„TECHNOLOGY FOR A SUSTAINABLE WORLD” - TENKA POWER – A STRONG PART OF THE TENKA SOLAR GROUP.

Tenka Power is a European subsidiary of the globally operating Tenka Solar Group. As part of an internationally successful group of companies, we benefit from the decades of experience, extensive resources and innovative technologies of our parent company. The Tenka Solar Group is one of the leading manufacturers and suppliers in the photovoltaic sector and stands for outstanding quality, high production capacities and comprehensive customer support.

As the European subsidiary of the Tenka Solar family, we bring local expertise, a deep understanding of the requirements of the European market and a strong focus on sustainable, cost-effective solutions. In this way, we ensure that our customers benefit from the latest trends and developments in the field of renewable energies. Thanks to the intensive exchange between the locations and teams of the Tenka Solar Group, we can draw on a wide range of experience and best practices.

This strong international presence enables us to meet individual customer needs, comply with global standards and at the same time develop customised solutions for regional conditions. With Tenka Power as part of the Tenka Solar Group, you have a strong partner that combines European expertise with global innovation- for a sustainable and future-proof energy supply.Translated with DeepL.com (free version)

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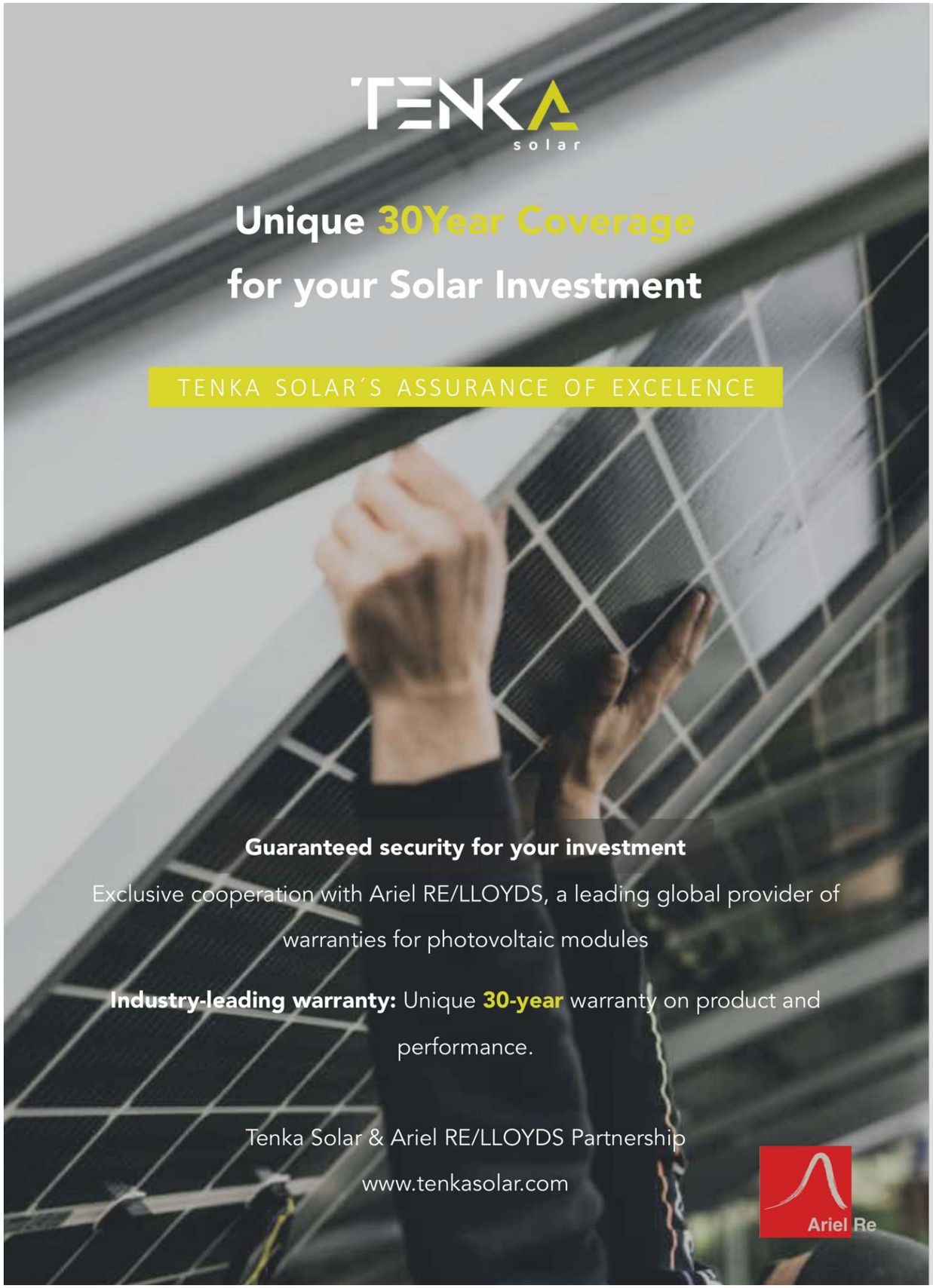
V 2025_EN_V1



