

Miniature Circuit Breakers B4/BR6/B10



Technical Datasheet

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

Technical Data

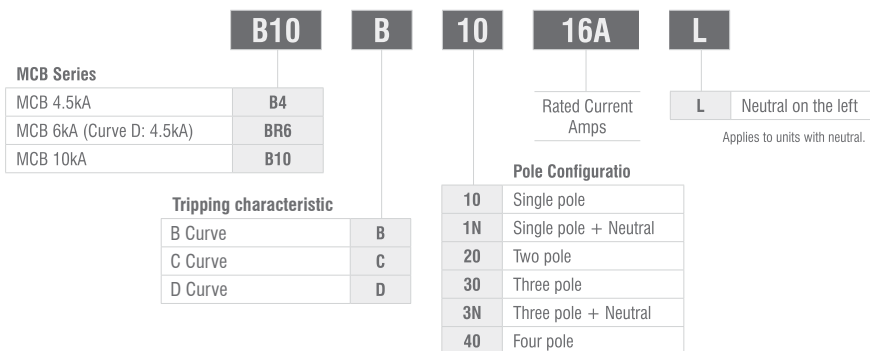
- Handle central-tripping function for circuit fault indication
- Contact position indicating window; transparent cover to carry label
- High short circuit capacity
- Suitable for terminal and Pin or Fork type busbar connection
- IP20 Finger protected connection terminals
- Optional Handle padlock device: B10-LOCK



Tripping characteristics: available in B, C, and D curves

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

Options & Ordering Codes



Specification

In accordance with	IEC 60898-1	
Certification	CE, SEMKO (only with B4 & BR6) Kema Keur (only with B10), RCM (only with 1, 2 & 3 pole B10)	
Pole composition	1P, 1P+N, 2P, 3P, 3P+N, 4P	
Tripping Curve	B, C, D	
Calibration temperature	+30°C	
Rated frequency	50/60Hz	
Rated voltage	240/415VAC; 60VDC Max	
Rated insulation voltage	240VAC / 415VAC	
Rated impulse withstand voltage	6.2kV	
Rated short circuit breaking capacity as per IEC 60898-1	B4	4.5kA
	BR6	4.5kA (Curve D only), 6kA
	B10	10kA
Mechanical lifetime	> 20,000 cycles	
Electrical lifetime	≤ 4,000 cycles	
Tightening torque	2.0Nm, 1.2Nm (B4 only)	
Screw Type	M5, M4 (B4 only)	
Terminal capacity	35mm ² solid, 25mm ² stranded conductor (10mm ² for 1P+N)	
Mounting	DIN Rail EN 60715 (EN 50022)	
Protection degree	IP20	
Energy Limiting Class	3	
Operating temperature	-30°C to 60°C	

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Accessories

Auxiliary Switch	B10-F3 (only for B10 MCB, B10R RCD & B6 RCBO) BR6-F3 (only for BR6) & B10-S3 (only for B10)
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: 2.5mm ² Mounting on the Left side	

Shunt Trip	BR6-S2 (only for BR6) & B10-S3 (only for B10)
Shunt Trip to remotely switch off the protection device Rating voltage U _e : AC 110V / 230V / 400V Operating Voltage: 70%~110% X U _e Mounting on the Left side	

Under / Over Voltage Trip	BR6-U2-02
Trips the attached unit in case of under / over voltage Rated Voltage U _e : AC 230V Over-Voltage Tripping Range: 280V ±5% Under-Voltage Tripping Range: 170V ±5% Mounting on Left Side	

Auxiliary Alarm Switch	B10-A3 (only for B10 MCB, B10R RCD & B6 RCBO)
For the detection of MCB tripping 1 pole changeover Rated current: 6A @ 230VAC & 24VDC or 3A @ 400VAC	

