CYME
Power Engineering Software and Solutions

Distance Protection Analysis

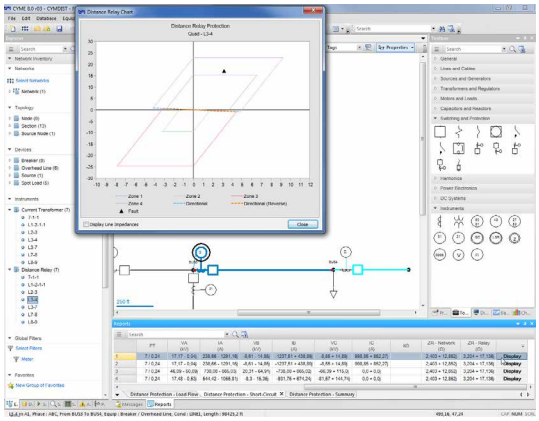
Analyze the operation of distance protection relays under normal and fault conditions

Distributed Generation involves the addition of generation capacity to a distribution system. Protection must be designed effectively and easily to ensure the reliability of the evolving system.

The CYME Distance Protection Analysis module is a powerful tool that can help engineers design and verify their protection scheme, and address different coordination issues in any power system.

Distance protection has the ability to clear any fault occurring inside the protection zone determined by the relay location and the reach point , depending on the impedance measured.

The CYME Distance Protection Analysis module is designed to help electrical engineers design and validate protection schemes that involve distance protection relays. It assists in identifying challenges and finding solutions to power system protection problems detected with the simulations.



Powering Business Worldwide

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Features

The Distance Protection Analysis module verifies the operation of all types of distance relays modeled, under normal conditions and under all fault types (LLL, LLLG, LL, LG and LLG).

Relays settings can be done automatically or manually in both primary and secondary sides. The user can select the right distance protection device and the software will help calculate its appropriate settings. Voltage and current are used for computing impedance.

- Estimate function to set the reach of each protection zone (impedance) and the compensation factor
- Load encroachment
- Protection characteristics displayed on R-X diagram

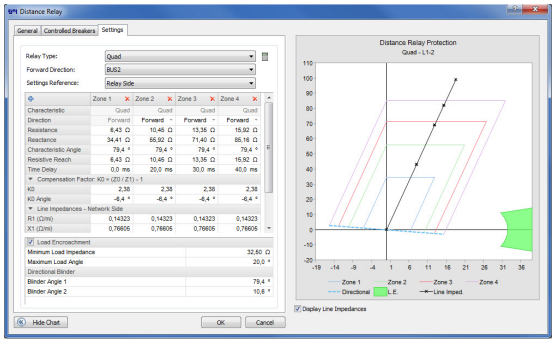
Distance relay types that can be modeled with the CYME software are:

- Mho
- KD-10
- HZ
- Quadrilateral
- RAZOA
- GCX51A
- GCXY51
- Reactance
- Polygon
- Polygon-Mho

Analysis results

- Load Flow – When the analysis is executed for normal conditions, the software will run a load flow simulation. The results (currents and voltages) are transferred to relays in order to check whether they are operating or not. The relays are reported with their measures (the currents, the voltages and the impedance computed on the primary and the secondary side).
- Short-Circuit – To see the details related to all relays that have detected a fault, and information about the fault and its zone location.

The fault and the relay impedance can be displayed in an R-X plane from the report. The user can examine the relay operation every time the system conditions are changed.



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Printed in Canada
Publication No. BR 917 068 EN
February 2018

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