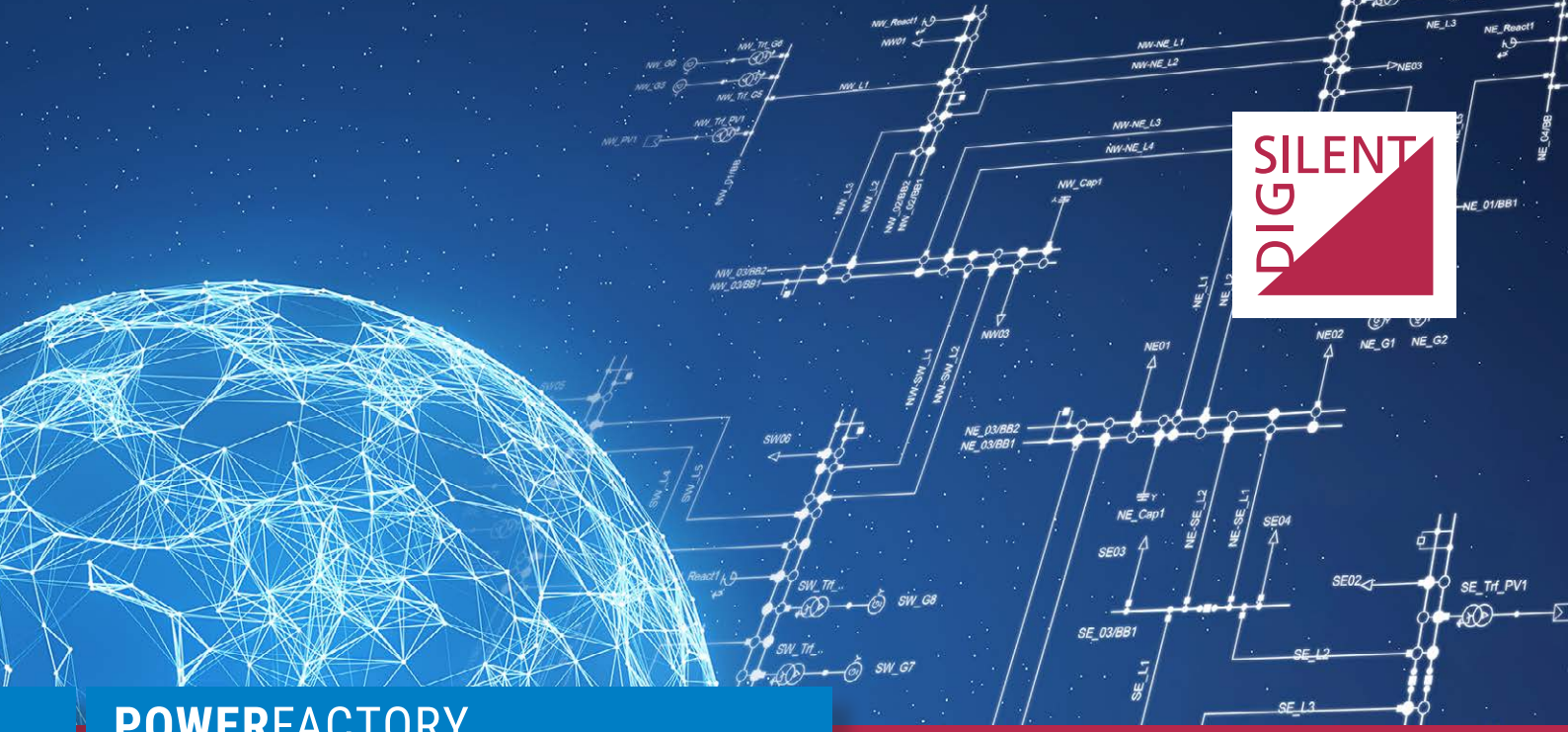

POWERFACTORY

PowerFactory 2021

Protection Device Library

Index

PF2021

POWER SYSTEM SOLUTIONS

MADE IN GERMANY

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PowerFactory 2021

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Click **here** for detailed documentation.

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Click **here** for detailed documentation.

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- NS1250
- NS1600b
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- NS630b
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3.7.2 ComPact NSX NSXm

Click **here** for detailed documentation.

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- SPAJ 140C

4.1.61 SPAJ 141C

Click **here** for detailed documentation.

The following *models* are provided:

- SPAJ 141C

4.1.62 SPAJ 142C

Click **here** for detailed documentation.

The following *models* are provided:

- SPAJ 142C

4.1.63 SPAJ 144C

Click **here** for detailed documentation.

The following *models* are provided:

- SPAJ 144C

4.1.64 SPAJ 160C

Click **here** for detailed documentation.

The following *models* are provided:

- SPAJ 160C

4.1.65 SPAJ 32x

Click **here** for detailed documentation.

The following *models* are provided:

- SPAJ 32x

4.1.66 SPAM 150C

Click **here** for detailed documentation.

The following *models* are provided:

- SPAM 150C

4.2 AEG

4.2.1 PD531

Click **here** for detailed documentation.

The following *models* are provided:

- PD531-1A
- PD531-5A

4.2.2 PD551

Click **here** for detailed documentation.

The following *models* are provided:

- PD551-1A
- PD551-5A

4.2.3 PD552

Click **here** for detailed documentation.

The following *models* are provided:

- PD552-1A
- PD552-5A

4.2.4 PD932

Click **here** for detailed documentation.

The following *models* are provided:

- PD932-1A
- PD932-5A

4.2.5 PS431

Click **here** for detailed documentation.

The following *models* are provided:

- PS431

4.2.6 PS441

Click **here** for detailed documentation.

