

Grid-Inspector IKI-50

...for an efficient distribution network



Optimizing availability and reducing black-out times in distribution networks:

Load monitoring / measurement values

- Voltage, current, power, cos-phi, ...
- Instantaneous and mean values
- Threshold value monitoring

Fault detection

- Short-circuit (directional, non-directional)
- Earth fault detection (four independent algorithms)
- Suitable for all kind of neutral earthing systems (except sensitive earth fault detection)
- Failure forecast functionality

Remote control and automation

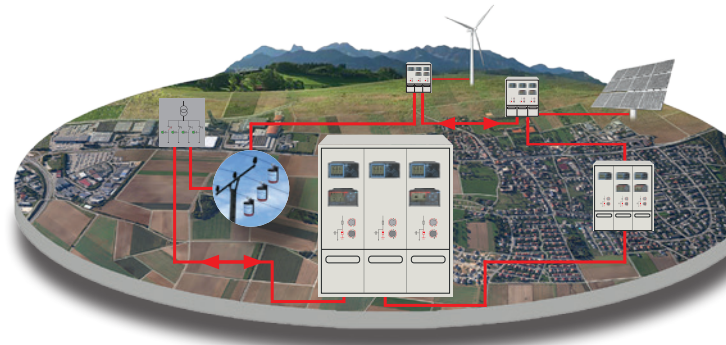
- Control capability of up to two motorized switches (four digital inputs, four digital outputs)
- Automatic switch-over functionality
- Programmable PLC functionality

IKI-50 is free of maintenance

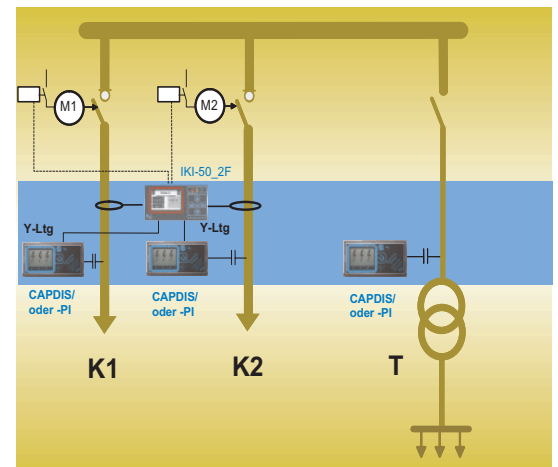
- No battery
- 6H indication buffer (internal capacitive UPS, free of maintenance)

One IKI-50 monitors all feeders of standard RMU

- IKI-50-1F monitors one feeder
- IKI-50-2F monitors two feeders (or parallel cables)
- Internal calculation of measurement values for transformer field



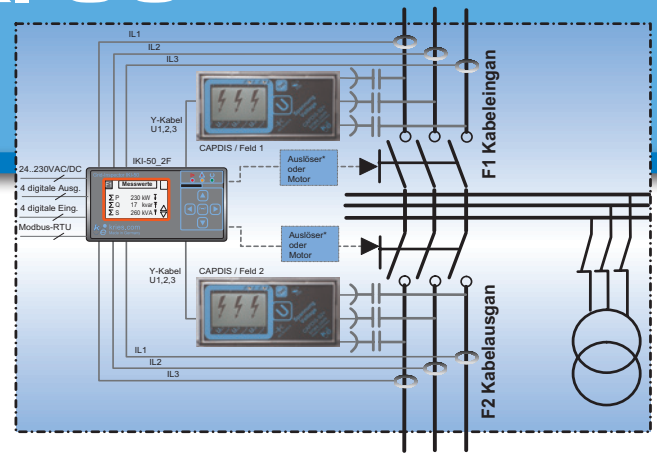
Example installation



Monitoring of ring main unit (RMU)

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Technical data

General			
Degree of protection	IP20		
Isolation voltage	1 kV, 1 Minute		
Housing	DIN 43700		
Recommended cut-out	92 x 45 mm		
Wire cross section of connecting cables	max. 2,5mm ²		
Operational temperature	-25°C...+55°C (max. 40°C during calibration)		
Storage temperature	-25°C ... +70°C		
Indication buffer	6h, internal capacitive buffer		
	Inspector IKI-50_1F for 1 Feld	Inspector IKI-50_2F for 2 Felder	Notes
Measurement values			
Residual and phase currents IO, I1, I2, I3	x	x	
Phase shift I12, I23, I31	x	x	
Residual and phase voltages U0, U1, U2, U3	x	x	
Phase-to-phase voltages U12, U23, U31	x	x	
Phase shift U12, U23, U31	x	x	
Real, reactive, apparent power and energy	x	x	
Phase shift cos-phi	x	x	
Frequency	x	x	
Mean values I, U, PQS directional	x	x	
Minimum and maximum values of mean values for I, U, PQS with automatic reset	x	x	
Minimum and maximum values of mean values for I, U, PQS with manual reset	x	x	
Internal calculation of transformer feeder or parallel cable I, PQS	-	x	
Precision of current measurement	3%	3%	referring measurement value
Precision of voltage measurement using CAPDIS as sensor	3%	3%	calibration required
Precision of voltage measurement using ohmic sensors	1%	1%	no calibration required
Measurement range current	1,5..1400A	1,5..1400A	
Inputs, outputs, interfaces			
Digital outputs, dry contact, NO / NC, max 5A	4	4	configurable by PLC logic
Digital inputs, 24 VDC	4	4	configurable by PLC logic
RS-485 with Modbus RTU-Slave	1	1	
Output for trip coil, 24 VDC, 0,1WS	2	2	
Remote test functionality	x	x	
Auxiliary power 24..230 VAC/DC, input power max. 3VA	x	x	
Current transformers, split-core	3	6	
Balanced core current transformer	1	-	Needed only for sensitive earth fault detection
Voltage input for CAPDIS	1	2	
Self-test, primary test function	x	x	
Failure forecast and fault detection			
Short-circuit (I>), directional	x	x	
Earth fault (Ie>), directional	x	x	
Sensitive earth fault (Ie> wattmetrical or varmetrical), directional	x	-	
Transient earth fault detection (Ie> W/per), directional	x	x	only version _Puls_EW
Earth fault detection with pulsation current method (Ie> Pulse)	x	x	only version _Puls_EW
Directional failure forecast function	x	x	only version _Puls_EW
Event history (1..20)	x	x	
Threshold value monitoring U, I, f, QU	x	x	
PLC programmable	x	x	
Device models			
IKI-50_1F: Basic unit	x	-	
IKI-50_2F: Basic unit	-	x	
IKI-50_1F_PULS_EW with pulsation method and transient fault detection	x	-	
IKI-50_2F_PULS_EW with pulsation method and transient fault detection	-	x	
IKI-50_1F_SW, IKI-50_1F_PULS_EW_SW	x	-	Additional interface for balanced core CT