TECHNICAL SPECIFICATION

Combined circuit breakers with residual current devices (RCD)- JEL5

Description of the operating system:

It is a combination of automatic circuit breaker and residual current electromagnetic device. It combines the properties of the two elements. The circuit breaker reacts at short circuit or overload in the protected circuit, and the electromagnetic residual current device - at failure in the conductors' insulation. It compares the magnitude of the currents through the neutral and phase conductors. The conductors are coiled on toroid and together with the secondary winding form a measurement transformer. The power conductors are coiled in such a way that the magnetic fields generated at electrical current flow through them are mutually neutralized. At failure in the insulation of some of the conductors or at presence of a person under voltage, the system is misbalanced and the magnetic fields cannot be neutralized. This residual magnetic field generates in the secondary current winding, called current leakage. When the value of this current exceeds the limit value of the residual current breaker the device breaks and the residual current device switches off from the power supply

grid. The device operates without any extra power supply to the electromagnetic residual current and is not influenced by voltage varying or decreasing.

Functions:

• switching off heavy-loaded electrical circuits at short circuit or overload

• switching off heavy-loaded electrical circuits at insulation damage of the conductors to the consumers

• switching off heavy-loaded electrical circuits at presence of a person and animals under voltage used to protect not only particular consumers/circuits, but also the whole panel

• remarkable with high reliability of current characteristics

•control: manual switching on and automatic switching off at failure in the insulation after the breaker

Technical data:

• Rated operating voltage: 230V 50 Hz

• Circuit breaker rated current: according to the table

• Residual current responsiveness: 30; 100; 300; 500mA

• Time delay until break:

□ of the residual current device: <0.1s at I Δ n and

<0.04s at 2I Δ n

□ of the circuit breaker: <0.1s

• Circuit breaker tripping curve: C

• Surge voltage wear resistance: ≥2000V

• Breaking capacity: 10000

• Joining terminal: flat (tunnel) screw terminal made of 1.5 coldly draw-plated plane Q235A

• Type of the plastic:

□ material: self-extinguishing nylon PA66

□ dielectrical strength: >18MV/m

• Contact head: silver graphite CAg(5)

• Static contact: pure copper T2Y2 type

• Electrical wear resistance (number of cycles):≥5000

• Mechanical wear resistance (number of cycles): ≥10000

• IP code: IP>20

• Indication for operating (switched on) position

• Breakers plastic material of UV rays and nonflammable

• Ambient temperature: -10°C + 65°C

• Installation altitude: up to 2000m

Connecting:

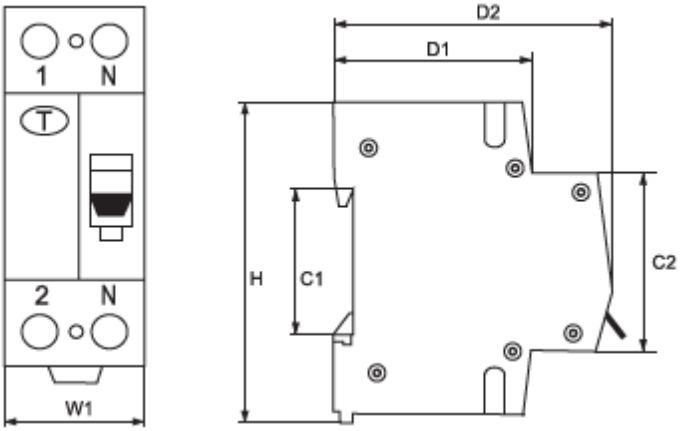
- power supply busbar (for two- or three polar)
- flexible or rigid conductors with corresponding section

Mounting:

- on DIN-rail
- mounting position: vertical

The residual current device is mounted in the distribution box, and after the device the neutral conductor and the earthing conductor must not be connected together. In order to work accurately, the device must have separate conductors for operational neutral conductor (N) and protective conductor (e.g. earthing system TN-S or TT with three or five conductors).

Dimensions:



W1	H	C1	C2	D1	D2
35	81	35	45	50	72

Variants:

Combined electronic residual device with circuit breaker 2P, 10kA

Number of poles	**Breaking capacity (kA)**	**Rated current (A)**	**Packing / box (pcs)**	Leaking current I Δ n 30 mA Catalogue number	Leaking current I Δ n 100 mA Catalogue number
2P	6	10	1/ 60	40010	40011
2P	6	16	1/ 60	40016	40017
2P	6	20	1/ 60	40020	40021
2P	6	25	1/ 60	40032	40031
2P	6	32	1/ 60	40040	40041

Number of poles	**Breaking capacity (kA)**	**Rated current (A)**	**Packing / box (pcs)**	Leaking current I Δ n 300 mA Catalogue number	Leaking current I Δ n 500 mA Catalogue number
2P	6	10	1/ 60	40013	40015
2P	6	16	1/ 60	40018	40019
2P	6	20	1/ 60	40023	40026
2P	6	25	1/ 60	40033	40035
2P	6	32	1/ 60	40043	40045

Standards: EN 61009-1

EN 61009-2