



VEBKO ONLINE HELP

Short-Circuit Impedance Tab

Category	tester
Section	capacitor voltage transformer
Language	English
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To perform a short-circuit impedance test, as can be seen in the picture, the primary winding is short-circuited. AC current injection is done through the secondary coil and the voltage difference that happens on the terminals, is measured through the inputs of the device. This measurement must be repeated for the other secondary coils. The obtained impedance called Z_{sc_x} is a combination of primary and secondary stray losses.



Figure 1

$$\underline{Z}_{sc_x} = R_p'' + iX_p'' + R_x + iX_x$$

Figure 2

Where R_p'' , X_p'' and x stand for the resistance of the primary winding which is transferred to the secondary side, the leakage reactance of the primary winding which is referred to the secondary side, and the indicator which is considered for the secondary winding or in other words for where the current is injected from, respectively.

CVT Equivalent circuit

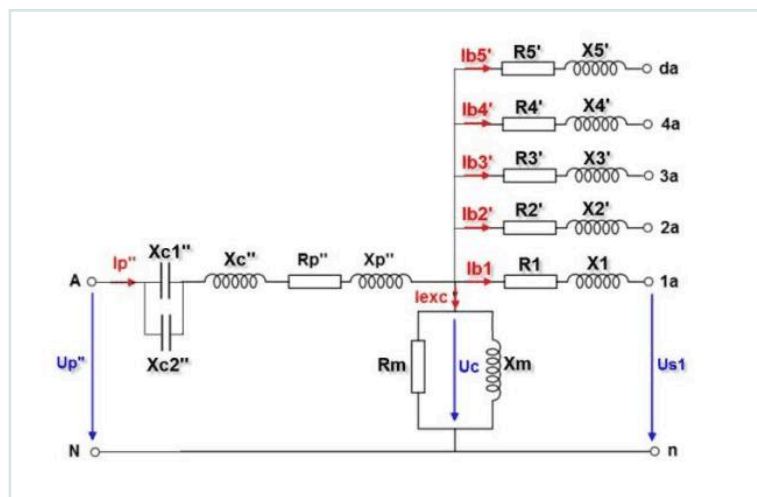


Figure 3

1 Performing the test and analyzing the results

To perform this test, first, 1 is entered as the amount of the injected current in I test field and 1 is entered as the test time in State Time. By pressing Insert Rows button, it is possible to create other rows for testing other coils. After adjusting these settings, the wiring must be done according to this picture. In this picture, first phase of current groups A and B are made series so that the maximum Burden of the device is used. Then, the outputs of the device are connected to the CVT. To measure the caused voltage difference, input number 1 must be used. It should be noted that, in this wiring the voltage connectors are connected ahead of the connectors of current injection. Finally, to perform the test, by right-clicking on any of the rows in Table section and selecting Apply Test, the test runs and the resistance value of the intended coil is measured.

