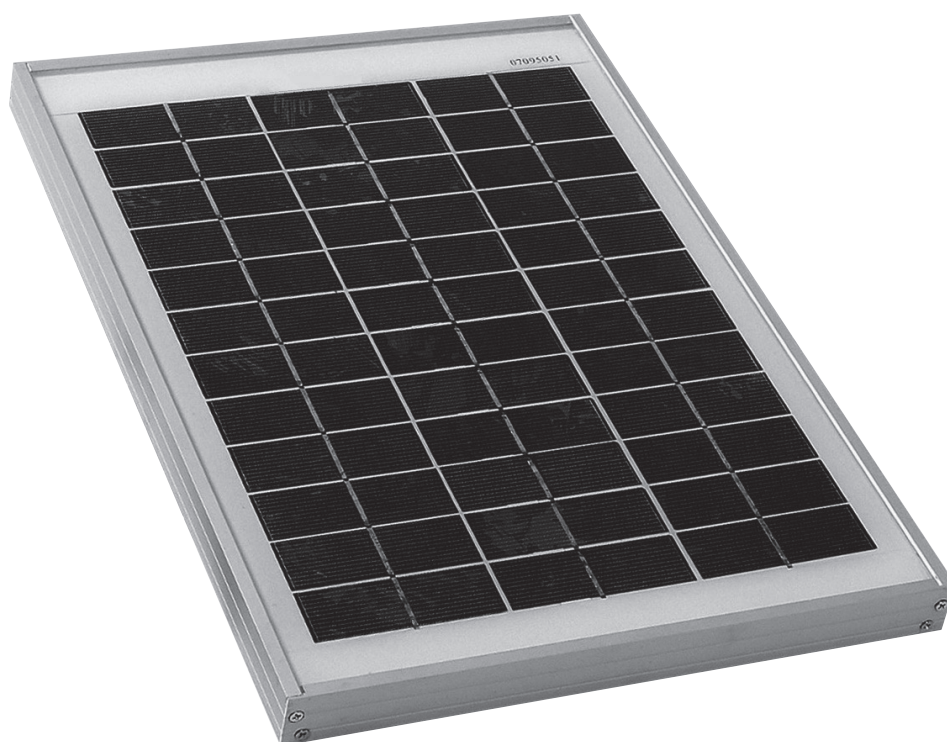


PV Logic[®]
Rigid



Solar
Technology
International
Without boundaries

User manual



Rigid Solar Panels

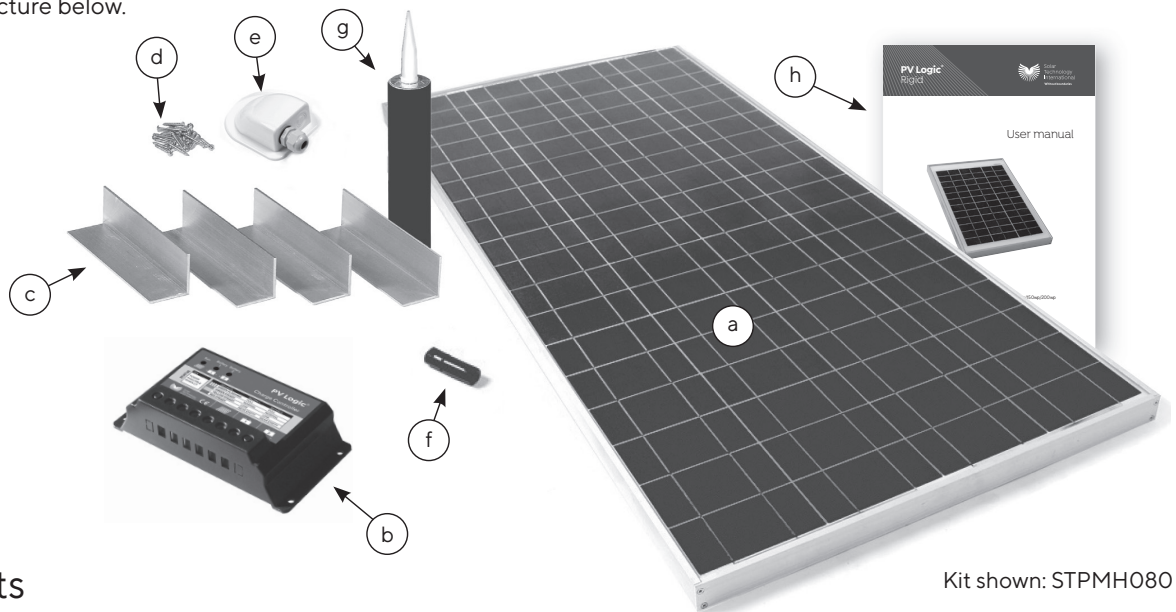
5wp/10wp/20wp/30wp/45wp/60wp/80wp

Important: please read before first use.

Technical helpline 01684 774 000

PV Logic Rigid kit contents

Letters after item descriptions refer to the picture below.



Kit shown: STPMH080

Basic Kits

Basic Kits are available with the following contents:

STP005

- 1 x 5wp Solar panel (a)
- 1 x 4m cable (not shown)
- 1 x Fuseholder and fuse (f)
- 2 x Crocodile clips (not shown)
- 1 x Instruction sheet (h)

STP010

- 1 x 10wp Solar panel (a)
- 1 x 4m cable (not shown)
- 1 x Fuseholder and fuse (f)
- 2 x Crocodile clips (not shown)
- 1 x Instruction sheet (h)

STP020

- 1 x 20wp Solar panel (a)
- 1 x 4m cable (not shown)
- 1 x Fuseholder and fuse (f)
- 2 x Crocodile clips (not shown)
- 1 x Instruction sheet (h)

STP030

- 1 x 30wp Solar panel (a)
- 1 x 4m cable (not shown)
- 1 x Fuseholder and fuse (f)
- 1 x Instruction sheet (h)

STP045

- 1 x 45wp Solar panel (a)
- 1 x 4m cable (not shown)
- 1 x Fuseholder and fuse (f)
- 1 x Instruction sheet (h)

STP060

- 1 x 60wp Solar panel (a)
- 1 x 4m cable (not shown)
- 1 x Fuseholder and fuse (f)
- 1 x Instruction sheet (h)

STP080

- 1 x 80wp Solar panel (a)
- 1 x 4m cable (not shown)
- 1 x Fuseholder and fuse (f)
- 1 x Instruction sheet (h)

Kit options

