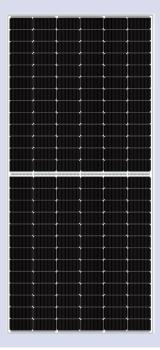
## PANDA 3.0 PRO 600-625 W

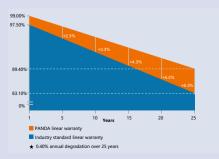


156 CELL CELL QUANTITY

0-5 W
POWER TOLERANCE

12 YEAR PRODUCT WARRANTY

## 25 YEAR POWER WARRANTY



YINGLISOLAR.COM



# IMPROVED POWER NEVER SETTLE FOR LESS

PANDA 3.0 modules use the industry's cutting-edge n-type monocrystalline TOPCon cell technology. With high quality encapsulation materials and classic glass-backsheet structure, PANDA 3.0 modules are perfectly suited to the harsh environment and provide you with high reliability and quality assurance.



#### Classic Structure

The glass-backsheet structure and layout design have been proven in the market for a long time.

#### Superior Yield



The large size cell enhances the module's power output, with the excellent temperature coefficient, superior low light performance and comprehensive LID/LeTID degradation suppression technology, allows the module to generate more energy yield once in use.

#### **Excellent Durability**

The modules meet IEC standard testing requirements and are resistant to salt mist, ammonia, dust and sand, snail trail and PID risks.

#### Wide Applications



The glass-backsheet structure, special material selection and extra-strong frames effectively enhance the mechanical performance of the modules, their compatibility with mainstream trackers and inverters, and their adaptability to harsh environments.

#### Lower Losses



The multi-busbar design effectively reduces the impact of micro-cracks and broken busbars, and the half-cell structure effectively reduces the impact of shadow shading.

#### QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, IEC 62941:2019 Terrestrial photovoltaic (PV) modules—Quality system for PV module manufacturing, ISO 9001:2015 Quality management systems, ISO 14001:2015 Environmental management systems, ISO 45001:2018 Occupational health and safety management systems







Yingli Solar

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## PANDA 3.0 PRO



#### Electrical parameters at Standard Test Conditions (STC\*)

Module type			YLxxxC-55e 1/2 (xxx=Pmax) YLxxxC-55e 1500V 1/2 (xxx=Pmax)					
Power output	P <sub>max</sub>	W	600	605	610	615	620	625
Power output tolerances	ΔP <sub>max</sub>	W			0/	+ 5		
Module efficiency	η "	%	21.46	21.64	21.82	22.00	22.18	22.36
Voltage at P <sub>max</sub>	V <sub>mpp</sub>	V	45.38	45.48	45.58	45.68	45.78	45.88
Current at P <sub>max</sub>	I <sub>mpp</sub>	А	13.23	13.31	13.39	13.47	13.55	13.63
Open-circuit voltage	V <sub>oc</sub>	٧	54.94	55.09	55.24	55.39	55.54	55.69
Short-circuit current	I <sub>sc</sub>	А	13.98	14.05	14.12	14.19	14.26	14.33

<sup>\*</sup>STC: 1000 W · m<sup>-2</sup> irradiance, 25°C cell temperature, AM 1.5 spectrum according to EN 60904-3.

#### Electrical parameters at Nominal Operating Cell Temperature (NOCT\*)

Power output	P <sub>max</sub>	W	455.81	459.57	463.35	467.14	470.95	474.76
Voltage at P <sub>max</sub>	$V_{mpp}$	٧	43.21	43.31	43.40	43.50	43.59	43.69
Current at P <sub>max</sub>	I <sub>mpp</sub>	А	10.55	10.61	10.68	10.74	10.80	10.87
Open-circuit voltage	V <sub>oc</sub>	٧	52.08	52.22	52.36	52.51	52.65	52.79
Short-circuit current	I <sub>sc</sub>	А	11.27	11.33	11.38	11.44	11.50	11.55

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

#### THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	42 ± 2
Temperature coefficient of P <sub>max</sub>	γ	%/°C	- 0.30
Temperature coefficient of V <sub>oc</sub>	β	%/°C	- 0.25
Temperature coefficient of I <sub>sc</sub>	α	%/°C	0.046

