DEKO

*More than safety*


# Product Catalogue

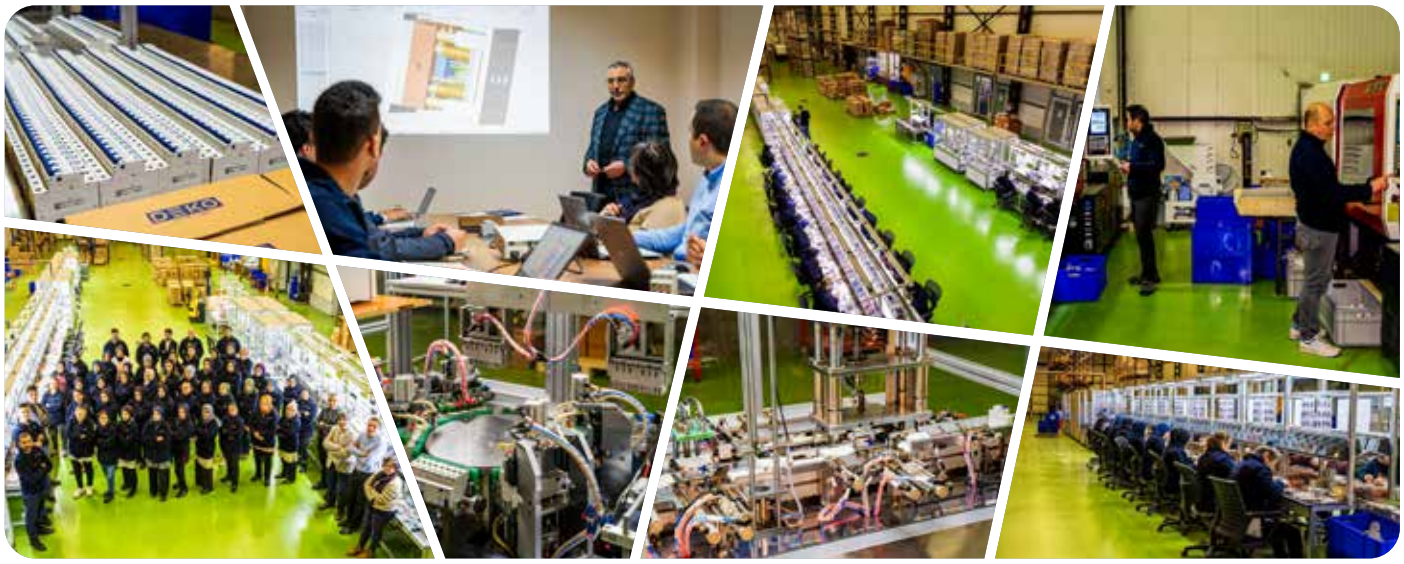
**LV Equipment & Manufacturing Solutions**


DEKO
MBC-4S
MBC041010C0222
Made in TURKIYE
IEC/EN60898-1

## COMPANY PROFILE

DEKO ELECTRIC is one of the leader MCB&RCCB Manufacturing company which established in İstanbul / Turkey. Even though DEKO is a new company, it has deep roots backed up with 27 years experience and knowledge in LV switchgear area. DEKO as a new brand in LV switchgear equipments industry, is gathering all R&D, production and sales&marketing functions under one roof with the aim of becoming a global brand and supplying to international markets.
We at DEKO ultimately believe that having a happy and satisfied customer is the most successful business model. Therefore We build lasting and trusting relationships with our customers and create value for our customers by providing world-class products and services.

DEKO gives below advantages to their cooperation partners
- 27 years sectorial experience
- Europen quality, reliable products
- Competitive prices
- Fast Delivery time



CE TÜVRheinland® **Made in Turkey**


Products and Services which were presented by DEKO
- 4.5 ka-6ka -10 kA MCB's
- 6 kA -10 kA DC MCB 's
- 80-100-125 A 10 kA MCB's
- 6kA DPN (18 mm 1P+N) MCB's
- AC, A and B type RCCB's
- Key delivery MCB and RCCB production lines and CKD part supply

# Miniature Circuit Breakers

## Function

DEKO Miniature Circuit Breakers protect circuits against short-circuit currents and overload currents as well as switch isolation. DEKO Miniature Circuit Breakers are used in domestic installation, as well as in commercial and industry electrical distribution systems.

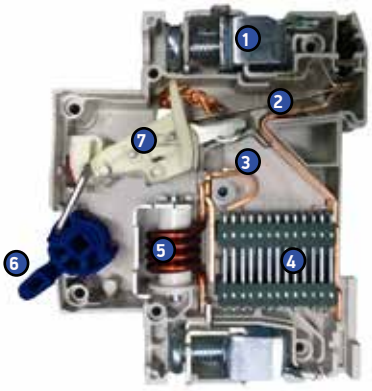
## Structure


Color coded contact position indicator provides visual indication of the device status and insulation function

Breaking capacity up to 10000A

The high quality unflam-mable, 960 °C engineering thermoplastic material

Trip-free mechanism device operation can not be defeated by holding the operator in the ON position




1. High torque terminal for line / load power.
2. Bi-metallic strip.
3. Silver alloy contact
4. Quick & Efficent arc extinguisher
5. Coil selenoid
6. Actuator level
7. Quick make actuator mechanism

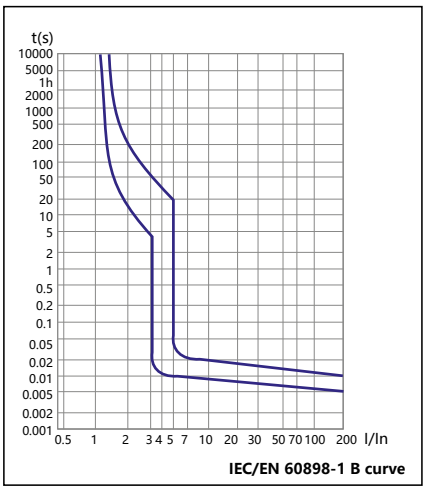
## Approvals And Standards

DEKO MCB's are comply with IEC/ EN 60898-1 and VDE 0660 standards. They are also conforming to the Low Voltage Directive (LVD) 73/23/EEC

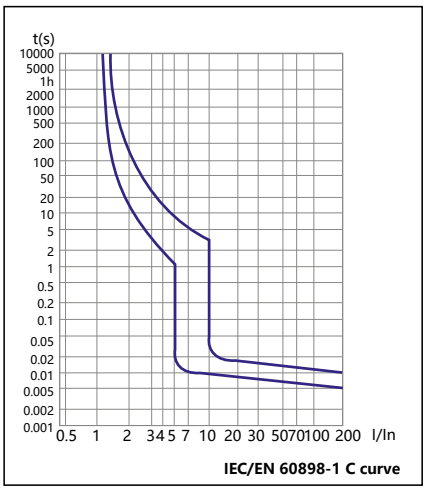
## Technical Specifications

| Type | | | MBC-4.5 | | | | MBC-6 | | | | MBD-10 | | | | MBC-H | | | | MBC-6DC | | | | MBC-10DC | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No of poles | | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | | 4 | 1 | 2 | | 4 |
| Rated nominal current (at 30°C) | In | A | 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 | | | | 1, 2, 3, 4, 5, 6, 10, 16, 20, 25, 32, 40, 50,63 | | | | 2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63 | | | | 80, 100, 125 | | | | 6, 10, 16, 20, 25, 32, 40, 50, 63 | | | | 6, 10, 16, 20, 25, 32, 40, 50, 63 | | | |
| Instantaneous tripping class | | | B : (3-5)xIn<br>C : (5-10)xIn<br>D : (10-20)xIn | | | | B : (3-5)xIn<br>C : (5-10)xIn<br>D : (10-20)xIn | | | | B : (3-5)xIn<br>C : (5-10)xIn<br>D : (10-20)xIn | | | | C : (5-10)xIn | | | | C : (7-14)xIn | | | | C : (7-14)xIn | | | |
| Rated operating voltage | Ue | AC (V) | 230/400 | | 400 | | 230/400 | | 400 | | 230/400 | | 400 | | 230/400 | | 400 | | 250 | 500 | | 1000 | 48 | 110 | | 250 |
| Power supply | | | AC | | | | AC | | | | AC | | | | AC | | | | DC | | | | DC | | | |
| Rated insulation voltage | Ui | V | 690 | | | | 690 | | | | 690 | | | | 690 | | | | 440 | | | | 440 | | | |
| Rated impulse withstanding voltage | Uimp | kV | 6 | | | | 6 | | | | 6 | | | | 6 | | | | 6 | | | | 6 | | | |
| Rated short circuit breaking capacity | Ics | kA | 4,5 | | | | 6 | | | | 10 | | | | 10 | | | | 6 | | | | 10 | | | |
| Energy limiting class | | | 3 | | | | 3 | | | | 3 | | | | 3 | | | | 3 | | | | 3 | | | |
| Electrical life (operation) | op. | 230 V | 4000 | | | | 5000 | | | | 6000 | | | | 5000 | | | | 3000 | | | | 3000 | | | |
| Mechanical life (operation) | op. | | 20000 | | | | 20000 | | | | 20000 | | | | 20000 | | | | 20000 | | | | 20000 | | | |
| Protection class | | | IP 20 | | | | IP 20 | | | | IP 20 | | | | IP 20 | | | | IP 20 | | | | IP 20 | | | |
| Operating temperature | | °C | -30 to +60 | | | | -30 to +60 | | | | -30 to +60 | | | | -30 to +60 | | | | -30 to +60 | | | | -30 to +60 | | | |
| Storage temperature | | °C | -40 to +70 | | | | -40 to +70 | | | | -40 to +70 | | | | -40 to +70 | | | | -40 to +70 | | | | -40 to +70 | | | |
| Colour | | | RAL 7035 | | | | RAL 7035 | | | | RAL 7035 | | | | RAL 7035 | | | | RAL 7035 | | | | RAL 7035 | | | |
| Assembly (EN 60715) | | | 35 mm. DIN Rail | | | | 35 mm. DIN Rail | | | | 35 mm. DIN Rail | | | | 35 mm. DIN Rail | | | | 35 mm. DIN Rail | | | | 35 mm. DIN Rail | | | |
| Min. Max. Connection section | | $mm^2$ | 1 – 25 | | | | 1 – 25 | | | | 1 – 25 | | | | 25 – 50 | | | | 1 – 25 | | | | 1 – 25 | | | |
| Max. Clamping torque | | Nm | 2,5 | | | | 2,5 | | | | 2,5 | | | | 3,5 | | | | 2,5 | | | | 2,5 | | | |

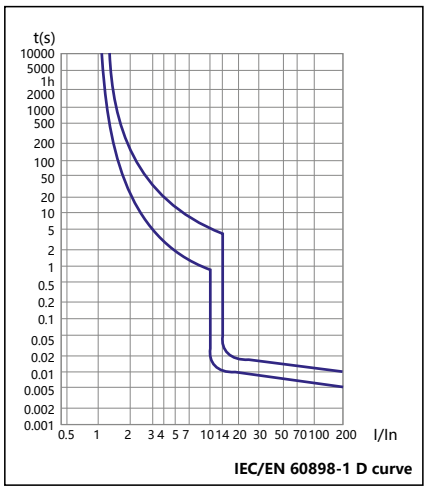
## Tripping Curves:



IEC/EN 60898-1 B curve



IEC/EN 60898-1 C curve



IEC/EN 60898-1 D curve

**B Curve (3-5In)**
Designed for cable protection. Suitable for resistive loads such as electrical heating, water heater and stoves, and long cable runs (fault loop impedance)

**C Curve (5-10In)**
Designed for medium magnetic startups. Suitable for common loads such as lighting, socket outlets, small motors.