Tenka Solar PV-Modules

01 Tenka Solar Ultimate

02 Tenka Solar Orion III Plus

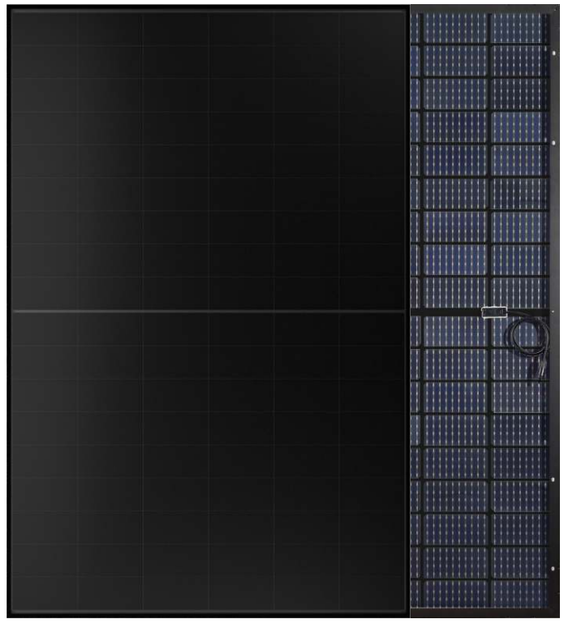
03 Tenka Solar Orion III Ultra

04 Tenka Solar Orion IV Ultimate

05 Tenka Solar Orion VIIs

06 Tenka Solar Orion IX

Tenka Solar Ultimate 480 | 485 | 490 - Back Contact Bifacial Full Black



Tenka Solar Ultimate - Product features

Outstanding Performance
Up to 490 watts power and up to 24.0% module efficiency

Shading Optimisation
Partial Shading Optimisation for higher yields

Back contact
Back contact technology for excellent Micro-crack resistance

Bifacial design
Additional yield through rear power increase

Aesthetic design
Consistent black designWithout visible front contacts

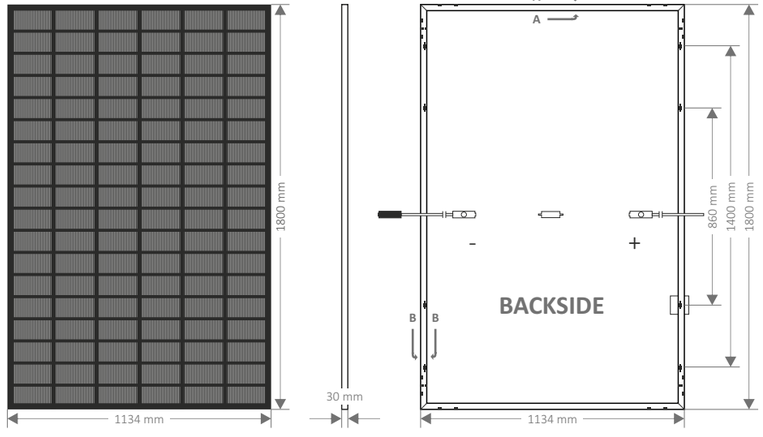
Excelent guarantee
30-year performance guarantee on 88.85 %. 25-year product guarantee

www.tenkapower.com

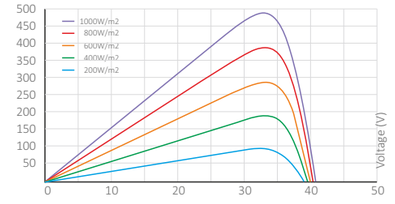
Tenka Solar Ultimate

Technical Datasheet	480 W		485 W		490 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	480 Wp	364 Wp	485 Wp	368 Wp	490 Wp	372 Wp
Maximum power Voltage (Vmp)	33,84 V	31,11 V	33,94 V	32,20 V	34,04 V	32,30 V
Maximum power Current (Imp)	14,19 A	11,35 A	14,30 A	11,44 A	14,40 A	11,51 A
Open circuit voltage (Voc)	40,76 V	38,67 V	40,89 V	38,80 V	41,02 V	38,92 V
Short-circuit current (Isc)	14,96 A	12,09 A	15,03 A	12,15 A	15,10 A	12,21 A
Module efficiency (%)	23,5%		23,8%		24,0%	
Voc and Isc Tolerances	0~+3%					
Operating temperature (°C)	-40°C~+85°C					
Maximum system voltage	1500V					
Maximum series protection	25A					
Temperature coefficient Pmax	-0,26%/°C					
Temperature coefficient Voc	-0,22%/°C					
Temperature coefficient Isc	+0,05%/°C					
Nominal operating temperature of the cell (NOCT)	45±2 °C					
Cell type	N-Type, Back Contact, mono-cristalline					
Number of cells	108 (6 x 18)					
Dimensions	1800 x 1134 x 30 mm (±2mm)					
Weight	24,5 Kg					
Glass front	2 mm tempered glass, highly transparent anti-reflective coating					
Glass back	2 mm tempered glass, highly transparent anti-reflective coating					
Frame	Anodized aluminium alloy, Black					
Junction box	Protection class IP68					
Output cable	TÜV 1x4,0mm2/UL12AWG, Length 1200mm with original Stäubli MC4 Connectors					
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2					
Certificates	IEC61215, IEC61730					
Bi-facial backside power increase	**480 W**		**485 W**		**490 W**	
10%	528 Wp		534 Wp		539 Wp	
20%	576 Wp		582 Wp		588 Wp	
30%	624 Wp		631 Wp		637 Wp	

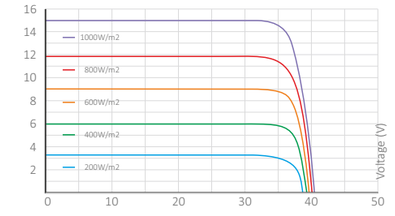
Measurements



P-V Characteristic curve of PV Module



I-V Characteristic curve of PV Module



Packaging information: 37 pieces per pallet, 888 pieces per container (24 pallets)

[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion III Plus **Bifacial Black Mesh**

Tenka Orion III Plus - Product features

Module efficiency
23.27% module efficiency and 465W Peak power under 2 square metres

Bifacial design
Additional yield through rear power increase

Nanotech coating
Tenka Nanotech technology for improved light absorption

Longevity
Low degradation, optimised long-term performance

Product guarantee
30-year product guarantee for maximum investment security

Performance guarantee
30-year performance guarantee on 87.4 % performance guaranteed