#### OPERATING CONDITIONS

Max. system voltage	1000 V <sub>DC</sub> / 1500 V <sub>DC</sub>
Max. series fuse rating*	25 A
Operating temperature range	− 40°C to 85°C
Max. static load, front (e.g., snow)	5400 Pa
Max. static load, back (e.g., wind)	2400 Pa
Max. hailstone impact (diameter / velocity)	25 mm / 23 m ⋅ s <sup>-1</sup>
*DO NOT CONNECT FUSE IN COMBINER BOX WI	TH TWO OR MORE STRINGS IN PARALLEL CONNECTION

#### CONSTRUCTION MATERIALS

Cell ( material / quantity )	n-type monocrystalline silicon / 6 x 26
Glass (material / thickness)	low-iron tempered glass / 3.2 mm
Frame (material )	anodized aluminum alloy
Junction box (type / protection degree)	3 bypass diodes / ≥ IP68
Cable (length / cross-sectional area)	± 300 mm or customized length / 4 mm <sup>2</sup>

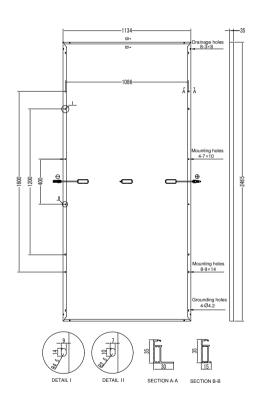
#### GENERAL CHARACTERISTICS

Dimensions (L / W / H)	2465 mm / 1134 mm / 35 mm
Weight	30.6 kg

#### PACKAGING SPECIFICATIONS

Number of modules per pallet	31
Number of pallets per 40' container	18
Packaging box dimensions (L / W / H)	2480 mm / 1110 mm / 1245 mm
Box weight	1009 kg

#### BACK VIEW (units: mm)





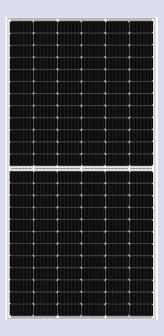
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## PANDA 3.0 PRO 550-575 W

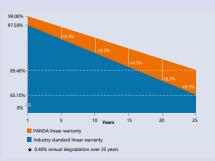


144 CELL
CELL QUANTITY

0-5 W
POWER TOLERANCE

12 YEAR PRODUCT WARRANTY

## 25 YEAR POWER WARRANTY



YINGLISOLAR.COM



# IMPROVED POWER NEVER SETTLE FOR LESS

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#### Classic Structure

The glass-backsheet structure and layout design have been proven in the market for a long time.





The large size cell enhances the module's power output, with the excellent temperature coefficient, superior low light performance and comprehensive LID/LeTID degradation suppression technology, allows the module to generate more energy yield once in use.



#### **Excellent Durability**

The modules meet IEC standard testing requirements and are resistant to salt mist, ammonia, dust and sand, snail trail and PID risks.

#### Wide Applications



The glass-backsheet structure, special material selection and extra-strong frames effectively enhance the mechanical performance of the modules, their compatibility with mainstream trackers and inverters, and their adaptability to harsh environments.

#### Lower Losses



The multi-busbar design effectively reduces the impact of micro-cracks and broken busbars, and the half-cell structure effectively reduces the impact of shadow shading.

#### QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, IEC 62941:2019 Terrestrial photovoltaic (PV) modules—Quality system for PV module manufacturing, ISO 9001:2015 Quality management systems, ISO 14001:2015 Environmental management systems, ISO 45001:2018 Occupational health and safety management systems







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## PANDA 3.0 PRO



#### Electrical parameters at Standard Test Conditions (STC\*)

Module type			YLxxxC-50e 1/2 (xxx=Pmax) YLxxxC-50e 1500V 1/2 (xxx=Pmax)					
Power output	P <sub>max</sub>	W	550	555	560	565	570	575
Power output tolerances	ΔP <sub>max</sub>	W			0/	+ 5		
Module efficiency	ηm	%	21.29	21.48	21.68	21.87	22.07	22.26
Voltage at P <sub>max</sub>	V <sub>mpp</sub>	٧	41.50	41.63	41.77	41.91	42.06	42.21
Current at P <sub>max</sub>	I <sub>mpp</sub>	А	13.26	13.34	13.41	13.49	13.56	13.63
Open-circuit voltage	V <sub>oc</sub>	٧	50.20	50.33	50.46	50.59	50.73	50.87
Short-circuit current	I <sub>sc</sub>	А	14.00	14.08	14.16	14.24	14.32	14.40

<sup>\*</sup>STC: 1000 W · m<sup>-2</sup> irradiance, 25°C cell temperature, AM 1.5 spectrum according to EN 60904-3.

