

The  $R$  resistor values are:

$I_{\Delta n}$ (A)	$R$ ( $\Omega$ )	$P_{min}$ (W)
0,03	2700	2
0,1/0,3/0,5	1200	2

### Overload and short-circuit:

Neither overload nor short-circuit protection is feasible by the RCCB, which should be considered at designing of protective measures.

Maximal permitted back-up fuses for protection of the RCCB against short-circuit currents:

Rated current $I_n$ (A):	16	25	40
Back-up fuse (gG) (A):	80	80	80

### Earthing:

Exposed conductive parts of appliances being protected and a protective contact of supply socket-outlet should be earthed. Permitted earthing resistance  $R_A$  regarding permitted touch voltage  $U_L$  and rated residual operating current  $I_{\Delta n}$  of RCCB are the following:

$I_{\Delta n}$ (A)	0,03	0,1	0,3	0,5
$U_L$ (V)	$R_A$ ( $\Omega$ )			
50	1666	500	166	100
25	833	250	83	50

### Functional test of RCCB:

The tripping operation is tested by pressing the T push-button. The RCCB in ON-position and connected to line voltage should immediately break. 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 it is available) which are necessary for the operation of device being protected should be led through to 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. When more than one RCCBs are to be used in protective equipment, the neutral conductors on the load side of RCCBs should not be interconnected.
5. Only a limited number of consumers should be protected with particular RCCB for the following reasons:
  - due to selectivity of protection, as only the failed consumers are to be switched off
  - in every appliance, although faultless, certain insulation leakage currents exist. They are detected by RCCB as residual current. At larger number of appliances summary leakage current could cause undesirable breaks.

#### 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.

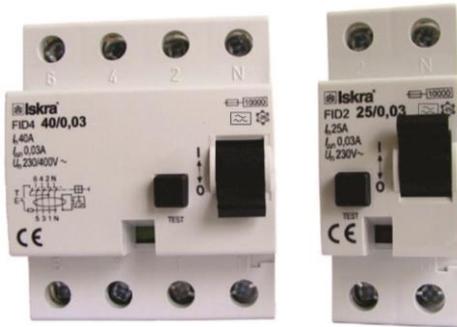
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## FID Residual Current operated Circuit Breakers (RCCBs)

### Installation and operation Instruction

K 30 104 740

EDITION 01



### Type:

RCCB is sensitive to alternating and pulsating d.c. residual currents (type A in compliance with EN 61008).

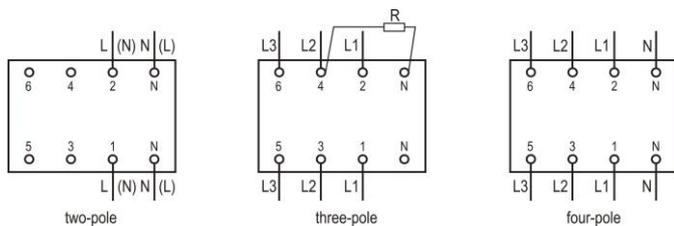
**Operating position:** optional.

### Fixing:

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

### 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. 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 3 or 4 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.