**D Curve (10-14In)**
Designed to allow for high inrush loads. Suitable for high inrush loads such as motors, welding and spot machines, halogen, sodium vapour lambs and transformers.

## Tripping Conditions

| Magnetic Tripping Characteristic | Rated Current (In) | Test Current | Tripping Time | Result |
|---|---|---|---|---|
| B | All | 3 In | t ≥ 0,1 sec | not tripped |
| B | All | 5 In | t < 0,1 sec | tripped |
| C | All | 5 In | t ≥ 0,1 sec | not tripped |
| C | All | 10 In | t < 0,1 sec | tripped |
| D | All | 10 In | t ≥ 0,1 sec | not tripped |
| D | All | 20 In | t < 0,1 sec | tripped |

Magnetic Tripping Condition

| Rated Current (In) | Test Current | Tripping Time | Result |
|---|---|---|---|
| In ≤ 63 A | 1,13 In | t ≥ 1 hour | not tripped |
| In > 63 A | 1,13 In | t ≥ 2 hour | not tripped |
| In ≤ 63 A | 1,45 In | t < 1 hour | tripped |
| In > 63 A | 1,45 In | t < 2 hour | tripped |
| In ≤ 32 A | 2,55 In | 1 sec < t < 60 sec | tripped |
| In > 32 A | 2,55 In | 1 sec < t < 120 sec | tripped |

Thermal Tripping Condition

**Temperature Derating**

MCBs are designed and calibrated to carry their rated current and to operate within their designated thermal time/current zone at 30 °C. Testing is carried out with the breaker mounted singly in a vertical plane in a controlled environment. Therefore if the circuit breaker is required to operate in conditions which differ from the reference conditions, certain factors have to be applied to the standard data. For instance if the circuit breaker is required to operate at higher ambient temperature than 30 °C it will require progressively less current to trip within the designated time/ current zone.

You will find in below table the correction values considering the ambient temperature

| | Temperature compensation coefficient under various operational temperature. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Rated Current (A) | -35°C | -30°C | -20°C | -10°C | 0°C | 10°C | 20°C | 30°C | 40°C | 50°C | 60°C | 70°C |
| 1 | 1.30 | 1.26 | 1.23 | 1.19 | 1.15 | 1.11 | 1.05 | 1.00 | 0.96 | 0.93 | 0.88 | 0.83 |
| 2 | 2.60 | 2.52 | 2.46 | 2.38 | 2.28 | 2.20 | 2.08 | 2.00 | 1.92 | 1.86 | 1.76 | 1.66 |
| 3 | 3.90 | 3.78 | 3.69 | 3.57 | 3.42 | 3.30 | 3.12 | 3.00 | 2.88 | 2.79 | 2.64 | 2.49 |
| 4 | 5.20 | 5.04 | 4.92 | 4.76 | 4.56 | 4.40 | 4.16 | 4.00 | 3.84 | 3.76 | 3.52 | 3.32 |
| 6 | 7.80 | 7.56 | 7.38 | 7.14 | 6.84 | 6.60 | 6.24 | 6.00 | 5.76 | 5.64 | 5.28 | 4.98 |
| 10 | 13.20 | 12.70 | 12.50 | 12.00 | 11.50 | 11.10 | 10.60 | 10.00 | 9.60 | 9.30 | 8.90 | 8.40 |
| 16 | 21.12 | 20.48 | 20.00 | 19.20 | 18.40 | 17.76 | 16.96 | 16.00 | 15.36 | 14.88 | 14.24 | 13.44 |
| 20 | 26.40 | 25.60 | 25.00 | 24.00 | 23.00 | 22.20 | 21.20 | 20.00 | 19.20 | 18.60 | 17.80 | 16.8 |
| 25 | 33.00 | 32.00 | 31.25 | 30.00 | 28.75 | 27.75 | 26.50 | 25.00 | 24.00 | 23.25 | 22.25 | 21.00 |
| 32 | 42.56 | 41.28 | 40.00 | 38.72 | 37.12 | 35.52 | 33.92 | 32.00 | 30.72 | 29.76 | 28.16 | 26.88 |
| 40 | 53.20 | 51.20 | 50.00 | 48.00 | 46.40 | 44.80 | 42.40 | 40.00 | 38.40 | 37.20 | 35.60 | 33.6 |
| 50 | 67.00 | 65.50 | 63.00 | 60.50 | 58.00 | 56.00 | 53.00 | 50.00 | 48.00 | 46.50 | 44.00 | 41.50 |
| 63 | 83.79 | 81.90 | 80.01 | 76.86 | 73.71 | 70.56 | 66.78 | 63.00 | 60.48 | 58.90 | 55.44 | 52.29 |

**Power loss :**

The power loss of MCB's is closely controlled by the standards and is calculated on the basic of the voltage drop across the main terminals measured at rated current.

The table below gives the watts loss per pole at rated current.

| Rated Current (A) | Max. Power loss according to IEC/EN 60898-1 (W) | DEKO MCB's Max. Power Loss (W) | | |
|---|---|---|---|---|
| | | 4.5 kA | 6 kA | 10 kA |
| 2 | 3 | 1,7 | 1,6 | 1,4 |
| 4 | 3 | 1,8 | 1,7 | 1,5 |
| 6 | 3 | 2 | 1,9 | 1,8 |
| 10 | 3 | 2,2 | 2 | 1,9 |
| 16 | 3,5 | 2,3 | 2,2 | 2 |
| 20 | 4,5 | 2,5 | 2,4 | 2,2 |
| 25 | 4,5 | 2,8 | 2,6 | 2,4 |
| 32 | 6 | 3,5 | 3,3 | 3 |
| 40 | 7,5 | 3,7 | 3,5 | 2,3 |
| 50 | 9 | 4 | 3,8 | 2,5 |
| 63 | 13 | 5,5 | 5,3 | 5 |
| 80 | 15 | | | 7 |
| 100 | 15 | | | 8 |
| 125 | 20 | | | 10 |

### Altitude Derating

| Tripping Type | Rated Current In (A) | Current Correction Factor | | | For Example |
|---|---|---|---|---|---|
| | | ≤2000 | 2000-3000m | ≥3000m | |
| C | 1, 2, 3, 4, 6, 10, 13, 16, 20, 32, 40, 50, 63 | 1 | 0,9 | 0,8 | Rated current of 10A products rated current derating 2500m 0.9 x 10 = 9A |

### Wiring:

Apply to 25 mm² wire connection terminals. Tightening torque shouldnt be applied bigger than 2.5 Nm

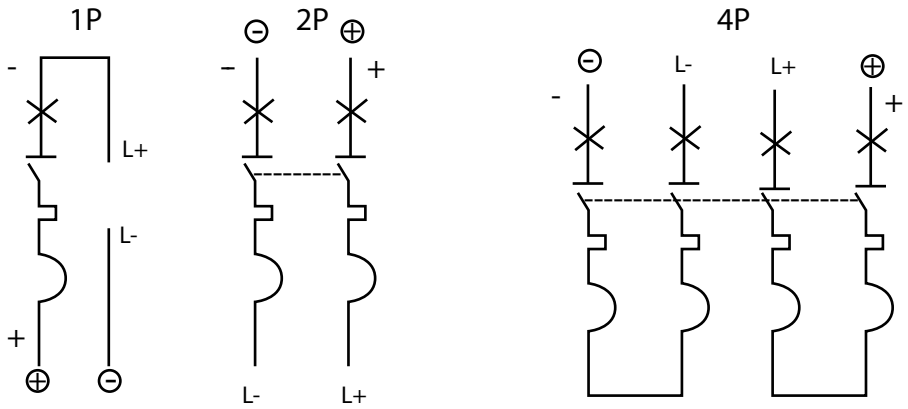
| Rated Current In (A) | Copper Wire Nominal Cross Sectional Area (mm²) |
|---|---|
| 1 ~ 6 | 1 |
| 10 | 1,5 |
| 16,20 | 2,5 |
| 25 | 4 |
| 32 | 6 |
| 40,50 | 10 |
| 63 | 16 |


### Operation In DC current

Because of their quick make and break design and excellent arc quenching capabilities DEKO Miniature circuit breakers are suitable for DC applications.

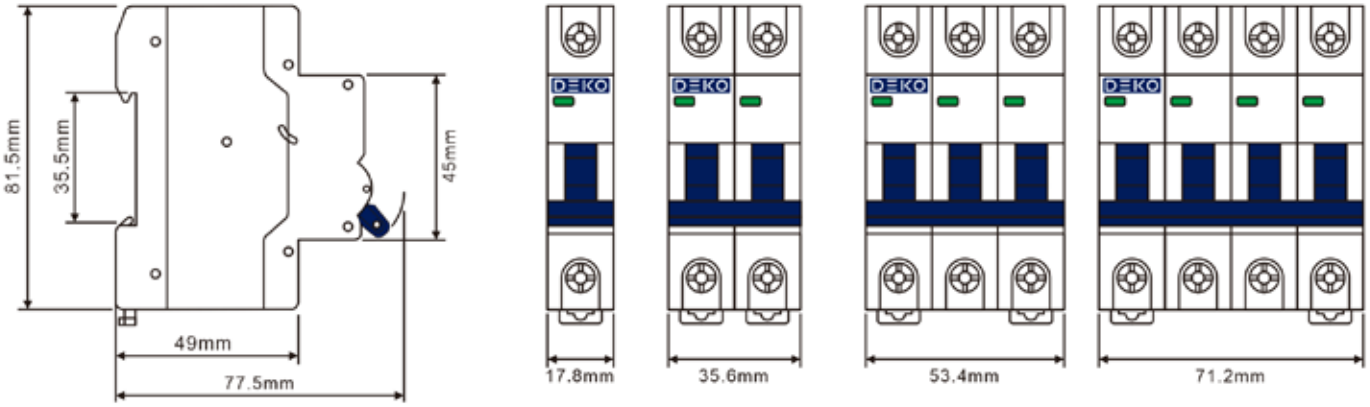
For MCBs designed to be used in alternating current but used in installations in direct current, the following should be taken into consideration:
• For protection against overloads it is necessary to connect the two poles to the MCB. In these conditions the tripping characteristic of the MCB in direct current is similar to alternating current.
• For protection against short-circuits it is necessary to connect the two poles to the MCB. In these conditions the tripping characteristic of the MCB in direct current is 40% higher than the one in alternating current.

