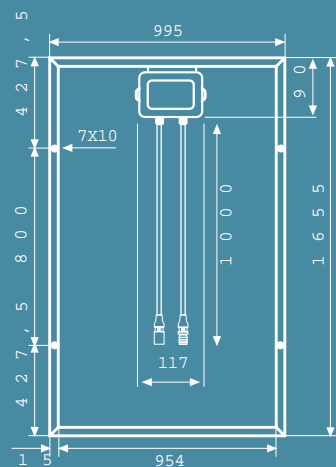
ESM 230P



The monocrystalline photovoltaic module series **ESM250M** cover a wide range of modules between 115 to 310 W with 36 to 72 cells connected in series. The monocrystalline cells of dimension 156x156 mm, are encapsulated under vacuum at a temperature of circa 150 C° between two layers of EVA (ethylene vinyl acetate) a highly transparent tempered glass and an insulating back sheet with UV protection. The **ESM250M** modules are framed with a robust, non corroding anodized aluminum frame with holes both for anchorage and humidity drainage. **ECOPROGETTI's** production process, developed with more than 15 years of continuous innovation and research, guarantees a maximum protection to the photovoltaic cells, even when subjected to tough working and climatic conditions. Thanks to the high reliability and excellent performance, the **ESM250M** modules are suitable both to be connected with the grid and for standalone systems. The modules are equipped with 100 cm long H&S quick coupling cables. Available also in BIPV version without frame or like glass-glass for greenhouses or architectural sheds.

ESM 250M

DIMENSIONS



CHARACTERISTICS

Module type	Glass - back sheet	Cell dimension	156 x 156 mm
Module dimension (± 2mm)	1655 x 995 x 34 mm	Cells number	60
Module surface	1,647 m ²	Thickness of glass	3,2 - 4 mm tempered
Cell type	Polycrystalline	Weight	18 kg - 20 kg

ELECTRICAL CHARACTERISTICS*

Ambra 230P	240P	245P	250P
Pmax (W)	245	245	250
Voc (V)	37.5	37.8	38.09
Isc (A)	8.85	8.95	9.06
Vmp (V)	29.2	29.5	29.73
Imp (A)	8.21	8.30	8.41

* STC (Standard test conditions): 1000W/m²; 25°C; AM1.5
Tolerance in the electrical parameters: +/- 3%

PARAMETER

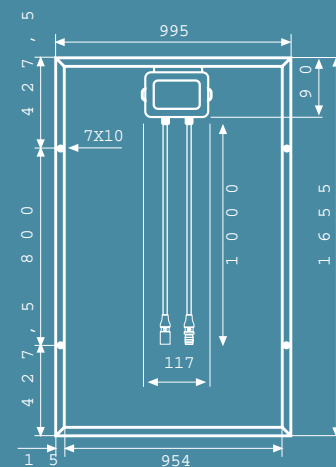
Tolerance in Pmax value	-0 /+ 3%	(W)
Temperature coefficient of Isc	4.71	(mA/K)
Temperature coefficient of Voc	-121.2	(mV/K)
Temperature coefficient of Pmax	-0.41	(%/K)
NOCT	43.7	(°C)
Max system voltage	1000	(V)
Maximum frontal load	5400	(Pa)
Maximum rear load	2400	(Pa)
Operational temperature range	da -40 a +86	(°C)
Hail resistance	25 mm a 23 m/s	

WARRANTY

Guaranteed output of 80 % for 25 years - 10 years of product warranty (See the general sales and warranty conditions)

The technical data contained in this brochure are to be considered indicative and not binding. **ECOPROGETTI** s.r.l reserves the right to make modifications at any time.

DIMENSIONS



CHARACTERISTICS

Module type	Glass - back sheet	Cell dimension	156 x 156 mm
Module dimension (± 2mm)	1655 x 995 x 34 mm	Cells number	60
Module surface	1,647 m ²	Thickness of glass	3,2 - 4 mm tempered
Cell type	Monocrystalline	weight	18 kg - 20 kg

ELECTRICAL CHARACTERISTICS*

Ambra 250M	250M	255M	260M	265M	270M
Pmax (W)	250	255	260	265	270
Voc (V)	37.88	38.16	38.16	38.34	38.46
Isc (A)	8.80	8.91	9.03	9.16	9.25
Vmp (V)	30.37	30.60	30.67	30.81	31.12
Imp (A)	8.23	8.333	8.477	8.600	8.675

* STC (Standard test conditions): 1000W/m²; 25°C; AM1.5
Tolerance in the electrical parameters: +/- 3%

PARAMETER

Tolerance in Pmax value	-0 /+ 3%	(W)
Temperature coefficient of Isc	4.40	(mA/K)
Temperature coefficient of Voc	-129.0	(mV/K)
Temperature coefficient of Pmax	-0.43	(%/K)
NOCT	44.3	(°C)
Max system voltage	1000	(V)
Maximum frontal load	5400	(Pa)
Maximum rear load	2400	(Pa)
Operational temperature range	da -40 a +86	(°C)
Hail resistance	25 mm a 23 m/s	

WARRANTY

Guaranteed output of 80 % for 25 years - 10 years of product warranty (See the general sales and warranty conditions)

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