



Instructions for the Sun-Link solar tracker control and drive package:

The Sun-Link control can accept from 12 to 60 volts DC to power the drive arm. The most reliable way to power your tracker is to have a battery positive feed run out to the tracker control. The negative can be tied into the main cable going to the house.

Connecting the Sun-Link control directly to the array main cable leading to the house presents some issues.

- 1) When the batteries are full the Sun-Link control will be connected to open circuit PV which can exceed its 60 volt rating. This can also lead to damage to the motor or limit switches in the actuator.
- 2) Many charge controls will not allow any reverse current for even an instant. When the Sun-Link control attempts to move the array east in the morning the load of the actuator arm motor will cause the voltage to collapse and the charge controller to go into night time shutdown.

The actuator has a stroke of 24 inches maximum. We suggest that the limit switches be set up so that the arm stops a little short of fully retracted or extended. This will allow for a small amount of wear over time to not effect operation.

The retracted length is adjusted by screwing in or out of the movable end of the arm. When the arm is fully retracted to its limit switch the measurement from the end of the main tube to the end of the movable part should not be less than 4 inches.

The extended limit is adjusted by turning the outer portion of the white cam. The ratchet mechanism makes a clicking sound as you turn, clockwise to increase the length and counter clockwise to shorten the fully extended length.

The motor must always be up from the main tube to allow water to drain from the motor housing. Look for the drain hole in the end cover and make sure it will always drain.

Access to the motor terminals is gained by removing the end cover from the gear box. There are 4 screws to remove. Two of them have nuts which must be removed before the screws can be removed.

When you first set up your tracker use a battery or booster pack to power the actuator arm. Use a piece of extension cord connected to the motor terminals marked green and white. Connect to the battery without concern for polarity. If the arm does not move simply reverse the leads. Watch your tracker as it moves through a full movement observing all the wiring has enough slack and does not get pinched anywhere. Also watch for anything binding or the tracker going too far in any direction. Mount the control as close as possible to the center of the array on the back side of the modules.

Mount the Sun-Link sensor modules on the east and west side of the array as shown in the brochure. If you must drill holes in the module frame to attach the brackets be sure to use a piece of wood in between the aluminum and the back side of the module so you don't damage the back when the drill goes through.

Attach the green and white wires to the motor terminals and tighten the weatherproof connector. Watch the wires as you install the gear box cover to be certain the wires will not come in contact with the moving limit switch cams or the magnet wheel. Plug in the sensor connectors and lock them on. Secure the wires so that no stress or bending occurs near the control plugs.

Check that everything is out of the way before you install the control fuse. Do not use fuses rated more than 4 amps. The normal current draw of the motor is less than 1 amp. If you experience frequent fuse failures there is something wrong.

If the tracker goes the wrong way, simply swap the sensor plugs. The tracker may not move under heavy overcast conditions.

Trouble shooting Sun-Link

If the fuse blows only at the extreme east or west it is possible that the limit switches are letting it go too far. Readjust your limits by powering the arm back and forth with a battery. Be prepared to disconnect the battery if the limit switch does not stop the actuator at the proper position.

If the fuse blows in the middle of the arc then the likely cause is pinched wires or motor troubles.

If the tracker does not follow the sun check the fuse with an ohm meter or replace with a new one. If you see volts at the motor terminal but no movement, the trouble is in the actuator. If there is no voltage on the terminals then check the sensor plugs and all wires.