

# Miniature Circuit Breakers B4/B6/B10, Residual Current Devices & Isolating Switches



The IMO range of miniature circuit breakers have been designed for protection of electrical installations against overload and short circuits and are manufactured in accordance with IEC 60898-1, IEC 60947-2

## MCB Features

- Handle central-tripping function for circuit fault indicating
- Elegant appearance; cover and handle in arc shape.
- Contact position indicating window; transparent cover to carry label
- High short circuit capacity
- Applicable to terminal and Pin/Fork type busbar connection
- Finger protected connection terminals
- Handle padlock device

Tripping characteristics in accordance with B, C and D type curves

- Curve B: 3-5  $I_n$  Certification: B4/B6: Semko / CE
- Curve C: 5-10  $I_n$  B10: VDE\* / Semko / CE
- Curve D: 10-20  $I_n$

## Specifications

|                                                                                                               |
|---------------------------------------------------------------------------------------------------------------|
| In accordance with: IEC 60898-1, IEC 60947-2                                                                  |
| Certification: CE, SEMKO, VDE* (only with B10, C & D curve; 1P/2P/3P, 6 to 40A) 3P, 3P+N                      |
| Pole composition: 1P, 1P+N, 2P, 3P, 3P+N                                                                      |
| Tripping Curve: B, C, D                                                                                       |
| Rated frequency: 50/60Hz                                                                                      |
| Rated operationnal voltage: 230/400VAC ; 60VDC Max                                                            |
| Rated insulation voltage: 250VAC / 500VAC                                                                     |
| Rated impulse withstand voltage: 6.2kV                                                                        |
| Rated short circuit breaking capacity as per IEC 60898-1 and IEC60947-2:                                      |
| B4 : 1P+N, C curve : 4.5kA                                                                                    |
| B6 : 1P, B curve: 6kA                                                                                         |
| B10 : 1P/2P/3P/3P+N, C & D curve: 10kA                                                                        |
| Mechanical lifetime > 20,000 cycles                                                                           |
| Electrical lifetime > 8,000 cycles                                                                            |
| Fastening torque: 2.0 Nm                                                                                      |
| Terminal capacity: 35mm <sup>2</sup> solid, 25mm <sup>2</sup> stranded conductor (10mm <sup>2</sup> for 1P+N) |
| Mounting on rail EN 60715 (EN 50022)                                                                          |
| Protection degree: IP20                                                                                       |
| Temperature range: -5°C - +40°C, average temperature not to exceed 35°C                                       |



## Options and ordering codes

|                          | B6  | B | 10 | 16A                |
|--------------------------|-----|---|----|--------------------|
|                          |     |   |    | Rated current Amps |
| MCB 4,5kA                | B4  |   |    |                    |
| MCB 6kA                  | B6  |   |    |                    |
| MCB 10kA                 | B10 |   |    |                    |
| Operating characteristic |     | B |    |                    |
| Operating characteristic |     | C |    |                    |
| Operating characteristic |     | D |    |                    |
| Single pole              |     |   | 10 |                    |
| Single pole + Neutral    |     |   | 1N |                    |
| Two pole                 |     |   | 20 |                    |
| Three pole               |     |   | 30 |                    |
| Three pole + Neutral     |     |   | 3N |                    |

## Selection chart

| Type               | B operating characteristics |     |     |     |     | C operating characteristics |     |     |     | D operating characteristics |     |     |
|--------------------|-----------------------------|-----|-----|-----|-----|-----------------------------|-----|-----|-----|-----------------------------|-----|-----|
| Poles              | 1                           | 1   | 1N  | 2   | 3   | 3N                          | 1   | 2   | 3   | 1                           | 2   | 3   |
| Rated current Amps |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 2                  |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 4                  |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 6                  |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 10                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 16                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 20                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 25                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 32                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 40                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 50                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| 63                 |                             |     |     |     |     |                             |     |     |     |                             |     |     |
| Weight (g/pc)      | 100                         | 100 | 200 | 200 | 300 | 400                         | 100 | 200 | 300 | 100                         | 200 | 300 |
| Packing(Qty)       | 12                          | 12  | 6   | 6   | 4   | 3                           | 12  | 6   | 4   | 12                          | 6   | 4   |

