



HOW TO UPGRADE EXISTING 30W
PANELS WITH THE NEW SOLAR
PANEL POWER OPTIMISER

INSTRUCTION GUIDE

Introduction

This quick guide will show users how the current 30W solar panels can be retrofitted with a new power converter. The aim of this new power converter is to convert more of the solar energy, which is absorbed by the solar panel into the main battery of the ZKL 3000 RC. This will ensure that with the same amount of sunshine the main battery will be charged faster, resulting in a longer battery life of the ZKL 3000 RC V2 and V3.

Essential items

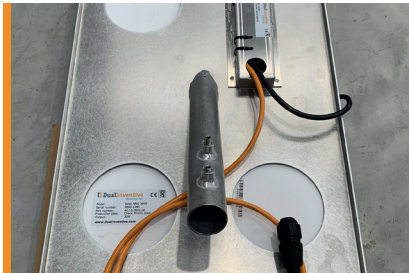
To upgrade the existing solar panels, you will need the following items:

- 1x existing 30W solar panel setup
- 1x conversion cable (orange, 25cm)
- 1x main battery connecting cable (orange, 1.5m)
- 1x new Maximum Power Point Tracking (MPPT) converter (black box)
- 2x tie-wraps
- 1x torx 30 screwdriver
- 1x wire cutter
- 1x box end spanner 10mm



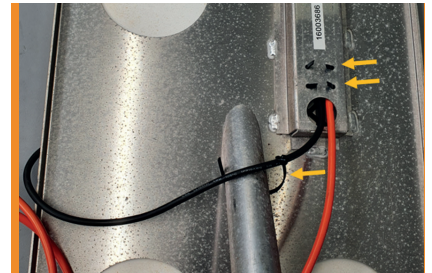
Step 1.

Remove the main battery cable that is attached to the solar panel from the main battery.



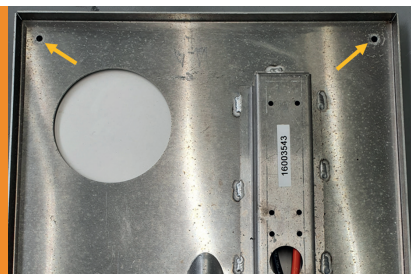
Step 2.

Remove the solar panel from the BBX 3000 and place it on a hard surface with padding underneath, to prevent the solar panel from getting damaged.



Step 3.

Cut the tie-wraps that are around the cables on the solar panel and around the metal compartment (see image). Please note, some images may be mirrored compared to your solar panel, due to different solar panel models. This instruction applies to all Dual Inventive 30W solar panels.



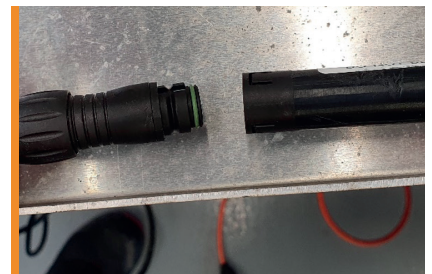
Step 4.

Unscrew the solar panel from the metal frame (4 bolts, nuts and washers, one on each corner of the solar panel) using the torx 30 screwdriver and box end spanner 10mm.



Step 5.

Remove the metal frame from the solar panel so that the black battery cable can **carefully** be removed from the metal compartment.



Step 6.

Remove the orange cable from the black solar panel cable by **carefully** pulling off the black connector.



Step 7.

Reattach the solar panel to the metal frame using the 4 bolts, nuts and washers.



Step 8.

Open the green clamp of the MPPT using the box end spanner (10mm) and secure it around the solar panel's pole together with the MPPT. **Make sure the connectors of the MPPT are facing away from the solar panel.**

Whilst securing the green clamp and MPPT to the pole, please ensure that both ends of the clamp are evenly tightened.



Step 9.

Link the orange 25cm conversion cable to the black cable of the solar panel. This can only be done one way. **Make sure the white end on both connectors match.**



Step 10.

Connect the other end of the orange 25cm conversion cable into the right-hand connector of the MPPT. **Make sure the white end on both connectors match.** Tighten the connector by screwing it onto the MPPT connector (hand-tight).



Step 11.

Roll up the excess part of the black solar panel cable (if needed) and secure it using a tie-wrap, to prevent the cable from getting caught behind any objects.



Step 12.

Connect the 1.5m orange battery connecting cable to the left-hand connector of the MPPT. **Make sure the white end on both connectors match.** Tighten the connector by screwing it onto the MPPT connector (hand-tight).



Step 13.

Secure two tie-wraps around the 1.5m orange battery connecting cable, the black solar panel cable and the solar panel's pole to ensure these cables are tightly mounted to the solar panel.



Step 14.

Install the solar panel back onto the BBX 3000 and connect the 1.5m orange battery connecting cable to the main battery.





The upgrade is now complete.






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