IKI-22

Directional short-circuit and earth fault indicator

The IKI-22 is a combined short-circuit and earth fault indicator with direction detection. It can be operated both with and without auxiliary power and is suitable for all neutral earthings.
Variant with wiper contacts as alarm outputs.

Properties

Directional fault detection for all network types

Directional detection, indication and remote signalling of short circuits and earth faults. In compensated and isolated networks the directional earth fault is detected with the transient earth fault wiper method.

Voltage information from the Capdis voltage detecting system

The voltage signals required for directional detection are obtained from the CAPDIS® or CAPDIS-PI voltage detecting system by means of a Y-cable.

Earth fault detection without balanced core CT

The summation signal is calculated from the three phase current sensors. A balanced core CT is not required, thus minimizing the installation effort.

Operation without auxiliary power possible

Short-circuit and earth fault detection in networks with grounded neutrals are possible without connecting auxiliary power. For directional detection of earth faults in compensated and isolated networks with the transient earth fault wiper principle, an unprotected auxiliary voltage is required.

Simple operation and adjustment

Operation and display of the device are designed according to the IKI-20 family: The LCD display shows the fault type phase-selectively. For recloser applications, there is a differentiated display of the first and second fault. Two separate LEDs indicate the error direction. The parameterization is done via DIP switches behind the front cover. The test/ reset button is used to test the function and to reset an error indication.

Alarm contacts

The contacts are potential-free and designed as monostable wiper contacts.

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Variants

Item number	Description
2501991_H001	IKI-22_PF Directional short-circuit and earth fault indicator | monostable contact
2501991_H002	IKI-22_PF Directional short-circuit and earth fault indicator | bistable contact

Technical Data

Device Data

Article number	2501991_H001
Quantity unit	Piece
Product designation	IKI-22_PF Directional short-circuit and earth fault indicator | monostable contact

Controls and display

Front display	LC-Display and LEDs
Test button	✓
Red LED (1)	Error in direction of cable
Yellow LED (2)	Fehler in Richtung Sammelschiene
Buffer of power supply	Battery

Dimensions and installation

Case height x width x depth	48 x 96 x 80 mm
Cutout height x width	45 x 92 mm
Norm cutout dimensions	DIN IEC 61554:2002-08
Installation type	Panel mounting
Sheet thickness	1.5 ... 2.5 mm

Climatic conditions

Operating temperature	-25°C ... 55°C
Storage temperature	-25°C ... 70°C
Humidity	max. 95 % relative humidity at 40° C
Protection class	IP40

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Fault detection

Star point types	Isolated neutral, Short-term low-ohmic terminated neutral, Low-ohmic terminated neutral, Inductive terminated neutral
Short circuit detection I>>	✓
Directional short-circuit detection I>>	✓
Threshold current short-circuit detection I>> [A]	100, 200, 300, 400, 600, 800, 1000, 2000
Automatic response threshold Short circuit detection	-
Threshold time short-circuit detection I>> [ms]	40, 80, 150, 200
Earth short-circuit detection Ie>>	✓
Directional earth short-circuit detection Ie>>	✓
Threshold current earth short-circuit detection Ie>> [A]	40, 80, 100, 200
Threshold time earth short-circuit detection Ie>> [ms]	60, 80, 150, 200
Directional static earth fault detection Ie>;	-
Directional transient earth fault detection Ie>	✓
Threshold current transient earth fault detection 3I0 [A]	100, 200, 300, 500
Threshold voltage transient earth fault detection 3U0 [%]	20, 50
Earth fault detection via pulse locating	-
Transient fault detection IIe>	-
Step voltage monitoring	-
Fault reset	Auto, After 2h, 4h, Manually on the device, External potential-free normally open contact
Earth fault transient detection	✓
Directional earth short-circuit detection	✓

Communication

DIP switch for parameterization	✓
Modbus-RTU	-
Slave test	✓
Digital Inputs	1
Remote signalling	4 contacts Monostable Ron = 35 Ohm
Remote test	Function test including switching of the remote signalling contacts possible by connecting a potential-free normally open contact to the slave input.
Switching capacity relay	Umax 110 V AC/DC, Imax 100 mA

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Communication	
Voltage inputs	1

Auxiliary power	
Auxiliary power supply	24 … 230 V AC/DC (jeweils 15 %), needed for earth fault detection with transient algorythm
Power consumption	1 W
Insulation voltage	1 kV; 1 min
Battery type	Lithium
CT-supplied	✓
Notes on transformer supply	From 15 A three-phase

Compatible current transformers

Article number	Product designation
2512105_H001	IKI-LUG_1500 Split-Core Transducer with cable tie (set) | Ø 92mm
2512105_H003	IKI-LUG_1500 Split-Core Transducer for C-Cone-Bushings (set) | Ø 92mm
2512105_H004	IKI-LUG_1500 Split-Core Transducer for SIEMENS-Bushings (set) | Ø 92mm
2512106_H001	IKI-LUM_d92 Split-Core Transducer with cable tie (set) | Ø 92mm
2512106_H003	IKI-LUM_d92 Split-Core Transducer for C-Cone-Bushings (set) | Ø 92mm
2512106_H004	IKI-LUM_d92 Split-Core Transducer for SIEMENS-Bushings (set) | Ø 92mm

Connecting cables CTs

Article number	Product designation
3503118_S	Connecting cable set | pluggable | Length = 3,0m
3503135_S	Connecting cable set | pluggable | Length = 5,0m
3503135_S999	Connecting cable set | pluggable | Lengths on request

Accessories

Article number	Product designation
2500484	Y-cable IKI to CAPDIS | 0.4 m | 2 x system plug
2500487	Y-cable IKI to CAPDIS | 0.4 m | 2 x Sx blade plug to system plug

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Article number	Product designation
2500486_H002	Y-Cable IKI to CAPDIS | 0.4 m | Sx blade plug to system plug, decoupled

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