

LOW VOLTAGE SWITCHING DEVICES

CATALOGUE

NSR
Powered by **VAV**

ENERGY
PRO ⚡

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MINIATURE CIRCUIT BREAKER

Miniature Circuit Breakers are electromechanical devices which protect an electrical circuit from an overcurrent. The overcurrent, in an electrical circuit, may result from short circuit, overload or faulty design. A MCB is a better alternative to a fuse since it does not require replacement, once an overload is detected. Unlike fuse, a MCB can be easily reset and thus offers improved operational safety and greater convenience without incurring large operating cost.



CONSTRUCTION

A MCB embodies complete enclosure in moulded insulating material. This provides mechanically strong and insulated housing. The switching system consists of a fixed and a moving contact to which incoming and outgoing wires are connected. The metal or current carrying parts are made up of electrolytic copper or silver alloy depending on the rating of the circuit breaker.

As the contacts are separated in the event of an overload or short circuit situation, an electric arc is formed. MCBs are designed to handle arc interruption process where arc energy extraction and its cooling are provided by metallic arc splitter plates. These plates are held in a proper position by an insulating material. Also, arc runner is provided to force the arc towards the arc chute that is produced between the main contacts.

GENERAL INFORMATION

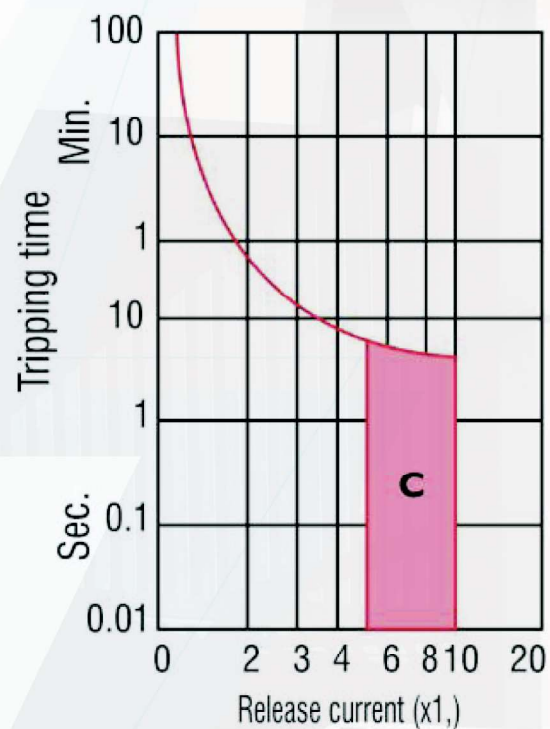
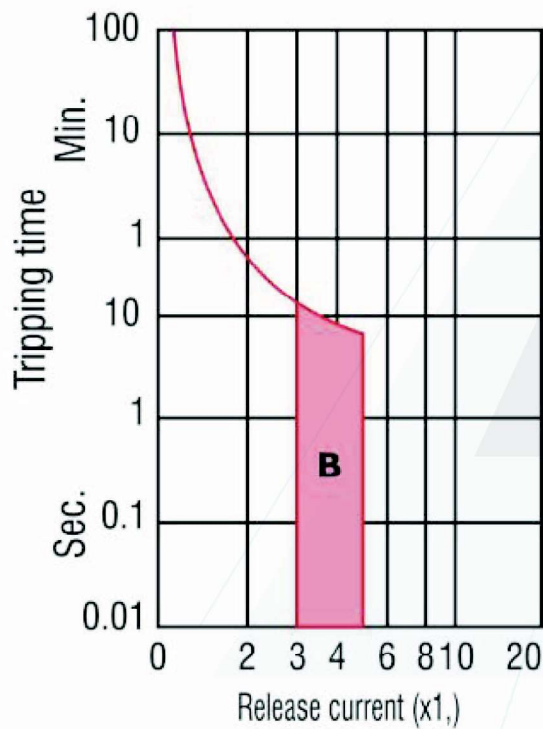
Parameter	Remarks
Standard Conformity	IS/ IEC 60898-1
Tripping Characteristics	B, C
Rated Current (I _n) A	0.5A- 63 A
Rated Voltage (U _e) V	240 / 415 Vac - 250VDC
Rated Frequency (f) Hz	50
No. of Poles (Execution)	SP / SPN /DP/ TP / TPN / FP
Rated Breaking Capacity	6-10kA
Energy Limiting Class	3
Degree of Protection	IP 20
Type of Trip	Thermal magnetic release
Terminal Capacity (max), sqmm	35 sqmm. Rigid cable 25 sqmm. Flexible cables
Terminal Tightening Torque	2Nm
Installation Position	Vertical / Horizontal
Mounting	Clip on DIN Rail (35mm x 7.5mm)
Busbar Connections Top Terminal	Pin type / Fork type
Busbar Connections Bottom Terminal	Pin type / Fork type
Rated Insulation Voltage (U _i)	690V
Rated Impulse Voltage (U _{imp})	4 kV