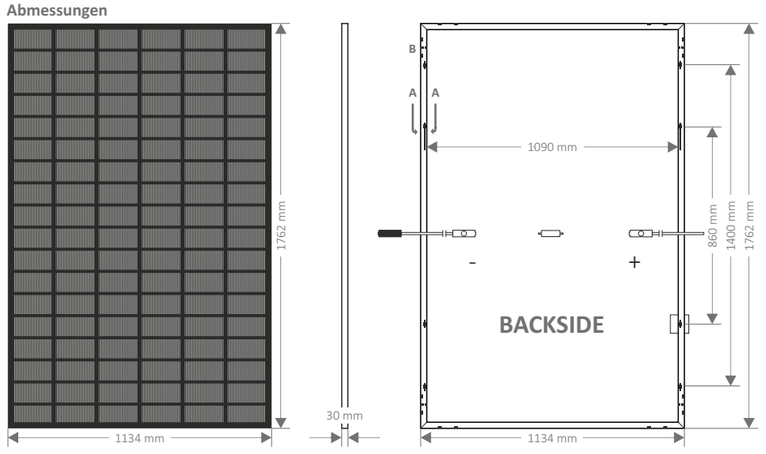
www.tenkapower.com

Tenka Orion III Plus

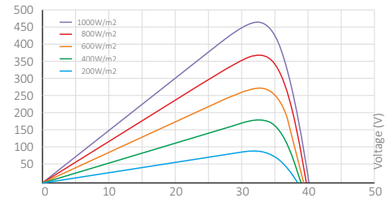
Technical Datasheet			455 W		460 W		465 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	450 Wp	341 Wp	455 Wp	345 Wp	460 Wp	349 Wp	465 Wp	352 Wp
Maximum power Voltage (Vmp)	33,22 V	30,56 V	33,42 V	30,75 V	33,63 V	30,94 V	33,83 V	31,12 V
Maximum power Current (Imp)	13,55 A	11,16 A	13,61 A	11,21 A	13,68 A	11,27 A	13,75 A	11,32 A
Open circuit voltage (Voc)	39,78 V	36,20 V	39,98 V	36,38 V	40,18 V	36,56 V	40,38 V	36,75 V
Short-circuit current (Isc)	14,00 A	11,29 A	14,06 A	11,34 A	14,13 A	11,40 A	14,20 A	11,45 A
Module efficiency (%)	22,52%		22,77%		23,02%		23,27%	
Voc and Isc Tolerances	±3%							
Operating temperature (°C)	-40°C~+85°C							
Maximum system voltage	1500V							
Maximum series protection	25A							
Temperature coefficient Pmax	-0,29%/°C							
Temperature coefficient Voc	-0,25%/°C							
Temperature coefficient Isc	+0,045%/°C							
Nominal operating temperature of the cell (NOCT)	45±2 °C							
Cell type	N-Type, TOPCon, mono-cristalline 183 mm, Tenka Nanotech Coating							
Number of cells	108							
Dimensions	1762 x 1134 x 30 mm (±2mm)							
Weight	24 Kg							
Glass front	2 mm tempered glass, highly transparent anti-reflective coating							
Glass back	2 mm tempered glass, highly transparent anti-reflective coating							
Frame	Anodized aluminium alloy, Black							
Junction box	Protection class IP68							
Output cable	TÜV 1 x 4,0 mm^2 / UL 12AWG, Length 1100 mm							
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2							
Certificates	IEC61215, IEC61730							

Bi-facial backside power increase	450 W	455 W	460 W	465 W
5%	472 Wp	477 Wp	483 Wp	488 Wp
15%	517 Wp	523 Wp	529 Wp	534 Wp
25%	562 Wp	568 Wp	575 Wp	581 Wp

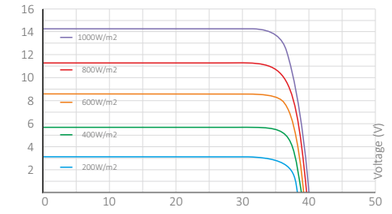
Abmessungen



P-V Characteristic curve of PV Module



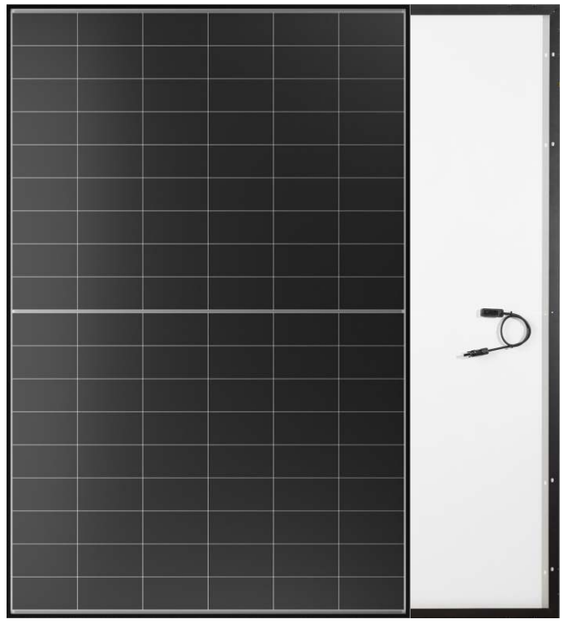
I-V Characteristic curve of PV Module



Packaging information: 36 pieces per pallet, 936 pieces per container (26 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion III Plus **Black Frame**



Tenka Orion III Plus - Product features

Module efficiency
23.27% module efficiency and 465W Peak power under 2 square metres

Hail protection class 4
Hail protection class 4 for protection against hailstones up to 45 mm

Nanotech coating
Tenka Nanotech technology for improved light absorption

Longevity
Low degradation, optimised long-term performance

Product guarantee
30-year product guarantee for maximum investment security

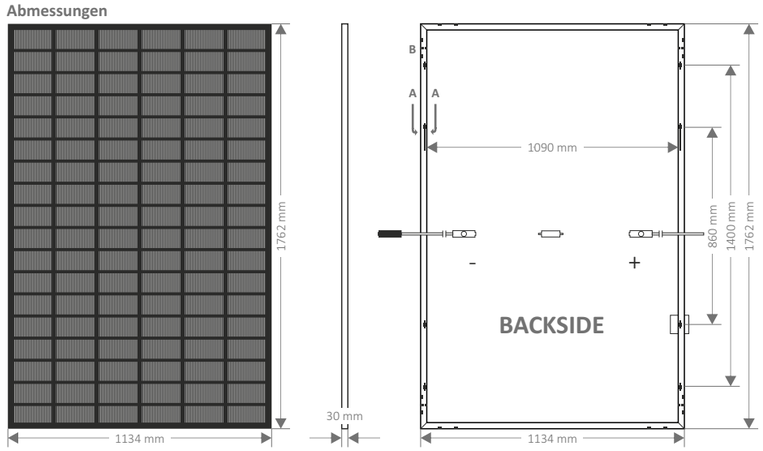
Performance guarantee
30-year performance guarantee on 87.4 % performance guaranteed

