A close run between six modules

TWMNF-66HD730 delivers 33,615 kWh over 30 years at 0.30 c/kWh, which makes its energy 15% cheaper per kilowatt-hour than the dearest module in this report. It is not the cheapest sticker price in the set - €87.19 is - and it still wins.

BEST LONG-TERM CHOICE

TW SOLAR **TWMNF-66HD730** 730 Wp

- **Most energy produced.** 33,615 kWh over 30 years, 538 kWh ahead of the next module.
- **Runs cooler under load.** -0.28 %/°C against -0.29 %/°C, worth 0.2 points of output at 47 °C.

84 OF 100

COST PER KWH
0.30 c/kWh

RANKING LEADER	HIGHEST 30-YEAR YIELD	LOWEST COST PER KWH	MODULES COMPARED
TWMNF-66HD730 Score 84 of 100	33,615 kWh 5,821 kWh above the lowest module	0.30 c/kWh 16% cheaper than the dearest	6 Prices entered by the requester

ASSUMPTIONS Cell temperature **47 °C** Installation **Ground mount** Baseline yield **1,750 kWh/kWp** Horizon **30 years** Currency **EUR**

01 · SIDE BY SIDE

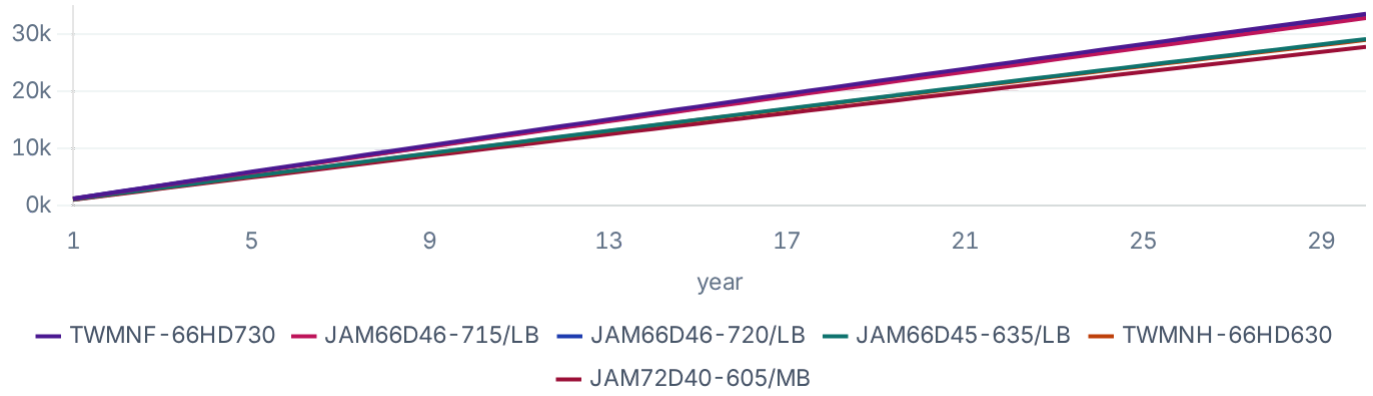
#	MANUFACTURER / MODEL	POWER	PRICE	YEAR 1	30-YEAR	PER KWH (C)	SCORE
1	TW SOLAR TWMNF-66HD730	730 Wp	€102	1,187	33,615	0.30	84
2	JA SOLAR JAM66D46-715/LB	715 Wp	€100	1,160	32,847	0.30	78
3	JA SOLAR JAM66D46-720/LB	720 Wp	€112	1,168	33,076	0.34	60
4	JA SOLAR JAM66D45-635/LB	635 Wp	€88	1,030	29,171	0.30	55
5	TW SOLAR TWMNH-66HD630	630 Wp	€87.19	1,024	29,010	0.30	54
6	JA SOLAR JAM72D40-605/MB	605 Wp	€99.11	981	27,793	0.36	16

better worse — Colours and scores are relative to the 6 modules in this report only.

