SOLAR'S MOST TRUSTED

REC

REC ALPHA®
PURE 2 SERIES

DATASHEET

COMPACT PANEL SIZE

400-430 W_P

HETEROJUNCTION TECHNOLOGY

22.2% MAX. EFFICIENCY

-0.24% /K TEMP. COEFF. P_{MAX}

92% MIN. POWER IN YEAR 25

PRODUCT · REC 25 YEAR ProTrust WARRANTY · PERFORMANCE · LABOR

ELIGIBLE

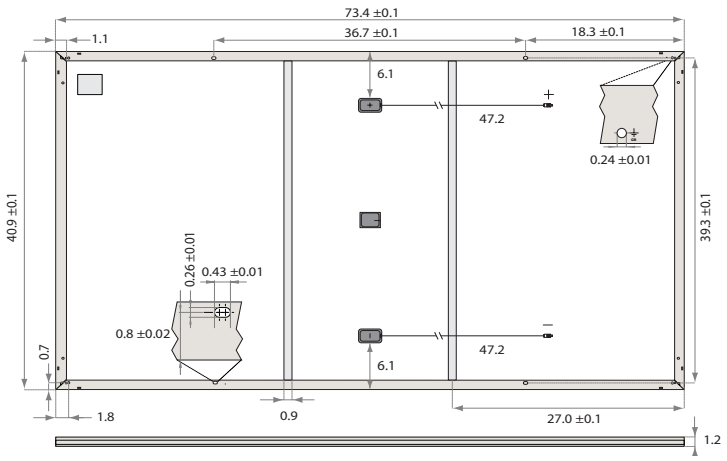
REC ALPHA® PURE 2 SERIES
DATASHEET

REC
SOLAR'S MOST TRUSTED

GENERAL DATA

Cell Type	132 half-cut bifacial REC heterojunction cells, with gapless technology
Glass	0.13 in solar glass with anti-reflective surface treatment in accordance with EN12150
Backsheet	Highly resistant polymer (Black)
Frame	Anodized aluminum (Black)
Junction Box	3-part, 3 bypass diodes, IP68 rated, in accordance with IEC 62790
Connectors	Stäubli MC4 PV-KBT4/KST4 (12AWG) in accordance with IEC 62852, IP68 only when connected
Cable	12 AWG solar cable, 47.2 in + 47.2 in in accordance with EN50618
Dimensions	73.4 x 40.9 x 1.2 in (20.8 ft²)
Weight	47.8 lb
Origin	Made in Singapore

Measurements in inches



ELECTRICAL DATA

PRODUCT CODE*: RECxxxAA Pure 2

	400	410	420	430
STC				
Power Output - P_{max} (W_P)	400	410	420	430
Watt Class Sorting - (W)	0/+10	0/+10	0/+10	0/+10
Nominal Power Voltage - V_{MPP}(V)	41.1	41.6	42.2	42.8
Nominal Power Current - I_{MPP}(A)	9.74	9.86	9.96	10.05
Open Circuit Voltage - V_{OC} (V)	48.5	48.8	49.1	49.3
Short Circuit Current - I_{SC} (A)	10.60	10.67	10.74	10.81
Power Density (W/ft²)	19.2	19.7	20.2	20.7
Panel Efficiency (%)	20.6	21.1	21.7	22.2
NMOT				
Power Output - P_{max} (W_P)	304	312	320	327
Nominal Power Voltage - V_{MPP} (V)	38.7	39.2	39.8	40.3
Nominal Power Current - I_{MPP} (A)	7.86	7.96	8.05	8.12
Open Circuit Voltage - V_{OC} (V)	45.7	45.8	46.0	46.2
Short Circuit Current - I_{SC} (A)	8.5	8.62	8.68	8.73

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 77°F (25°C)), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s)). *Where xxx indicates the nominal power class (P_{MAX}) at STC above.

MAXIMUM RATINGS*

Operational Temperature	-40 °F - 185 °F
System Voltage	1000 V
Maximum Test Load (front)	+7000 Pa (146 lb/ft²)
Maximum Test Load (rear)	-4000 Pa (83.4 lb/ft²)
Max Series Fuse Rating	25 A
Max Reverse Current	25 A

* See installation manual for mounting instructions.
Design load = Test load / 1.5 (safety factor)

TEMPERATURE RATINGS*

Nominal Module Operating Temperature	44 °C ± 2°C
Temperature coefficient of P_{max}	-0.24% /K
Temperature coefficient of V_{OC}	-0.24% /K
Temperature coefficient of I_{SC}	0.04% /K

*The temperature coefficients stated are linear values

DELIVERY INFORMATION

Panels per Pallet	33
Panels per 40 ft GP/high cube container	792 (24 Pallets)
Panels per 53 ft truck	858 (26 Pallets)

CERTIFICATIONS

IEC 61215:2021; IEC61730:2016; UL61730	
IEC 62716	Ammonia Resistance
IEC 61701	Salt Mist (SM6)
IEC 61215:2016	Hailstone (35mm)
UL 61730	Fire Type 2
ISO 14001; ISO9001; IEC45001; IEC62941	

Intertek

take e-way
for an easy way

Take-e-way WEEE-compliant scheme

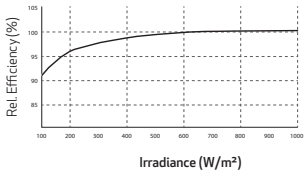
WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Professional	No	Yes	Yes
System Size	All	<25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

The REC ProTrust Warranty is only available on panels purchased through an REC Certified Solar Professional installer. Warranty conditions apply. See www.recgroup.com for more details

LOW LIGHT BEHAVIOR

Typical low irradiance performance of module at STC:



Available from:

Specifications subject to change without notice.

Ref: PM-DS-12-06-Rev-3.2 4.2024

Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.

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REC

SOLAR'S MOST TRUSTED

REC

REC ALPHA® PURE SERIES

PRODUCT SPECIFICATIONS

COMPACT PANEL SIZE

410 WP

222 W/M²

PRODUCT
REC
25 YEAR
PROTRUST
WARRANTY
PERFORMANCE
LABOR

ELIGIBLE

LEAD-FREE
ROHS COMPLIANT

EXPERIENCE
α
PERFORMANCE

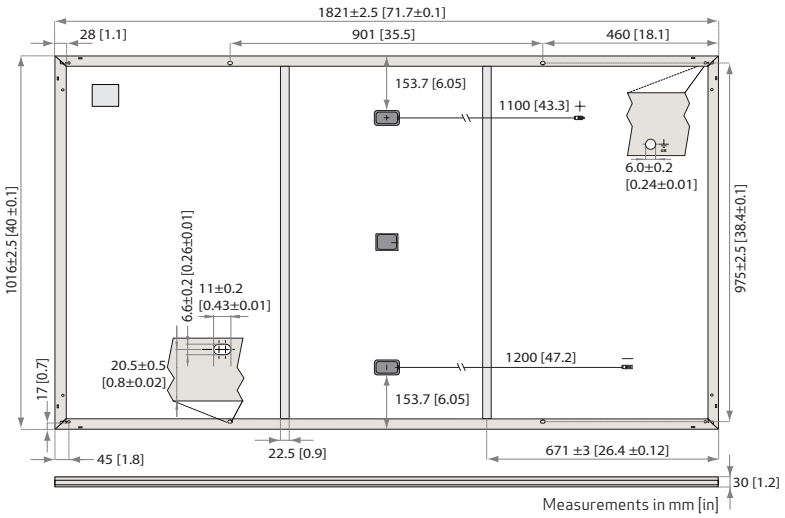
REC ALPHA PURE SERIES

PRODUCT SPECIFICATIONS

REC
SOLAR'S MOST TRUSTED

GENERAL DATA

Cell type:	132 half-cut REC heterojunction cells with lead-free, gapless technology, 6 strings of 22 cells in series
Glass:	3.2 mm solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (4 mm²) in accordance with IEC 62852, IP68 only when connected
Cable:	4 mm² solar cable, 1.1 m + 1.2 m in accordance with EN 50618
Dimensions:	1821 x 1016 x 30 mm (1.85 m²)
Weight:	20.5 kg
Origin:	Made in Singapore



ELECTRICAL DATA — Product Code*: RECxxxAA Pure

STC					
Power Output - P_{MAX} (Wp)	390	395	400	405	410
Watt Class Sorting - (W)	0/+5	0/+5	0/+5	0/+5	0/+5
Nominal Power Voltage - V_{MPP} (V)	40.6	41.0	41.4	41.8	42.2
Nominal Power Current - I_{MPP} (A)	9.61	9.64	9.67	9.69	9.72
Open Circuit Voltage - V_{OC} (V)	48.4	48.6	48.8	49.1	49.4
Short Circuit Current - I_{SC} (A)	10.38	10.39	10.40	10.41	10.42
Power Density (W/m²)	211	214	216	219	222
Panel Efficiency (%)	21.1	21.4	21.6	21.9	22.2
NMOT					
Power Output - P_{MAX} (Wp)	297	301	305	308	312
Nominal Power Voltage - V_{MPP} (V)	38.3	38.6	39.0	39.4	39.8
Nominal Power Current - I_{MPP} (A)	7.77	7.79	7.82	7.83	7.85
Open Circuit Voltage - V_{OC} (V)	45.6	45.8	46.0	46.3	46.6
Short Circuit Current - I_{SC} (A)	8.38	8.39	8.40	8.41	8.42

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist
IEC 62716	Ammonia Resistance
ISO 11925-2	Ignitability (Class E)
IEC 62782	Dynamic Mechanical Load
IEC 61215-2:2016	Hailstone (35mm)
IEC 62321	Lead-free acc. to RoHS EU 863/2015
ISO 14001, ISO 9001, IEC 45001, IEC 62941	

Intertek · Lead-Free · take-e-way WEEE-compliant recycling scheme

TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P_{MAX}:	-0.24 %/°C
Temperature coefficient of V_{OC}:	-0.24 %/°C
Temperature coefficient of I_{SC}:	0.04 %/°C

*The temperature coefficients stated are linear values

MAXIMUM RATINGS

Operational temperature:	-40 ... +85°C
Maximum system voltage:	1000 V
Maximum test load (front):	+7000 Pa (713 kg/m²)*
Maximum test load (rear):	-4000 Pa (407 kg/m²)*
Max series fuse rating:	25 A
Max reverse current:	25 A

* See installation manual for mounting instructions. Design load = Test load / 1.5 (safety factor)

WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

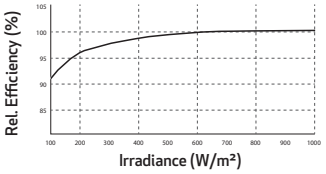
The REC ProTrust Warranty is only available on panels purchased through an REC Certified Solar Professional installer. Warranty conditions apply. See www.recgroup.com for more details.

