



VEBKO ONLINE HELP

Introducing Internal Modules Part3

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Section	Troubleshooting
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In the settings section of the software, after entering the IP and connecting to the device, there are two sections of Enable Switch 1 and Enable Switch 2 in Hardware tab. By activating Switch number one and selecting Apply, this section which is related to the switching of the device activates. This glass relay here is connected and the input electricity which is connected to the phoenix through a cable, electrifies this part of the switching.

By activating switching number two, this relay is connected and electrifies the middle part of the switching. Whenever there is a problem in the switching module, if you have a series lamp, it remains on the whole time and you can find the source of the problem by disconnecting the key. Note that if you do not have a series lamp, other parts of the device might get damaged in which case an Overcurrent error is displayed.

In the output phoenixes section of the switching module, we can have the desired voltage for powering the amplifier module by connecting this relay. The notable point is that the command module is the upper voltage section, specially these pins that are out of it. There is no problem before the switches are connected, in other words, it does not have any dangerous voltage. But when the switch is connected, be sure not to touch the command module with bare hands. The other modules are safe to touch.

Up to this point, after switches one and two are connected, we must have the desired voltages in the device. Generally, the two sides of the switching module are similar to each other. Here there are two 8-pin phoenixes and one 4-pin phoenix. 8-pin phoenixes are the outputs that power the current phases of the amplifier. Later more will be said about the amplifier module. The phoenix that is located on the outside section on the board must have 12 to 13 volts in relation to the 4-pin phoenix while the phoenix on the inside of the board must have -12 to -13 volts in relation to the 4-pin phoenix.

When switches one and two are active, set the multi-meter at DC mode and in measurement, you can even measure these two 8-pin phoenixes in relation to each other and the multi-meter must show a value from 22 to 24 volts.

After activating switches number one and two in the software, you must measure the output voltages of the switching module. All pins of this 8-pin that is located on the outside section of the switching module are connected to each other and it must show 12 volts of value in relation to this middle phoenix which is the earth. This 8-pin which is located on the inside section of the switching module, must should -12 volts of value in relation to this phoenix in the middle.

If we measure two 8-pin phoenixes in relation to each other, 22 to 24 volts of value must be displayed. This phoenix is the output of voltage. In general, the switching module has two outputs one of which is the output of these phoenixes and has 12 and 12 volts of voltage. The output of this section of the module powers the amplifier. This phoenix is the second output whose output voltage is 300 and 300 volts. Next, we measure its value by using a cable. In this phoenix the earth middle pin and the side pins are 300 and 300 volts. These outputs that were just explained belong to the incomplete

switching side.

Also, in the complete switching side, this phoenix that is located on the outside of the switching, just like the incomplete switching, must have 12 volts of voltage in relation to the middle phoenix. This phoenix which is inside the switching has a 12 volt output in relation to the middle phoenix.

In this part we measure two 8-pins in relation to each other and an approximate value of 23/3 volts is displayed. Therefore, the output of the switching module is correct and we only need to check some other items on the module. We turn the device off and introduce modules of the complete switching side one more time. The PS module that is responsible for powering other modules has 12 volt and 5 volt outputs. This is the fan controller module which is also on the board of the amplifier and when temperature of the device rises, it increases or decreases the speed of the fans. This is the command module and this is the micro module which is responsible for the commands of different parts of the device. LAN-GPS and Wi-Fi modules are located at the top which are used to establish the connection between the software and the device through LAN, Wifi and GPS.

After the device is turned on, we first connect to the device. By connecting the switches, for the complete switching side, 220-volt electricity enters the switching and passes through Diode Bridge and eventually generates 310 volts DC. At the same time, using the command, the micro generates 4 high-frequency pulses whose outputs are located in this section and enters the switching module through a set of pins located at the back of the Main. These high-frequency pulses are connected to the gates of these IGBTs while 300 volts of DC voltage is connected to the drain of these IGBTs. Finally, a high-frequency pulse with a DC amplitude of 300 volts, which is the output of these IGBTs, is taken from the sources and connected to the input of the transformer.

So, the input of the transformer is a high-frequency pulse with a 300-volt range which comes from the input electricity and is converted to DC by the diode bridge. Considering the coil of a transformer, it produces the expected output voltage of the switching module in several 12-volt and 12-volt, 75-amp, 300-volt, and 300-volt windings that do not have much current. The desired voltages are generated after passing through the rectifier diodes in DC. The intended voltages are converted to DC after passing through rectifier diodes.

The input electricity of these two sides enters this section through this cable and the connection command of the relay of the incomplete switching side and its connections are adjusted from the complete side through this cable. If this cable is removed from its place or its connection with this part is not completely established, when the switching number one is connected, an Overcurrent error of board one is displayed which is not eliminated by Clearing it. Just the relay disconnects and reconnects so that this flat is correctly placed in its location. Another point is that the relays receive the command from here through the pin header of this section and then it enters the relay to stimulate its bobbin. It is the same in these parts. If this upper pin header is not correctly installed, the relay will not connect and to know when these relays connect, by activating the switches in the software you can hear a sound to ensure that the relays are connected and ultimately have the output

voltage from the switching module.

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