

WiNtrip

Miniature Circuit Breaker

As power distribution needs play a pivotal role in all the significant sectors namely Commercial, Industrial and Residential, improved Breaker performance through better electrical safety, higher operational endurance, continued service and reduced cost have become of paramount importance. C&S WiNtrip MCBs have been engineered to constantly fulfill the above requirements. With these features C&S is setting new standards for user friendly and superlative electrical circuit protection.

The C&S WiNtrip MCB is a high performing Thermal Magnetic current limiting device with the ability to disconnect short circuits up to 10KA. The range is available in trip types B, C and D for 1P, 1P+N, 2P, 3P, 3P+N & 4P configurations in 0.5 - 125 Amp current ratings.

All metal components for operating mechanism of WiNtrip circuit breaker are specially treated for high self lubrication leading to repeat accuracy during service life. The MCBs conform to Standards: IEC 60898-1995 and IS 8828-1996 and stand guaranteed for best quality for optimum performance.

Also includes

- Auxilliary Contacts & Shunt Trip
- RCCB and
- Distribution Boards



Highlights - MCB



IP 20 Degree Protection

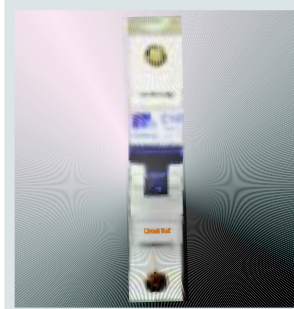
Prevents electrical shock by accidental touch. Terminals are finger touch proof.

Trip Free Mechanism with Padlocking Facility

MCB trips even if held in on position and can be locked for better safety during maintenance.

Low Power Consumption

Cost effective and energy saving. The Watt loss of Wintrip MCBs is extremely low providing valuable savings over its entire life cycle. It is due to appropriate contact configuration.



Rating (Amp)	As per IS:8828-1996 Maximum wattloss	Maximum wall loss in SP
6	3.0W	0.76W
10	3.0W	1.83W
16	3.5W	2.44W
20	4.5W	3.07W
25	4.5W	2.80W
32	6.0W	3.92W
40	7.5W	3.96W
63	13.0W	6.06W

Current Limiting Design - Class 3

Minimum let through energy under fault condition due to ultra fast contact separation and the rapid quenching of the emergency arc. This reduces stress on connected loads and cables.

High Terminal Capacity with Deep Serrations

Ensures proper termination and firm connection to accommodate 35sq mm Copper/ Aluminum cable.

Bi-connect Termination Possible

Choice to use Busbar and/or cable in the same terminal.

Din Rail Mounting

Two stage snapping device for simple effortless and firm seating on 35 x 7.5 mm Din Rail.

Combination Head Captive Screws

Safe and provides the flexibility of both normal and Philip Head screw driver.

Air Circulation

Channels form a tunnel resulting in effective air circulation around individual poles.



Housing

WiNtrip MCBs are made up of engineered thermo plastic for self lubrication and critical performance. The housing and other moulded components are fire retardant having high melting point, low water absorption and high dielectric strength therefore enabling it to withstand high temperature.

Operating Mechanism

WiNtrip Circuit Breakers are based on Thermal Magnetic technology. The protection is ensured by combining a temperature receptive mechanism (bimetal) and a current sensitive electro-magnetic device. The thermal operation provides protection from normal overload and the electro-magnetic device against large overloads and short circuits.

Superior Contact Mechanism

The mechanism comprises of fixed and moving contacts made up of silver graphite for surety, extended life span and anti-weld properties. These contacts have low contact resistance resulting in reduced voltage drop and low watt loss commensurating to energy savings.

High Tech Arc Blower

Protects from hazards of overloads and short-circuits. The arc under the influence of magnetic field is moved into the arc chute where it is quickly extinguished and quenched.

Maximum Backup Protection

To protect the WiNtrip circuit breakers against higher short circuit current, fuses should be installed at the incoming side. The current rating of these fuse links should not be more than the values stated in the table.

MCB Rating	Back-up Fuse Rating
1A	25A
4A	50A
6A	80A
10A	100A
63A	100A



Legend Plate

Easy identification of circuits irrespective of position on the Distribution Board. Very useful during maintenance. A unique feature.

