SOLAR'S MOST TRUSTED

REC

REC ALPHA® PURE-R

DATASHEET



COMPACT PANEL SIZE

9 A MODULE CURRENT
COMPATIBLE WITH MLPE

400 - 430W
HETEROJUNCTION
TECHNOLOGY

22.3% MAX EFFICIENCY

>92% POWER IN YEAR 25

-0.24%/°C TEMPERATURE COEFFICIENT OF P_{MAX}

PRODUCT
REC 25 YEAR ProTrust WARRANTY
LABOR
PERFORMANCE

ELIGIBLE

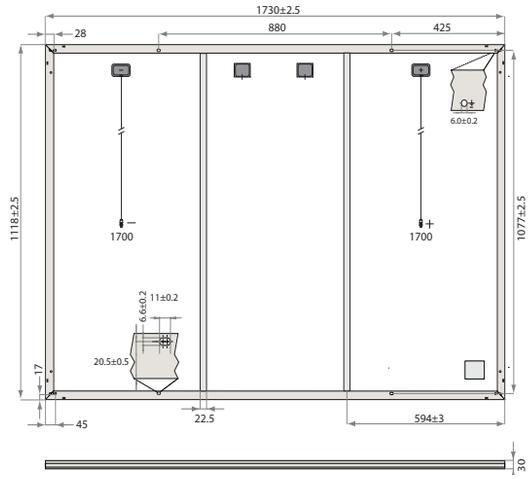
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GENERAL DATA

Cell Type	80 half-cut bifacial REC heterojunction cells, with lead-free, 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	4-part, 4 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790:2020
Connectors	Stäubli MC4 PV-KBT4/KST4 (12 AWG) in accordance with IEC 62852:2014, IP68 only when connected
Cable	12 AWG solar cable, 55.1 in (1.40 m) + 55.1 in (1.40 m) in accordance with EN50618:2014
Dimensions	68.1 x 44.0 x 1.2 in (20.8 ft²) / 1730 x 1118 x 30 mm (1.93 m²)
Weight	47.4 lb / 21.5 kg
Origin	Made in Singapore

Measurements in [inches] and mm



Specifications subject to change without notice.

ELECTRICAL DATA

PRODUCT CODE*: RECXXXAA PURE-R

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)	19.2	19.7	20.2	20.7
Panel Efficiency (%)	20.7	21.2	21.8	22.3

STC

Power Output - P_{MAX} (W_P)	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	7.14	7.17	7.20

NMOT

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.

TEMPERATURE COEFFICIENT*

P_{MAX} -0.24%/°C V_{OC} -0.24%/°C I_{SC} 0.04%/°C

*The temperature coefficients stated are linear values

MODULE RATINGS

Module Operating Temperature [T98]§	176°F (80°C)
Min Environmental Temperature	-40°F (-40°C)
Nominal Module Operating Temperature	44 ± 2°C
Max Hail Rating	35 mm @ 27.2 m/s
System Voltage	1000 V
Max Series Fuse Rating	25 A
Max Reverse Current	25 A

§ 98th percentile operating temperature

MAXIMUM TEST LOAD*

Front (4-Point)*	+7000 Pa (146 lbs/ft²)
Rear (4-Point)*	-4000 Pa (84 lbs/ft²)
Front (6-Point)**	+8000 Pa (167 lbs/ft²)
Rear (6-Point)**	-6000 Pa (125 lbs/ft²)

Design load = Test load / 1.5 (safety factor)

*IEC61730/UL61730 certified. Refer to installation manual.
**Internal testing. Refer to installation manual.

CERTIFICATIONS

ISO 14001; ISO9001; IEC45001; IEC62941	
IEC 61215:2021;IEC 61730:2023;UL 61730	
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 2
IEC 62321	Lead-free acc. to RoHS EU 863/2015

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%

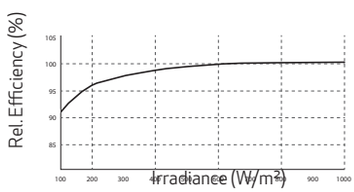
REC ProTrust Warranty applies only for i) REC panels installed by an REC Certified Solar Professional, and ii) panels have been registered by the installer with REC. Subject to System Size and further conditions. See www.recgroup.com for details.

DELIVERY INFORMATION

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

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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REC

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