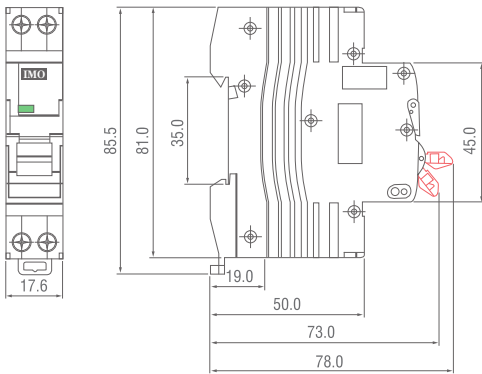
Busbars	
Description	Ref.
Busbar 1 Pole, 80A, Fork Type, 1M	BB80A1P-F
Busbar 3 Pole, 80A, Fork Type, 1M	BB80A3P-F
Busbar 3 Pole, 125A, Fork Type, 1M	BB125A3P-F
Busbar 1 Pole, 80A, Pin Type, 1M	BB80A1P-P
Busbar 3 Pole, 80A, Pin Type, 1M	BB80A3P-P
End Cap 1 Pole	BB1P-CAP
End Cap 3 Pole	BB3P-CAP

Terminal Adapter	BA1
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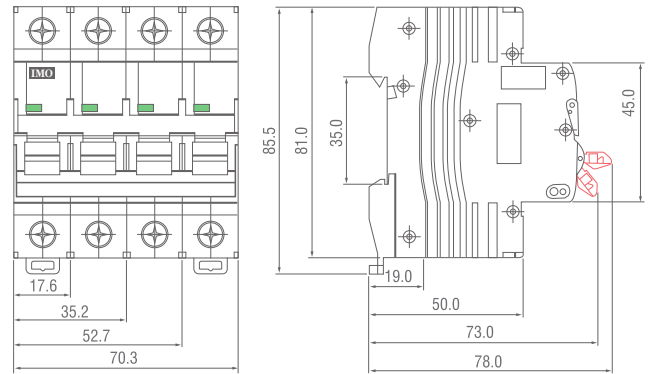
Locking Device	B10-LOCK
4mm padlock max diameter, padlock not included	

Dimensions (mm)

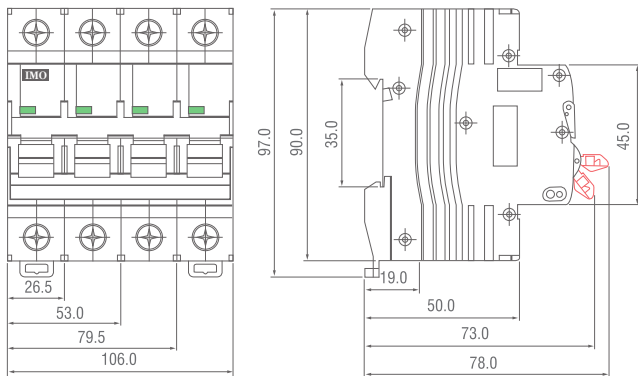
Miniature Circuit Breakers up to 32A (4.5kA Only)



Miniature Circuit Breakers up to 63A



Miniature Circuit Breakers from 80A to 125A



MCB - BR6-U2/02 Wiring Diagram

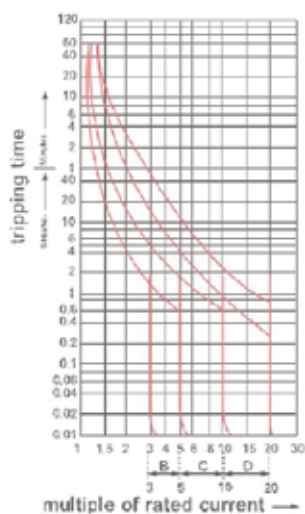


Miniature Circuit Breakers B4/BR6/B10



Technical Datasheet

B, C, D Tripping Curve



Power Loss (W)

