

The IKI-20 is suitable for the detection, indication and remote signalling of short circuits in power distribution networks. In addition, in power distribution networks with rigidly, low-resistance or short-time low-resistance grounded neutral point, the detection, indication and remote signalling of ground short-circuits is possible. Non-directional earth faults can be indicated in cleared or isolated networks.



Properties

The IKI-20 is maintenance-free because the power supply is provided by the current transformers.

Measurement functions and display

- Reliable measured value processing through independent overcurrent-time characteristic (UMZ measurement function)
- True current measurement
- Self-explanatory LCD- symbols
- additional very bright LED flashing display

Universal setting option of operating parameters

- response current and response time separately for short circuit and earth short circuit
- reset mode resp. reset time
- Relay functions duration or wiping contact

Self test

- Function test on site by means of test button or remotely controllable via auxiliary input

Operation in ring and beam network (without switching)

- Differentiated display of first and second fault event in networks with AWE

Variants

Buffering of power supply

- **IKI-20T:**
Buffering of power supply via low voltage (110 ... 230 VAC); additional capacitor buffering for at least 12 h
- **IK-20U:**
Buffering of power supply via wide range auxiliary voltage input 24 ... 230 VAC/DC, capacitor buffering
- **IK-20B:**
Buffering of power supply via integrated lithium battery (lifetime >17 years with current transformers not connected)

Relay outputs as floating transient or permanent contacts

- **IKI-20X1:**
1 relay with 1 NO contact and 1 NC contact for all faults
- **IKI-20X2:**
2 relays with 1 NC contact or 1 NO contact for short-circuit and 1 NC contact or 1 NO contact for ground fault
- **IKI-20X3**
3 relays with 1 NC contact or 1 NO contact with common root for phase-selective faults at L1, L2, L3

Variants

Item number	Description
2500971	IKI-20B1 Short-circuit / earth short-circuit indicator battery buffered 1 relay output changeover contact
2500972	IKI-20B2 Short-circuit / earth fault indicator battery buffered 2 relay outputs NC contact
2500973	IKI-20B3 Short circuit / earth fault indicator battery buffered 3 relay outputs NC contact and common root
2501972	IKI-20B2 Short-circuit / earth fault indicator battery buffered 2 relay outputs N/O contact

Item number	Description
2500974	IKI-20T1 Short-circuit / earth fault indicator capacitor-buffered auxiliary power 110 - 230 VAC 1 relay output change-over contact
2500975	IKI-20T2 Short-circuit / earth fault indicator capacitor-buffered auxiliary power 110 - 230 VAC 2 relay outputs NC contact
2500976	IKI-20T3 Short-circuit / earth fault indicator capacitor-buffered auxiliary power 110 - 230 VAC 3 relay outputs NC with common root
2501975	IKI-20T2 Short-circuit / earth fault indicator capacitor-buffered auxiliary power 110 - 230 VAC 2 relay outputs N/O contact
2501976	IKI-20T3 Short-circuit / earth fault indicator capacitor-buffered auxiliary power 110 - 230 VAC 3 relay outputs normally open with common root

Technical Data

Device data

Article number	IKI-20
Product designation	IKI-20 Short-circuit / ground short-circuit indicator

Controls and display

Red LED (1)	Collective display
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Dimensions and installation instructions

Case height x width x depth	48 x 96 x 80 mm
Cutout height x width	45 x 92 mm
Norm cutout dimensions	DIN 43700
Installation type	Panel mounting

Operating conditions

Operating temperature	-25°C ... 75°C
Storage temperature	-30°C ... 75°C
Protection class	IP40

Fault Detection

Short circuit detection I>>	✓
Threshold current short-circuit detection I>> [A]	100, 200, 300, 400, 600, 800, 1000, 2000
Threshold time short-circuit detection I>> [ms]	60, 80, 150, 200
Earth short-circuit detection Ie>>	✓

Fault Detection

Threshold current earth short-circuit detection $I_{e>>}$ [A]	40, 80, 100, 150
Threshold time earth short-circuit detection $I_{e>>}$ [ms]	60, 80, 150, 200
Fault reset	Auto, Manually on the device, After 2h, 4h, External potential-free normally open contact

Interfaces and communication

Slave test	✓
Switching capacity relay	$U_{max} = 220 \text{ Vdc}, 250 \text{ Vac}$ $I_{max} = 0,1 \text{ A}$
Relay outputs	1-3x (NC and/or NO)

Voltage supply

Insulation voltage	1 kV / 1 min
CT-supplied	✓
Notes on transformer supply	With a primary current of $\geq 5\text{A}$ through a split-core CT at the inputs L1, L2 or L3, the energy supply is made from the sensors. At primary currents $< 4\text{A}$, power is supplied from the energy buffer. With primary currents $1\text{A} < I < 5\text{A}$, a mixed supply takes place.

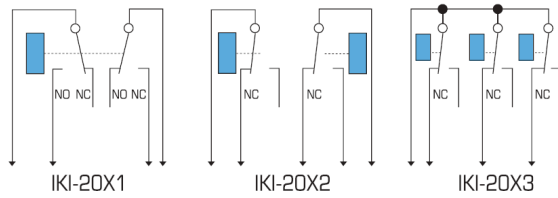
Associated current transformers

Article number	Product designation
2512104_H001	IKI-LUG split-core CT (set) directional pluggable connectors $\varnothing 92\text{mm}$
2504381_H001	Balanced core CT IKI-GSU pluggable connection $\varnothing 160\text{mm}$

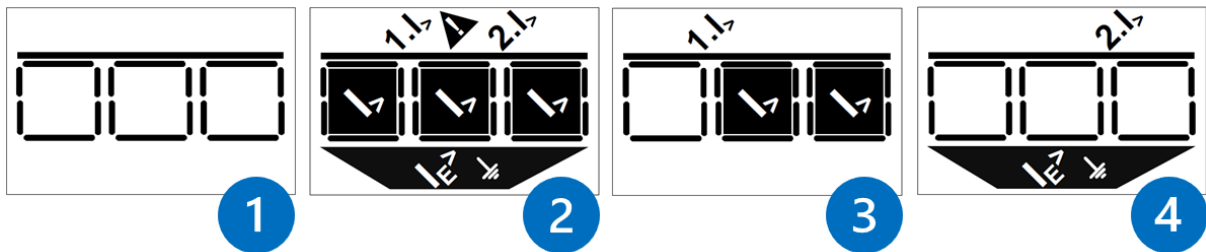
Connecting cables CTs

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

Options signal outputs



Display indication



- (1) Standby
- (2) Test or display test: all segments are active
- (3) Short circuit on L1 and L3
- (4) Ground short