Technical Data - Characteristics

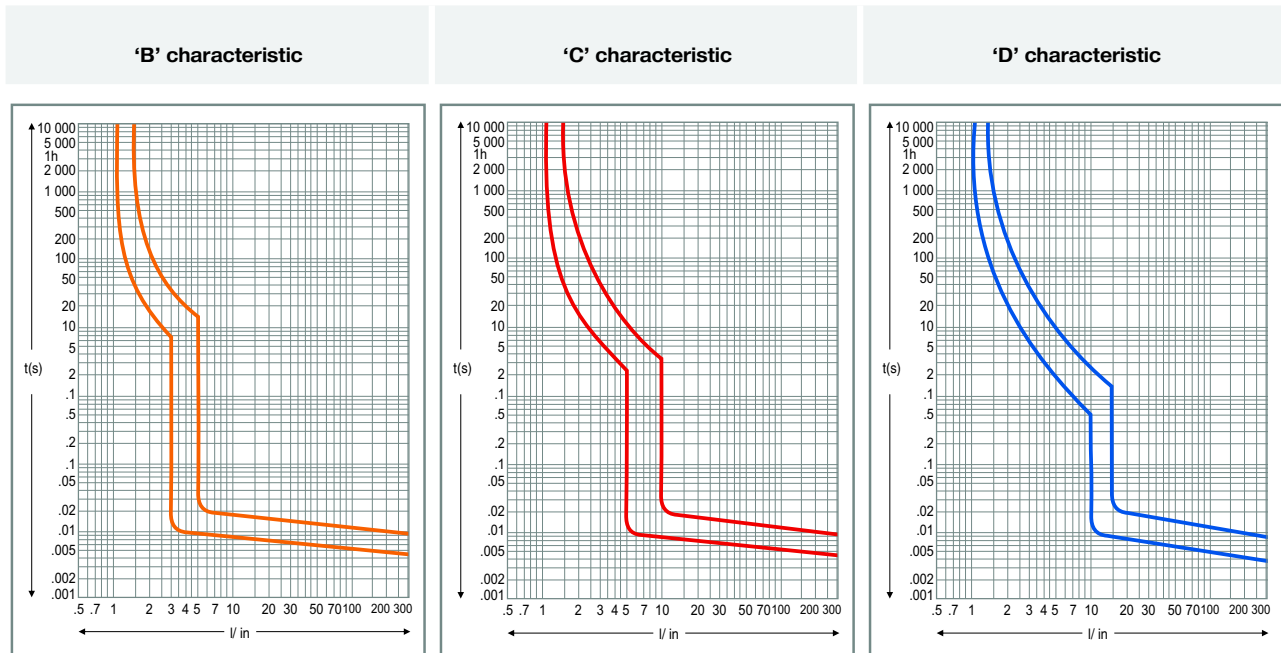
MCB-AC	WiNtrip MCB			WiNtrip Isolator
Standard Conformity	IEC 60898:95 IS 8828:96			IEC 60947-3 IS 13947-3
Type	B	C	D	
Rated Current (In)	6-63A	0.5-125A	0.5-63A	25-125A
Rated Voltage AC (Ue)	240/415V			240/415V
Utilization Category				AC22A
Rated Frequency Hz	50Hz			50Hz
No. of Poles (Execution)	1P, 1P+N, 2P, 3P, 3P+N & 4P			1P, 2P, 3P & 4P
Rated Short Circuit Breaking Capacity	10kA	10kA	10kA	
Rated Insulation Voltage (Ui)	660V			660V
Magnetic Release Setting	(3-5)In	(5-10)In	(10-20)In	
Rated Impulse Voltage (Uimp)	6kV			6kV
Electrical/Mechanical Life				
<32A	30,000			30,000
>32A	10,000			10,000
Ambient Temperature	-5°C to +55°C			-5°C to +55°C
Energy Limiting Class	ELC 3			
Mounting	Clip on Din rail (35 mm x 7.5 mm)			
Line Terminal Capacity	35 mm ²			35 mm ²
Degree of Protection	IP 20			IP 20
Resistance to Shock	40mm free fall			40mm free fall

MCB-DC

Circuit Breakers for DC application are engineered to fulfill tough arc quenching conditions. DC MCB incorporates built in magnet to direct the arc into the arc quenching chamber.

