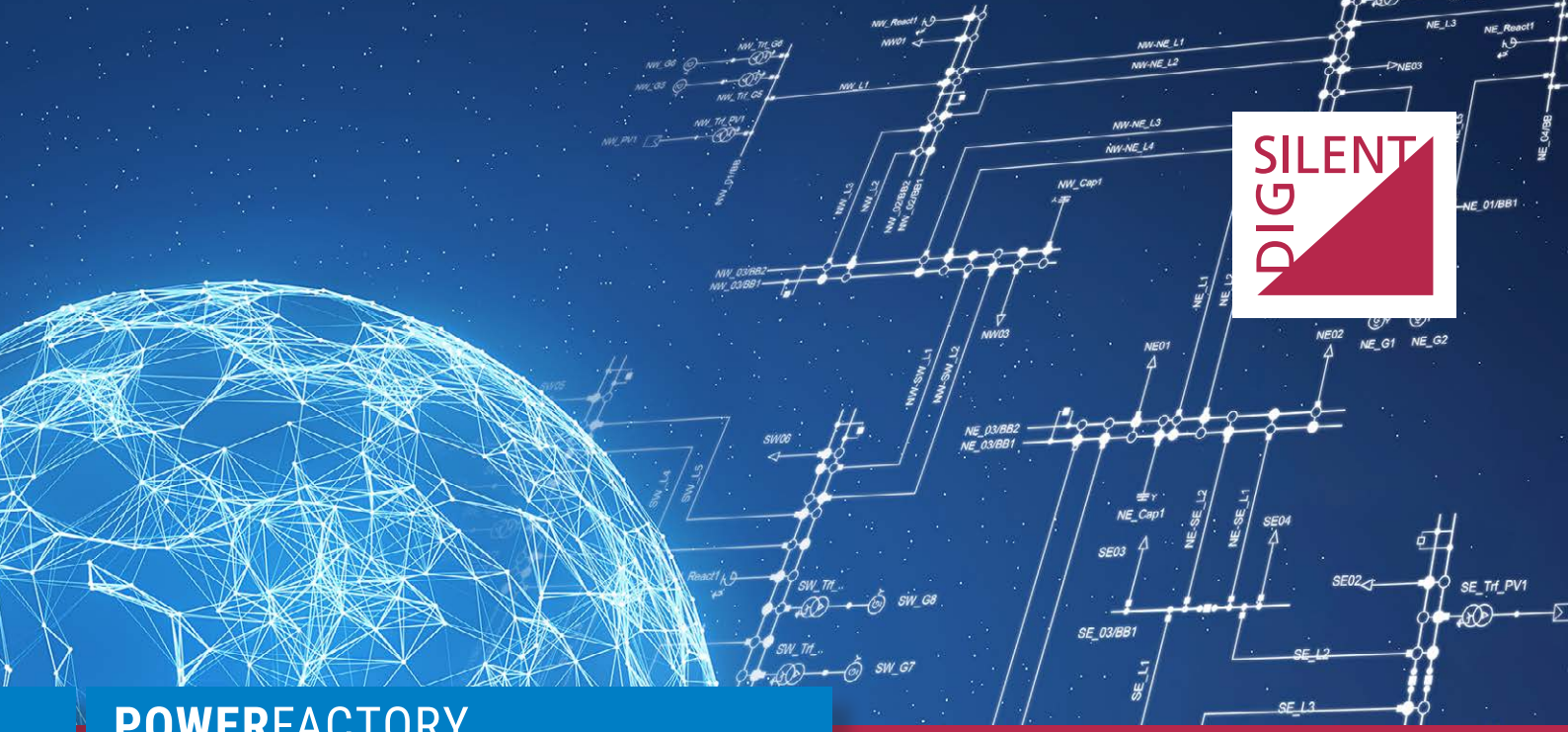

POWERFACTORY

PowerFactory 2021

Technical Reference

DIgSILENT F27 Phase under voltage Generic Relay

PF2021

POWER SYSTEM SOLUTIONS

MADE IN GERMANY

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Contents

1 F27 Phase under voltage

1.1 Intent

To simulate a set of phase and phase ground under voltage protective elements.

1.2 Functionality

The *F27 Phase under voltage* relay model simulates a set of phase-phase and phase-ground under voltage elements. In each group of elements (i.e. the phase-phase elements) one inverse/definite time and 3 definite time elements are available.

1.3 Inputs

- One 3 phase VT (”Phase Vt” block, *StaVt* class).

The following blocking signals are available:

- *iblock_1* blocking ”Upn<”.
- *iblock_2* blocking ”Upn<< ”.
- *iblock_3* blocking ”Upn<<<”.
- *iblock_4* blocking ”Upn<<<<”.
- *iblock_5* blocking ”Upp<”.
- *iblock_6* blocking ”Upp<< ”.
- *iblock_7* blocking ”Upp<<<”.
- *iblock_8* blocking ”Upp<<<<”.

1.4 Available Units

Measurement

- One 3phase measurement element (”Measurement” block, *RMS Calculation* enabled, *Filter* disabled [RelMeasure class]).
- One 3phase delta measurement element (”Measurement delta” block, *RMS Calculation* enabled, *Filter* disabled [RelMeasure class]).

Protective elements

- One inverse/definite time phase-phase undervoltage element (”Upp<” block [*RelChar* class]).

- Three definite time phase-phase undervoltage elements (”Upp<< ”, ”Upp<<<” and ”Upp<<<<” block [*RelUlim* class]).
- One inverse/definite time phase-ground undervoltage element (”Upn<” block, *RelChar* class).
- Three definite time phase-ground undervoltage elements (”Upn<< ”, ”Upn<<<” and ”Upn<<<<” block, *RelUlim* class).

Output logic

- One relay trip element (”Output logic” block, *RelLogdip* class).

The output logic can be configured in the ”Logic” tab page of the ”Output Logic” block.

1.5 Outputs

- *yout* associated by default to any protective element trip.
- *yout1* associated by default to any phase-phase undervoltage protective element trip.
- *yout2* associated by default to any phase-ground undervoltage protective element trip.