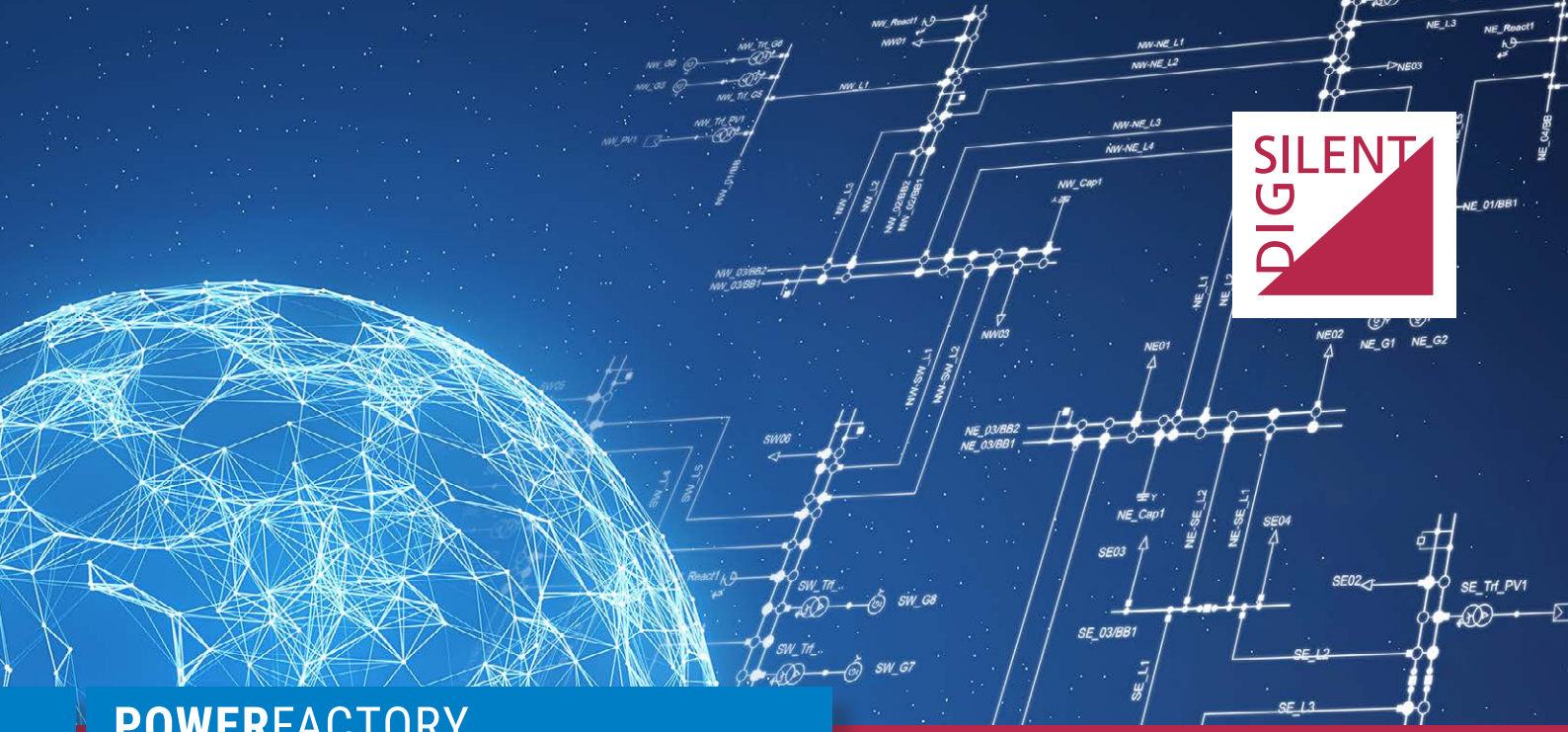

POWERFACTORY

PowerFactory 2021

Technical Reference

Generic EN 60947-2

PF2021

POWER SYSTEM SOLUTIONS

MADE IN GERMANY

Publisher:
DIgSILENT GmbH
Heinrich-Hertz-Straße 9
72810 Gomaringen / Germany
Tel.: +49 (0) 7072-9168-0
Fax: +49 (0) 7072-9168-88
info@digsilent.de

Please visit our homepage at:
https://www.digsilent.de

November 16, 2020
PowerFactory 2021
Revision 1028

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 Generic

Model EN 60947-2

Variants The Generic EN 60947-2 series contains thermal-magnetic trip units for miniature circuit breakers (MCBs) based on the information given in [1]. Tripping characteristics *"K"*, *"Z"* are available and in accordance with EN 60947-2. Each combination of characteristic and rating is a dedicated type.

2 General description

The thermal-magnetic trip units consist of thermal and magnetic blocks. The units are modelled as 3-pole without neutral.

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.

Trip logic

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

3 Thermal-magnetic trip unit

The thermal-magnetic trip unit consists of two phase current stages. Thermal characteristics are digitalised according to information given in [1] and modelled as minimum trip and total clear curves. The magnetic curves are modelled as ideal DT curves.

Address	Relay Setting	Model Unit	Model Parameter	Note
	Settings Range	Thermal	Pickup Current	
	Time Delay	Thermal	Time Setting	
	Tripping Current	Magnetic	Pickup Current	see 1)
	Time Delay	Magnetic	Pickup Time	fixed to 10 ms

Notes:

1) – Minimum trip and total clear curve depending on characteristic:
   * Characteristic K: 10 to 14 x In
   * Characteristic Z: 2 to 3 x In

4 Variants

Type	Sensor rating	Trip unit
MCB Characteristic K	1 - 125 A	Thermal-magnetic
MCB Characteristic Z	1 - 125 A	Thermal-magnetic

5 References

[1] ABB STOTZ-KONTAKT GmbH, PO Box 10 16 80, 69006 Heidelberg, GERMANY. *Comparison of tripping characteristics for miniature circuit-breakers*. 2CDC400002D0201.