

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

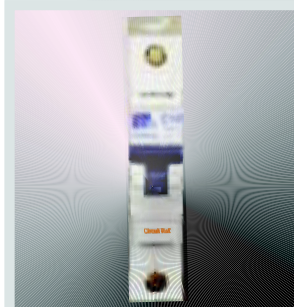
Prevents electrical shock by accidental touch. Terminals are finger touch proof.

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

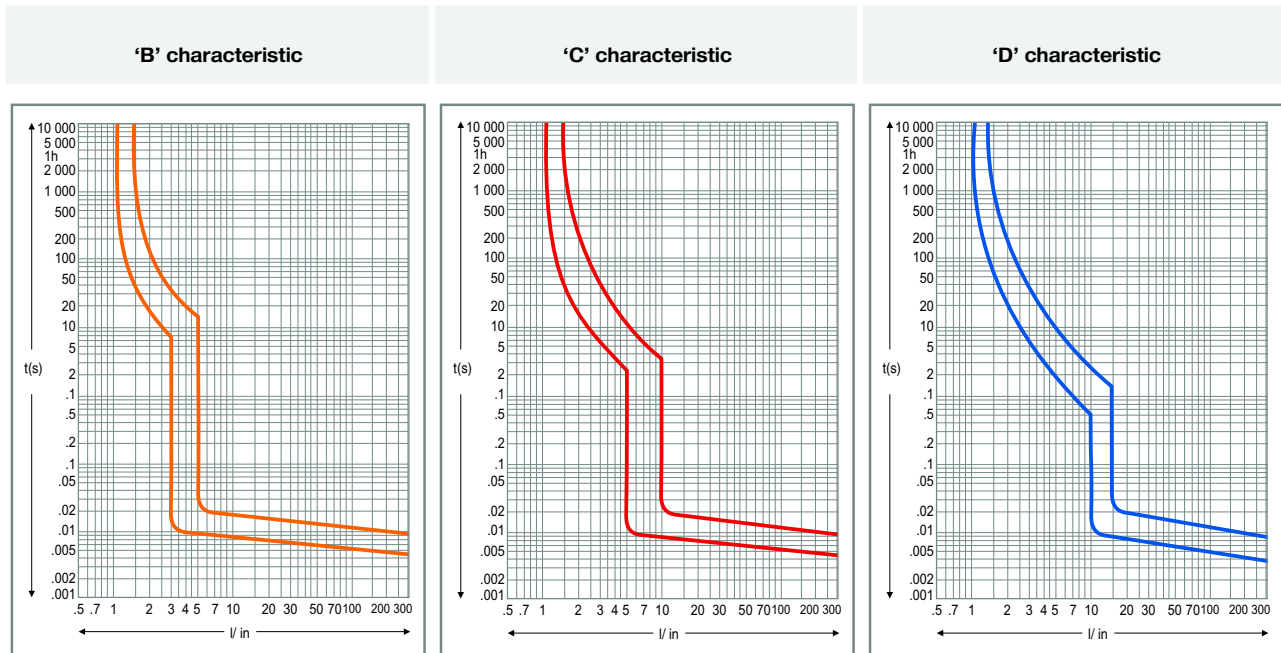
MCB-AC	WiNtrip MCB			WiNtrip Isolator
Standard Conformity	IEC 60898:95 IS 8828:96			IEC 60947-3 IS 13947-3
Type	B	C	D	
Rated Current (In)	6-63A	0.5-125A	0.5-63A	25-125A
Rated Voltage AC (Ue)	240/415V			240/415V
Utilization Category				AC22A
Rated Frequency Hz	50Hz			50Hz
No. of Poles (Execution)	1P, 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	1.13xI _n		>1hour	3xI _n		≥0.1s
			1.45xI _n	<1hour		5xI _n	<0.1s
C	Inductive Load with surge Current	1.13xI _n		>1hour	5xI _n		≥0.1s
			1.45xI _n	<1hour		10xI _n	<0.1s
D	High Inductive Load & High Inrush Current	1.13xI _n		>1hour	10xI _n		≥0.1s
			1.45xI _n	<1hour		20xI _n	<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.