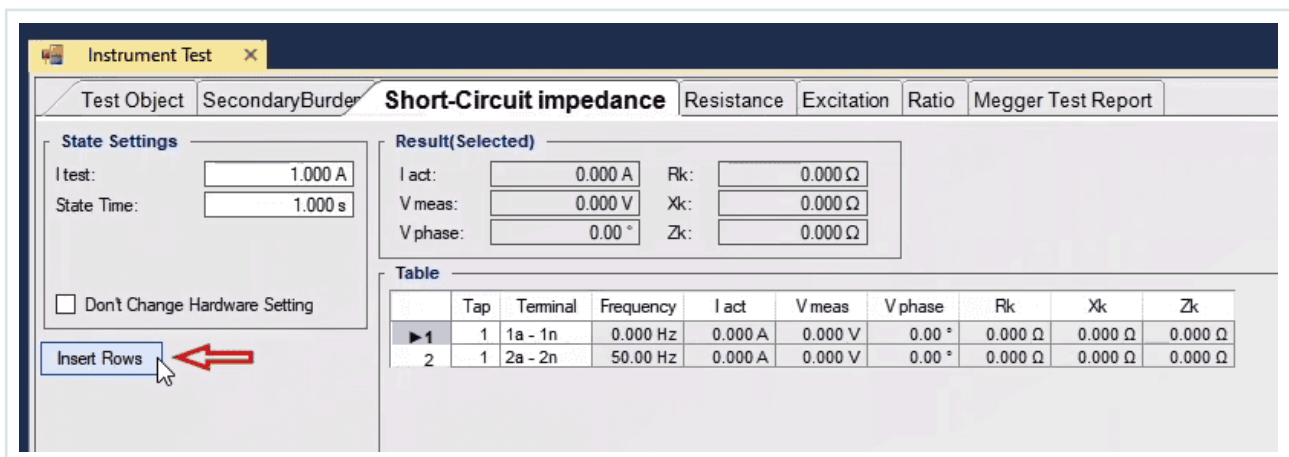


Figure 4

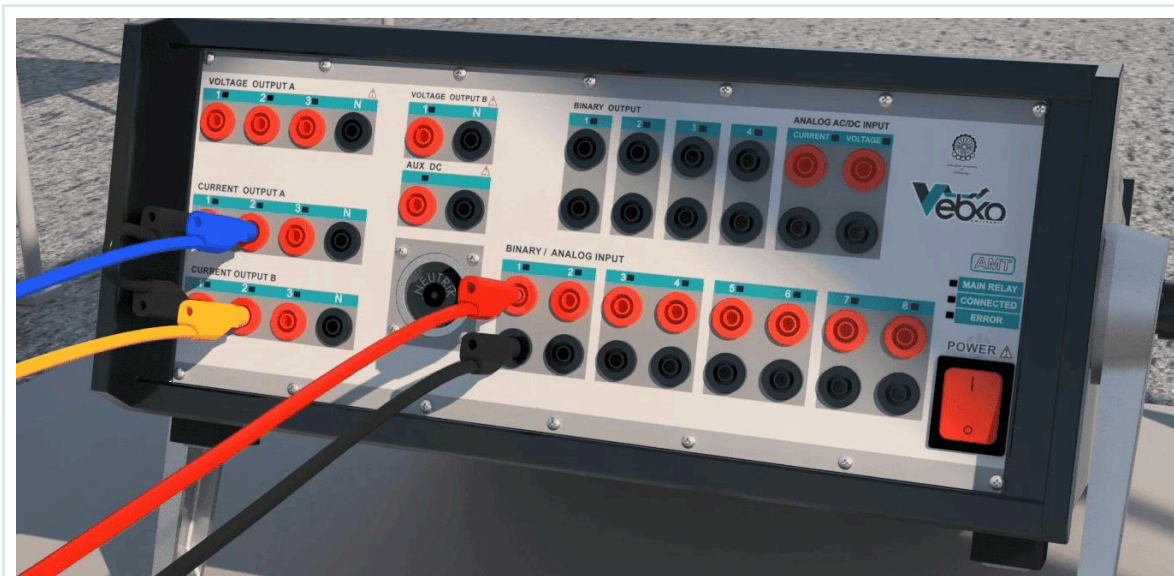


Figure 5

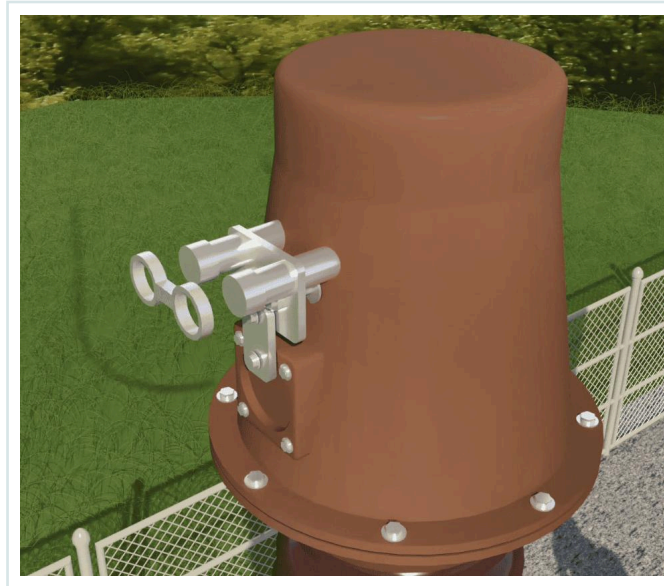


Figure 6

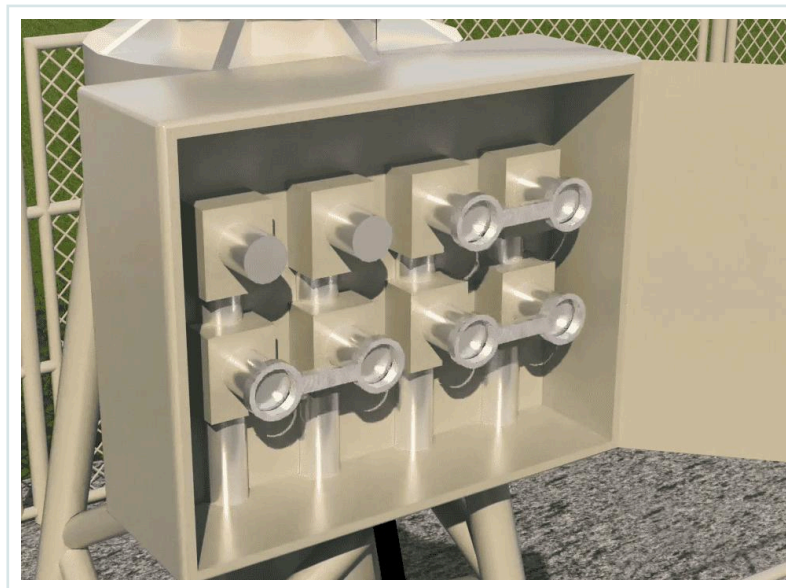
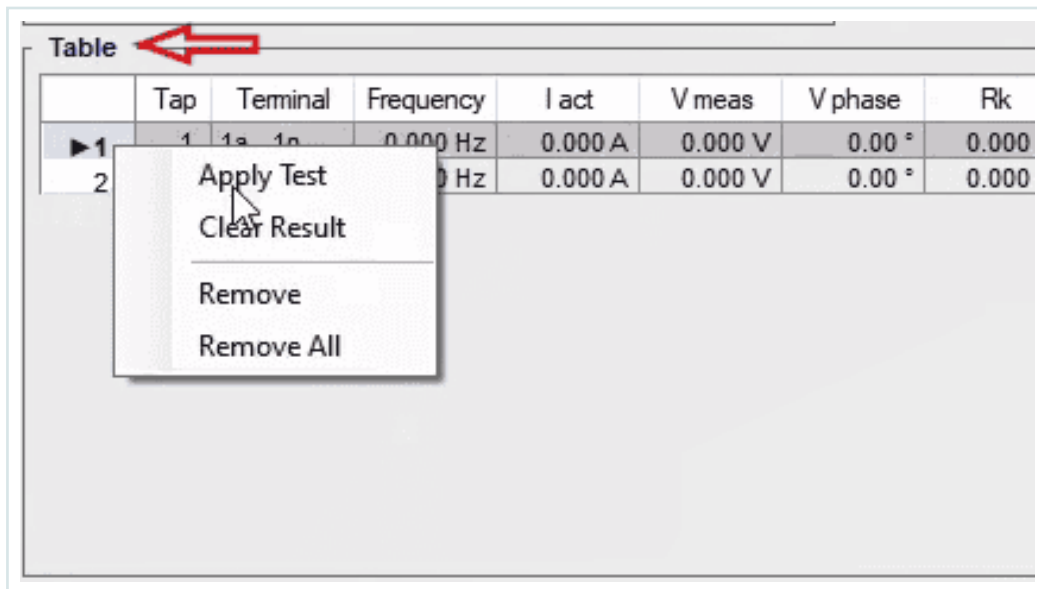


Figure 7



Figure 8



	Tap	Terminal	Frequency	I act	V meas	V phase	Rk
▶ 1	1	1a 1b	0.000 Hz	0.000 A	0.000 V	0.00 °	0.000
2			0 Hz	0.000 A	0.000 V	0.00 °	0.000

Figure 9

After the test is finished, to add the results to the report “Add to Report” button can be used. Also, by using the cog next to this button, you can remove the items they do not wish to be added to the report before selecting “Add to Report” option. if, for any reason, wish to modify the wiring of the device, first they need to apply the test once and then check “Don’t Change Hardware Setting” option and select a different output from “Hardware Configuration” window and then set the Output Target at “IL1-E” and run the test after changing the wiring. To select other inputs, it should be noted that the selected Binary Input Target must be in accordance with the default “Binary Input Target”. For this, it is suggested to right-click on “Input1” row and “Cut” the information and “Paste” it in the intended row.

