BLOCKING DIODE INSTALLATION INSTRUCTIONS
A blocking diode is required in each ‘series string’ of solar modules between the modules and regulator/battery, to prevent current flowing back through the modules when the modules are shaded or during darkness. The blocking diode acts like a one-way valve, allowing current to flow only one way, out of the solar module.

If a Solar module is connected directly to a battery, during sunlight hours the module will charge the battery but during darkness or shading, the module will act as a load on the battery and discharge it.

In a simple single module and regulator system, a separate blocking diode is not normally required since one is normally incorporated into the regulator.

Whenever more than one module or a module and another charge source (eg wind generator) are directly connected in parallel, a blocking diode is required in each ‘series string’ of solar modules.

A ‘series string’ can be one or more solar modules connected in series. Any number of ‘series strings’ can then be connected in parallel. Modules are connected in series to increase voltage, and parallel to increase current.

**Fig 1. Typical 12v Solar Array**

**Fig 2. Typical 24v Solar Array**
Fitting Blocking Diodes

Framed Modules

It is usual to fit the blocking diode into the positive output inside the terminal box of the solar module at the positive end of each series string.

In order to minimise voltage drop and power loss it is recommended that Schottky diodes are used.

Modules up to 60W  5A Schottky Diode  Marlec Part No 913-005
Modules up to 100W  8A Schottky Diode  Marlec Part No 913-012

Lite Series Modules

Lite series modules do not have terminal boxes fitted, therefore the blocking diode needs to be fitted externally to the module, usually within a junction box where the modules are terminated. The diode can be conveniently fitted into a terminal block as shown in Fig 3. in series with the positive output of the solar module. The blocking diode kit includes a 2 way terminal block:

Schottky Diode Kit 5A  Marlec Part No CA-11/01

Fig 3.
BP 365 Module

Terminal Box Without Blocking Diode Fitted

Terminal Box With Blocking Diode Fitted
BP 380 Module

Terminal Box Without Blocking Diode Fitted

Terminal Box With Blocking Diode Fitted

Customer Output Wires

Bypass Diodes Already fitted