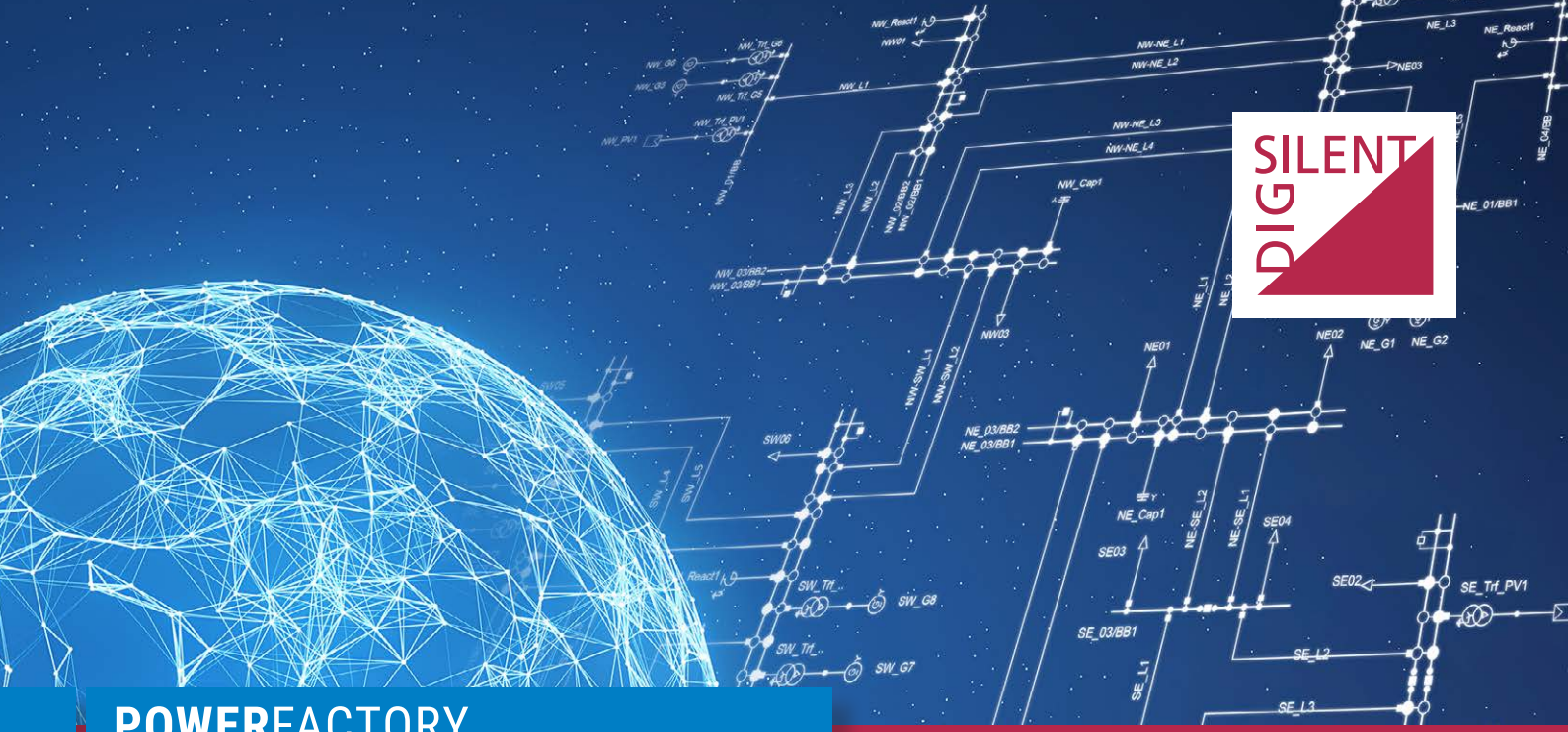

POWERFACTORY

PowerFactory 2021

Technical Reference

DIgSILENT F32_F37 Over-/Under-power Generic Relay

PF2021

POWER SYSTEM SOLUTIONS

MADE IN GERMANY

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1 F32_F37 Over-/Under-power

1.1 Intent

The *F32_F37 Over-/Under-power* generic relay simulates a set of inverse/definite time active and reactive directional over/underpower elements which can be used to protect a large rotating machine.

1.2 Functionality

The generic relay calculates the 3phase active and reactive power value and their direction. The directional power elements having direction not equal to the detected power direction are then disabled and the calculated values are passed to the remaining protective elements.

1.3 Inputs

- One 3 phase CT (”Phase Ct” block, [*StaCt* class]).
- One 3 phase VT (”Phase Vt” block, [*StaVt* class]).

1.4 Available Units

Measurement

- One 3phase measurement element (”Measurement” block, *RMS Calculation* enabled, *Filter* disabled [RelMeasure class]).
- One power calculation element (”Power Calculator ” block, [RelLogdip class]].
- One power calculation element (”PQ direction calc” block, [RelLogdip class]).

Protective elements

- Six inverse/definite time active directional active overpower elements (”P1>”, ”P2>”, ”P3>”, ”P4>”, ”P5>”, and ”P6>” block, [*RelChar* class]).
- Three inverse/definite time active forward underpower elements (”P1<”, ”P2<”, and ”P3<” block, [*RelChar* class]).
- Three inverse/definite time directional reactive overpower elements (”Q1>”, ”Q2>”, and ”Q3>” block, [*RelChar* class]).

1.5 Outputs

- *yout* associated by default to any power protective element trip.
- *yout1* associated by default to any active power protective element trip.

- *yout2* associated by default to any reactive overpower protective element trip.
- *yout3* associated by default to any active underpower protective element trip.

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