### Connection Diagram Of DC MCB's




1. ⊕ Positive ⊖ Negative
2. L+ Load positive L- Load negative
3. Prohibrit power reversed

## Dimensions




## Ordering Tables

| DEKO MBC-4.5 SERIES 4.5 kA MINIATURE CIRCUIT BREAKERS | | | | | | |
|---|---|---|---|---|---|---|
| No Of Poles | Referance For B Curve | Referance For C Curve | Referance For D Curve | In (A) | Min. Order (pcs) | Qty/ Box |
| 1P | MBC041001B | MBC041001C | MBC041001D | 1 | 12 | 240 |
| | MBC041002B | MBC041002C | MBC041002D | 2 | 12 | 240 |
| | MBC041003B | MBC041003C | MBC041003D | 3 | 12 | 240 |
| | MBC041004B | MBC041004C | MBC041004D | 4 | 12 | 240 |
| | MBC041005B | MBC041005C | MBC041005D | 5 | 12 | 240 |
| | MBC041006B | MBC041006C | MBC041006D | 6 | 12 | 240 |
| | MBC041010B | MBC041010C | MBC041010D | 10 | 12 | 240 |
| | MBC041016B | MBC041016C | MBC041016D | 16 | 12 | 240 |
| | MBC041020B | MBC041020C | MBC041020D | 20 | 12 | 240 |
| | MBC041025B | MBC041025C | MBC041025D | 25 | 12 | 240 |
| | MBC041032B | MBC041032C | MBC041032D | 32 | 12 | 240 |
| | MBC041040B | MBC041040C | MBC041040D | 40 | 12 | 240 |
| | MBC041050B | MBC041050C | MBC041050D | 50 | 12 | 240 |
| | MBC041063B | MBC041063C | MBC041063D | 63 | 12 | 240 |
| 2P | MBC042001B | MBC042001C | MBC042001D | 1 | 6 | 120 |
| | MBC042002B | MBC042002C | MBC042002D | 2 | 6 | 120 |
| | MBC042003B | MBC042003C | MBC042003D | 3 | 6 | 120 |
| | MBC042004B | MBC042004C | MBC042004D | 4 | 6 | 120 |
| | MBC042005B | MBC042005C | MBC042005D | 5 | 6 | 120 |
| | MBC042006B | MBC042006C | MBC042006D | 6 | 6 | 120 |
| | MBC042010B | MBC042010C | MBC042010D | 10 | 6 | 120 |
| | MBC042016B | MBC042016C | MBC042016D | 16 | 6 | 120 |
| | MBC042020B | MBC042020C | MBC042020D | 20 | 6 | 120 |
| | MBC042025B | MBC042025C | MBC042025D | 25 | 6 | 120 |
| | MBC042032B | MBC042032C | MBC042032D | 32 | 6 | 120 |
| | MBC042040B | MBC042040C | MBC042040D | 40 | 6 | 120 |
| | MBC042050B | MBC042050C | MBC042050D | 50 | 6 | 120 |
| | MBC042063B | MBC042063C | MBC042063D | 63 | 6 | 120 |
| 3P | MBC043001B | MBC043001C | MBC043001D | 1 | 4 | 80 |
| | MBC043002B | MBC043002C | MBC043002D | 2 | 4 | 80 |
| | MBC043003B | MBC043003C | MBC043003D | 3 | 4 | 80 |
| | MBC043004B | MBC043004C | MBC043004D | 4 | 4 | 80 |
| | MBC043005B | MBC043005C | MBC043005D | 5 | 4 | 80 |
| | MBC043006B | MBC043006C | MBC043006D | 6 | 4 | 80 |
| | MBC043010B | MBC043010C | MBC043010D | 10 | 4 | 80 |
| | MBC043016B | MBC043016C | MBC043016D | 16 | 4 | 80 |
| | MBC043020B | MBC043020C | MBC043020D | 20 | 4 | 80 |
| | MBC043025B | MBC043025C | MBC043025D | 25 | 4 | 80 |
| | MBC043032B | MBC043032C | MBC043032D | 32 | 4 | 80 |
| | MBC043040B | MBC043040C | MBC043040D | 40 | 4 | 80 |
| | MBC043050B | MBC043050C | MBC043050D | 50 | 4 | 80 |
| | MBC043063B | MBC043063C | MBC043063D | 63 | 4 | 80 |
| 4P | MBC044001B | MBC044001C | MBC044001D | 1 | 3 | 60 |
| | MBC044002B | MBC044002C | MBC044002D | 2 | 3 | 60 |
| | MBC044003B | MBC044003C | MBC044003D | 3 | 3 | 60 |
| | MBC044004B | MBC044004C | MBC044004D | 4 | 3 | 60 |
| | MBC044005B | MBC044005C | MBC044005D | 5 | 3 | 60 |
| | MBC044006B | MBC044006C | MBC044006D | 6 | 3 | 60 |
| | MBC044010B | MBC044010C | MBC044010D | 10 | 3 | 60 |
| | MBC044016B | MBC044016C | MBC044016D | 16 | 3 | 60 |
| | MBC044020B | MBC044020C | MBC044020D | 20 | 3 | 60 |
| | MBC044025B | MBC044025C | MBC044025D | 25 | 3 | 60 |
| | MBC044032B | MBC044032C | MBC044032D | 32 | 3 | 60 |
| | MBC044040B | MBC044040C | MBC044040D | 40 | 3 | 60 |
| | MBC044050B | MBC044050C | MBC044050D | 50 | 3 | 60 |
| | MBC044063B | MBC044063C | MBC044063CD | 63 | 3 | 60 |

## DEKO MBC-6 SERIES 6 kA MINIATURE CIRCUIT BREAKERS

| No Of Poles | Referance For B Curve | Referance For C Curve | Referance For D Curve | In (A) | Min. Order (pcs) | Qty/ Box |
|---|---|---|---|---|---|---|
| 1P | MBC061001B | MBC061001C | MBC061001D | 1 | 12 | 240 |
| | MBC061002B | MBC061002C | MBC061002D | 2 | 12 | 240 |
| | MBC061003B | MBC061003C | MBC061003D | 3 | 12 | 240 |
| | MBC061004B | MBC061004C | MBC061004D | 4 | 12 | 240 |
| | MBC061005B | MBC061005C | MBC061005D | 5 | 12 | 240 |
| | MBC061006B | MBC061006C | MBC061006D | 6 | 12 | 240 |
| | MBC061010B | MBC061010C | MBC061010D | 10 | 12 | 240 |
| | MBC061016B | MBC061016C | MBC061016D | 16 | 12 | 240 |
| | MBC061020B | MBC061020C | MBC061020D | 20 | 12 | 240 |
| | MBC061025B | MBC061025C | MBC061025D | 25 | 12 | 240 |
| | MBC061032B | MBC061032C | MBC061032D | 32 | 12 | 240 |
| | MBC061040B | MBC061040C | MBC061040D | 40 | 12 | 240 |
| | MBC061050B | MBC061050C | MBC061050D | 50 | 12 | 240 |
| | MBC061063B | MBC061063C | MBC061063D | 63 | 12 | 240 |
| 2P | MBC062001B | MBC062001C | MBC062001D | 1 | 6 | 120 |
| | MBC062002B | MBC062002C | MBC062002D | 2 | 6 | 120 |
| | MBC062003B | MBC062003C | MBC062003D | 3 | 6 | 120 |
| | MBC062004B | MBC062004C | MBC062004D | 4 | 6 | 120 |
| | MBC062005B | MBC062005C | MBC062005D | 5 | 6 | 120 |
| | MBC062006B | MBC062006C | MBC062006D | 6 | 6 | 120 |
| | MBC062010B | MBC062010C | MBC062010D | 10 | 6 | 120 |
| | MBC062016B | MBC062016C | MBC062016D | 16 | 6 | 120 |
| | MBC062020B | MBC062020C | MBC062020D | 20 | 6 | 120 |
| | MBC062025B | MBC062025C | MBC062025D | 25 | 6 | 120 |
| | MBC062032B | MBC062032C | MBC062032D | 32 | 6 | 120 |
| | MBC062040B | MBC062040C | MBC062040D | 40 | 6 | 120 |
| | MBC062050B | MBC062050C | MBC062050D | 50 | 6 | 120 |
| | MBC062063B | MBC062063C | MBC062063D | 63 | 6 | 120 |
| 3P | MBC063001B | MBC063001C | MBC063001D | 1 | 4 | 80 |
| | MBC063002B | MBC063002C | MBC063002D | 2 | 4 | 80 |
| | MBC063003B | MBC063003C | MBC063003D | 3 | 4 | 80 |
| | MBC063004B | MBC063004C | MBC063004D | 4 | 4 | 80 |
| | MBC063005B | MBC063005C | MBC063005D | 5 | 4 | 80 |
| | MBC063006B | MBC063006C | MBC063006D | 6 | 4 | 80 |
| | MBC063010B | MBC063010C | MBC063010D | 10 | 4 | 80 |
| | MBC063016B | MBC063016C | MBC063016D | 16 | 4 | 80 |
| | MBC063020B | MBC063020C | MBC063020D | 20 | 4 | 80 |
| | MBC063025B | MBC063025C | MBC063025D | 25 | 4 | 80 |
| | MBC063032B | MBC063032C | MBC063032D | 32 | 4 | 80 |
| | MBC063040B | MBC063040C | MBC063040D | 40 | 4 | 80 |
| | MBC063050B | MBC063050C | MBC063050D | 50 | 4 | 80 |
| | MBC063063B | MBC063063C | MBC063063D | 63 | 4 | 80 |
| 4P | MBC064001B | MBC064001C | MBC064001D | 1 | 3 | 60 |
| | MBC064002B | MBC064002C | MBC064002D | 2 | 3 | 60 |
| | MBC064003B | MBC064003C | MBC064003D | 3 | 3 | 60 |
| | MBC064004B | MBC064004C | MBC064004D | 4 | 3 | 60 |
| | MBC064005B | MBC064005C | MBC064005D | 5 | 3 | 60 |
| | MBC064006B | MBC064006C | MBC064006D | 6 | 3 | 60 |
| | MBC064010B | MBC064010C | MBC064010D | 10 | 3 | 60 |
| | MBC064016B | MBC064016C | MBC064016D | 16 | 3 | 60 |
| | MBC064020B | MBC064020C | MBC064020D | 20 | 3 | 60 |
| | MBC064025B | MBC064025C | MBC064025D | 25 | 3 | 60 |
| | MBC064032B | MBC064032C | MBC064032D | 32 | 3 | 60 |
| | MBC064040B | MBC064040C | MBC064040D | 40 | 3 | 60 |
| | MBC064050B | MBC064050C | MBC064050D | 50 | 3 | 60 |
| | MBC064063B | MBC064063C | MBC064063CD | 63 | 3 | 60 |