The following *models* are provided:

- PS441

4.2.7 PS451

Click **here** for detailed documentation.

The following *models* are provided:

- PS451-DT
- PS451-IDMT
- PS451-M

4.2.8 PS462

Click **here** for detailed documentation.

The following *models* are provided:

- PS462

4.2.9 RR3M

Click **here** for detailed documentation.

The following *models* are provided:

- RR3M

4.2.10 SD14

Click **here** for detailed documentation.

The following *models* are provided:

- SD 14-1A
- SD 14-5A

4.2.11 SD34

Click **here** for detailed documentation.

The following *models* are provided:

- SD 34-1A
- SD 34-5A

4.2.12 SD36

The following *models* are provided:

- SD 36-1A
- SD 36-5A

4.3 Areva

4.3.1 P111

Click **here** for detailed documentation.

The following *models* are provided:

- P1117390xxxx00x (BC)
- P1117390xxxx01x (BC)

- P1117390xxxx02x (BC)
- P1117390xxxx03x (BC)
- P1117390xxxx10x (BC)
- P1117390xxxx11x (BC)
- P1117390xxxx12x (BC)
- P1117390xxxx13x (BC)
- P1117390xxxx40x (BC)
- P1117390xxxx41x (BC)
- P1117390xxxx42x (BC)
- P1117390xxxx43x (BC)
- P1117390xxxxx0x (A)
- P1117390xxxxx1x (A)
- P1117390xxxxx2x (A)
- P1117390xxxxx3x (A)
- P1117391xxxx04x (EF)
- P1117391xxxx05x (EF)
- P1117391xxxx44x (EF)
- P1117391xxxx45x (EF)
- P1117391xxxx54x (EF)
- P1117391xxxx55x (EF)

4.3.2 P114S

Click **here** for detailed documentation.

The following *models* are provided:

- P114S-0192CT1792
- P114S-0384CT1793
- P114S-0768CT1794
- P114S-1536CT1795
- P114S-3072CT1796

4.3.3 P115

Click **here** for detailed documentation.

The following *models* are provided:

- P115

4.3.4 P12X

Click **here** for detailed documentation.

The following *models* are provided:

- P120
- P127 220-480V
- P127 57-130V
- P12x

4.3.5 P14X

Click **here** for detailed documentation.

The following *models* are provided:

- P14x 100-120 V
- P14x 380-440 V

4.3.6 P211

Click **here** for detailed documentation.

The following *models* are provided:

- P211 0.37-0.75A
- P211 0.75-1.5A
- P211 1.5-3.0A
- P211 10.0-20.0A
- P211 20-40A
- P211 3.0-6.0A
- P211 40-80A
- P211 5.0-10.0A

4.3.7 P220

Click **here** for detailed documentation.

The following *models* are provided:

- P220

4.3.8 P341

Click **here** for detailed documentation.

The following *models* are provided:

- Areva P341 100 120 V
- Areva P341 380 480 V

4.3.9 P34x

Click **here** for detailed documentation.

The following *models* are provided:

- Areva P34x 100 120 V
- Areva P34x 380 480 V

4.3.10 P44X

Click **here** for detailed documentation.

The following *models* are provided:

- P44x

4.3.11 P54X

Click **here** for detailed documentation.

The following *models* are provided:

- P54x

4.4 Beckwith

4.4.1 M-3425

Click **here** for detailed documentation.

The following *models* are provided:

- M-3425 1 A
- M-3425 5 A

4.5 Cooper Power Systems

4.5.1 FX - FXA - FXB

Click **here** for detailed documentation.

The following *models* are provided:

- FX-FXA-FXB

4.5.2 Form 4C

Click **here** for detailed documentation.

The following *models* are provided:

- Form 4C

4.5.3 Form 5

Click **here** for detailed documentation.

The following *models* are provided:

- Form 5

4.5.4 Form 6

Click **here** for detailed documentation.

The following *models* are provided:

- Form 6

4.5.5 GN3

Click **here** for detailed documentation.

The following *models* are provided:

- GN3

4.6 Enertec

4.6.1 PD3A

Click **here** for detailed documentation.

The following *models* are provided:

- PD3A 1 amp
- PD3A 5 amp

4.6.2 RXAP

Click **here** for detailed documentation.

The following *models* are provided:

- RXAP 6X1X 1A
- RXAP 6X1X 5A
- RXAP 6XXX 1A
- RXAP 6XXX 5A

4.7 GE

4.7.1 469

Click **here** for detailed documentation.

The following *models* are provided:

- 469

4.7.2 489

Click **here** for detailed documentation.

The following *models* are provided:

- 489

4.7.3 745

Click **here** for detailed documentation.

The following *models* are provided:

- 745

4.7.4 DFP200

Click **here** for detailed documentation.

The following *models* are provided:

- DFP21xxLCxxx
- DFP25xxLCxxx

4.7.5 DLPD

Click **here** for detailed documentation.

The following *models* are provided:

- DLPD 1amp
- DLPD 5amp

4.7.6 F650

Click **here** for detailed documentation.

The following *models* are provided:

- F650

4.7.7 IAC

Click **here** for detailed documentation.

The following *variants* are provided:

- 50Hz
  - Extremely Inverse
  - Inverse
  - Long Time Inverse
  - Short Time Inverse
  - Very Inverse
- 60Hz
  - Extremely Inverse
  - Inverse

  - Long Time Inverse
  - Short Time Inverse
  - Very Inverse

4.7.8 IFC

Click **here** for detailed documentation.