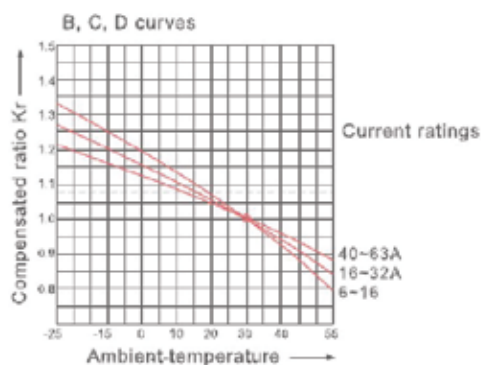
BR6 Models

	Number of Poles			
	1P	2P	3P	4P
1A	0.70	1.40	2.11	2.79
2A	1.25	2.63	3.90	4.82
4A	1.29	2.53	4.08	5.08
6A	0.92	1.84	2.70	3.84
10A	1.32	2.85	4.24	5.77
16A	2.23	4.62	7.03	9.05
20A	2.67	5.97	8.10	11.35
25A	2.9	5.71	10.27	12.27
32A	3.55	8.30	14.31	17.45
40A	5.39	12.07	18.31	25.2
50A	6.71	14.43	24.09	30.64
63A	7.51	12.88	24.54	33.21

B10B/C/D Models

	Number of Poles			
	1P	2P	3P	4P
1A	1.35	2.70	4.04	5.39
2A	1.71	3.42	5.12	6.83
3A	1.28	2.57	3.85	5.14
4A	1.48	2.96	4.44	5.93
6A	1.67	3.34	5.01	6.68
10A	1.33	2.66	3.99	5.32
16A	2.04	4.09	6.13	8.17
20A	2.16	4.32	6.48	8.64
25A	2.34	4.69	7.03	9.38
32A	3.25	6.49	9.74	12.98
40A	3.22	6.43	9.65	12.86
50A	3.35	6.70	10.05	13.40
63A	4.68	9.37	14.05	18.73
80A	10.00	20.00	30.00	40.00
100A	15.00	30.00	45.00	60.00
125A	19.00	38.00	57.00	76.00

Ambient temperature & Current rating curve



NOTE: These figures should be used for guidance only, and actual value will vary from device to device.

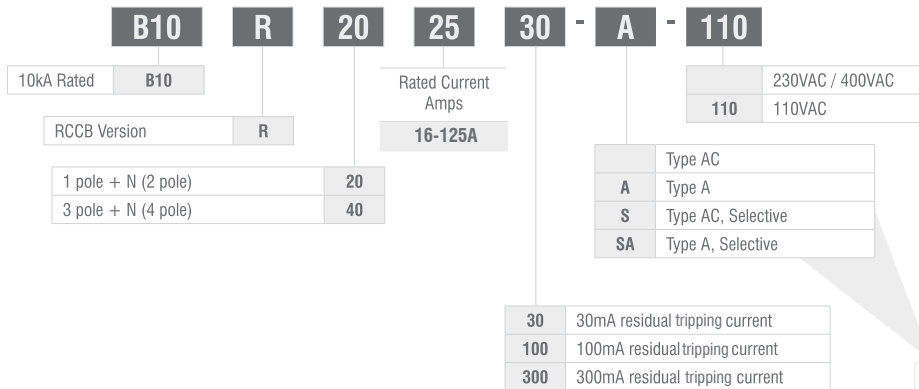
Residual Current Circuit Breakers

B10R



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 & Ordering Codes



Specifications

In accordance with	IEC 61008-1
Certification	CE
Pole composition	1P+N, 3P+N
Rated current	16A, 25A, 32A, 40A, 63A, 80A, 100A, 125A
Residual current characteristics	AC, A
Calibration Temperature	+30°C
Rated frequency	50/60Hz
Rated voltage	110VAC/230VAC/400VAC
Rated residual operating current I _{Δn}	30mA, 100mA, 300mA
Max. Switching Time@ I _Δ	100ms
Residual tripping current range	0.5 I _{Δn} ~ 1 I _{Δn}
Rated conditional short circuit current	10kA
Electrical lifetime	> 4,000 cycles
Tightening torque	2.0Nm
Terminal capacity	35mm ² solid, 25mm ² stranded conductor
Mounting on	DIN Rail EN 60715 (EN 50022)
Protection degree	IP20
Energy Limiting Class	3
Operating temperature	-30°C to 60°C

