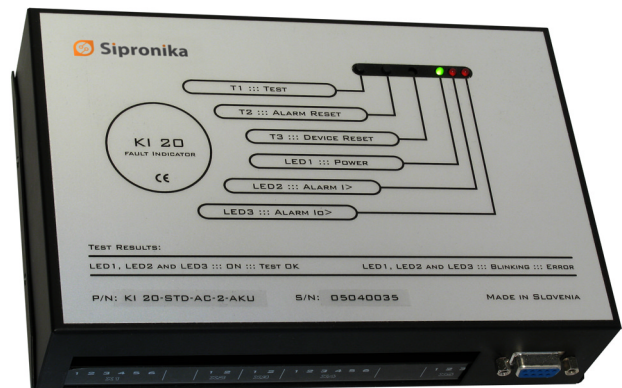


# KI 20

## Fault Current Indicator for Medium Voltage Cable Networks

### Features

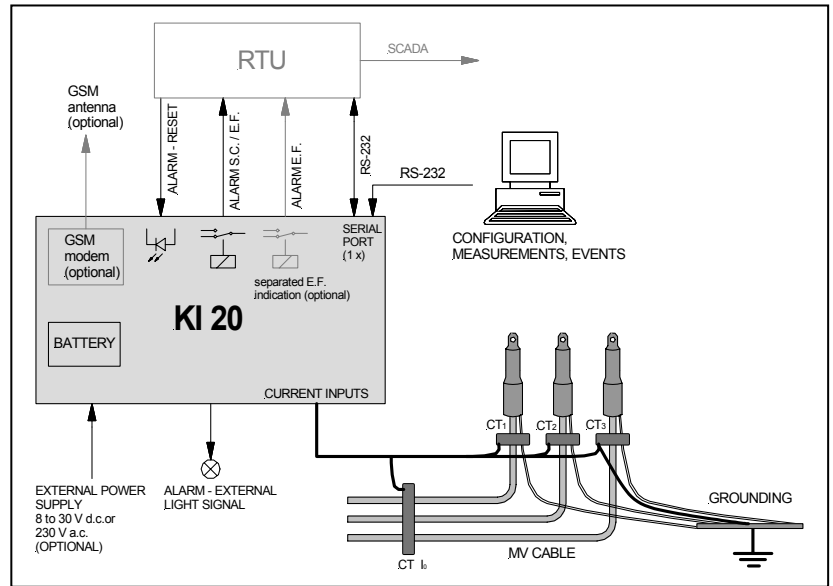
- Earth-faults ( $I_0 >$ ) and short-circuits ( $I >$ ) detection (temporary and permanent faults);
- Phase currents (L1, L2 and L3) and residual current ( $I_0$ ) value reading;
- Current transformers: 2 or 3 x 2200A/1A\*, 1 x current summation transformer 500A/1A\*; split-core type for mounting on an insulated medium-voltage cable;
- RS-232 interface for setting the parameters and for communication with SCADA RTU;
- Fault detection:
  - earth-fault sensitivity  $I_0 >$ : 5- 250 A, settable in steps by 1 A,
  - delay for earth-fault detection  $I_0 >$ : 40 ms - 64 s, settable in steps by 20 ms
  - short-circuit fault sensitivity  $I >$ : 50- 1000 A, settable in steps by 1 A,
  - delay for short-circuit fault detection  $I >$ : 40 ms - 64 s, settable in steps by 20 ms
- Fault-signalling:
  - two LED's on the casing indicating the fault type: earth-fault and/or short-circuit;
  - one or two no-voltage output relays for indication of earth-fault and short-circuit separately;
  - LED output for external light indication, 3.6 V / 20 mA;
  - RS-232 serial interface (SPA bus); events with time tags.
- Resetting possibilities:
  - by timer: 0 .. 12 hours;
  - return of the normal load-current;
  - return of the normal operating-voltage (only version with the additional auxiliary 230 Va.c. power supply);
  - Reset key;
  - external signal (8...30 V / 0.5...5 s);
  - RS-232 serial interface.
- Setting of numerous operating parameters via switch group or RS-232 interface.
- Multiple power-supply options (depends on model): 8 - 30 Vd.c., 220/230 Va.c. The supply option has to be defined by the customer at the ordering.
- Built-in GSM modem (as an option) for transmission of alarms and measured analog values;
- Casing for mounting onto a wall or on a DIN strip; dimensions: 46 x 198 x 127 (H x W x D);
- Electrical disturbance immunity standards EMC (IEC 61000-6-4, IEC 61000-6-2);
- Operating temperature range: -25 ... +55 °C\*.



\* On request, other values are possible as well.

## General Description

The **KI 20** fault current indicator is designed to locate earth-faults (phase to earth) or short-circuit (phase to phase) in cable medium-voltage networks. With the fault indicator **KI 20** it is also possible to read the measured values of line-currents and residual current via the serial port. The device is used for mounting indoors, for example in the substations or in the rooms in which the medium-voltage cables are accessible. It can be used in networks with isolated or impedance earthed neutral as well as compensated networks. Fault-current detection is based on the measurement of the lines' phase-currents and residual current. Currents are measured by split-core current transformers, mounted on an insulated section of the cable.

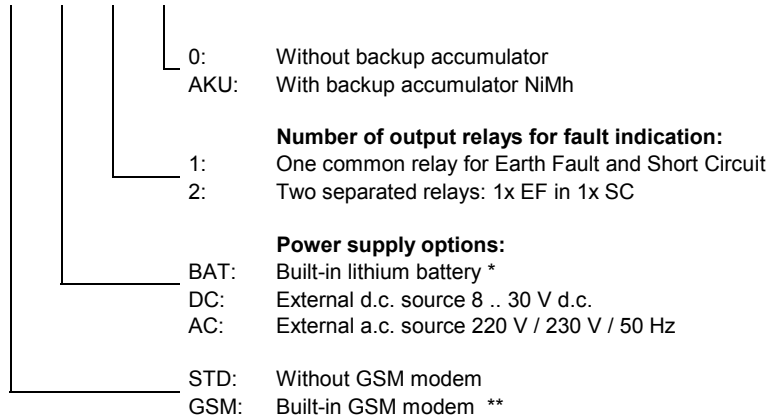


The **KI 20** indicator is a microprocessor-based measurement device with numerous possibilities of adjustment to the network operating parameters. The device can also be programmed in different ways for its' optimal integration in the distribution automation system. The programming of operating parameters is performed by means of the switch groups or by means of a personal computer via the RS-232 serial interface (SPA-bus protocol). In addition, the serial interface allows reading of all measured values, time-tagged events and some other data of the device. The **KI 20** can be easily connected to a SCADA Remote Terminal Unit (RTU) using digital signals and/or serial interface.

A **GSM** modem is (as an option) integrated inside the indicators' casing for signalling the faults to the distribution control centre or local staff (data transmission or SMS).

## Ordering codes for indicator KI 20:

**KI 20 - x - x - x - x**



\* When the device is supplied by a lithium battery, additional backup accumulator is not possible.

\*\* The model with built-in GSM modem can be supplied only by an external a.c. or d.c. source. The backup accumulator must be also included.

Examples: **KI 20-STD-DC-1-AKU** ; **KI 20-GSM-DC-2-AKU** ; **KI 20-STD-AC-2-AKU**