The following *variants* are provided:

- 50 Hz
  - IFC51 Inverse
  - IFC53 Very Inverse
  - IFC57 Medium Time
  - IFC66 Long Time
  - IFC77 Extremely Inverse
  - IFC95 Short Time
- 60 Hz
  - IFC51 Inverse
  - IFC57 Medium Time
  - IFC66 Long Time
  - IFC77 Extremely Inverse
  - IFC95 Short Time

4.7.9 SR 750

The following *models* are provided:

- SR 750

4.7.10 SR 760

The following *models* are provided:

- SR 760

4.7.11 TLS 1000

Click **here** for detailed documentation.

The following *models* are provided:

- TLS 1000

4.7.12 UR D60

Click **here** for detailed documentation.

The following *models* are provided:

- UR D60

4.7.13 UR F60

Click **here** for detailed documentation.

The following *models* are provided:

- UR F60

4.7.14 UR G30

Click **here** for detailed documentation.

The following *models* are provided:

- UR G30

4.7.15 UR G60

Click **here** for detailed documentation.

The following *models* are provided:

- UR G60

4.7.16 UR L90

Click **here** for detailed documentation.

The following *models* are provided:

- UR L90

4.8 Gec Alstom

4.8.1 CAG

Click **here** for detailed documentation.

The following *variants* are provided:

- CAG12 Earth
- CAG12 Single Phase
- CAG13 Earth
- CAG13 Single Phase
- CAG14 Earth
- CAG14 Single Phase
- CAG17 Earth
- CAG17 Single Phase
- CAG19 Earth
- CAG19 Single Phase
- CAG32 2-Phase & Earth
- CAG32 A & B & C
- CAG33 2-Phase & Earth
- CAG33 A & B & C
- CAG34 2-Phase & Earth
- CAG34 A & B & C
- CAG37 2-Phase & Earth
- CAG37 A & B & C
- CAG39 2-Phase & Earth
- CAG39 A & B & C

4.8.2 CDD

Click **here** for detailed documentation.

The following *variants* are provided:

- Earth Fault
  - CDD21 Earth
    - Prefered Taps
    - Standard Taps
  - CDD23 Earth
    - Prefered Taps
    - Standard Taps
  - CDD24 Earth
    - Prefered Taps

        * Standard Taps
- Phase Fault
  - CDD21 Single Phase
    * Prefered Taps
    * Standard Taps
  - CDD23 Single Phase
    * Prefered Taps
    * Standard Taps
  - CDD24 Single Phase
    * Prefered Taps
    * Standard Taps

4.8.3 CDG

The following *variants* are provided:

- CDG11 Earth
  - Prefered Taps
  - Standard Taps
- CDG11 Single Phase
  - Prefered Taps
  - Standard Taps
- CDG13 Earth
  - Prefered Taps
  - Standard Taps
- CDG13 Single Phase
  - Prefered Taps
  - Standard Taps
- CDG14 Earth
  - Prefered Taps
  - Standard Taps
- CDG14 Single Phase
  - Prefered Taps
  - Standard Taps
- CDG16 Earth
  - Prefered Taps
  - Standard Taps
- CDG16 Single Phase
  - Prefered Taps

  - Standard Taps
- CDG21 2-Phase
  - Prefered Taps
  - Standard Taps
- CDG21 Ioc&Toc Earth
  - Prefered Taps
  - Standard Taps
- CDG21 Ioc&Toc
  - Prefered Taps
  - Standard Taps
- CDG23 2-Phase
  - Prefered Taps
  - Standard Taps
- CDG23 Ioc&Toc
  - Prefered Taps
  - Standard Taps
- CDG24 2-Phase
  - Prefered Taps
  - Standard Taps
- CDG24 Ioc&Toc Earth
  - Prefered Taps
  - Standard Taps
- CDG24 Ioc&Toc
  - Prefered Taps
  - Standard Taps
- CDG26 2-Phase
  - Prefered Taps
  - Standard Taps
- CDG26 Ioc&Toc Earth
  - Prefered Taps
  - Standard Taps
- CDG26 Ioc&Toc
  - Prefered Taps
  - Standard Taps
- CDG31 2-Phase & Earth
  - Prefered Taps
  - Standard Taps

- CDG31 A & B & C
  - Prefered Taps
  - Standard Taps
- CDG33 2-Phase & Earth
  - Prefered Taps
  - Standard Taps
- CDG33 A & B & C
  - Prefered Taps
  - Standard Taps
- CDG34 2-Phase & Earth
  - Prefered Taps
  - Standard Taps
- CDG34 A & B & C
  - Prefered Taps
  - Standard Taps
- CDG36 2-Phase & Earth
  - Prefered Taps
  - Standard Taps
- CDG36 A & B & C
  - Prefered Taps
  - Standard Taps
- CDG66 3Ph Ioc&Toc
  - Prefered Taps
  - Standard Taps

4.8.4 EPAC

Click **here** for detailed documentation.

The following *models* are provided:

- EPAC 1A
- EPAC 5A

4.8.5 KCEG

Click **here** for detailed documentation.