## DEKO MBD-10 SERIES 10 kA MINIATURE CIRCUIT BREAKERS

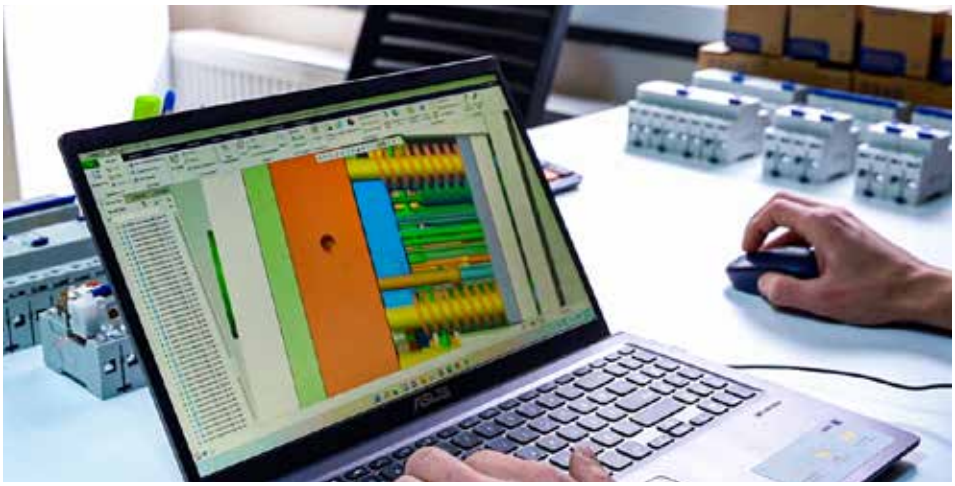
| No Of Poles | Referance For B Curve | Referance For C Curve | Referance For D Curve | In (A) | Min. Order (pcs) | Qty/ Box |
|---|---|---|---|---|---|---|
| 1P | MBD101001B | MBD101001C | MBD101001D | 1 | 12 | 240 |
| | MBD101002B | MBD101002C | MBD101002D | 2 | 12 | 240 |
| | MBD101003B | MBD101003C | MBD101003D | 3 | 12 | 240 |
| | MBD101004B | MBD101004C | MBD101004D | 4 | 12 | 240 |
| | MBD101005B | MBD101005C | MBD101005D | 5 | 12 | 240 |
| | MBD101006B | MBD101006C | MBD101006D | 6 | 12 | 240 |
| | MBD101010B | MBD101010C | MBD101010D | 10 | 12 | 240 |
| | MBD101016B | MBD101016C | MBD101016D | 16 | 12 | 240 |
| | MBD101020B | MBD101020C | MBD101020D | 20 | 12 | 240 |
| | MBD101025B | MBD101025C | MBD101025D | 25 | 12 | 240 |
| | MBD101032B | MBD101032C | MBD101032D | 32 | 12 | 240 |
| | MBD101040B | MBD101040C | MBD101040D | 40 | 12 | 240 |
| | MBD101050B | MBD101050C | MBD101050D | 50 | 12 | 240 |
| | MBD101063B | MBD101063C | MBD101063D | 63 | 12 | 240 |
| 2P | MBD102001B | MBD102001C | MBD102001D | 1 | 6 | 120 |
| | MBD102002B | MBD102002C | MBD102002D | 2 | 6 | 120 |
| | MBD102003B | MBD102003C | MBD102003D | 3 | 6 | 120 |
| | MBD102004B | MBD102004C | MBD102004D | 4 | 6 | 120 |
| | MBD102005B | MBD102005C | MBD102005D | 5 | 6 | 120 |
| | MBD102006B | MBD102006C | MBD102006D | 6 | 6 | 120 |
| | MBD102010B | MBD102010C | MBD102010D | 10 | 6 | 120 |
| | MBD102016B | MBD102016C | MBD102016D | 16 | 6 | 120 |
| | MBD102020B | MBC102020C | MBD102020D | 20 | 6 | 120 |
| | MBD102025B | MBD102025C | MBD102025D | 25 | 6 | 120 |
| | MBD102032B | MBD102032C | MBD102032D | 32 | 6 | 120 |
| | MBD102040B | MBD102040C | MBD102040D | 40 | 6 | 120 |
| | MBD102050B | MBD102050C | MBD102050D | 50 | 6 | 120 |
| | MBD102063B | MBD102063C | MBD102063D | 63 | 6 | 120 |
| 3P | MBD103001B | MBD103001C | MBD103001D | 1 | 4 | 80 |
| | MBD103002B | MBD103002C | MBD103002D | 2 | 4 | 80 |
| | MBD103003B | MBD103003C | MBD103003D | 3 | 4 | 80 |
| | MBD103004B | MBD103004C | MBD103004D | 4 | 4 | 80 |
| | MBD103005B | MBD103005C | MBD103005D | 5 | 4 | 80 |
| | MBD103006B | MBD103006C | MBD103006D | 6 | 4 | 80 |
| | MBD103010B | MBD103010C | MBD103010D | 10 | 4 | 80 |
| | MBD103016B | MBD103016C | MBD103016D | 16 | 4 | 80 |
| | MBD103020B | MBD103020C | MBD103020D | 20 | 4 | 80 |
| | MBD103025B | MBD103025C | MBD103025D | 25 | 4 | 80 |
| | MBD103032B | MBD103032C | MBD103032D | 32 | 4 | 80 |
| | MBD103040B | MBD103040C | MBD103040D | 40 | 4 | 80 |
| | MBD103050B | MBD103050C | MBD103050D | 50 | 4 | 80 |
| | MBD103063B | MBD103063C | MBD103063D | 63 | 4 | 80 |
| 4P | MBD104001B | MBD104001C | MBD104001D | 1 | 3 | 60 |
| | MBD104002B | MBD104002C | MBD104002D | 2 | 3 | 60 |
| | MBD104003B | MBD104003C | MBD104003D | 3 | 3 | 60 |
| | MBD104004B | MBD104004C | MBD104004D | 4 | 3 | 60 |
| | MBD104005B | MBD104005C | MBD104005D | 5 | 3 | 60 |
| | MBD104006B | MBD104006C | MBD104006D | 6 | 3 | 60 |
| | MBD104010B | MBD104010C | MBD104010D | 10 | 3 | 60 |
| | MBD104016B | MBD104016C | MBD104016D | 16 | 3 | 60 |
| | MBD104020B | MBD104020C | MBD104020D | 20 | 3 | 60 |
| | MBD104025B | MBD104025C | MBD104025D | 25 | 3 | 60 |
| | MBD104032B | MBD104032C | MBD104032D | 32 | 3 | 60 |
| | MBD104040B | MBD104040C | MBD104040D | 40 | 3 | 60 |
| | MBD104050B | MBD104050C | MBD104050D | 50 | 3 | 60 |
| | MBD104063B | MBD104063C | MBD104063D | 63 | 3 | 60 |

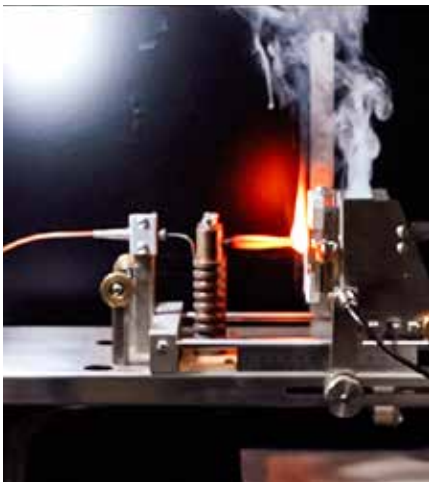
## DEKO MBC-H SERIES 10 kA MINIATURE CIRCUIT BREAKERS

| No Of Poles | Referance For B Curve | Referance For C Curve | Referance For D Curve | In (A) | Min. Order (pcs) | Qty/ Box |
|---|---|---|---|---|---|---|
| 1P | MBC0H1080B | MBC0H1080C | MBC0H1080D | 80 | 12 | 240 |
| | MBC0H1100B | MBC0H1100C | MBC0H1100D | 100 | 12 | 240 |
| | MBC0H1125B | MBC0H1125C | MBC0H1125D | 125 | 12 | 240 |
| 2P | MBC0H2080B | MBC0H2080C | MBC0H1080D | 80 | 6 | 120 |
| | MBC0H2100B | MBC0H2100C | MBC0H2100D | 100 | 6 | 120 |
| | MBC0H2125B | MBC0H2125C | MBC0H2125D | 125 | 6 | 120 |
| 3P | MBC0H3080B | MBC0H3080C | MBC0H3080D | 80 | 4 | 80 |
| | MBC0H3100B | MBC0H3100C | MBC0H3100D | 100 | 4 | 80 |
| | MBC0H3125B | MBC0H3125C | MBC0H3125D | 125 | 4 | 80 |
| 4P | MBC0H4080B | MBC0H4080C | MBC0H1080D | 80 | 3 | 60 |
| | MBC0H4100B | MBC0H4100C | MBC0H4100D | 100 | 3 | 60 |
| | MBC0H4125B | MBC0H4125C | MBC0H4125D | 125 | 3 | 60 |

