# ELDORA
## HIGH EFFICIENCY SOLAR PV MODULES

**vikramsolar**™
CREATING CLIMATE FOR CHANGE

**ELDORA VSP.72.AAA.03.04 | POLYCRYSTALLINE SOLAR PV MODULES | 72 CELLS | 310-330 WATT**

# ELDORA
# GRAND SERIES

**HIGHER OUTPUT OF MODULE POWER** by reducing cell to module power loss

Extremely **NARROW POWER BINNING TOLERANCE** of +2.5 Wp to reduce current mismatch loss in single string

Designed for very **HIGH AREA EFFICIENCY** ideally suited for roof-top and ground-mounted applications

Extremely **RELIABLE PRODUCT** suiting all environment conditions

Engineered to provide **EXCELLENT LOW LIGHT RESPONSE**

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Clean Energy Council
MEMBER

MCS
The Certification Mark for Onsite Sustainable Energy Technologies

CE

PV CYCLE

## QUALITY AND SAFETY

♦ 27 years of linear power output warranty **
♦ Rigorous quality control meeting the highest international standards
♦ 100% EL tested to ensure micro crack free modules
♦ Certified for PID resistance

♦ Certified for salt mist corrosion resistance – severity VI
♦ Certified for ammonia resistance
♦ Compatible with K2, HILTI & Schletter structures for short and long side clamping*
♦ 3rd Party PAN file validated by PVEL*

## APPLICATIONS

♦ On-grid large scale utility systems
♦ On-grid rooftop residential, commercial and industrial roof top installations
♦ Off-grid residential systems
♦ Solar pumping applications

# TECHNICAL DATA
## ELDORA GRAND SERIES

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**THIS DATASHEET IS APPLICABLE FOR: ELDORA VSP.72.AAA.03.04 (AAA=310-330)**

## Electrical Data[1]  All Data refers to STC (AM 1.5, 1000 W/m², 25°C)

| Peak Power $P_{max}$ (Wp) | 310 | 312.5 | 315 | 317.5 | 320 | 322.5 | 325 | 327.5 | 330 |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Voltage $V_{mpp}$ (V) | 37.4 | 37.4 | 37.5 | 37.6 | 37.7 | 37.7 | 37.8 | 37.9 | 38.0 |
| Maximum Current $I_{mpp}$ (A) | 8.3 | 8.35 | 8.4 | 8.45 | 8.5 | 8.55 | 8.6 | 8.65 | 8.7 |
| Open Circuit Voltage $V_{oc}$ (V) | 45.7 | 45.8 | 45.8 | 45.9 | 46.0 | 46.1 | 46.2 | 46.2 | 46.3 |
| Short Circuit Current $I_{sc}$ (A) | 8.81 | 8.87 | 8.92 | 8.98 | 9.03 | 9.08 | 9.13 | 9.19 | 9.24 |
| Module Efficiency η(%) | 16.0 | 16.1 | 16.2 | 16.4 | 16.5 | 16.6 | 16.7 | 16.9 | 17.0 |

Î1) STC: 1000 W/m² irradiance, 25°C cell temperature, AM 1.5g spectrum according to EN 60904-3.
Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.

## Electrical Parameters at NOCT[2]

| Power (W) | 227.3 | 229.1 | 231.2 | 232.8 | 234.6 | 236.5 | 238.3 | 240.1 | 242.0 |
|---|---|---|---|---|---|---|---|---|---|
| $V@P_{max}$ (V) | 34.2 | 34.3 | 34.4 | 34.4 | 34.5 | 34.6 | 34.6 | 34.7 | 34.8 |
| $I@P_{max}$ (A) | 6.65 | 6.69 | 6.73 | 6.77 | 6.80 | 6.84 | 6.88 | 6.92 | 6.95 |
| $V_{oc}$ (V) | 42.4 | 42.5 | 42.5 | 42.5 | 42.6 | 42.6 | 42.7 | 42.7 | 42.7 |
| $I_{sc}$ (A) | 7.14 | 7.18 | 7.22 | 7.26 | 7.30 | 7.34 | 7.38 | 7.42 | 7.46 |

2) NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec

## Temperature Coefficients (Tc) permissible operating conditions

| Tc of Open Circuit Voltage (β) | - 0.31%/°C |
|---|---|
| Tc of Short Circuit Current (α) | 0.052%/°C |
| Tc of Power (γ) | -0.41%/°C |
| Maximum System Voltage | 1000 V |
| NOCT | 44°C ± 2°C |
| Temperature Range | -40°C to + 85°C |

