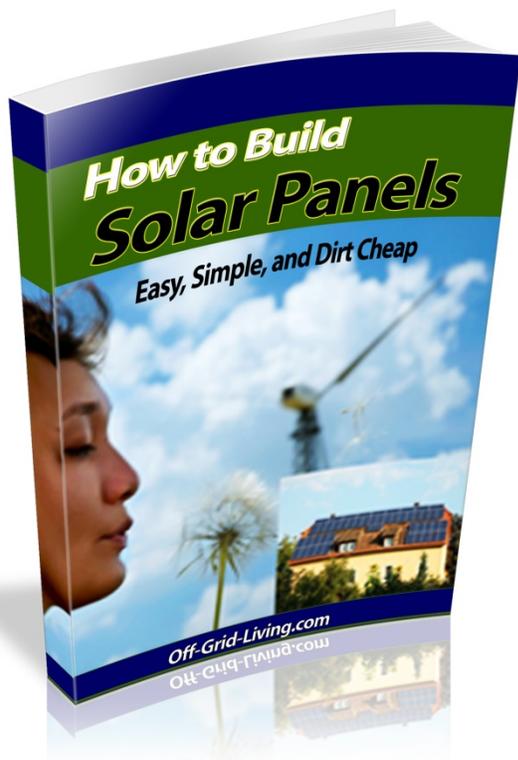


Off-Grid-Living

In An Urban and Suburban World



Lesson #15 ... Installing the Junction Box

The Disclaimers, Legal Stuff and Butt-Covering Section:

Before attempting to build a solar system for your entire house, take my course "Home Energy Made Easy" Go here: <http://Off-Grid-Living.com> I'll give it to you for free for being a member of this course. Understanding the concepts in that course will save \$1000's of dollars when you go to build your system.

This is but one small section of a complete action plan for building solar panels dirt cheap. Which is one small section of a course on going off the grid in Urban/Suburban America. You can learn how to

- Grow your own food year around, no matter where you live.
- Slash your energy and living expenses by 50% or more.
- Create your own fuel
- Finding economical shelter
- Alternative methods of (Legally) making money
- How to live anonymously

Check out <http://Off-Grid-Living.com>

NOTICE: You Have the Right Give This To Anyone You Want!

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Introduction

Now we're going to install the junction box. The junction box is important because it connects your solar panel to the outside world, and secures your connections from the outside of the solar panel. Its second purpose is to give you an easy way to connect and disconnect the solar panel, for maintenance or repairs, or to create a series of solar panels (a solar array) together. In addition, it adds an overall professional look to the entire panel.

For this lesson you'll need

- [Solar panel junction box](#)
- Power drill
- Drill bit
- Soldering iron
- Solder
- ½ inch wood screws
- Transparent silicone
- Caulking gun

Note about junction boxes: They come in all shapes and sizes. I would find a junction box that has blocking diodes already installed inside. This is to prevent the back-flow of current. For your solar panel you can get a small junction box, one that is just wide enough to completely cover the 2 holes you drilled in the frame and where your bus wires are currently coming out.

OK, so let's begin.

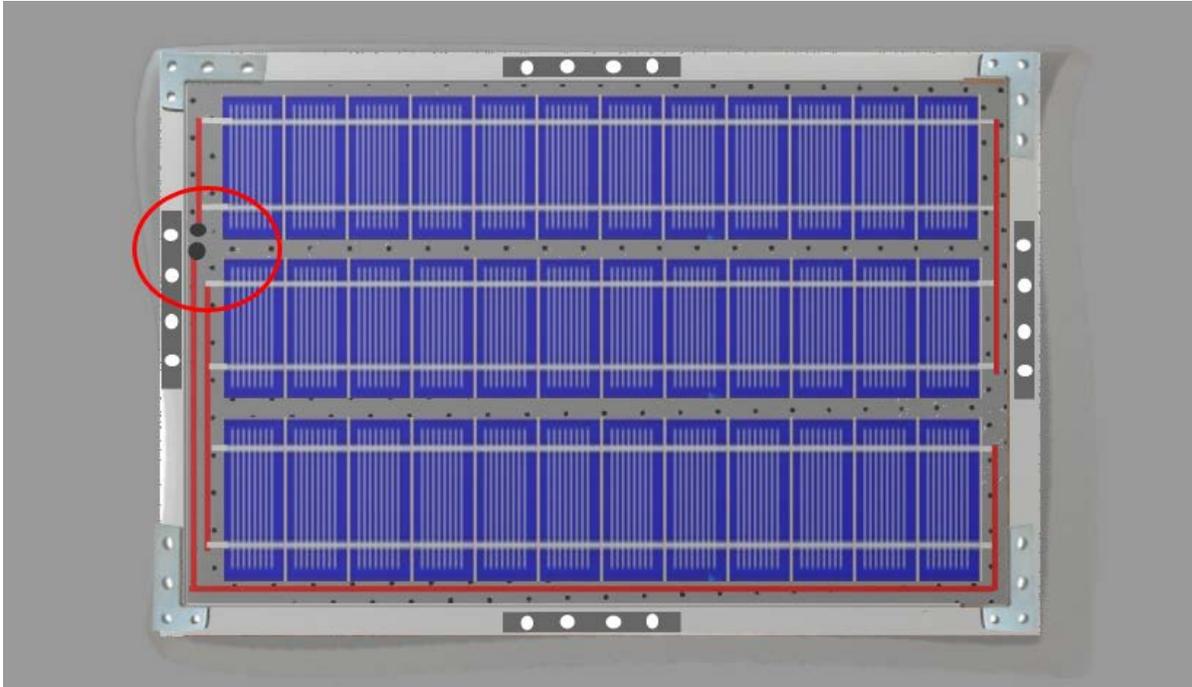
Start with your bus wires and make a quick note which is positive and which is negative. It's even a good idea to mark them if you can do so.

