

# ELMARK<sup>®</sup>

## The Brand of Electricity

### ELECTRONIC RESIDUAL CURRENT OPERATED CIRCUIT BREAKER (RCBO)



#### DESCRIPTION OF THE OPERATING SYSTEM »

It is a combination of automatic circuit breaker and residual current electromagnetic device. It combines part of the properties of the two elements. The circuit breaker reacts at short circuit in the protected circuit, and the electromagnetic residual current device – at failure in the conductors' insulation. It compares the rate of the currents through the conductors in an electronic comparator. The residual current device operates normally at voltage feed. The voltage is needed for the comparator's energizing – a semiconductor element with constantly set leakage current rate. This rate is compared with the actual rate. When the margin of the comparison is neutral, the residual current device does not operate, but at failure in the protected circuit insulation when it exceeds the set margin it operates and switches off the protection. For the normal operation of the residual current device, the power supplying circuit voltage must be over 170V and there must be no time variation.

## 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 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 exit failure

## CONNECTING »

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

## TECHNICAL DATA »

- ∴ Rated operating voltage: 230/400V 50 Hz
- ∴ Circuit breaker rated current: according to the table
- ∴ Residual current responsiveness: 30mA
- ∴ 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: 6000A
- ∴ Joining terminal: flat (tunnel) screw terminal
- ∴ Electrical wear resistance (number of cycles): ≥500
- ∴ Mechanical wear resistance (number of cycles): ≥2000
- ∴ IP code: IP>20
- ∴ Indication for operating (switched on) position

## MOUNTING »

- ∴ on DIN-rail
- ∴ mounting position: vertical
- ∴ Breakers plastic material of UV rays and nonflammable
- ∴ Ambient temperature: -10° C + 65° C
- ∴ Installation altitude: up to 2000m
- ∴ 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).

## PRODUCT DETAILS »

- ∴ **TYPE AC FOR AC CURRENT**

Type designation	Number of poles	Breaking capacity (kA)	Rated current (A)	Leaking current I Δ n (mA)	Catalogue number
JEL 4 C10	2P	6	10	30	40211CE
JEL 4 C16	2P	6	16	30	40215CE
JEL 4 C20	2P	6	20	30	40225CE
JEL 4 C25	2P	6	25	30	40240CE
JEL 4 C32	2P	6	32	30	40265CE
JEL 4 C40	2P	6	40	30	40274CE

## ADDITIONAL INFORMATION »

Catalogue number	Barcodes	Packing / box (pcs)
40211CE	3800131236838	1 / 60
40215CE	3800131236845	1 / 60
40225CE	3800131236852	1 / 60
40240CE	3800131236869	1 / 60
40265CE	3800131236876	1 / 60
40274CE	3800131236883	1 / 60