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 (24 pallets)
Panels per 13.6 m truck:	924 (28 pallets)
Panels per 53 ft truck:	891 (27 pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Available from:

Declare.
Living Building Challenge Compliant

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REC

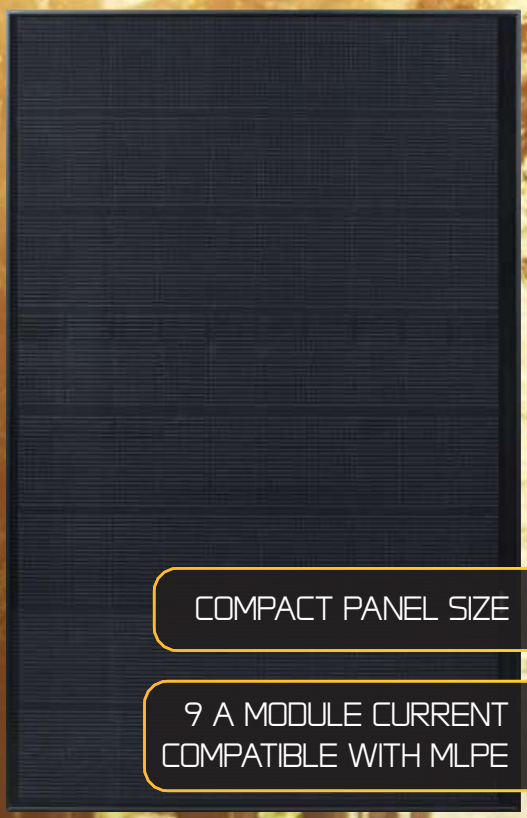
Ref: PM-DS-12-06-Rev-9 02.23

SOLAR'S MOST TRUSTED

REC

REC ALPHA PURE-R SERIES

PRODUCT SPECIFICATIONS



COMPACT PANEL SIZE

9 A MODULE CURRENT
COMPATIBLE WITH MLPE

430 WP

20.7 W/FT²

22.3% EFFICIENCY

PRODUCT
REC
25 YEAR
PROTRUST
WARRANTY
LABOR
PERFORMANCE

ELIGIBLE

LEAD-FREE
ROHS COMPLIANT

EXPERIENCE
α
PERFORMANCE

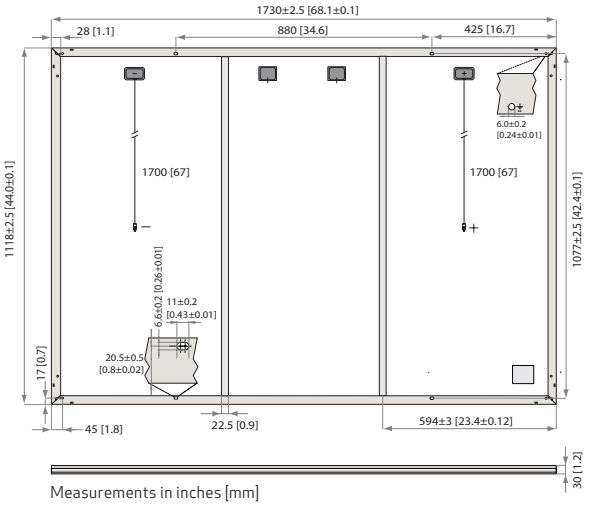
REC ALPHA PURE-R SERIES

PRODUCT SPECIFICATIONS

REC
SOLAR'S MOST TRUSTED

GENERAL DATA

Cell type:	80 half-cut REC bifacial, heterojunction cells with lead-free, gapless technology
Glass:	0.13 in (3.2 mm) solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	4-part, 4 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (12 AWG) in accordance with IEC 62852, IP68 only when connected
Cable:	12 AWG (4 mm²) PV wire, 67 + 67 in (1.7 + 1.7 m) in accordance with EN 50618
Dimensions:	68.1 x 44.0 x 1.2 in (20.77 ft²) / 1730 x 1118 x 30 mm (1.93 m²)
Weight:	47.4 lbs (21.5 kg)
Origin:	Made in Singapore



Measurements in inches [mm]

ELECTRICAL DATA — Product Code*: RECxxxAA PURE-R

STC				
Power Output - P_{MAX} (Wp)	400	410	420	430
Watt Class Sorting - (W)	0/+10	0/+10	0/+10	0/+10
Nominal Power Voltage - V_{MPP} (V)	48.8	49.4	50.0	50.5
Nominal Power Current - I_{MPP} (A)	8.20	8.30	8.40	8.52
Open Circuit Voltage - V_{OC} (V)	58.9	59.2	59.4	59.7
Short Circuit Current - I_{SC} (A)	8.80	8.84	8.88	8.91
Power Density (W/ft²)	19.26	19.74	20.22	20.70
Panel Efficiency (%)	20.7	21.2	21.8	22.3
NMOT				
Power Output - P_{MAX} (Wp)	305	312	320	327
Nominal Power Voltage - V_{MPP} (V)	46.0	46.6	47.1	47.6
Nominal Power Current - I_{MPP} (A)	6.64	6.70	6.80	6.88
Open Circuit Voltage - V_{OC} (V)	55.5	55.8	56.0	56.3
Short Circuit Current - I_{SC} (A)	7.11	7.16	7.20	7.24

Values at standard test conditions (STC: air mass AM 1.5, irradiance 10.75 W/sq ft (1000 W/m²), temperature 77°F (25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

MAXIMUM RATINGS

Operational temperature:	-40 ... +85°C
System voltage:	1000 V
Test load (front):	+7000 Pa (146 lbs/ft²)*
Test load (rear):	-4000 Pa (83.5 lbs/ft²)*
Series fuse rating:	25 A
Reverse current:	25 A

*See installation manual for mounting instructions. Design load = Test load / 1.5 (safety factor)

WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

See warranty documents for details. Conditions apply

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist
IEC 62716	Ammonia Resistance
UL 61730	Fire Type 2
IEC 62782	Dynamic Mechanical Load
IEC 61215-2:2016	Hailstone (35mm)
IEC 62321	Lead-free acc. to RoHS EU 863/2015
ISO 14001, ISO 9001, IEC 45001, IEC 62941	

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Lead-Free
Living Building Challenge Compliant
Declare.

TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P_{MAX}:	-0.24 %/°C
Temperature coefficient of V_{OC}:	-0.24 %/°C
Temperature coefficient of I_{SC}:	0.04 %/°C

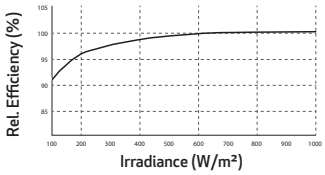
*The temperature coefficients stated are linear values

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	858 (26 pallets)
Panels per 53 ft truck:	858 (26 pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



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REC

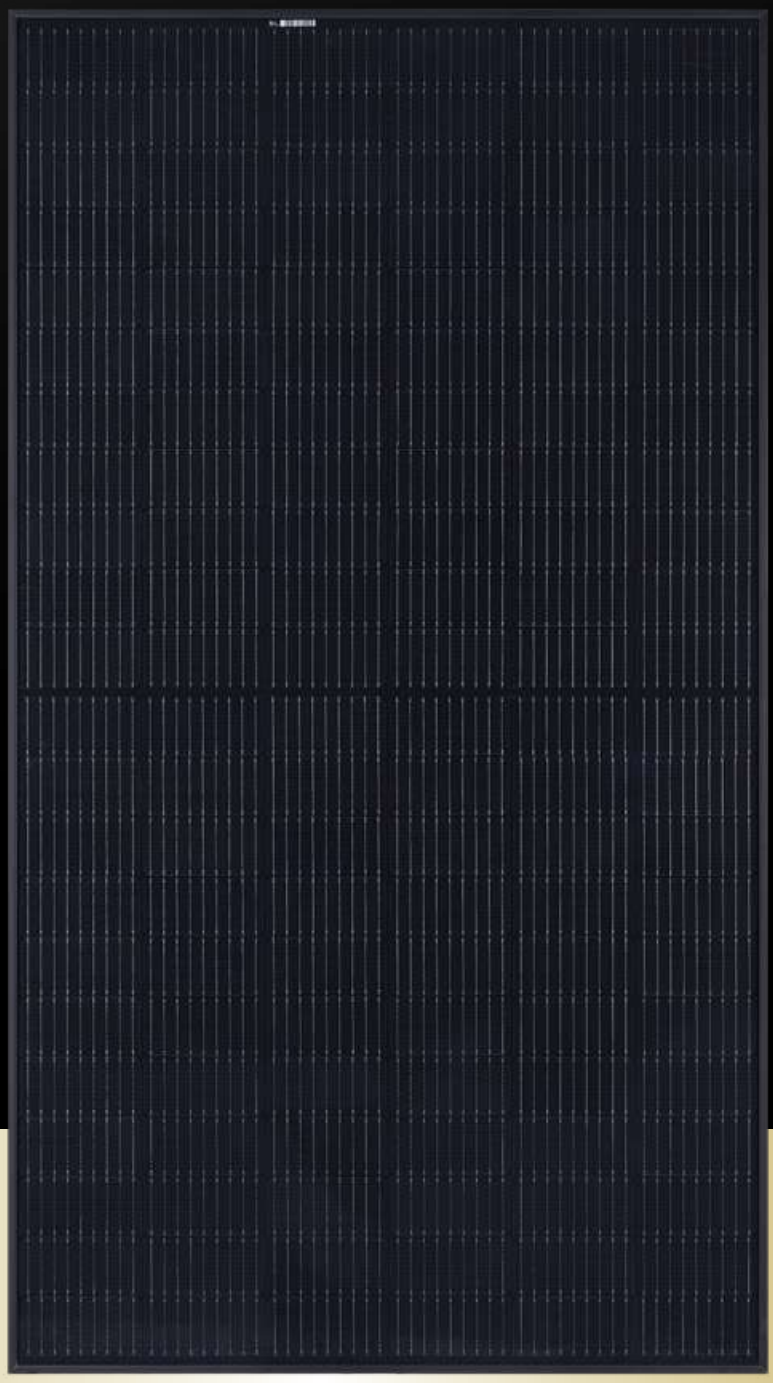
Ref: PD-DS-AAPR Rev 32 10.23

SOLAR'S MOST TRUSTED

REC

REC N-PEAK 3 BLACK SERIES

PREMIUM FULL BLACK MONO N-TYPE SOLAR PANELS



MONO N-TYPE: THE MOST EFFICIENT C-SI TECHNOLOGY

NO LIGHT INDUCED DEGRADATION

SUPER-STRONG FRAME UP TO 7000 PA SNOW LOAD

FLEXIBLE INSTALLATION OPTIONS

FEATURING REC'S PIONEERING TWIN DESIGN

BIFACIAL CELLS CAN PRODUCE ENERGY FROM BOTH SIDES

400
WP
POWER

PRODUCT
REC 25 YEAR ProTrust WARRANTY
PERFORMANCE
LABOR

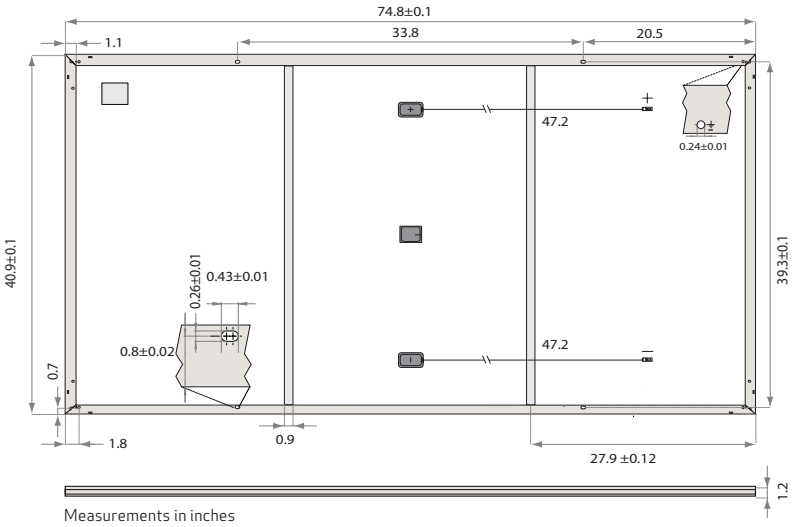
ELIGIBLE

REC
SOLAR'S MOST TRUSTED

REC N-PEAK 3 BLACK SERIES
PRODUCT SPECIFICATIONS

GENERAL DATA

Cell type:	132 half-cut, bifacial, mono c-Si n-type cells 6 strings of 22 cells in series
Glass:	0.13 in solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black) with silver support bars
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (12 AWG) in accordance with IEC 62852, IP68 only when connected
Cable:	12 AWG PV wire, 47.2 + 47.2 in in accordance with EN 50618
Dimensions:	74.8 x 40.9 x 1.2 in (19.7 sq-ft)
Weight:	48.0 lbs
Origin:	Made in Singapore



