PHOTOVOLTAIC (PV) solar panels
Electricity - CE & ISO 9000 certified

Photovoltaic solar panels convert sunlight into useful electricity.

ZEDfabric supplies high quality mono-crystalline silicon cell PV panels in two sizes: 83W and 180W.

The laminated cells are mounted in an anodised Aluminium frame. On the rear of the module is a waterproof junction box with connection cables.

We are also working with suppliers in China to develop our own building integrated glass laminate PV panes.

### Specification

#### 180W panel

- **Maximum power:** 180Wp
- **180Wp Dimensions:** 1581x809x50mm
- **Number of cells (Pcs):** 72
- **Maximum power voltage (V):** 36.31
- **Maximum power current (A):** 4.98
- **Open circuit voltage (V):** 44.97
- **Short circuit current (A):** 5.23
- **Maximum system voltage (V):** 1000
- **Temperature range:** -40°C to +80°C
- **Tolerance Wattage (e.g. +/-3°C):** +/-5°C
- **Surface Maximum Load Capacity:** 60m/s(200kg/sq.m)
- **Available Hail Load:** steel ball fall down from 1m height
- **Weight per piece (kg):** 16.3
- **Junction Box Type:** PV-RH0301 (TUV)
- **Length of cables (mm):** 900mm
- **Cell Efficiency:** >15.2%
- **Module Efficiency:** >15%
- **Output tolerance:** +/-5%
- **Frame (Materials, corners, etc.):** Aluminium
- **Standard Test Conditions:** AM1.5
  - 100mW/cm² 25°C

**Warranty:**
2 years product warranty and 20 years 80% of power

#### 83W panel

- **Maximum power:** 83Wp
- **Dimensions:** 1195 x 542 x 34mm
- **Number of cells (Pcs):** 36
- **Maximum power voltage (V):** 17.2
- **Maximum power current (A):** 4.65
- **Open circuit voltage (V):** 21.6
- **Short circuit current (A):** 4.97
- **Maximum system voltage (V):** 715
- **Temperature Range:** -40°C to +80°C
- **Tolerance Wattage (e.g. +/-3%):** +/-5%
- **Surface Maximum Load Capacity:** 60m/s(200kg/sq.m)
- **Allowable Hail Load:** steel ball fall down from 1m height
- **Weight per piece (kg):** 8
- **Junction Box Type:** PV-RH0301 (TUV)
- **Length of Cables (mm):** 900mm
- **Cell Efficiency:** >13.5%
- **Module Efficiency:** >13.3%
- **Output tolerance:** +/-5%
- **Frame (Material, Corners, etc.):** Aluminium
- **Standard Test Conditions:** AM1.5
  - 100mW/cm² 25°C

**Warranty:**
2 years product warranty and 20 years 80% of power

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Solar Thermal Collectors use sunlight to heat water. Evacuated tubes have been developed particularly for northern climates where outdoor air temperatures are low.

Evacuated tubes consist of a collector tube, which heats up in sunlight and converts solar energy into heat energy which is used to heat a glycol-water antifreeze mixture flowing over elements at the end of each tube. The collector tube is enclosed in an outer glass tube, which maintains a vacuum around the collector tube eliminating heat loss.

A closed loop system is used to circulate the heated fluid through a storage tank coil to heat water and return the cooled fluid back to the collectors.

### Specification

**Collector**

- Dimensions: 2290 x 1516 x 134mm
- Gross area: 3.472m²
- Aperture area: 1.764m²
- Absorber area: 1.522m²
- Weight empty: 68.2kg
- Number of covers: 1
- Cover of materials: Borosilicate glass
- Cover thickness: 1.8mm
- Number of tubes: 16
- Tube length: 2.1m
- Tube diameter: 58mm
- Absorber diameter: 47mm
- Absorber construction: Evacuated double glass tube
- Heat transfer medium: Water-Glycol
- Heat conducting metal sheet: U-tube Cu
- Absorber surface: AIN/SS-AIN/Cu on glass
- Maximum operation temp: 250°C
- Maximum operation pressure: 6 bar

**Thermal insulation and casing**

- Thermal insulation thickness: Average 20mm
- Insulation material: Polyurethane
- Sealing material: Silicon Rubber

**Warranty:**

2 years product warranty

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Grid-Tie PV invertors

ZEDfabric supplies invertors to convert the DC current generated by solar panels into AC power and sell energy back to the national grid.

