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Residual Current operated Circuit Breakers (RCDs)

Installation and operation Instruction

K 30 104 565

EDITION 04



General

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

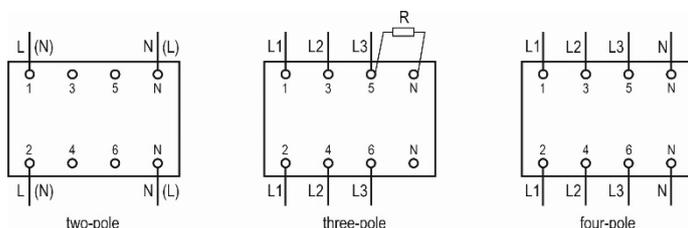
Operating position: optional

Fixing

RCDs are adapted for fixing to a 35 mm wide mounting rail in compliance with EN 60715. Terminal connections should be tightened to a torque of 2.3 Nm. DO NOT connect using power driven screwdrivers.

Connection

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



The RCD 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 built in the RCD, which should be considered when designing an installation.

The maximal permitted back-up fuses for the protection of the RCD against short-circuit currents:

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

Permitted earthing resistance R_A

$I_{\Delta n}$ (A)	0,1	0,3
U_L (V)	R_A (Ω)	
50	500	166
25	250	83

Functional test

The tripping operation is tested by pressing the T push-button. RCD connected to line voltage and in ON position should break immediately. It is recommended to repeat the test every 6 months.

Conditions for correct RCD 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 fed through RCD.
3. The neutral conductor on the load side of the RCD 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 RCD types that are connected behind the S type RCD do not exceed one third of its rated differential current.

Warning

The switch protection level is IP20. After an installation in a distribution board, protection level increases to IP40. Without any additional protective housing, the RCD may be stored and operated only in dry, dust-free environment. Corrosive atmosphere is to be avoided as well.

Our products and packing are made of environment-friendly materials which can be recycled and reused. Neither packing nor a product should be discarded as municipal waste after the end of the life cycle.