

# X3

10T~36T

## THREE PHASE INVERTERS



## X3 THREE PHASE INVERTER

SolaX have developed a range of three phase inverters unrivalled in the industry for their quality, reliability and efficiency.

The SolaX three-phase inverters boast a wide MPPT voltage range to allow for more energy harvesting and have a maximum input voltage of 1000V. In addition, all SolaX three-phase inverters are IP65 rated, have an integrated DC switch, WIFI as standard and an OptiCool temperature controlled fan.



X3



X3

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# X3 THREE PHASE

ZDNY-TL10000 ZDNY-TL12000 ZDNY-TL15000 ZDNY-TL17000 ZDNY-TL20000

# X3 THREE PHASE

X3-30T

X3-36T

INPUT (DC)	ZDNY-TL10000 ZDNY-TL12000 ZDNY-TL15000 ZDNY-TL17000 ZDNY-TL20000					X3-30T	X3-36T
Max. recommended DC power [W]	10260	12300	15370	17420	20500	36000	43200
Max. input DC voltage [V]	1000					1000	
Max. input current [A]	A:22/B:11	A:22/B:11	A:22/B:22	A:22/B:22	A:22/B:22	A:34/B:34	
MPPT voltage range [V]	320-800	380-800	350-800	400-800	400-800	480-850	580-850
Start input/output voltage [V]	220/400					300	
Number of MPP tracker/strings per MPP tracker	2/A:3 B:1	2/A:3 B:1	2/A:3 B:3	2/A:3 B:3	2/A:3 B:3	2/A:4 B:4	
OUTPUT (AC)							
AC nominal power [VA]	10000	12000	15000	17000	20000	30000	36000
Max. AC power [VA]	10000	12000	15000	17000	20000	33000	40000
Normal AC voltage; range [V]	50; 44-55 / 60;55-65					3/PE 380, 400;+/-10%; 3/N/PE 380, 400;+/-10%; 3/PE 480;+/-10%; 3/N/PE 480;+/-10%;	
AC grid frequency; range [Hz]	3/N/PE 230/400; 160-280					50;45-55 / 60;55-65	
Max. AC current [A]	16	20	24	25	29	48*3	48*3
Power factor (full load)	0.9 leading ~ 0.9lagging					0.8 leading ~ 0.8 lagging	
Total harmonic distortion(THD) [%]	<3					<2	
POWER CONSUMPTION							
Standby power [W]	<10					<7	
EFFICIENCY							
MPPT efficiency [%]	99.9					99.9	
Euro efficiency [%]	97.6					98.3	
Max. efficiency [%]	98.2					98.6	
SAFETY & PROTECTION							
Over voltage protection	YES					YES	
Over current protection	YES					YES	
DC isolation impedance monitoring	YES(optional)					YES	
Ground fault current monitoring	YES					YES	
DC injection monitoring	YES					YES	
RCD protection	YES					YES	
Safety	IEC62109-1/IEC62109-2/AS3100					IEC62109-1/IEC62109-2/AS3100	
EMC	EN 61000-3-2/EN 61000-3-3/EN 61000-3-11/EN 61000-3-12/EN 61000-6-2/EN 61000-6-3					EN 61000-3-2/EN 61000-3-3/EN 61000-3-11/EN 61000-3-12/EN 61000-6-2/EN 61000-6-3	
Certification	G83;G59;VDE0126;VDE4105;CQC;IEC62172;IEC62116;IEC61683;IEC60068					NB/T 32004-2013/ZVRT/VDE4105/G59/3/AS4777	
ENVIRONMENTAL PARAMETERS							
Protection class	IP55					IP65	
Operating temperature [°C]	-25~+60 (derating at 45)					-20~ +60(derating at 45)	
Humidity [%]	0~95 (non-condensing)					0~95	
Attitude [m]	2000					2000	
Storage temperature [°C]	-20~60					-25~60	
Noise emission [dB]	<50					<50	
DIMENSIONS & WEIGHT							
Dimensions (W*H*D) [mm]	513 x 651.5 x 207					660*610*260	
Weight [Kg]	48	48	50.5	50.5	51	60	
GENERAL DATA							
Topology	Transformerless					Transformerless	
Communication interface	RS485 / RS232 / WIFI (optional) / DRM					RS485 / WIFI (optional) / Ethernet / DRM	
Display	Backlight 128*64 point LCD					4 LED	
Standard warranty(years)	5-10 (Dependent On Territory)					5-10	
Cooling type	Forced-cooling					Forced-cooling	