Measurements in inches

ELECTRICAL DATA

	Product Code*: RECxxxNP3 Black	
STC		
Power Output - P_{MAX} (Wp)	390	400
Watt Class Sorting - (W)	0/+10	0/+10
Nominal Power Voltage - V_{MPP} (V)	36.8	37.6
Nominal Power Current - I_{MPP} (A)	10.60	10.64
Open Circuit Voltage - V_{OC} (V)	44.8	45.0
Short Circuit Current - I_{SC} (A)	11.31	11.39
Panel Efficiency (%)	19.5	20.3
NMOT		
Power Output - P_{MAX} (Wp)	295	302
Nominal Power Voltage - V_{MPP} (V)	34.4	35.2
Nominal Power Current - I_{MPP} (A)	8.56	8.59
Open Circuit Voltage - V_{OC} (V)	41.9	42.1
Short Circuit Current - I_{SC} (A)	9.13	9.20

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist
IEC 62716	Ammonia Resistance
UL 61730	Fire Type Class 2
UL 790	Fire Class Type C
IEC 62782	Dynamic Mechanical Load
IEC 61215-2:2016	Hailstone (1.37in)

ISO 14001, ISO 9001, IEC 45001, IEC 62941

TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44.3°C (±2°C)
Temperature coefficient of P_{MAX}:	-0.34 %/°C
Temperature coefficient of V_{OC}:	-0.26 %/°C
Temperature coefficient of I_{SC}:	0.04 %/°C

*The temperature coefficients stated are linear values

MAXIMUM RATINGS

Operational temperature:	-40 ... +185°F
Maximum system voltage:	1000 V
Maximum test load (front):	+7000 Pa (146 lbs/sq-ft)*
Maximum test load (rear):	-4000 Pa (83.5 lbs/sq-ft)*
Max series fuse rating:	25 A
Max reverse current:	25 A

*See installation manual for mounting instructions. Design load = Test load / 1.5 (safety factor)

WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

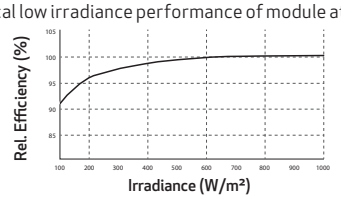
The REC ProTrust Warranty is only available on panels purchased through an REC Certified Solar Professional installer. Warranty conditions apply. See www.recgroup.com for more details.

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 (24 pallets)
Panels per 53 ft truck:	26

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Available from:

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Ref: Rev 3 - 02.23

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REC
www.recgroup.com

SOLAR'S MOST TRUSTED

REC

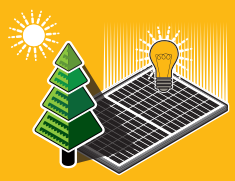
REC TWINPEAK 5 SERIES

PREMIUM SOLAR PANELS WITH SUPERIOR PERFORMANCE

REC TwinPeak 5 Series solar panels feature an innovative design with high panel efficiency and power output, enabling customers to get the most out of the space used for the installation.

Combined with industry-leading product quality and the reliability of a strong and established European brand, REC TwinPeak 5 Series panels are ideal for residential and commercial rooftops worldwide.

MORE POWER OUTPUT PER M²



FEATURING REC'S PIONEERING TWIN DESIGN

100% PID FREE

SUPER-STRONG FRAME

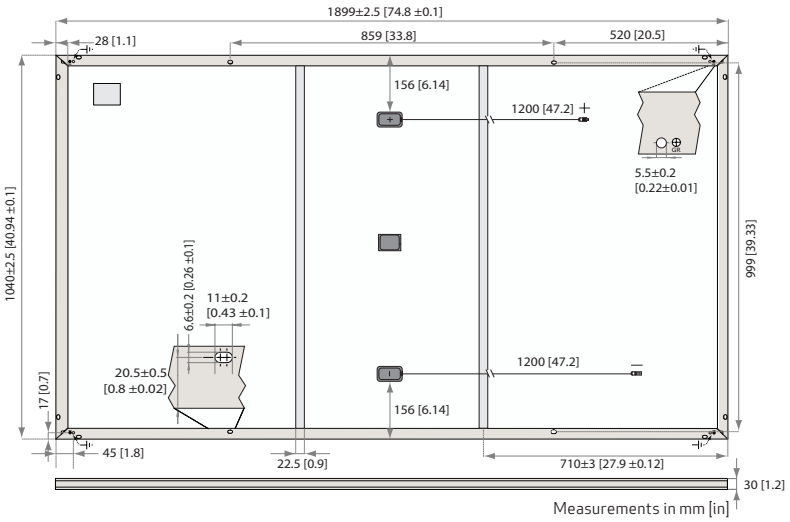
ELIGIBLE

REC
SOLAR'S MOST TRUSTED

REC TWINPEAK 5 SERIES
PRODUCT SPECIFICATIONS

GENERAL DATA

Cell type:	132 half-cut mono c-Si p-type cells, 6 strings of 22 cells in series
Glass:	3.2 mm solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer
Frame:	Anodized aluminum (black) with silver support bars
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (4 mm²) in accordance with IEC 62852, IP68 only when connected
Cable:	4 mm² solar cable, 1.2 m + 1.2 m in accordance with EN 50618
Dimensions:	1899 x 1040 x 30 mm (1.97 m²)
Weight:	21.6 kg
Origin:	Made in Singapore



Measurements in mm [in]

ELECTRICAL DATA — Product Code*: RECxxxTP5

Power Output - P_{MAX} (Wp)	395	400	405	410
Watt Class Sorting - (W)	0/+5 W	0/+5 W	0/+5 W	0/+5 W
Nominal Power Voltage - V_{MPP} (V)	37.2	37.6	38.0	38.3
Nominal Power Current - I_{MPP} (A)	10.62	10.64	10.67	10.71
Open Circuit Voltage - V_{OC} (V)	44.9	45.0	45.1	45.2
Short Circuit Current - I_{SC} (A)	11.35	11.39	11.43	11.47
Panel Efficiency (%)	20.1	20.3	20.6	20.8
NMOT				
Power Output - P_{MAX} (Wp)	298	302	306	310
Nominal Power Voltage - V_{MPP} (V)	34.8	35.2W	35.5	35.8
Nominal Power Current - I_{MPP} (A)	8.58	8.59	8.62	8.65
Open Circuit Voltage - V_{OC} (V)	42.0	42.1	42.2	42.3
Short Circuit Current - I_{SC} (A)	9.17	9.20	9.23	9.27

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730	
IEC 62804	PID
IEC 61701	Salt Mist Corrosion
IEC 62716	Ammonia Corrosion Resistance
ISO 11925-2	Ignitability (Class E)
UL 790	Fire Class C
IEC 62782	Dynamic Mechanical Load
IEC 61215-2:2016	Hailstone (35mm)

ISO 14001, ISO 9001, IEC 45001, IEC 62941

Intertek

take-e-way WEEE-compliant recycling scheme

TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44.6°C (±2°C)
Temperature coefficient of P_{MAX}:	-0.34 %/°C
Temperature coefficient of V_{OC}:	-0.26 %/°C
Temperature coefficient of I_{SC}:	0.04 %/°C

*The temperature coefficients stated are linear values

MAXIMUM RATINGS

Operational temperature:	-40 ... +85°C
Maximum system voltage:	1000 V
Maximum test load (front):	+7000 Pa (713 kg/m²)*
Maximum test load (rear):	-4000 Pa (407 kg/m²)*
Max series fuse rating:	25 A
Max reverse current:	25 A

*See installation manual for mounting instructions. Design load = Test load / 1.5 (safety factor)

WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.5%	0.5%	0.5%
Power in Year 25	86%	86%	86%

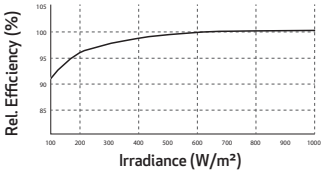
The REC ProTrust Warranty is only available on panels purchased through an REC Certified Solar Professional installer. Warranty conditions apply. See www.recgroup.com for more details.

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 13.6 m truck:	858 (26 pallets)
Panels per 40 ft GP/high cube container	792 (24 pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Available from:

Specifications subject to change without notice.

Ref: Rev 1.1 - 11.22

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www.recgroup.com

REC

SOLAR'S MOST TRUSTED

REC

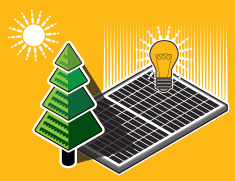
REC TWINPEAK 5 BLACK SERIES

PREMIUM SOLAR PANELS WITH SUPERIOR PERFORMANCE

REC TwinPeak 5 Black Series solar panels feature an innovative design with high panel efficiency and power output, enabling customers to get the most out of the space used for the installation.

Combined with industry-leading product quality and the reliability of a strong and established European brand, REC TwinPeak 5 Black Series panels are ideal for residential and commercial rooftops worldwide.

MORE POWER OUTPUT PER M²



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REC TWINPEAK 5 BLACK SERIES
PRODUCT SPECIFICATIONS

GENERAL DATA

Cell type:	132 half-cut mono c-Si p-type cells, 6 strings of 22 cells in series
Glass:	3.2 mm solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black) with silver support bars
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (4 mm²) in accordance with IEC 62852, IP68 only when connected
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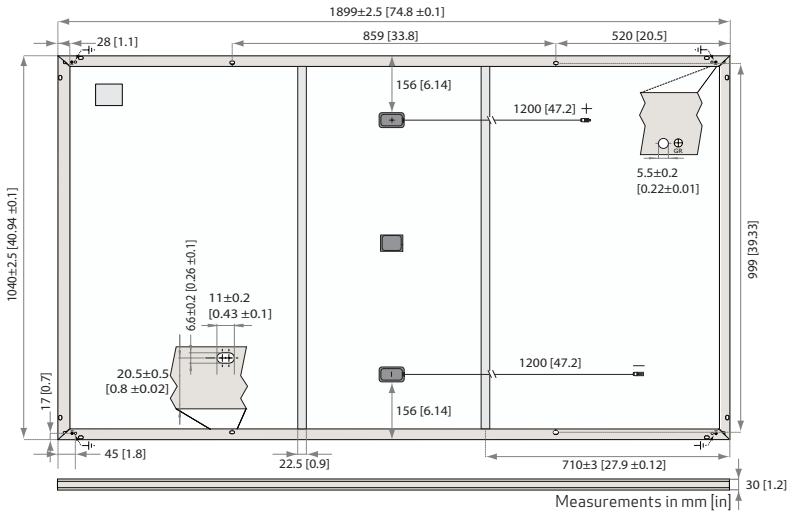

ELECTRICAL DATA — Product Code*: RECxxxTP5 Black

STC					
Power Output - P_{MAX} (Wp)	390	395	400	405	410
Watt Class Sorting - (W)	0/+5 W	0/+5 W	0/+5 W	0/+5 W	0/+5 W
Nominal Power Voltage - V_{MPP} (V)	36.8	37.2	37.6	38.0	38.3
Nominal Power Current - I_{MPP} (A)	10.60	10.62	10.64	10.67	10.71
Open Circuit Voltage - V_{OC} (V)	44.8	44.9	45.0	45.1	45.2
Short Circuit Current - I_{SC} (A)	11.31	11.35	11.39	11.43	11.47
Panel Efficiency (%)	19.8	20.1	20.3	20.6	20.8
NMOT					
Power Output - P_{MAX} (Wp)	295	298	302	306	310
Nominal Power Voltage - V_{MPP} (V)	34.4	34.8	35.2	35.5	35.8
Nominal Power Current - I_{MPP} (A)	8.56	8.58	8.59	8.62	8.65
Open Circuit Voltage - V_{OC} (V)	41.9	42.0	42.1	42.2	42.3
Short Circuit Current - I_{SC} (A)	9.13	9.17	9.20	9.23	9.27

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

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MAXIMUM RATINGS

Operational temperature:	-40 ... +85°C
Maximum system voltage:	1000 V
Maximum test load (front):	+7000 Pa (713 kg/m²)*
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WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Solar Professional	No	Yes	Yes
System Size	All	≤25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.5%	0.5%	0.5%
Power in Year 25	86%	86%	86%

