

SOLAR'S MOST TRUSTED



REC ALPHA[®] PURE-R SERIES

DATASHEET



LEAD-FREE
ROHS COMPLIANT

COMPACT PANEL SIZE

9 A MODULE CURRENT
COMPATIBLE WITH MLPE

400 - 430W
HETEROJUNCTION
TECHNOLOGY

22.3% EFFICIENCY
>92% POWER IN YEAR 25
-0.24%/K TEMPERATURE
COEFFICIENT OF P_{MAX}

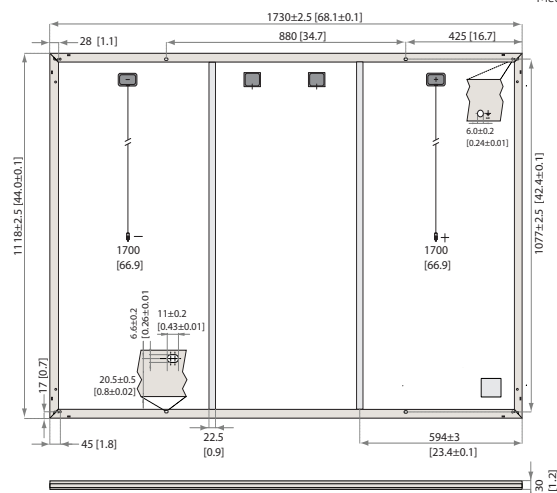


ELIGIBLE

REC ALPHA® PURE-R SERIES DATASHEET

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, 66.9 in (1.70 m) + 66.9 in (1.70 m) in accordance with EN50618:2014
Dimensions	68.1 x 44.0 x 1.2 in (20.8 ft ²) / 1730 x 1118 x 30 mm (1.93 m ²)
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

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)	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/ft ²)	19.2	19.7	20.2	20.7
Panel Efficiency (%)	20.7	21.2	21.8	22.3

NMOT

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

Values at standard test conditions (STC: air mass AM1.5, 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 AM1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s). *Where xxx indicates the nominal power class (P_{MAX}) at STC above.

MODULE RATINGS

Module Operating Temperature [T98] ⁵	158°F (70°C)
Min. Environmental Temperature	-40°F (-40°C)
System Voltage	1000 V
Maximum Test Load (4 Point Mounting, Front)*	+7000 Pa (1.02 lbs/in ²)
Maximum Test Load (4 Point Mounting, Rear)*	-4000 Pa (0.58 lbs/in ²)
Maximum Test Load (6 Point Mounting, Front)**	+8000 Pa (1.16 lbs/in ²)
Maximum Test Load (6 Point Mounting, Rear)**	-6000 Pa (0.87 lbs/in ²)
Max Series Fuse Rating	25 A
Max Reverse Current	25 A

Design load = Test load /1.5 (safety factor)
⁵ 98th percentile operating temperature

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

Available from:



TEMPERATURE RATINGS*

Nominal Module Operating Temperature	44 ± 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

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	
	No	Yes	Yes
Installed by an REC Certified Professional			
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%

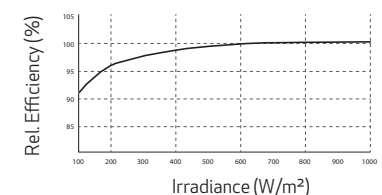
REC ProTrust Warranty applies only for i) REC panels installed by an REC Certified Solar Professional, and ii) panels have been registered by the installer with REC. Subject to System Size and further conditions. See www.recgroup.com for details.

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:



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-4/BU/EN12.2024