

Hansol

**Multi
72 cells**
(300~320Watt)

Those who dream of a better future can help lead to a more meaningful and enriched world. As a leading solar module manufacturer in Korea, we never stop to achieve competitiveness through differentiation, implement the maximum value, and commit to sustainable development with customers.

Key Features

25
years

Linear Performance Warranty

10 Years product warranty
25 Years linear performance warranty

5,400Pa

Certified Durability

5400 Pa snow load
2400 Pa wind load

1000V

1000V

Designed for UL 1000V and IEC 1000V

Optional Features

**PID
FREE**

PID Free

Anti-PID Cell
Anti-PID encapsulation technology

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#### Floating PV Installation

Module backside blocks moisture permeability

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#### Power Optimization

Increase the energy output of each individual panel in a system to enhance O&M, shade and age tolerance

**R-Black**

#### Railless Black Frame

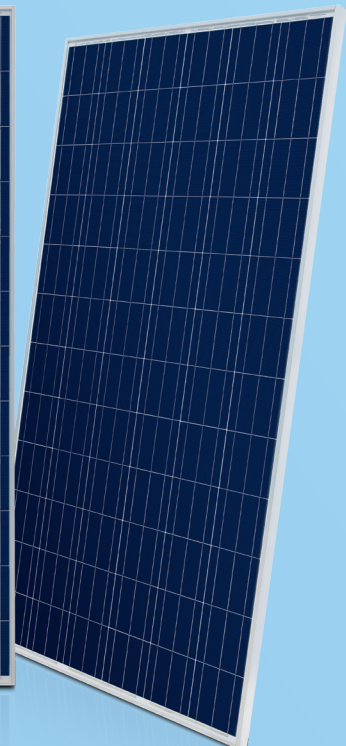
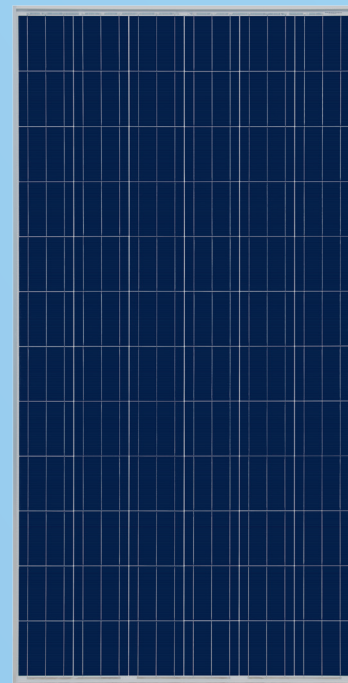
Easy to install / Time saving

### Product Certificates

IEC 61215 / IEC 61730 : TUV / VDE / CE

IEC 61701 Salt Mist Corrosion Level 6

UL 1703 Fire Rating Type 1 and Type 2



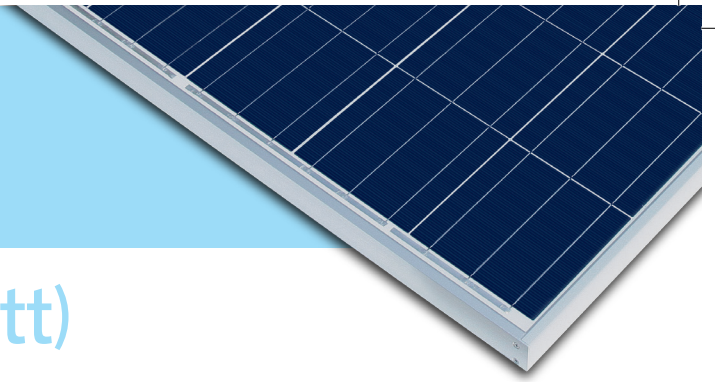
**Hansol**

[www.hansoltechnics.com](http://www.hansoltechnics.com)

Everlasting sustainable energy solution provider

# Multi - Crystalline Solar Module (MD-AN3)

## 72 cells (300~320Watt)



| Electrical Data / STC (MD-AN3) : Irradiance of 1000W/°C, spectrum AM 1.5 and cell temperature of 25°C |                           |        |        |        |        |        |
|-------------------------------------------------------------------------------------------------------|---------------------------|--------|--------|--------|--------|--------|
| Nominal Max Power                                                                                     | Pmax (Wp)                 | 300    | 305    | 310    | 315    | 320    |
| Voltage at Pmax                                                                                       | Vmp (v)                   | 35.5   | 35.9   | 36.3   | 36.7   | 37.1   |
| Current at Pmax                                                                                       | Imp (A)                   | 8.46   | 8.5    | 8.55   | 8.59   | 8.63   |
| Open Circuit Voltage                                                                                  | Voc (v)                   | 44.5   | 44.9   | 45.3   | 45.7   | 46.1   |
| Short Circuit Current                                                                                 | Isc (A)                   | 8.97   | 9.02   | 9.07   | 9.12   | 9.16   |
| Module Efficiency                                                                                     | %                         | 15.05% | 15.30% | 15.55% | 15.80% | 16.05% |
| Operating Temperature                                                                                 | -40°C ~ +85°C             |        |        |        |        |        |
| Max. System Voltage                                                                                   | 1000 Vdc TUV, 1000 Vdc UL |        |        |        |        |        |
| Max. Service Fuse Rating                                                                              | 15A                       |        |        |        |        |        |
| Max. Reverse Current                                                                                  | 15A                       |        |        |        |        |        |
| Power tolerance                                                                                       | 0 ~ +4.99W                |        |        |        |        |        |