# Miniature Circuit Breakers B4/B6/B10



## Accessories

### Auxiliary Switch

B10-F3

for monitoring the status of the protection device (open/closed)

1 pole changeover (for C & D curve only)

Rated current : 6A @ 230VAC & 24VDC or 3A @ 400VAC

Dielectric Strength : 2000V/1min

Terminal capacity : 1-4mm<sup>2</sup>

Mounting on the Left side

### Shunt trip

B10-S3

Shunt Trip for remotely switch off the protection device

Rating voltage Ue : AC 110V / 230V / 400V

Operating voltage : 70%~110% X Ue

Mounting on the Left side

### Busbars

| Description                        | Ref.          |
|------------------------------------|---------------|
| Busbar 1 Pole, 100A, Fork Type, 1M | B10BB1F100-1M |
| Busbar 3 Pole, 100A, Fork Type, 1M | B10BB3F100-1M |
| Busbar 1 Pole, 100A, Pin Type, 1M  | B10BB1P100-1M |
| Busbar 3 Pole, 100A, Pin Type, 1M  | B10BB3P100-1M |
| End Cap 3 Pole (Fork type only)    | B10BBCAP3F100 |

### Terminal adapter

BA1

### Locking device

B10-LOCK

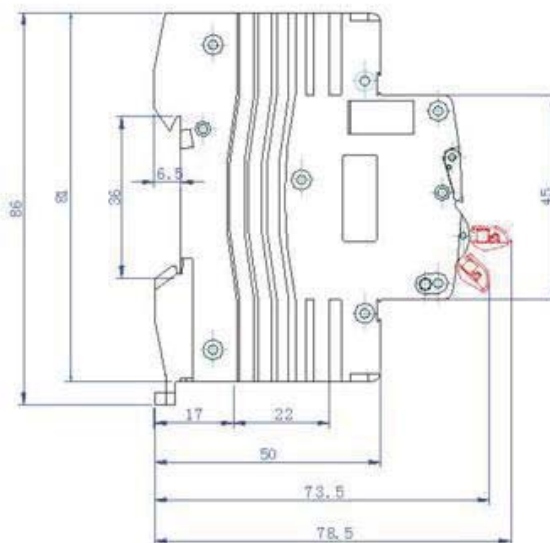
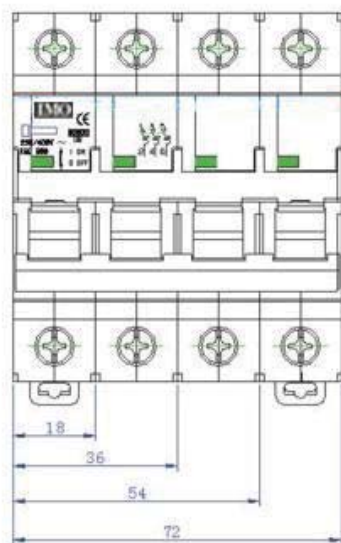
4mm padlock max diameter, non include