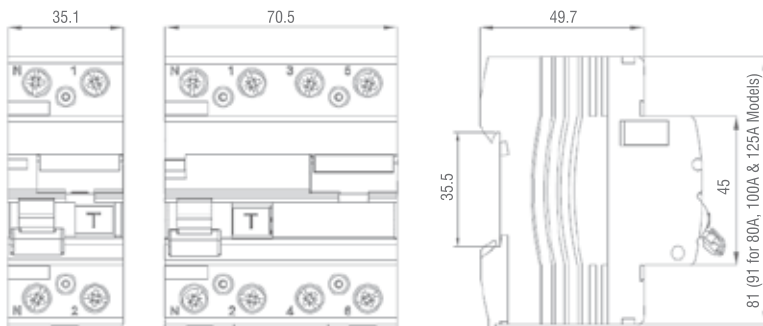
Legend

Type AC:
Tripping is ensured for sinusoidal, alternating currents.

Type A:
Tripping is ensured for sinusoidal, alternating residual currents as well as for pulsed DC residual currents.

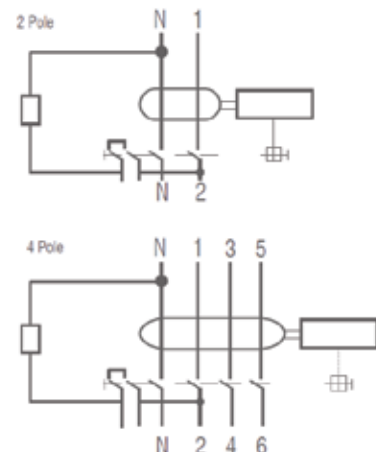
Time Delay:
The Type S RCD is a sinusoidal residual current device incorporating a time delay.

Dimensions (mm)



NOTE: For accessories, please see B10 MCB Data

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

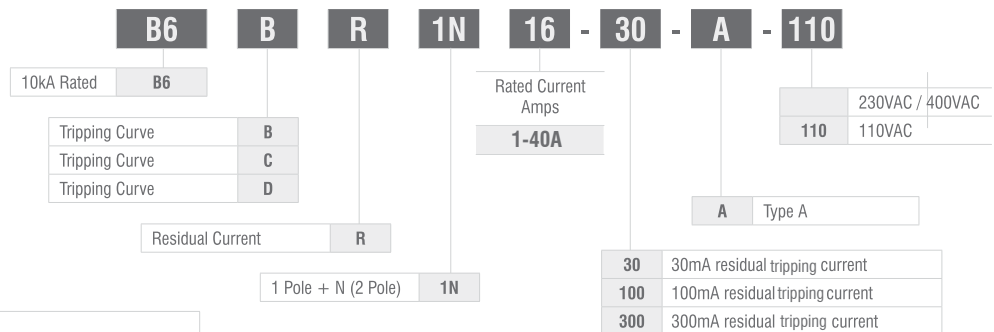
- Provides protection against earth fault / leakage current,
- overload, short circuit and function of isolation
- Contact position indicating window; transparent cover to carry label
- High short circuit current withstand capacity
- Suitable for terminal and Pin or Fork type busbar connection
- IP20 Finger protected connection terminals
- Compatible with MCB accessories range
- Optional Handle padlock device: B10-LOCK