Specifications

Standard Conformity	IEC 60898-2
Current Rating	0.5-63A
No. of Poles	1P & 2P
Voltage Rating	220V (max.)
Short Circuit Breaking Capacity	4kA



Type	Application	Thermal Test Current		Tripping Time $I_{n \leq 63A}$	Electro Magnetic Test Current		Tripping Time (t)
		Low	High				
B	Lighting & Distribution with no surge Current	1.13xIn		>1hour	3xIn		$\geq 0.1s$
			1.45xIn	<1hour		5xIn	<0.1s
C	Inductive Load with surge Current	1.13xIn		>1hour	5xIn		$\geq 0.1s$
			1.45xIn	<1hour		10xIn	<0.1s
D	High Inductive Load & High Inrush Current	1.13xIn		>1hour	10xIn		$\geq 0.1s$
			1.45xIn	<1hour		20xIn	<0.1s

Temperature derating

In plant engineering situations, where ambient temperature is higher than the regulatory reference temperature of 30°C, the circuit breakers may be subjected to untimely tripping, i.e. opening when not required, since the increase in temperature is interpreted as a current surge. Ambient temperature, as a matter of fact, affects the initial deformation of the bimetal. At a temperature above 30° C the thermal release trips faster, behaving like a relay with a lower nominal current. It is therefore imperative to take into account nominal current derating if the circuit breaker is installed in an ambient temperature above 30°C.

The table gives the max. operating current referring to the different temperatures.

In(A)	Temperature					
	25°C	30°C	35°C	40°C	45°C	50°C
2	2.04	2	1.96	1.9	1.86	1.82
6	6.24	6	5.82	5.52	5.28	4.98
10	10.40	10	9.7	9.2	8.8	8.3
16	16.5	16	15.5	15	14.4	14.1
20	20.6	20	19.4	18.8	18	17.6
25	25.8	25	24.3	23.5	22.5	22
32	33	32	31.04	30.1	28.8	28.2
40	41.2	40	38.8	37.6	36	35.2
63	64.89	63	61.79	60	58	56.07

Quick Selection Table - MCB



Single Pole
CSMB1C10

Single Pole



Description	In(A)	Reference		
		'B' Curve	'C' Curve	'D' Curve
Single Pole	0.5		CSMB1C0.5	CSMB1D0.5
	1		CSMB1C1	CSMB1D1
	2		CSMB1C2	CSMB1D2
	3		CSMB1C3	CSMB1D3
	4		CSMB1C4	CSMB1D4
	5		CSMB1C5	CSMB1D5
	6	CSMB1B6	CSMB1C6	CSMB1D6
	10	CSMB1B10	CSMB1C10	CSMB1D10
	16	CSMB1B16	CSMB1C16	CSMB1D16
	20	CSMB1B20	CSMB1C20	CSMB1D20
	25	CSMB1B25	CSMB1C25	CSMB1D25
	32	CSMB1B32	CSMB1C32	CSMB1D32
	40	CSMB1B40	CSMB1C40	CSMB1D40
	50	CSMB1B50	CSMB1C50	CSMB1D50
	63	CSMB1B63	CSMB1C63	CSMB1D63
80		CSMB1C80		
100		CSMB1C100		
125		CSMB1C125		



Single Pole + Neutral
CSMB1C6N

Single Pole
+ Neutral



Single Pole + Neutral	0.5		CSMB1C0.5N	CSMB1D0.5N
	1		CSMB1C1N	CSMB1D1N
	2		CSMB1C2N	CSMB1D2N
	3		CSMB1C3N	CSMB1D3N
	4		CSMB1C4N	CSMB1D4N
	5		CSMB1C5N	CSMB1D5N
	6	CSMB1B6N	CSMB1C6N	CSMB1D6N
	10	CSMB1B10N	CSMB1C10N	CSMB1D10N
	16	CSMB1B16N	CSMB1C16N	CSMB1D16N
	20	CSMB1B20N	CSMB1C20N	CSMB1D20N
	25	CSMB1B25N	CSMB1C25N	CSMB1D25N
	32	CSMB1B32N	CSMB1C32N	CSMB1D32N
	40	CSMB1B40N	CSMB1C40N	CSMB1D40N
	50	CSMB1B50N	CSMB1C50N	CSMB1D50N
	63	CSMB1B63N	CSMB1C63N	CSMB1D63N



Double Pole
CSMB2C10

Double Pole



Double Pole	0.5		CSMB2C0.5	CSMB2D0.5
	1		CSMB2C1	CSMB2D1
	2		CSMB2C2	CSMB2D2
	3		CSMB2C3	CSMB2D3
	4		CSMB2C4	CSMB2D4
	5		CSMB2C5	CSMB2D5
	6	CSMB2B6	CSMB2C6	CSMB2D6
	10	CSMB2B10	CSMB2C10	CSMB2D10
	16	CSMB2B16	CSMB2C16	CSMB2D16
	20	CSMB2B20	CSMB2C20	CSMB2D20
	25	CSMB2B25	CSMB2C25	CSMB2D25
	32	CSMB2B32	CSMB2C32	CSMB2D32
	40	CSMB2B40	CSMB2C40	CSMB2D40
	50	CSMB2B50	CSMB2C50	CSMB2D50
	63	CSMB2B63	CSMB2C63	CSMB2D63
80		CSMB2C80		
100		CSMB2C100		
125		CSMB2C125		



