

# Technical Description



## Photovoltaic Module NP230GKgP

Product Code: 13230



60 polycrystalline Si solar cells

Main application: grid PV systems

### Module Electrical Performance under Standard Test Conditions

Refers to standard test conditions of  $1000 \text{ Wm}^{-2}$  solar irradiance,  $25^\circ\text{C}$  cell temperature, Air Mass 1.5.

Note: Maximum power point is subject to  $\pm 5\text{W}/0\text{W}$  variation. All other values are typical and for guidance only.

Maximum Power Point: 230 Watts, 7.97 Amps at 28.9 Volts.

Short Circuit: 8.59 Amps. Open circuit: 37.0 Volts.

### Dimensions and Weight

all dimensions  $\pm 2\text{mm}$ , weight approximately  $\pm 0.3\text{kg}$

Length: 1623mm. Width: 986mm. Thickness at edge: 35mm. Weight: 21.6kg

### Construction

Top cover material: low iron tempered P glass 4mm

Rear cover material: PVDF-PET-PVDF

Encapsulant (lamination material): EVA

Frame: black anodised aluminium

3 factory-fitted bypass diodes

1 junction box type S1410-2

2 x 1m cables 4 sq mm

### Integral mounting holes

Along length: 811.7mm centre to centre, 405.9mm centre to module edge.

4 holes, size 7mm.

Across width: 943mm centre to centre, 21.5mm centre to module edge.

### Cell circuit

Cell dimensions: Length (tab direction) 156mm. Width: 156mm.

Electrical circuit: 60 cells in series

Cell layout: 6 rows, each row is 10 cells long.

### Normal Operating Cell Temperature (NOCT)

$46^\circ\text{C}$  error in measurement around  $\pm 2^\circ\text{C}$

Cell temperature at  $800\text{Wm}^{-2}$  solar irradiance,  $20^\circ\text{C}$  ambient temperature, wind speed  $\leq 1\text{ms}^{-1}$ , free air access to rear.

### Efficiencies based on Standard Test Conditions Rating

Module: 14.4%

Laminated area: 14.5%

Cells alone: 15.8%

Note: Standard Test Conditions efficiency figures should only be used to compare one module with another. These efficiency figures do not apply to actual field performance, for which a careful analysis of operating conditions is necessary to determine the effects of module temperature and other factors.

Specifications may change due to Naps policy of continuous product improvement.

Please check current specification before purchasing.

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