# BYD P6F-30 Series-3BB

245W 250W 255W 260W



17.8%

Average cell efficiency up to 17.8%  
Excellent optical performance

0.5W

Positive tolerance 0.5W  
Reliability for output performance

12 Years

12 years for product  
25 years linear Warranty

Grid

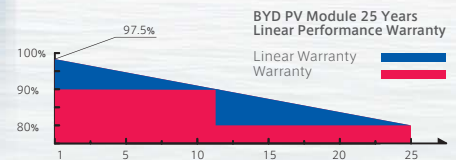
Residential roof top systems  
On/Off-grid commercial systems  
On/Off-grid utility systems

3<sup>rd</sup>

TUV Salt corrosion resistance test  
TUV Ammonia corrosion resistance test  
5400Pa for Snow Load Test  
5400Pa for Wind Load Test

Certification

IEC 61215 (Edition 2005), IEC 61730,  
ISO9001:2008, ISO14001:2004



## Production Process



Wafer Production



Cell Production



Module Production



Module

## About BYD

**BYD (HK:1211)**, one of the world's top PV manufacturers, produces from wafer to module, committing to high quality sustainable products and continuous improvement. Integrating with Electrical Vehicles and Battery Energy Storage technology makes BYD the world-leading solution provider from energy generating to consumption and storage.

## New Technology



### NES

A high technology that is widely used in BYD photovoltaic products, increasing the average cell efficiency up to 17.8%

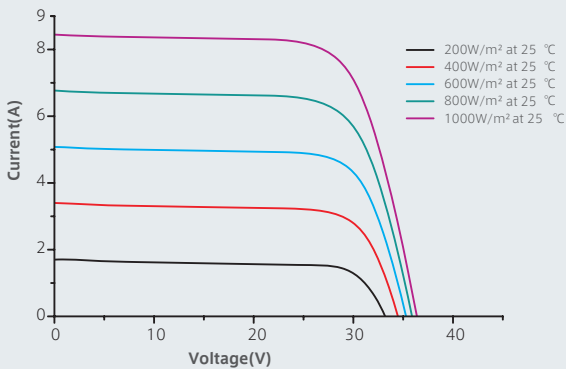
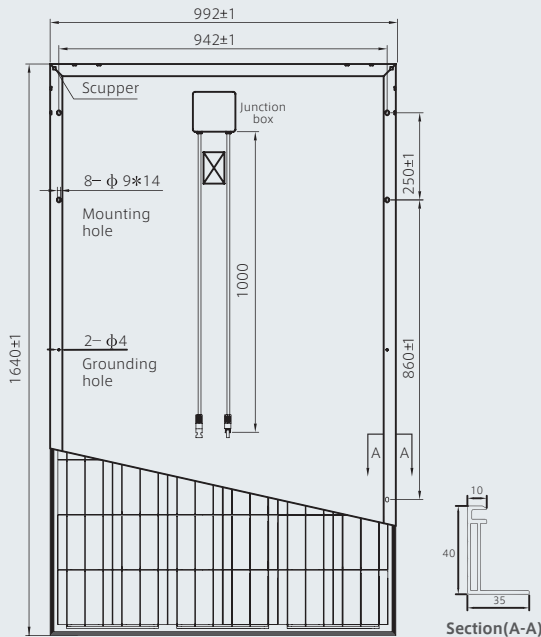
### BYD COMPANY LIMITED Headquarter

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# BYD P6F-30 Series-3BB

Build Your Dreams

245W 250W 255W 260W



## Mechanical Specifications

Cell	Polycrystalline Silicon solar cells 156mm * 156 mm / 6 inch
No. of Cells	60 (6 * 10) pcses
Dimension of Module	1640 mm * 992 mm * 40 mm / 64.6 inch * 39.1 inch * 1.6 inch
Weight	18.9kg / 41.67 lbs
Front Glass	3.2 mm tempered glass with AR Coating
Frame	Anodized aluminum alloy
Junction Box	IP65
Plug Connector	IP67
Bypass-Diodes	6 pcses / 3 pcses
Type of Connector	MC4 or MC4-compatible
Cable Section Area	4 mm <sup>2</sup> / 0.0062 Sq in
Cable Length	2 * 1000 mm / 2 * 39.4 inch

## Temperature Coefficients

Nominal Operating Cell Temperature (NOCT)	45°C ± 2°C
Short-Circuit Current Temperature Coefficient	0.059%/°C
Open-Circuit Voltage Temperature Coefficient	-0.32%/°C
Peak Power Temperature Coefficient	-0.43%/°C