02 · WHERE THE DIFFERENCE COMES FROM

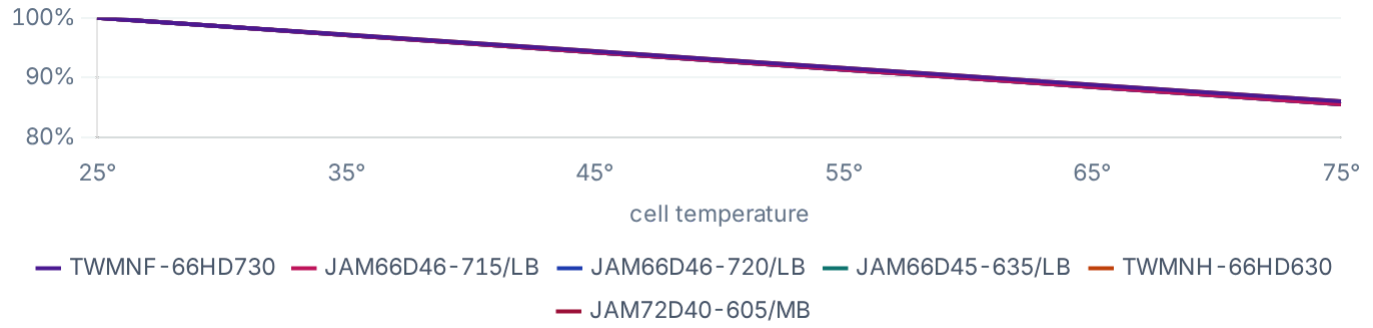
Cumulative energy over 30 years

Kilowatt-hours added up year by year. The gap widens with every year - by year 30 it is 5,821 kWh between the highest and lowest module.



Output retained as the cell heats up

A module is rated at 25 °C; a working roof sits well above it. At 47 °C the -0.28 %/°C module still delivers 93.8% of nameplate, the -0.29 %/°C module 93.6%.



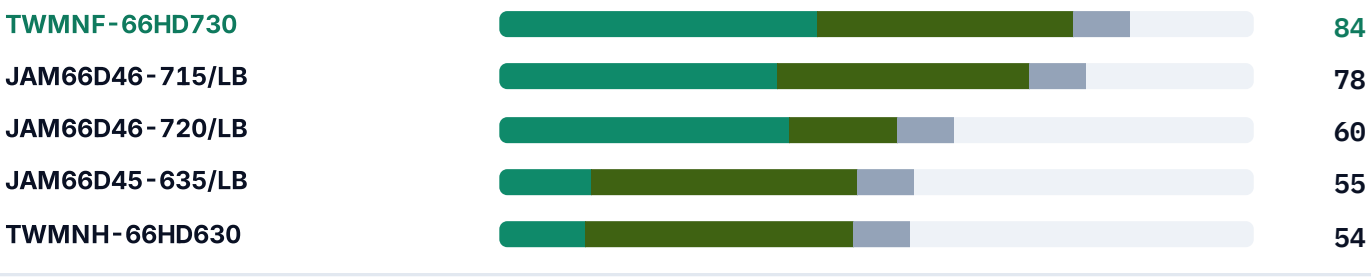
03 · MILESTONES

Cumulative kWh per module

MODULE	Y5	Y10	Y15	Y20	Y25	Y30
TWMNF-66HD730	5,887	11,657	17,312	22,856	28,289	33,615
JAM66D46-715/LB	5,752	11,391	16,917	22,334	27,643	32,847
JAM66D46-720/LB	5,793	11,470	17,035	22,490	27,836	33,076
JAM66D45-635/LB	5,109	10,116	15,024	19,835	24,550	29,171
TWMNH-66HD630	5,080	10,060	14,941	19,725	24,414	29,010
Difference, best to worst	+1,019	+2,019	+2,998	+3,958	+4,899	+5,821

Ranks 1 to 5 shown. The remaining 1 module(s) are in the table on page 1.

04 · WHAT DRIVES EACH SCORE



Ranks 1 to 5 shown. The remaining 1 module(s) are scored in the table above.

30-year yield · 45% Cost per kWh · 40% Warranty · 15%

05 · HOW EACH FIGURE IS BUILT

1 Annual yield

Panel watts times the installation baseline of 1,750 kWh/kWp, times a temperature factor from the module's own coefficient at 47 °C, times whatever degradation has left that year.

2 Degradation

Each module ages at its own datasheet rate - TWMNF-66HD730 loses 1% in year one, then 0.4% a year. Where a manufacturer publishes no curve, the 2% / 0.55% convention is used.

3 Cost per kWh

Offer price divided by the thirty annual yields added together. The only figure that lets a dearer module win, and often it does.

4 Score

A 0-100 composite: lifetime energy 45%, cost per kWh 40%, warranty 15%, each normalised across this report's modules. A dimension they all tie on splits evenly.

⚠ What this report does not model

Energy price inflation, inverter and installation cost, local irradiance, weather, shading, or a degradation curve worse than the datasheet promises. Prices were entered by whoever requested this report, not quoted or verified by ComparePV. This compares modules against each other, not a full system business case.

06 · TERMS USED IN THIS REPORT

Cost per kWh (LCOE)
Offer price divided by lifetime yield. What one kilowatt-hour from this module actually costs. Lower is better.

Baseline yield
Energy one kWp produces per year. Set by installation type: ground mount around 1,100, pitched equator-facing 1,050, east-west 950.

Tc Pmax
Temperature coefficient of maximum power, %/°C. How much output drops per degree above 25 °C. Smaller is better in heat.

Score
Relative ranking of this offer within this set only. The same module at the same price scores differently against different competition.

The live version stays online

Change the temperature, the installation type or the prices and the comparison recomputes. Anonymous and shareable.

comparepv.com/panel-report/9a46e29d-4b88-4ce3-9c5d-f6f75f3afc4a