### Features include:

1. DSP controller
2. Using the fifth generation IPM from Mitsubishi company as the power component
3. MPPT (Maximum Power Point Tracking) technology
4. High efficiency up to 95%
5. Perfect protect functions include anti-islanding
6. In accordance with IEEE929-2000, UL1741
7. Quick and easy installation
8. A LCD display for monitoring all system information
9. Can set the operation parameters via LCD and keys
10. CE certified

### Specification - 1.5kw

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended max. PV power</td>
<td>1800Wp</td>
</tr>
<tr>
<td>Max. DC input voltage</td>
<td>450 V</td>
</tr>
<tr>
<td>MPP voltage range</td>
<td>150V-450V</td>
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<tr>
<td>Max. DC input current</td>
<td>10 A</td>
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<tr>
<td>Nominal AC output power</td>
<td>1500 W</td>
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<tr>
<td>Total Harmonic Distortion (THD)</td>
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<tr>
<td>Power Factor</td>
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<tr>
<td>Max. Efficiency</td>
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<tr>
<td>Europe Efficiency</td>
<td>92.5%</td>
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<tr>
<td>Waterproof and Dustproof Class</td>
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<tr>
<td>Size (W x H x D)</td>
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<tr>
<td>Weight</td>
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<tr>
<td>Operating range of utility voltage</td>
<td>180 °C 265 V AC</td>
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<tr>
<td>Operating range of utility frequency</td>
<td>47.2 °C 51.5 Hz</td>
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<tr>
<td>Self consumption at night</td>
<td>&lt; 0.5W</td>
</tr>
<tr>
<td>Communication Interfaces</td>
<td>RS485</td>
</tr>
<tr>
<td>Operation Surroundings Temperature</td>
<td>-25°C--+60°C</td>
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<tr>
<td>Noise level</td>
<td>&lt;40dB</td>
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<tr>
<td>Connection with PV cables</td>
<td>DC plug connectors</td>
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<tr>
<td>Connection with utility grid cables</td>
<td>AC plug connectors</td>
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<tr>
<td>Cooling</td>
<td>Natural cooling</td>
</tr>
<tr>
<td>Isolated style Standards</td>
<td>Low frequency transformer</td>
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<tr>
<td>Standards</td>
<td>IEEE929. EN61000</td>
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<tr>
<td>Recommended max. PV power</td>
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<tr>
<td>MPP voltage range</td>
<td>200V-450V</td>
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<tr>
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<tr>
<td>Nominal AC output power</td>
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<tr>
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<td>Max. Efficiency</td>
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<tr>
<td>Europe Efficiency</td>
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<td>Operating range of utility frequency</td>
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<tr>
<td>Self consumption at night</td>
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ZEDfabric wind cowl

The ZEDfabric Wind Cowl passive heat recovery ventilation system supplies and extracts air to and from a building to maintain good air quality whilst minimising heat loss. The heat recovery system used is 70% efficient.

At an average windspeed of 4m/s in London, depending on the external temperature, the flow rate of the Wind Cowl is between 50-70 litres per second.

Specification

The ZEDfabric wind cowl works like an active ventilation system in that it has dedicated inlet and outlet ducts and a heat recovery system, but instead of using electrical fans to drive the air flow it uses the wind to create both positive pressure at the inlet and negative pressure at the outlet ensuring a throughput of air for no electrical input. In low wind conditions it will continue to produce reasonable ventilation levels through stack effect.
Retail prices

Solar Hot Water

Solar Thermal Collector

16-tube panel £490.00 exc VAT

Solar Electricity

Solar PV panels

180W ZEDfabric Mono-crystalline PV Solar Panel (1581 x 809 x 50mm) £630.00 exc VAT

83W ZEDfabric Mono-crystalline PV Solar Panel (1195 x 542 x 34mm) £305.00 exc VAT

180W Sharp Mono-crystalline PV Solar Panel (1318 x 994 x 46mm) £675.00 exc VAT

Solar Grid-tie inverters

1.5kW ZEDfabric inverter £760.00 exc VAT

3kW ZEDfabric inverter £1385.00 exc VAT

1.7kW Sunny Boy inverter £940.00 exc VAT

2.5W Sunny Boy inverter £1240.00 exc VAT

All prices are subject to change without notice. VAT is excluded in the prices shown. Payment terms: 100% on order.