

SOLAR'S MOST TRUSTED



REC ALPHA[®] PURE-R

DATASHEET



LEAD-FREE
ROHS COMPLIANT

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}



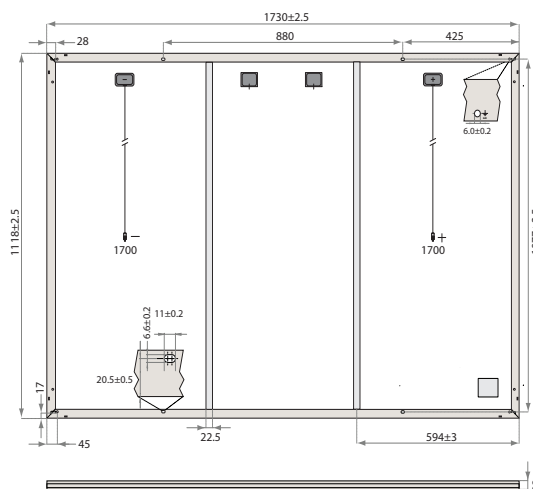
ELIGIBLE

REC ALPHA® PURE-R

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, 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 |

| | | | | |
|---------------------------------------|------|------|------|------|
| 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 |

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.

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 |
| System Size | All | <25 kW 25-500 kW |
| Product Warranty (yrs) | 20 | 25 |
| Power Warranty (yrs) | 25 | 25 |
| Labor Warranty (yrs) | 0 | 10 |
| Power in Year 1 | 98% | 98% |
| Annual Degradation | 0.25% | 0.25% |
| Power in Year 25 | 92% | 92% |

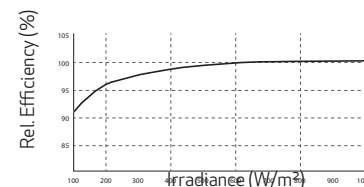
REC ProTrust Warranty applies only for i) REC panels installed by an REC Certified Solar Professional, and ii) panels have been registered by the installer with REC. Subject to System Size and further conditions. See www.recgroup.com for details.

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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