



VEBKO ONLINE HELP

Introducing the Internal Modules Part1

Category	tester
Section	Troubleshooting
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In this part, we are going to introduce internal modules of the Vebko relay tester device, the possible problems and how to solve them.

After watching the video tutorial on how to open the device, you must have noticed that the device has three main modules, including the switching module, the amplifier module and the front panel of the device. First we are going to get familiar with the switching module which provides the second module or amplifier with the main power supply. After opening the device, to prevent facing any problems during the test, you can use a lamp series that we have placed in the route of the input electricity. The phoenix that you are seeing is placed after the series lamp and is connected to the input section of the switching module. The switching module has a main module that is located in the middle and has two complete and incomplete sides. The complete side is the side where there are more modules on the Main while the incomplete side has, in fact, more protective elements. There are four pins in the incomplete side two of which are located on the left side of the phase and the other two are located at the right side of the null.



Figure 1

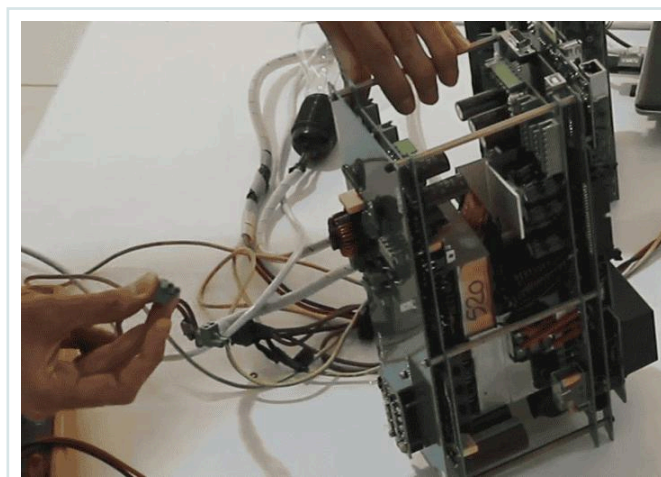


Figure 2

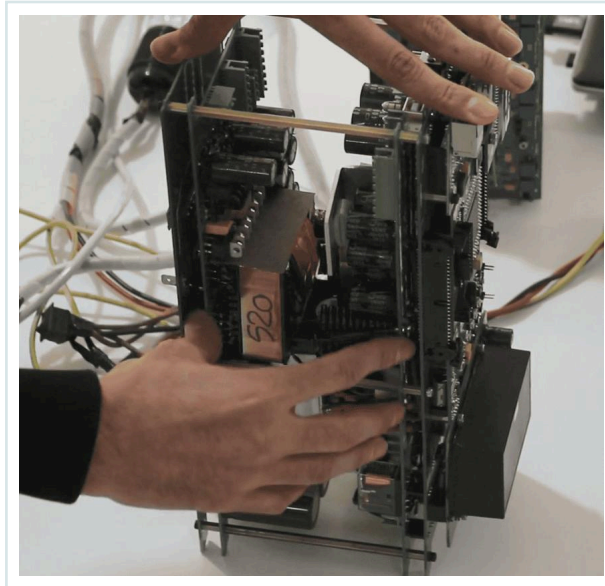


Figure 3

We connect this phoenix to the two pins at the middle of these four pins which includes phase and null. When the input electricity enters the incomplete side it crosses a set of protective elements including varistor, line filter and protective diodes two of which are located between phase and null, two between phase and earth and two more between null and earth. The incomplete side has two outputs. This means that the electricity enters the two phase and null outputs after crossing the protective elements which is connected to the two sides of the main input of the device by two cables. Therefore, the two complete and incomplete sides must be electrified. This part of the output electricity is connected to the incomplete side and this cable is connected to the complete side.

