



VAMP 230 PowerFactory Relay model description



DgSILENT 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

VAMP 230

PowerFactory
Relay model description

Published by
DgSILENT GmbH, Germany

Copyright 2010. All rights reserved. Unauthorised copying or publishing of this or any part of this document is prohibited.

doc.TechRef, Build 520

12 Januar 2021

Table of Contents

1 MODEL GENERAL DESCRIPTION.....	4
2 RELAY NOT SUPPORTED FEATURES.....	5
3 REFERENCE MATERIAL	5

1 Model general description

The VAMP 230 relay model consists of:

- ◆ Three phase overcurrent elements 50/51("I>" (with inverse characteristics), "I>>" and "I>>>" (time defined) block).
- ◆ Four phase directional overcurrent elements 67("Iphi>" (with inverse characteristics), "Iphi>>", "Iphi>>>" and "Iphi>>>>" (time defined) block).
- ◆ One unbalance protection element 46("I2>" (with inverse characteristics) block).
- ◆ One Incorrect phase sequence 47 element ("I2>>" block).
- ◆ One unbalance / broken connector protection element ("I2/I1>" block).
- ◆ Two ground overcurrent elements 50N/51N using input 4("Io>" (with inverse characteristics) block, "Io>>" (time defined) block).
- ◆ Two ground overcurrent elements 50N/51N using input 5 ("I2o>" and "I2o>>" (time defined) block).
- ◆ Two directional ground overcurrent elements 67N ("Iophi>" and "Iophi>>" (time defined) block, "Earth dir (Io-Uo)" block implementing the directional logic).
- ◆ One undercurrent element 37 ("I<" block).
- ◆ One overload element 49 ("T>" block).
- ◆ Three phase overvoltage elements 59 ("U>", "U>>", "U>>>" block)
- ◆ Three phase undervoltage elements 27 ("U<", "U<<", "U<<<" block)
- ◆ Two residual voltage elements 59 N ("Uo>" and "Uo>>" block).
- ◆ Two over frequency / under frequency protection stages ("f><", "f>><<" block)
- ◆ Two under frequency stages ("f<" and "f<<" block)
- ◆ One rate of change of frequency df/dt protection ("df/dt" block)
- ◆ Reclosing feature 79("Reclosing" block). Please note that the reclosing logic can be set in the "Logic" tab page of the "Reclosing" block.
- ◆ 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>>>", "T>" and "I<" element.

2 Relay not supported features

The following features are not supported:

- Stall protection
- Frequent start protection
- Circuit breaker failure protection
- Arc fault protection
- Capacitor bank unbalance
- Current transformer supervision
- Synchrocheck function
- Earth fault location algorithm

3 Reference material

The model implementation has been based on the information available in the "VAMP 255/245/230 Feeder terminals Operation and configuration instructions Technical description VM255.EN006" document.