



VAMP 265

PowerFactory

Relay model description



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1 Model general description

The VAMP 265 relay model consists of:

- ◆ Two 3 phase CTs ("Ct1-3p" and "Ct2-3p" block). The first CT is feeding the first stage protective elements; the second CT is feeding the second stage protective elements.
- ◆ Two core CTs ("Ct1-3I0" and "Ct2-3I0" block). Any ground element can be set to be fed by the first or the second core CT. The selection of the active core CT can be done in the "Dip" tab page of the "Ground Switch" blocks.
- ◆ One differential element with double threshold, 2nd harmonic restraint and bias characteristic ("DI>-DI>>" block). The differential can adapt the current input signal in terms of angle and amplitude. In the model it can be done using the "Winding 1 Adapter" and the "Winding 2 Adapter" block.
- ◆ Four phase overcurrent elements 50/51("I>" and "I'>" (with inverse characteristics), "I>>" and "I'>>" (time defined) block).
- ◆ Two unbalance protection element 46("I2>" and "I'2>" (with inverse characteristics) block). Each element can set to use the negative sequence current or the "I2/I1" ratio. The selection is made using the "Dip" tab page of the "I2 stage 1 Switch" and if the "I2 stage 2 Switch" block.
- ◆ Four ground overcurrent elements 50N/51N ("Io>" (with inverse characteristics) block, "Io>>", "Io>>>" and "Io>>>>" (time defined) block). Each block can be configured to use the primary side calculated I0x3 current or the primary side Core Ct measured current or the secondary side calculated I0x3 current or the secondary side Core Ct measured current. The configuration is set inside the "Dip Settings" tab page of the "Io> Ground Switch", "Io>> Ground Switch", "Io>>> Ground Switch" and "Io>>>> Ground Switch" block. Please notice that the trip threshold range is from 0.02 to 20 In to cover both kind of input signal connections.
- ◆ One overload thermal image element 49 ("T>" block). Please note that the trip threshold is in p.u. (multiple of In)
- ◆ Second harmonic blocking ("If2>" block). The blocking logic is implemented inside the "Output logic" block in the "Logic" tab page. The current implementation is blocking the "I>", "I>>", "I'>", "I'>>", "Io>", "Io>>", "Io>>>", "Io>>>>" and "T>" element. It can be modified accordingly to the application needs.

2 Relay not supported features

The following features are not supported:

- Circuit breaker failure protection
- Arc fault protection
- Freely programmable stages
- Current transformer supervision

3 Reference material

The model implementation has been based on the information available in the “VAMP 265 Transformer, Generator and motor manager differential protection relay Operation and configuration instructions Technical description VM265.EN009” document.