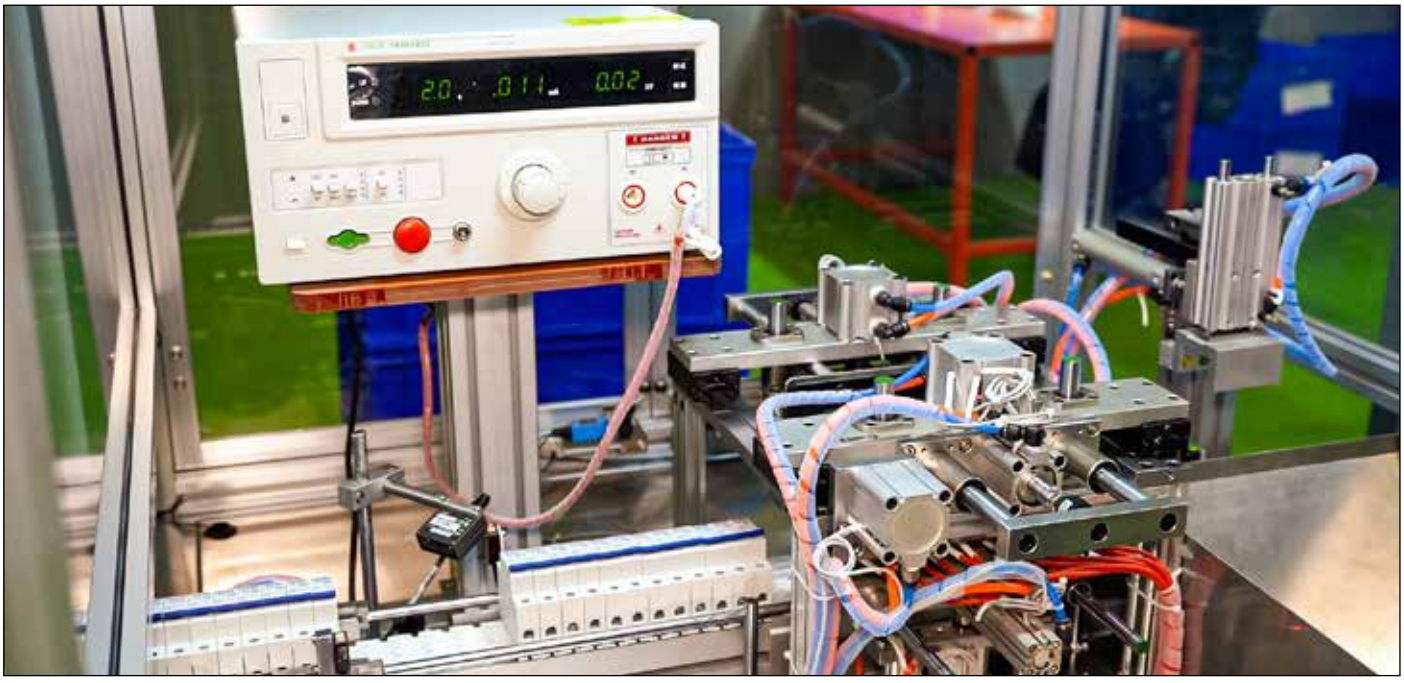
## DEKO MBC-DPN SERIES 6 kA MINIATURE CIRCUIT BREAKERS

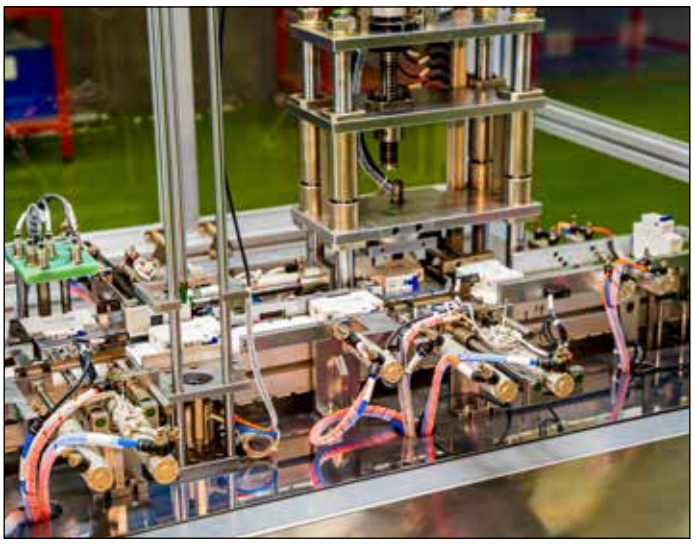
| No Of Poles | Referance For B Curve | Referance For C Curve | Referance For D Curve | In (A) | Min. Order (pcs) | Qty/ Box |
|---|---|---|---|---|---|---|
| 1P+N | MBCDP1006B | MBCDP1006C | MBCDP1006C | 6 | 12 | 240 |
| | MBCDP1010B | MBCDP1010C | MBCDP1010C | 10 | 12 | 240 |
| | MBCDP1016B | MBCDP1016C | MBCDP1016C | 16 | 12 | 240 |
| | MBCDP1020B | MBCDP1020C | MBCDP1020C | 20 | 12 | 240 |
| | MBCDP1025B | MBCDP1025C | MBCDP1025C | 25 | 12 | 240 |
| | MBCDP1032B | MBCDP1032C | MBCDP1032C | 32 | 12 | 240 |
| | MBCDP1040B | MBCDP1040C | MBCDP1040C | 40 | 12 | 240 |






DEKO



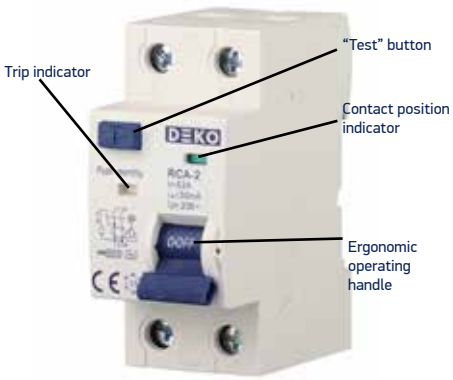


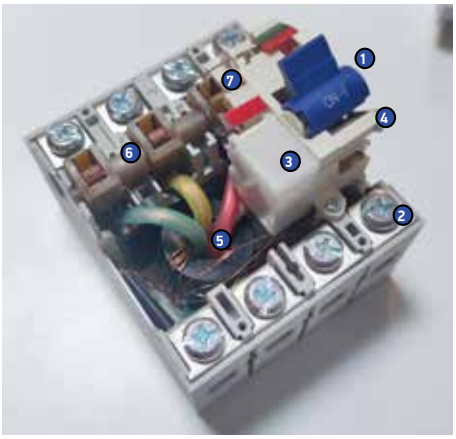
# Residual Current Circuit Breakers (RCCB)

## Function

DEKO Residual Current Circuit Breakers (RCCBs) protect people against indirect contacts and additional protection against direct contacts. Futhermore protect installations against fire hazard due to insulation faults DEKO Residual Current Circuit Breakers are used in housing installation and as well in commercial and industrial electrical distribution systems.

## Structure




1. Actuator lever
2. Clamp terminals
3. Trip relay inside cover
4. Mechanism
5. Summation current transformer
6. Rotary system of movable contacts
7. Reset button with resistance multiplier

## Approvals and Standards

DEKO RCCBs are comply with IEC/ EN 61008-1. They are also conforming to the Low Voltage Directive (LVD) 73/23/EEC

## Technical Specifications

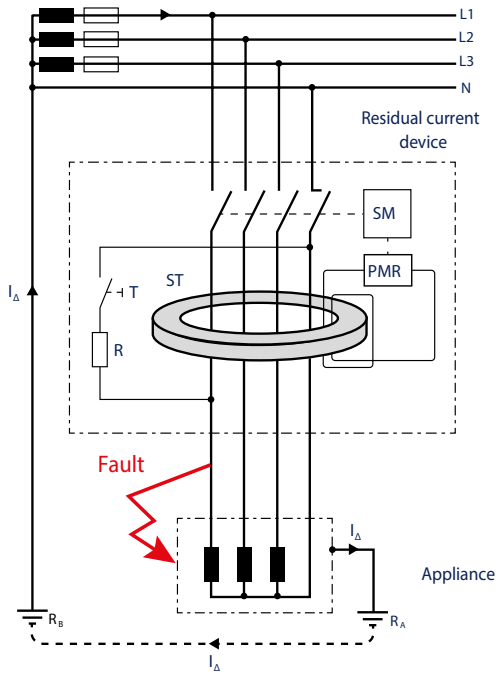
| Type | | | RCA-2/AC | RCA-4/AC | RCA-2/A | RCA-4/A | RCB-2/AC | RCB-4/AC | RCB-2/A+s | RCB-4/A+s | RCK-2 | RCK-4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No of poles | | | 2 | 4 | 2 | 4 | 2 | 4 | 2 | 4 | 2 | 4 |
| Rated current | In | A | 25,32,40,63,80,100 | | 25,32,40,63,80,100 | | 25,32,40,63,80,100 | | 25,32,40,63,80,100 | | 25,40,63 | |
| Rated residual current | IΔ | mA | 30, 100, 300 | | 30, 100, 300 | | 30, 100, 300 | | 30, 100, 300 | | 30, 300 | |
| Rated frequency | | Hz | 50-60 | | 50-60 | | 50-60 | | 50-60 | | 50-60 | |
| Type of residual current | | | AC | | A | | AC | | A | | B | |
| Tripping unit | | | Electro-mechanic | | Electro-mechanic | | Electro-mechanic | | Electro-mechanic | | Electro-mechanic | |
| Operating characteristic | | | General | | General | | General | | Delay Time Selectivity | | General | |
| Rated operating voltage | Ue | (AC) V | 230 | 400 | 230 | 400 | 230 | 400 | 230 | 400 | 230 | 400 |
| Rated insulation voltage | Ui | V | 500 | | 500 | | 500 | | 500 | | 500 | |
| Rated impulse withstand voltage | Uimp | kV | 6 | | 6 | | 6 | | 6 | | 4 | |
| Rated short circuit withstand current with fuse (Inc/IΔc) | | kA | 6 | | 6 | | 10 | | 10 | | 10 | |
| Electrical life (operation) | operation | (230 V) | 6000 | | 6000 | | 10000 | | 10000 | | 10000 | |
| Mechanical life (operation) | operation | | 20000 | | 20000 | | 20000 | | 20000 | | 2000 | |
| Degree of protection (together with box) | | | IP 20 (IP 40) | | IP 20 (IP 40) | | IP 20 (IP 40) | | IP 20 (IP 40) | | IP 20 (IP 40) | |
| Ambient operating temperature | | °C | -25 to +60 | | -25 to +60 | | -25 to +60 | | -25 to +60 | | -25 to +40 | |
| Max. storage temperature | | °C | -40 to +70 | | -40 to +70 | | -40 to +70 | | -40 to +70 | | -25 to +70 | |
| Dimensions | Width | mm | 35 | 70 | 35 | 70 | 35 | 70 | 35 | 70 | 53,5 | 71,5 |
| | Length | mm | 80 | | 80 | | 80 | | 80 | | 81,5 | |
| Colour | | | RAL 7035 | | RAL 7035 | | RAL 7035 | | RAL 7035 | | RAL 7035 | |
| Assembly type (EN 60715) | | | 35 mm DIN Rail | | 35 mm DIN Rail | | 35 mm DIN Rail | | 35 mm DIN Rail | | 35 mm DIN Rail | |
| Min. max. connection section | | mm2 | 2.5...25 | | 2.5...25 | | 2.5...25 | | 2.5...25 | | 2.5...25 | |

**Functional principle of RCCB**

Every residual current device (RCD) has three basic components;

- Toroidal current transformer
- Trip relay
- Switching mechanism.

