

Datasheet

solator® PV + THERM ONROOF

Description:

solator® Onroof - module
to generate electricity and warm water

Code:

PV THERMAUF190

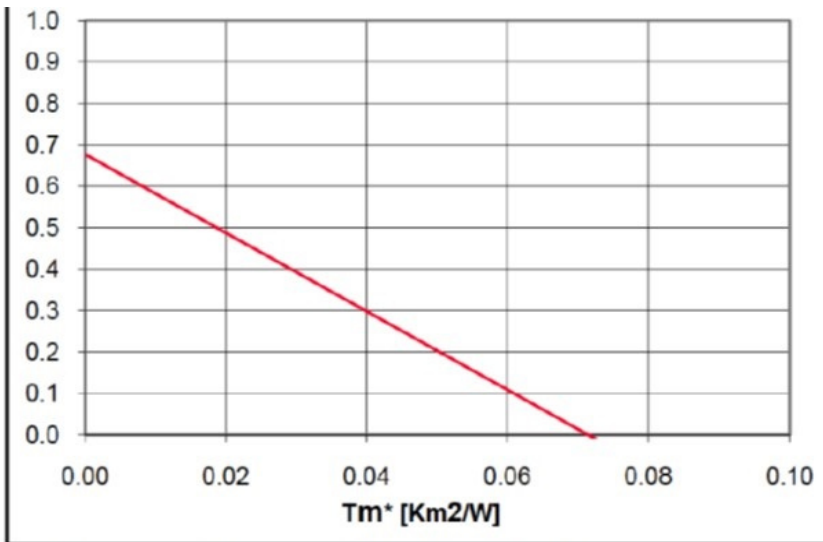
PV THERMAUF250



Technical Data	PV THERMAUF190	PV THERMAUF250
Dimension:	1580 x 808 x 40 mm	1655 x 992 x 45 mm
Weight:	22 kg	28 kg
PV-Cells:	72 pcs. 125mm x 125mm , monocrystalline	60 pcs. 156mm x 156 mm, monocrystalline
Operation Temperature:	-40 °C to +85 °C	-40 °C to +85 °C
Special dimension:	On Request	On Request
Colour (laminate, frame):	black	black
Cable type, diameter, length:	4 mm ² , TÜV certified, 1000 mm	4 mm ² , TÜV certified, 1000 mm
Connector type:	RADOX® SOLAR, Type 4	RADOX® SOLAR, Type 4
Junction box:	IP 65 RADOX® SOLAR - 3 bypass diodes	IP 65 RADOX® SOLAR - 3 bypass diodes
Glass:	4 mm tempered solar glass ESG	3,2 mm tempered solar glass ESG
Certified pressure load:	5400 N/m ²	5400 N/m ²
Certified suction load:	2400 N/m ²	2400 N/m ²
Electrical Data	PV THERMAUF190	PV THERMAUF250
Power Output:	190 Wp + 3 %	250 Wp + 3 %
Module efficiency:	14,9 %	15,2 %
Cell efficiency:	18,1 %	18,00 %
Max. Power Voltage Vm(W):	36,5 V	30,30 V
Max. Power Current Im(A):	5,2 A	8,25 A
Open circuit voltage Voc:	45,2 V	37,9 V
Short circuit current Isc:	5,6 A	8,75 A
Max. system voltage:	DC 1000 V	DC 1000 V
Temperatur Koeff.:	Isc 0,0981 %/K Voc -0,5186 %/K Pmax -0,46 %/K	Isc 0,0499 %/K Voc -0,3336 %/K Pmax -0,4454 %/K

Thermal Data	PV THERMAUF190	PV THERMAUF250
Absorber area:	1,1 m ²	1,55 m ²
Fluid capacity (collector):	0,6 l	1,25 l
Flow rate:	90 - 200 l / h	90 - 200 l / h
Hydraulic Connection:	copper tube Ø = 12 mm, length 25 mm	copper tube Ø = 12 mm, length 25 mm
Recommended operating fluid:	Water / Glykol mixture	Water / Glykol mixture
Pressure drop Δ p:	17 mbar at 2 l / min	18 mbar at 2 l / min
Operating pressure:	3 bar	3 bar
Max. Operating pressure:	6 bar	6 bar

Thermal performance per m² absorber area approx.:



$$\eta(T^*_m) = \eta_0 - a_1 \cdot T^*_m - a_2 \cdot G \cdot T^*_m{}^2 \quad [T^*_m = (t_m - t_a)/G]$$

Technical indicators:

η₀ (-) 0.677

a₁ (W/m²K²) 9.467

a₂ (W/m²K²) --

Efficiency at:

η̇ (T_m = 0,00) 0,677

η̇ (T_m = 0,03) 0,393

η̇ (T_m = 0,06) 0,109

Output per m² absorber area: G=1000 Wm⁻²

t_m = t_a (peak power) 786

t_m - t_a = 10 K 676

t_m - t_a = 30 K 456

t_m - t_a = 50 K 236



CE / complies with IEC 61215 / IEC 61730 / protection class 2

Specifications subject to modification without previous notification!

Product guarantee: PV-module: 12 years

Performance guarantee: 10 years at 90 % of the power output
25 years at 80 % of the power output