### Locking device

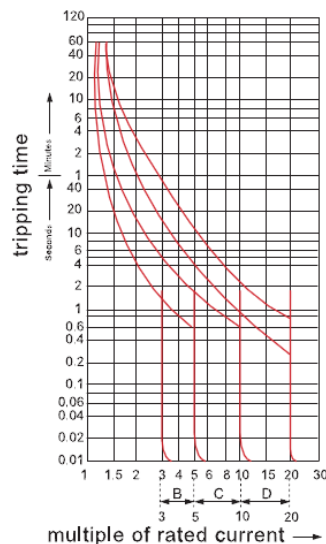
B10-TERM

## Dimensions mm

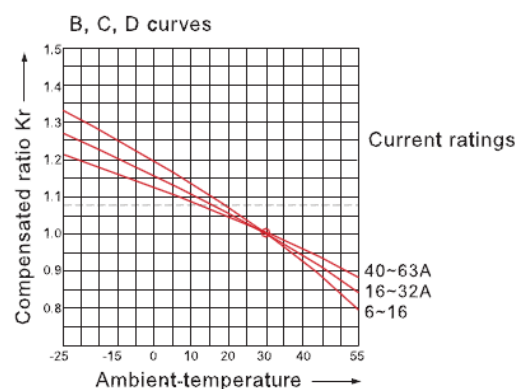
### Miniature Circuit Breakers



### B, C, D Tripping Curve



### Ambient temperature & Current rating curve



# Residual Current Circuit Breakers B10R

IMO

The IMO range of Residual Current Circuit Breakers have been designed for protection of electrical installations against earth fault / leakage current and are manufactured in accordance with IEC 61008-1.

## Options and ordering codes

|                       |          |           |                                 |           |
|-----------------------|----------|-----------|---------------------------------|-----------|
| <b>B10</b>            | <b>R</b> | <b>20</b> | <b>16</b>                       | <b>30</b> |
| 10kA Rated <b>B10</b> |          |           | Rated current Amps              |           |
|                       |          |           | 30mA residual operating current | <b>30</b> |
| RCCB Version          | <b>R</b> |           |                                 |           |
| 1 pole + N (2 pole)   |          | <b>20</b> |                                 |           |
| 3 pole + N (4 pole)   |          | <b>40</b> |                                 |           |



## Specification

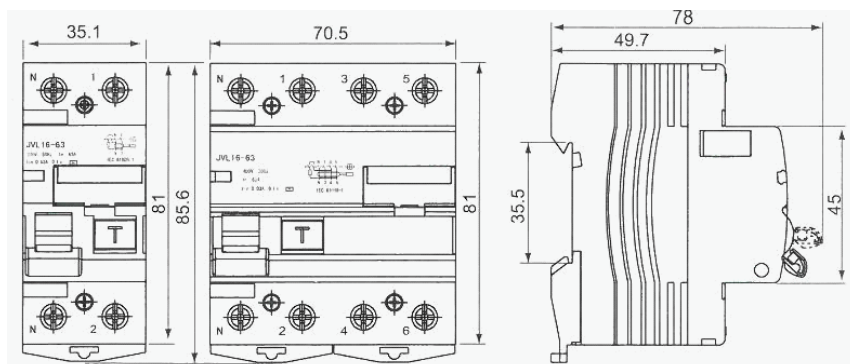
|                                                                                  |
|----------------------------------------------------------------------------------|
| In accordance with: IEC 61008-1                                                  |
| Certification: CE, SEMKO                                                         |
| Pole composition: 2P, 4P                                                         |
| Rated current : 10 A (only 2P), 16A, 25A, 32A, 40A, 63A                          |
| Residual current characteristics: AC                                             |
| Rated frequency: 50/60Hz                                                         |
| Rated voltage: 230VAC / 400VAC                                                   |
| Rated residual operating current $I_{\Delta n}$ : 30 mA                          |
| Residual tripping current range : $0.5 I_{\Delta n} \sim 1 I_{\Delta n}$         |
| Rated conditional short circuit current : 10 kA                                  |
| Electrical lifetime > 4,000 cycles                                               |
| Fastening torque: 2.0 Nm                                                         |
| Terminal capacity: 35mm <sup>2</sup> solid, 25mm <sup>2</sup> stranded conductor |
| Mounting on rail EN 60715 (EN 50022)                                             |
| Protection degree: IP20                                                          |
| Temperature range: -5°C - +40°C, average temperature not to exceed 35°C          |

