

Quick-selection Table of EBS3B Series

Product type	Product model	Rated current In (A)	Number of poles	Number of modules (multiple of 9mm)	Short circuit breaking capacity Icn (kA)	Rated residual operating current IΔn (mA)	Tripping curve	Rated limited residual short circuit current IΔn(A)	Matched accessories
MCB	EBS3B	2,4,6,10,16,20,25,32,40,50,63	1P,2P,3P,4P	2/4/6/8	10	—	B/C/D	—	—
RCCB	EBS3R	16,25,40,63,80,100	1P+N, 3P+N	4/8	—	10/30/100/300	—	6000	—

Note: 1. Rated voltage of EBS3B(Un): 1p:230/400V~, 2-4P:400V~
 2. Rated voltage of EBS3R Series (Un): 1P+N:230V~ 50/60Hz; 4P:400V~ 50/60Hz

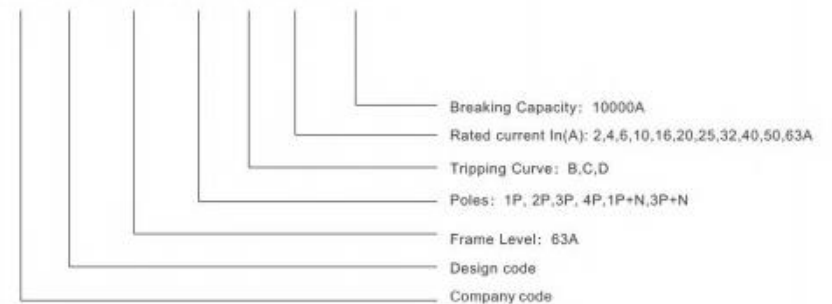


Function

- Overload protection
- Short circuit protection
- Isolation
- Controlling
- Used in residential building, non-residential building, industry, energy and infrastructure.

Nomenclature

EBS 3B - 63 / 1P C 16 10k



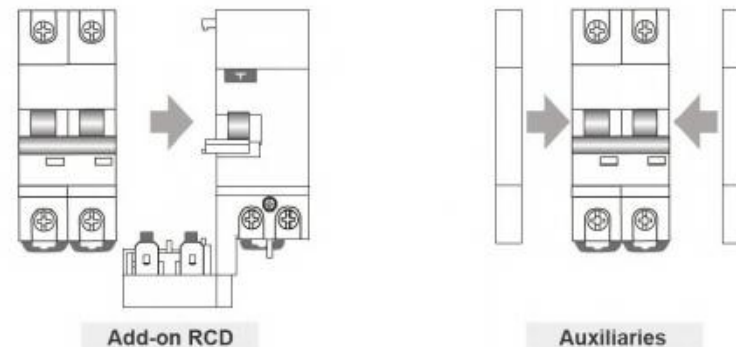
Technical Parameter

Standards	IEC60898-1, IEC60947-2
Rated current In (A)	2, 4, 6, 10, 16, 20, 25, 32, 40, 50, 63
Rated voltage Un (V AC)	230/400
Operational voltage (VAC)	Min.24 Max. 250/440
Rated frequency (Hz)	50/60
Rated insulation voltage (VAC)	500
Poles	1, 2, 3, 4
Tripping characteristic	B, C, D
Thermal operating limit (In)	1.13 - 1.45
Rated switching capacity Icn (kA)	10
Degree of protection	IP20, with connected conductors
Electrical life (times)	10,000
Mechanical life (times)	20,000
Fire resistance according to UL 94	V0
Mounting position	Any
Conductor cross-sections	Conductor cross-sections
Solid and stranded (mm ²)	0.75-35
Finely stranded with end sleeve (mm ²)	0.75-25
Terminal tightening torque (N•m)	2.5 -4
Ambient temperature (°C)	-25 ~ +45, max. 95 % humidity
Storage temperature (°C)	-40 ~ +75
Altitude (meters)	Max 2,000

Features

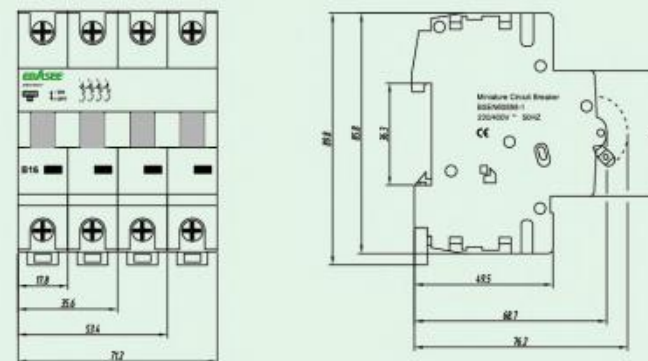
- The handle being sealable or equipped with padlock bracket avoids dangerous operation changes (ON / OFF)
- The handle provides a clear indication of the contact position
- Adequate printing of all data on the front provides long-term identification
- Energy limiting class: 3
- The emission of ionized gases is limited to the severest restrictions: 45 mm grid distance
- This MCB for household in accordance with: IEC 60898 -1, B, C and D tripping characteristics
- This MCB for industry in accordance with IEC 60947-2 Instantaneous tripping characteristics with release B: 4In, release C: 8In, release D: 12In
- This MCB may be extended with:
 - A wide range of RCDs
 - Full sets of additional components
 - Full sets of accessories

Add-on Devices



Outline and Installation Dimensions

EBS3B-63 is installed on DIN rail terminal and can be connected with wire of less than 25mm².