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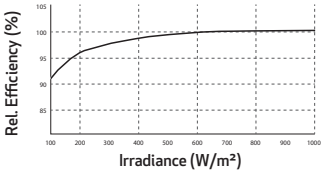

Available from:

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REC

Ref: Rev 1.1 - 11.22

SOLAR'S MOST TRUSTED

REC

REC ALPHA® PURE SERIES

ALPHA EXPLAINED

COMPACT PANEL SIZE

410 WP

222 W/M²

PRODUCT
REC
25 YEAR
PROTRUST
WARRANTY
LABOR
PERFORMANCE

ELIGIBLE

LEAD-FREE

ROHS COMPLIANT

EXPERIENCE

α

PERFORMANCE

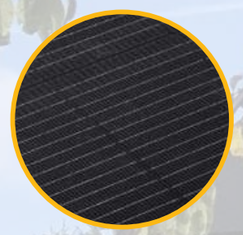
GROUND-BREAKING TECHNOLOGY FOR MAXIMIZING POWER DENSITY

MORE POWER MAKES THE MOST OF YOUR ROOFTOP SPACE

The REC Alpha Pure Series unites leading cell technologies to create a revolutionary, powerful and reliable solar panel to help you make more savings from your rooftop:

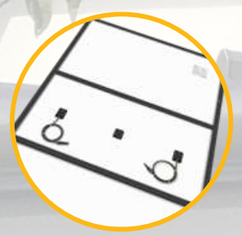
Heterojunction cells
- Combines the best of modern cell technology
- Highly efficient cells for high performance

N-type technology = more power
- No initial power loss (no LID)
- You get the power you pay for

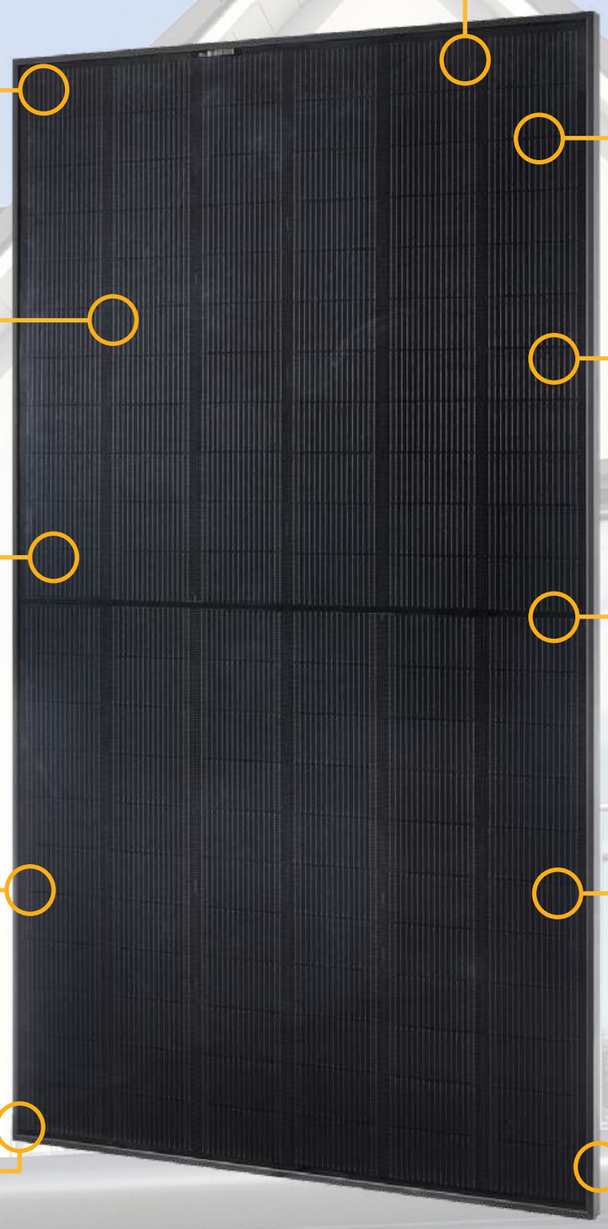


Advanced gapless cell connections
- Eliminates soldering for better build quality
- Reduces cell stress for long-term durability
- Increases power and keeps panel compact

Higher light transmission
- Special anti-reflective glass increases light transmission for higher power



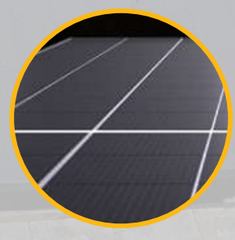
Guaranteed better durability
- Withstands up to 7000 Pa
- Better protection against harsh weather



Improved looks
- Gapless cells for great aesthetics
- Full black appearance for an elegant look

High power density of 222 W/m²
- Generates more clean energy from the available space, e.g. rooftop

Higher efficiency at the hottest times
- Leading temperature coefficient for more production when the sun shines strongest
- Better performance in hot conditions



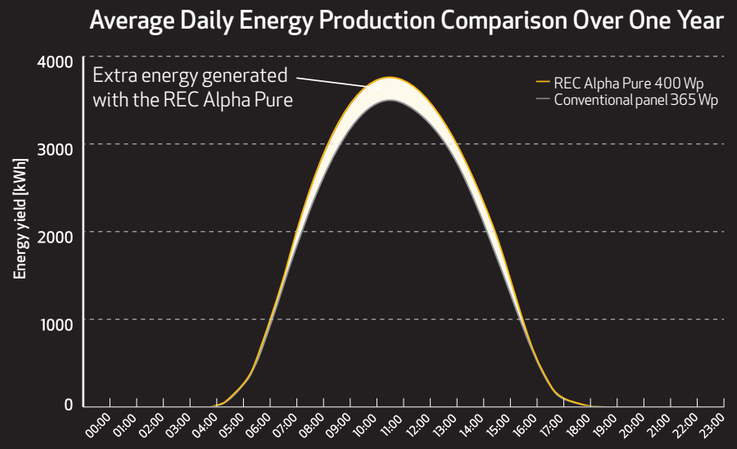
REC's iconic Twin Design
- Reduces internal resistance for more power and reliability
- Improved output when shaded

Environmentally-friendly
- Lead-free (RoHS compliant)
- Manufacturing with minimal carbon footprint

Exceptional quality
- Made in REC's state of the art, energy efficient facility in Singapore
- Highly automated production for improved efficiency and reliability
- Consistently one of the lowest warranty claims rate in solar

GREATER ANNUAL YIELDS
FROM DAWN TO DUSK

The REC Alpha Pure packs in more energy than ever before. With no LID, a leading temperature coefficient and its high power density, it is ideal for increasing energy yields and making the most of available rooftop space.



Calculations based on simulation results for full calendar year, based on an 1.2 kWp system in Palm Springs, CA, USA. Peak REC Alpha Pure energy yield difference at midday: +6%, with an overall greater annual yield of 7.6%. Performance may vary dependent on location.

MORE POWER

WITH THE REC ALPHA PURE!

MAXIMIZE SYSTEM POWER
FOR MAXIMUM SAVINGS

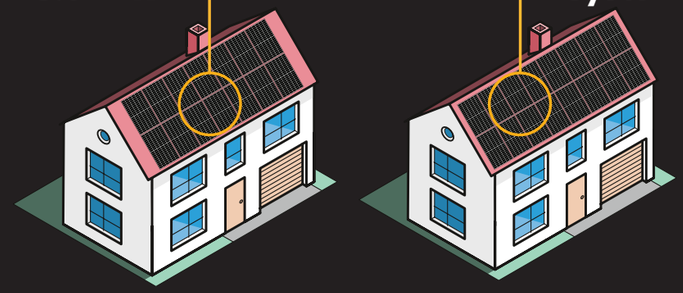
Optimum use of space is key to a good solar installation. The REC Alpha Pure allows you to pack in as much power as possible, generating more energy and more savings on your bills.

14 x 415 Wp conventional panels
(> 1.87 m^2 panel area):

System size = 5.81 kW

16 x 400 Wp REC Alpha Pure
(1.85 m^2 panel area):

System size = 6.40 kW

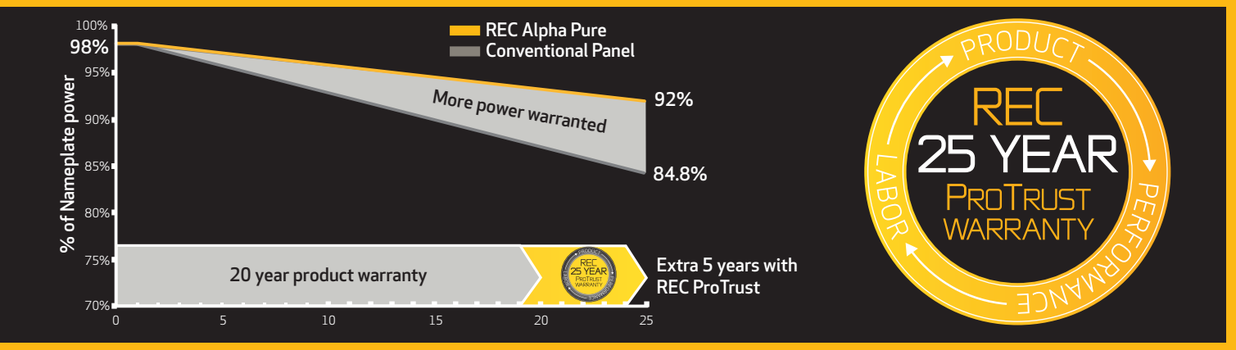


Based on an available roof area of 30 m^2.

The comparison is clear: in a regular residential installation, the REC Alpha Pure offers more power than conventional panels for more energy and more savings.

MORE WARRANTED POWER
AFTER 25 YEARS

REC's consistently low claims rate justifies an outstanding warranty which reflects this leadership and supports our premium product quality.



Exclusive to REC Certified Solar Professionals, the REC ProTrust Warranty offers enhanced product and labor coverage*, ensuring peace of mind and a lifetime of high power generation:

- 25 years performance warranty
- 25 years product warranty
- Up to 25 year labor warranty*

*Conditions apply. See www.recgroup.com/protrust for more details

LEADING THE WAY TO
A MORE SUSTAINABLE FUTURE

Lead and other toxins can be found in almost all solar panels today. That means all the panels produced in 2020 will potentially add around 10,000 tons of lead to the environment in the future! Using advanced manufacturing techniques, the REC Alpha Pure has removed the lead from all components so that it is compliant with Restriction of Hazardous Substances regulations (RoHS) across the world. This sets the pace in sustainability for solar and shows that a clean energy future without lead and toxins is possible.