The following *models* are provided:

- KCEG 112 01 xx1C
- KCEG 112 01 xx1D
- KCEG 112 01 xx1E
- KCEG 112 01 xx1F
- KCEG 112 01 xx4C
- KCEG 112 01 xx4D
- KCEG 112 01 xx4E
- KCEG 112 01 xx4F
- KCEG 142 01 xx1C 3.2 s buffer
- KCEG 142 01 xx1C
- KCEG 142 01 xx1D 3.2 s buffer
- KCEG 142 01 xx1D
- KCEG 142 01 xx1E 3.2 s buffer
- KCEG 142 01 xx1E
- KCEG 142 01 xx1F 3.2 s buffer
- KCEG 142 01 xx1F
- KCEG 142 01 xx4C 3.2 s buffer
- KCEG 142 01 xx4C
- KCEG 142 01 xx4D 3.2 s buffer
- KCEG 142 01 xx4D
- KCEG 142 01 xx4E 3.2 s buffer
- KCEG 142 01 xx4E
- KCEG 142 01 xx4F 3.2 s buffer
- KCEG 142 01 xx4F
- KCEG 152 01 xx1C
- KCEG 152 01 xx1D
- KCEG 152 01 xx1E
- KCEG 152 01 xx1F
- KCEG 152 01 xx4C
- KCEG 152 01 xx4D

- KCEG 152 01 xx4E
- KCEG 152 01 xx4F
- KCEG 242 01 xx1C
- KCEG 242 01 xx1D
- KCEG 242 01 xx1E
- KCEG 242 01 xx1F
- KCEG 242 01 xx4C
- KCEG 242 01 xx4D
- KCEG 242 01 xx4E
- KCEG 242 01 xx4F

4.8.6 KCGG

Click **here** for detailed documentation.

The following *models* are provided:

- KCGG110-1A-Earth-C
- KCGG110-1A-Earth-D
- KCGG110-1A
- KCGG110-5A-Earth-E
- KCGG110-5A-Earth-F
- KCGG110-5A
- KCGG120-1A
- KCGG120-5A
- KCGG122-1A-C
- KCGG122-1A-D
- KCGG122-5A-C
- KCGG122-5A-D
- KCGG130-1A
- KCGG130-5A
- KCGG142-1A
- KCGG142-5A

4.8.7 LFAA

Click **here** for detailed documentation.

The following *models* are provided:

- LFAA
- Reclosing link

4.8.8 LFCB

Click **here** for detailed documentation.

The following *models* are provided:

- LFCB 102
- LFCB 103

4.8.9 MBCH

Click **here** for detailed documentation.

The following *models* are provided:

- MBCH 12
- MBCH 13
- MBCH 16

4.8.10 MBCI

Click **here** for detailed documentation.

The following *models* are provided:

- MBCI

4.8.11 MBCZ

Click **here** for detailed documentation.

The following *models* are provided:

- MBCZ

4.8.12 MCAG

Click **here** for detailed documentation.

The following *variants* are provided:

- MCAG 12 Earth
- MCAG 12 Single Phase
- MCAG 13 Earth
- MCAG 13 Singe Phase
- MCAG 14
  - MCAG 14 0.5A
  - MCAG 14 1A
  - MCAG 14 5A
- MCAG 19 Earth
- MCAG 19 Single Phase
- MCAG 32
- MCAG 33
- MCAG 34
  - MCAG 34 0.5A
  - MCAG 34 1A
  - MCAG 34 5A
- MCAG 39

4.8.13 MCGG

Click **here** for detailed documentation.

The following *models* are provided:

- MCGG-22 Earth
- MCGG-22
- MCGG-42
- MCGG-52
- MCGG-53
- MCGG-62
- MCGG-63
- MCGG-82

4.8.14 MCSU

Click **here** for detailed documentation.

The following *models* are provided:

- MCSU

4.8.15 MCTI

Click **here** for detailed documentation.

The following *models* are provided:

- MCTI 14 K_1
- MCTI 14 K_10
- MCTI 19 10_160
- MCTI 19 20_320
- MCTI 19 5_80
- MCTI 34 K_1
- MCTI 34 K_10
- MCTI 39 10_160
- MCTI 39 20_320
- MCTI 39 5_80
- MCTI 44 K_1
- MCTI 44 K_10

4.8.16 METI

Click **here** for detailed documentation.

The following *models* are provided:

- METI 11_Ef
- METI 11_Ph
- METI 12
- METI 1x Communication
- METI 31 Communication
- METI 31

4.8.17 MVTR51

Click **here** for detailed documentation.

The following *models* are provided:

- MVTR51
- Reclosing link

4.8.18 MWTU14

Click **here** for detailed documentation.

The following *variants* are provided:

- MTWU14 - 1A
- MTWU14 - 5A

4.8.19 Micromho

Click **here** for detailed documentation.

The following *models* are provided:

- Micromho SHNB102 - 1 A
- Micromho SHNB102 - 5 A

4.8.20 Optimho

Click **here** for detailed documentation.

The following *models* are provided:

- Optimho 11x - 1 A
- Optimho 11x - 5 A
- Optimho 12x - 1 A
- Optimho 12x - 5 A
- Optimho 13x - 1 A
- Optimho 13x - 5 A

4.8.21 PSEL 3000

Click **here** for detailed documentation.

The following *models* are provided:

- PSEL 3000 1A
- PSEL 3000 5A

4.8.22 PXLC 3000

Click **here** for detailed documentation.

The following *models* are provided:

- PXLC 3000 1 amp - 50 Hz
- PXLC 3000 5 amp - 50 Hz

4.8.23 PXLN

Click **here** for detailed documentation.

The following *models* are provided:

- PXLN

4.8.24 PXLP 3000

Click **here** for detailed documentation.

The following *models* are provided:

- PXLP 3000 1 amp - 50 Hz
- PXLP 3000 5 amp - 50 Hz

4.8.25 Quadramho

Click **here** for detailed documentation.

The following *models* are provided:

- Quadramho model 1 - 1 A
- Quadramho model 1 - 5 A
- Quadramho model 2 - 1 A
- Quadramho model 2 - 5 A

4.8.26 VDG14

Click **here** for detailed documentation.