www.tenkapower.com

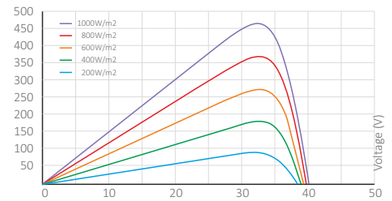
Tenka Orion III Plus

Technical Datasheet	450 W		455 W		460 W		465 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	450 Wp	341 Wp	455 Wp	345 Wp	460 Wp	349 Wp	465 Wp	352 Wp
Maximum power Voltage (Vmp)	33,22 V	30,56 V	33,42 V	30,75 V	33,63 V	30,94 V	33,83 V	31,12 V
Maximum power Current (Imp)	13,55 A	11,16 A	13,61 A	11,21 A	13,68 A	11,27 A	13,75 A	11,32 A
Open circuit voltage (Voc)	39,78 V	36,20 V	39,98 V	36,38 V	40,18 V	36,56 V	40,38 V	36,75 V
Short-circuit current (Isc)	14,00 A	11,29 A	14,06 A	11,34 A	14,13 A	11,40 A	14,20 A	11,45 A
Module efficiency (%)	22,52%		22,77%		23,02%		23,27%	
Voc and Isc Tolerances	±3%							
Operating temperature (°C)	-40°C~+85°C							
Maximum system voltage	1500V							
Maximum series protection	25A							
Temperature coefficient Pmax	-0,29%/°C							
Temperature coefficient Voc	-0,25%/°C							
Temperature coefficient Isc	+0,045%/°C							
Nominal operating temperature of the cell (NOCT)	45±2 °C							
Cell type	N-Type, TOPCon, mono-cristalline 183 mm, Tenka Nanotech Coating							
Number of cells	108							
Dimensions	1762 x 1134 x 30 mm (±2mm)							
Weight	21,5 Kg							
Glass front	3,2 mm tempered glass, highly transparent anti-reflective coating							
Backside	White film							
Frame	Anodized aluminium alloy, Black							
Junction box	Protection class IP68							
Output cable	TÜV 1 x 4,0 mm² / UL 12AWG, Length 1100 mm							
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2							
Certificates	IEC61215, IEC61730							

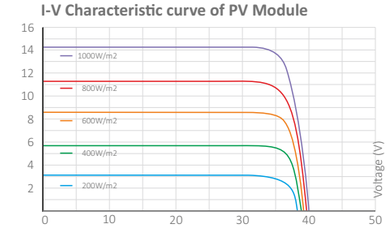
Abmessungen



P-V Characteristic curve of PV Module



I-V Characteristic curve of PV Module



Packaging information: 36 pieces per pallet, 936 pieces per container (26 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion III Ultra **Bifacial Black Mesh**

Tenka Orion III Ultra Bi-facial - Product features

Module efficiency
23.76% module efficiency and 485W Peak power

Bifacial design
Additional yield through rear power increase

Nanotech coating
Patented Tenka Nanotech technology for improved light absorption

Longevity
Low degradation, optimised long-term performance

Product guarantee
30-year product guarantee for maximum investment security

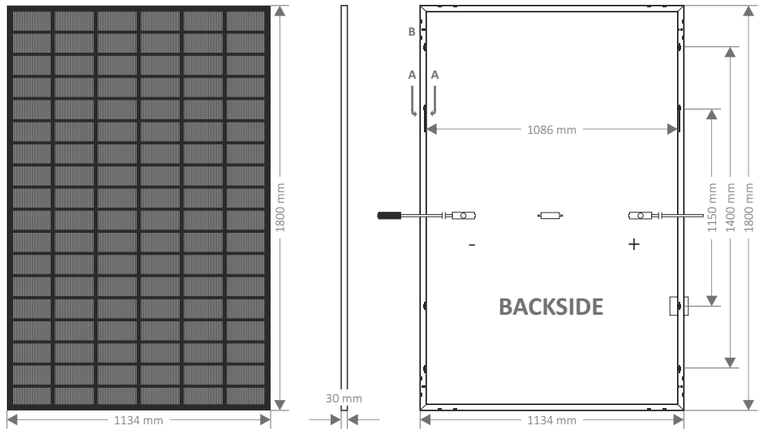
Performance guarantee
30-year performance guarantee on 87.4 % performance guaranteed

www.tenkapower.com

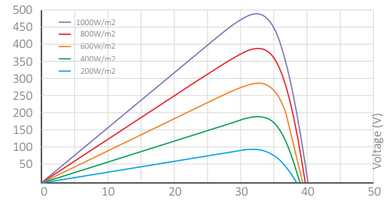
Tenka Orion III Ultra Bi-facial

Technical Datasheet	470 W		475 W		480 W		485 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	470 Wp	356 Wp	475 Wp	360 Wp	480 Wp	364 Wp	485 Wp	368 Wp
Maximum power Voltage (Vmp)	33,62 V	30,93 V	33,82 V	31,11 V	34,02 V	31,29 V	34,22 V	31,47 V
Maximum power Current (Imp)	13,98 A	11,52 A	14,04 A	11,57 A	14,11 A	11,64 A	14,18 A	11,70 A
Open circuit voltage (Voc)	40,18 V	36,56 V	40,38 V	36,75 V	40,58 V	36,93 V	40,78 V	37,11 V
Short-circuit current (Isc)	14,71 A	11,87 A	14,89 A	11,97 A	14,98 A	12,13 A	15,08 A	12,29 A
Module efficiency (%)	23,02%		23,27%		23,52%		23,76%	
Voc and Isc Tolerances	±3%							
Operating temperature (°C)	-40°C~+85°C							
Maximum system voltage	1500V							
Maximum series protection	25A							
Temperature coefficient Pmax	-0,29%/°C							
Temperature coefficient Voc	-0,25%/°C							
Temperature coefficient Isc	+0,045%/°C							
Nominal operating temperature of the cell (NOCT)	45±2 °C							
Cell type	N-Type, TOPCon, mono-cristalline 183 mm, Tenka Nanotech Coating							
Number of cells	108							
Dimensions	1800 x 1134 x 30 mm (±2mm)							
Weight	24,5 Kg							
Glass front	1,6 mm glass, anti-reflective coating							
Glass back	1,6 mm tempered glass							
Frame	Anodized aluminium alloy, Black							
Junction box	Protection class IP68							
Output cable	TÜV 1 x 4.0 mm2 / UL 12AWG, length 1100 mm with original Stäubli MC4 connectors							
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2							
Certificates	IEC61215, IEC61730							
Bi-facial backside power increase	**470 W**		**475 W**		**480 W**		**485 W**	
5%	494 Wp		499 Wp		504 Wp		509 Wp	
15%	540 Wp		546 Wp		552 Wp		557 Wp	
25%	587 Wp		593 Wp		600 Wp		606 Wp	