The function of the various parts is to detect and to evaluate the residual current and to interrupt the power supply if the residual current exceeds a certain value. For correct function of an RCCB, **all live conductors of protected circuit**, or at least as many conductors as necessary for correct appliance function, **must pass through the summation transformer** An RCCB works on the principle of c**omparing currents in live conductors** passing through its summation toroidal current transformer. In normal conditions (no phase-to-ground fault), the sum total or instantaneous current values equals to zero. Magnetic flow from various working conductors are induced inside the core of the summation current transformer and the sum total of their instantaneous values equals to zero (vectorial sum). Only once earth current flows, a certain part of the current starts to flow outside the live conductors, which creates an imbalance condition. This causes excitation of a corresponding magnetic flow inside the core of the summation current transformer and the output winding generates current that will activate the trip relay and gives impulse to tripping the contacts of the RCCB.




| | |
|---|---|
| SM | switching mechanism |
| PMR | permanent magnet relay |
| ST | summation current transformer |
| T | test button |
| R | resistor |
| $I_\Delta$ | residual current |
| $R_A$ | appliance earthing resistance |
| $R_B$ | power supply earthing resistance |

TT network is used for description here, but the same applies analogously for other network types.

**Summation current transformer** is mostly designed as a ring-shaped transformer. Permaloy is used as magnetic material; newer types may use special magnetic materials with nanocrystalline structure. The core of a voltage-independent RCCB is a **trip relay with permanent magnet (PMR)**. In idle state, the relay armature is constantly held. Once current is conducted into the excitation coil, the attraction force of gravitation of the permanent magnet is weakened and the spring force will swing away the relay armature. Owing to its simplicity and proven reliability, this type of polarized relay is applied most frequently.

The **switching mechanism** of the RCCB must be sensitive and at the same time provide sufficient force on the contacts. Reliable function must be ensured in all assembly positions. Every load current path must be capable of conducting nominal current for the entire lifespan. The distance between tripped contacts must provide safe electric insulation and contacts must be protected from surge currents and short-circuits with presumed short-circuit current. It is further required that for multi-polar types, contacts for neutral conductor N must close before and open after contacts for line conductor L. The reason is limitation of unwanted surge voltage in the phases. All RCCBs must be equipped with a testing device consisting of a test button T (Test) and a resistance R, dependent on the operating voltage. The test button must be accessible by the user. By pushing it, residual current will be simulated using test resistor R, causing current to flow outside the summation transformer.

**Parameters Of RCCB**

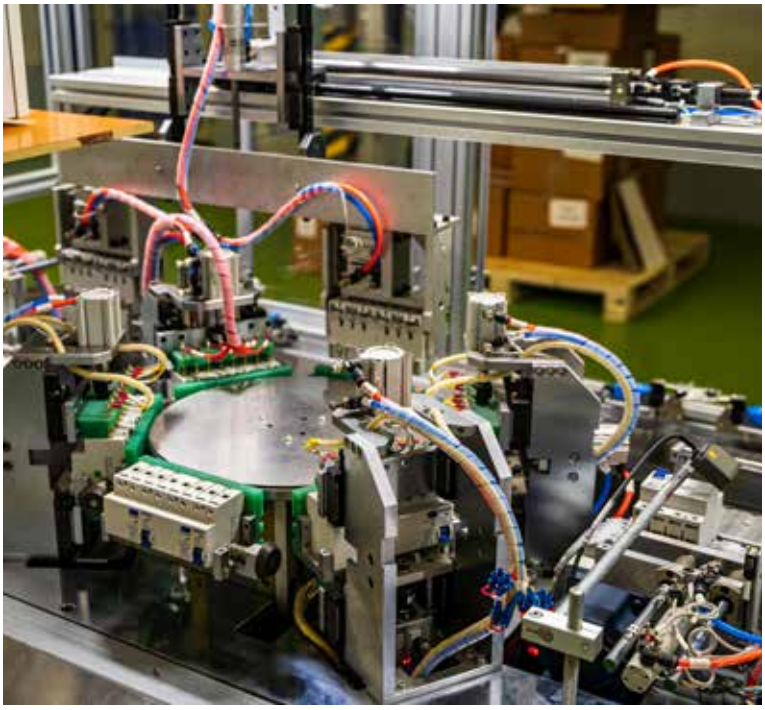
Parameters of RCDs are defined in EN 61008-1.

• **Rated residual operating current IΔn:** value of residual current specified by manufacturer, when the residual circuit breaker must, under specified conditions, trip. This value is specified on the circuit breaker with the related operating characteristics. It is the main parameter of the residual current device and the conditions of protection against hazardous contact are related to it.
• **Residual current IΔ (differential current):** effective value of resulting vector of instantaneous current values flowing through the main circuit of the RCCB. IΔ is any current valueclower, equal to or higher than IΔn.
• **Residual non-tripping current IΔno:** value of residual current,at which (including lower values), the circuit breaker, under specified conditions, will not trip. Defined by the threshold of 0.5 IΔn. Values of residual non-operating and operating current are pre-set at manufacturing plant to 0,75 IΔn.
• **Limit non-operation time tΔa (time delay):** maximum time, for which the circuit breaker may be exposed to a higher value of residual current than the nominal residual current value IΔn without actually activating it. This value characterizes RCCB s with delay type G, S and others, whereas for type G, the limit non-operation time is 10 ms, and for type S 40 ms. During the non-operation time, the residual current device does not respond to residual currents. The main parameter of a residual current device is rated residual operating current IΔn. Normalized values are 10, 30, 100, 300, 500 mA and 1 A. If the residual current achieves the value of 100 % IΔn or more, the RCD must trip. If the residual current does not reach 50 % IΔn, it must not trip. Thus, the RCD can trip from 50 to 100 % IΔn. This practically means that, given a sensitivity of RCD of 30 mA, tripping may occur as early as once the earth-leakage current of 15 mA is achieved, which causes problems in installations with higher leaking currents. This increases their applicability in circuits with higher leaking currents.
• **Rated switching and tripping ability Im:** effective value of alternating component of presumed short-circuit current, determined by manufacturer, which the RCCB can switch under specified conditions. This parameter relates to short-circuit current in live conductors.
• **Rated switching and tripping ability IΔm:** effective value of alternate component of presumed residual current, determined by manufacturer, which the RCCB can switch under specified conditions. This parameter relates to short-circuit current between live and protective conductors.
• **Tripping ability (Im, IΔm)** of the actual residual current circuit breaker RCCB without safety element is very restricted. For currents up to 40 A, this value amounts to 500 A, for In = 63 A it is 630 A, for In = 80 A it equals to 800 A and for In = 100 A the tripping ability is 1,000 A. Although the contacts are located in arc chambers, tripping times of 10 ms and above (e.g. in selective types, this value is minimally 40 ms) are too long to achieve a high short-circuit resistance of contacts. The fuse may be located anywhere on the input.
• **Conditional short-circuit resistance (Ic)** is the value of short-circuit current with preliminary fuse gG/gL, where no damage will occur to contacts.


This symbol for conditional short-circuit resistance of 10 kA with upstream (back-up) fuse with prescribed value (e.g. 63 A gG/gL)

| RCCB ($I_n$) | Short-Circuit Protection ($I_n$) |
|---|---|
| 16 A | 63 A gG/gL |
| 25 A | 63 A gG/gL |
| 40 A | 63 A gG/gL |
| 63 A | 63 A gG/gL |
| 80 A | 80 A gG/gL |
| 100 A | 100 A gG/gL |

Tab. 1 Maximum fuse value for short-circuit protection



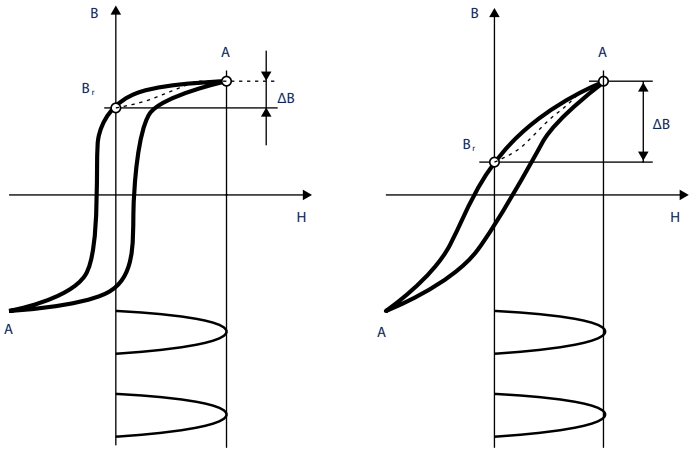
**Sensivity to vairous types of residual currents**
According to sensitivity to various types of residual currents, the RCCBs are typically subdivided to types AC, A and B. With increasing requirements of practice, this scale is gradually extended and types A and B have also several other variants.

• **Type AC** are intended only for alternating residual currents. Pulsating direct current (DC) components of residual current may result in lowered reaction sensitivity or blocking of their tripping function (as per IEC/EN 61008).

• **Type A** for alternating and pulsating direct currents, possibly including the presence of a small value of smooth direct residual current up to 6 mA (as per IEC/EN 61008).

• **Type B** for all types of residual current, i.e. alternating, pulsating direct and smooth direct residual currents (IEC/ EN 62423). Direct residual currents may occur in industrial and commercial installations (and/or even in residential installations), where frequency inverters, photovoltaic power plants and other equipment with power semiconductor elements are applied.

The fundamental difference between types AC and A consists in the type of material of the summation current transformer core.



