

# Miniature Circuit Breakers (MCBs) 10kA

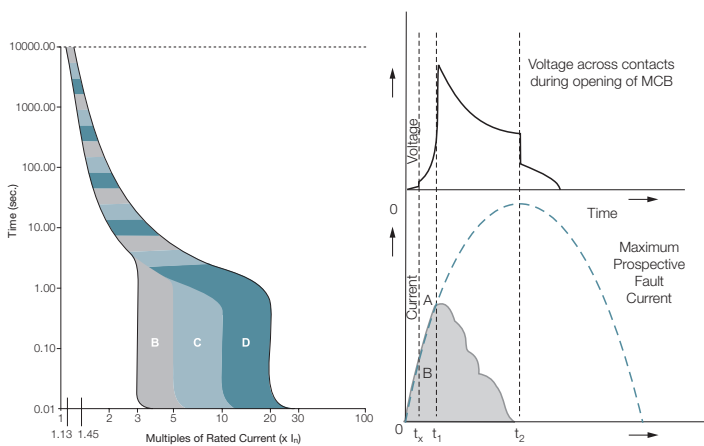
## General Characteristics

Standard Conformity	EN 60898-1
Type / Series	B C
Rated Current (In)	A 6-40 0.5 - 63* 0.5 - 63*
Rated Voltage (Ue)	V~ 240/415 240/415 240/415
Rated Frequency (f)	Hz 50
No. of Poles (Execution)	1P, 3P,
Rated Short Circuit Breaking Capacity	10 kA
Magnetic Release Setting	(3-5)In (5-10)In (10-20)In
Rated Insulation Voltage (Ui)	V 660
Rated Impulse Voltage (Uimp)	kV 4
Electrical / Mechanical Endurance (no. of operations)	<32A 20000 >32A 10000
Ambient Working Temperature (oC)	-5°C to 55°C
Vibration	g 3
Protection Class	IP-20
Installation Position	Vertical / Horizontal
Mounting Clip	on DIN Rail (35mm x 7.5mm)
Case & Cover	Moulded, flame-retardant thermoplastic material

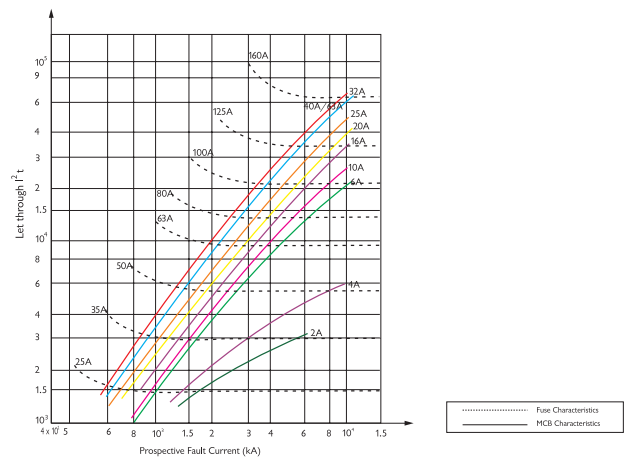
## Cable Capacity

Cable clamp 25mm<sup>2</sup>

## Tripping Characteristics



## Let Through Energy I2t



## Tripping Characteristics

Based on the Tripping Characteristics, MCBs are available in 'B', 'C' and 'D' curve to suit different types of applications.

'B' Curve: for protection of electrical circuits with equipment that does not cause surge current (lighting and distribution circuits). Short circuit release is set to (3-5)

'C' Curve: for protection of electrical circuits with equipment that causes surge current (inductive loads and motor circuits). Short circuit release is set to (5 - 10) In

Short circuit release is set to (5 - 10) In

'D' Curve: for protection of electrical circuits which causes high inrush current, typically 12-15 times the thermal rated current (transformers, X-ray machines etc.)

Short circuit release is set to (10 - 20) In

## Current Limiting Design

In a current limiting breaker, the tripping & arc control mechanism are so designed that under short circuit conditions, the contacts are physically separated and the electrodynamic forces set up by fault current, assist the extinction in less than half cycle.

The figure shows the current limiting effect of circuit breakers.

Fault Traces for Voltage & Current

0 = Point of fault initiation

tx = Contact opening time (i.e., creation of arc)

t1 = Current / Voltage peak (i.e., current limitation)

t2 = Time to total extinction of arc (i.e., complete shutdown of fault current)



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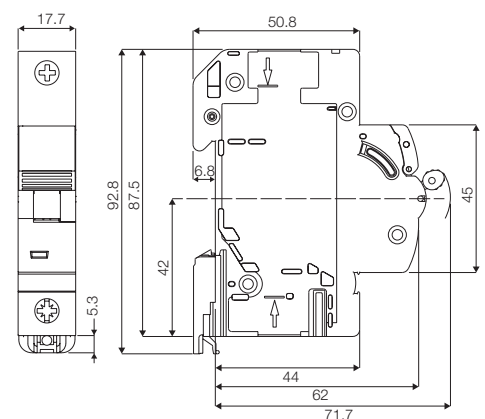
## Selection of MCB for Motor Protection

