TUV SUD Certification and Testing Co., Ltd Shanghai Branch (China)

PVsyst V8.0.16

PV module - TWMNH-66HD635

Manufacturer	Tongwei Co., Ltd.	**Commercial data**	
Model	TWMNH-66HD635	Data source :	TUV SUD
Pnom STC power (manufacturer)	635 Wp	Technology	Si-mono
Module size (W x L)	1.134 x 2.382 m²	Rough module area (Amodule)	2.70 m²
Number of cells	2 x 66		

Specifications for the model (manufacturer or measurement data)

Reference temperature (TRef)	25 ℃	Reference irradiance (GRef)	1000 W/m²
Open circuit voltage (Voc)	49.6 V	Short-circuit current (Isc)	16.26 A
Max. power point voltage (Vmpp)	41.2 V	Max. power point current (Impp)	15.40 A
=> maximum power (Pmpp)	635.1 W	Isc temperature coefficient (muIsc)	7.4 mA/℃

One-diode model parameters

Shunt resistance (Rshunt)	250 Ω	Diode saturation current (IoRef)	0.029 nA
Serie resistance (Rserie)	0.17 Ω	Voc temp. coefficient (MuVoc)	-115 mV/℃
Specified Pmax temper. coeff. (muPMaxR)	-0.28 %/℃	Diode quality factor (Gamma)	1.08
		Diode factor temper. coeff. (muGamma)	0.000 1/℃

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

Reverse characteristics (dark) (BRev)	3.20 mA/V²	(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 ℃, G=1000 W/m², AM=1.5)

Max. power point voltage (Vmpp)	41.2 V	Max. power point current (Impp)	15.48 A
Maximum power (Pmpp)	635.8 Wp	Power temper. coefficient (muPmpp)	-0.28 %/℃
Efficiency(/ Module area) (Eff_mod)	23.5 %	Fill factor (FF)	0.788

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