#### Electrical parameters at Nominal Operating Cell Temperature (NOCT\*)

Power output	P <sub>max</sub>	W	417.78	421.62	425.26	429.23	433.00	436.78
Voltage at P <sub>max</sub>	V <sub>mpp</sub>	٧	39.52	39.64	39.77	39.91	40.05	40.19
Current at P <sub>max</sub>	I <sub>mpp</sub>	А	10.57	10.64	10.69	10.76	10.81	10.87
Open-circuit voltage	V <sub>oc</sub>	٧	47.59	47.71	47.83	47.96	48.09	48.22
Short-circuit current	I <sub>sc</sub>	А	11.29	11.35	11.42	11.48	11.55	11.61

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

#### THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	42 ± 2
Temperature coefficient of P <sub>max</sub>	γ	%/°C	- 0.30
Temperature coefficient of V <sub>oc</sub>	β	%/°C	- 0.25
Temperature coefficient of I <sub>sc</sub>	α	%/°C	0.046

#### OPERATING CONDITIONS

Max. system voltage	1000 V <sub>DC</sub> / 1500 V <sub>DC</sub>
Max. series fuse rating*	25 A
Operating temperature range	− 40°C to 85°C
Max. static load, front (e.g., snow)	5400 Pa
Max. static load, back (e.g., wind)	2400 Pa
Max. hailstone impact (diameter / velocity)	25 mm / 23 m ⋅ s <sup>-1</sup>
*DO NOT CONNECT FUSE IN COMBINER BOX WI	TH TWO OR MORE STRINGS IN PARALLEL CONNECTION

<sup>\*</sup>DO NOT CONNECT FUSE IN COMBINER BOX WITH TWO OR MORE STRINGS IN PARALLEL CONNECTION.

#### CONSTRUCTION MATERIALS

Cell ( material / quantity )	n-type monocrystalline silicon / 6 x 24
Glass (material / thickness)	low-iron tempered glass / 3.2 mm
Frame (material )	anodized aluminum alloy
Junction box (type / protection degree)	3 bypass diodes / ≥ IP68
Cable (length / cross-sectional area)	± 300 mm or customized length / 4 mm <sup>2</sup>

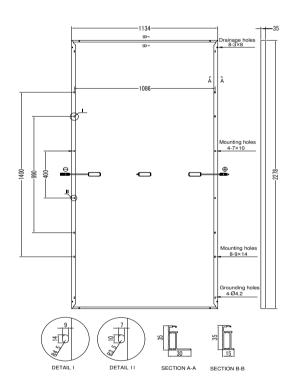
#### GENERAL CHARACTERISTICS

Dimensions (L / W / H)	2278 mm / 1134 mm / 35 mm
Weight	28.0 kg

#### PACKAGING SPECIFICATIONS

Number of modules per pallet	31
Number of pallets per 40' container	20
Packaging box dimensions (L / W / H)	2300 mm / 1110 mm / 1245 mm
Box weight	923 kg

#### BACK VIEW (units: mm)





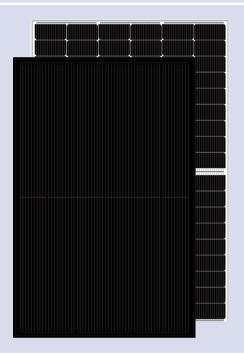
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#### Yingli Energy Development Co., Ltd.

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## PANDA 3.0 PRO 405-430 W



108 CELL

0-5 W POWER TOLERANCE

12 YEAR PRODUCT WARRANTY

### 25 YEAR



YINGLISOLAR.COM



# IMPROVED POWER NEVER SETTLE FOR LESS

PANDA 3.0 modules use the industry's cutting-edge n-type monocrystalline TOPCon cell technology. With high quality encapsulation materials and classic glass-backsheet structure, PANDA 3.0 modules are perfectly suited to the harsh environment and provide you with high reliability and quality assurance.



#### Classic Structure

The glass-backsheet structure and layout design have been proven in the market for a long time.

#### Superior Yield



The large size cell enhances the module's power output, with the excellent temperature coefficient, superior low light performance and comprehensive LID/LeTID degradation suppression technology, allows the module to generate more energy yield once in use.



#### **Excellent Durability**

The modules meet IEC standard testing requirements and are resistant to salt mist, ammonia, dust and sand, snail trail and PID risks.

#### Wide Applications



The glass-backsheet structure, special material selection and extra-strong frames effectively enhance the mechanical performance of the modules, their compatibility with mainstream trackers and inverters, and their adaptability to harsh environments.