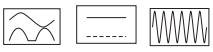

a) Type AC
Higher remanence ($B_r$)

a) Type A
Lower remanence ($B_r$)

B – magnetic induction [T]
H – magnetomotoric force [$Am^{-1}$]
A – working point for alternate current

Hysteresis curves of materials of type AC and A summation current transformers

## Types of RCD by sensitivity to types of current

| RCD type | Symbols | Sensitivity to residual current | Properties | Standards |
|---|---|---|---|---|
| **AC** |  | Alternating | Sinusoidal AC with rated frequency | IEC / EN 61008<br>IEC / EN 61009 |
| **A** |  | Alternating and pulsating direct current | Sinusoidal AC and pulsating DC up to 6 mA | IEC / EN 61008<br>IEC / EN 61009 |
| **B** |  | Alternating and pulsating direct current and flat direct current | All kinds of current up to 1 kHz | IEC / TR 60755<br>IEC / EN 62423 |

## Time Delay - Tripping Characteristics

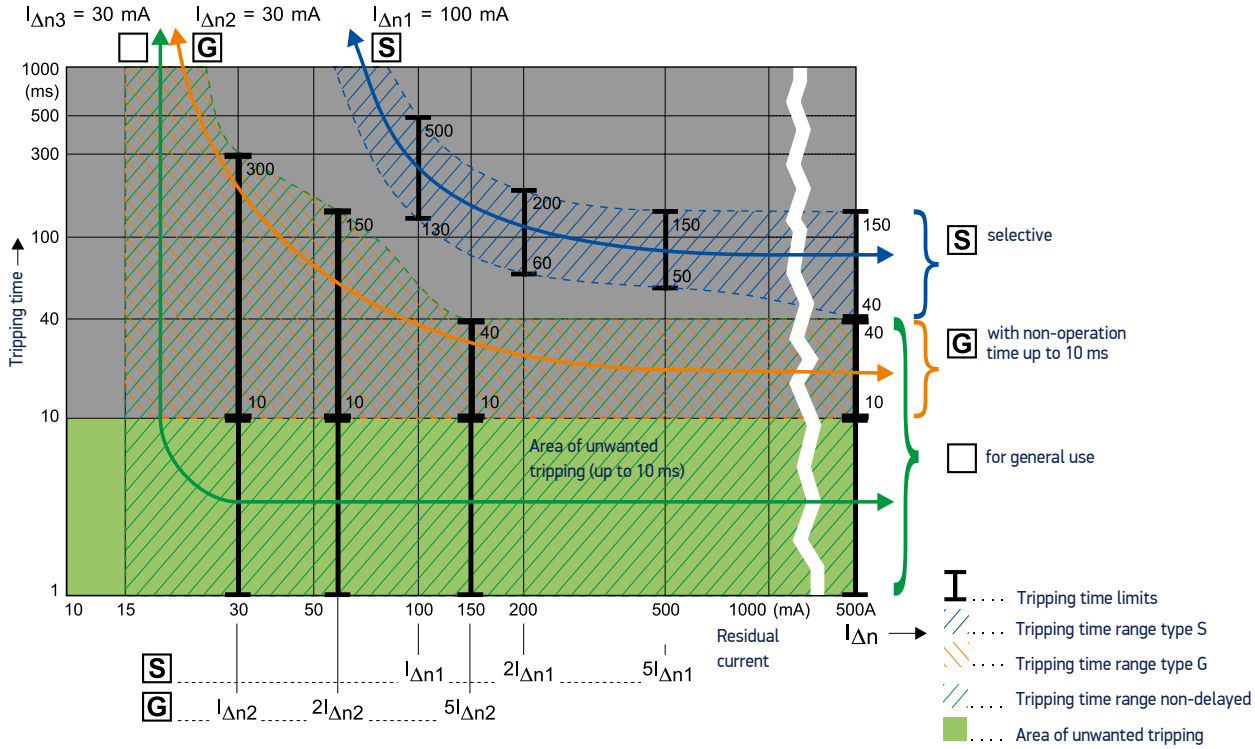
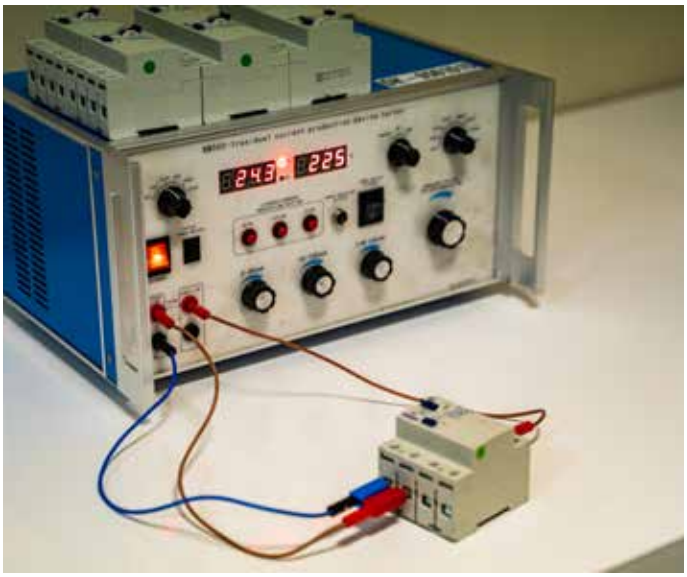



Fig. 20 Limits of tripping times

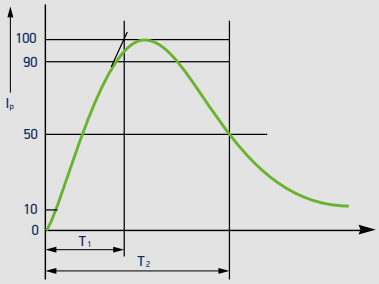
| RCD type | | Tripping times [ms] | | | |
|---|---|---|---|---|---|
| | | $I_\Delta = I_{\Delta n}$ | $I_\Delta = 2\ I_{\Delta n}$ | $I_\Delta = 5\ I_{\Delta n}$ | $I_\Delta$ = 500 A |
| □ | no delay – for general use | ≤ 300 | ≤ 150 | ≤ 40 | ≤ 40 |
| G | delayed with non-operation time min. 10 ms | 10 - 300 | 10 - 150 | 10 - 40 | 10 - 40 |
| S | selective – with non-operation time min. 40 ms | 130 - 500 | 60 - 200 | 50 - 150 | 40 - 150 |

Tab. 3 Limits of tripping times of RCDs in tests by alternating residual current

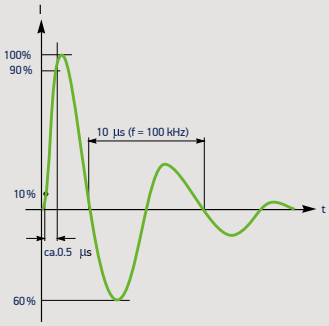


**Resistance To Transient Surge Currents**

In order to avoid nuisance tripping (unwanted tripping due to an impulse voltage) due to lightning surges, switching on high capacitance circuits and switching surges, RCCB's have a high level of immunity to transient currents.

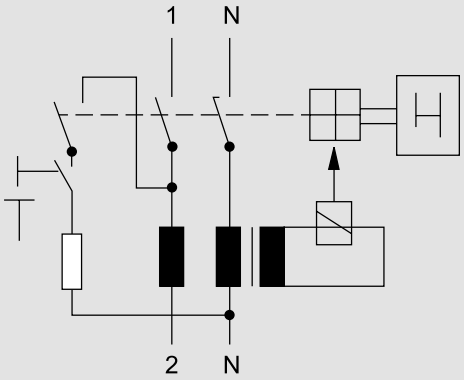


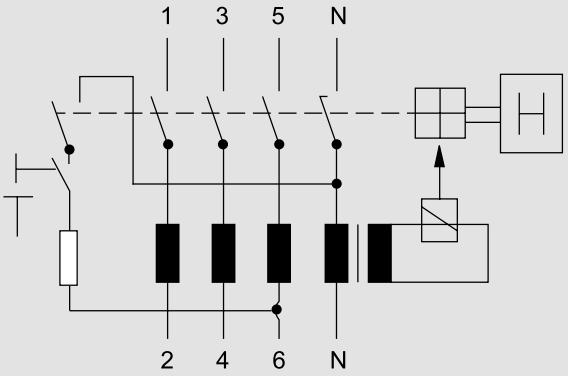

Shape of surge current wave 8/20 µs for tests of RCD resistance to unwanted tripping