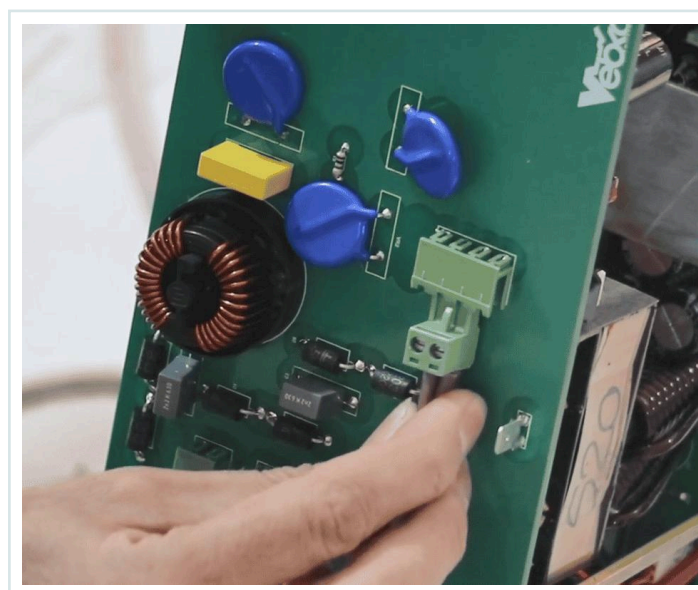


Figure 4

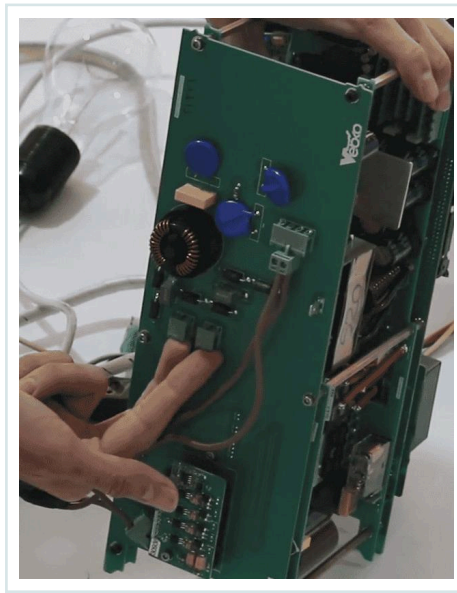


Figure 5

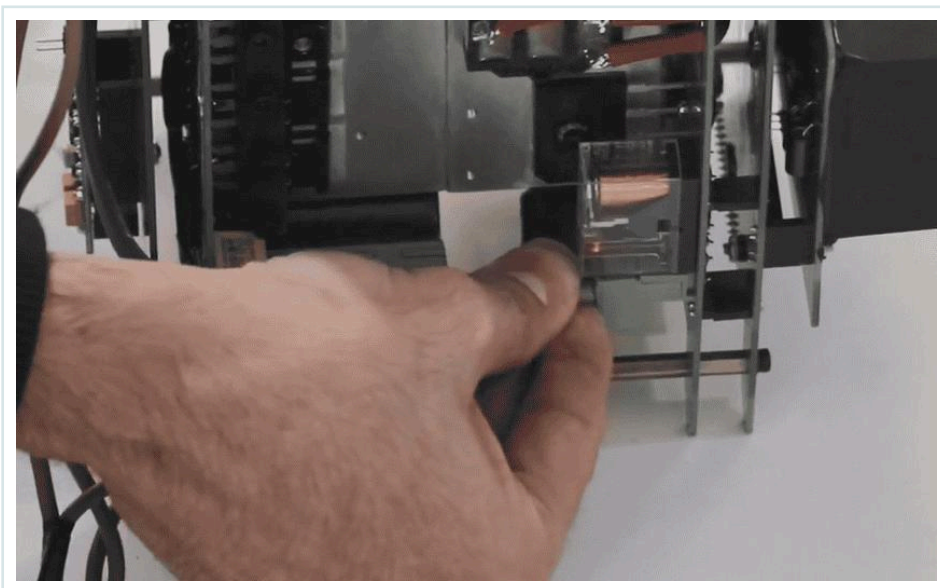


Figure 6

Note that as soon as the electricity of the complete side is connected, the black header enters the Main Switching through this pin. When 220 volt electricity enters this section, it enters the PS or the input power supply through this phoenix. As soon as we electrify the two sides of the switching the middle module does not get electrified at all. When the connection command of the switch number one and two appear in the software, the middle module gets electrified. This means that the middle module is never electrified at the first moment and the electricity only enters the PS from this section. This PS has 12 and 5 volts DC outputs. Through this PS, the electricity enters other modules including fan controller, micro module and LAN-GPS module. After the electricity enters the PS, its outputs that are 12 and 5 volts DC electrify the above modules. These 5 volts enters the micro and by this IC changes into 3/3 volts which provides the power supply of the micro.