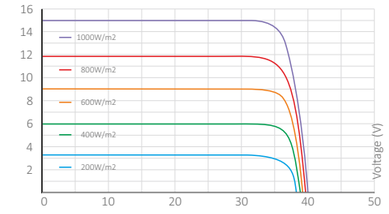
Measurements



P-V Characteristic curve of PV Module



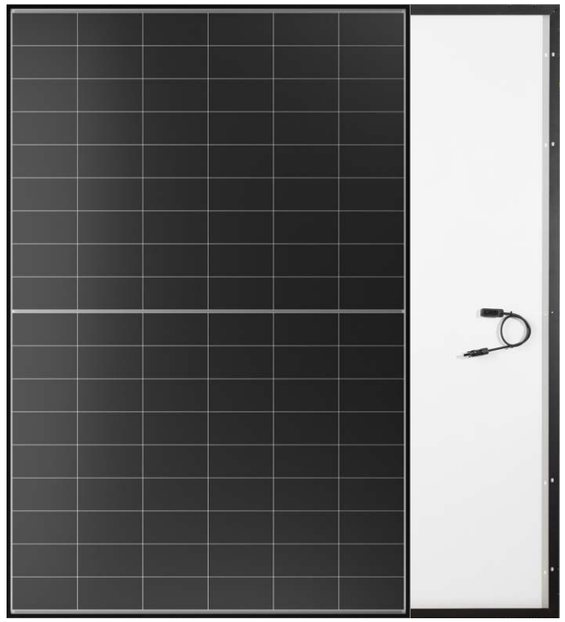
I-V Characteristic curve of PV Module



Packaging information: 36 pieces per pallet, 864 pieces per container (24 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion III Ultra **Black Frame**



Tenka Orion III Ultra - Product features

Module efficiency
23.76% module efficiency and 485W
Peak power under 2 square metres

Hail protection class 4
Hail protection class 4 for protection
against hailstones up to 45 mm

Nanotech coating
Patented Tenka Nanotech technology
for improved light absorption

Longevity
Low degradation, optimised
long-term performance

Product guarantee
30-year product guarantee for
maximum investment security

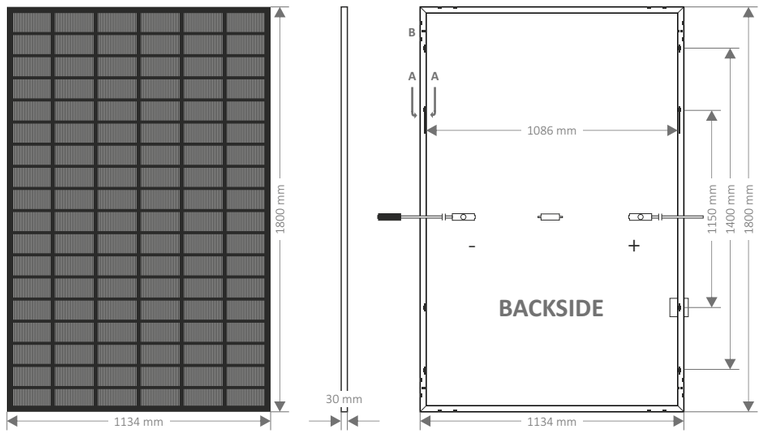
Performance guarantee
30-year performance guarantee on
87.4 % performance guaranteed

www.tenkapower.com

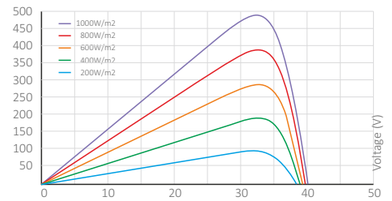
Tenka Orion III Ultra

Technical Datasheet	470 W		475 W		480 W		485 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	470 Wp	356 Wp	475 Wp	360 Wp	480 Wp	364 Wp	485 Wp	368 Wp
Maximum power Voltage (Vmp)	33,62 V	30,93 V	33,82 V	31,11 V	34,02 V	31,29 V	34,22 V	31,47 V
Maximum power Current (Imp)	13,98 A	11,52 A	14,04 A	11,57 A	14,11 A	11,64 A	14,18 A	11,70 A
Open circuit voltage (Voc)	40,18 V	36,56 V	40,38 V	36,75 V	40,58 V	36,93 V	40,78 V	37,11 V
Short-circuit current (Isc)	14,71 A	11,87 A	14,89 A	11,97 A	14,98 A	12,13 A	15,08 A	12,29 A
Module efficiency (%)	23,02%		23,27%		23,52%		23,76%	
Voc and Isc Tolerances	±3%							
Operating temperature (°C)	-40°C~+85°C							
Maximum system voltage	1500V							
Maximum series protection	25A							
Temperature coefficient Pmax	-0,29%/°C							
Temperature coefficient Voc	-0,25%/°C							
Temperature coefficient Isc	+0,045%/°C							
Nominal operating temperature of the cell (NOCT)	45±2 °C							
Cell type	N-Type, TOPCon, mono-cristalline 183 mm, Tenka Nanotech Coating							
Number of cells	108							
Dimensions	1800 x 1134 x 30 mm (±2mm)							
Weight	21,5 Kg							
Glass front	3,2 mm tempered glass, highly transparent anti-reflective coating							
Backside	White film							
Frame	Anodized aluminium alloy, Black							
Junction box	Protection class IP68							
Output cable	TÜV 1 x 4.0 mm2 / UL 12AWG, length 1100mm with original Stäubli MC4 connectors							
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2							
Certificates	IEC61215, IEC61730							

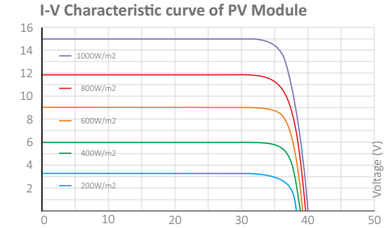
Measurements



P-V Characteristic curve of PV Module



I-V Characteristic curve of PV Module



Packaging information: 36 pieces per pallet, 864 pieces per container (24 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion IV Ultimate Full Black

Tenka Orion IV Ultimate - Product features

Module efficiency
23.8% module efficiency and 465W
Peak power under 2 square metres

Hail protection class 4
Hail protection class 4 for protection
against hailstones up to 45 mm

Nanotech coating
Patented Tenka Nanotech technology
for improved light absorption