Tripping characteristics: available in B, C, and D curves

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

Options & Ordering Codes

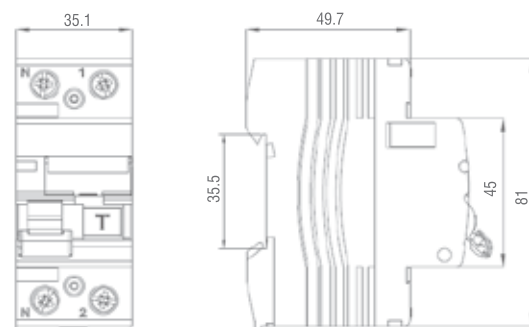


Specification

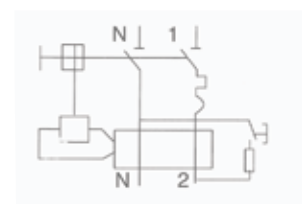
In accordance with:	IEC 61009
Certification:	CE, SEMKO, RCM
Pole composition:	1P+N
Residual current characteristics:	AC, A
Tripping Curve:	B, C, D
Calibration temperature:	+30°C
Rated current :	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A, 40A
Rated short circuit capacity :	10kA
Rated frequency:	50/60Hz
Rated voltage:	110VAC, 230VAC
Rated residual operating current $I_{\Delta n}$:	30mA, 100mA, 300mA
Residual tripping current range:	0.5 $I_{\Delta n}$ ~ 1 $I_{\Delta n}$
Electrical lifetime	> 4,000 cycles
Tightening torque:	2.0Nm
Terminal capacity:	35mm ² solid, 25mm ² stranded conductor
Mounting on	DIN rail EN 60715 (EN 50022)
Protection degree:	IP20
Energy Limiting Class:	3
Operating temperature range:	-30°C to 60°C

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

Dimensions (mm)

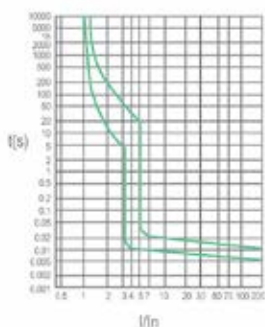


Wiring Diagram

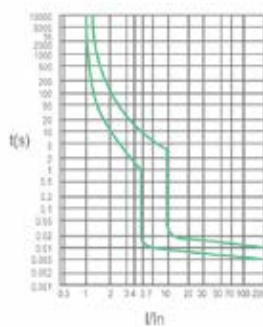


NOTE: For accessories, please see B10 MCB Data

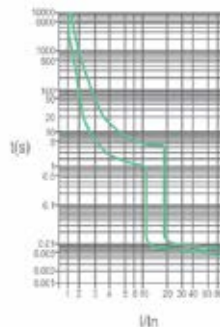
Tripping Curve B



Tripping Curve C



Tripping Curve D



BIS Isolating Switches

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.

- On-load isolator
- Capable of switch electric circuit with load
- Contact position indicating window; transparent cover to carry label
- Suitable for terminal and Pin or Fork type busbar connection
- IP20 Finger protected connection terminals
- Compatible with MCB accessories range
- Optional Handle padlock device: B10-LOCK



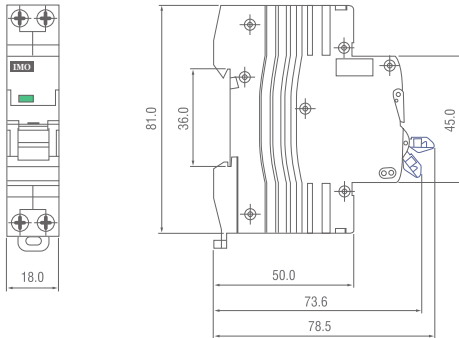
Options & Ordering Codes

Distribution board Isolating Switch	BIS	2	063A	
1 Pole	1		N32A	Compact Size, Blue Handle, 32A
2 Pole	2		063A	63 Amps
3 Pole	3		100C	100 Amps
4 Pole	4		125A	125 Amps
			250A	250 Amps (Supplied with terminal separators)

