



**Iskra Sistemi, d. d.**

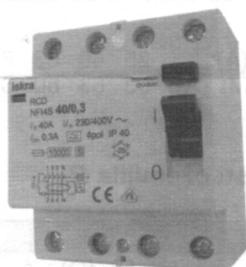
Stegne 21, 000 Ljubljana, Slovenija

**Residual Current Operated Circuit Breakers (RCCBs) - S type NFIS**

Instruction for Use

K 30 104 352

ISSUE 03



### General

The built-in elements in the S type RCCB assure delayed operation, therefore selectivity regarding a general RCCB type connected behind it is enabled. The S type RCCBs excel in high resistance against surge currents (up to 3 kA). In this way unwanted trippings are prevented. Break times and other characteristics of the S type RCCB comply with the EN 61008 standard. It should be considered that this is A type RCCB (sensitive to residual sinusoidal alternating and residual pulsating direct currents).

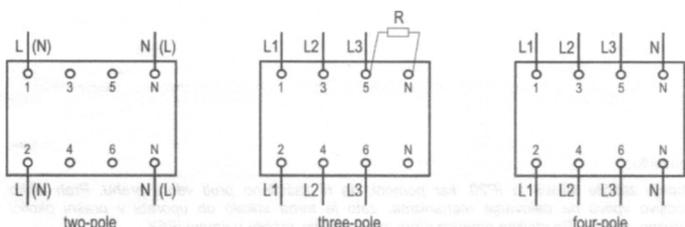
**Operating position:** optional

### Fixing

RCCBs are adapted for fixing to a 35 mm mounting rail in compliance with EN 60715.

### Connection

Supply and load sides of the RCCB are optional (above or below). The operation of two-pole RCCB does not depend on mutual interchange of phase and neutral conductor on connecting terminals of RCCB. Four-pole RCCB can be connected as two-, three- or four-pole RCCB according to the following connection diagram:



RCCB in a three-phase system without a neutral conductor:

The N terminal should be connected to terminal 5 or 6 via the R resistor, depending on the supply side, in order to keep 230 V power supply voltage of the test circuit. Test current is wrong if the value of the R resistor is incorrect or if only a wire connection is used instead. The R resistor value is 1.2 KΩ (power 2 W).

### Overload and short-circuit

Neither overload nor short-circuit protection is feasible by RCCB, which should be considered at designing installation. Maximal permitted back-up fuses for protection of the RCCB against short-circuit currents:

Rated current $I_n$ (A):	25	40	63	80	100
Back-up fuse (gL, aM) (A):	63	63	80	80	100

### Permitted earthing resistances $R_A$

$I_{\Delta n}$ (A)	0.1	0.3	0.5
$U_L$ (V)	$R_A$ ( $\Omega$ )		
50	500	166	100
25	250	83	50

### Functional test

The tripping operation is tested by pressing the T push-button. RCCB connected to line voltage and in ON position should break immediately. It is recommended to repeat the test in regular time intervals (e.g. once a month).

### Conditions for correct RCCB operation

1. Installation should comply with valid regulations for electrical installation
2. All conductors (also neutral if is available) which are necessary for the operation of the device being protected should be led through RCCB.
3. The neutral conductor on the load side of the RCCB should not be earthed or in contact with a protective conductor anywhere.
4. Complete selectivity will be assured if rated differential currents of the general RCCB types that are connected behind the S type RCCB do not exceed the third of its rated differential current.

### Warning:

The switch protection level is IP20, which means that there is no protection against dust penetration. Dust can have baleful influence on the mechanism operation therefore the switch should be correspondingly protected in dusty environment. Distribution box protection level should be at least IP5X.

Our products and packing are made of environment-friendly materials which can be recycled and reused. Neither packing or a product should be rejected as waste after expiry of its life.