Reliable design
Rear-contact technology reduces
micro-cracks in the module

Product guarantee
30-year product guarantee for
maximum investment security

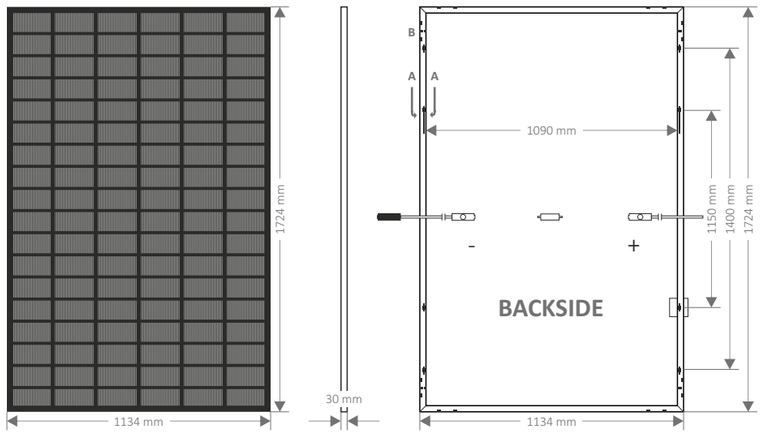
Performance guarantee
30-year performance guarantee on
87.4 % performance guaranteed

www.tenkapower.com

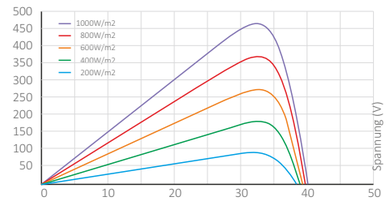
Tenka Orion IV Ultimate

Technical Datasheet	450 W		455 W		460 W		465 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	450 Wp	339 Wp	455 Wp	343 Wp	460 Wp	347 Wp	465 Wp	351 Wp
Maximum power Voltage (Vmp)	33,81 V	31,84 V	33,91 V	31,94 V	34,01 V	32,03 V	34,11 V	32,12 V
Maximum power Current (Imp)	13,32 A	10,67 A	13,42 A	10,76 A	13,53 A	10,84 A	13,64 A	10,93 A
Open circuit voltage (Voc)	39,99 V	37,66 V	40,09 V	37,76 V	40,19 V	37,85 V	40,29 V	37,94 V
Short-circuit current (Isc)	13,96 A	11,32 A	14,02 A	11,37 A	14,08 A	11,42 A	14,14 A	11,46 A
Module efficiency (%)	23,00%		23,30%		23,60%		23,80%	
Voc and Isc Tolerances	±3%							
Operating temperature (°C)	-40°C~+85°C							
Maximum system voltage	1500V							
Maximum series protection	25A							
Temperature coefficient Pmax	-0,29%/°C							
Temperature coefficient Voc	-0,25%/°C							
Temperature coefficient Isc	+0,045%/°C							
Nominal operating temperature of the cell (NOCT)	45±2 °C							
Cell type	N-Type, TOPCon, mono-cristalline 182 mm, Tenka Nanotech Coating*							
Number of cells	108							
Dimensions	1724 x 1134 x 30 mm (±2mm)							
Weight	20,8 Kg							
Glass front	3,2 mm tempered glass, highly transparent anti-reflective coating							
Backside	White film							
Frame	Anodized aluminium alloy, Black							
Junction box	Protection class IP68							
Output cable	TÜV 1 x 4,0 mm² / UL 12AWG, Length 1100 mm							
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2							
Certificates	IEC61215, IEC61730							

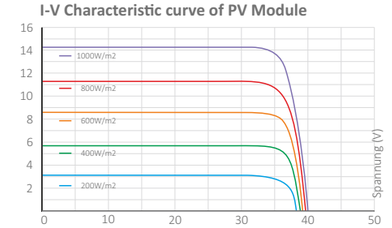
Measurements



P-V Characteristic curve of PV Module



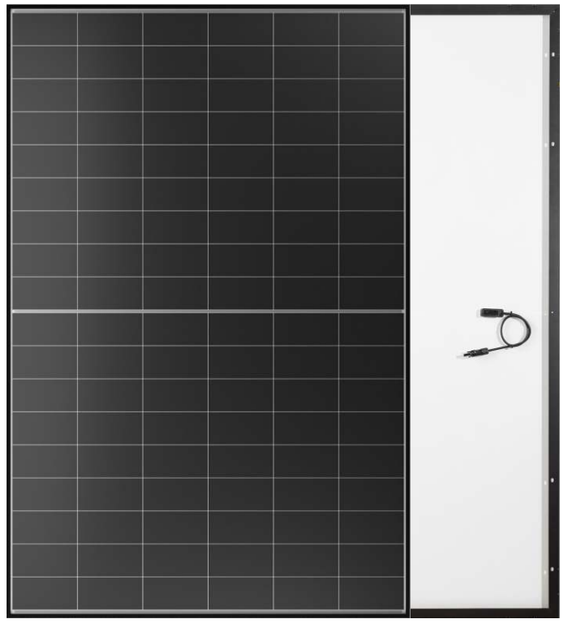
I-V Characteristic curve of PV Module



Packaging information: 36 pieces per pallet, 936 pieces per container (26 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion IV Ultimate Black Frame



Tenka Orion IV Ultimate - Product features

Module efficiency
23.8% module efficiency and 465W Peak power under 2 square metres

Hail protection class 4
Hail protection class 4 for protection against hailstones up to 45 mm

Nanotech coating
Patented Tenka Nanotech technology for improved light absorption

Reliable design
Rear-contact technology reduces micro-cracks in the module

Product guarantee
30-year product guarantee for maximum investment security

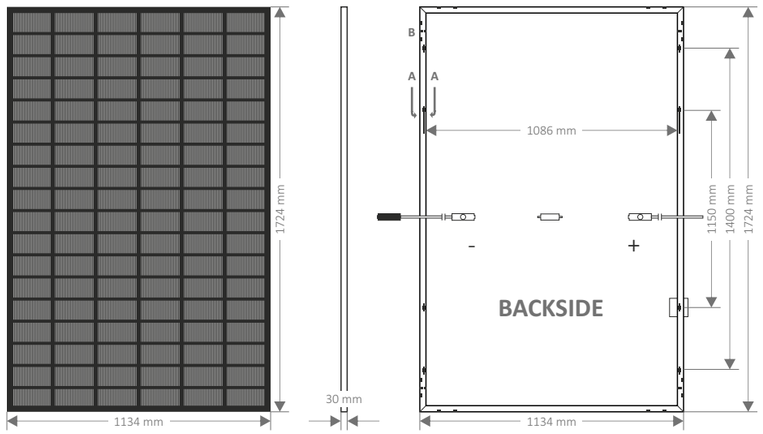
Performance guarantee
30-year performance guarantee on 87.4 % performance guaranteed