S. No.	kW	HP	1 Phase 230V DOL Starting		3 Phase 400V DOL Starting		3 Phase 400V Assisted Starting Star Delta		
			Full Load Current	MCB Selection	Full Load Current	MCB Selection	Full Load Current	MCB Selection	
				C		C		C	D
1	0.18	0.24	2.8	10	0.9	2	—	—	—
2	0.25	0.34	3.2	10	1.2	2	—	—	—
3	0.37	0.50	3.5	10	1.2	2	—	—	—
4	0.55	0.74	4.8	16	1.8	3	—	—	—
5	0.75	1.01	6.2	20	2.0	3	—	—	—
6	1.1	1.47	8.7	25	2.6	6	—	—	—
7	1.5	2.01	11.8	32	3.5	10	—	—	—
8	2.2	2.95	17.5	50	4.4	10	—	—	—
9	3	4.02	20.0	63	6.3	16	6.3	16	10
10	3.75	5.03	24.0	80	8.2	20	8.2	20	10
11	5.5	7.37	26.0	80	11.2	25	11.2	32	16
12	7.5	10.05	47.0	125	14.4	40	14.4	40	25
13	10	13.40	—	—	21.0	50	21.0	50	32
14	15	20.11	—	—	27.0	100	27.0	63	40
15	18.5	24.80	—	—	32.0	125	32.0	—	50
16	22	29.49	—	—	38.0	125	38.0	—	63
17	30	40.21	—	—	51.0	125	51.0	—	63

## Outgoing devices - MCBs - 10/15kA, Single Pole

Types B, C and D, 10kA to IEC 60898

Description	Current	Current (A)	Type B	Type C	Type D
Miniature Circuit Breaker 10kA	1A	-	-	PSH101C	-
Miniature Circuit Breaker 10kA	2A	-	-	PSH102C	-
Miniature Circuit Breaker 10kA	4A	-	-	PSH104C	-
Miniature Circuit Breaker 10kA	6A	PSH106B	PSH106C	PSH106D	
Miniature Circuit Breaker 10kA	10A	PSH110B	PSH110C	PSH110D	
Miniature Circuit Breaker 10kA	16A	PSH116B	PSH116C	PSH116D	
Miniature Circuit Breaker 10kA	20A	PSH120B	PSH120C	PSH120D	
Miniature Circuit Breaker 10kA	25A	PSH125B	PSH125C	PSH125D	
Miniature Circuit Breaker 10kA	32A	PSH132B	PSH132C	PSH132D	
Miniature Circuit Breaker 10kA	40A	PSH140B	PSH140C	-	
Miniature Circuit Breaker 10kA	50A	PSH150B	PSH150C	-	
Miniature Circuit Breaker 10kA	63A	PSH163B	PSH163C	-	



For Type D MCBs above 32A please contact sales office for further details



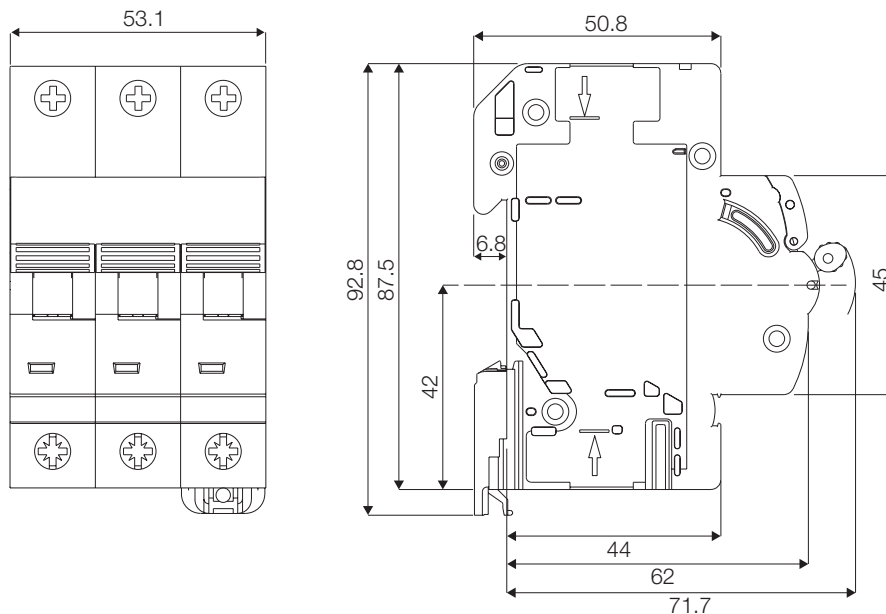
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## Outgoing devices - MCBs 10kA, Triple Pole

Types B, C and D, 10kA to IEC 60898

Description	Current	Current (A)	Type B	Type C	Type D
Miniature Circuit Breaker 10kA	2A	2A	-	PSH302C	-
Miniature Circuit Breaker 10kA	4A	4A	-	PSH304C	-
Miniature Circuit Breaker 10kA	6A	6A	PSH306B	PSH306C	PSH306D
Miniature Circuit Breaker 10kA	10A	10A	PSH310B	PSH310C	PSH310D
Miniature Circuit Breaker 10kA	16A	16A	PSH316B	PSH316C	PSH316D
Miniature Circuit Breaker 10kA	20A	20A	PSH320B	PSH320C	PSH320D
Miniature Circuit Breaker 10kA	25A	25A	PSH325B	PSH325C	PSH325D
Miniature Circuit Breaker 10kA	32A	32A	PSH332B	PSH332C	PSH332D
Miniature Circuit Breaker 10kA	40A	40A	PSH340B	PSH340C	-
Miniature Circuit Breaker 10kA	50A	50A	PSH350B	PSH350C	-
Miniature Circuit Breaker 10kA	63A	63A	PSH363B	PSH363C	-

For Type D MCBs above 32A please contact sales office for further details



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