NEWSLETTER

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"Residual current circuit breaker"

Known for acronym in English (**RCCB**), also known as residual current device (**RCD, *"residual current device"***), is a component that instantly cuts an electrical circuit to prevent serious damage from an electrical shock in process. Damage can continue to occur even after receiving an impact, for example by a fall.

This electrical installation device is designed to quickly and automatically disconnect the circuit when an unbalanced current is detected.

Under normal circumstances, both conductors, line and neutral, are expected to conduct equal currents and any difference indicates a short circuit or other electrical abnormality, such as a leak, is present. A leak indicates that there is a risk of electrocution which can damage a person.

A current leak can result in electrocution damage or death, especially if current leakage passes through the human torso. A current of approximately 30mA is potentially sufficient to cause cardiac arrest or serious injury if it persists for more than a fraction of a second. RCCBs are designed to disconnect wires quickly to prevent severe damage from such events, typically described as that the RCCB is powered.

An RCD does not provide protection against damaging high and unexpected currents (called peaks or surges) when the current flows through the wires of a circuit, Therefore it can not replace a fuse or protection against overheating or the risk of fire due to overcurrent (short circuit) or short circuits if the fault does not lead to current leakage. Therefore, The RCDs are normally used or integrated as a unique product along with some type of protection circuit such as fuses or miniature protection circuit (MCB), Which adds protection in the event of an excessive current through the circuit (resulting in an RCD with overcurrent protection called RCBO).

Other denominations:

These devices have different names depending on the country, where their use is required by law, but they fulfill the function of protection of life and against fire.

EEUU and Canada: GFCI ground fault circuit interrupter, GFI ground fault interrupter o ALCI appliance leakage interrupter

United Kingdom: RCD or RCBO residual current circuit breaker with overcurrent in combination with an MCD

Australia: RCD, security switch or ELCB earth leakage circuit breaker.

Germany: FI Fehlerstromschutzschalter or fault switch

Art.Nr 09958201 RCCB with over current protection FIB 06/0,03/3+N-B NK

RCDs can not detect the situation where a human accidentally touches both drivers at the same time, since the current flow through an expected apparatus, An unspecified route or a human being, are indistinguishable if the current returns through an expected conductor

The image shows a circuit RCBO from DOEPKE® FIB for 6 amps main current, 0,03 amps (30mA) cutting current, three phases and neutral line, residual current type B and characteristic curve NK.

Contact us

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