

Foldable Solar Panel Kit

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Introduction

The Foldable Solar Panel consists of 2 or 3 interconnected hinged PV modules. The flat-plate PV module construction consists of a laminated assembly of solar cells encapsulated within an insulating material with a rigid glass surface and an insulated substrate supported by an aluminium frame that can also be used for mounting the modules. The panel is rain, hail and impact resistant.

Safety

PV modules produce current and voltage when exposed to light of any intensity. Electrical current increases with higher light intensity. DC voltage of 30 Volts or higher is potentially lethal. Use insulated tools and do not wear metallic jewellery while working with PV modules.

In order to avoid arcing and electrical shock, do not disconnect electrical connections under load. Faulty connections can also result in arcing and electrical shock. Keep connectors dry and clean, and ensure that they are in proper working condition. Never insert metallic objects into the connectors, or modify them in any way in order to secure an electrical connection.

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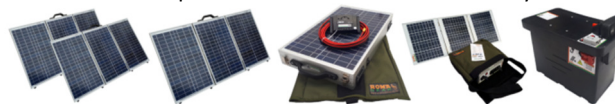


Specifications

Model No	FPV-150
Cell type	Polycrystalline
PV Array power STC	150 Wp
Open circuit voltage (Voc)	21.1 V
Optimum operating voltage (Vmp)	18 V
Short circuit current (Isc)	11.04 A
Optimum operating current (Imp)	8.34 A

STC at 1000w/m², 25° C

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FPV-150 Foldable Solar Panel Kit - 150w



Installation

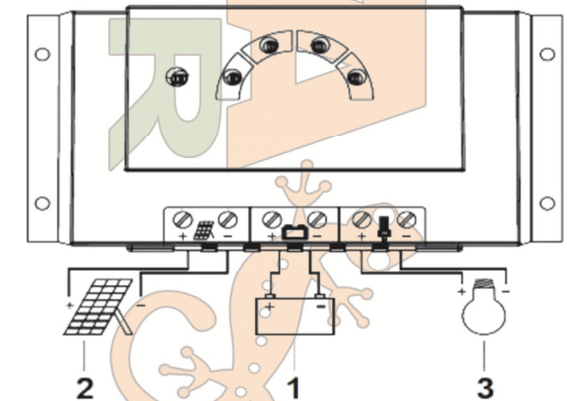
PV modules should ideally be tilted at an angle of 30 degrees - facing North. Partial or complete shading of PV modules can significantly reduce system performance. High system voltages could be induced in the event of an indirect lightning strike, which could cause damage to PV system components.

More detailed installation guide available here: www.ecoficiency.co.za/downloads/RomaGear-FPV-Installation.pdf

Electrical Considerations

Under normal conditions, a photovoltaic module is likely to experience conditions that produce more current and/or voltage than reported at Standard Test Conditions (STC: 1000 W/m², AM 1.5, and 25°C cell temperature). The short-circuit current (ISC) and the open-circuit voltage (VOC) should be multiplied by a factor of 1.25 when determining component voltage ratings, conductor current ratings, fuse sizes, and size of controls connected to the PV output. A Fuse rated no more than 15Amp is recommended between the controller and battery (on the positive cable)

Electrical Connection



1 - Battery | 2 - Solar Panels | 3 - Load (lights etc)

Important:

Always first connect the battery to the solar controller/regulator and then connect the solar panel and any loads (lights/fridges etc.)