

ETAP TIP – No. 013

Display the Curve of a Phase Overcurrent Device in a Ground Time-Current Curve (TCC) Plot

Applicable ETAP Versions: 6.0.0

(For lower versions, some of the descriptions and procedures below may differ in some ways)

Sometimes it is desirable to show the phase overcurrent (OC) element of a certain protective device in a Ground TCC plot to ensure that coordination is met against the ground OC element of another device. For example, in a Delta-Wye solidly grounded transformer, the ground relay at the secondary side must be coordinated with a phase relay at the primary side since the primary side phase OC element sees a fraction of the ground fault current at the secondary side.

The plot shown in Fig. 1 is a Ground TCC plot. The ground OC curve of OCR3 and OCR4 relays are shown. Doing the following steps will show the phase OC curve of the OCR3:

1. Click the “Plot Option”  icon on the “Star View TCC” toolbar or right-click anywhere inside TCC plot area and select the “Plot Option..” in the pop-up menu. See Fig. 1
2. On the “Plot Option” dialog window, do the following steps (see Fig. 2):
 - a. Click “Devices” tab.
 - b. Double-click “OCR3” node in the tree
 - c. Click “Phase” node
 - d. Click “Preferences” tab
 - e. Check “Ground Mode”
 - f. Click “OK”
3. See Fig. 3, the OCR3 phase overcurrent element is displayed.