GENERAL INFORMATION

Parameter	Remarks
Dielectric Strength	2.5 kV
Operating Temperature	-5 to 55 Celsius
Humidity	95% RH
Vibration	3g
Shock resistance	40mm Free fall
Case & Cover	Flame-retardant thermoplastic material
Electrical / Mechanical Durability <32A rating	20.000 Operation
Electrical / Mechanical Durability >32A rating	10.000 Operation



MCB CHARACTERISTICS CURVE



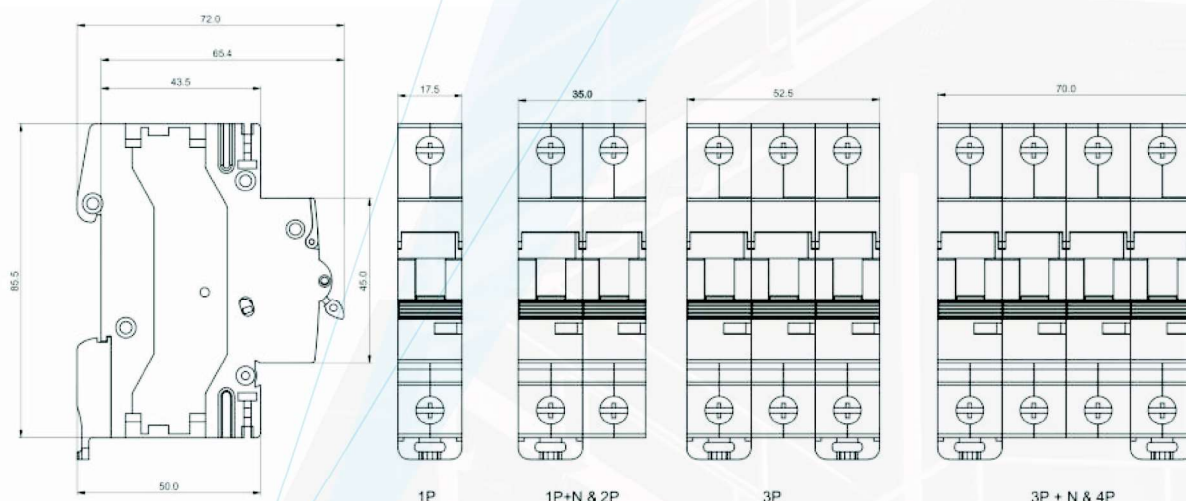
AS PER	THERMAL TRIPPING			MAGNETIC TRIPPING		
	No Tripping	Tripping	Time	Hold	Trip	Time
IS/IEC 60898-1	Current	Current	Limits	Current	Current	Limits
	L1	L2	T	L4	L5	T
B Curve	1.13xI _n		≥I _h	3xI _n		≥0.1 s
		1.45xI _n	<I _h		5xI _n	<0.1 s
C Curve	1.13xI _n		≥I _h	5xI _n		≥0.1 s
		1.45xI _n	<I _h		10xI _n	<0.1 s