The following *models* are provided:

- VDG14 50 Hz
- VDG14 60 Hz

4.9 Generic

4.9.1 F21 Distance Mho

Click **here** for detailed documentation.

The following *models* are provided:

- F21 Distance Mho

4.9.2 F21 Distance Polygonal RX

Click **here** for detailed documentation.

The following *models* are provided:

- F21 Distance Polygonal RX

4.9.3 F21 Distance Polygonal

Click **here** for detailed documentation.

The following *models* are provided:

- F21 Distance Polygonal

4.9.4 F24 Overflux

Click **here** for detailed documentation.

The following *models* are provided:

- F24 Overflux

4.9.5 F27 Phase undervoltage

Click **here** for detailed documentation.

The following *models* are provided:

- F27 Phase undervoltage

4.9.6 F27D Positive sequence undervoltage

Click **here** for detailed documentation.

The following *models* are provided:

- F27D Positive sequence undervoltage

4.9.7 F32_F37 Under- Over-Power

Click **here** for detailed documentation.

The following *models* are provided:

- F32_F37 Under- Over-Power

4.9.8 F40 Loss of field

Click **here** for detailed documentation.

The following *models* are provided:

- F40 Loss of field

4.9.9 F46 Unbalance overcurrent

Click **here** for detailed documentation.

The following *models* are provided:

- F46 Unbalance overcurrent

4.9.10 F47 Unbalance overvoltage

Click **here** for detailed documentation.

The following *models* are provided:

- F47 Unbalance overvoltage

4.9.11 F49 Thermal image

Click **here** for detailed documentation.

The following *models* are provided:

- F49 Thermal image

4.9.12 F50BF Breaker failure

Click **here** for detailed documentation.

The following *models* are provided:

- F50BF Breaker failure

4.9.13 F50N_F51N Neutral overcurrent

Click **here** for detailed documentation.

The following *models* are provided:

- F50N_F51N Neutral overcurrent

4.9.14 F50V_F51V Voltage restraint overcurrent

Click **here** for detailed documentation.

The following *models* are provided:

- F50V_F51V Voltage restraint overcurrent

4.9.15 F50_F51 Phase overcurrent

Click **here** for detailed documentation.

The following *models* are provided:

- F50_F51 Phase overcurrent

4.9.16 F59 Phase overvoltage

Click **here** for detailed documentation.

The following *models* are provided:

- F59 Phase overvoltage

4.9.17 F59D Positive sequence overvoltage

Click **here** for detailed documentation.

The following *models* are provided:

- F59D Positive sequence overvoltage

4.9.18 F59N Neutral overvoltage

Click **here** for detailed documentation.

The following *models* are provided:

- F59N Neutral overvoltage

4.9.19 F67 Phase directional

Click **here** for detailed documentation.

The following *models* are provided:

- F67 Phase directional

4.9.20 F67N Neutral directional

Click **here** for detailed documentation.

The following *models* are provided:

- F67N Neutral directional

4.9.21 F67N_F50N_F51N Neutral directional OC

Click **here** for detailed documentation.

The following *models* are provided:

- F67N_F50N_F51N Neutral directional OC

4.9.22 F67_F50_F51 Phase directional OC

Click **here** for detailed documentation.

The following *models* are provided:

- F67_F50_F51 Phase directional OC

4.9.23 F68 OOS Power Swing

Click **here** for detailed documentation.

The following *models* are provided:

- F68 OOS Power Swing

4.9.24 F78V Vector jump

Click **here** for detailed documentation.

The following *models* are provided:

- 78V Vector jump

4.9.25 F79 Recloser

Click **here** for detailed documentation.

The following *models* are provided:

- F79 Recloser

4.9.26 F81 Frequency

Click **here** for detailed documentation.

The following *models* are provided:

- F81 Frequency

4.9.27 F81R Rate of Frequency change

Click **here** for detailed documentation.

The following *models* are provided:

- F81R Rate of Frequency change

4.9.28 F87L Line Differential (angular 1 phase)

Click **here** for detailed documentation.

The following *models* are provided:

- F87L Line Differential (angular 1 phase)

4.9.29 F87L Line Differential (angular 3 phase)

Click **here** for detailed documentation.

The following *models* are provided:

- F87L Line Differential (angular 3 phase)

4.9.30 F87L Line Differential (magnitude)

Click **here** for detailed documentation.

The following *models* are provided:

- F87L Line Differential (magnitude)

4.9.31 F87REF Restricted Earth Fault

Click **here** for detailed documentation.

The following *models* are provided:

- F87REF Restricted Earth Fault

4.9.32 F87T Transformer Differential

Click **here** for detailed documentation.

The following *models* are provided:

- F87T Transformer Differential

4.9.33 Interlink

The following *models* are provided:

- Interlink

4.9.34 Motor protection sim

Click **here** for detailed documentation.

The following *models* are provided:

- Motor protection sim

4.9.35 Motor protection

Click **here** for detailed documentation.

The following *models* are provided:

- Motor protection

4.10 NSE

4.10.1 KOMBISAVE

Click **here** for detailed documentation.

The following *models* are provided:

- KOMBISAVE RF
- KOMBISAVE RN
- KOMBISAVE RQ

4.11 Nilsen Industrial

4.11.1 Nilstat ITP

The following *models* are provided:

- C1xOx-OOOxx
- C21O1-102xx
- C21O1-103xx
- C21O2-104xx
- C21O2-105xx
- C2xOx-OOOxx
- C2xOx-xOxxx
- C3xOx-OOOxx
- C3xOx-xOxxx
- CPxOx-OOOxx
- CPxOx-xOxxx

4.12 Reyrolle

4.12.1 2DCC

Click **here** for detailed documentation.