## Package Information

Package	40' HC
Pcs / Pallet	25
Pallet / Container	28
Pcs / Container	700

## BYD P6F-30 Series Electrical Specification

### STC

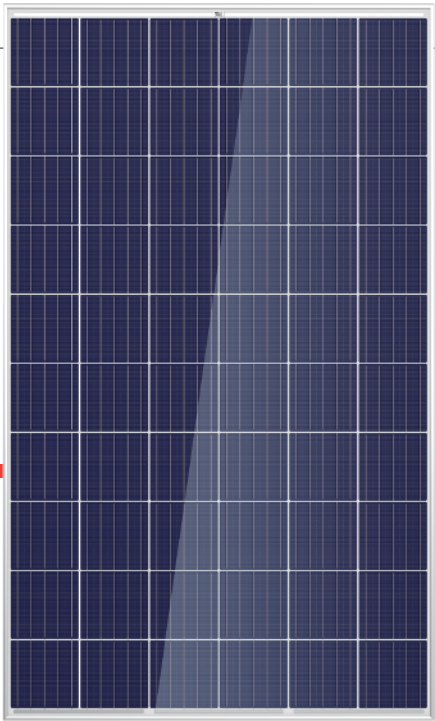
Item	Module	BYD 245P6F-30	BYD 250P6F-30	BYD 255P6F-30	BYD 260P6F-30
Open Circuit Voltage (Voc)		37.45 V	37.76V	38.07 V	38.38 V
Maximum Operating Voltage (Vmp)		29.85 V	30.13 V	30.40 V	30.67 V
Short Circuit Current (Isc)		8.73 A	8.81A	8.89A	8.97 A
Maximum Operating Current (Imp)		8.21 A	8.30 A	8.39A	8.48 A
Maximum Power in STC (Pmax)		245 Wp	250 Wp	255 Wp	260Wp
Module Efficiency		15.06%	15.37%	15.67%	15.98%
Operating Temperature		-40°C ~ 85°C			
Max. Fuse Current Rating		15A			
Maximum System Voltage		1000 VDC(IEC) / 600 VDC (UL)			
Power Tolerance		0~5W			
Application Class		Class A			
Fire Safety Class		Class C			

STC: IRRADIANCE 1000W/m<sup>2</sup>, Module Temperature 25°C, AM=1.5 Ave. efficiency reduction of 4.5% at 200W/m<sup>2</sup>

### NOCT

Item	Module	BYD 245P6F-30	BYD 250P6F-30	BYD 255P6F-30	BYD 260P6F-30
Open Circuit Voltage (Voc)		34.45 V	34.74 V	34.99 V	35.00 V
Maximum Operating Voltage (Vmp)		27.27 V	27.57 V	27.86 V	28.30 V
Short Circuit Current (Isc)		7.07 A	7.12 A	7.17 A	7.26 A
Maximum Operating Current (Imp)		6.53 A	6.58 A	6.62 A	6.65 A
Maximum Power in NOCT (Pmax)		178.1 Wp	181.4 Wp	184.4 Wp	188.5 Wp

NOCT: open-circuit module operation temperature at 800W/m<sup>2</sup> irradiance, 20° C ambient temperature, 1m/s wind speed.



# THE Honey

FRAMED 60-CELL MODULE

**60 CELL**  
MULTICRYSTALLINE MODULE

**260-280W**  
POWER OUTPUT RANGE

**17.1%**  
MAXIMUM EFFICIENCY

**0~+5W**  
POSITIVE POWER TOLERANCE

Founded in 1997, Trina Solar is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

## Comprehensive Products And System Certificates

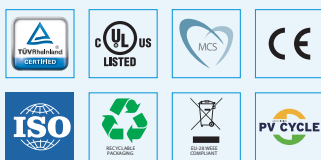
IEC61215/IEC61730/UL1703/IEC61701/IEC62716

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO14064: Greenhouse gases Emissions Verification

OHSAS 18001: Occupation Health and Safety Management System



### Our most versatile product

- Compatible with all major BOS components and system designs
- 1000V UL/1000V IEC certified



### Maximize Limited Space

- 60-cell module power output up to 280W
- Up to 171 W/m<sup>2</sup> power density



### Highly reliable due to stringent quality control

- Over 30 in-house tests (UV, TC, HF, and many more)
- In-house testing goes well beyond certification requirements
- PID resistant
- 100% EL double inspection