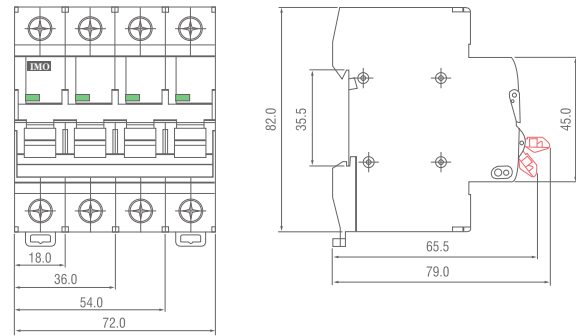
Specification

In accordance with	IEC 60947-3
Certification	CE, SEMKO (63 and 125A only)
Pole composition	1P / 2P / 3P / 4P
Rated current	32A / 63A / 100A / 125A / 250A
Rated voltage	AC 230 / 400V
Rated frequency	50/60Hz
Rated short circuit capacity	6kA (3kA for 100A version)
Electrical lifetime	> 10,000 operations
Tightening torque	2.0Nm
Terminal capacity	35mm ² solid, 25mm ² stranded conductor
Protection degree	IP20
Operating temperature range:	-30°C to 60°C

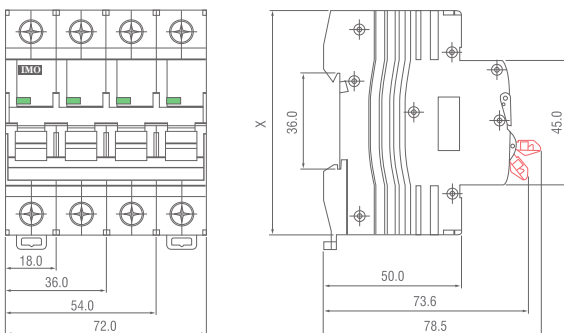
Dimensions (mm) for Compact 32A version



Dimensions (mm) for 100A version

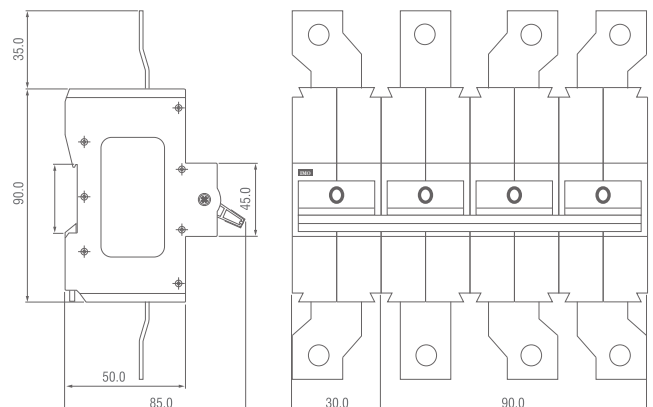


Dimensions (mm) for 63A & 125A version



Rating	X
63A	81mm
125A	90mm

Dimensions (mm) for 250A version



Residual Current Circuit Breakers With Overload Protection 1P+N Single Module

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 61009-1.

RCBO Features

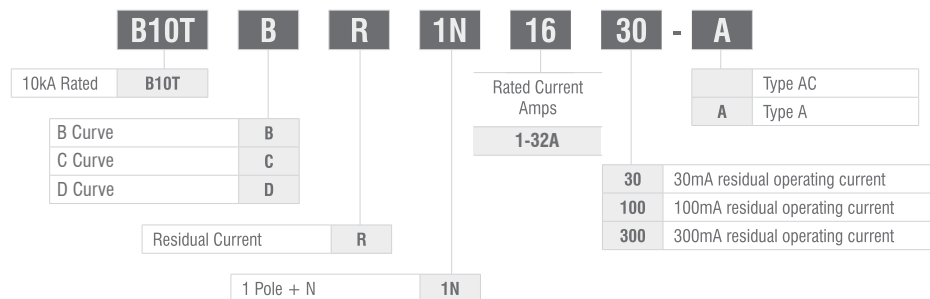
- Provides protection against earth fault / leakage current, overload, short circuit and function of isolation
- Single width module RCBO, 119mm tall
- Contact position indicating window; transparent cover to carry label
- High short circuit current withstand capacity
- Suitable for terminal and Pin or Fork type busbar connection
- Finger protected connection terminals
- Compatible with MCB accessories range
- Optional Handle padlock device: B10-LOCK



