

# NIPRO Dual

## TD6D60M - 290 / 295 / 300 / 305 / 310W

High Efficiency Bifacial Dual Glass  
Monocrystalline Solar Module  
60-Cell Series



### KEY FEATURES



#### Additional Power Generation Gain

30-year linear performance warranty,  
more than 30% additional power gain



#### ZERO PID (Potential Induced Degradation)

Bifacial double glass design, PID free



#### ZERO LID (Light Induced Degradation)

No LID, more power generation



#### Excellent low light performance

Excellent low light performance on cloudy days,  
mornings and evenings



#### Wider application

No water-permeability and high wear-resistance,  
can be widely used in high-humid, windy and dusty area



#### IP67 junction box

High waterproof level



#### Higher Security

Higher fire safety class to minimize fire risks

### ABOUT TALESUN SOLAR

TALESUN Solar is one of the world's largest integrated clean energy providers with 4 GW cell and 5 GW module production capacity globally. Its standard and high-efficiency product offerings are among the most powerful and cost-effective in the industry. Talesun Solar is committed to provide customers with customized; systematized and trustworthy turnkey solutions. Till now, Talesun Solar has accumulatively shipped more than 10 GW modules globally.

### SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 1703
- ISO 9001 : 2008 Quality Management System
- ISO 14001 : 2004 Environment Mangement System
- OHSAS 18001 : 2007 Occupational Health and Safety Management System



### QUALITY WARRANTY

TALESUN guarantees that defects will not appear in materials and workmanship defined by IEC61215, IEC61730 or UL1703 under normal installation, use and maintenance as specified in Talesun's installation manual for 10 years from the warranty starting date.

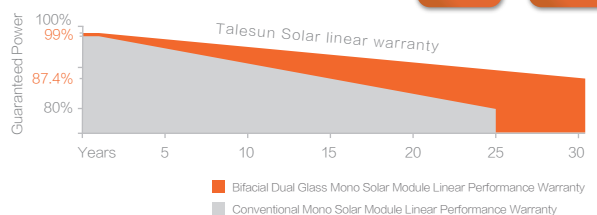


### PERFORMANCE WARRANTY

Bifacial Dual Glass  
Monocrystalline Solar Module

10 years  
Quality assurance

30 years  
Power output guarantee



TALESUN



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## ELECTRICAL PARAMETERS

### Performance at STC (Power Tolerance 0 – +3%)

Maximum Power ( P <sub>max</sub> /W )	290	295	300	305	310
Operating Voltage ( V <sub>mpp</sub> /V )	31.9	32.1	32.3	32.5	32.7
Operating Current ( I <sub>mpp</sub> /A )	9.10	9.20	9.29	9.39	9.49
Open-Circuit Voltage ( V <sub>oc</sub> /V )	38.8	39.0	39.2	39.4	39.6
Short-Circuit Current ( I <sub>sc</sub> /A )	9.66	9.74	9.82	9.90	9.98
Module Efficiency η <sub>m</sub> ( % )	17.63	17.94	18.24	18.54	18.85

### Performance at NOCT

Maximum Power ( P <sub>max</sub> /W )	213	217	221	224	228
Operating Voltage ( V <sub>mpp</sub> /V )	29.3	29.5	29.7	29.8	30.0
Operating Current ( I <sub>mpp</sub> /A )	7.28	7.36	7.43	7.51	7.59
Open-Circuit Voltage ( V <sub>oc</sub> /V )	35.9	36.1	36.3	36.4	36.6
Short-Circuit Current ( I <sub>sc</sub> /A )	7.79	7.85	7.91	7.98	8.04

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25° C, Air Mass AM1.5 NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20° C, Wind Speed 1m/s

## MECHANICAL SPECIFICATION

Cell Type	N-type Bifacial Mono
Cell Dimensions	156.75*156.75mm(6inch)
Cell Arrangement	60(6*10)
Weight	22.5kg(49.6lbs)
Module Dimensions	1658*992*6mm(65.28*39.06*0.24inch)
Cable Length	300mm(11.81inch)
Cable Cross Section Size	4mm <sup>2</sup> (0.006sq.in)
Front Glass	2.5mm High Transmission, Tempered Glass
No.of Bypass Diodes	3/6
Packing Configuration (1)	33pcs/Pallet,858pcs/40hq
Frame	Frameless
Junction Box	IP67

## OPERATING CONDITIONS

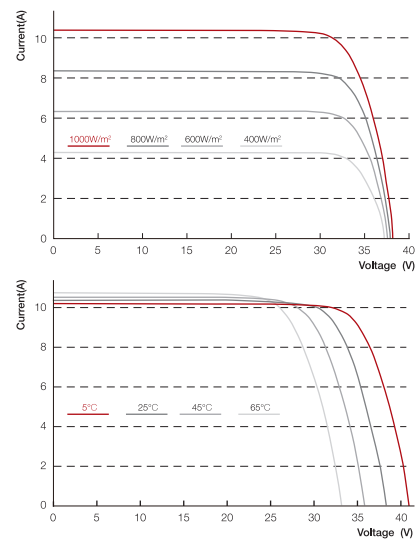
Maximum System Voltage	1000V/DC(IEC)/1500V/DC(IEC)
Operating Temp	-40°C – +85°C
Maximum Series Fuse	15A
Static Loading	5400Pa
Conductivity at Ground	≤ 0.1 Ω
Safety Class	II
Resistance	≥ 100MΩ
Connector	MC4 Compatible
Backside Output Ratio*	>85%

\*Under STC: Backside Output Ratio = P<sub>max</sub>(rear) / P<sub>max</sub>(front)

## TEMPERATURE COEFFICIENT

Temperature Coefficient P <sub>max</sub>	-0.38%/°C
Temperature Coefficient V <sub>oc</sub>	-0.30%/°C
Temperature Coefficient I <sub>sc</sub>	+0.048%/°C
NOCT	42 ± 2°C

## I-V CURVE



## TECHNICAL DRAWINGS

