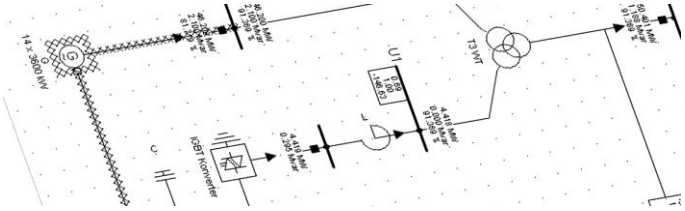

DIgSILENT Technical Documentation

Reyrolle Solkor N
PowerFactory
Relay model description

DIgSILENT GmbH
Heinrich-Hertz-Strasse 9
D-72810 Gomaringen
Tel.: +49 7072 9168 - 0
Fax: +49 7072 9168- 88
http://www.digsilent.de
e-mail: mail@digsilent.de

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1 Model general description

The model is including two CTs. The second CT must be considered as the CT feeding the Solkor N relay located at the other side of the line.

The following functionalities are modelled:

- Differential feature using the current magnitude and double bias restraint characteristic ("Magnitude Differential" block)
- Differential feature using the current angle ("Is", "Angle differential 1" and "Angle differential 2" block).Note: please insert as trip threshold in the "Is" block the current differential threshold inserted in the "Magnitude Differential" block.
- 1 3- Phase overcurrent element with inverse characteristic ("Gn P/F" block)
- 2 3-Phase overcurrent elements with time defined characteristic ("Gn P/F Highset1" and "Gn P/F Highset2" block)
- 1 Ground overcurrent element with inverse characteristic ("Gn E/F" block)
- 2 Ground overcurrent elements with time defined characteristic ("Gn E/F Highset1" and "Gn E/F Highset2" block)

2 Relay not supported features

The following features are not supported:

- Neutral differential protection
- Mag inrush detector
- Trip circuit supervision
- Circuit breaker fail protection

The model implementation has been based on the information available in the "Solkor N Technical Manual - Siemens Protection Devices Limited 2006"document available at http://www.reyrolle-protection.com/pdf/SolkorN_TM_Section_00_Contents.pdf, http://www.reyrolle-protection.com/pdf/SolkorN_TM_Section_01_Contents.pdf, http://www.reyrolle-protection.com/pdf/SolkorN_TM_Section_02_Contents.pdf , http://www.reyrolle-protection.com/pdf/SolkorN_TM_Section_03_Contents.pdf , http://www.reyrolle-protection.com/pdf/SolkorN_TM_Section_04_Contents.pdf .

The software revisions 1-3 are supported. To mock up the software revision 4 set the "Restraint region angle range" setting in the type dialog of the"Angle Differential 1" block equal to "45+shaping" value where "shaping" can be only one of the values of the inverse characteristic.