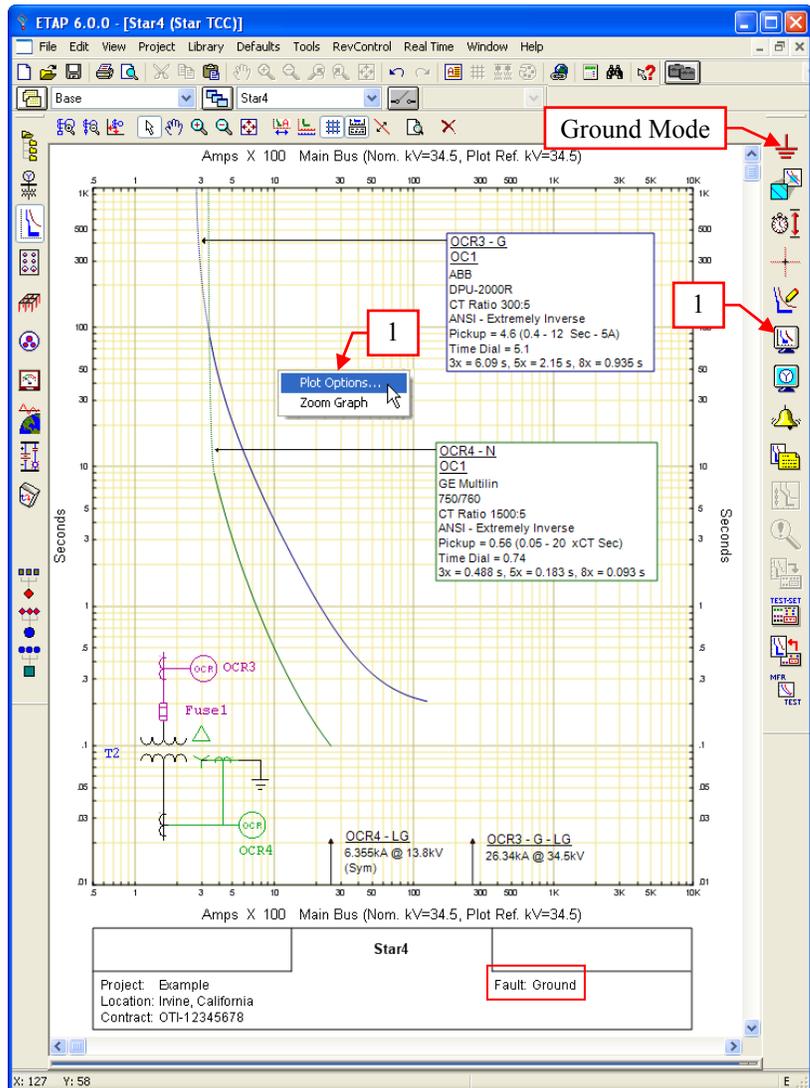


Fig. 1

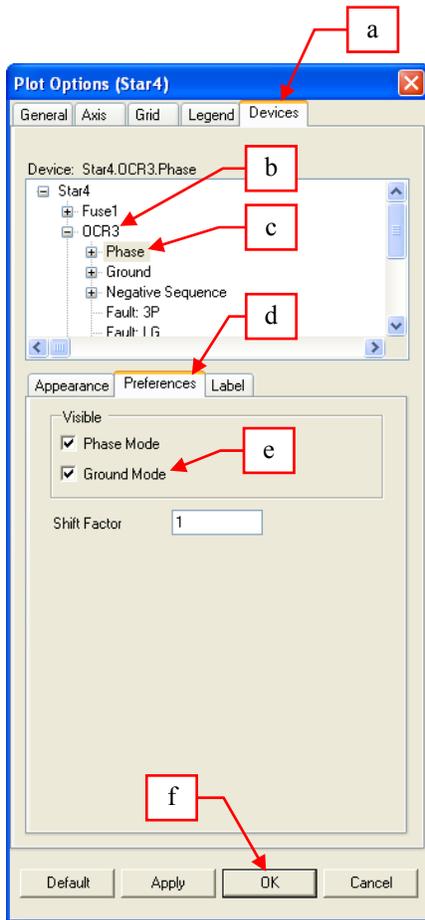
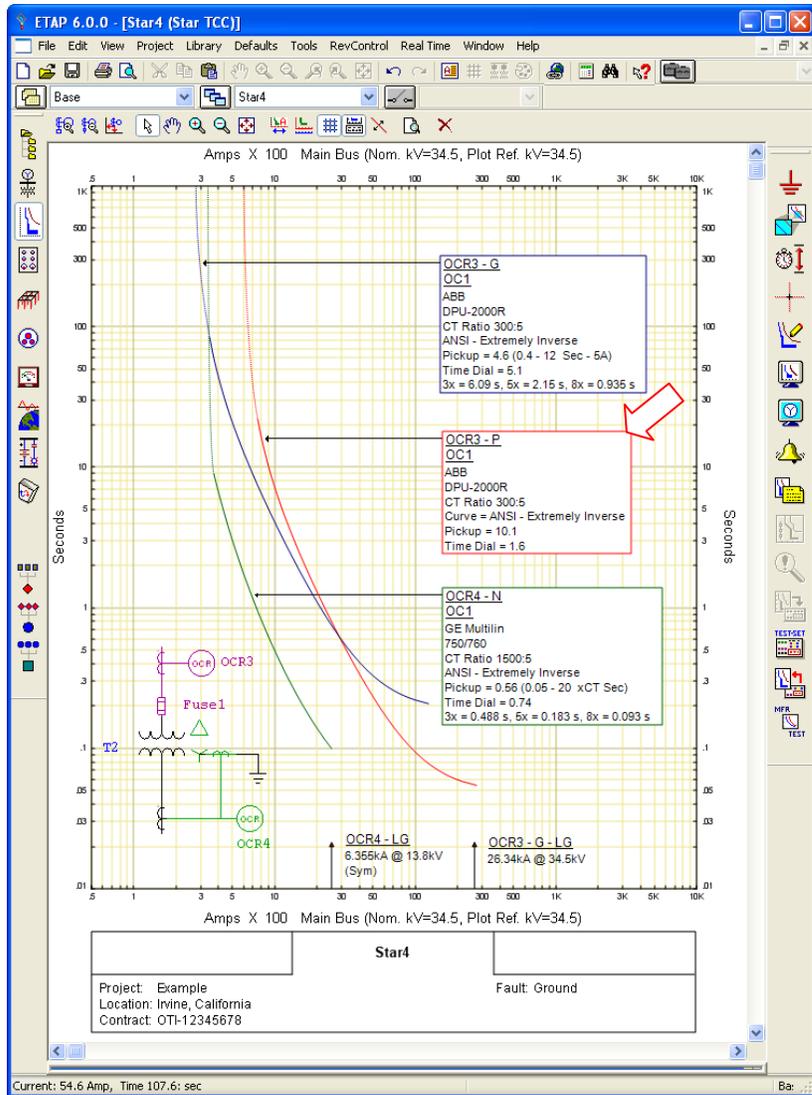


Fig. 2



Note: The suffix appended to the ID of a multi-function relay indicates the type of the element that is shown on the TCC. For example “OCR4-N”, the “N” indicates that the curve is the “Neutral” element of OCR4 relay.

Fig. 3