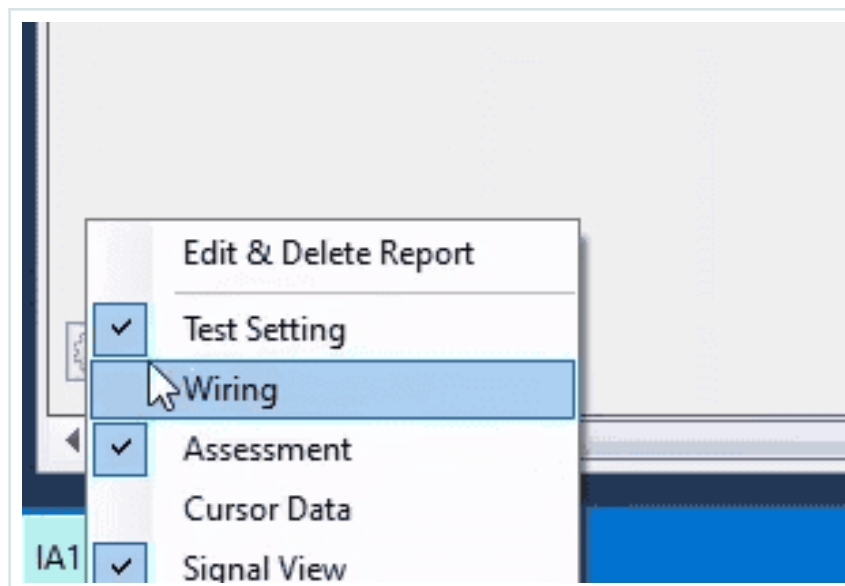


Figure 10

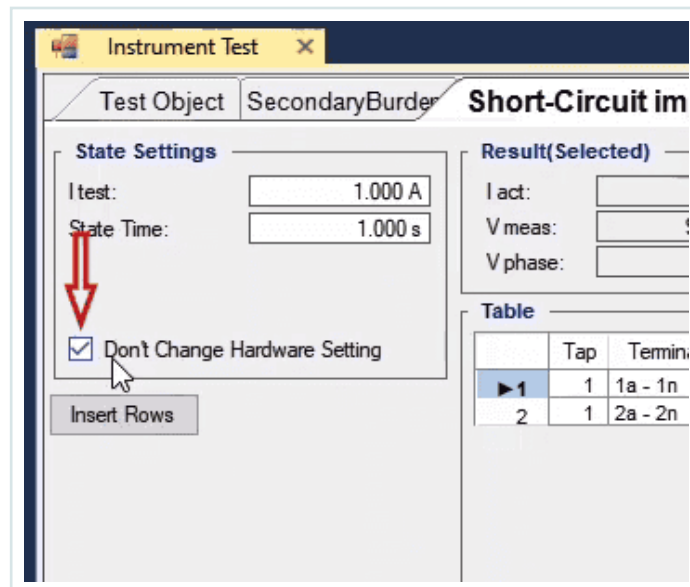


Figure 11

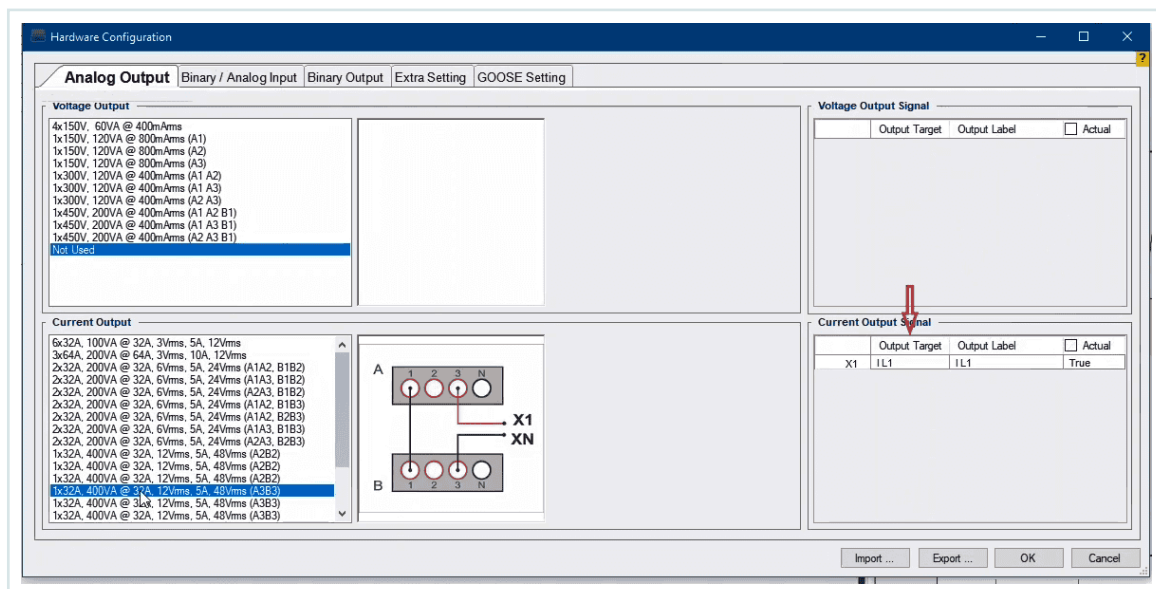


