



they don't cost the earth

North Energy Systems

Solar Panels



TOFTS OF TAIN, CASTLETOWN, CAITHNESS KW14 8TB
[TEL & FAX +44\(0\)1847 821418](tel:+441847821418) Email – info@northernenergysystems.com
www.northernenergysystems.com



Solar Panels

Photovoltaic (PV) is the technology of converting solar radiation or light energy into electricity. PV panels which are made of specially processed silicon convert sunlight into electricity to power an electrical load. PV panels come in standard voltages and wattages and when combined make up a solar array. PV arrays produce direct current (DC) that can then be transformed into alternating current (AC) by an inverter. Most homes and appliances are wired for AC so most systems use an inverter. Some systems have a few loads that use DC, as well as the AC loads. And some systems are strictly DC and do not require an inverter. DC systems require special lighting, appliances and equipment that is purpose made for DC electricity.

Product Features :

1. Cells: **mono crystalline** size: 125mm X 125mm or 103mm x 103mm.
2. Anti reflection film is Silicon Nitride formed with PECVD which is dark blue in colour. The efficiency is above 14.0%.
3. Module frames: Meet the international standard requirements. High quality anodized Aluminium material. The Oxidized Aluminium film thickness on the surface is 25u. The frame has 4 pairs of screws for fixing and one screw on the back which is for the earth connection.
4. Tempered Glass: the laminating glass with lower Iron contained (lower than 0.02%), thickness is 3mm, the transmissivity of all types of waves of light reached 92%.
5. Laminating materials: EVA is imported, long lasting, TPT material and weather proofed.
6. Junction Box: Junction box is designed for on grid application for the UK market. The outside of the box is made of high quality PP material with good insulation properties. The terminal material is copper alloy which is silver plated. Each box has two by-pass diodes for reducing burning spots. Each box is well sealed and water proofed. ST120-12 is composed of 72 mono or multi crystalline silicon solar cells which are interconnected.
7. Heavy duty anodized aluminium frame provides strengths and convenient mounting access. Provide the standard bracket system, holes for installation.



8. A dusty proof versatile junction box provides flexibility of connections.

Components to a typical PV system differ slightly whether on-grid or off-grid

On-Grid – Connected to the utility

- PV panels (array)
- Grid Tied Inverter (see right)
- Optional: Batteries
- Balance of System – includes wiring, disconnects, array mounts, utility room mounts



Off-Grid – Stand alone or independent system

- PV panels (array)
- Inverter (Modify sine wave or pure sine wave inverter)
- Charge Controller
- Batteries
- Balance of System - includes wiring, disconnects, array mounts, utility room mounts, etc.

40W KS340U Solar Panel

Model: **KS340U**
Max Peak Power (MPP): **40 Watts**
Voltage @ MPP: **17.3 V** Current @ MPP: **2.31 A**
Short Circuit Current: **2.54 A**
Dimensions: **670*576*40mm**
Weight: **7.75 kg**
Warranty: **25 Year Limited Output**





they don't cost the earth

50W KS350U Solar Panel

Model: **KS350U**
Max Peak Power (MPP): **50 Watts**
Voltage @ MPP: **17.3 V**
Current @ MPP: **2.89 A**
Short Circuit Current: **3.17 A**
Dimensions: **839 x 537 mm**
Weight: **8.0 kg**
Warranty: **25 Year Limited Output**



65W KS365U Solar Panel

Model: **KS365U**
Max Peak Power (MPP): **65 Watts**
Voltage @ MPP: **17.6 V**
Current @ MPP: **3.69 A**
Short Circuit Current: **3.99 A**
Dimensions: **1111 x 502 mm**
Weight: **8.2kg**
Warranty: **25 Year Limited Output**



80W KS380U Solar Panel

Model: **KS380U**
Max Peak Power (MPP): **80 Watts**
Voltage @ MPP: **17.3 V**
Current @ MPP: **4.63 A**
Short Circuit Current: **5.15 A**
Dimensions: **1200 x 537 x 35mm**
Weight: **8.5 kg**
Warranty: **25 Year Limited**





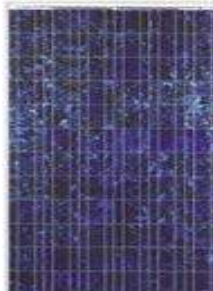
125W KS3125 Solar Panel

Model: **KS3125**
Max Peak Power (MPP): **125 Watts**
Voltage @ MPP: **17.3 V**
Current @ MPP: **7.23 A**
Short Circuit Current: **8.02 A**
Dimensions: **1510 x 674 mm**
Weight: **12.0 kg**
Warranty: **25 Year Limited Output**



165W KS3165 Solar Panel

Model: **KS3165**
Max Peak Power (MPP): **165 Watts**
Voltage @ MPP: **35.2 V** (24V System)
Current @ MPP: **4.70 A**
Dimensions: **1593 x 790 mm**
Weight: **15.4 kg**
Warranty: **25 Year Limited Output**



175W KSS170W Solar Panel

Model: **KSS175W**
Max Peak Power (MPP): **175 Watts**
Voltage @ MPP: **35.4 V**
Current @ MPP: **4.95 A**
Open Circuit Voltage: **44.4 V**
Short Circuit Current: **5.55 A**
Dimensions: **1575 x 826 x 46mm**
Weight: **17.0 kg**
Warranty: **25 Year Limited Output**