Plant the seed for a sustainable future

No toxic leakage of lead after recycling

Our commitment to a lead-free and toxin-safe future

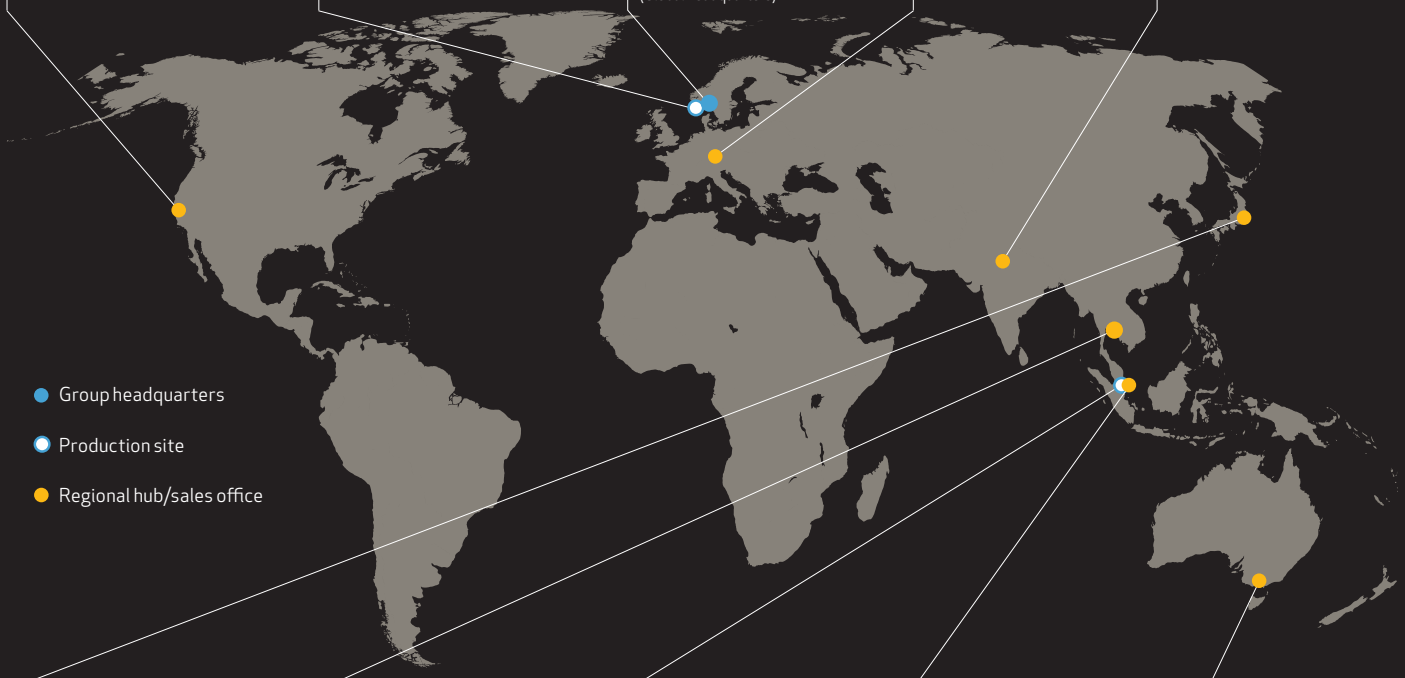
Cuts risks to humans and animals

Certified lead-free RoHS-compliant

Do even more than just producing clean energy

REC - SOLAR'S MOST TRUSTED

REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power through high-quality solar panels with a leading power density. As Solar's Most Trusted, REC is known for its patented innovations and multiple award-winning products with reliable long-term performance. The cornerstone for REC's strong reliability is advanced and highly efficient manufacturing using Industry 4.0 practices. Founded in 1996 in Norway, REC has always been committed to a low carbon footprint in its solar materials and panels. REC is headquartered in Norway with operational headquarters in Singapore and regional hubs in North America, Europe, and Asia-Pacific.



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REC

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Rev- C 11.21

SOLAR'S MOST TRUSTED

REC N-PEAK TECHNOLOGY EXPLAINED

PREMIUM N-TYPE MONO SOLAR PANELS USING HALF-CUT CELL TECHNOLOGY FROM THE LARGEST EUROPEAN BRAND

REC N-Peak solar panels feature innovative TOPCon cell technology and a robust frame design for higher efficiency and higher power output:

- More power for more electricity generation
- Higher yields through improved performance in shaded conditions
- Proven reliability of an established European brand

MONO N-TYPE: THE MOST EFFICIENT C-SI TECHNOLOGY

NO LIGHT INDUCED DEGRADATION

SUPER-STRONG FRAME UP TO 7000 PA SNOW LOAD

FLEXIBLE INSTALLATION OPTIONS

FEATURING REC'S PIONEERING TWIN DESIGN

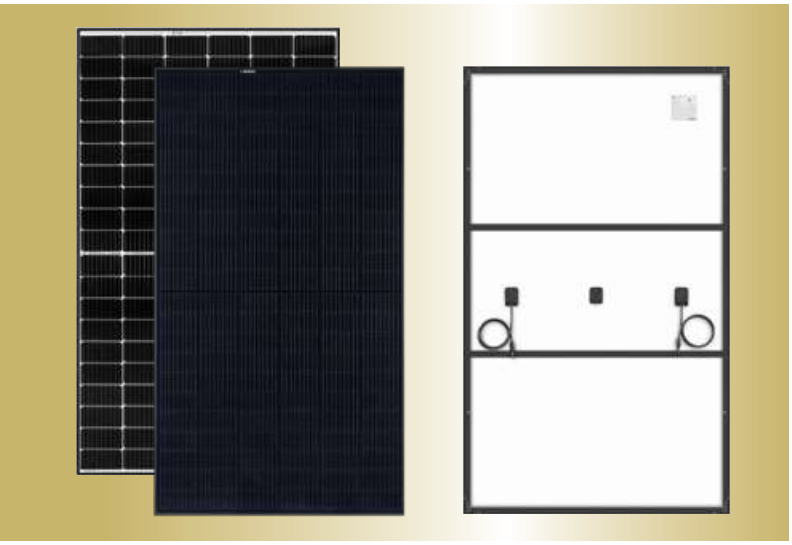
BIFACIAL CELLS CAN PRODUCE ENERGY FROM BOTH SIDES

REC N-PEAK EXPLAINED

A powerful module with high efficiency n-type cells!

Providing customers with one of the most efficient cell technologies in the industry REC N-Peak panels capture more sunlight and provide more power.

Ideal for residential and smaller commercial and industrial rooftops, REC N-Peak panels pack as much power as possible in to a limited space for use where higher power levels need to be achieved with fewer modules. REC's unique Twin Design Technology, splits the panel into two identical and mirrored sections, enabling the continued production of energy, even when part of the module or array is shaded, further contributing to its high energy yields compared to standard panels.



Zero LID:

The loss of power generation capacity seen in a standard solar panel on first exposure to light is known as Light Induced Degradation (LID). This is a result of the reaction of boron and oxygen inside a cell and causes a permanent drop in a standard panel's maximum power.

Not with REC N-Peak panels, however! Through the use of n-type technology, the cells in REC N-Peak panels avoid a reaction between boron and oxygen at all levels. Therefore any occurence of LID can be fully prevented.

This ensures the power of the panel remains the same as when it left the REC factory, meaning customers get exactly the power levels that they paid for.

Advantages of REC's n-type mono cells:

Based on high efficiency monocrystalline cell technology, REC N-Peak panels boost efficiency through n-type and TOPCon (Tunnel Oxide Passivated Contact) technologies:

- With n-type cell technology, the internal construction of a cell reduces Light Induced Degradation (LID) to zero, meaning no power loss right after installation
- TOPCon technology completely passivates the rear of the cell for increased electron capture and high and stabilized efficiency
- Inherently bifacial cells produce energy from both sides of the panel
- An excellent temperature performance keeps panels cooler for increased efficiency and higher yields
- All round higher yields at higher wavelengths, with strong performance from dawn through to dusk

Combining n-type and TOPCon technology in REC N-Peak panels has created a high efficency and powerful solar panel, that helps you make the most of every installation, especially where space is limited.

Super-strong frame design:

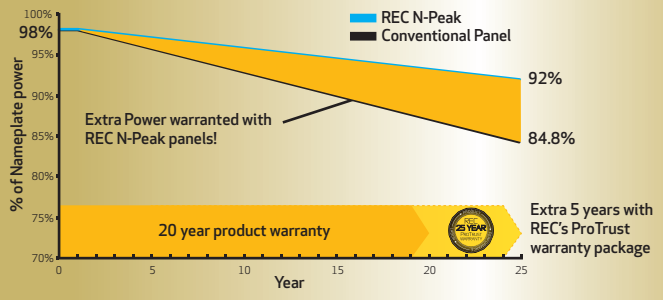
By using two extra support bars across the rear of the panel, REC N-Peak panels reduce the bending and deformation of the panel under load while allowing loads of up to 7000 Pa, far exceeding the 5400 Pa offered by conventional panels. Such an increase in panel strength and durability enables customers to achieve much higher energy yields over the total lifetime of the installation.

The 1.2 in frame height allows the optimization of packaging and transportation to reduce the amount of transport and trucks on the road, keeping the carbon footprint low for both the product and the end-user. Together, this frame design enables flexible installation options, making overcoming every obstacle during system design even easier.

REC's leading warranty package:

All the advantages of REC N-Peak panels combined to guarantee customers high power output over its warranted lifetime:

- 20 year product warranty
- 25 year performance warranty (0.25% max. degradation per year)
- 92% of power rating warranted after 25 years
- Eligible for REC's premium ProTrust warranty package - up to 25 years product and labor warranty



REC

www.recgroup.com

SOLAR'S MOST TRUSTED REC

REC TWIN DESIGN TECHNOLOGY

INNOVATIVE DESIGN CONCEPT GIVES REC SOLAR MODULES SUPERIOR PERFORMANCE AND POWER

inter solar award 2015 WINNER

inter solar award 2020 WINNER

Solar+Power 2017 award winner

REC TWIN DESIGN

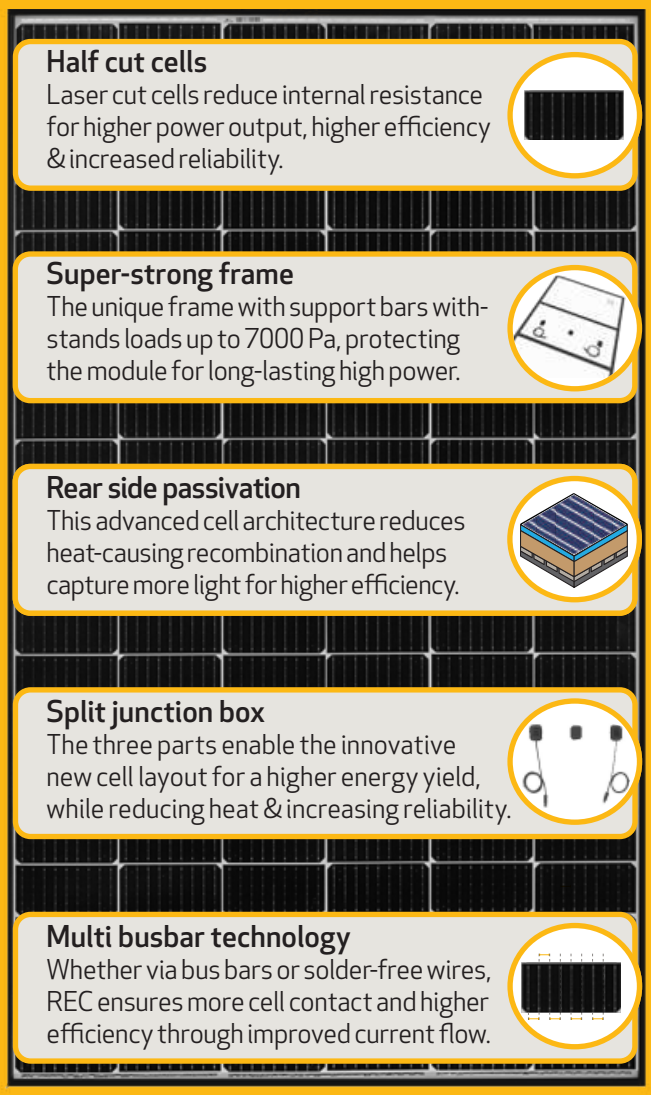
Setting new standards in solar module efficiency

First introduced to the market in 2015, REC's Twin Design uses a series of unique and innovative technologies in a ground-breaking cell layout, to give you a high efficiency and high power output product.

Based on a pioneering design using half-cut cells, the REC Twin Design combines different technologies which result in extra power and a class-leading efficiency of up to 21.9%.

Get more power out of the available space

Packing in the technological advancements shown below means REC Twin Design gives you more power per square meter (W/m²). This means that in areas with limited space, such as rooftops, you can fit in more electricity generation capacity and make maximum use of all available space.



Half cut cells
Laser cut cells reduce internal resistance for higher power output, higher efficiency & increased reliability.

Super-strong frame
The unique frame with support bars withstands loads up to 7000 Pa, protecting the module for long-lasting high power.