The Basic Kits above are available with the following added options:

1. With Charge Controller

In addition to the basic kit contents noted above, a 10A PWM charge controller (b) can be added for panels.

Part numbers are as the basic kits, but with the suffix **MA**.

Example: STP020**MA** indicates a 20wp basic kit with charge controller included.

2. PV Logic Rooftop Kits

In addition to the Basic Kit contents noted above, PV Logic Rooftop Kits include the following:

- 1 x 10Ah PWM charge controller
- Choice of roof fitting brackets - standard aluminium (c), premium PVU or aero aluminium (not shown)
- 16 x Stainless steel screws (d)
- 1 x Water resistant cable feed gland (e)
- 1 x Tube of flexible adhesive (g)

Part numbers are as the basic kits but with two additions: an **MH** in the middle of the number, together with a suffix to denote the type of fitting brackets chosen: no suffix indicates standard aluminium, adding **PB** indicates premium corner brackets and **AE** indicates aero aluminium.

Example: STPMH080**AE** indicates a rooftop kit with aero aluminium fitting brackets.

Charge Controller Upgrade

All PV Logic Rooftop Kits can be supplied with an upgraded 15Ah, 20Ah or 30Ah MPPT charge controller instead of the standard PWM controller.

Part numbers for these kits are as the standard Rooftop Kit with an extra suffix of **PT**.

Example: STPMH080**AEPT** indicates a Rooftop Kit with aero brackets and a 15Ah MPPT charge controller.

