



VEBKO ONLINE HELP

Relay Settings in “Differential” Room, Part 2

Category	tester
Section	AMT Differential Module
Language	English
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After entering the information in "Protected Object" and "Protection Device" tabs, it is necessary to enter relay differential characteristic curve in "Characteristic Definition" tab. In this tab it is possible to enter the characteristic curve in two ways.

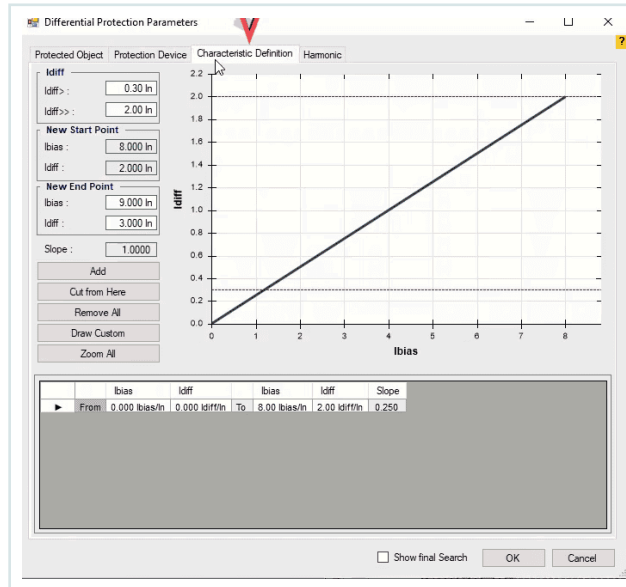


Figure 1

1- By clicking on "Draw Custom" option, "Draw Custom Characteristic" window opens where there are several "Template" of differential characteristic curve for different relays available. The relay type is specified in "Object" section. After selecting the relay type, the information needed to draw the differential characteristic curve is displayed in "Data" section in accordance with the relay settings. For example, by selecting "Siemens 7UTX" relay, the information needed to draw the differential characteristic curve is displayed. In "I>" and "I>=", "Slope1" and "Slope2", and "Base point1" and "Base point2" fields, the minimum and maximum differential current specified in the relay, the slope of the first and second lines, and the crossing point of the first and second lines with "I bias" curve are entered respectively. To better understand the parameters of "Data" section, on the right side of this window the characteristic curve shape of each relay is sourced from its corresponding catalogue and the parameters are determined schematically. After entering this information, the differential characteristic curve of the intended relay is displayed in "Preview" section and in the box at the bottom, the start and end point information are mentioned according to "I bias" and "I diff". Also, the slope of the line is displayed in "Slope" section. By clicking on "Draw" option, the settings are saved and the differential characteristic curve is drawn using the "Template" of the intended relay.

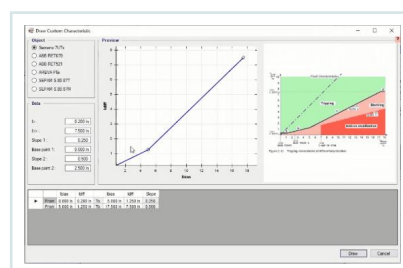


Figure 2

2- The second method to enter the characteristic curve is using the features available in "Characteristic Definition" window and it is necessary to enter the information of every line of the characteristic curve separately. First, the information of "I>" and "I>>" fields are entered. By entering the information of these two sections and closing the "Test Object" window, the differential characteristic curve is displayed in "Differential Characteristic" between the two entered numbers. After returning to "Characteristic Definition" tab in "Differential" block, first, all lines of the characteristic curve are removed by clicking on "Remove All" and then after entering the start point and end point coordinates of the first line of the relay curve in "New Start Point" and "New End Point" sections, "Add" option is selected. The slope of the line is calculated by the software in "Slope" field. Note that the slope of the differential line cannot be negative. Now the end point of the second line is entered and then "Add" option is selected so that the second line is added to the curve. Note that the end point of the second line is the same as the start point of the first line and this is why the "Start Point" section is disabled for the second line. By clicking on "Zoom All" option after entering the characteristic curve information, the curve is displayed completely in the box on the right side. In the box at the bottom of the page, the information of each section (line) of the characteristic curve is displayed separately. If you wish to remove a part of the characteristic curve, first, the part that you wish to remove is selected from the table and then "Cut from Here" option is selected. In the end by clicking on "OK", the relay differential characteristic curve is displayed in "Differential Characteristic" window.

By checking the "Show Final Search" option, if you have performed a "Search Test", the result of the last "Search" will be displayed in the differential characteristic curve shape. For example, if you draw a line on the characteristic curve and perform a "Search Test", and after clearing, return to "Characteristic Definition" and check the "Show Final Search" option, you can see that the result of the last "Search Test" is displayed in the form of a green "+" (plus) sign on the curve. By completing the "Differential Characteristic" tab, the "Harmonic" tab is completed as well. In this tab, the information related to harmonic characteristic of the relay for "Differential Harmonic" or "Inrush Blocking" test is entered. This test is performed in "Diff.Harmonics" room so all parameters of this section are thoroughly explained in "Diff.Harmonics" room.

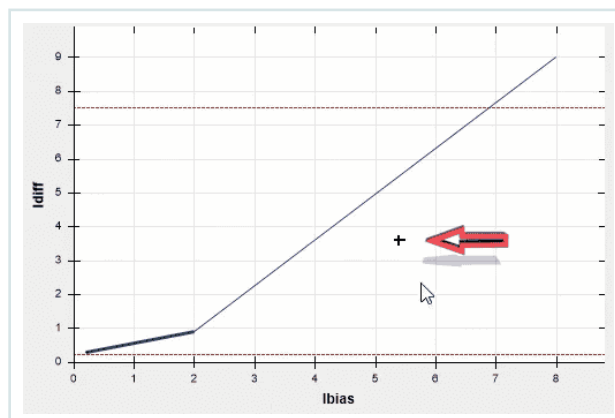


Figure 3

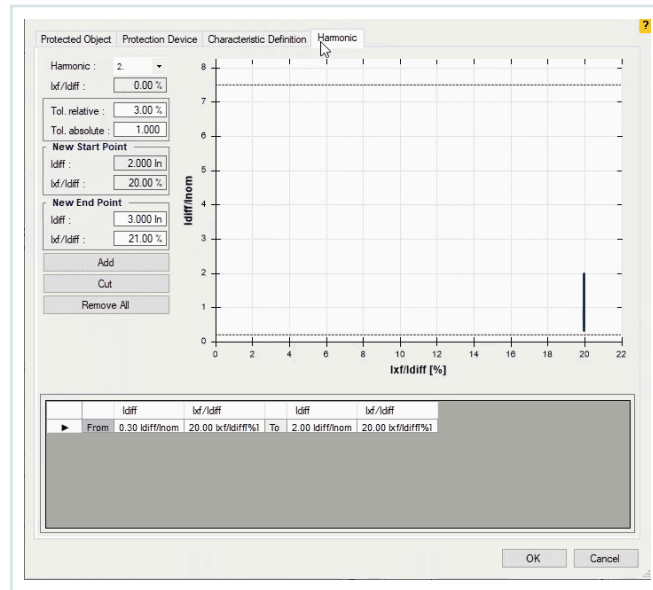


Figure 4

[jg1]Relay_settings_in_Differential_roomPart2