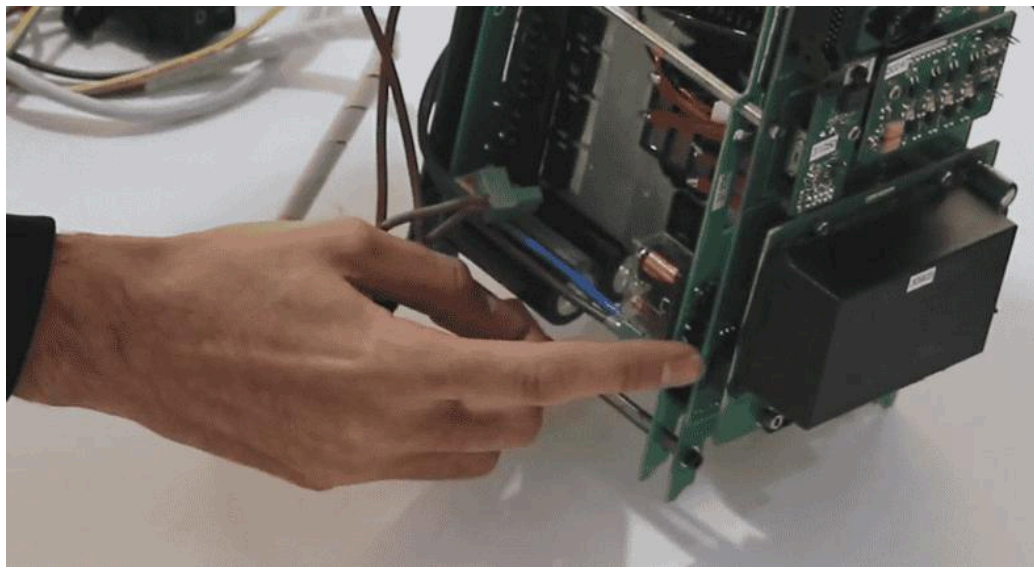


Figure 7

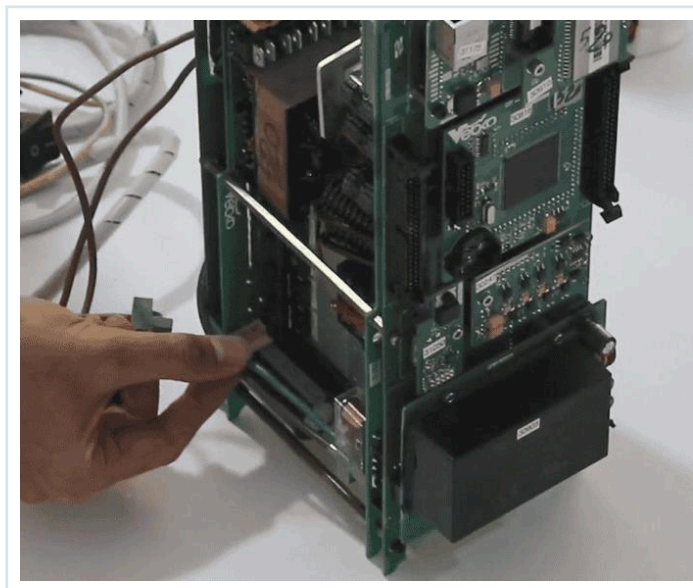


Figure 8

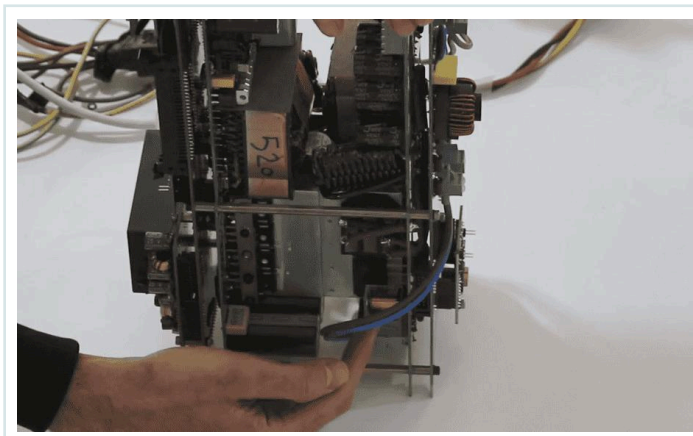


Figure 9

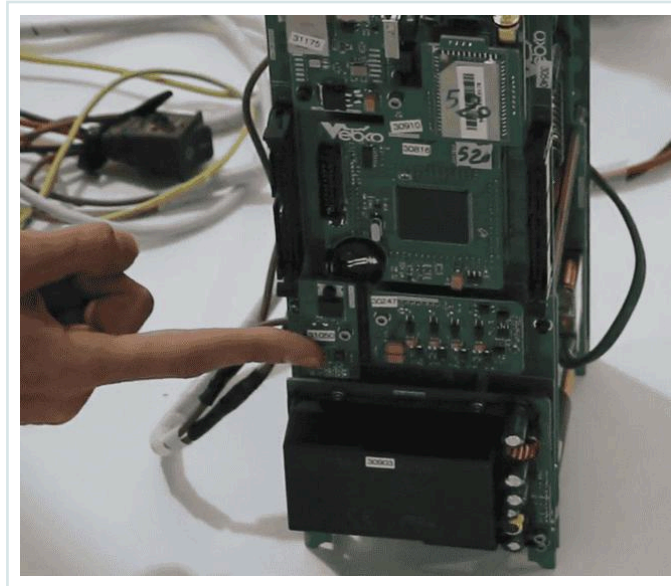


Figure 10

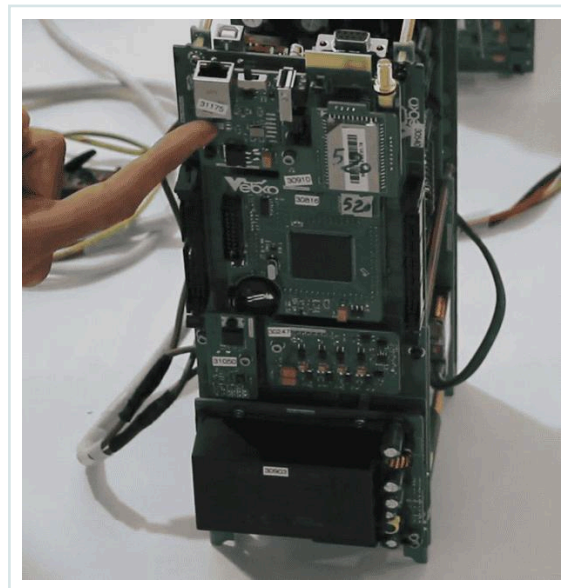


Figure 11

After that we can apply the commands of the main parts of the device by the micro. One of these commands is the command to connect switch one and two in the software. So let us emphasize that after the input electricity crosses the protective circuits that are embedded into the incomplete side of the switching, the two sides of the output are electrified by its outputs which enters the complete side from here and the incomplete side from here. The main commands are issued by the micro. The input electricity enters from this part and the PS is electrified. Then its output reaches the above modules. So, we provided the power supply of the incomplete side from this part but the connection of the commands of the incomplete side micro establishes the connection between the complete and the

incomplete switching sides by a flat cable that is embedded in this part.



Figure 12

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