

BEST-IN-CLASS PROTECTION

SnappTrip

Switchgear



Building Circuit Protection



Residential



Commercial



Industrial

XCEEDS
EXPECTATIONS



ABOUT US

Finolex Cables Ltd, the flagship company of the Finolex Group was established in 1958 in Pune. Today, it is India's largest and leading manufacturer of electrical and telecommunication cables with a turnover in excess of ₹24 Billion (about US \$ 360 million). The company has manufacturing facilities at Pimpri and Urse in Pune as well as at Goa and Uttarakhand. The company has, over the years, established its reputation as an innovative leader and quality manufacturer by continuously upgrading technology, modernizing manufacturing facilities and maintaining highest standards of quality and services. Today, the name Finolex has become synonymous with quality and enjoys overwhelming confidence of the customers.

The company has received the IS/ISO 9001 systems certification across all product lines and plants. Besides ISO 14001- quality certification has been accorded to its plants in Urse (JFTC & Co-Axial) and Goa (JFTC & HW) and Pimpri. The company has received several honours such as Harvard Business School Association of India - Economic Times award for "Corporate Excellence"; IIM - LIC award for 'marketing' and the Engineering Export Promotion Council's 'export performance certificate'. Recently, the company was awarded the Export House status by the Directorate General of Foreign Trade.

During the last few years, besides the cable business, the company has forayed into new segments and added new products under the Finolex brand. The intention is to evolve over a period of time into a Total Electrical Solutions Company from a Wires and Cables Company. The company has always stayed ahead of times offering the best the consumers can ask for. And the same endeavour has led the company to introduce a premium range of MCBs (Miniature Circuit Breakers) - SnappTrip MCB for the consumers.

**XCEEDS
EXPECTATIONS**



Miniature Circuit Breaker (MCB)

Specification

IS / IEC 60898 – 1:2002

Range

6A to 63A- 'B' Curve
6A to 63A- 'C' Curve

Execution

Single Pole (1P), Single Pole & Neutral (1P+N), Double Pole (2P), Three Pole (3P),
Three Pole & Neutral (3P+N), Four Pole (4P)

Best class production by MCB

Electricity is the key component to modern technology and without it most of the things that we use everyday simply could not work, and would never have been created. To protect countless systems, equipments and appliances, work on improved operational safety, continuity of service, greater convenience and operating cost has assumed a tremendous significance. MCBs are designed and manufactured to world-class standards. These MCBs provide higher breaking capabilities and offer close, accurate and reliable protection against overload & short-circuit.

Quality Features and Benefits

Protection Re-defined

Offer IP 20 degree of protection, to eliminate chances of accidental contact with live part and ensuring that device can be installed, operated and maintained with total confidence.

Superior Aesthetics With Safety

SnappTrip MCBs are designed to meet and exceed total compliance to Indian and International Standards offering the best combination of aesthetics and safety.

Positive Contact Indication

Indicates contact position through Indication (Red-ON, Green-OFF). Red and green indication tags provided above the knob positively identify the electrical ON/Off status thus enhancing safety.

Inscription Window

MCBs are equipped with Inscription window (lable) for easy circuit identification.

Ingeniously Profiled Air Channels

When two poles are placed adjacent to each other, the air channels between two poles form a tunnel resulting in very effective air circulation around individual poles.

Large Terminal Size And Dual Termination

The terminals are suitable for cables up to 25 sq. mm. cross section area thus making it suitable for copper and aluminum cables. The terminals are designed to facilitate termination of cable or bus bar of both at incomer's side.

Bi-stable Din Rail Clip

Device can be easily changed from a bank of devices connected by a bus bar without disturbing your existing wiring.

No Welding Contacts

Silver graphite contact tips ensure higher life and maximum safety against contact welding due to its anti-weld properties.

Safety Terminal / Captive Screws

Box type terminal design ensures proper termination and avoids loose connections. Captive screws gives the flexibility of line cut (-) and posidrive screwdrivers.

Flexibility

The MCBs are designed for mounting on standard 35 sq. mm. DIN rail. Devices can be mounted easily in any of the regular distribution boards.