3. Bulk Pack Options

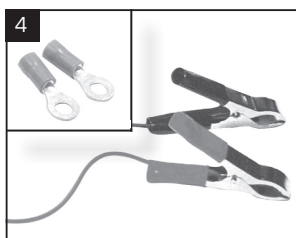
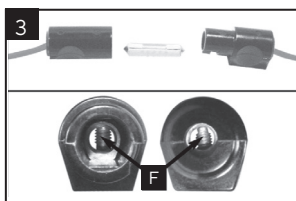
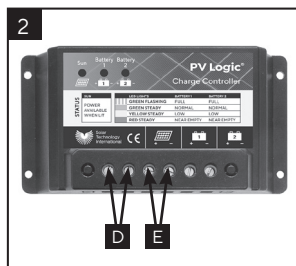
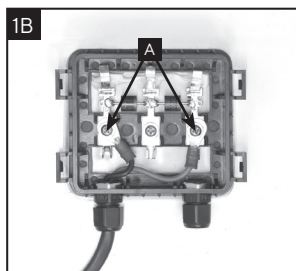
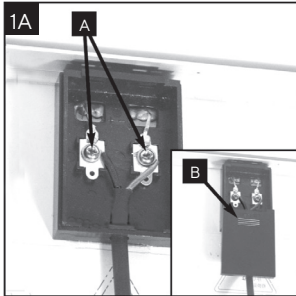
This option includes ONLY the solar panel and nothing else. From 5 to 60wp, the bulk pack contains 5 panels, the 80wp bulk pack contains 2wp panels.

Part numbers for these kits are as the standard Basic Kits but with a suffix of **BP**.

Example: STP080**BP** indicates a bulk pack of 2 x 80wp solar panels.

Please read all instructions carefully before work begins

IMPORTANT: When connecting a solar panel to a battery, it is always recommended that a voltage regulator is used to prevent both reverse current feed (at night) and overcharging of the battery. The only exception to this is the **STP005** and **STP010** because they are fitted with a reverse feed diode and if connected to battery size at or greater than 35Ah and 70Ah respectively will not overcharge because of each battery's own impedance.



Step 1: Fitting the cable to the solar panel (Cable pre fitted to 60wp to 80wp panels)

- 1.1 Remove the cover (**B**) from the terminal box on the rear of the solar panel
- 1.2 Panel sizes up to 30wp generally have the junction box style shown in Fig 1A. Panels 45wp and over have the style shown in Fig 1B. Fitting the cable to both is similar but with the 3 terminal style shown in Fig 1B you should ignore the centre terminal (The left terminal is -ve and the right is +ve).
- 1.3 Take one end of the cable and strip back the black outer insulation 4.5cm. Strip back the insulation of the red and black inner cables 1.5cm to expose bare wire.
- 1.4 Feed the cable through the hole in the terminal box.
- 1.5 Twist the bare wire ends tightly and wrap clockwise around the loosened terminal screws (**A**). Alternatively, two ring terminals (supplied) can be crimped onto the bare cable ends.

Red (positive), black (negative) as marked on inside of terminal box

- 1.6 Tighten terminal screws and replace the terminal box cover.

Step 2: Connecting cables to solar charge controller (If required)

- 2.1 Position the solar charge controller as close as possible to the battery (must be a dry location)
- 2.2 Measure the distance between your battery terminals and the solar charge controller.
- 2.3 Cut the measured distance from the end of the cable, allowing some extra for slack.
- 2.4 Take the loose end of the cable fitted to the solar panel and prepare as per step 1.3. Using the same procedure described in step 1.5, now attach the cable to the terminals (**D**) on the charge controller.
- 2.5 Prepare battery cable by following step 1.3 and 1.5 and insert into terminals (**E**)

Note: Red = positive (+), black = negative (-)

Step 3: Fitting the fuse

- 3.1 Strip back the black outer insulation of the cable 20cm.
- 3.2 Position the fuse as close as possible to the battery, particularly if a charge controller is used between the controller and the battery. Cut the red cable at the halfway point and strip 5mm of the red insulation from both the cut ends. Twist the bare wire ends tightly and fit into the screw terminals (**F**) on each of the fuse holder pieces.

Step 4: Connecting the cable to your battery

- 4.1 If wishing to fit crocodile clips (supplied in all 5wp, 10wp and 20wp kits) strip the red and black insulation (3cm) from the inner cable ends. Attach the cable to crocodile clips by following the same procedure as described in 1.5.
- 4.2 For a more secure connection (recommended for every panel of 30W and above) to strip the red and black insulation (6cm) from the inner cable ends. Twist the bare wire, wrap around the battery terminals, and fix into position using your battery clamps. Some clamps have screw connections fitted, in which case, if the ring terminals have already been crimped onto the wire ends, simply attach them using your battery clamp screws.

