



**20 Watt Panel – 06002VT20**

**30 Watt Panel – 06002VT02**

**40 Watt Panel – 06002VT21**

**55 Watt Panel – 06002VT03**

**90 Watt Panel – 06002VT04**

**115 Watt Panel – 06002VT05**

**175 Watt Panel – 06002VT08**

The Victron range of monocrystalline solar panels are superb value for money, offering a free 12V power source for both professional and DIY applications. The panels are constructed with a heavy duty anodised aluminium frame that provides high wind resistance and convenient mounting access. Cells are laminated between high transmissivity, low iron, 3mm tempered glass and a sheet of TPT material and finally two sheets of EVA to prevent moisture entering the module.

### CHARACTERISTICS

- Installation holes for standard bracket systems and mounting are located to the rear of the frame. Please see accessories on our website for more mounting options.
- Bypass diodes on all panels to improve shadow tolerance.
- Waterproof versatile junction box provides flexibility of connections.
- 20W, 30W, 40W and 55W panels are not supplied with any pre-fitted cable. If you are buying one of these panels as part of a kit, then this cable will be added for you.
- It is possible to fit the cable for the 30W, 40W and 55W panel using ring crimps, this allows you to easily remove and replace the cable if necessary.
- The 90W, 115W and 175W panel come with fitted 0.9m positive and negative solar cables with MC4 connectors. Please see accessories on our website if you require cable extensions.
- Thirty-six monocrystalline cells are connected in series for normal 12V charging.
- Panels are manufactured in accordance with EN-IEC 63000:2018 and come with a 25-year limited output and performance warranty.



#### Dear Customer

*Thank you for buying a Solar Panel from us. We aim to make solar simple and safe, so please take the time to read this leaflet and any other information that comes with your panel and/or charge controller before installation.*

*Colin Howe  
Managing Director*

Please see information below for additional technical details.

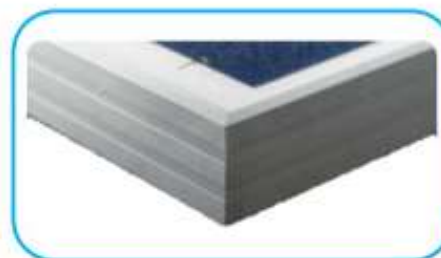
Electrical Characteristics	20W	30W	40W	55W	90W	115W	175W
Typical maximum power (Wp)	20	30	40	55	90	115	175
Open circuit voltage (Voc)	22.6	22.87	22.45	22.9	24.06	23.32	23.7
Short circuit current (Isc)	1.19	1.76	2.40	3.22	5.03	6.61	9.89
Optimum operating voltage (Vmp)	18.5	18.7	18.3	18.8	19.6	19.0	19.4
Optimum operating current (Imp)	1.09	1.61	2.19	2.94	4.59	6.04	9.03

#### Standard Parameters

Nominal operating cell temperature (NOCT)	-40°C to +85°C
Current temperature coefficient (Isc)	+0.04%/°C
Voltage temperature coefficient (Voc)	-0.35%/°C
Power temperature coefficient (Wp)	-0.45%/°C
Edge grounding	≤1ohm
Wind resistance	2400Pa
Maximum system voltage	1000V

*This information represents the output of typical panels in 12V configuration. This data is based on measurements made in accordance with Standard Test Conditions (STC) 1000W/m<sup>2</sup>, AM 1.5 with a cell temperature of 25°C.*

Standard Parameters	20W	30W	40W	55W	90W	115W	175W
Weight	1.9kg	2.2kg	3.1kg	4kg	6.1kg	8kg	11kg
Length of panel (mm)	440	560	668	668	780	1015	1485
Width of panel (mm)	350	350	425	545	668	668	668
Depth of panel (mm)	25	25	25	25	30	30	30
Monocrystalline Cells	36	36	36	36	36	36	36
Surface Maximum Load Capacity	200kg/m <sup>2</sup>	200kg/m <sup>2</sup>	200kg/m <sup>2</sup>	200kg/m <sup>2</sup>	200kg/m <sup>2</sup>	200kg/m <sup>2</sup>	200kg/m <sup>2</sup>
Allowable Hail Load	23 m.s, 7.53 g	23 m.s, 7.53 g	23 m.s, 7.53 g	23 m.s, 7.53 g	23 m.s, 7.53 g	23 m.s, 7.53 g	23 m.s, 7.53 g