Construction

Miniature Circuit Breakers have in particular formed moulded case & cover of flame retardant high strength thermoplastic material having high melting point, low water absorption, high di-electric strength and temperature capacity. The switching mechanism is independent, manual and trip free, i.e., the breaker trips internally even if the operating knob is held in ON position. The contact mechanisms comprises of fixed & moving contacts specially designed for reliability, long life and anti-weld properties.

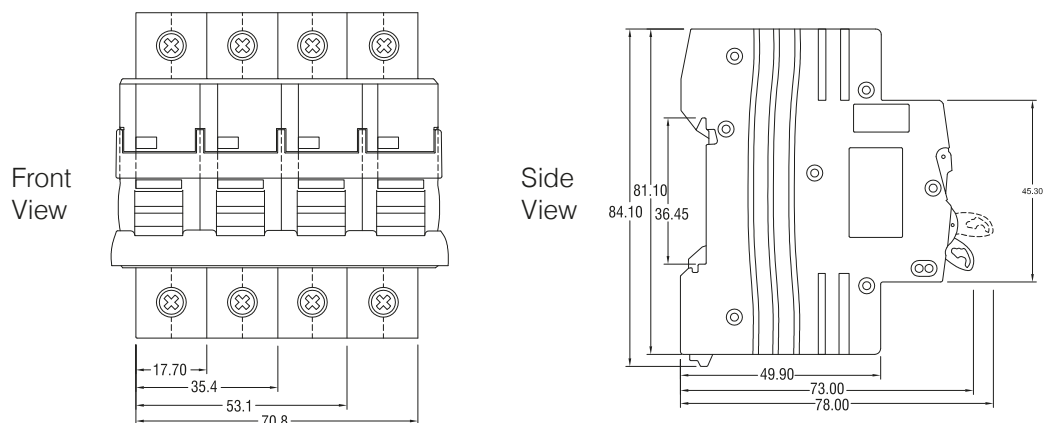
Thermal Operation

The thermal operation provides protection from moderate overloads. Under overload condition, a thermo metallic element (bimetallic strip) deflects until it operates a latching mechanism allowing the main contacts to open.

Magnetic Operation

In magnetic operation, large overloads or short circuit current actuates a solenoid causing to strike the latching mechanism rapidly opening the main contacts.

Dimensional Details

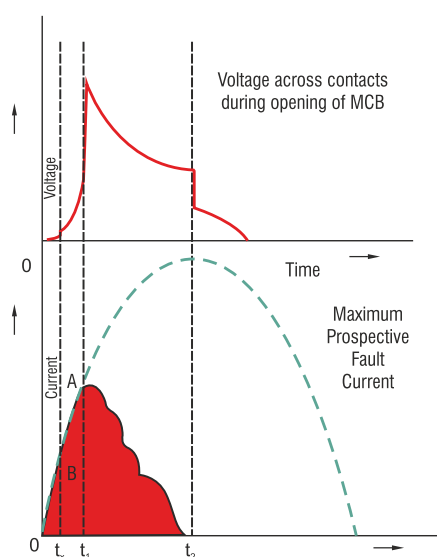


Technical Description

Standard Conformity		IS / IEC 60898 - 1	
Type / Series		B	C
Rated Current (In)	A	6-63*	6-63A*
Rated Voltage (Ue)	V	240/415V*	240/415V*
Rated Frequency (f)	Hz	50	
No. Of Poles		1P, 1P+N, 2P, 3P, 3P+N, 4P^	
Rated Short Circuit Breaking Capacity	KA	10	
Rated Service Short Circuit Breaking Capacity	KA	7.5	
Magnetic Release Setting		(3-5)In	(5-10)In
Rated Insulation Voltage (Ui)	V	660	
Rated Impulse Voltage (Uimp)	KV	4kV	
Electrical / Mechanical Endurance (No. Of Operations)			
<32A		20000 Cycles	
>32A		10000 Cycles	
Ambient Working Temperature	(°C)	-5 to 40	
Terminal Capacity (Max)	sq. mm.	25 (For Stranded Conductors) /35 (For Solid Conductors)	
Shock		40mm Free Fall	
Protection Class		IP20	
Energy Limiting Class		3	
Mounting		Clip on DIN Rail	
Case & Cover		Flame-Retardant Thermoplastic Material	