NSR LOW VOLTAGE TYPES

NSR LOW VOLTAGE TYPES						
MCB B 10kA	1P	1PN	2P	3P	3PN	4P
6A	MCBB106A1P	MCBB106A1PN	MCBB106A2P	MCBB106A3P	MCBB106A3PN	
10A	MCBB1010A1P	MCBB1010A1PN	MCBB1010A2P	MCBB1010A3P	MCBB1010A3PN	
16A	MCBB1016A1P	MCBB1016A1PN	MCBB1016A2P	MCBB1016A3P	MCBB1016A3PN	
20A	MCBB1020A1P	MCBB1020A1PN	MCBB1020A2P	MCBB1020A3P	MCBB1020A3PN	
25A	MCBB1025A1P	MCBB1025A1PN	MCBB1025A2P	MCBB1025A3P	MCBB1025A3PN	
32A	MCBB1032A1P	MCBB1032A1PN	MCBB1032A2P	MCBB1032A3P	MCBB1032A3PN	
40A	MCBB1040A1P	MCBB1040A1PN	MCBB1040A2P	MCBB1040A3P	MCBB1040A3PN	
MCB B 10kA	1P	1PN	2P	3P	3PN	4P
6A	MCBC106A1P	MCBC106A1PN	MCBC106A2P	MCBC106A3P	MCBC106A3PN	
10A	MCBC1010A1P	MCBC1010A1PN	MCBC1010A2P	MCBC1010A3P	MCBC1010A3PN	
16A	MCBC1016A1P	MCBC1016A1PN	MCBC1016A2P	MCBC1016A3P	MCBC1016A3PN	
20A	MCBC1020A1P	MCBC1020A1PN	MCBC1020A2P	MCBC1020A3P	MCBC1020A3PN	
25A	MCBC1025A1P	MCBC1025A1PN	MCBC1025A2P	MCBC1025A3P	MCBC1025A3PN	
32A	MCBC1032A1P	MCBC1032A1PN	MCBC1032A2P	MCBC1032A3P	MCBC1032A3PN	
40A	MCBC1040A1P	MCBC1040A1PN	MCBC1040A2P	MCBC1040A3P	MCBC1040A3PN	
MCB B 6kA	1P	1PN	2P	3P	3PN	4P
6A	MCBB66A1P	MCBB66A1PN	MCBB66A2P	MCBB66A3P	MCBB66A3PN	
10A	MCBB610A1P	MCBB610A1PN	MCBB610A2P	MCBB610A3P	MCBB610A3PN	
16A	MCBB616A1P	MCBB616A1PN	MCBB616A2P	MCBB616A3P	MCBB616A3PN	
20A	MCBB620A1P	MCBB620A1PN	MCBB620A2P	MCBB620A3P	MCBB620A3PN	
25A	MCBB625A1P	MCBB625A1PN	MCBB625A2P	MCBB625A3P	MCBB625A3PN	
32A	MCBB632A1P	MCBB632A1PN	MCBB632A2P	MCBB632A3P	MCBB632A3PN	
40A	MCBB640A1P	MCBB640A1PN	MCBB640A2P	MCBB640A3P	MCBB640A3PN	
MCB C 6kA	1P	1PN	2P	3P	3PN	4P
6A	MCBC66A1P	MCBC66A1PN	MCBC66A2P	MCBC66A3P	MCBC66A3PN	
10A	MCBC610A1P	MCBC610A1PN	MCBC610A2P	MCBC610A3P	MCBC610A3PN	
16A	MCBC616A1P	MCBC616A1PN	MCBC616A2P	MCBC616A3P	MCBC616A3PN	
20A	MCBC620A1P	MCBC620A1PN	MCBC620A2P	MCBC620A3P	MCBC620A3PN	
25A	MCBC625A1P	MCBC625A1PN	MCBC625A2P	MCBC625A3P	MCBC625A3PN	
32A	MCBC632A1P	MCBC632A1PN	MCBC632A2P	MCBC632A3P	MCBC632A3PN	
40A	MCBC640A1P	MCBC640A1PN	MCBC640A2P	MCBC640A3P	MCBC640A3PN	

NSR LOW VOLTAGE TYPES						
MCB LOW Rating 10kA	1P	1PN	2P	3P	3PN	4P
0,5A	MCBC1005A1P	MCBC1005A1PN	MCBC1005A2P	MCBC1005A3P	MCBC1005A3PN	
1A	MCBC101A1P	MCBC101A1PN	MCBC101A2P	MCBC101A3P	MCBC101A3PN	
2A	MCBC102A1P	MCBC102A1PN	MCBC102A2P	MCBC102A3P	MCBC102A3PN	
3A	MCBC103A1P	MCBC103A1PN	MCBC103A2P	MCBC103A3P	MCBC103A3PN	
4A	MCBC104A1P	MCBC104A1PN	MCBC104A2P	MCBC104A3P	MCBC104A3PN	
5A	MCBC105A1P	MCBC105A1PN	MCBC105A2P	MCBC105A3P	MCBC105A3PN	
RCCB Rating 10kA	1P	1PN	2P	3P	3PN	4P
25A 30mA			RCCB1025302P			RCCB1025304P
25A 100mA			RCCB10251002P			RCCB10251004P
25A 300mA			RCCB10253002P			RCCB10253004P
40A 30mA			RCCB1040302P			RCCB1040304P
40A 100mA			RCCB10401002P			RCCB10401004P
40A 300mA			RCCB10403002P			RCCB10403004P
Isolator	1P	1PN	2P	3P	3PN	4P
40A	IS4001			IS4003	IS4004	
63A	IS6301			IS6303	IS6304	
MCB signalling switch 10 kA	1P	1PN	2P	3P	3PN	4P
40A	MCBAST1					

MCB DIMENSIONS (IN MM) 0.5A TO 63A



NSR LOW VOLTAGE DC TYPES

MCB DC Type	1P	2P
0.5A	MCBDC05A1P	MCBDC05A2P
1A	MCBDC1A1P	MCBDC1A2P
2A	MCBDC2A1P	MCBDC2A2P
4A	MCBDC4A1P	MCBDC4A2P
6A	MCBDC6A1P	MCBDC6A2P
10A	MCBDC10A1P	MCBDC10A2P
16A	MCBDC16A1P	MCBDC16A2P
20A	MCBDC20A1P	MCBDC20A2P

Photographs are for illustrative purposes only and may not reflect final specification.

All information in this document is substantially correct at time of printing and may be altered subsequently. Final weight and dimensions will depend on completed specification.

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