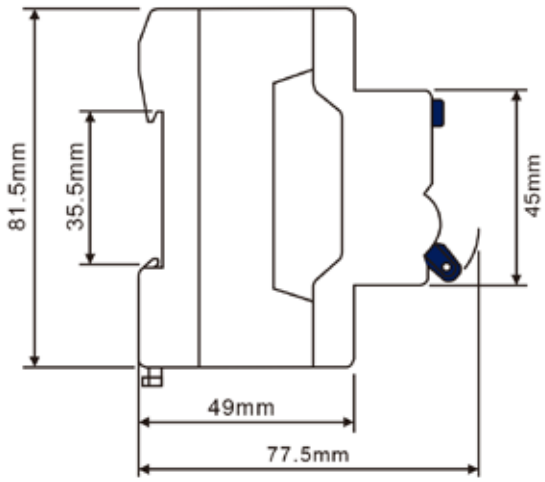

Shape of standardized damped surge current wave of 100 kHz, 100/0,5 µs

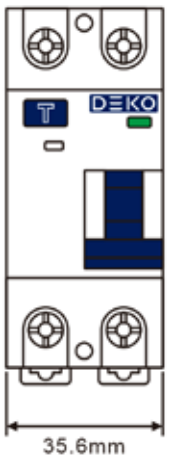
**Circuit Connection**

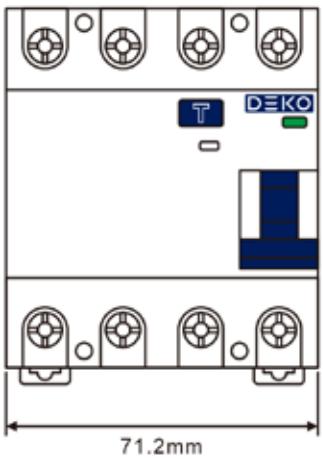



**Overall Dimensions**



## DEKO RCA SERIES 6 kA RESIDUAL CURRENT CIRCUIT BREAKERS

| Type | Referance | In (A) | IΔn | No Of Poles | Qty/ Box |
|---|---|---|---|---|---|
| AC | RCAC2025030 | 25 | 30 mA | 2 | 100 |
| | RCAC2040030 | 40 | 30 mA | 2 | 100 |
| | RCAC2063030 | 63 | 30 mA | 2 | 100 |
| | RCAC2080030 | 80 | 30 mA | 2 | 100 |
| | RCAC2100030 | 100 | 30 mA | 2 | 100 |
| | RCAC2025300 | 25 | 300 mA | 2 | 100 |
| | RCAC2040300 | 40 | 300 mA | 2 | 100 |
| | RCAC2063300 | 63 | 300 mA | 2 | 100 |
| | RCAC2080300 | 80 | 300 mA | 2 | 100 |
| | RCAC2100300 | 100 | 300 mA | 2 | 100 |
| | RCAC4025030 | 25 | 30 mA | 4 | 50 |
| | RCAC4040030 | 40 | 30 mA | 4 | 50 |
| | RCAC4063030 | 63 | 30 mA | 4 | 50 |
| | RCAC4080030 | 80 | 30 mA | 4 | 50 |
| | RCAC4100030 | 100 | 30 mA | 4 | 50 |
| | RCAC4025300 | 25 | 300 mA | 4 | 50 |
| | RCAC4040300 | 40 | 300 mA | 4 | 50 |
| | RCAC4063300 | 63 | 300 mA | 4 | 50 |
| | RCAC4080300 | 80 | 300 mA | 4 | 50 |
| | RCAC4100300 | 100 | 300 mA | 4 | 50 |
| A | RCAA2025030 | 25 | 30 mA | 2 | 100 |
| | RCAA2040030 | 40 | 30 mA | 2 | 100 |
| | RCAA2063030 | 63 | 30 mA | 2 | 100 |
| | RCAA2080030 | 80 | 30 mA | 2 | 100 |
| | RCAA2100030 | 100 | 30 mA | 2 | 100 |
| | RCAA2025300 | 25 | 300 mA | 2 | 100 |
| | RCAA2040300 | 40 | 300 mA | 2 | 100 |
| | RCAA2063300 | 63 | 300 mA | 2 | 100 |
| | RCAA2080300 | 80 | 300 mA | 2 | 100 |
| | RCAA2100300 | 100 | 300 mA | 2 | 100 |
| | RCAA4025030 | 25 | 30 mA | 4 | 50 |
| | RCAA4040030 | 40 | 30 mA | 4 | 50 |
| | RCAA4063030 | 63 | 30 mA | 4 | 50 |
| | RCAA4080030 | 80 | 30 mA | 4 | 50 |
| | RCAA4100030 | 100 | 30 mA | 4 | 50 |
| | RCAA4025300 | 25 | 300 mA | 4 | 50 |
| | RCAA4040300 | 40 | 300 mA | 4 | 50 |
| | RCAA4063300 | 63 | 300 mA | 4 | 50 |
| | RCAA4080300 | 80 | 300 mA | 4 | 50 |
| | RCAA4100300 | 100 | 300 mA | 4 | 50 |
| A+S (DELAY) | RCAS2025300 | 25 | 300 mA | 2 | 100 |
| | RCAS2040300 | 40 | 300 mA | 2 | 100 |
| | RCAS2063300 | 63 | 300 mA | 2 | 100 |
| | RCAS2080300 | 80 | 300 mA | 2 | 100 |
| | RCAS2100300 | 100 | 300 mA | 2 | 100 |
| A+S (DELAY) | RCAS4025300 | 25 | 300 mA | 4 | 50 |
| | RCAS4040300 | 40 | 300 mA | 4 | 50 |
| | RCAS4063300 | 63 | 300 mA | 4 | 50 |
| | RCAS4080300 | 80 | 300 mA | 4 | 50 |
| | RCAS4100300 | 100 | 300 mA | 4 | 50 |

## DEKO RCB SERIES 10 kA RESIDUAL CURRENT CIRCUIT BREAKERS

| Type | Referance | In (A) | IΔn | No Of Poles | Qty/ Box |
|---|---|---|---|---|---|
| AC | RCBC2025030 | 25 | 30 mA | 2 | 100 |
| | RCBC2040030 | 40 | 30 mA | 2 | 100 |
| | RCBC2063030 | 63 | 30 mA | 2 | 100 |
| | RCBC2080030 | 80 | 30 mA | 2 | 100 |
| | RCBC2100030 | 100 | 30 mA | 2 | 100 |
| | RCBC2025300 | 25 | 300 mA | 2 | 100 |
| | RCBC2040300 | 40 | 300 mA | 2 | 100 |
| | RCBC2063300 | 63 | 300 mA | 2 | 100 |
| | RCBC2080300 | 80 | 300 mA | 2 | 100 |
| | RCBC2100300 | 100 | 300 mA | 2 | 100 |
| | RCBC4025030 | 25 | 30 mA | 4 | 50 |
| | RCBC4040030 | 40 | 30 mA | 4 | 50 |
| | RCBC4063030 | 63 | 30 mA | 4 | 50 |
| | RCBC4080030 | 80 | 30 mA | 4 | 50 |
| | RCBC4100030 | 100 | 30 mA | 4 | 50 |
| | RCBC4025300 | 25 | 300 mA | 4 | 50 |
| | RCBC4040300 | 40 | 300 mA | 4 | 50 |
| | RCBC4063300 | 63 | 300 mA | 4 | 50 |
| | RCBC4080300 | 80 | 300 mA | 4 | 50 |
| | RCBC4100300 | 100 | 300 mA | 4 | 50 |
| A | RCBA2025030 | 25 | 30 mA | 2 | 100 |
| | RCBA2040030 | 40 | 30 mA | 2 | 100 |
| | RCBA2063030 | 63 | 30 mA | 2 | 100 |
| | RCBA2080030 | 80 | 30 mA | 2 | 100 |
| | RCBA2100030 | 100 | 30 mA | 2 | 100 |
| | RCBA2025300 | 25 | 300 mA | 2 | 100 |
| | RCBA2040300 | 40 | 300 mA | 2 | 100 |
| | RCBA2063300 | 63 | 300 mA | 2 | 100 |
| | RCBA2080300 | 80 | 300 mA | 2 | 100 |
| | RCBA2100300 | 100 | 300 mA | 2 | 100 |
| | RCBA4025030 | 25 | 30 mA | 4 | 50 |
| | RCBA4040030 | 40 | 30 mA | 4 | 50 |
| | RCBA4063030 | 63 | 30 mA | 4 | 50 |
| | RCBA4080030 | 80 | 30 mA | 4 | 50 |
| | RCBA4100030 | 100 | 30 mA | 4 | 50 |
| | RCBA4025300 | 25 | 300 mA | 4 | 50 |
| | RCBA4040300 | 40 | 300 mA | 4 | 50 |
| | RCBA4063300 | 63 | 300 mA | 4 | 50 |
| | RCBA4080300 | 80 | 300 mA | 4 | 50 |
| | RCBA4100300 | 100 | 300 mA | 4 | 50 |
| A+S (DELAY) | RCBS2025300 | 25 | 300 mA | 2 | 100 |
| | RCBS2040300 | 40 | 300 mA | 2 | 100 |
| | RCBS2063300 | 63 | 300 mA | 2 | 100 |
| | RCBS2080300 | 80 | 300 mA | 2 | 100 |
| | RCBS2100300 | 100 | 300 mA | 2 | 100 |
| A+S (DELAY) | RCBS4025300 | 25 | 300 mA | 4 | 50 |
| | RCBS4040300 | 40 | 300 mA | 4 | 50 |
| | RCBS4063300 | 63 | 300 mA | 4 | 50 |
| | RCBS4080300 | 80 | 300 mA | 4 | 50 |
| | RCBS4100300 | 100 | 300 mA | 4 | 50 |

## DEKO RCK SERIES B TYPE 10 kA RESIDUAL CURRENT CIRCUIT BREAKERS

| Type | Referance | In (A) | IΔn | No Of Poles | Qty/ Box |
|---|---|---|---|---|---|
| B | RCKB2025030 | 25 | 30 mA | 2 | 100 |
| | RCKB2040030 | 40 | 30 mA | 2 | 100 |
| | RCKB2063030 | 63 | 30 mA | 2 | 100 |
| | RCKB2025300 | 25 | 300 mA | 2 | 100 |
| | RCKB2040300 | 40 | 300 mA | 2 | 100 |
| | RCKB2063300 | 63 | 300 mA | 2 | 100 |
| | RCKB4025030 | 25 | 30 mA | 4 | 50 |
| | RCKB4040030 | 40 | 30 mA | 4 | 50 |
| | RCKB4063030 | 63 | 30 mA | 4 | 50 |
| | RCKB4080030 | 80 | 30 mA | 4 | 50 |
| | RCKB4100030 | 100 | 30 mA | 4 | 50 |
| | RCKB4025300 | 25 | 300 mA | 4 | 50 |
| | RCKB4040300 | 40 | 300 mA | 4 | 50 |
| | RCKB4063300 | 63 | 300 mA | 4 | 50 |

## DEKO RCO SERIES 6 kA RESIDUAL CURRENT CIRCUIT BREAKERS WITH OVERCURRENT PROTECTION ( RCCB+MCB )

| Type | Referance | In (A) | IΔn | Curve | No Of Poles | Qty/ Box |
|---|---|---|---|---|---|---|
| AC | RCOB2025030 | 25 | 30 mA | B | 2 | 100 |
| | RCOB2040030 | 40 | 30 mA | B | 2 | 100 |
| | RCOB2063030 | 63 | 30 mA | B | 2 | 100 |
| | RCOB2080030 | 80 | 30 mA | B | 2 | 100 |
| | RCOB2100030 | 100 | 30 mA | B | 2 | 100 |
| | RCOB2025300 | 25 | 300 mA | B | 2 | 100 |
| | RCOB2040300 | 40 | 300 mA | B | 2 | 100 |
| | RCOB2063300 | 63 | 300 mA | B | 2 | 100 |
| | RCOB2080300 | 80 | 300 mA | B | 2 | 100 |
| | RCOB2100300 | 100 | 300 mA | B | 2 | 100 |
| | RCOC2025030 | 86.93333333 | 30 mA | C | 2 | 100 |
| | RCOC2040030 | 91.53939394 | 30 mA | C | 2 | 100 |
| | RCOC2063030 | 96.14545455 | 30 mA | C | 2 | 100 |
| | RCOC2080030 | 100.7515152 | 30 mA | C | 2 | 100 |
| | RCOC2100030 | 105.3575758 | 30 mA | C | 2 | 100 |
| | RCOC2025300 | 109.9636364 | 300 mA | C | 2 | 100 |
| | RCOC2040300 | 114.569697 | 300 mA | C | 2 | 100 |
| | RCOC2063300 | 119.1757576 | 300 mA | C | 2 | 100 |
| | RCOC2080300 | 123.7818182 | 300 mA | C | 2 | 100 |
| | RCOC2100300 | 128.3878788 | 300 mA | C | 2 | 100 |

# TECHNOLOGY CHANGES THE WORLD IN DEKO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