



PVsyst V7.2.4

PV module - AIKO-A455-MAH54Db

Manufacturer	Aiko Solar	Commercial data	
Model	AIKO-A455-MAH54Db	Availability :	Prod. Since 2024
		Data source :	TÜV SÜD
Pnom STC power (manufacturer)	455 W _p	Technology	Si-mono
Module size (W x L)	1.134 x 1.757 m ²	Rough module area (A _{module})	1.99 m ²
Number of cells	2 x 54	Sensitive area (cells) (A _{cells})	1.85 m ²

Specifications for the model (manufacturer or measurement data)

Reference temperature (T _{Ref})	25 °C	Reference irradiance (G _{Ref})	1000 W/m ²
Open circuit voltage (V _{oc})	40.9 V	Short-circuit current (I _{sc})	14.15 A
Max. power point voltage (V _{mpp})	33.9 V	Max. power point current (I _{mpp})	13.43 A
=> maximum power (P _{mpp})	455.3 W	Isc temperature coefficient (μI _{sc})	7.6 mA/°C

One-diode model parameters

Shunt resistance (R _{shunt})	280 Ω	Diode saturation current (I _{oRef})	0.021 nA
Serie resistance (R _{serie})	0.17 Ω	Voc temp. coefficient (μV _{oc})	-92 mV/°C
Specified P _{max} temper. coeff. (μP _{MaxR})	-0.27 %/°C	Diode quality factor (Gamma)	1.08
		Diode factor temper. coeff. (μGamma)	0.000 1/°C

Reverse Bias Parameters, for use in behaviour of PV arrays under partial shadings or mismatch

Reverse characteristics (dark) (B _{Rev})	3.20 mA/V ²	(quadratic factor (per cell))	
Number of by-pass diodes per module	3	Direct voltage of by-pass diodes	-0.7 V

Model results for standard conditions (STC: T=25 ° C, G=1000 W/m² , AM=1.5)

Max. power point voltage (V _{mpp})	33.9 V	Max. power point current (I _{mpp})	13.50 A
Maximum power (P _{mpp})	455.3 W _p	Power temper. coefficient (μP _{mpp})	-0.26 %/°C
Efficiency(/ Module area) (Eff _{mod})	22.9 %	Fill factor (FF)	0.786
Efficiency(/ Cells area) (Eff _{cells})	24.7 %		

