

# TP330 black series

## 72-cell mono-crystalline solar photovoltaic modules



Manufactured in India on leading edge module production line using world class processes



Reliability under extreme weather conditions, certified to withstand snow loads of up to 5,400 Pa



Peace of mind guaranteed by Tata Power Solar 25 year linear module warranty



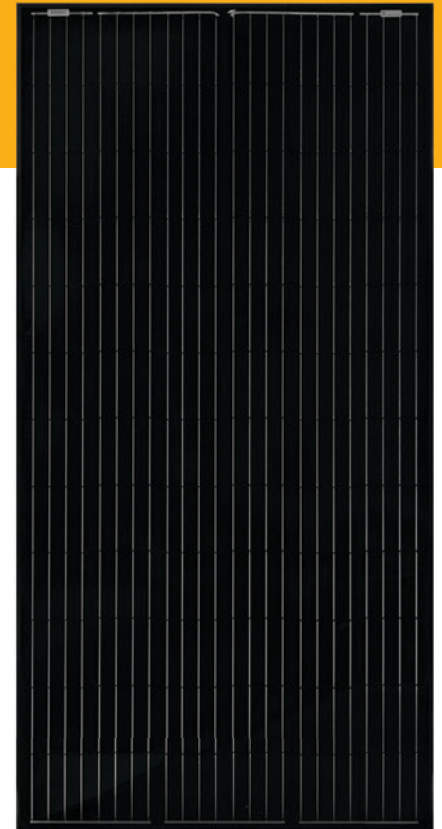
Reduced risk of failure – warranty claims of less than 0.07% over two decades



Greater energy generated due to positive power tolerance of up to 5W



TUV and UL certified Potential Induced Degradation free modules\*



### PRODUCT FEATURES

- 72 cell configuration with wattage ranging from 325 to 335 watts
- High fill factor for improved energy conversion efficiency
- Cells sorted by power and current to minimize mismatch losses in the field
- Electroluminescence tested for micro-cracks
- Highly reliable IP67 rated junction box
- MC4/MC4 compatible cable connectors
- Torsion and corrosion resistant with anodized aluminium frame
- Unique back sheet design for high resistance to moisture ingress
- Enhanced reliability through use of distinctive encapsulant and back sheet
- Ultra-soft interconnect with stress relief for enhanced reliability
- Optimized edge clearance for high quality rugged design

### CERTIFICATIONS



Certified to IEC 61730, IEC 61215, IEC 61701, IEC62716, UL 1703 and REACH standards



### About Tata Power Solar

Tier 1\*\* bankable module manufacturer\*\*\* with 27 year history

Backed by \$100Bn Tata Group; eliminates need for expensive 3rd party insurance

Over 1 GW of modules shipped globally

Highest standards of quality and management (ISO 9001, 14001 and OHSAS 18001)

### WARRANTY

Product warranty: 10 year warranty on material and workmanship

Power warranty: 25 year linear power output warranty

Warranties are subject to the Terms and Conditions as per the Tata Power Solar Standard Warranty Document. Certifications may vary by module

\* PID free certified modules available on order

\*\* Rated tier-1 bankable by BNEF (Bloomberg New Energy Fund)

\*\*\* Bankability verified by third party auditors like Black & Veatch and BNEF

TP330 triple-black series TP330

Electrical parameters at standard test conditions (STC)\*

Nominal power output (W)	330
Power tolerance (W)	0 ~ +5
Module efficiency ( $\eta\%$ )	17.0
Voltage at P <sub>MAX</sub> V <sub>MPP</sub> (V)	38.3
Current at P <sub>MAX</sub> I <sub>MPP</sub> (A)	8.80
Open-circuit voltage Voc (V)	47.1
Short-circuit current I <sub>sc</sub> (A)	9.69

Operating conditions

Maximum system voltage (UL & IEC) (V)	1000 & 1000
Maximum series fuse rating (A)	20
Limiting reverse current (A)	20
Operating temperature range (°C)	-40 and +85
Maximum static load (snow or wind)	113 psf (5400 Pa)

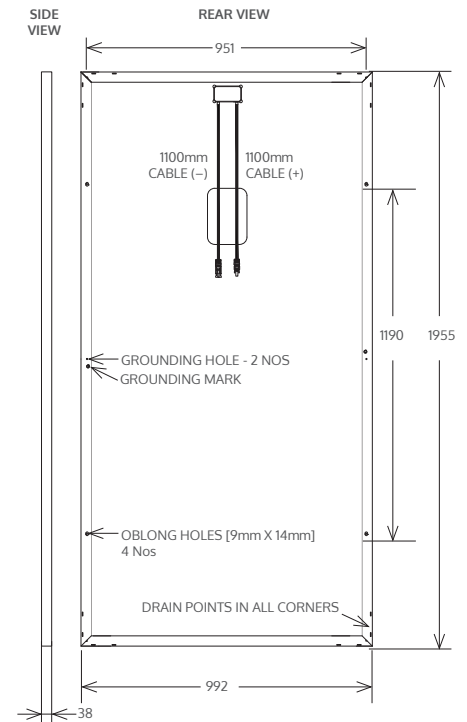
Module general characteristics

Module dimensions L x W x H (mm)**	*1955 x 992 x 38
Module weight (approx) (kg [lbs])	24 [52.91]
Number of cells & size	72 cells & 156mm/156.75mm
Frame material	Anodized aluminium T6-6063 alloy
Glass	3.2mm ARC
Junction box	IP67 rated, IEC 1000V + UL 1000V
Cable connector	MC4/MC4 compatible (4mm <sup>2</sup> )

Packaging details

Number of modules per pallet	27
Number of pallets per 40ft container	22
Box weight (kg)	630
Box dimensions L x W x H (mm)****	**2010 x 1170 x 1185

Technical Drawing\*\* Dimensions in mm



\* Irradiance of 1000W/m<sup>2</sup>, spectrum AM of 1.5 and cell temperature of 25°C  
 Best in class AAA solar simulator (IEC 60904-9) used, electrical measurement tolerance ±3%

\*\* Tolerance for dimensions -3/+3mm  
 Tolerance for cable length 0/+50mm

+ Frame type any of lock or screw and width could be 38 or 40 mm

++ Box dimension are subject to change

Listed specifications are subject to change without notice.

Our vision is to be the most admired and responsible solar power company enabling solar everywhere with an international footprint, delivering sustainable value to all stakeholders.



To know more about our range of solar solutions call Toll Free 1800 419 8777 or visit [www.tatapowersolar.com](http://www.tatapowersolar.com)