I _n (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



In(A)

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

'B' Curve

CSMB1B6
CSMB1B10
CSMB1B16
CSMB1B20
CSMB1B25
CSMB1B32
CSMB1B40
CSMB1B50
CSMB1B63

Reference

'C' Curve

CSMB1C0.5
CSMB1C1
CSMB1C2
CSMB1C3
CSMB1C4
CSMB1C5
CSMB1C6
CSMB1C10
CSMB1C16
CSMB1C20
CSMB1C25
CSMB1C32
CSMB1C40
CSMB1C50
CSMB1C63
CSMB1C80
CSMB1C100
CSMB1C125

'D' Curve

CSMB1D0.5
CSMB1D1
CSMB1D2
CSMB1D3
CSMB1D4
CSMB1D5
CSMB1D6
CSMB1D10
CSMB1D16
CSMB1D20
CSMB1D25
CSMB1D32
CSMB1D40
CSMB1D50
CSMB1D63



Single Pole + Neutral
CSMB1C6N

Single Pole
+ Neutral



0.5
1
2
3
4
5
6
10
16
20
25
32
40
50
63

CSMB1B6N
CSMB1B10N
CSMB1B16N
CSMB1B20N
CSMB1B25N
CSMB1B32N
CSMB1B40N
CSMB1B50N
CSMB1B63N

CSMB1C0.5N
CSMB1C1N
CSMB1C2N
CSMB1C3N
CSMB1C4N
CSMB1C5N
CSMB1C6N
CSMB1C10N
CSMB1C16N
CSMB1C20N
CSMB1C25N
CSMB1C32N
CSMB1C40N
CSMB1C50N
CSMB1C63N

CSMB1D0.5N
CSMB1D1N
CSMB1D2N
CSMB1D3N
CSMB1D4N
CSMB1D5N
CSMB1D6N
CSMB1D10N
CSMB1D16N
CSMB1D20N
CSMB1D25N
CSMB1D32N
CSMB1D40N
CSMB1D50N
CSMB1D63N



Double Pole
CSMB2C10

Double Pole



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

CSMB2B6
CSMB2B10
CSMB2B16
CSMB2B20
CSMB2B25
CSMB2B32
CSMB2B40
CSMB2B50
CSMB2B63

CSMB2C0.5
CSMB2C1
CSMB2C2
CSMB2C3
CSMB2C4
CSMB2C5
CSMB2C6
CSMB2C10
CSMB2C16
CSMB2C20
CSMB2C25
CSMB2C32
CSMB2C40
CSMB2C50
CSMB2C63
CSMB2C80
CSMB2C100
CSMB2C125

CSMB2D0.5
CSMB2D1
CSMB2D2
CSMB2D3
CSMB2D4
CSMB2D5
CSMB2D6
CSMB2D10
CSMB2D16
CSMB2D20
CSMB2D25
CSMB2D32
CSMB2D40
CSMB2D50
CSMB2D63



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

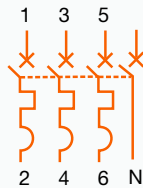
'D' Curve

CSMB3C0.5 CSMB3D0.5
CSMB3C1 CSMB3D1
CSMB3C2 CSMB3D2
CSMB3C3 CSMB3D3
CSMB3C4 CSMB3D4
CSMB3C5 CSMB3D5
CSMB3C6 CSMB3D6
CSMB3C10 CSMB3D10
CSMB3C16 CSMB3D16
CSMB3C20 CSMB3D20
CSMB3C25 CSMB3D25
CSMB3C32 CSMB3D32
CSMB3C40 CSMB3D40
CSMB3C50 CSMB3D50
CSMB3C63 CSMB3D63
CSMB3C80
CSMB3C100
CSMB3C125



Three Pole + Neutral
CSMB3C32N

Three Pole + Neutral



In(A)
0.5
1
2
3
4
5
6
10
16
20
25
32
40
50
63
80
100
125

CSMB3B6N
CSMB3B10N
CSMB3B16N
CSMB3B20N
CSMB3B25N
CSMB3B32N
CSMB3B40N
CSMB3B50N
CSMB3B63N

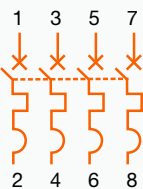
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CSMB3C1N
CSMB3C2N
CSMB3C3N
CSMB3C4N
CSMB3C5N
CSMB3C6N
CSMB3C10N
CSMB3C16N
CSMB3C20N
CSMB3C25N
CSMB3C32N
CSMB3C40N
CSMB3C50N
CSMB3C63N
CSMB3C80N
CSMB3C100N
CSMB3C125N