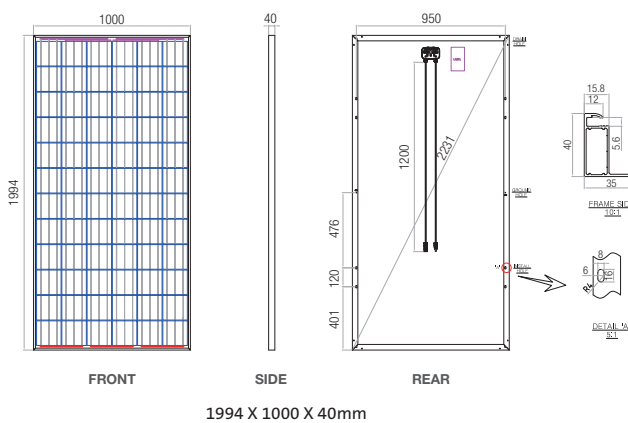
| Electrical Data / NOCT (MD-AN3) : Irradiance of 800W/°C, spectrum AM 1.5 and ambient temperature of 20°C, wind speed 1m/s |           |        |        |        |        |        |
|---------------------------------------------------------------------------------------------------------------------------|-----------|--------|--------|--------|--------|--------|
| Nominal Max Power                                                                                                         | Pmax (Wp) | 219.7  | 223.1  | 226.9  | 230.4  | 233.9  |
| Voltage at Pmax                                                                                                           | Vmp (v)   | 32.6   | 32.9   | 33.3   | 33.6   | 34.0   |
| Current at Pmax                                                                                                           | Imp (A)   | 6.74   | 6.77   | 6.82   | 6.85   | 6.89   |
| Open Circuit Voltage                                                                                                      | Voc (v)   | 40.9   | 41.2   | 41.6   | 41.9   | 42.3   |
| Short Circuit Current                                                                                                     | Isc (A)   | 7.25   | 7.29   | 7.33   | 7.37   | 7.41   |
| Module Efficiency                                                                                                         | %         | 11.02% | 11.19% | 11.38% | 11.55% | 11.73% |

| Mechanical Data             |                              |
|-----------------------------|------------------------------|
| Cell Type                   | Multi-crystalline, 6 inch    |
| Cell Arrangement            | 72 (6 x 12)                  |
| Dimensions                  | 1994 x 1000 x 40mm           |
| Weight                      | 22.5kg (49.6 lbs)            |
| Frame                       | Anodized aluminum            |
| Front glass                 | 3.2mm Tempered glass         |
| J-Box                       | IP68, 3 diodes               |
| Output cable                | (+)1200mm, (-)1200mm, 12 AWG |
| Connectors                  | MC4 compatible               |
| Module Fire Performance     | Type 1                       |
| Stand. Packaging            | 26 pcs (vertical)            |
| Pallets per Container       | 22                           |
| Module Pieces per Container | 572                          |

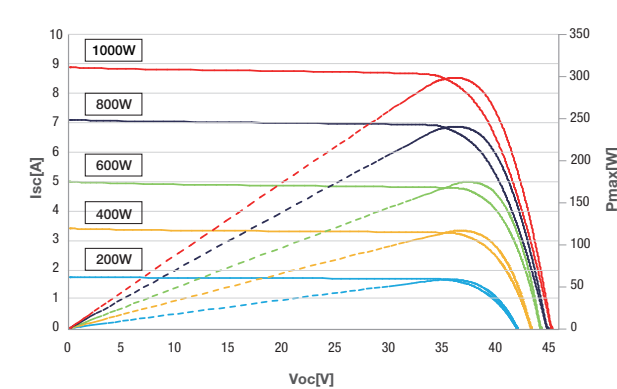
| Warranties  |                                       |
|-------------|---------------------------------------|
| Product     | 10 years                              |
| Performance | 10 years performance warranty (>90%)  |
|             | 25 years linear power warranty (>80%) |

| Temperature Characteristics       |            |
|-----------------------------------|------------|
| Specifications                    | Data       |
| Temperature coefficient (Pmax)    | -0.42      |
| Temperature coefficient (Voc)     | -0.31      |
| Temperature coefficient (Isc)     | 0.05       |
| Normal Operating Cell Temperature | 46.0 ± 2°C |

### MODULE DIAGRAM unit : mm (inch)



### I-V Curve according to Irradiance



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The information included in this Module Datasheet is subject to change without notice and is provided for information purposes only.