Step 5: Additional information for fitting a Roof Top Kit (see overleaf)

Step 5: Additional information for fitting a Roof Top Kit – L brackets and corner brackets (If the aero kit has been selected, please refer to the fitting instructions supplied with that kit)

NOTE – bonding agent requires 24 hours to properly cure. We would therefore recommend that the motorhome, caravan or boat is not moved during this period.

- 5.1 Attach the brackets to the side of the panel using the supplied stainless steel screws, ensuring the brackets are flush with the top of the solar panel frame (thereby leaving a gap between the bottom of the panel frame and the roof). If the aero kit has been selected, please refer to the instructions supplied with that fitting kit.
- 5.2 Place the panel on the roof position where it is to be fixed and draw a pencil line around the footprint of the brackets. Ideally the panel should be fixed above the cable entry hole.
- 5.3 Clean the area on your motorhome, caravan or boat where each bracket and the cable feed gland is to be fixed with spirit, and make sure the area is clean, oil free and dry.
- 5.4 Insert the cable trailing from the solar panel junction box into the cable feed gland, ensuring the locking nut is loose, and then into the entry hole on the roof. Using the provided bonding agent, now bond the cable feed gland into position.
- 5.5 Apply the bonding agent (around a 6mm thickness of bonding agent is ideal) to the edge of each bracket or profile and then turn the panel so that the solar cells are facing upwards and bond the panel to the roof, positioning the brackets in the pencil lines previously marked.
- 5.6 Once the cable has been pulled through the cable feed gland, the gland nut should be tightened to affect a water tight seal.
- 5.7 Now the cable can be channelled into the roof lining or into trunking/capping or similar and down to the battery.

Options

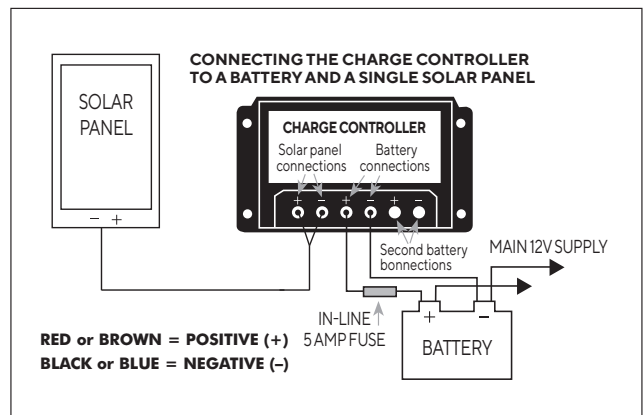
Connecting two or more solar panels together

- 6.1 Should you wish to increase the power and make a solar array or increase the voltage (to produce 24volt instead of 12 volt) this can easily be achieved. Please contact Solar Technology on 01684 774000 and request a copy of our 'Creating a Solar Array' technical bulletin.

Adding a second battery to a dual battery charge controller

- 7.1 Connect a second battery to a dual battery charge controller with an additional piece of 2-core, 1mm cable (not supplied) and follow steps 1, 2 & 3 above (not forgetting to add a fuse on the positive line as described in step 2). Power from the charge controller will be diverted to the second battery only when the primary battery is fully charged.

NOTE FOR MOTORHOMES – the dual battery option is not compatible with smart alternators



Warranty

PV Logic solar panels are supplied with a 10 year panel build warranty from the date of purchase from Solar Technology International. This guarantees the panel from mechanical failure and water ingress during this period. The warranty is void if the outer layers, or edges, of the panel have been penetrated, damaged or cracked or the recommended handling, storage, installation and care procedures have not been followed. The warranty is also invalidated if the panel has been abused, or not used for the purpose intended.

The manufacturer nor any of its employees, agents, distributors or resellers are liable for any third-party damage howsoever caused. The extent to which the manufacturer is liable to a customer is limited to the purchase price paid by the customer for the product. We will not accept any costs associated with the return of faulty product.



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