



VEBKO ONLINE HELP

“Differential Characteristic” Window

Category	tester
Section	AMT Differential Module
Language	English
Generated	2026-10-18

As mentioned before, one of the main windows of differential room is "Differential Characteristic". This window shows the relay differential characteristic curve based on the settings entered in "Test Object" window. The top of the characteristic curve is called "Tripping" area while the bottom is called "Not trip" area. This means that if the test point is located at the top of the curve, the relay gives a trip otherwise it does not. This window has some shared and some unique features. The features available by right or left clicking on this window are common to all rooms and it is not necessary to explain them here but at the bottom of this window there is a gear by clicking on which some other useful options are displayed. By clicking on "Zoom during test", if one or multiple "Search" lines are drawn on the characteristic curve, by running the test you can see that the software zooms on the areas where the test points are located and shows the found zone line.

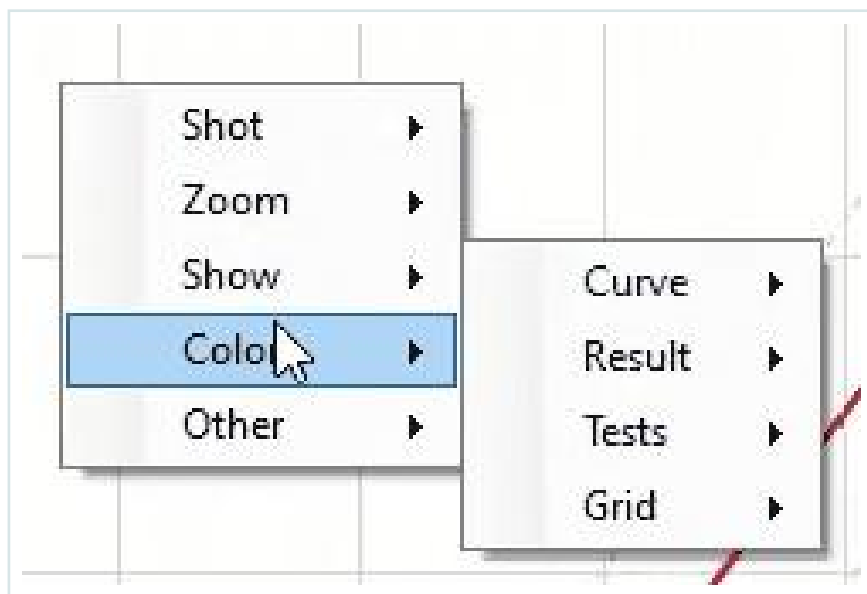


Figure 1



Figure 2

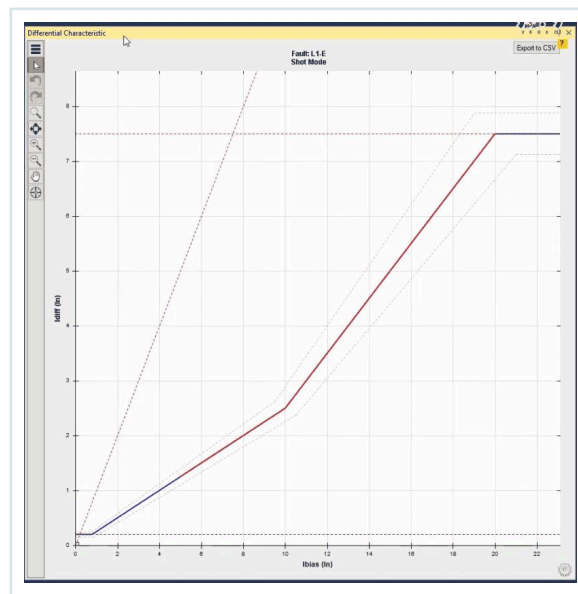


Figure 3

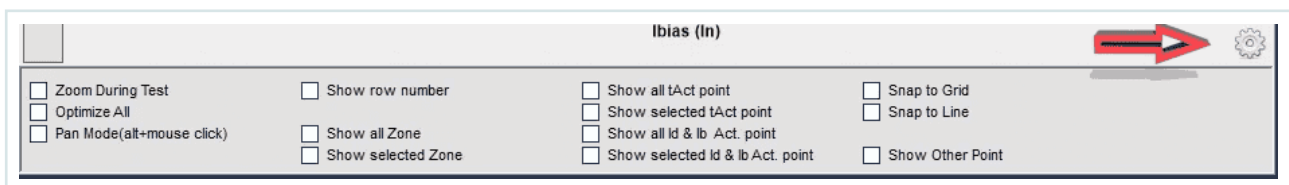


Figure 4

If you select "Optimize All" option, by changing the "Fault type", the characteristic curve display is "Optimized". By using "Pan Mode" you can move the characteristic curve diagram as desired. By using "Show row number" you can view the row number of any test point or test line on the characteristic curve. By selecting "Show all zone", test zones of all "Search" points are marked with a circle to find the characteristic curve line. By selecting "Show selected zone", only the points of the line selected from "Search line" table are marked with a circle.

By clicking on "Show all t act point", the operating time of the tested points is showed. Since maybe the points are close to each other and it is not possible to view the times clearly, you can use "Show selected t act point" option which shows the time of the row selected from the test points table. "Show all Id & Ib Act" and "Show selected t act point" options are used to show all tested "Search Test" points and the points related to the row selected from the "Search Test" table respectively. By selecting "Snap to grid" option, the points on the characteristic curve that are shot close to the grids snap to the grids of this page. By selecting "Snap to characteristic curve" option, the points on the characteristic curve that are "Shot" close to the characteristic curve grid snap to it.

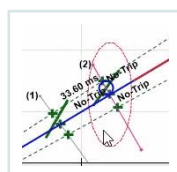


Figure 5

"Show Other Point" option: by selecting this option in single-phase faults such as "L1-E", in addition to the shot points, another point is displayed on the "Differential characteristic" window in the form of a delta which in fact is the indicator of differential and bias current of the two other phases. This option is used in cases where the single-phase fault characteristic curve is different from the phase-to-phase fault. The reason for this difference is that in some areas, the relay does not perform a trip because of the differential and bias current of the phase being tested (L1-E), but because of the differential and bias current of the two other phases. This means that if you have brought a general trip to the device to test single-phase fault such as "L1-E" and checked "NO COMBINED CHARACTERISSTIC" option, in some of the areas close to the characteristic curve the relay performs a trip for the "L1-E" fault but this trip is not the trip of the "L1" phase but it is related to current of the two other phases which can be also observed by using the characteristic of the delta point on the curve. If in same condition the "NO COMBINED CHARACTERISTIC" option is unchecked, you can see that this point is located at the "TRIPPING" zone.

[\[jg1\]Differential_Characteristic_window](#)