

SOLAR'S MOST TRUSTED



# REC ALPHA<sup>®</sup> PURE-R

## DATASHEET



LEAD-FREE  
ROHS COMPLIANT

COMPACT PANEL SIZE

9 A MODULE CURRENT  
COMPATIBLE WITH MLPE

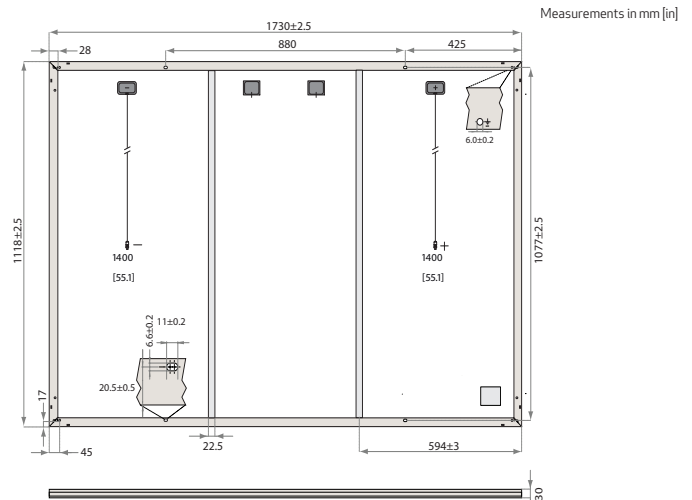
400 - 430W  
HETEROJUNCTION  
TECHNOLOGY

223 W/M<sup>2</sup> POWER DENSITY  
> 92% POWER IN YEAR 25  
-0.24%/°C TEMPERATURE  
COEFFICIENT OF P<sub>MAX</sub>



## GENERAL DATA

|              |                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------|
| Cell Type    | 80 half-cut bifacial REC heterojunction cells, with lead-free, gapless technology                         |
| Glass        | 3.2 mm 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 (4 mm <sup>2</sup> ) in accordance with IEC 62852:2014, IP68 only when connected |
| Cable        | 4 mm <sup>2</sup> solar cable, 1.40 m + 1.40 m in accordance with EN50618:2014                            |
| Dimensions   | 1730 x 1118 x 30 mm (1.93 m <sup>2</sup> )                                                                |
| Weight       | 21.5 kg                                                                                                   |
| Origin       | Made in Singapore                                                                                         |



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/m <sup>2</sup> )     | 207   | 212   | 218   | 223   |
| Panel Efficiency (%)                  | 20.7  | 21.2  | 21.8  | 22.3  |

## CERTIFICATIONS

|                                            |                                    |
|--------------------------------------------|------------------------------------|
| ISO 14001; ISO9001; IEC45001; IEC62941     |                                    |
| IEC 61215-2:2021; IEC 61730:2023; UL 61730 |                                    |
| IEC 61730                                  | Fire Class C (as per UL790)        |
| ISO 11925-2                                | Ignitability (EN 13501-1 Class E)  |
| IEC 62716                                  | Ammonia Resistance (Optional)      |
| IEC 61701                                  | Salt Mist - SM6 (Optional)         |
| IEC 61215-2:2016                           | Hailstone (35 mm)                  |
| UL 61730                                   | Fire Type 2                        |
| IEC 62321                                  | Lead-free acc. to RoHS EU 863/2015 |
| IEC TS 63126                               | Level 1                            |



**takeaway**  
for an easy way

Take-e-way  
WEEE-compliant  
scheme

## WARRANTY

|                        | Standard | REC ProTrust |           |
|------------------------|----------|--------------|-----------|
| Installed by an REC    | No       | Yes          | Yes       |
| 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](http://www.recgroup.com) for details.

## TEMPERATURE COEFFICIENT \*

|                     |                    |                   |                                                        |
|---------------------|--------------------|-------------------|--------------------------------------------------------|
| $P_{MAX}$ -0.24%/°C | $V_{OC}$ -0.24%/°C | $I_{SC}$ 0.04%/°C | *The temperature coefficients stated are linear values |
|---------------------|--------------------|-------------------|--------------------------------------------------------|

\*The temperature coefficients stated are linear values

## MODULE RATINGS

|                                      |                  |
|--------------------------------------|------------------|
| Module Operating Temperature [T98]S  | 80°C             |
| Min Environmental Temperature        | -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 (714 Kg/m <sup>2</sup> ) |
| Rear (4-Point)*   | -4000 Pa (408 Kg/m <sup>2</sup> ) |
| Front (6-Point)** | +8000 Pa (816 Kg/m <sup>2</sup> ) |
| Rear (6-Point)**  | -6000 Pa (612 Kg/m <sup>2</sup> ) |

Design load = Test load / 1.5 (safety factor)

\* IEC61730/UL61730 certified. Refer to installation manual.

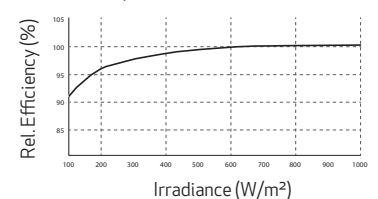
<sup>\*\*\*</sup>Internal testing. Refer to installation manual.

## 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) |

## LOW LIGHT BEHAVIOUR

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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EC AUCEC 10.2025 V4.2 REF: PM-DS-12-06/04.04.05.01