Features



- Attractive device design
- Easily recognizable, color-coded switching position
- Indication integrated in the handle.



Well matched with RCCB EBS3R



Extended with add-on RCD block EBS3BL



Both on the left and right sides of the MCB.



Ergonomic handle for user-friendly switching



Safety terminal:
 – easy wiring
 – protection degree IP20.
 Slot screw head, torque up to 4, N·m.



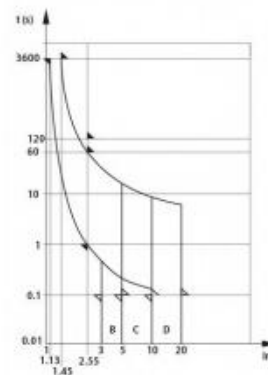
MCB's and RCCB's can be connected with PIN type busbar both at the top and bottom terminals, with easy DIN-rail extraction



MCB's and RCCB's can be connected with fork type busbar both at the top and bottom terminals, with easy DIN-rail extraction

Tripping Characteristic Curves

IEC 60898-1 Standard



Magnetic Release

An electromagnet with plunger ensures instantaneous tripping in case of short circuit. The IEC 60898 distinguishes three different types, following the current for instantaneous release: type B, C, D

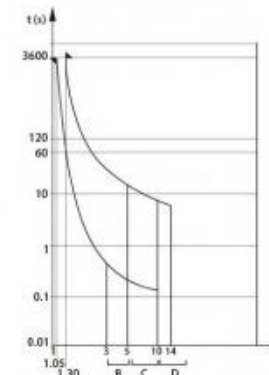
Test current	Tripping time	Applications
B 3In ~ 5In	0.1 < t < 45s (In ≤ 32A) 0.1 < t < 90s (In ≤ 32A) t < 0.1s	Only for resistive loads such as: - electrical heating - water heater - stoves
C 5In ~ 10In	0.1 < t < 15s (In ≤ 32A) 0.1 < t < 30s (In ≤ 32A) t < 0.1s	Usual loads such as: - lighting - socket outlets - small motors
D 10In ~ 20In	0.1 < t < 4s (In ≤ 32A) 0.1 < t < 8s (In ≤ 32A) t < 0.1s	Control and protection of circuits having important transient inrush currents (large motors)

Thermal Release

The release is initiated by a bimetal strip in case of overload. The standard defines the range of release for specific overload values. Reference ambient temperature is 30°C

Test current	Tripping time
1.13 In	≥ 1h (In ≤ 63A)
1.45 In	t < 1h (In ≤ 63A)
2.55 In	1s < t < 60s (In ≤ 32A) 1s < t < 120s (In > 32A)

IEC 60947-2 Standard



Magnetic Release

□ An electromagnet with plunger ensures instantaneous tripping in case of short circuit.

□ The standard leaves the calibration of magnetic release, to manufacturers decision.

- Ebasee MCB series EBS3B-63 offers instantaneous tripping ranges
 - release B: 4In
 - release C: 8In
 - release D: 12 In

Thermal Release

□ The release is initiated by a bimetal strip in case of overload.

□ The standard defines the range of release for two specific overload values.

□ Reference ambient temperature is 30°C for EBS3B-63

Test current	Tripping time
1.05In	≥ 1h (In ≤ 63A)
1.3In	t < 1h (In ≤ 63A)

Temperature Derating

The maximum permissible current in a circuit breaker depends on the ambient temperature where the circuit breaker is placed. Ambient temperature is the temperature inside the enclosure or switchboard in which the circuit breakers are installed. The reference temperature is 30°C.

Ambient 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
2	2.60	2.52	2.46	2.38	2.28	2.20	2.08	2.00	1.92	1.86	1.76
4	5.20	2.04	4.92	4.76	4.56	4.40	4.16	4.00	3.84	3.76	3.52
6	7.80	7.56	7.38	7.14	6.84	6.60	6.24	6.00	5.76	5.64	5.28
10	13.20	12.70	2.50	12.00	11.50	11.10	10.60	10.00	9.60	9.30	8.90
16	21.12	20.48	20.00	19.20	18.40	17.76	16.96	16.00	15.36	4.88	14.24
20	26.40	25.60	25.00	24.00	23.00	22.20	21.20	20.00	19.20	8.60	17.80
25	33.00	32.00	31.25	30.00	28.75	27.75	26.50	25.00	24.00	23.25	22.25
32	42.56	41.28	40.00	38.72	37.12	35.52	33.92	32.00	30.72	29.76	28.16
40	53.20	51.20	50.00	48.00	46.40	44.80	42.40	40.00	38.40	37.20	35.60
50	67.00	65.50	63.00	60.50	58.00	56.00	53.00	50.00	48.00	46.50	44.00
63	83.79	81.90	80.01	76.86	73.71	70.56	66.78	63.00	60.48	58.90	55.44

When several simultaneously operating circuit breakers are mounted side by side in a small enclosure, the temperature rise inside the enclosure causes a reduction in current rating.

You must then assign the rating (already derated if necessary according to ambient temperature), a downrating factor of 0.8.

Order Note

Following information needed be marked when order	Ordering sample
Product name and model	To order EBS3B-63 Miniature circuit breaker, 2 poles, curve C, rated
Frame level	current 20A, quantity is 100 pieces, should be marked :
Poles	MCB EBS3B-63/2P C20 100pcs.
Tripping characteristic and rated current	
Quantity	