The following *models* are provided:

- 2DCC_01
- 2DCC_05
- 2DCC_11
- 2DCC_15
- 2DCC_21
- 2DCC_25
- 2DCC_31
- 2DCC_35
- 2DCC_41
- 2DCC_45
- 2DCC_51
- 2DCC_55

4.12.2 2TJM

Click **here** for detailed documentation.

The following *variants* are provided:

- 2TJM10
  - 1xOC
  - 2xOC & EF
  - 2xOC
  - 3xOC
  - EF
- 2TJM11
  - 1xOC & HiSet
  - 2xOC & EF & HiSet
  - 2xOC & HiSet
  - 3xOC & HiSet
  - EF & HiSet
- 2TJM12

  - 1xOC_Dir
  - 2xOC & EF_Dir
  - 2xOC_Dir
  - 3xOC_Dir
  - EF_Dir
- 2TJM16
  - 1xOC_Dir & HiSet
  - 2xOC & EF_Dir & HiSet
  - 2xOC_Dir & HiSet
  - 3xOC_Dir & HiSet
  - EF_Dir & HiSet
- 2TJM20
  - 1xOC
  - 2xOC & EF
  - 2xOC
  - 3xOC
  - EF
- 2TJM21
  - 1xOC & HiSet
  - 2xOC & EF & HiSet
  - 2xOC & HiSet
  - 3xOC & HiSet
  - EF & HiSet
- 2TJM22
  - 1xOC_Dir
  - 2xOC & EF_Dir
  - 2xOC_Dir
  - 3xOC_Dir
  - EF_Dir
- 2TJM30
  - 1xOC
  - 2xOC & EF
  - 2xOC
  - 3xOC
  - EF
- 2TJM31
  - 1xOC & HiSet
  - 2xOC & EF & HiSet
  - 2xOC & HiSet
  - 3xOC & HiSet

  - EF & HiSet
- 2TJM32
  - 1xOC_Dir
  - 2xOC & EF_Dir
  - 2xOC_Dir
  - 3xOC_Dir
  - EF_Dir
- 2TJM60
  - 1xOC
  - 2xOC & EF
  - 2xOC
  - 3xOC
  - EF
- 2TJM70
  - 1xOC
  - 2xOC & EF
  - 2xOC
  - 3xOC
  - EF
- 2TJM71
  - 1xOC & HiSet
  - 2xOC & EF & HiSet
  - 2xOC & HiSet
  - 3xOC & HiSet
  - EF & HiSet
- 2TJM72
  - 1xOC_Dir
  - 2xOC & EF_Dir
  - 2xOC_Dir
  - 3xOC_Dir
  - EF_Dir

4.12.3 Argus M

Click **here** for detailed documentation.

The following *models* are provided:

- ARGUS M 7SR21
- ARGUS M 7SR22

4.12.4 Argus

Click **here** for detailed documentation.

The following *variants* are provided:

- Reyrolle ARGUS1
- Reyrolle ARGUS2
- Reyrolle ARGUS4

4.12.5 Duobias-M

Click **here** for detailed documentation.

The following *models* are provided:

- Solkor Duobias M

4.12.6 GAD

Click **here** for detailed documentation.

The following *models* are provided:

- GAD_2xOC_EF 0.05-0.45 _SEF_1A
- GAD_2xOC_EF 0.05-0.45 _SEF_5A
- GAD_2xOC_EF 0.1-0.9 _SEF_1A
- GAD_2xOC_EF 0.1-0.9 _SEF_5A
- GAD_3xOC_EF 0.05-0.45 _1A
- GAD_3xOC_EF 0.05-0.45 _5A
- GAD_3xOC_EF 0.1-0.9 _1A
- GAD_3xOC_EF 0.1-0.9 _5A
- GAD_3xOC_SEF_1A
- GAD_3xOC_SEF_5A
- GAD_Dir_3xOC_EF 0.05-0.45 _1A
- GAD_Dir_3xOC_EF 0.05-0.45 _5A
- GAD_Dir_3xOC_EF 0.1-0.9 _1A
- GAD_Dir_3xOC_EF 0.1-0.9 _5A

4.12.7 Ohmega 3xx

Click **here** for detailed documentation.

The following *models* are provided:

- Ohmega 3xx 1A
- Ohmega 3xx 2A
- Ohmega 3xx 5A

4.12.8 Ohmega 4xx

Click **here** for detailed documentation.

The following *models* are provided:

- Ohmega 4xx 1A
- Ohmega 4xx 2A
- Ohmega 4xx 5A

4.12.9 Solkor M

Click **here** for detailed documentation.

The following *models* are provided:

- Solkor M

4.12.10 Solkor N

Click **here** for detailed documentation.

The following *models* are provided:

- Solkor N

4.12.11 Solkor R Rf

Click **here** for detailed documentation.

The following *models* are provided:

- Solkor R-Rf

4.13 Schneider

4.13.1 P13x

Click **here** for detailed documentation.

The following *models* are provided:

- P13x

4.13.2 P43x

Click **here** for detailed documentation.

The following *models* are provided:

- P430C 1A
- P430C 5A
- P437 1A
- P437 5A
- P43x 1A
- P43x 5A
- P43x Communication

4.13.3 PD521

Click **here** for detailed documentation.

The following *models* are provided:

- PD521 1A
- PD521 5A
- PD521 Communication

4.13.4 PD532

Click **here** for detailed documentation.

The following *models* are provided:

- PD532 1A
- PD532 5A
- PD532 Communication

4.13.5 SEPAM 10

Click **here** for detailed documentation.

The following *models* are provided:

- Sepam-10

4.13.6 SEPAM x20

Click **here** for detailed documentation.