Rear side passivation
This advanced cell architecture reduces heat-causing recombination and helps capture more light for higher efficiency.

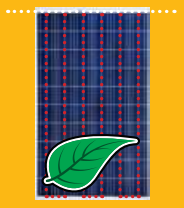
Split junction box
The three parts enable the innovative new cell layout for a higher energy yield, while reducing heat & increasing reliability.

Multi busbar technology
Whether via bus bars or solder-free wires, REC ensures more cell contact and higher efficiency through improved current flow.

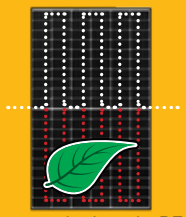
Putting standard modules in the shade

One major advantage of REC's Twin Design compared to standard modules, is the ability to generate electricity even when partially shaded. This helps you to gain more energy yield over time from your installation.

If a standard module is shaded, its power and the energy produced will sink drastically and even stop generating electricity completely if shaded across the module width.



When one half of a standard module is shaded, none of the module produces electricity



With the same shading, the REC Twin Design module has more surface area still producing electricity.

The REC Twin Design splits a module into two twin sections which generate electricity independent to each other, but combine again before the current exits the module. This helps provide continuous electricity generation in the non-shaded section even at times of reduced irradiance on the module, increasing overall energy yield and installation profitability.

Reduce installation time and other balance of system costs

By delivering more power density, you need fewer REC solar modules to achieve the target capacity. This means quicker installation times and fewer components such as clamps and racks – all reducing overall costs. Alternatively, the remaining space can be used to install more modules, optimizing the rooftop usage and increasing generation capacity.

Lower your energy bills & shorten amortisation time through increased yield and lower costs

All REC products are certified to IEC 61215, IEC 61730, and UL 61730. They have also been certified for Salt Mist and Ammonia Corrosion Resistance, Potential Induced Degradation (PID) Resistance, Ignitability Resistance, and now come with a leading warranty which offers unprecedented savings, more economic security, and greater energy autonomy for consumers.

Offering even more, all of REC's products include the Twin Design and are eligible for REC's ProTrust warranty package, which offers an extra 5 years product warranty coverage, when installed by a certified REC Solar Professional installer. Speak to your installer about ensuring your modules qualify and that you benefit from all the advantages of REC Twin Design technology.

REC

www.recgroup.com

Ref: NE-08-08-03 Rev- E 04.21

SOLAR'S MOST TRUSTED

REC

PACKAGING & SHIPMENT SPECIFICATIONS

Applicable for the following REC solar panels:

REC Alpha Pure Series
REC Alpha Pure 2 Series
REC TwinPeak 4 Series
REC N-Peak 2 Series
REC Alpha Pure-R Series
REC Alpha Pure-RX Series
REC TwinPeak 5 Series
REC N-Peak 3 Series

Rev. 8 - 07.23

CONTENTS

*Product only available in the USA
+ Product not available in the USA

INTRODUCTION

REC believes that the packaging of our products is just as important as the product itself. To ensure our solar panels arrive with our customers in as good condition as possible, REC takes every care to ensure a high quality level of packaging and uses international testing standards to ensure the panels reach their destination in the best condition. Except where specifically stated, the information givenon the following pages is relevant to all modules in the product family named and is therefore applicable to all product variants, e.g., different colored frames, backsheets, and/or cell types. The images shown are a generic representation of the instructions regardless of color or exact design.

PALLET HANDLING

This document contains instructions concerning the use and handling of pallets of REC solar panels. Following these instructions will ensure that the panels are in the best condition upon arrival at the installation site. Misuse or failure to follow these procedures may lead to damage or injury, and may invalidate the warranty on the product.

QUALITY

REC performs a quality check on all pallets before and during loading. Vehicles will only be loaded if they are deemed safe and serviceable. During transportation, the pallets are stably loaded in protected containers with air bags between them to secure them in position. The freight company and driver are responsible for ensuring suitable load safety for each delivery vehicle. Vehicles without suitable load safety measures will not be loaded. Loading without the use of air bags or loading belts to secure the pallets may lead to damage to the pallet(s) and/or module(s) during transportation which may invalidate the warranty. If using loading belts to secure pallets, ensure these are correctly fitted as over-tightening may cause damage to the modules or pallet(s).

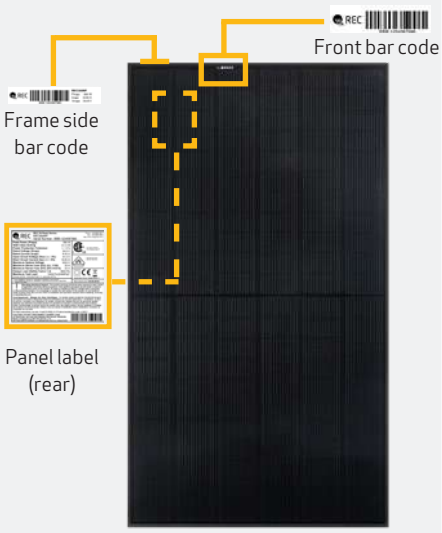
RECYCLING

REC makes every effort to ensure the panel packaging is kept to a minimum and that environmentally-friendly materials are used wherever possible. This minimizes waste and discarded items to dispose of at the installation site. The wooden pallets can be re-used or recycled. The paper and cardboard packaging used on REC pallets can be also be widely recycled and the protective wrapping and panel separating blocks are also recyclable in many areas. Please check for all applicable procedures and recycle all packaging and panels according to local guidelines and regulations. REC makes every effort to ensure environmentally-friendly packaging materials are used. Please recycle whenever possible.

REC ALPHA PURE SERIES

PALLET FRONT VIEW (DOUBLE STACKED)

PANEL IDENTIFICATION



PALLET SHIPMENT DIMENSIONS

Length of pallet:	1880 mm (74 in)
Width of pallet:	1055 mm (41.5 in)
Height of single pallet stack:	1205 mm (47.5 in)
Height of double pallet stack:	2410 mm (95 in)
Pallet weight:	41 kg (90.4 lbs)
Stack weight (pallet + panels):	ca. 735 kg (1620 lbs)

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 24 pallets
Panels per 13.6 m truck:	924 28 pallets
Panels per 53 ft truck:	858 26 pallets

PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

DELIVERY DOCUMENTATION

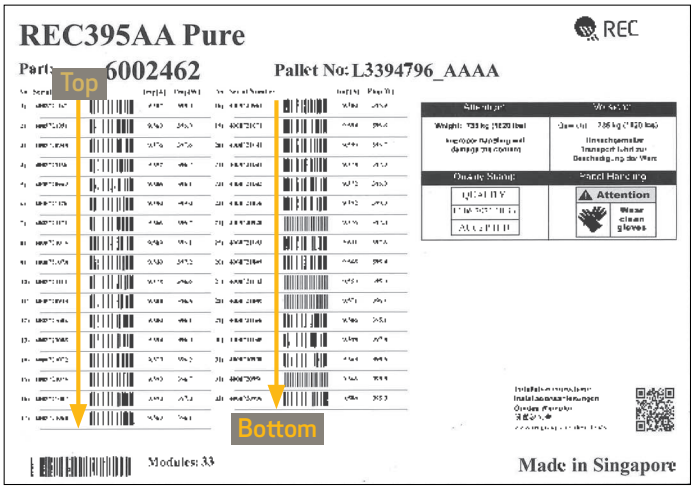
Documentation is located on short side of pallet.
Pallet documentation includes:

- Module flash data
- Serial number
- Product name
- Watt class

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	1.2 m (47 in) Loading & unloading of container only
	Short side	1.5 m (59 in)
Pallet jack	Long side	X
	Short side	1.5 m (59 in)

Note: Forks must be spaced a minimum of 500 mm apart

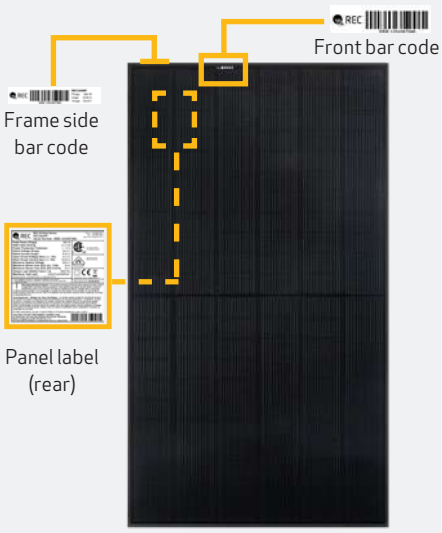
Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

Note: Specifications subject to change without notice

REC ALPHA PURE 2 SERIES

PALLET FRONT VIEW (DOUBLE STACKED)

PANEL IDENTIFICATION



PALLET SHIPMENT DIMENSIONS

Length of pallet:	1910 mm (75.2 in)
Width of pallet:	1090 mm (42.9 in)
Height of single pallet stack:	1205 mm (47.5 in)
Height of double pallet stack:	2410 mm (95 in)
Pallet weight:	40 kg (88.2 lbs)
Stack weight (pallet + panels):	ca. 753 kg (1660 lbs)

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 24 pallets
Panels per 13.6 m truck:	924 28 pallets
Panels per 53 ft truck:	858 26 pallets

PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

DELIVERY DOCUMENTATION

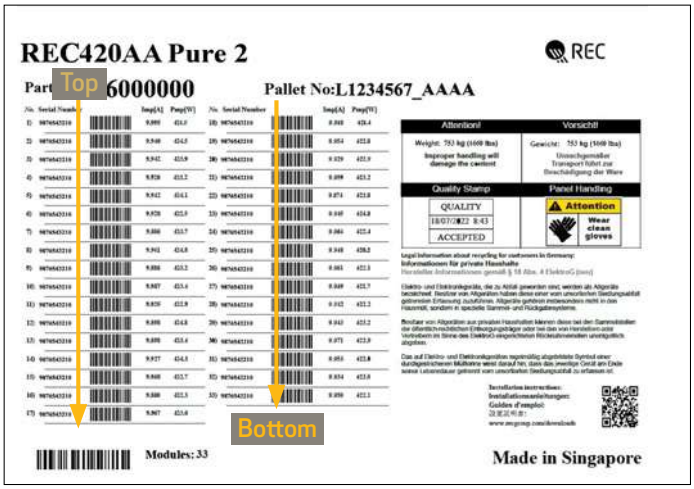
Documentation is located on short side of pallet.
Pallet documentation includes:

- Module flash data
- Serial number
- Product name
- Watt class

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	1.2 m (47 in) Loading & unloading of container only
	Short side	1.5 m (59 in)
Pallet jack	Long side	X
	Short side	1.5 m (59 in)

Note: Forks must be spaced a minimum of 500 mm apart

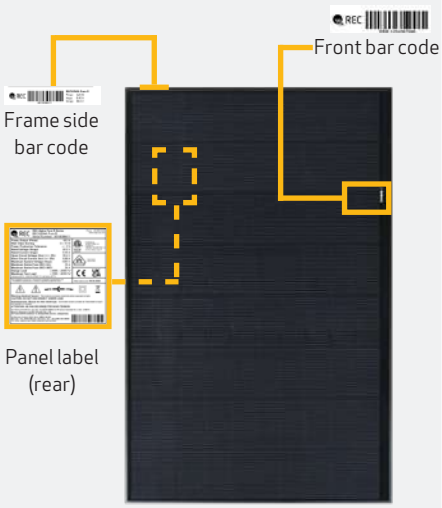
Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

Note: Specifications subject to change without notice

REC ALPHA PURE-R SERIES

PALLET FRONT VIEW (DOUBLE STACKED)

PANEL IDENTIFICATION



PALLET SHIPMENT DIMENSIONS

Length of pallet:	1780 mm (70 in)
Width of pallet:	1150 mm (45.2 in)
Height of single pallet stack:	1220 mm (48 in)
Height of double pallet stack:	2440 mm (96 in)
Pallet weight:	39 kg (86 lbs)
Stack weight (pallet + panels):	ca. 753 kg (1660lbs)