## ELECTRICAL SAFETY



- Observe polarities when connecting solar panels and batteries.
- Photovoltaic panels produce electricity immediately when exposed to light, so it is recommended that you cover the front of the solar panel if outdoors when installing to help avoid potential for shocks.
- The voltage and current produced from individual PV modules is generally low, but touching live wiring or terminals can cause shock and burns. This danger increases when modules are connected together for higher voltage and current.
- Battery charging can produce flammable gasses and vapours. Always ensure the batteries are in a vented environment.
- Do not allow water to come into contact with wire connections, charge regulator or battery at any time.
- Do not short circuit either the panel or the battery.

## HANDLING PRECAUTIONS

This product has been designed to be robust under normal conditions. However, we recommend that the module is carefully handled and stored at all times and that the following precautions are taken:

- Avoid handling the front surface of the PV modules.
- Forceful impacts to the front or back surfaces can cause irreparable damage
- The modules should be kept flat and should never be twisted or bent.
- Never disassemble the module.
- Drilling or welding the frame is not recommended.
- Never use a device that concentrates the light on the solar panel as this could seriously damage the solar cells.
- Always use electrically insulated tools.
- Always use a suitable charge regulator to prevent overcharging and for reverse current protection.

## JUNCTION BOX and WIRING

The modules are designed for 12V applications and as such output cables should be appropriate for voltage and outdoor applications. After connections have been made, coat exposed terminal connections with silicon to protect from corrosion, or other suitable method.

The junction box is fixed with a high quality silica gel which ensures ageing resistance and high sealing performance.

- When wiring to the charge regulator first connect the regulator to the battery and then connect the controller to the panel. It is good practice to fit a fuse between the controller and the battery.

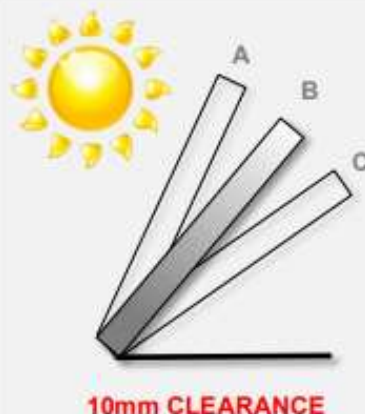
Refer to the instructions that come with your charge controller for more information.



## INSTALLATION

The position of your solar panel should be considered carefully, allowing for the physical requirements of its mounting, together with its proximity to where you will fit the charge regulator.

- You should leave a minimum clearance gap of 10mm beneath the panel, for heat dissipation from the panel.
- Solar panels can be mounted at any angle and are commonly mounted horizontally for practical reasons, particularly on motor caravans. However, by mounting them at an angle and directed at the sun can improve efficiency. The optimum angle equates to the angle of latitude for your particular location, which for the UK would be 50° (see diagram right).
- Minimising the distance between the regulator and the battery will help reduce any voltage drop.
- After installation and during use, always be mindful of the sunlight reaching the panel and when parked up or moored and ensure that the panel will not be shaded.
- It is good practice to keep the panel clean from dirt and debris at all times and it should be cleaned using a mild solution of soap and water.
- Select Solar supplies a wide range of mounting and cable accessories; please see our web site for full details.



A – 65° optimum angle for winter if adjustable

B – 50° optimum angle if fixed position

C – 35° optimum angle for summer if adjustable



## ACCESSORIES

Please see web site for full details.



Code 08003BS01



Code 08003AE03



Code 08003BS04



Code 08001MC11

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