Three Pole
CSMB3C10

Three Pole



In(A)

- 0.5
- 1
- 2
- 3
- 4
- 5
- 6
- 10
- 16
- 20
- 25
- 32
- 40
- 50
- 63
- 80
- 100
- 125

'B' Curve

Reference

'C' Curve

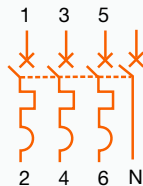
'D' Curve

'B' Curve	'C' Curve	'D' Curve
	CSMB3C0.5	CSMB3D0.5
	CSMB3C1	CSMB3D1
	CSMB3C2	CSMB3D2
	CSMB3C3	CSMB3D3
	CSMB3C4	CSMB3D4
	CSMB3C5	CSMB3D5
CSMB3B6	CSMB3C6	CSMB3D6
CSMB3B10	CSMB3C10	CSMB3D10
CSMB3B16	CSMB3C16	CSMB3D16
CSMB3B20	CSMB3C20	CSMB3D20
CSMB3B25	CSMB3C25	CSMB3D25
CSMB3B32	CSMB3C32	CSMB3D32
CSMB3B40	CSMB3C40	CSMB3D40
CSMB3B50	CSMB3C50	CSMB3D50
CSMB3B63	CSMB3C63	CSMB3D63
	CSMB3C80	
	CSMB3C100	
	CSMB3C125	



Three Pole + Neutral
CSMB3C32N

Three Pole + Neutral



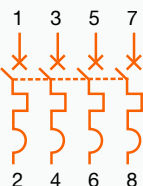
- 0.5
- 1
- 2
- 3
- 4
- 5
- 6
- 10
- 16
- 20
- 25
- 32
- 40
- 50
- 63
- 80
- 100
- 125

'B' Curve	'C' Curve	'D' Curve
	CSMB3C0.5N	CSMB3D0.5N
	CSMB3C1N	CSMB3D1N
	CSMB3C2N	CSMB3D2N
	CSMB3C3N	CSMB3D3N
	CSMB3C4N	CSMB3D4N
	CSMB3C5N	CSMB3D5N
CSMB3B6N	CSMB3C6N	CSMB3D6N
CSMB3B10N	CSMB3C10N	CSMB3D10N
CSMB3B16N	CSMB3C16N	CSMB3D16N
CSMB3B20N	CSMB3C20N	CSMB3D20N
CSMB3B25N	CSMB3C25N	CSMB3D25N
CSMB3B32N	CSMB3C32N	CSMB3D32N
CSMB3B40N	CSMB3C40N	CSMB3D40N
CSMB3B50N	CSMB3C50N	CSMB3D50N
CSMB3B63N	CSMB3C63N	CSMB3D63N
	CSMB3C80N	
	CSMB3C100N	
	CSMB3C125N	



Four Pole
CSMB4C10

Four Pole







- 0.5
- 1
- 2
- 3
- 4
- 5
- 6
- 10
- 16
- 20
- 25
- 32
- 40
- 50
- 63
- 80
- 100
- 125

'B' Curve	'C' Curve	'D' Curve
	CSMB4C0.5	CSMB4D0.5
	CSMB4C1	CSMB4D1
	CSMB4C2	CSMB4D2
	CSMB4C3	CSMB4D3
	CSMB4C4	CSMB4D4
	CSMB4C5	CSMB4D5
CSMB4B6	CSMB4C6	CSMB4D6
CSMB4B10	CSMB4C10	CSMB4D10
CSMB4B16	CSMB4C16	CSMB4D16
CSMB4B20	CSMB4C20	CSMB4D20
CSMB4B25	CSMB4C25	CSMB4D25
CSMB4B32	CSMB4C32	CSMB4D32
CSMB4B40	CSMB4C40	CSMB4D40
CSMB4B50	CSMB4C50	CSMB4D50
CSMB4B63	CSMB4C63	CSMB4D63
	CSMB4C80	
	CSMB4C100	
	CSMB4C125	