* Current rating(A):6,10,16,20,25,32,40,50,63

^ 1P - SINGLE POLE, 1P+N - SINGLE POLE+ NEUTRAL, 2P - DOUBLE POLE, 3P - TRIPLE POLE, 3P+N - TRIPLE POLE + NEUTRAL, 4P - FOUR POLE * SP/SPN- 240V, DP/TP/TPN/FP- 240/415V



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

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

t_1 = Current / Voltage peak (i.e., current limitation)

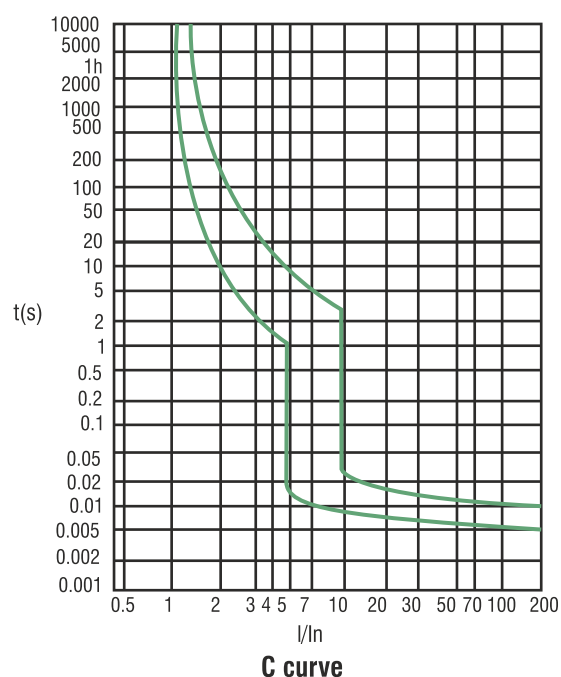
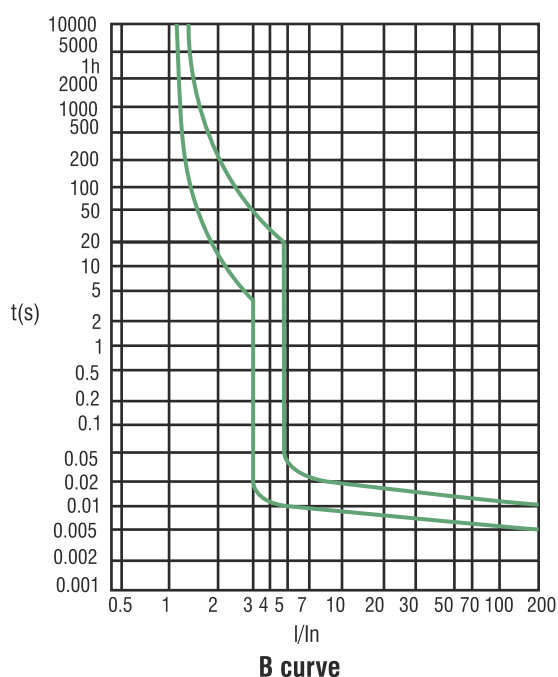
t_2 = Time to total extinction of arc
(i.e., complete shutdown of fault current)

Characteristics Curves

As per	Thermal Tripping			Magnetic Tripping		
	No Tripping	Tripping	Time	Hold	Trip	Time
IS / IEC	Current	Current	Limits	Current	Current	Limits
60898-1	I1	I2	T	I3	I4	T
B curve	1.13*In	1.45*In	> x 1h	3*In	5*In	>0.1s
		1.45*In	< 1h		5*In	<0.1s
C curve	1.13*In		>1h	5*In		>0.1s
		1.45*In	< 1h		10*In	<0.1s
I5=2.55*In	1 s < t < 60s for In <32A					
	1 s < t < 120s for In >32A					

