

Terminal Block Basics

[0m:0s]

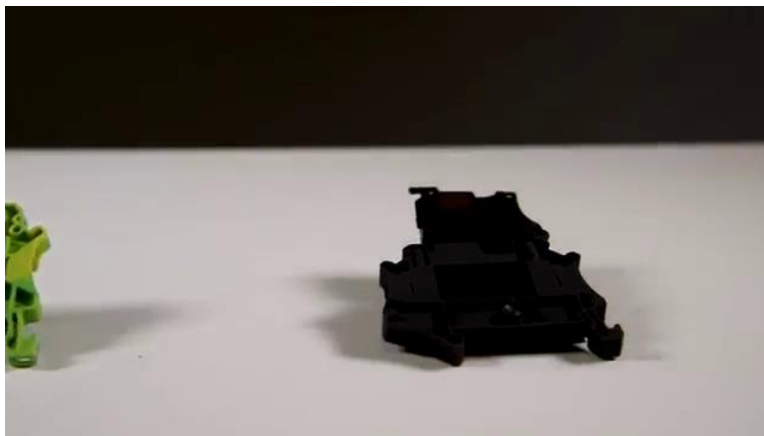
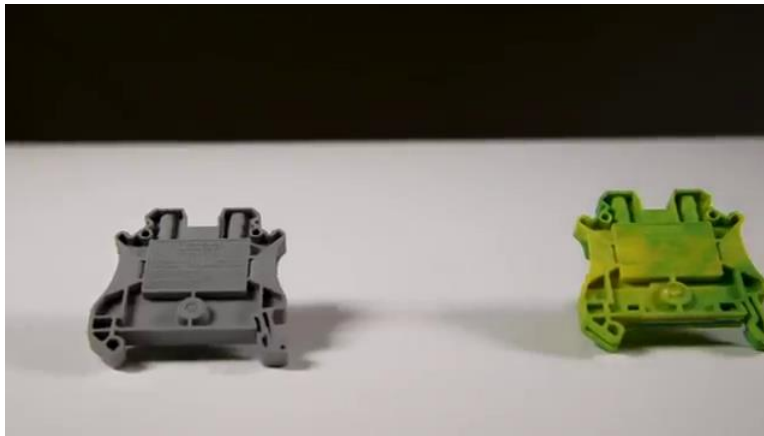


[0m:4s] Hello I'm Josh Bloom, welcome to another video in the RSP Supply education series. Today's video, we want to talk to you a little bit about terminal blocks. But to better illustrate what a terminal block is and how they actually work, we want to start with something that's probably a little bit more familiar to the people watching the video today.

[0m:19s] We simply have two wires that are twisted together. Does electricity pass through this? It absolutely does. Does it work? Yes, is it safe, not really? Is it going to be secure or hold together. Not really. If I give that a little bit of tug it's going to come right apart. Not a great connection, but it works. One step up from that, something that might be an improvement or a little bit better, we've all seen this before. Again, we have two wires, but this time we have a wire nut, commonly seen in your home or in any kind of commercial or industrial building. Same thing happens here. We have current passing through, electricity works, this is definitely much safer, it's going to be a lot more secure. So this will work. But today again, we want to talk to you about terminal blocks, which is going to be

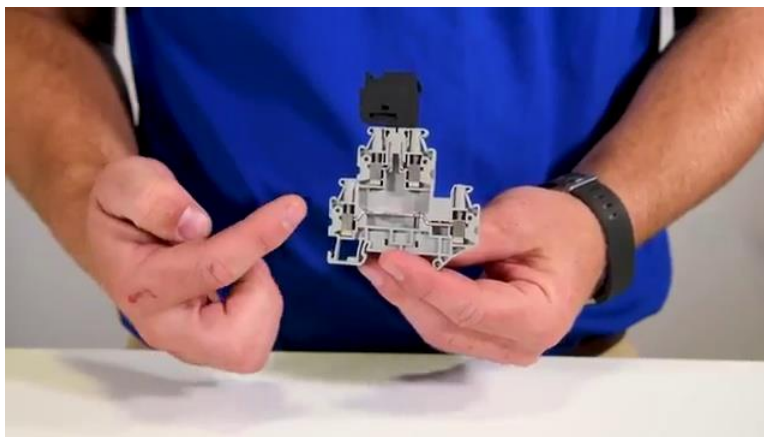
[1m:2s] a more industrial type of connection. Just like with the other two connections, we have two conductors coming in. We have a connection point, it's very secure, it's safe, commonly used in industrial applications, and it is going to be one of the best types of connections that we can use for industrial control cabinets like you see here. So now that we have a basic understanding of what a terminal block looks like and is, I want to show you several different types of terminal blocks that are commonly used in the industry. We're going to start with what we've already seen, which is a single level pass through terminal block. In this type of terminal block we're going to have a conductor coming in this side and another conductor leaving this side. Just like with the wire nut, it's simply going to allow electricity to pass through, there's no way to disconnect power or to protect anything on either side of his terminal block. This is the most commonly used type of terminal block.