## Selection chart

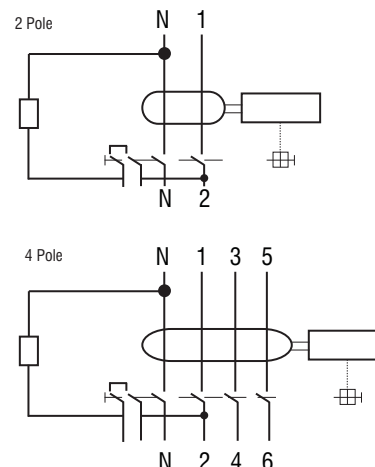
10kA

| Type               | operating characteristics |     |
|--------------------|---------------------------|-----|
| Poles              | 2N                        | 3N  |
| Rated current Amps | 10                        |     |
|                    | 16                        |     |
|                    | 25                        |     |
|                    | 32                        |     |
|                    | 40                        |     |
|                    | 63                        |     |
| Weight (g/pc)      | 206                       | 412 |
| Packing(Qty)       | 6                         | 3   |

## Overall & Installation Dimensions



## Wiring Diagram



# Residual Current Circuit Breakers With Overload Protection



The IMO range of Residual Current-Circuit Breakers with Overload have been designed for protection of electrical installations against earth fault / leakage current, overload and short circuit and are manufactured in accordance with IEC 61009.

## RCBO Features

- Provides protection against earth fault / leakage current, overload, short circuit and function of isolation
- Elegant appearance; cover and handle in arc shape.
- Contact position indicating window; transparent cover to carry label
- High short circuit current withstand capacity
- Applicable to terminal and Pin/Fork type busbar connection
- Finger protected connection terminals
- Compatible with MCB accessories range
- Handle padlock device

Tripping characteristics in accordance with B, C and D type curves

- Curve B: 3-5  $I_n$
- Curve C: 5-10  $I_n$
- Curve D: 10-20  $I_n$

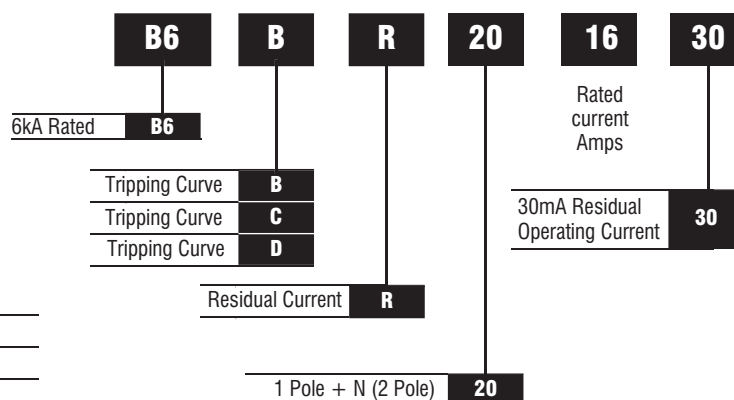
## Specifications

|                                                                                  |
|----------------------------------------------------------------------------------|
| In accordance with: IEC 61009                                                    |
| Certification: CE, SEMKO                                                         |
| Pole composition: 2P                                                             |
| Residual current characteristics: AC                                             |
| Tripping Curve: B, C, D                                                          |
| Rated current : 6A, 10 A, 16A, 20A, 25A, 32A, 40A                                |
| Rated short circuit capacity : 10 kA                                             |
| Rated frequency: 50/60Hz                                                         |
| Rated voltage: 230VAC                                                            |
| Rated residual operating current $I_{\Delta n}$ : 30 mA                          |
| Residual tripping current range : 0.5 $I_{\Delta n}$ ~ 1 $I_{\Delta n}$          |
| Electrical lifetime > 4,000 cycles                                               |
| Fastening torque: 2.0 Nm                                                         |
| Terminal capacity: 35mm <sup>2</sup> solid, 25mm <sup>2</sup> stranded conductor |
| Mounting on rail EN 60715 (EN 50022)                                             |
| Protection degree: IP20                                                          |
| Temperature range: -5°C - +40°C, average temperature not to exceed 35°C          |