Figure 12

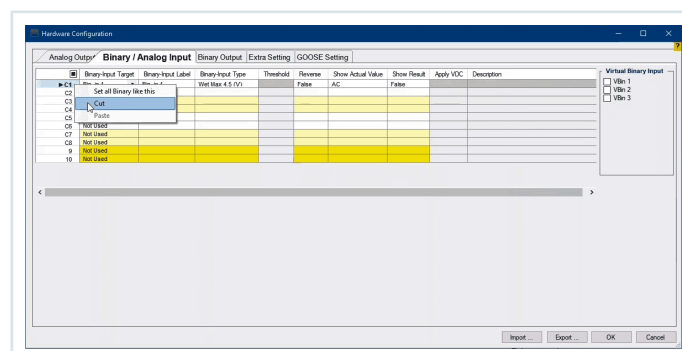


Figure 13

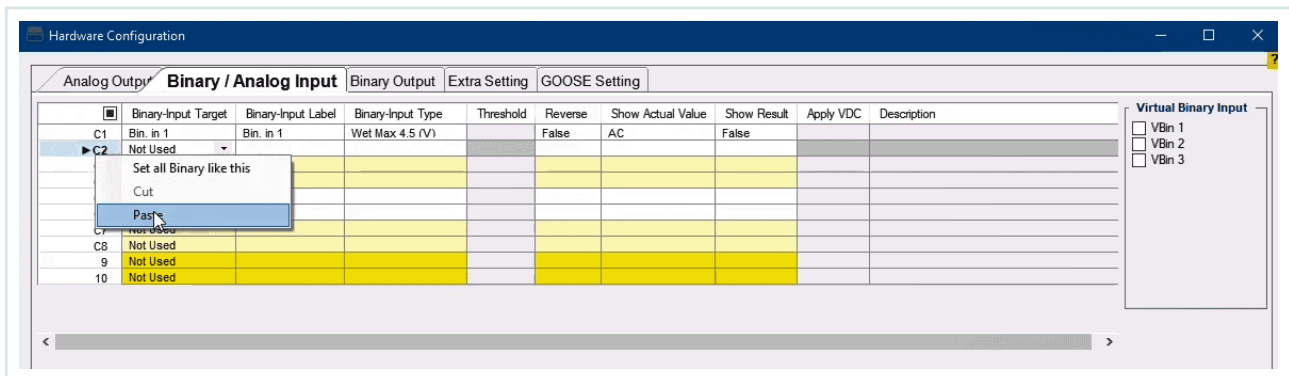


Figure 14

[jg1]Short_Circuit_Impedance