



Sigma 2.0



Sigma 2.0 AC/DC

Product features

- Short-circuit indicator for all medium voltage networks
- Phase-selective fault indication
- Trip current values: load-dependent self-adjustment or fixed values
- Single and double flash mode for operation in radial and ring networks
- With auxiliary supply and capacitor storage available in AC/DC version

Your advantages

- No false trips due to higher harmonics
- Highly visible LED fault indication
- Retrofit ready for earth and short-circuit indicators with monitoring/control and fault direction function

The Sigma 2.0 is a phase-selective short-circuit indicator. It is designed to detect, display and remotely indicate short-circuits in medium voltage distribution networks.

The current is measured via three single-phase current sensors. By using the new sensors retrofit to more advanced indicator series is possible at any time – without changing the sensors.

There are two response criteria for short-circuit detection, fixed response value with response delay or auto-adjustment based on load current.

If the current for the selected response criterion – fixed value or self-adjustment – is exceeded, the fault-affected phase will be indicated by a bright flashing LED and remote contact will be activated. A double flashing LED signals a second fault that has occurred within the reset time, e. g. by an automatic reclose attempt and the remote contact will be reactivated.

For testing and commissioning purposes, the trip current values can be reduced to 10 A without changing the DIP switch settings.

Sigma 2.0 AC/DC

This version can be connected to auxiliary supply. If the auxiliary power drops out in the event of a fault, the LED indicator can operate using a back-up capacitor for up to 8 hours.

Technical data	Sigma 2.0
Short-circuit indicator	■
I>> short-circuit trip current	<ul style="list-style-type: none"> ■ 200, 300, 400, 600, 800, 1,000, 2,000 A ■ Self-adjustment to load current (I_L=load current): $I_L < 100 \text{ A} \rightarrow I_{>>} = 400 \text{ A}$, $I_L > 100 \text{ A} \rightarrow I_{>>} = 4 \times I_L$
tI>> response delay	40, 80 ms
Accuracy	5 % (0–630 A) 10 % (>630 A)
Indication	3 red LEDs: 3 x short-circuit (L1, L2, L3)
Remote signal/communication	1 potential-free relay contact
Remote contact	Potential-free permanent or momentary contact Contact capacity: 230 V AC/1 A/62.5 VA max.; 220 V DC/1 A/60 W max.
Reset	<ul style="list-style-type: none"> ■ By button ■ Automatic time reset: 1, 2, 4 or 8 h ■ Remote reset
Power supply	
CT powered	■
Internal power supply	Long-life lithium cell, active flashing time >900 h, shelf life ≥ 20 years AC/DC version: back-up capacitor, max. 8 h
External auxiliary supply	AC/DC version: 24–230 V AC/DC
Housing	Polycarbonate, IP40
Temperature range	–30 to +70 °C

Dimension drawing see on page 158, M3



Equipment set		Page	Accessories		Page
1 display unit			Connection to remote monitoring		
Sigma 2.0	Order no.	37-1111-101	Wall-mounted housings		
Sigma 2.0 AC/DC	Order no.	37-1121-101	External signal lamp		
3 single-phase current sensors			Disassembly clip		
			Spring clip		

Product matrix on page 14

Single-phase current sensors

For new installations on bushings

for Sigma 2.0 series, Sigma D series, ComPass series



ABB
Type:
Safelink, SafePlus, SafeRing
Ø 79,5 mm / 84 mm
Order no.
3 x 49-6025-000 or
3 x 49-6025-301



Driescher
Type:
MINEX, MINEX C, G.I.S.E.L.A.
Ø 84 mm
Order no.
49-6025-601¹⁾



EATON
Type:
XIRIA
Ø 79,5 mm / 84 mm
Order no.
3 x 49-6025-000 or
3 x 49-6025-301



Lucy Electric
Type:
AegisPlus
Ø 84 mm
Order no.
3 x 49-6025-601



Ormazabal
Type:
ga, gae, ge
Ø 84 mm
Order no.
3 x 49-6025-311



Schneider Electric
Type:
RM6
Ø 84 mm
Order no.
3 x 49-6025-301



Schneider Electric
Type:
FBX
Ø 84 mm
Order no.
1 x 49-6025-622



Siemens
Type:
8DJH (cable panel)
Ø 84 mm
Order no.
1 x 49-6025-630



Siemens
Type:
NXPLUS C, Simosec World
Ø 84 mm
Order no.
3 x 49-6025-611

For screened connectors only. Insulation level: 0.72 / 3 kV.

1) Without retaining plates. Order no. with retaining plates on request

For retrofit on insulated cables

for Sigma 2.0 series, Sigma D series, ComPass series



Conductor Ø [mm]	Cable length [m]	Order no.
15-55	3.00	49-6024-001



Conductor [mm]	Cable length [m]	Order no.
15-65	3.00	49-6024-010
15-78 (1250 A)	3.00	49-6024-130

Accessories

For short-circuit and earth fault indicators and integrated voltage detecting systems

Wall-mounted housings

for the installation of short-circuit and earth fault indicators as well as integrated voltage detecting systems outside the switchgear



W x H x D
125 x 75 x 125 mm

Order no.
49-9001-001 bottom cable entry
49-9001-002 rear cable entry



W x H x D
125 x 175 x 125 mm

Order no.
V49-9001-004-001
incl. earthing bar



W x H x D
125 x 75 x 75 mm

Order no.
49-9001-006



W x H x D
290 x 77 x 200 mm

Order no.
V49-9001-007-001
incl. earthing bar

External signal lamps

for installation outside the switchgear



3 LEDs

Order no.

5 m connection cable, with battery, for permanent contact

49-0702-005

10 m connection cable, with battery, for permanent contact

49-0702-010

15 m connection cable, with battery, for permanent contact

49-0702-015



Bicolour 3 LEDs red/green

Order no.

3 m connection cable, with battery

49-0706-001



Bicolour 1 LED red/green

Order no.

2 m connection cable, with battery, without fibre optic cable (see page 57)

49-0704-001

Installation system

for Sigma D series and ComPass series



	Order no.
Tablet for parameter setting during installation or monitoring, incl. cover, pencil, power supply and USB cable	49-6022-010

Temperature sensor PT100



	Order no.
Temperature range	-50 to +180 °C
Dimension	6 x 50 mm
Cable length	10 m (silicone, 2 ferrules)
Protection degree	IP65
	49-9090-013

Fibre optic cables



	Order no.
Fibre optic cable 3 m (standard length for short-circuit CTs)	49-0602-009
Fibre optic cable 4 m (standard length for earth fault CTs)	49-0602-001
Fibre optic cable 1,8 m (standard length for external signal lamp)	49-6007-206

Accessories for Opto series



	Order no.
Cutting tool for fibre optic cables	49-0109-003



	Order no.
Transformer with cable for top-hat rail mounting (115 V–230 V AC/24 V–48 V AC)	49-0921-002



	Order no.
Optical testing unit to excite the indicator for connection to the fibre optic cable plug	49-0109-002

Accessories for plug-in housing



	Order no.
Disassembly clip	49-9090-016
Disassembly clip for ComPass B 2.0/Bs 2.0	49-9090-017



	Order no.
Spring clip suitable for 2 mm front plate thickness (standard)	49-9090-018
Spring clip suitable for 3 mm front plate thickness	49-9090-019