

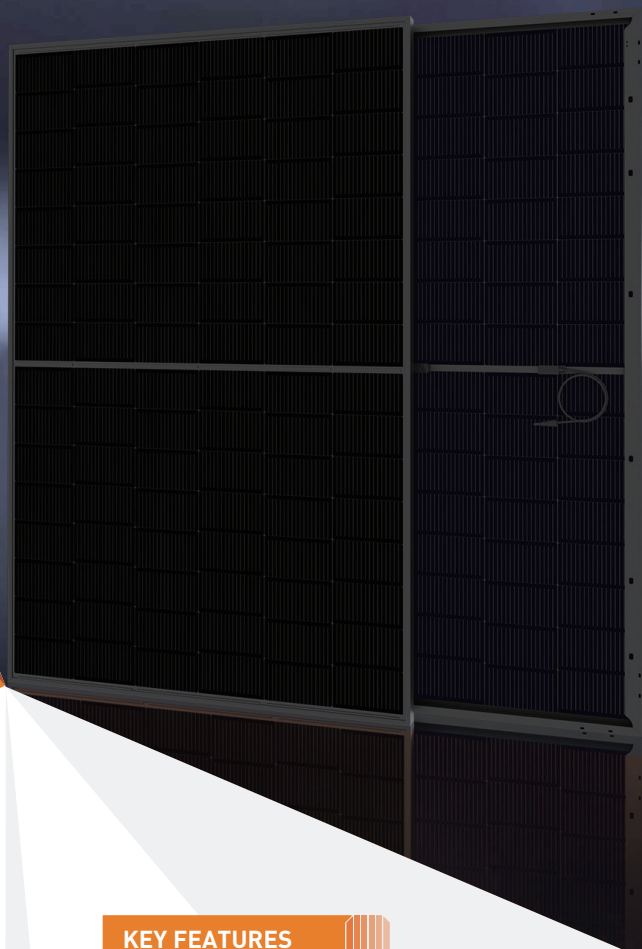
TALESUN

# BIPRO

TM3G48M **96-cell**

430 - 450W

16BB Half-cut N-type  
Full Black

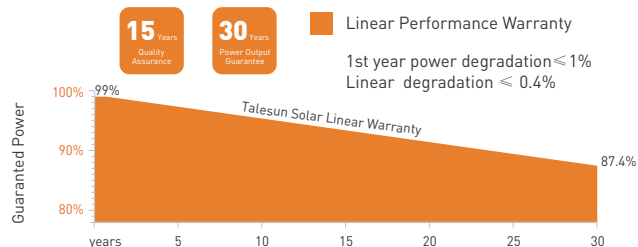


## SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 61730
- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 45001: 2018 Occupational Health and Safety Management Systems



## PERFORMANCE WARRANTY



## KEY FEATURES



### 16BB Half-cut Cell Technology

Lower LID degradation and better low light performance



### Industry Leading High Yield

Bifacial TOPCon cell technology, Dual-sided power generation gain from back side depending on albedo, significantly reduce LCOE



### Wider Application

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



### IP68 Junction Box

High waterproof level

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\* GL-EN-Version 2025.04.15

Suzhou Talesun Solar Technologies Co.,Ltd.

**TM3G48M - XXX (XXX represents Pmax at STC)**  
**ELECTRICAL CHARACTERISTICS**

Testing Condition	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI	STC	BNPI
Maximum Power (Pmax/W)	430	473	435	479	440	484	445	490	450	495
Operating Voltage (Vmpp/V)	28.92	28.92	29.22	29.22	29.52	29.52	29.79	29.79	30.09	30.09
Operating Current (Impp/A)	14.87	16.36	14.89	16.38	14.91	16.40	14.94	16.43	14.96	16.46
Open-Circuit Voltage (Voc/V)	34.76	34.90	34.98	35.12	35.20	35.34	35.42	35.56	35.64	35.78
Short-Circuit Current (Isc/A)	15.72	17.29	15.76	17.34	15.80	17.38	15.83	17.41	15.86	17.45
Module Efficiency [%]	21.50		21.80		22.00		22.30		22.50	

STC: Irradiance 1000W/m<sup>2</sup>, Spectra at AM1.5, Module Temperature 25°C. Power output tolerance: 0~+5W, Test uncertainty for Pmax/Voc/Isc: ±3%±5%±5%  
 BNPI: Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

**REAR SIDE POWER GAIN(REFERENCE TO 445W FRONT)**

Pmax gain	5%	10%	15%	20%	25%
Pmax/W	467	490	512	534	556
Vmpp/V	33.07	33.07	33.07	33.07	33.07
Impp/A	14.51	15.20	15.89	16.58	17.28
Voc/V	39.45	39.45	39.45	39.45	39.45
Isc/A	14.13	14.81	15.48	16.15	16.83

**MECHANICAL CHARACTERISTICS**

Cell Type	N-type Mono-Crystallin (16Busbar)
No. of Cells	96pcs in series (6*16)
Module Dimensions	1762*1134*30mm (69.37*44.65*1.18inches)
Weight	24.7kg (54.45lbs.)
Front Glass	2.0mm AR Coating Semi-tempered Glass
Back Glass	2.0mm Glazed Semi-tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 Bypass Diodes
Output Cables	4mm <sup>2</sup> (IEC), 12AWG(UL) 350mm(+),250mm(-) or Customized Length
Connectors	TALESUN(T01) Staubli(PV-KST4-EVO2A/XY,PV-KBT4-EVO2A/XY)

**APPLICATION CONDITIONS**

Maximun System Voltage	1500V DC
Operating Temperature	-40°C~+85°C
Maximun Series Fuse	35A
Safety Protection Class	Class II
Test Mechanical load*	Front side +5400Pa, Back side -2400Pa
Refer. Bifaciality Factor	φVoc:98±5%,φIsc: 80±5%,φPmax: 80±5%
Fire Rating	Class C
[T98]max	70°C

\*Refer to the installation manual for details

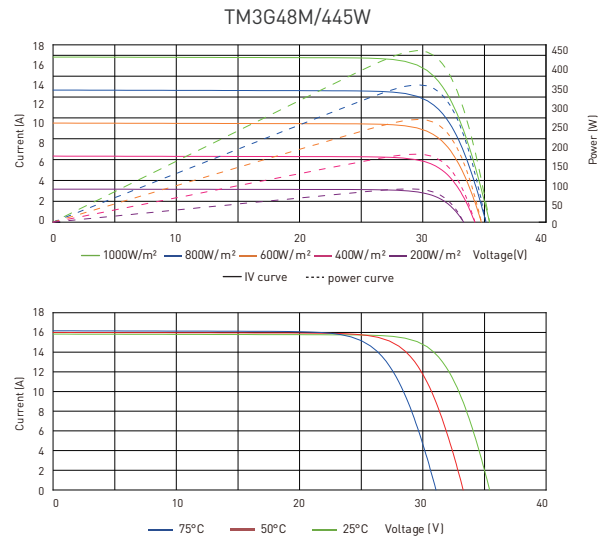
**TEMPERATURE CHARACTERISTICS**

Temperature Coefficient of Pmax	-0.29%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	+0.043%/°C
Nominal Module Operating Temperature(NMOT)	43±2°C

**PACKING CONFIGURATION**

Pieces Per Pallet	36
Pieces Per Container(40'HQ)	936

**Electrical Performance**



**TECHNICAL DRAWINGS**