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	858 (26 pallets)
Panels per 13.6 m truck:	924 (28 pallets)
Panels per 53 ft truck:	858 (26 pallets)

PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

DELIVERY DOCUMENTATION

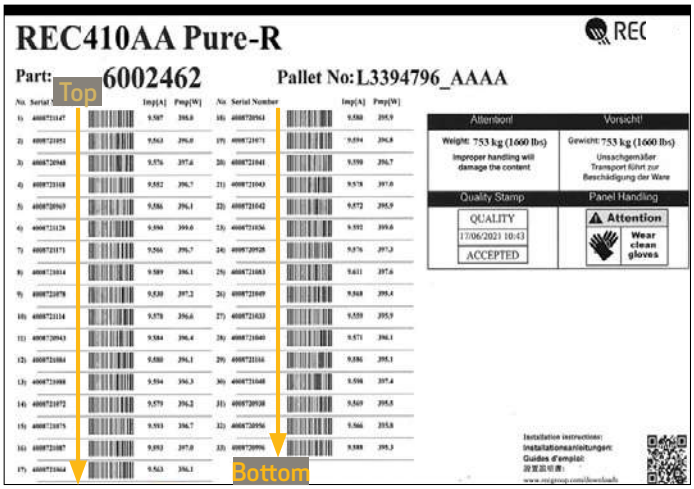
Documentation is located on short side of pallet.
Pallet documentation includes:

- Module flash data
- Serial number
- Product name
- Watt class

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	1.2 m (47 in) Loading & unloading of container only
	Short side	1.5 m (59 in)
Pallet jack	Long side	X
	Short side	1.5 m (59 in)

Note: Forks must be spaced a minimum of 500 mm apart

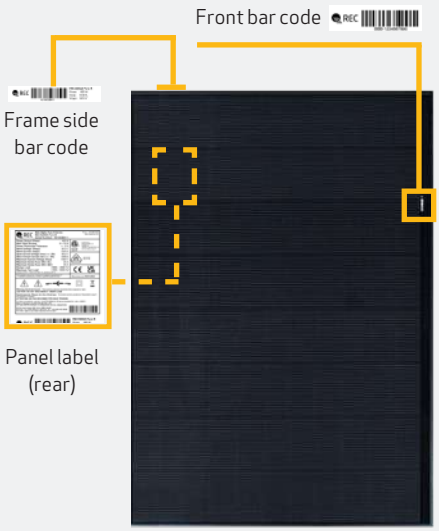
Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

Note: Specifications subject to change without notice

REC ALPHA PURE-RX SERIES

PALLET FRONT VIEW (DOUBLE STACKED)

PANEL IDENTIFICATION



PALLET SHIPMENT DIMENSIONS

Length of pallet:	1780 mm (70 in)
Width of pallet:	1240 mm (49 in)
Height of single pallet stack:	1220 mm (48 in)
Height of double pallet stack:	2440 mm (96 in)
Pallet weight:	~40 kg (88 lbs)
Stack weight (pallet + panels):	ca. 812 kg (1790 lbs)

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	594 (18 pallets)
Panels per 13.6 m truck:	660 (20 pallets)
Panels per 53 ft truck:	792 (24pallets)

PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

DELIVERY DOCUMENTATION

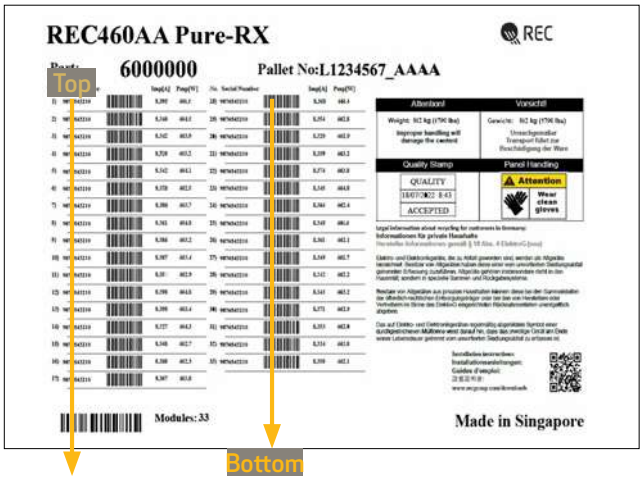
Documentation is located on short side of pallet.
Pallet documentation includes:

- Module flash data
- Serial number
- Product name
- Watt class

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	1.2 m (47 in) Loading & unloading of container only
	Short side	1.5 m (59 in)
Pallet jack	Long side	X
	Short side	1.5 m (59 in)

Note: Forks must be spaced a minimum of 500 mm apart

Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

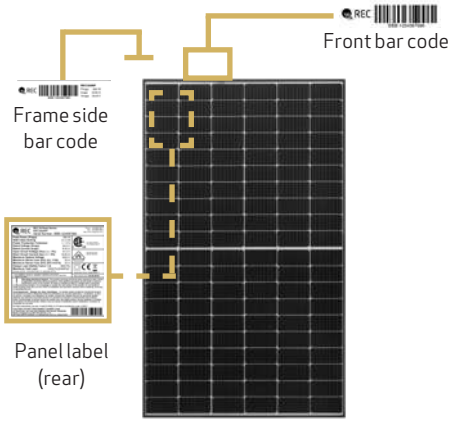
Note: Specifications subject to change without notice

REC N-PEAK 2 SERIES (ONLY AVAILABLE IN THE USA)

These packaging specifications are applicable to the following products:
REC N-Peak 2 Series REC N-Peak 2 Black Series

PALLET FRONT VIEW (DOUBLE STACKED)

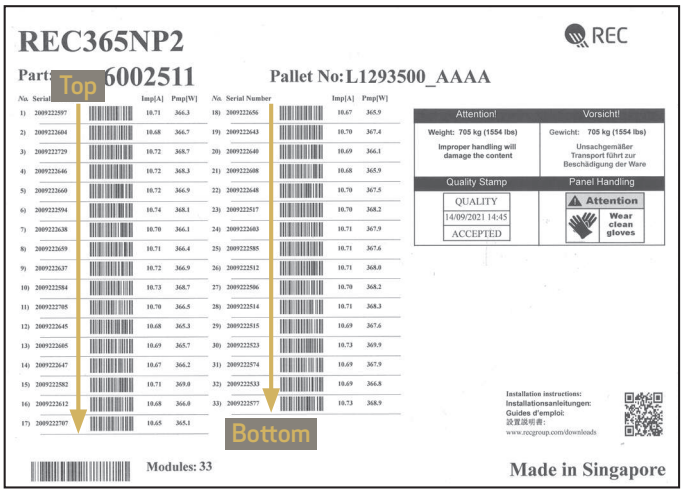
PANEL IDENTIFICATION



PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

PALLET SHIPMENT DIMENSIONS

Length of pallet:	1800 mm (71 in)
Width of pallet:	1080 mm (42.5 in)
Height of single pallet stack:	1225 mm (48 in)
Height of double pallet stack:	2450 mm (96 in)
Pallet weight:	44 kg (93 lbs)
Stack weight (pallet + panels):	ca. 705 kg (1554 lbs)

DELIVERY INFORMATION

Panels per pallet:	33
Panels per GP/high cube container (40 ft):	858 (26 pallets)
Panels per 13.6 m truck:	924 (28 pallets)
Panels per 53 ft truck:	924 (28 pallets)

DELIVERY DOCUMENTATION

Documentation is located on short side of pallet.
Pallet documentation includes:

- Module flash data
- Serial number
- Product name
- Watt class

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together.

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	1.2 m (47 in) Loading & unloading of container only
	Short side	1.5 m (59 in)
Pallet jack	Long side	X
	Short side	1.5 m (59 in)

Note: Forks must be spaced a minimum of 500 mm apart

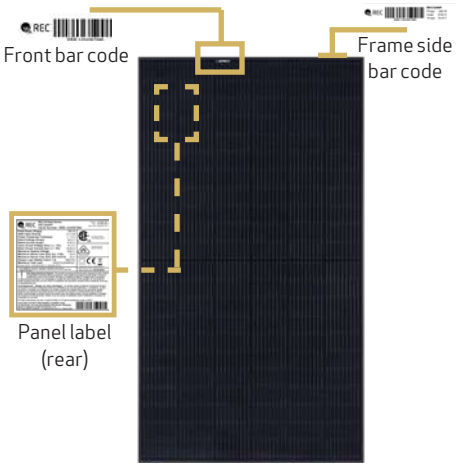
Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

Note: Specifications subject to change without notice

REC N-PEAK 3 SERIES (ONLY AVAILABLE IN THE USA)

PALLET FRONT VIEW (DOUBLE STACKED)

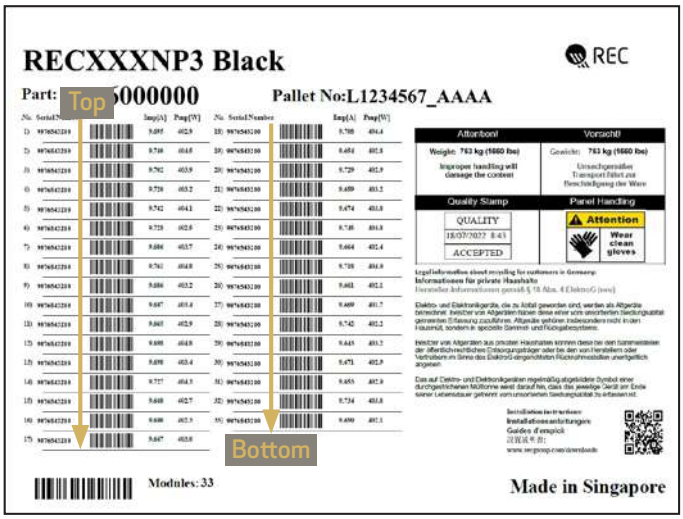
PANEL IDENTIFICATION



PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

PALLET SHIPMENT DIMENSIONS

Length of pallet:	76.7 in
Width of pallet:	43 in
Height of single pallet stack:	47.5 in
Height of double pallet stack:	95 in
Pallet weight:	88.2 lbs
Stack weight (pallet + panels):	ca. 1660 lbs

DELIVERY INFORMATION

Panels per pallet:	33
Panels per GP/high cube container (40 ft):	792 (24 pallets)
Panels per 53 ft truck:	858 (26 pallets)

DELIVERY DOCUMENTATION

Documentation is located on short side of pallet.
Pallet documentation includes:

- Module flash data
- Serial number
- Product name
- Watt class

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together.