# **P**

#### **Lower Losses**

The multi-busbar design effectively reduces the impact of micro-cracks and broken busbars, and the half-cell structure effectively reduces the impact of shadow shading.

#### QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, IEC 62941:2019 Terrestrial photovoltaic (PV) modules—Quality system for PV module manufacturing, ISO 9001:2015 Quality management systems, ISO 14001:2015 Environmental management systems, ISO 45001:2018 Occupational health and safety management systems







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## PANDA 3.0 PRO



#### Electrical parameters at Standard Test Conditions (STC\*)

Module type			YLxxxC-38e 1/2 (xxx=Pmax) YLxxxC-38e 1500V 1/2 (xxx=Pmax)					
Power output	P <sub>max</sub>	W	405	410	415	420	425	430
Power output tolerances	ΔP <sub>max</sub>	W			0/	+ 5		
Module efficiency	ηm	%	20.74	21.00	21.25	21.51	21.76	22.02
Voltage at P <sub>max</sub>	V <sub>mpp</sub>	V	30.93	31.12	31.31	31.50	31.69	31.88
Current at P <sub>max</sub>	I <sub>mpp</sub>	А	13.10	13.18	13.26	13.34	13.42	13.49
Open-circuit voltage	V <sub>oc</sub>	V	37.53	37.72	37.91	38.10	38.29	38.48
Short-circuit current	l <sub>sc</sub>	А	13.84	13.92	14.00	14.08	14.16	14.24

<sup>\*</sup>STC: 1000 W · m<sup>-2</sup> irradiance, 25°C cell temperature, AM 1.5 spectrum according to EN 60904-3.

#### Electrical parameters at Nominal Operating Cell Temperature (NOCT\*)

Power output	P <sub>max</sub>	W	307.61	311.39	315.20	319.02	322.87	326.50
Voltage at P <sub>max</sub>	V <sub>mpp</sub>	٧	29.45	29.63	29.81	30.00	30.18	30.36
Current at P <sub>max</sub>	I <sub>mpp</sub>	А	10.44	10.51	10.57	10.64	10.70	10.76
Open-circuit voltage	V <sub>oc</sub>	V	35.58	35.76	35.94	36.12	36.30	36.48
Short-circuit current	I <sub>sc</sub>	А	11.16	11.22	11.29	11.35	11.42	11.48

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

#### THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	42 ± 2
Temperature coefficient of P <sub>max</sub>	γ	%/°C	- 0.30
Temperature coefficient of V <sub>oc</sub>	β	%/°C	- 0.25
Temperature coefficient of I <sub>sc</sub>	α	%/°C	0.046

#### OPERATING CONDITIONS

Max. system voltage	1000 V <sub>DC</sub> / 1500 V <sub>DC</sub>
Max. series fuse rating*	25 A
Operating temperature range	– 40°C to 85°C
Max. static load, front (e.g., snow)	5400 Pa
Max. static load, back (e.g., wind)	2400 Pa
Max. hailstone impact (diameter / velocity)	25 mm / 23 m ⋅ s <sup>-1</sup>

<sup>\*</sup>DO NOT CONNECT FUSE IN COMBINER BOX WITH TWO OR MORE STRINGS IN PARALLEL CONNECTION.

#### CONSTRUCTION MATERIALS

Cell ( material / quantity )	n-type monocrystalline silicon / 6 x 18
Glass (material / thickness)	low-iron tempered glass / 3.2 mm
Frame (material )	anodized aluminum alloy
Junction box (type / protection degree)	3 bypass diodes / ≽ IP68
Cable (length / cross-sectional area)	± 1200 mm / 4 mm <sup>2</sup>

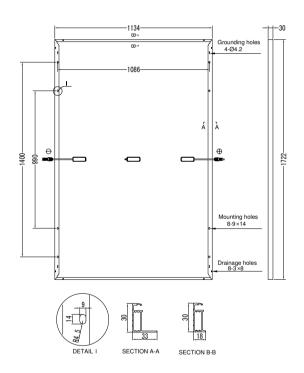
#### GENERAL CHARACTERISTICS

Dimensions (L / W / H)	1722 mm / 1134 mm / 30 mm
Weight	21.5 kg

#### PACKAGING SPECIFICATIONS

Number of modules per pallet	36
Number of pallets per 40' container	26
Packaging box dimensions (L / W / H)	1740 mm / 1110 mm / 1245 mm
Box weight	810 kg

#### BACK VIEW (units: mm)





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