Many junction boxes come with wires and leads already connected which is what I recommend you try to find on Amazon or eBay.

The junction box is placed on the backside of the panel over the holes where you ran you ran the bus wires out of the solar panel in previous steps.

If you remember in step one we drilled 2 holes in the frame. Later we ran the both the positive and the negative bus wires down those holes.

How To Build Solar Panels



Turn the solar panel over and position the junction box directly over those holes.

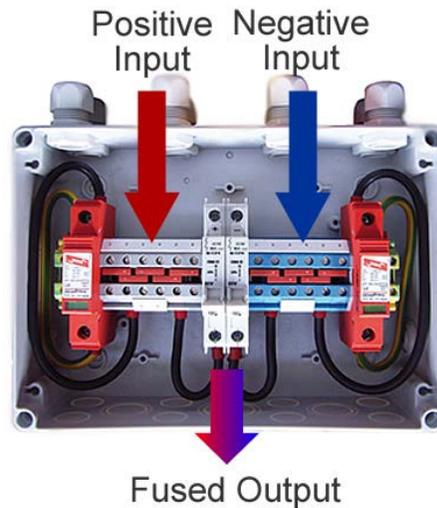
Many junction boxes come with wires and leads already installed which is what I recommend you buy.



Most junction boxes will allow you to easily slide the bus wire from the solar panel inside the slot of the junction box. Once you slide the bus wires in, it is a good idea to solder the bus wires to the junction box leads.

How To Build Solar Panels

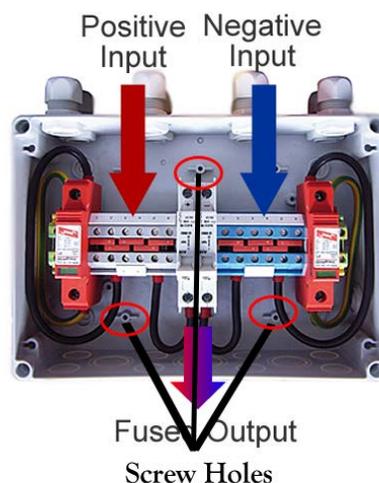
All junction boxes have the same basic concept of hooking them up and installing them on your solar panel. This is meant as an overview of what you need to do to install the junction box. Of course, I don't know what junction box you bought, or its design. So this has to be general to cover most boxes. If you need help on your particular junction box, the supplier is a good place to ask questions.



After connecting the positive and negative bus wires to the junction box, use your handy multimeter and hook up the leads to the junction box leads to make sure you're receiving the correct voltage.

Make sure the junction box is completely covering the 2 holes in the frame.

Next, find a place inside the junction box your drill two holes, usually in the center, where you can pre-drill 2 holes and screw the junction box down to the frame.



How To Build Solar Panels

The junction box should be sturdy enough that it is unable to move around on the frame.

It should be fairly obvious where the positive and negative bus wires go in the junction box. Again, depending on the junction box you buy this process might be different, but in a nutshell you just want to make sure the bus wires are going to the correct terminal.

Add a bead of silicone around the base of the junction box where it lays flush against the frame.

Once the bus wires have been connected, and the silicone has dried around the base of the frame, put the lid on the junction box and screw it down tight.

Next flip your entire solar panel over, put it in the sun and check the voltage output one final time.

You should now have a fully finished and working solar panel.

Remember if you need more guidance on all aspects of living off the grid, go to www.off-grid-living.com and sign up for our free membership.

PS...Don't forget you can get personalized coaching at Off-Grid-Living.com/
For some this is the ideal way to get hands on experience as well as personal attention needed to make this work for you.

Coming Up Next ...

Lesson #16: "Solar System Components"

In the next lesson we'll be looking at the different components needed to start using your solar panel.