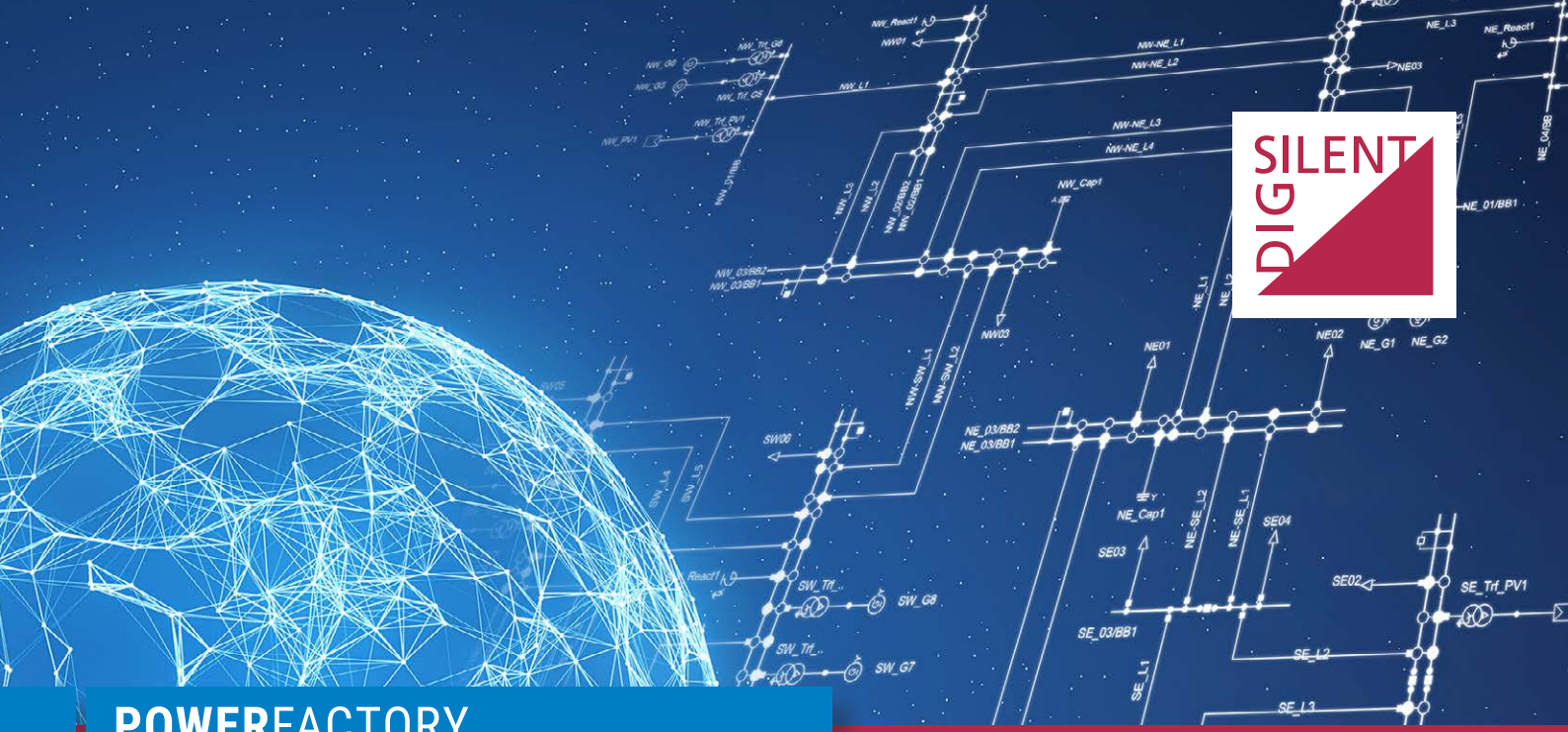

PowerFactory 2021

Technical Reference

DIgSILENT F50BF Breaker failure Generic Relay

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POWER SYSTEM SOLUTIONS

MADE IN GERMANY

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Contents

1 F50BF Breaker failure

1.1 Intent

To add the breaker failure feature to the protective features simulated by any other relay.

1.2 Functionality

The *F50BF Breaker failure* generic relay activates an output signal and operates the associated breaker when both the following conditions are verified:

- An trip input signal remains *on* for a time greater than an user configurable time (usually equal to the breaker operating time+ a safety margin).
- At least one phase of a 3 phase currents system remains always greater than an user configurable threshold after that input signal became *on*.

It consists of the main relay and of the ”Protective relay” external device which is connected the *F50BF Breaker failure* generic relay by a relay slots.

The *trip input signal* is provided by the other protective relays.

1.3 Inputs

The following input signal must be provided by the other protective device:

- trip input signal.

1.4 Available Units

Measurement

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

Protective elements

- One definite time 3 phase overcurrent element (”Minimum I” block, [*RelIoc* class]).
- One single phase timer (”Breaker Failure Protection”, [*RelTimer* class]).

The external protective device must be set in the ”Protective Relay” slot of the relay (”Protective Relay” blocks, [*ElmRelay* class]).

Output logic

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

1.5 Outputs

- *yout* associated to the 50BF trip.