www.tenkapower.com

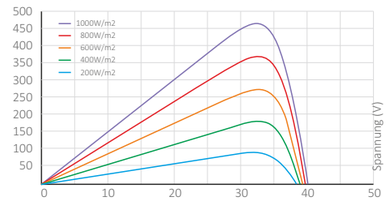
Tenka Orion IV Ultimate

Technical Datasheet	450 W		455 W		460 W		465 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	450 Wp	339 Wp	455 Wp	343 Wp	460 Wp	347 Wp	465 Wp	351 Wp
Maximum power Voltage (Vmp)	33,81 V	31,84 V	33,91 V	31,94 V	34,01 V	32,03 V	34,11 V	32,12 V
Maximum power Current (Imp)	13,32 A	10,67 A	13,42 A	10,76 A	13,53 A	10,84 A	13,64 A	10,93 A
Open circuit voltage (Voc)	39,99 V	37,66 V	40,09 V	37,76 V	40,19 V	37,85 V	40,29 V	37,94 V
Short-circuit current (Isc)	13,96 A	11,32 A	14,02 A	11,37 A	14,08 A	11,42 A	14,14 A	11,46 A
Module efficiency (%)	23,00%		23,30%		23,60%		23,80%	
Voc and Isc Tolerances	±3%							
Operating temperature (°C)	-40°C~+85°C							
Maximum system voltage	1500V							
Maximum series protection	25A							
Temperature coefficient Pmax	-0,29%/°C							
Temperature coefficient Voc	-0,25%/°C							
Temperature coefficient Isc	+0,045%/°C							
Nominal operating temperature of the cell (NOCT)	45±2 °C							
Cell type	N-Type, TOPCon, mono-cristalline 182 mm, Tenka Nanotech Coating*							
Number of cells	108							
Dimensions	1724 x 1134 x 30 mm (±2mm)							
Weight	20,8 Kg							
Glass front	3,2 mm tempered glass, highly transparent anti-reflective coating							
Backside	White film							
Frame	Anodized aluminium alloy, Black							
Junction box	Protection class IP68							
Output cable	TÜV 1 x 4,0 mm² / UL 12AWG, Length 1100 mm							
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2							
Certificates	IEC61215, IEC61730							

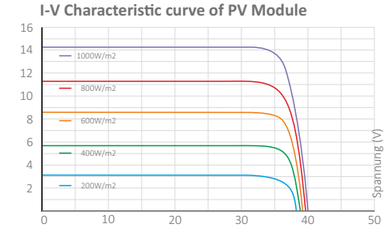
Measurements



P-V Characteristic curve of PV Module



I-V Characteristic curve of PV Module



Packaging information: 36 pieces per pallet, 936 pieces per container (26 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion VIIs **Bi-facial Silver Frame**

Tenka Orion VIIs - Product features

Module efficiency
23.51% module efficiency and
635W Peak power

Maximum power output
Maximum output of
635 watts

Nanotech coating
Patented Tenka Nanotech technology
for improved light absorption

Longevity
Low degradation, optimised
long-term performance

Product guarantee
30-year product guarantee for
maximum investment security

Performance guarantee
30-year performance guarantee on
87.4 % performance guaranteed

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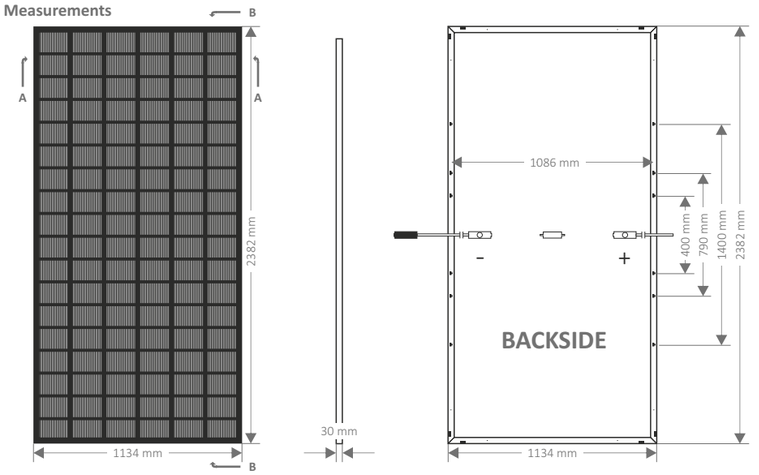
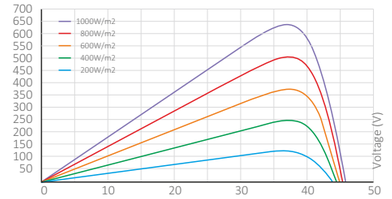
Tenka Orion VIIs

Technical Datasheet	620 W		625 W		630 W		635 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	620 Wp	474 Wp	625 Wp	478 Wp	630 Wp	482 Wp	635 Wp	486 Wp
Maximum power Voltage (Vmp)	41,2 V	38,7 V	41,4 V	38,9 V	41,6 V	39,1 V	41,8 V	39,3 V
Maximum power Current (Imp)	15,05 A	12,25 A	15,10 A	12,29 A	15,15 A	12,33 A	15,20 A	12,37 A
Open circuit voltage (Voc)	49,6 V	47,1 V	49,9 V	47,4 V	50,2 V	47,7 V	50,5 V	48,0 V
Short-circuit current (Isc)	15,90 A	12,82 A	15,92 A	12,84 A	15,94 A	12,86 A	15,96 A	12,88 A
Module efficiency (%)	22,95%		23,14%		23,32%		23,51%	
Voc and Isc Tolerances	±3%							
Operating temperature (°C)	-40°C~+85°C							
Maximum system voltage	1500V							
Maximum series protection	35A							
Temperature coefficient Pmax	-0,29%/°C							
Temperature coefficient Voc	-0,25%/°C							
Temperature coefficient Isc	+0,045%/°C							
Nominal operating temperature of the cell (NOCT)	45±2 °C							
Cell type	N-Type, TOPCon, mono-cristalline 182 x 210 mm, Tenka Nanotech Coating*							
Number of cells	132							
Dimensions	2382 x 1134 x 30 mm (±2mm)							
Weight	33 Kg							
Glass front	2 mm tempered glass, highly transparent anti-reflective coating							
Glass back	2 mm tempered glass, highly transparent anti-reflective coating							
Frame	Anodized aluminium alloy, Silver							
Junction box	Protection class IP68							
Output cable	TÜV 1 x 4,0 mm² / UL 12AWG, Length 1400 mm							
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2							
Certificates	IEC61215, IEC61730							
Bi-facial backside power increase	**620 W**		**625 W**		**630 W**		**635 W**	
5%	651 Wp		656 Wp		661 Wp		666 Wp	
15%	713 Wp		718 Wp		724 Wp		730 Wp	
25%	775 Wp		781 Wp		788 Wp		794 Wp	