Tripping characteristics: available in B, C, and D curves

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

Options & Ordering Codes

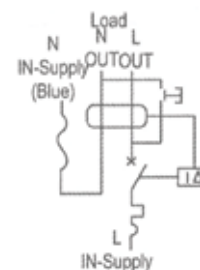


Specification

In accordance with	IEC 61009-1
Certification	CE
Pole composition	1P+N
Residual current characteristics	AC
Tripping Curve	B, C, D
Rated current	1A, 2A, 3A, 4A, 6A, 10A, 16A, 20A, 25A, 32A
Rated short circuit capacity	10 kA
Calibration Temperature	+30°C
Rated frequency	50/60Hz
Rated voltage	230/400VAC
Rated residual operating current $I_{\Delta n}$	30mA, 100mA, 300mA
Residual tripping current range	$0.5 I_{\Delta n} \sim 1 I_{\Delta n}$
Electrical lifetime	> 4,000 cycles
Fastening torque	2.0 Nm
Terminal capacity (Live input)	35mm ² solid or 25mm ² stranded
Terminal capacity (output)	10mm ² solid or 6mm ² stranded
Mounting on	DIN rail EN 60715 (EN 50022)
Protection degree	IP20
Energy Limiting Class	3
Operating temperature	-30°C to 60°C
Weight g/pc	178.0

Dimensions (mm) for 1P+N: 1 module (18W x 119H x 69D)
For Tripping Curve refer to MCB.

Wiring Diagram



Temperature Derating Tables

The Temperature Derating section of the IMO circuit protection device datasheet provides essential guidance on how the device's current-carrying capacity diminishes with rising ambient temperatures. Specifically, for devices ranging from 1A to 125A, this section includes comprehensive derating tables that outline the necessary adjustments to ensure optimal performance and safety. With an optimum temperature of 30°C, the temperature derating table are as follows;

IMO circuit protection devices: 1A to 125A

In (A)	-30°C	-20°C	-10°C	-0°C	10°C	20°C	30°C	40°C	50°C	60°C
1	1.1	1.1	1.1	1.0	1.0	1.0	1	0.9	0.9	1.8
2	2.3	2.2	2.1	2.1	2.0	2.0	2	1.8	1.8	1.7
3	3.4	3.3	3.2	3.1	3.0	2.9	3	2.7	2.6	2.5
4	4.5	4.4	4.3	4.2	4.1	3.9	4	3.7	3.5	3.4
6	6.8	6.6	6.4	6.3	6.1	5.9	6	5.5	5.3	5.1
10	11.3	11.0	10.7	10.4	10.1	9.8	10	9.2	8.8	8.4
16	18.1	17.7	17.2	16.7	16.2	15.7	16	14.7	14.1	13.5
20	22.6	22.1	21.5	20.9	20.3	19.7	20	18.3	17.6	16.9
25	28.3	27.6	26.9	26.1	25.4	24.6	25	22.9	22.0	21.1
32	36.2	35.3	34.4	33.4	32.5	31.4	32	29.3	28.2	27.0
40	45.3	44.1	43.0	41.8	40.6	39.3	40	36.6	35.2	33.8
50	56.6	55.2	53.7	52.2	50.7	49.1	50	45.8	44.1	42.2
63	71.3	69.5	67.7	65.8	63.9	61.9	63	57.7	55.5	53.2
80	90.6	88.3	86.0	83.6	81.1	78.6	80	73.3	70.5	67.6
100	113.2	110.4	107.5	104.5	101.4	98.3	100	91.6	88.1	84.4
125	141.5	138.0	134.3	130.6	126.8	122.8	125	114.5	110.1	105.6