

## **TECHNICAL SPECIFICATION**

### **Combined circuit breakers with electronic residual current devices (RCD) - JEL4**

#### **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 semi-conductor 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

### **Technical data:**

- Rated operating voltage: 230/400V 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  $\Delta$  n and <0.04s at 2I  $\Delta$  n
  - of the circuit breaker: <0.1s
- Circuit breaker tripping curve: C
- Surge voltage wear resistance:  $\geq 2000V$
- Breaking capacity: 6000A
- Joining terminal: flat (tunnel) screw terminal
- Electrical wear resistance (number of cycles):  $\geq 500$
- Mechanical wear resistance (number of cycles):  $\geq 2000$
- IP code: IP>20
- Indication for operating (switched on) position

### **Connecting:**

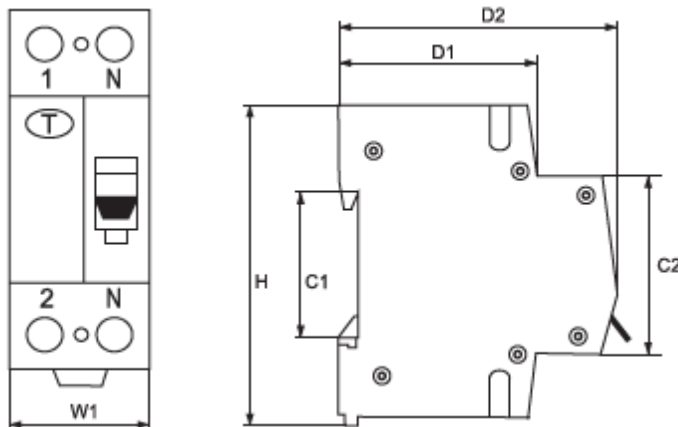
- power supply busbar (for two- or three polar)
- flexible or rigid conductors with corresponding section

### **Mounting:**

- on DIN-rail
- mounting position: vertical
- Breakers plastic material of UV rays and non-flammable
- 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).

### Dimensions:



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

### Variants:

Combined electronic residual device with circuit breaker 2P, 6Ka

Type designation	Number of poles	Breaking capacity (kA)	Rated current (A)	Packing / box (pcs)	Leaking current I <sub>Δn</sub> (mA)			
					Catalogue number			
					30	100	300	500
JEL 4 C10	2P	6	10	5 / 100	40211E	40207E	40208E	40209E
JEL 4 C16	2P	6	16	5 / 100	40215E	40245E	40235E	40237E
JEL 4 C20	2P	6	20	5 / 100	40225E	40229E	40230E	40238E
JEL 4 C25	2P	6	25	5 / 100	40240E	40204E	40246E	40268E
JEL 4 C32	2P	6	32	5 / 100	40265E	40260E	40236E	40269E
JEL 4 C40	2P	6	40	5 / 100	40274E	40270E	40273E	40275E

**Standards:** EN 61009-1

EN 61009-2