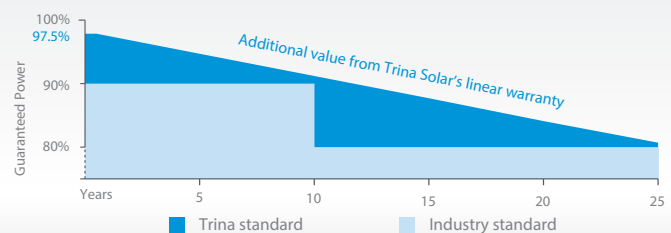


### Certified to withstand the most challenging environmental conditions

- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h

## LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty · 25 Year Linear Power Warranty

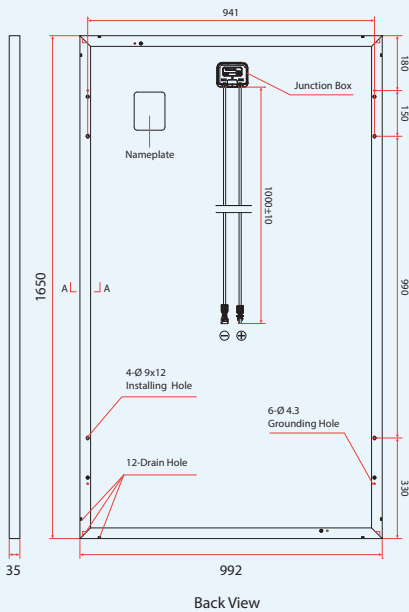
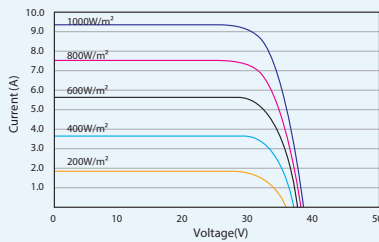
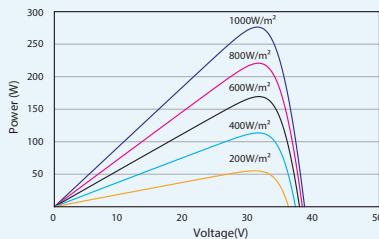


**PRODUCTS**

TSM-PD05  
TSM-PD05.08  
TSM-PD05.05

**POWER RANGE**

265-280W  
265-280W  
260-275W

**DIMENSIONS OF PV MODULE(mm)**

**I-V CURVES OF PV MODULE(280W)**

**P-V CURVES OF PV MODULE(280W)**

**ELECTRICAL DATA (STC)**

Peak Power Watts- $P_{MAX}$ (Wp)*	260	265	270	275	280
Power Output Tolerance- $P_{MAX}$ (W)	0 ~ +5				
Maximum Power Voltage- $V_{MPP}$ (V)	30.6	30.8	30.9	31.1	31.4
Maximum Power Current- $I_{MPP}$ (A)	8.50	8.61	8.73	8.84	8.92
Open Circuit Voltage- $V_{OC}$ (V)	38.2	38.3	38.4	38.5	38.7
Short Circuit Current- $I_{SC}$ (A)	9.00	9.10	9.18	9.25	9.34
Module Efficiency $\eta_p$ (%)	15.9	16.2	16.5	16.8	17.1

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.  
\*Measuring tolerance: ±3%.

**ELECTRICAL DATA (NOCT)**

Maximum Power- $P_{MAX}$ (Wp)	193	197	200	204	207
Maximum Power Voltage- $V_{MPP}$ (V)	28.4	28.6	28.7	29.0	29.2
Maximum Power Current- $I_{MPP}$ (A)	6.81	6.89	6.97	7.03	7.10
Open Circuit Voltage- $V_{OC}$ (V)	35.4	35.5	35.5	35.6	35.8
Short Circuit Current- $I_{SC}$ (A)	7.27	7.35	7.41	7.47	7.55

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

**MECHANICAL DATA**

Solar Cells	Multicrystalline 156.75 × 156.75 mm (6 inches)
Cell Orientation	60 cells (6 × 10)
Module Dimensions	1650 × 992 × 35 mm (65.0 × 39.1 × 1.38 inches)
Weight	18.6 kg (41.0 lb)
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Tempered Glass
Backsheet	White (PD05, PD05.08); Black (PD05.05)
Frame	Silver Anodized Aluminium Alloy (PD05); Black Anodized Aluminium Alloy (PD05.08, PD05.05)
J-Box	IP 67 or IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ), 1000 mm (39.4 inches)
Connector	MC4

**TEMPERATURE RATINGS**

NOCT (Nominal Operating Cell Temperature)	44°C (±2°C)
Temperature Coefficient of $P_{MAX}$	- 0.41%/°C
Temperature Coefficient of $V_{OC}$	- 0.32%/°C
Temperature Coefficient of $I_{SC}$	0.05%/°C

**MAXIMUM RATINGS**

Operational Temperature	-40~+85°C
Maximum System Voltage	1000V DC (IEC) 1000V DC (UL)
Max Series Fuse Rating	15A

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

**WARRANTY**

10 year Product Workmanship Warranty
25 year Linear Power Warranty

(Please refer to product warranty for details)

**PACKAGING CONFIGURATION**

Modules per box: 30 pieces
Modules per 40' container: 840 pieces