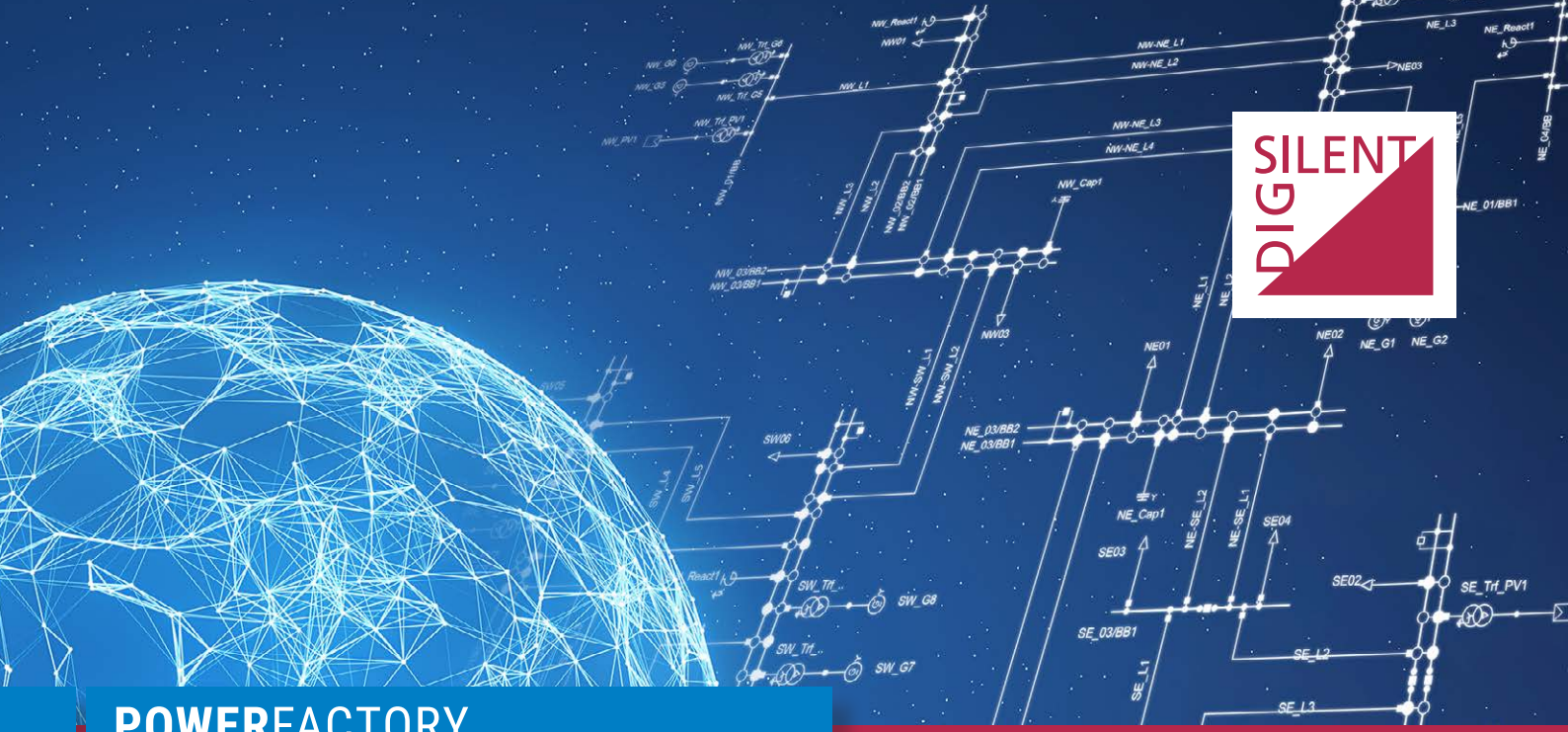

POWERFACTORY

PowerFactory 2021

Technical Reference

Schneider MasterPact NT NW

PF2021

POWER SYSTEM SOLUTIONS

MADE IN GERMANY

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November 16, 2020
PowerFactory 2021
Revision 1032

Contents

Disclaimer

DIgSILENT protection device models are developed using publicly accessible information, such as user manuals, and are not validated or tested by the respective manufacturers.

1 Model information

Manufacturer Schneider

Model MasterPact NT NW

Variants The Schneider MasterPact NT NW series contains the electronic trip unit *"MicroLogic 6.0 A"* available for circuit breakers NT and NW based on the information given in [1]. Each combination of model and available sensor rating is a dedicated type.

2 General description

The electronic trip unit is modelled as LSIG which corresponds to *"MicroLogic 6.0 A"*. The units are modelled as 3-pole without neutral. The Earth fault input is calculated from the phase currents.

Current transformer

The *"CT"* slot holds the assigned ideal 3-phase current transformers which has to be modelled with a ratio of 1/1 A.

Measurement unit

The *"Measurement"* slot processes the transformer inputs and holds the rated current value of the circuit breaker. The zero-sequence current is determined from the phase values.

Trip logic

The *"Trip Logic"* holds an OR functionality for generating the tripping signal.

3 Electronic trip unit

The electronic trip unit *"MicroLogic 6.0 A"* consists of three phase current stages and one zero-seuqence current stage. The underlaying phase current stage blocks the overlaying phase current stage if started, e.g. if the short-time stage is started, the long-time stage is blocked.

Address	Relay Setting	Model Unit	Model Parameter	Note
	Current Setting Ir	Long-time	Pickup Current	
	Time Setting tr	Long-time	Time Setting	
	Pick-up Isd	Short-time	Pickup Current	
	Time Setting tsd for I2t Off	Short-time	Time Setting	for max breaking time
	Time Setting tsd for I2t On	Short-time	Time Setting	for max breaking time
	Pick-up Ii	Instantaneous	Pickup Current	
	Operating time	Instantaneous	Time Setting	see 1)
	Pick-up Ig	Earth fault	Pickup Current	see 2)
	Time Setting tg for I2t Off	Short-time	Time Setting	for max breaking time
	Time Setting tg for I2t On	Short-time	Time Setting	for max breaking time

Notes:

1) – Instantaneous Ii tripping time of 20 to 50 ms (non tripping time to max breaking time).

2) – Current range depending on sensor rating:
   * In <= 400 A: Ig = 0.3 to 1 p.u.
   * 400 A < In < 1250 A: Ig = 0.2 to 1 p.u.
   * In > 1250 A: Ig = 500 to 1200 A

4 Variants

Type	Sensor rating	Trip unit
NT 06	400; 630 A	Electronic
NT 08	400; 630; 800 A	Electronic
NT 10	400; 630; 800; 1000 A	Electronic
NT 12	630; 800; 1000; 1250 A	Electronic
NT 16	800; 1000; 1250; 1600 A	Electronic
NW 08	400; 630; 800 A	Electronic
NW 10	400; 630; 800; 1000 A	Electronic
NW 12	630; 800; 1000; 1250 A	Electronic
NW 16	800; 1000; 1250; 1600 A	Electronic
NW 20	1000; 1250; 1600; 2000 A	Electronic
NW 25	1250; 1600; 2000; 2500 A	Electronic
NW 32	1600; 2000; 2500; 3200 A	Electronic
NW 40(b)	2000; 2500; 3200; 4000 A	Electronic
NW 50	2500, 3200; 4000; 5000 A	Electronic
NW 63	3200; 4000; 5000; 6300 A	Electronic

5 References

[1] Schneider Electric Industries SAS, 35 rue Joseph Monier, 92506 Rueil-Malmaison, FRANCE. *MasterPact NT and NW Catalogue 2020*. LVPED208008EN.