## Mechanical Data

| Length × Width × Height | 1956 × 992 × 36 mm (77.01 × 39.06 × 1.42 inches) |
|---|---|
| Weight | 22 kg (48.50 lbs) |
| Junction Box | IP67, 3 Bypass diodes |
| Cable & Connectors | 1200 mm (47.24 inches) length cables, SOLARLOK PV4/MC4 Compatible/MC4 Connectors |
| Application Class | Class A (Safety class II) |
| Superstrate | 3.2 mm (0.13 Inches) high transmission low iron tempered glass, AR coated |
| Cells | 72 Polycrystalline solar cells |
| Cell Encapsulant | EVA (Ethylene Vinyl Acetate) |
| Back Sheet | Composite film |
| Frame | Anodized aluminium frame with twin wall profile |
| Mechanical Load Test | 5400 Pa |
| Maximum Series Fuse Rating | 15 A |

## Warranty and Certifications

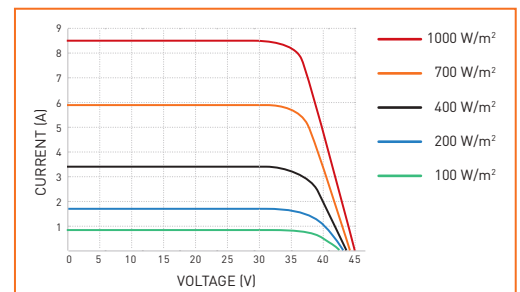| Product Warranty** | 10 years |
|---|---|
| Performance Warranty** | Linear power warranty for 27 years with 2.5% for 1st year degradation and 0.67% from year 2 to year 27 |
| Approvals and Certificates | IEC 61215 Ed2, IEC 61730, IEC 61701, IEC 62716, UL1703, CE, MCS, CEC*, PV Cycle*, IEC 62804, CAN/CSA 61730, CEC (Australia)* |

\* All (*) certifications under progress.
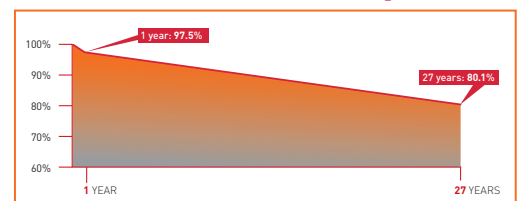\*\* Refer to Vikram Solar's warranty document for terms and conditions.

## Dimensions in mm



SIDE VIEW  BACK VIEW  SECTIONAL VIEW OF AL-PROFILE
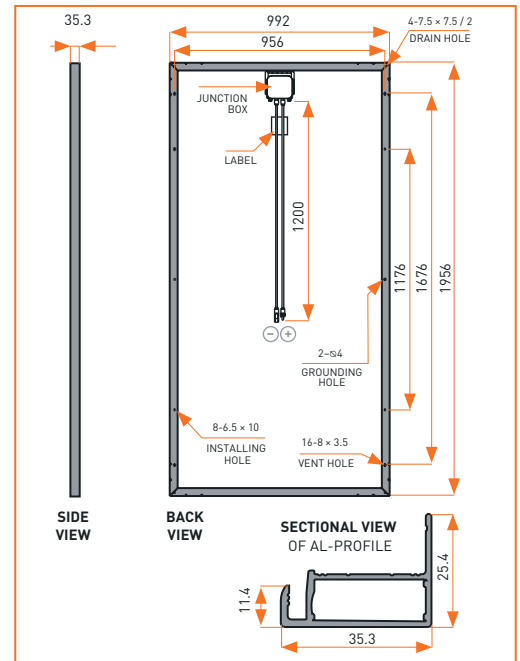
## Typical I-V Curves



## Performance Warranty



1 year: 97.5%    27 years: 80.1%

## Packaging Information

| Quantity/Pallet | 28 |
|---|---|
| Pallets/Container (40'HC) | 24 |
| Quantity/Container (40'HC) | 672 |

**sales@vikramsolar.com**    **www.vikramsolar.com**

**CAUTION:** READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.
Specifications included in this datasheet are subject to change without notice. Electrical data without guarantee. Please confirm your exact requirement with the company representative while placing your order.

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