

D2 Turbo Solar Panel Installation

• Mounting the solar panel

Solar Panels generate electricity whenever exposed to light. It is important that you choose a mounting position that will maximise this exposure.

The average annual sunlight varies slightly depending upon location within Australia. This means the solar option is suitable in all locations. Positions not suitable will be only dependant on localised obstacles shading the panel, large trees, buildings, etc.

The solar panel is rated to operate the D2 Turbo operator for a minimum of 10 operations per day with a standby battery reserve of two days if there is absolutely no sunlight. These figures are based on the lowest sunlight hours i.e. Hobart, so all the other areas shown will achieve a better performance. If other ancillary items are connected to the solar panel it will reduce the performance and they should not be connected without consulting your installer as this could damage the battery.

The panel is supplied with a mounting bracket and two bolts. The head of these bolts slide in the side frame of the panel allowing for the bracket to be adjusted to suit fixing requirements. The bracket may be fixed to fences, walls, roofs, columns, posts, or trees. Generally the panel should be north facing and angled depending upon Latitude.

City	Latitude	Longitude	Array Tilt	Average Solar (kWh/m ² /day)
Darwin	12.4 S	130.87 E	22	5.91
Brisbane	27.38 S	153.10 E	37	5.43
Sydney	33.95 S	151.18 E	49	5.04
Canberra	35.30 S	149.18 E	49	5.48
Melbourne	37.67 S	144.83 E	52	4.74
Adelaide	34.93 S	138.52 E	50	5.51
Perth	31.93 S	115.95 E	47	5.85
Hobart	42.52 S	147.19 E	57	4.50

The bracket should be fixed with two screws/bolts or if mounting on a post, a U-bolt. Position the panel as high as possible (out of the reach of children and to minimise shadowing.) When the bracket is in place slide the hex heads of the bolts into the side channels of the solar panel ensuring the cable junction is at the top. Adjust the alignment of the panel to face North (facing the sun at midday) and adjust the tilt angle using the above table as a guide. Tighten the bolts to lock in place.

• Electrical connection

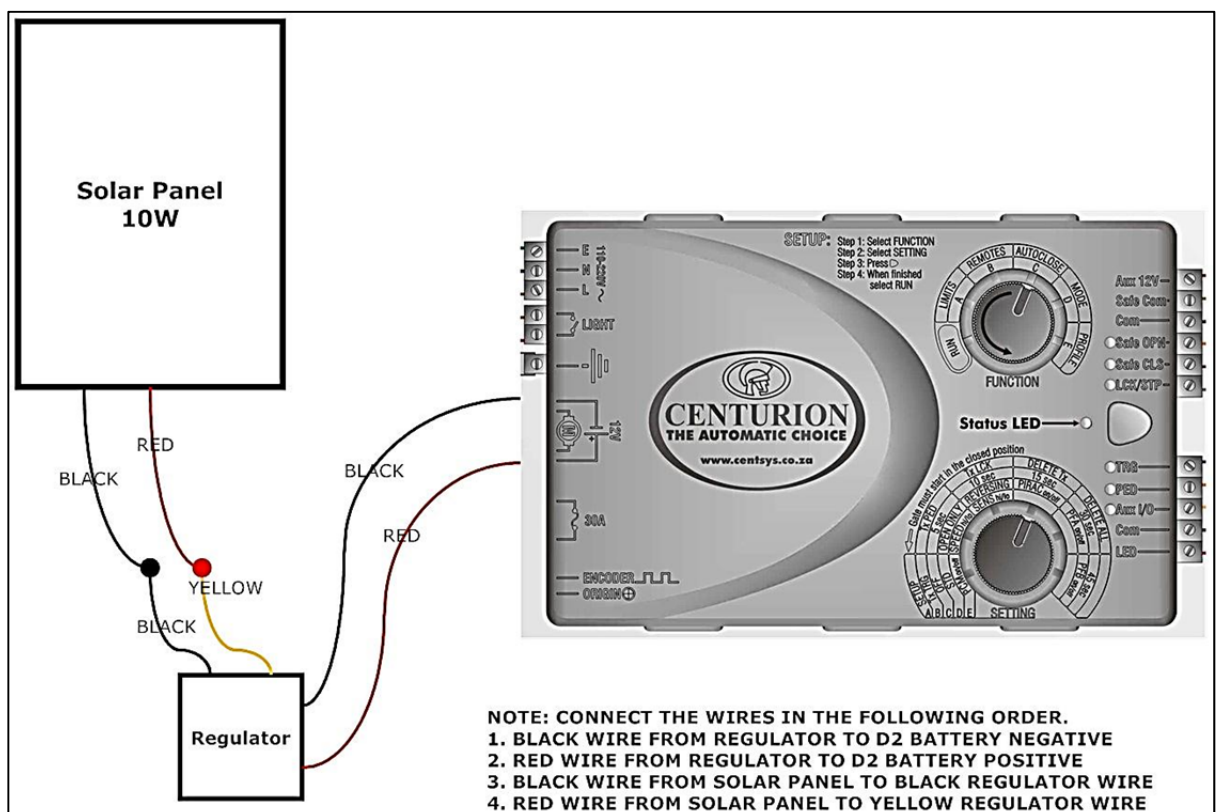
The solar panel is supplied with approximately 4 metres cabling pre terminated at the panel. Route the cable to the gate operator ensuring there is no strain on the cable (if necessary put the cable in conduit) ensure the strain relief clips are fitted at the panel. If necessary the cable may be extended. For added protection an earth wire must be fitted on the earth terminal of the panel and routed to a suitable earth point at the operator.

Be careful not to short the solar or battery connections it may damage the battery and/ or the regulator.

A regulator must be fitted – the panel in full sun will generate over 20 Volts DC - which may damage a battery. The regulator is designed to maximise the charge of the battery whilst protecting the battery and panel. The regulator fits in the operator (using the self-adhesive Velcro supplied) on the operator mounting frame under the control board battery connections. The regulator is sealed and requires no adjustment.

IMPORTANT!!

The operator should not be used for 24 hours after connecting the solar panel to ensure that the battery is fully charged.



• Maintenance

In areas with low rainfall - periodic cleaning of the panel with tap water and a mild detergent will remove dirt, dust, bird droppings and the like, and will ensure maximum efficiency. Do not use solvents or high pressure/ abrasive cleaners.

Periodically check that the panel is aligned correctly and wire connections are not damaged or loose.