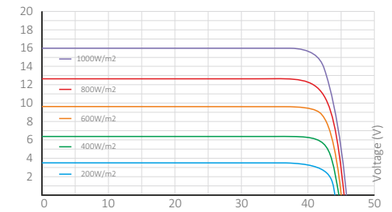
Measurements



P-V Characteristic curve of PV Module



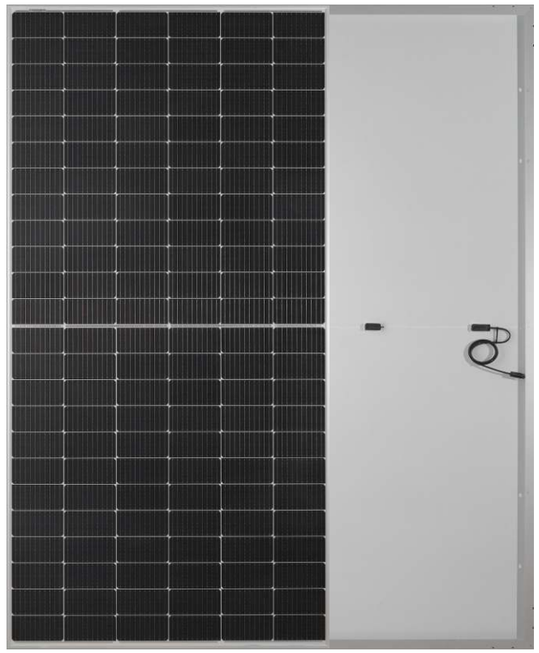
I-V Characteristic curve of PV Module



Packaging information: 36 pieces per pallet, 720 pieces per container (20 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.

Tenka Orion IX Silver Frame



Tenka Orion IX - Product features

Module efficiency
22.21% module efficiency and
690W Peak power

Maximum power output
Maximum output of
690 watts

Nanotech coating
Patented Tenka Nanotech technology
for improved light absorption

Longevity
Low degradation, optimised
long-term performance

Product guarantee
30-year product guarantee for
maximum investment security

Performance guarantee
30-year performance guarantee on
87.4 % performance guaranteed

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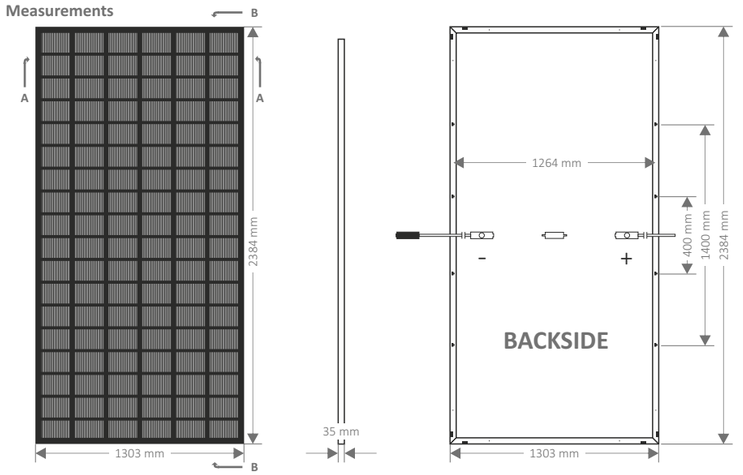
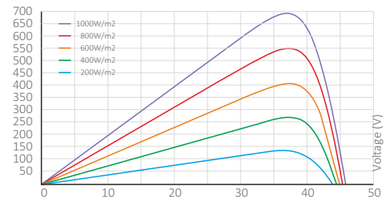
Tenka Orion IX

Technical Datasheet	670 W		675 W		680 W		685 W		690 W	
	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]	STC [1]	NMOT [2]
Maximum power (Pmax)	670 Wp	510 Wp	675 Wp	514 Wp	680 Wp	518 Wp	685 Wp	522 Wp	690 Wp	526 Wp
Maximum power Voltage (Vmp)	38,20 V	34,79 V	38,40 V	34,97 V	38,60 V	35,15 V	38,80 V	35,32 V	39,00 V	35,50 V
Maximum power Current (Imp)	17,55 A	14,66 A	17,59 A	14,70 A	17,63 A	14,74 A	17,67 A	14,78 A	17,71 A	14,82 A
Open circuit voltage (Voc)	46,10 V	41,92 V	46,30 V	42,10 V	46,50 V	42,28 V	46,70 V	42,46 V	46,90 V	42,64 V
Short-circuit current (Isc)	18,62 A	15,66 A	18,66 A	15,70 A	18,71 A	15,74 A	18,75 A	15,78 A	18,80 A	15,82 A
Module efficiency (%)	21,57%		21,73%		21,89%		22,05%		22,21%	
Voc and Isc Tolerances	±3%									
Operating temperature (°C)	-40°C~+85°C									
Maximum system voltage	1500V									
Maximum series protection	35A									
Temperature coefficient Pmax	-0,29%/°C									
Temperature coefficient Voc	-0,25%/°C									
Temperature coefficient Isc	+0,048%/°C									
Nominal operating temperature of the cell (NOCT)	45±2 °C									
Cell type	N-Type, TOPCon, mono-cristalline 210 mm, Tenka Nanotech Coating									
Number of cells	132									
Dimensions	2384 x 1303 x 35 mm (±2mm)									
Weight	33,5 Kg									
Glass front	3,2 mm tempered glass, highly transparent anti-reflective coating									
Backside	Grey Film									
Frame	Anodized aluminium alloy, Silver									
Junction box	Protection class IP68									
Output cable	TÜV 1 x 4,0 mm^2 / UL 12AWG, Length 1200 mm									
Resistance to mechanical loads	5.400 Pa acc. IEC 61215-1-2									
Certificates	IEC61215, IEC61730									

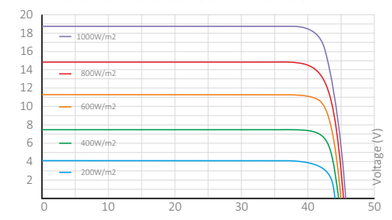
Measurements



P-V Characteristic curve of PV Module



I-V Characteristic curve of PV Module



Packaging information: 31 pieces per pallet, 558 pieces per container (18 pallets)

* By using the Tenka Nanotech layer, 15/20 watts more are generated compared to the standard cell.
[1] STC (standard test conditions): Irradiance 1000W/m2. Cell temperature 25°C. AM 1.5
[2] NMOT (Nominal Module Operating Temperature): Irradiance 800W/m2. NMOT ambient temperature 20°C. AM 1.5. Wind speed 1m/s. Data at nominal conditions. Errors and omissions excepted. Illustrations may vary.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