The following *models* are provided:

- SEPAM B21
- SEPAM B22
- SEPAM M20
- SEPAM S20
- SEPAM T20
- SEPAM x20

4.13.7 SEPAM x4x

Click **here** for detailed documentation.

The following *models* are provided:

- SEPAM G40
- SEPAM M41
- SEPAM S40
- SEPAM S4x
- SEPAM T4x
- SEPAM x4x

4.13.8 SEPAM x8x

Click **here** for detailed documentation.

The following *models* are provided:

- SEPAM B8x

- SEPAM G8x
- SEPAM M8x
- SEPAM S8x
- SEPAM T8x
- SEPAM x8x

4.13.9 Sepam2000

The following *variants* are provided:

- Earth Relays
- Phase Relays

4.14 Schweitzer

4.14.1 SEL 251

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 251 1A
- SEL 251 5A

4.14.2 SEL 267

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 267 1A
- SEL 267 5A

4.14.3 SEL 279

Click **here** for detailed documentation.

The following *models* are provided:

- Reclosing link
- SEL 279

4.14.4 SEL 300G

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 300G 1A
- SEL 300G 5A

4.14.5 SEL 311A

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 311A-1A
- SEL 311A-5A

4.14.6 SEL 311B

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 311B-1A
- SEL 311B-5A

4.14.7 SEL 311C

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 311C-1A
- SEL 311C-5A

4.14.8 SEL 311L

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 311L-1A
- SEL 311L-5A

4.14.9 SEL 321

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 321-1A
- SEL 321-5A

4.14.10 SEL 351

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 351-1A-150V
- SEL 351-1A-300V
- SEL 351-5A-150V
- SEL 351-5A-300V

4.14.11 SEL 351R

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 351R-1A

4.14.12 SEL 387

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 387-1A
- SEL 387-5A

4.14.13 SEL 411L

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 411L Link

- SEL 411L-1A
- SEL 411L-5A

4.14.14 SEL 421

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 421-1A
- SEL 421-5A

4.14.15 SEL 451

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 451 1A
- SEL 451 5A

4.14.16 SEL 487E

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 487E-1A
- SEL 487E-5A

4.14.17 SEL 501

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 501-1A
- SEL 501-5A

4.14.18 SEL 551

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 551-1A
- SEL 551-5A

4.14.19 SEL 587

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 587-1A
- SEL 587-5A

4.14.20 SEL 700G

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 700G 1A
- SEL 700G 5A

4.14.21 SEL 751

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 751-1A
- SEL 751-5A

4.14.22 SEL 787

Click **here** for detailed documentation.

The following *models* are provided:

- SEL 787-1A
- SEL 787-5A

4.15 Siemens

4.15.1 7SA510

Click **here** for detailed documentation.

The following *models* are provided:

- 7SA510 1A
- 7SA510 5A

4.15.2 7SA511

Click **here** for detailed documentation.

The following *models* are provided:

- 7SA511 1A
- 7SA511 5A

4.15.3 7SA513

Click **here** for detailed documentation.

The following *models* are provided:

- 7SA513 1A
- 7SA513 5A
- 7SA513 SC 1A
- 7SA513 SC 5A

4.15.4 7SA522

Click **here** for detailed documentation.

The following *models* are provided:

- 7SA522 1A
- 7SA522 5A

4.15.5 7SA6

Click **here** for detailed documentation.

The following *models* are provided:

- 7SA6 1A
- 7SA6 5A
- 7SA6 Communication

4.15.6 7SA8

Click **here** for detailed documentation.

The following *models* are provided:

- 7SA8 1A
- 7SA8 5A

4.15.7 7SD50

Click **here** for detailed documentation.

The following *models* are provided:

- 7SD50

4.15.8 7SD511

Click **here** for detailed documentation.

The following *models* are provided:

- 7SD511

4.15.9 7SD52

Click **here** for detailed documentation.

The following *models* are provided:

- 7SD52 1A
- 7SD52 5A

4.15.10 7SD600

Click **here** for detailed documentation.

The following *models* are provided:

- 7SD600

4.15.11 7SD610

Click **here** for detailed documentation.

The following *models* are provided:

- 7SD610 1A
- 7SD610 5A
- 7SD610 Communication

4.15.12 7SD74

Click **here** for detailed documentation.

The following *models* are provided:

- 7SD74

4.15.13 7SJ41

Click **here** for detailed documentation.

The following *models* are provided:

- 7SAJ4100-2AA00

4.15.14 7SJ50

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ50_DT
- 7SJ50_IT
- 7SJ50_OL

4.15.15 7SJ511

Click **here** for detailed documentation.

The following *variants* are provided:

- V2
- V3.2
- V3

4.15.16 7SJ512

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ512_DT
- 7SJ512_DT_Dir
- 7SJ512_IT
- 7SJ512_IT_Dir

4.15.17 7SJ52

The following *models* are provided:

- 7SJ52

4.15.18 7SJ531

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ531_DT
- 7SJ531_IT

4.15.19 7SJ551

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ551

4.15.20 7SJ600

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ6001-xxAx0-0DA0
- 7SJ6005-xxAx0-0DA0

4.15.21 7SJ601

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ6011-xxAxx-0AA0
- 7SJ6011-xxAxx-0JA0
- 7SJ6011-xxAxx-0UA0
- 7SJ6015-xxAxx-0AA0
- 7SJ6015-xxAxx-0JA0
- 7SJ6015-xxAxx-0UA0

4.15.22 7SJ602

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ6021
- 7SJ6025

4.15.23 7SJ61

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ61_1A_1A EF
- 7SJ61_1A_SEF
- 7SJ61_5A_5A EF
- 7SJ61_5A_SEF

