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PVT 300 Thermal PV Module

MAIN CHARACTERISTICS

Hybrid Thermo-Photovoltaic Module for the production of electrical energy, domestic hot water and for heating.

WARRANTY

92 % of the power supplied by the PV module at 10th year

85 % of the power supplied by the PV module at 25th year

5-year product warranty against manufacturing defect on the hydraulic part

10-year product warranty against manufacturing defect on the electrical part

CONSTRUCTION PROPERTIES

Module size: 1649x 991x 40 mm

Cells type: 60 monocrystalline silicon cells with high efficiency

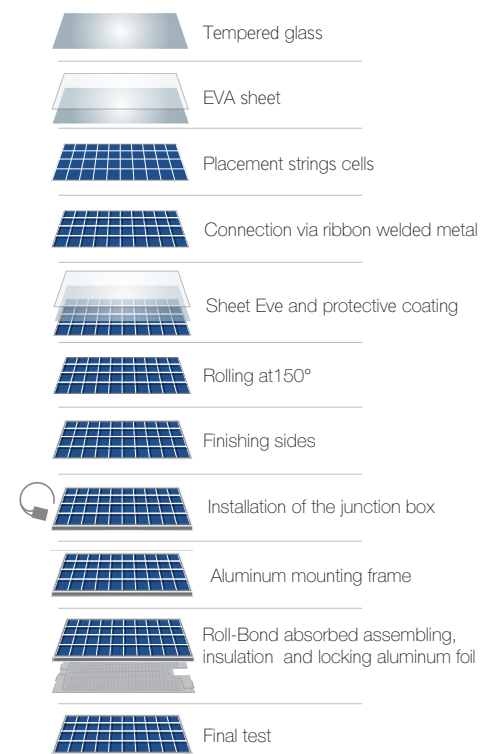
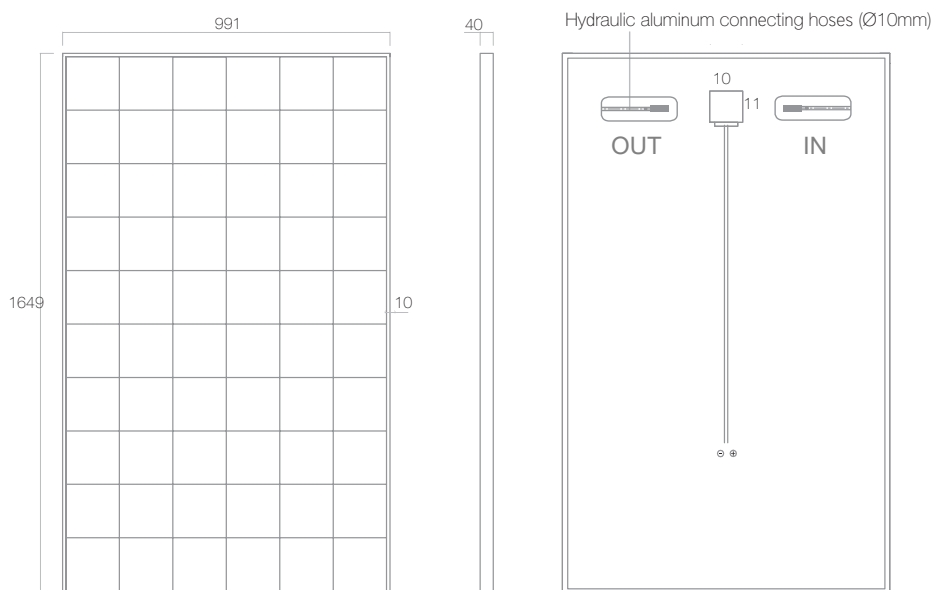
Cell size: 156x156 mm

Glass: Tempered glass, thickness 3.2 mm

CERTIFICATIONS

Certified modules: CEI-IEC 61215:2005

Certified modules: CEI-EN 61730:2007



HEAT TRANSFER FLUID

Water-polypropylene glycol mixture with corrosion inhibitors Clariant Antifrogen L.

PVT 300

Thermal PV Module



ELECTRICAL CHARACTERISTICS (STC)

	M.U.	DATA
Maximum power output (P _{max})	W _p	300
Power Tolerance	(%)	-/+3
Voltage at maximum power (V _{mpp})	V	31,6
Current at maximum power (I _{mpp})	A	9,5
Open-circuit voltage (V _{oc})	V	40,4
short circuit current (I _{sc})	A	9,9
Maximum Allowable Voltage (V _{dc})	V	1000
Panel efficiency	%	18,4

Performance at STC: Irradiance 1000 W/m², module temperature 25°C , AM 1.5

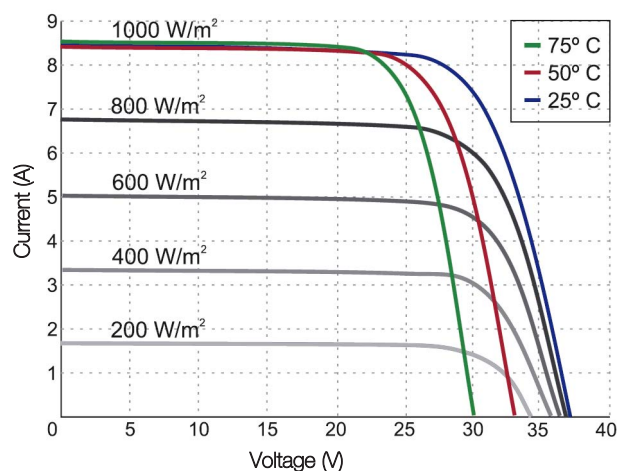
FUNCTIONAL THERMAL PARAMETERS

	M.U.	DATA
Temperature Coefficient of V _{oc} (β)	% / °C	-0.30
Temperature Coefficient of I _{sc} (α)	% / °C	+0.046
Temperature Coefficient of P _{max}	% / °C	-0.39
Nominal Operating Cell Temperature (NOCT)	°C	44

ELECTRICAL CHARACTERISTICS (NOCT)

	M.U.	DATA
Maximum power output (P _{max})	W _p	222
Voltage at maximum power (V _{mpp})	V	28,8
Current at maximum power (I _{mpp})	A	7,96
Open-circuit voltage (V _{oc})	V	36,9
short circuit current (I _{sc})	A	8,01

Performance at NOCT: Irradiance 800 W/m², ambient temperature 20°C , wind speed 1m/s



FUNCTIONAL THERMAL PARAMETERS

	M.U.	DATA
Instantaneous absorber efficiency η_0		0,53
Linear coefficient of thermal dispersion a_1	W/(m ² °K)	9,5
Temperature coefficient a_2	W/(m ² °K ²)	0,012
Thermal peak power	W	900
Pressure drop	mbar	100
Maximum operating temperature	°C	85
Minimum unit capacity	bar	4
Maximum working pressure	lt/h	100
Weight of empty collector	Kg	28
Volume of fluid in the collector	lt	0,65
Gross area	m ²	1,63
Aperture area	m ²	1,57
Absorber area	m ²	1,48
Connecting tubes diameter	mm	10 x 1,5
Heat transfer fluid*	water-propylene glycol mixture with corrosion inhibitors	
Insulation thickness	mm	30
Aluminum foil thickness	mm	0,4
Standards UNI EN 12975 - CEI EN 61215 - CEI EN 61730		