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	47 in Loading & unloading of container only
	Short side	59 in
Pallet jack	Long side	X
	Short side	59 in

Note: Forks must be spaced a minimum of 20 in apart

Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

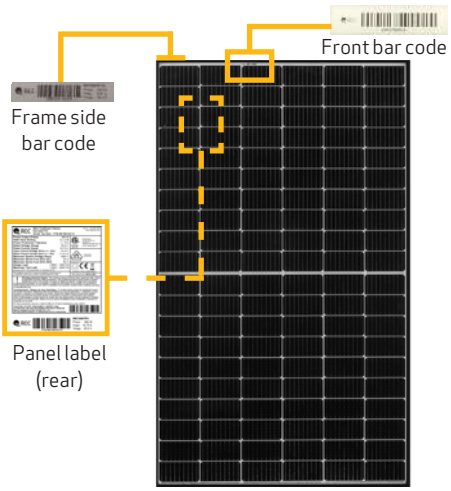
Note: Specifications subject to change without notice

REC TWINPEAK 4 SERIES (NOT AVAILABLE IN THE USA)

These packaging specifications are applicable to the following products:
REC TwinPeak 4 Series REC TwinPeak 4 Black Series

PALLET FRONT VIEW (DOUBLE STACKED)

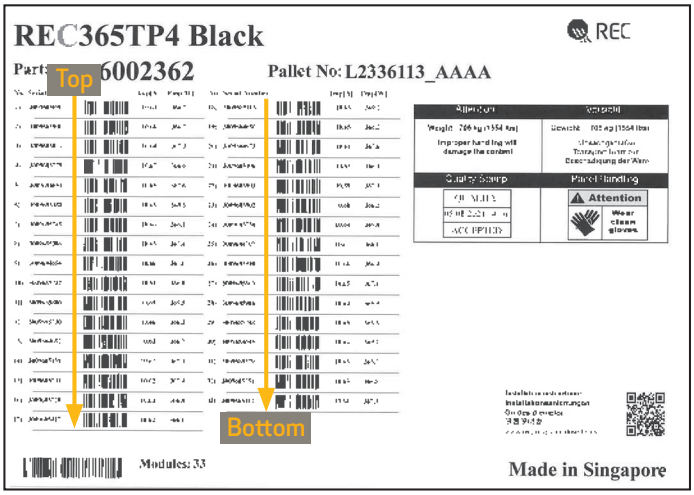
PANEL IDENTIFICATION



PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

PALLET SHIPMENT DIMENSIONS

Length of pallet:	1800 mm (71 in)
Width of pallet:	1080 mm (42.5 in)
Height of single pallet stack:	1225 mm (48 in)
Height of double pallet stack:	2450 mm (96 in)
Pallet weight:	44 kg (93 lbs)
Stack weight (pallet + panels):	ca. 705 kg (1554 lbs)

DELIVERY INFORMATION

Panels per pallet:	33
Panels per GP/high cube container (40 ft):	858 (26 pallets)
Panels per 13.6 m truck:	924 (28 pallets)

DELIVERY DOCUMENTATION

Flash data list:	On short side
Serial number list:	On short side
Product name:	On long side
Watt class:	On long side

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together.

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	1.2 m (47 in) Loading & unloading of container only
	Short side	1.5 m (59 in)
Pallet jack	Long side	X
	Short side	1.5 m (59 in)

Note: Forks must be spaced a minimum of 500 mm apart

Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

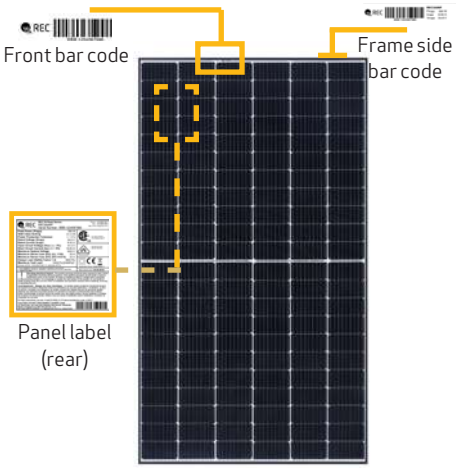
Note: Specifications subject to change without notice

REC TWINPEAK 5 SERIES (NOT AVAILABLE IN THE USA)

These packaging specifications are applicable to the following products:
REC TwinPeak 5 Series REC TwinPeak 5 Black Series

PALLET FRONT VIEW (DOUBLE STACKED)

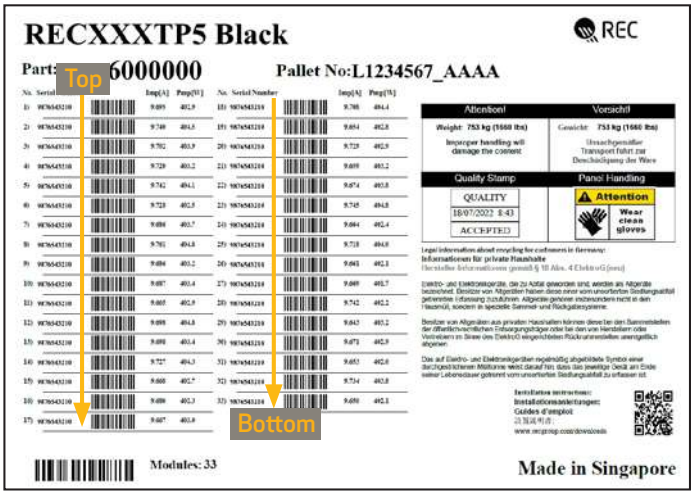
PANEL IDENTIFICATION



PALLET SIDE VIEW (DOUBLE STACKED)

PALLET STACKING

PACKAGING DOCUMENTATION



- Pallet No. 1 is the top module in a stack
- Pallet No. 33 is the lowest module in a stack
- Pallet documentation shows:
  - Module serial number
  - Module bar code
  - Manufacturing date
  - Electrical data (I_{MP}, P_{MP})

PALLET SHIPMENT DIMENSIONS

Length of pallet:	1950 mm
Width of pallet:	1090 mm
Height of single pallet stack:	1205 mm
Height of double pallet stack:	2410 mm
Pallet weight:	40 kg
Stack weight (pallet + panels):	ca. 753 kg

DELIVERY INFORMATION

Panels per pallet:	33
Panels per GP/high cube container (40 ft):	792 (24 pallets)
Panels per 13.6 m truck:	924 (28 pallets)

DELIVERY DOCUMENTATION

Flash data list:	On short side
Serial number list:	On short side
Product name:	On long side
Watt class:	On long side

PACKAGING MATERIAL

Pallet:	Wood
Foam pad:	Polyurethane Polyether Polyol
Top cover:	Corrugated cardboard
Edge protectors:	Core board - Kraft
Corner pieces and spacers:	HDPE

STORAGE AND TRANSPORTATION

Stacking for storage:	2 pallets max
Stacking for transportation:	2 pallets max

Note: When double stacking pallets, ensure the upper pallet sits securely on the edge protector to avoid damage to the lower pallet during transportation or handling

Note: Pallets delivered stacked are not bound together.

MINIMUM FORK LENGTHS FOR TRANSPORTATION

		Single/Double stack only
Forklift	Long side	1.2 m Loading & unloading of container only
	Short side	1.5 m
Pallet jack	Long side	X
	Short side	1.5 m

Note: Forks must be spaced a minimum of 500 mm apart

Handlers must ensure that vehicles used for REC pallets can handle the specified load safely.

Note: Specifications subject to change without notice

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SOLAR'S MOST TRUSTED

REC

REC ALPHA®
PRO M SERIES

DATASHEET

610-640 W_P

HETEROJUNCTION TECHNOLOGY

22.5% MAX. EFFICIENCY

-0.24% /K TEMP. COEFF. P_{MAX}

92% MIN. POWER IN YEAR 25

PRODUCT
REC 25 YEAR ProTrust WARRANTY
PERFORMANCE
LABOR

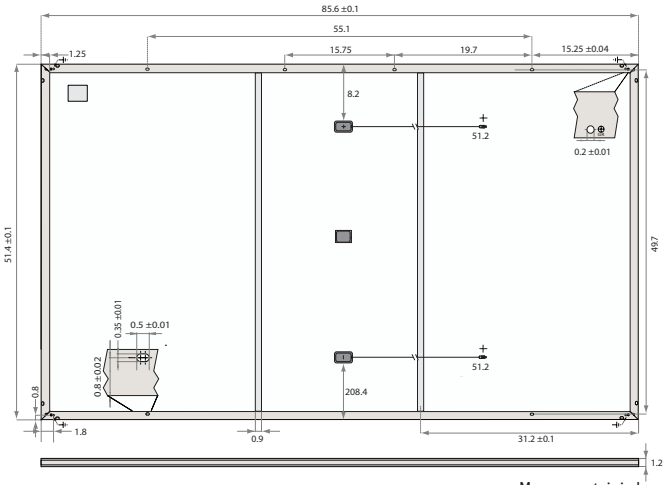
ELIGIBLE

REC ALPHA® PRO M SERIES

DATASHEET

GENERAL DATA

Cell Type	120 half-cut REC bifacial heterojunction cells
Glass	0.13 in solar glass with anti-reflective surface treatment in accordance with EN12150
Backsheet	Highly resistant polymer (White)
Frame	Anodized aluminum (Silver)
Junction Box	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors	Stäubli MC4-EVO2 (12AWG) in accordance with IEC 62852, IP68 only when connected
Cable	12 AWG solar cable, 51.2 in + 51.2 in in accordance with EN50618
Dimensions	85.6 x 51.4 x 1.2 in (30.6 ft²)
Weight	71.6 lbs
Origin	Made in Singapore



Measurements in inches

ELECTRICAL DATA

	PRODUCT CODE*: RECxxxAA Pro M			
	610	**620**	**630**	**640**
STC				
Power Output - P_{MAX} (W_P)	610	620	630	640
Watt Class Sorting - (W)	0/+10	0/+10	0/+10	0/+10
Nominal Power Voltage - V_{MPP} (V)	36.3	36.6	36.8	37.1
Nominal Power Current - I_{MPP} (A)	16.81	16.94	17.12	17.26
Open Circuit Voltage - V_{OC} (V)	44.4	44.6	44.7	44.9
Short Circuit Current - I_{SC} (A)	17.56	17.67	17.78	17.89
Power Density (W/ft²)	19.9	20.3	20.6	20.9
Panel Efficiency (%)	21.5	21.8	22.2	22.5
NMOT				
Power Output - P_{MAX} (W_P)	464	469	477	485
Nominal Power Voltage - V_{MPP} (V)	34.2	34.3	35.5	34.8
Nominal Power Current - I_{MPP} (A)	13.85	13.69	13.84	13.95
Open Circuit Voltage - V_{OC} (V)	41.9	41.8	41.9	42.1
Short Circuit Current - I_{SC} (A)	14.18	14.28	14.37	14.46

Values at standard test conditions (STC: air mass AM 1.5, irradiance 1000 W/m², temperature 77°F (25°C)), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 68°F (20°C), windspeed 3.3 ft/s (1 m/s)). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

MAXIMUM RATINGS*

Operational Temperature	-40 °F - 185 °F
System Voltage	1500 V
Maximum Test Load (front)	+5400 Pa (112.6 lb/ft²)
Maximum Test Load (rear)	-2400 Pa (50.2 lb/ft²)
Max Series Fuse Rating	35 A
Max Reverse Current	35 A

* See installation manual for mounting instructions.
Design load = Test load / 1.5 (safety factor)

TEMPERATURE RATINGS*

Nominal Module Operating Temperature	44 °C ± 2°C
Temperature coefficient of P_{MAX}	-0.24% /K
Temperature coefficient of V_{OC}	-0.24% /K
Temperature coefficient of I_{SC}	0.04% /K

*The temperature coefficients stated are linear values

DELIVERY INFORMATION

Panels per Pallet	33
Panels per 40 ft GP/high cube container	528 (16 Pallets)
Panels per 53 ft truck	594 (18 Pallets)

CERTIFICATIONS

IEC 61215:2021; IEC61730:2016; UL61730	
ISO 11925-2	Ignitability (EN 13501-1 Class E)
IEC 62716	Ammonia Resistance
IEC 61701	Salt Mist (SM6)
IEC 61215:2016	Hailstone (35mm)
UL 61730	Fire Type 1
ISO 14001; ISO9001; IEC45001; IEC62941	

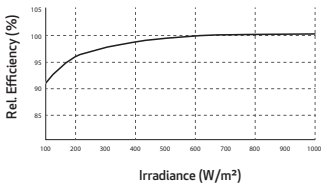
WARRANTY

	Standard	REC ProTrust	
Installed by an REC Certified Professional	No	Yes	Yes
System Size	All	<25 kW	25-500 kW
Product Warranty (yrs)	20	25	25
Power Warranty (yrs)	25	25	25
Labor Warranty (yrs)	0	25	10
Power in Year 1	98%	98%	98%
Annual Degradation	0.25%	0.25%	0.25%
Power in Year 25	92%	92%	92%

The REC ProTrust Warranty is only available on panels purchased through an REC Certified Solar Professional installer. Warranty conditions apply. See www.recgroup.com for more details

LOW LIGHT BEHAVIOR

Typical low irradiance performance of module at STC:



Available from:

Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.

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Ref: PM-DS-12-06-Rev-3.2 10.23