usually used to distribute power within a control panel, also can be used for signal connections. The next type of terminal block that you'll see commonly is a ground terminal block. Obviously looks very different as far as color goes from the single level pass through, but in shape and form very much the same. The major difference with a ground terminal block is it will ground connections within your industrial control panel. It also grounds the terminal block itself to the mounting or Dinrail on the industrial control panel. The next type of terminal block we want to talk to you about today is a fuse block. The fuse block, much like the single level, is going to allow electricity to pass from one side to another. The main difference is we have a fuse in this block. You can see the fuses on this little flap here. If I plug that in, that will now allow electricity to flow up and through that fuse. The other thing that's different about this terminal block is I can disconnect power by lifting this lever. So I have the ability to cut power in two different ways, by disconnect, or if that fuse blows if we have too much current electricity passing through. The next type of terminal block, we want to talk to you about today is a multi level terminal block.



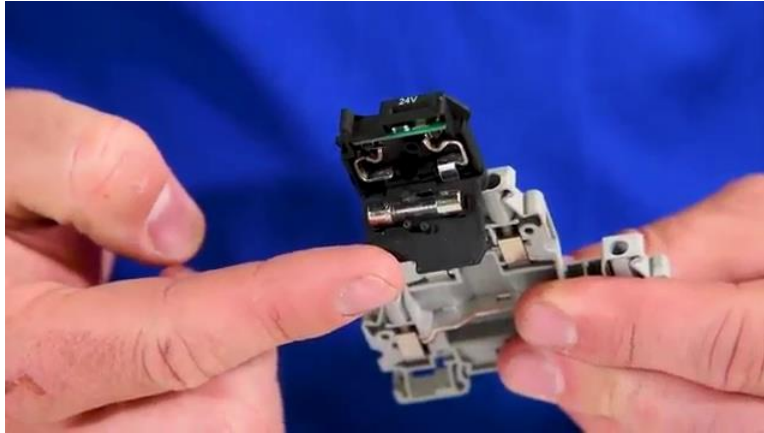


[2m:58s] In today's case, we have a two layer, or a two level terminal block. The bottom layer, just like with a single level is just a pass through there's no ability to disconnect, refuse that connection. So we have one conductor coming in one side, simply going out the other. The top level is going to act much like the fuse terminal block. We're going to have one conductor going in we're going to have electricity coming up passing through the fuse and it will go out through the other side. Just like with the fuse terminal block, I can disconnect power by pulling the fuse out, or if we have too much current or electricity, passing through, the fuse will blow protecting any components that we might have connected to this terminal block.



[3m:35s] Now that we've talked about a few of the different types of terminal blocks, we want to discuss why we might use terminal blocks, and one of the biggest reasons is for safety purposes. When we have operators inside industrial control panels, we want to make sure we have very safe connections where we don't have any exposed wire or termination and terminal blocks allow us to accomplish that. Another reason we use terminal blocks is they're very durable, which is why they are used in industrial applications. And, one of the biggest reasons we use terminal blocks is for organizational purposes. As you can see here, we have an industrial control panel and you can clearly see that we have a lot of different wire terminations and things happening here. But what we do have is a very clean

organized way to identify the types of wires we have safe connections. You can also probably see, we have a lot of the different terminal blocks that we've already discussed in this video. First you can see here we have a single level terminal block also here. In this particular instance, this terminal block is allowing power to come through the top and out at the bottom and it is actually powering a few of the different components within this panel.



[4m:36s] The next type of terminal block that we've talked about was the ground terminal block. In this particular application, we have one main ground wire coming in and then we have several different components that have grounded on those terminal blocks.

[4m:49s] You can also see we have several fuse blocks in this panel. These particular blocks are distributing powers throughout the panel. So you can see here, we have one main DC wire panel coming in,

[5m:2s] and that is distributing power to several different components throughout the panel.

[5m:7s] Lastly on the bottom you can see here we have various different types of multilevel terminal blocks. In this case, the reason we are using multilevel terminal blocks, these are

connected to instruments that would be out in the field, and those instruments require two different types of wire. So we have a wire going out to the instrument and then we have a wire coming back into the instrument. So we require both of those levels on that terminal block. That saves a lot of room within the control cabinet. You can also see these terminal blocks are fused as well, so we can actually disconnect or protect those instruments that are wired. As you can see, we've covered many different types of terminal blocks and the different uses and applications for each one. As always, you can find any of the products seen in this video on our website. for more information or other training videos, please go to RSPSupply.com, the Internet's top source for industrial hardware.