CSMB3D0.5N
CSMB3D1N
CSMB3D2N
CSMB3D3N
CSMB3D4N
CSMB3D5N
CSMB3D6N
CSMB3D10N
CSMB3D16N
CSMB3D20N
CSMB3D25N
CSMB3D32N
CSMB3D40N
CSMB3D50N
CSMB3D63N



Four Pole
CSMB4C10

Four Pole



In(A)
0.5
1
2
3
4
5
6
10
16
20
25
32
40
50
63
80
100
125

CSMB4B6
CSMB4B10
CSMB4B16
CSMB4B20
CSMB4B25
CSMB4B32
CSMB4B40
CSMB4B50
CSMB4B63





CSMB4C0.5
CSMB4C1
CSMB4C2
CSMB4C3
CSMB4C4
CSMB4C5
CSMB4C6
CSMB4C10
CSMB4C16
CSMB4C20
CSMB4C25
CSMB4C32
CSMB4C40
CSMB4C50
CSMB4C63
CSMB4C80
CSMB4C100
CSMB4C125

CSMB4D0.5
CSMB4D1
CSMB4D2
CSMB4D3
CSMB4D4
CSMB4D5
CSMB4D6
CSMB4D10
CSMB4D16
CSMB4D20
CSMB4D25
CSMB4D32
CSMB4D40
CSMB4D50
CSMB4D63

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

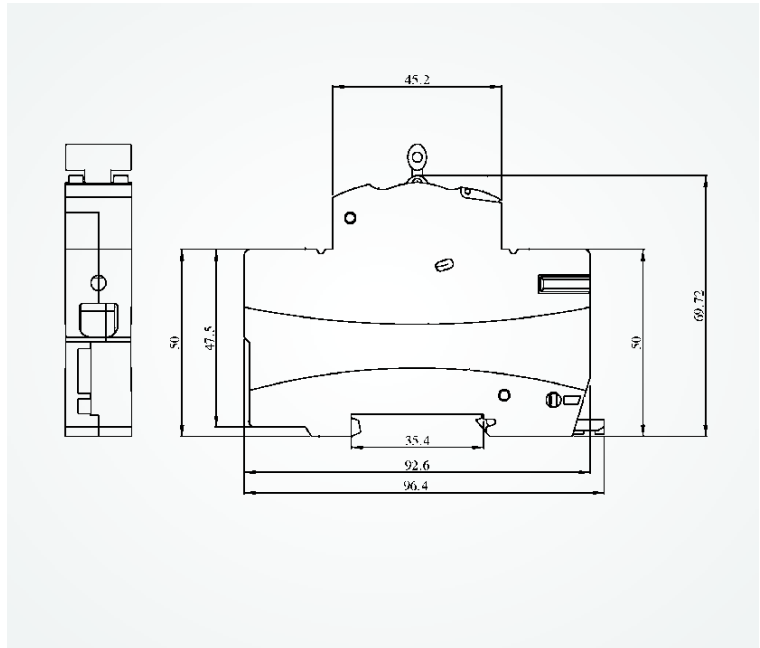
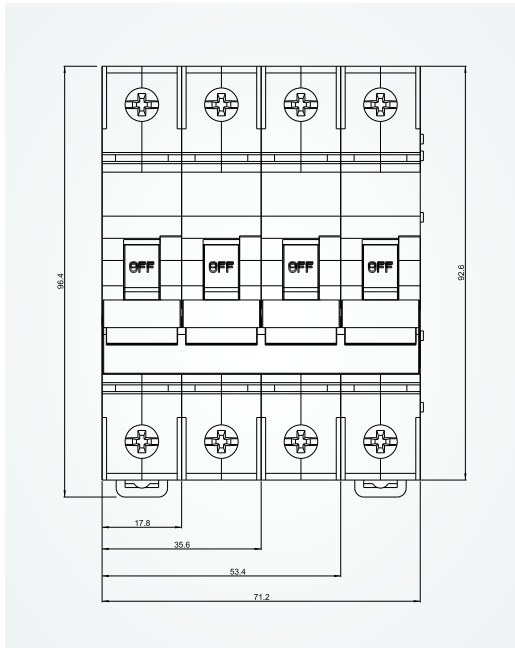
12V DC	S1
24V DC	S2
48V DC	S3
220V AC	S4

OR

Auxiliary contact, replace ■ with

AX

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



Installation Dimensions MCB (80 to 125A)