Quick Selection Table - Isolator & Accessories



Double Pole
CSMB2ISO40

Description	In(A)	Reference
Single Pole 	25	CSMB1ISO25
	40	CSMB1ISO40
	63	CSMB1ISO63
Double Pole 	25	CSMB2ISO25
	40	CSMB2ISO40
	63	CSMB2ISO63
	80	CSMB2ISO80
	100	CSMB2ISO100
	125	CSMB2ISO125
Three Pole 	25	CSMB3ISO25
	40	CSMB3ISO40
	63	CSMB3ISO63
	80	CSMB3ISO80
	100	CSMB3ISO100
	125	CSMB3ISO125
Four Pole 	25	CSMB4ISO25
	40	CSMB4ISO40
	63	CSMB4ISO63
	80	CSMB4ISO80
	100	CSMB4ISO100
	125	CSMB4ISO125

Accessories

Auxiliary Contact

Attachment fitted with MCB (left side) used for interlocking, signaling and indication. The auxiliary switch is switched on or off along with the MCB through internal linkage.

Specifications

Standard Conformity	IEC 60947-1
Current Rating	6A
Voltage Rating	240V AC
Contact Configuration	1NO + 1NC
Protection	IP 20
Electrical Endurance (nos)	10000
Fitment	Factory Fitted

Shunt Trip

Controls the remote tripping of the MCB to which it is attached (Right Side).

Specifications

Standard Conformity	IEC 60947-1
Rated Voltage AC	220V
DC	12V, 24V, 48V
Operating Voltage	70-110% of Rated Voltage
Protection	IP 20
Electrical Endurance (nos)	10000

Incase MCB is required with Shunt Trip or Auxiliary contact

CSMB1C5N ■

Shunt Trip, replace ■ with

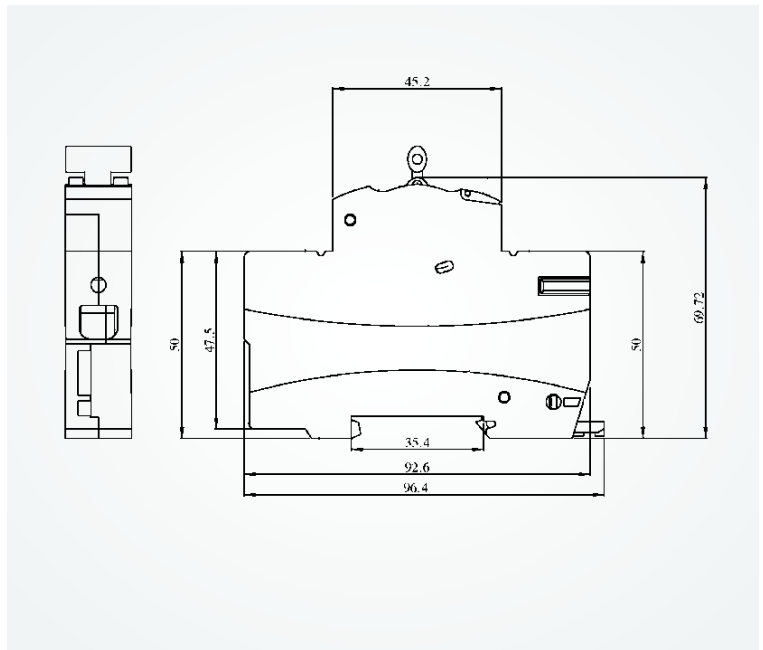
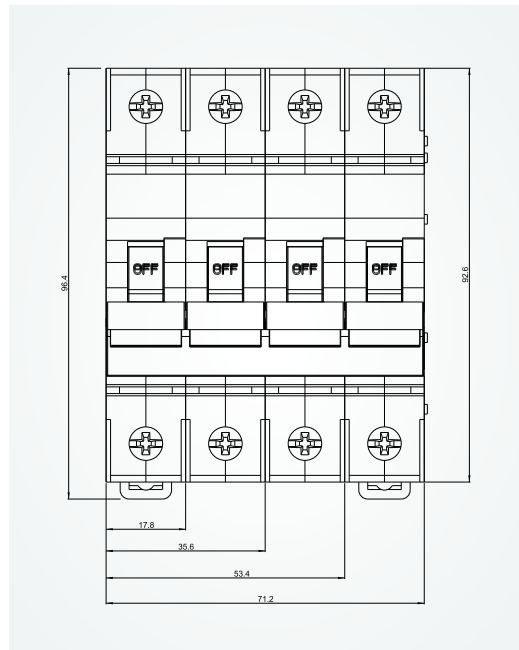
12V DC	S1
24V DC	S2
48V DC	S3
220V AC	S4

OR

Auxiliary contact, replace ■ with

AX

Installation Dimensions - MCB (.05 to 63A) / Isolator (25 to 125A)



Installation Dimensions MCB (80 to 125A)