4.15.24 7SJ62

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ62_1-1A
- 7SJ62_1-5A
- 7SJ62_5-1A
- 7SJ62_5-5A

4.15.25 7SJ63

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ63_1A
- 7SJ63_5A

4.15.26 7SJ64

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ64_1-1A 50 Hz
- 7SJ64_1-1A 60 Hz
- 7SJ64_1-5A 50 Hz
- 7SJ64_1-5A 60 Hz
- 7SJ64_5-1A 50 Hz
- 7SJ64_5-1A 60 Hz
- 7SJ64_5-5A 50 Hz
- 7SJ64_5-5A 60 Hz

4.15.27 7SJ70

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ70

4.15.28 7SJ72

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ72 (2ph+E) 0
- 7SJ72 (2ph+E)1
- 7SJ72 (3ph) 0
- 7SJ72 (3ph)1

4.15.29 7SJ73

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ73 12-xAAx (2p-E)
- 7SJ73 12-xAAx (3p)
- 7SJ73 13-xxAx (2p-E)
- 7SJ73 13-xxAx (3p)
- 7SJ73 14-xxAx (2p-E)
- 7SJ73 14-xxAx (3p)
- 7SJ73 15-xxAx (2p-E)
- 7SJ73 15-xxAx (3p)
- 7SJ73 52-xAAx (2p-E)
- 7SJ73 52-xAAx (3p)
- 7SJ73 53-xxAx (2p-E)
- 7SJ73 53-xxAx (3p)
- 7SJ73 54-xxAx (2p-E)
- 7SJ73 54-xxAx (3p)
- 7SJ73 55-xxAx (2p-E)
- 7SJ73 55-xxAx (3p)

4.15.30 7SJ80

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ80_1-1A 50 Hz
- 7SJ80_1-1A 60 Hz
- 7SJ80_5-5A 50 Hz
- 7SJ80_5-5A 60 Hz

4.15.31 7SJ8x

Click **here** for detailed documentation.

The following *models* are provided:

- 7SJ8x Template 1
- 7SJ8x Template 2
- 7SJ8x Template 3

4.15.32 7SK72

Click **here** for detailed documentation.

The following *models* are provided:

- 7SK72

4.15.33 7SL32

The following *models* are provided:

- 7SL32

4.15.34 7UM62X

Click **here** for detailed documentation.

The following *models* are provided:

- Siemens 7UM62X 1 A
- Siemens 7UM62X 5 A

4.15.35 7UT512

Click **here** for detailed documentation.

The following *models* are provided:

- 7UT512

4.15.36 7UT6xx

Click **here** for detailed documentation.

The following *models* are provided:

- 7UT6xx 1A
- 7UT6xx 5A

4.15.37 7VK1440

Click **here** for detailed documentation.

The following *models* are provided:

- 7VK1440
- Reclosing link

4.15.38 R3Z24

Click **here** for detailed documentation.

The following *models* are provided:

- R3Z24

4.15.39 RN25a

Click **here** for detailed documentation.

The following *models* are provided:

- RN25a

4.15.40 RN25b

Click **here** for detailed documentation.

The following *models* are provided:

- RN25b

4.15.41 RN27b

Click **here** for detailed documentation.

The following *models* are provided:

- RN27b

4.15.42 RxAs52k

Click **here** for detailed documentation.

The following *variants* are provided:

- R2As52k
- R3As52k

4.15.43 RxAs72k

Click **here** for detailed documentation.

The following *variants* are provided:

- R2As72k
- R3As72k

4.16 Sprecher

4.16.1 SPRECON-E DD

Click **here** for detailed documentation.

The following *models* are provided:

- SPRECON-E DD

4.16.2 SPRECON-E-P DS

Click **here** for detailed documentation.

The following *models* are provided:

- SPRECON-E-P DS

4.16.3 SPRECON-E-P DSR

Click **here** for detailed documentation.

The following *models* are provided:

- SPRECON-E-P DSR

4.17 Toshiba

4.17.1 GRL100

Click **here** for detailed documentation.

The following *models* are provided:

- GRL100 1 A
- GRL100 5 A

4.17.2 GRZ100

Click **here** for detailed documentation.

The following *models* are provided:

- GRZ100 1A
- GRZ100 5A

4.18 VAMP

4.18.1 VAMP 130

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 130

4.18.2 VAMP 135

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 135

4.18.3 VAMP 140

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 140

4.18.4 VAMP 150

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 150

4.18.5 VAMP 210

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 210

4.18.6 VAMP 230

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 230

4.18.7 VAMP 245

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 245

4.18.8 VAMP 255

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 255

4.18.9 VAMP 257

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 257

4.18.10 VAMP 265

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 265

4.18.11 VAMP 40

Click **here** for detailed documentation.

The following *models* are provided:

- VAMP 40

4.18.12 VPJ 140

The following *models* are provided:

- VPJ 140

4.19 Westinghouse

4.19.1 CO

Click **here** for detailed documentation.

The following *variants* are provided:

- CO11 Extremely Inverse
- CO2 Short (60Hz)
- CO4 Long (step)
- CO5 Long
- CO7 Moderately Inverse
- CO8 Inverse
- CO9 Very Inverse

4.19.2 Hi-Lo

Click **here** for detailed documentation.

The following *variants* are provided:

- Definite
- Extremely
- Inverse
- Long
- Moderately
- Short 50Hz
- Short 60Hz
- Very Inverse

4.20 ZIV

4.20.1 8ZLS

Click **here** for detailed documentation.

The following *models* are provided:

- 8ZLS