

Attn: Chris – Ohmite VT4–F Variable Transformer

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- *From:* J.P. <jpasano@xxxxxxxxxxx>
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J.P. wrote:

I have a Ohmite VT4–F variable voltage unit that was taken apart when I got it. It is wired but just disassembled. It appears the fuse socket is broken and had no continuity between the front of the fuse under the cap and the terminal. The fuse has continuity. I would like to know if someone can tell me how to test this thing to see if it is good. TIA... J.P.

The later models had a plastic fuseholder that would crack if its nut was overtorqued or if the fuseholder was dinged. Try wiggling the back of the fuseholder (with power off, of course). If you have to replace it, it's a standard size.

Now, for troubleshooting, unplug, open the front panel, and have the whole front panel assembly laying on the bench. Just to begin with, look at the lapped surface of the windings (where it meets the brush) and look for burn marks or discontinuities. Now turn the control from 0 to 140 and back while feeling the dial and looking at the brush. See that the dial turns smoothly, and the brush does not catch throughout the range.

Now use an ohmmeter to look for continuity through the circuit. Black from the line cord through the fuse and through the VT to L@ and to the output wire (power off, again).

Having passed so far, get a clean lint–free cloth and some pure alcohol (NOT 70% rubbing alcohol). Moisten the cloth with the alcohol, and gently wipe the lapped wire mating surface. (This is a PM procedure that should be performed periodically -- carbon crumbs from brush wear are a major killer of VTs.) Let 'er dry.

Now, replace the cover, and place the wiper at around the midpoint. I forget the wire numbers on the front panel of the VT itself, but you

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should be able to see there's an L1/Hot/black (from the fuse), and L2/Neutral/white from the line cord. You've also got a green ground, which is connected to the chassis, and the output, which goes to the L1

connect on the front output outlet. You should put your meter across the outlet, and plug it in. You should see about 70V. When you dial the control from min to max, you should see around 0 to 140V (it will be a bit high with no load).

If you don't see an output, and you are somewhat adept at working with line voltage, you can do the above with the case cover open. Just trace the voltage relative to the white wire/L2. Be careful, as line voltage is present on all parts inside the box. If the voltage isn't there, there's an open. Simple. Fixing it, though, can be a problem.

I'd guess your VT winding wire has probably opened up somewhere along the lapped surface. That's not economical to repair, because you'd have to first remove the varnish, then strip off the wire, rewind, revarnish, and relap the windings. In days of yore, Ohmite used to rewind the larger units, but not any more. Less likely but possible is lack of contact between the brush and the lapped surface. This happens from wear, as well as the brush falling out.

If you have a newer one, it's possible you have a Staco variable transformer inside the unit. If you want, you can still get the Staco replacement AFAIK — I believe Staco still sells it. The brush itself is not replaceable.

Remember, just trace continuity, then the voltage. Where continuity or the voltage disappears is where it's open. And do be careful — it's never a good day to dance the 60 hertz.

Oh, yes — would you like fries with that? ;-)

Good luck
Chris

Chris, I missed your reply somehow and just found it on Google. Thanks for the answer. The problem that I now have, since this was already partially disassembled, is that there was no wire from the fuse to the circuit board (and I do not know which terminal to attach one to), and there is no apparent connection between the dial and the circuit board (and I do not know what type of wire nor how it connects to the dial). Any ideas here? Thanks again. J.P.

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