**For Dimensions refer to RCCB Data.**  
**For Tripping Curve refer to MCB.**



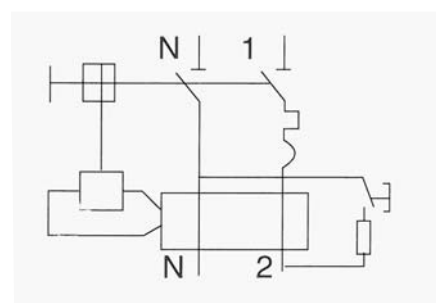
## Options and ordering codes



## Selection chart

| Type               | operating characteristics |
|--------------------|---------------------------|
| Poles              | 1N                        |
| Rated current Amps | 6                         |
|                    | 10                        |
|                    | 16                        |
|                    | 20                        |
|                    | 25                        |
|                    | 32                        |
|                    | 40                        |
| Weight (g/pc)      | 210                       |
| Packing(Qty)       | 6                         |

## Wiring Diagram



# Isolating Switch

IMO

The IMO range of isolating switch have been designed to isolate safely your electrical circuit from the main supply and are manufactured in accordance with IEC 60947-3.

- Capable of switch electric circuit with load
- Elegant appearance; cover and handle in arc shape.
- Contact position indicating window; transparent cover to carry label
- Applicable to terminal and Pin/Fork type busbar connection
- Finger protected connection terminals
- Compatible with MCB accessories range
- Handle padlock device



## Specification

|                                                                                  |
|----------------------------------------------------------------------------------|
| In accordance with: IEC 60947-3                                                  |
| Certification: CE, SEMKO (63 and 125A only)                                      |
| Pole composition: 1P / 2P / 3P / 4P                                              |
| Rated current : 63A / 100A / 125A                                                |
| Rated voltage: AC 230 / 400 V                                                    |
| Rated frequency: 50/60Hz                                                         |
| Rated short circuit capacity : 6 kA (3kA for 100A version)                       |
| Electrical lifetime > 10,000 cycles                                              |
| Fastening torque: 2.0 Nm                                                         |
| Terminal capacity: 35mm <sup>2</sup> solid, 25mm <sup>2</sup> stranded conductor |
| Protection degree: IP20                                                          |

## Selection chart

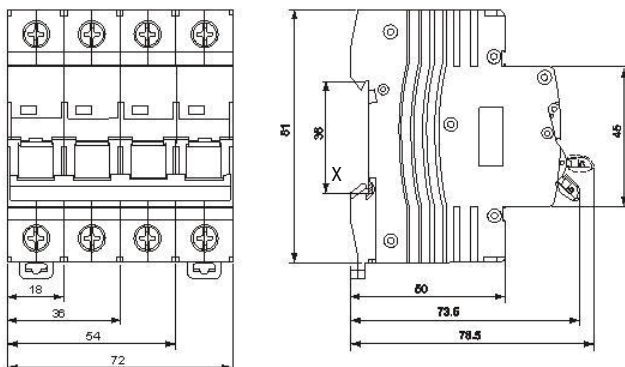
3kA 6 kA Please contact IMO

|                       |     | 3kA | 6kA | Conatct IMO |     |
|-----------------------|-----|-----|-----|-------------|-----|
| Poles                 |     | 1   | 2   | 3           | 4   |
| Rated current<br>Amps | 63  |     |     |             |     |
|                       | 100 |     |     |             |     |
|                       | 125 |     |     |             |     |
| Weight (g/pc)         |     | 100 | 200 | 300         | 400 |
| Packing(Qty)          |     | 12  | 6   | 4           | 3   |

## Options and ordering codes

| BIS                                    | 20   | 63A |
|----------------------------------------|------|-----|
| Distribution board<br>Isolating Switch | BIS  |     |
| 1 Pole                                 | 10   |     |
| 2 Pole                                 | 20   |     |
| 3 Pole                                 | 30   |     |
| 4 Pole                                 | 40   |     |
| Amps 63A & 125A                        | 63A  |     |
| Amps 100A (red handle)                 | 100C |     |

## Dimensions (mm) for 63A & 125A version



| Rating | X    |
|--------|------|
| 63A    | 81mm |
| 125A   | 90mm |

## Dimensions (mm) for 100A version