Tripping Characteristics

Curves

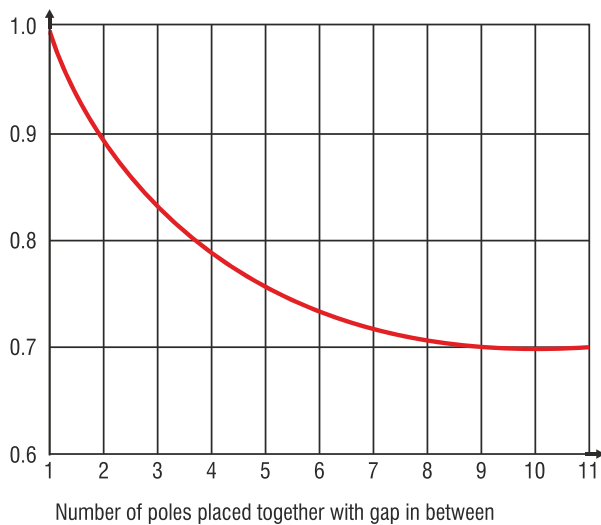
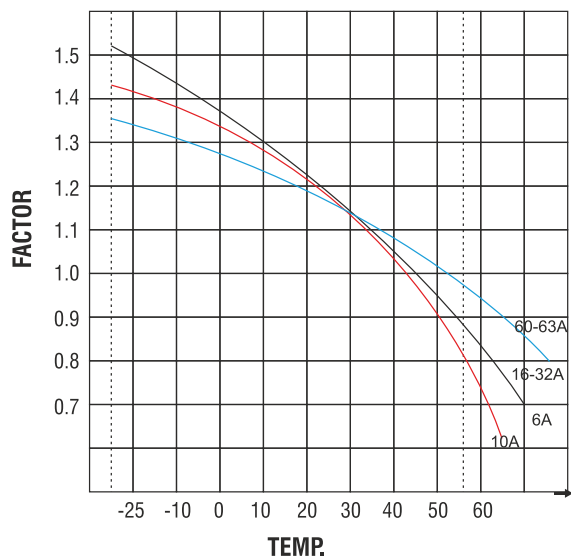


Based on the Tripping Characteristics, MCBs are available in 'B' and 'C' curve to suit different types of applications.

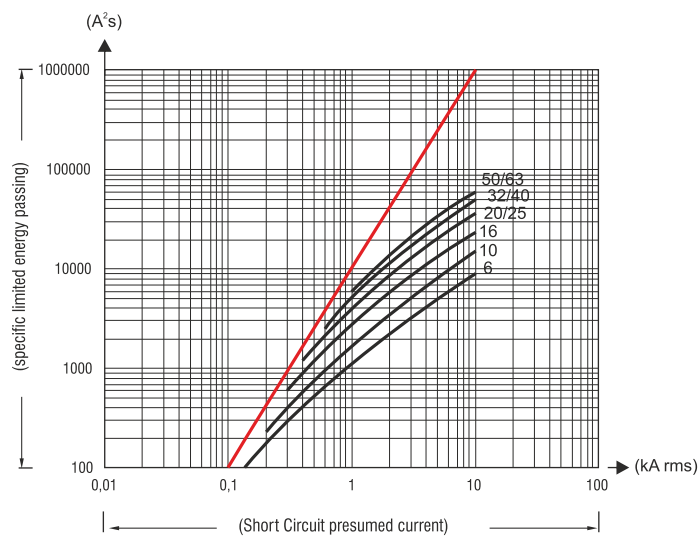
'B' Curve: for protection of electrical circuits with equipment that does not cause surge current (lighting and distribution circuits). Short circuit release is set to (3-5) In

'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

Ambient Temperature Compensation / Diversity



Let Through Energy I2T



Cold Resistance & Power Loss Details

The power loss value declared is at rated current.

Rated Current	Watt Loss Observed	Maximum Power Loss Per Pole (W)
I_n (A)	(W)	as per IS/IEC 60898-1:2002
6	1.38	3
10	1.26	3
16	1.68	3.5
20	2.12	4.5
25	2.15	4.5
32	3.25	7.5
40	3.85	7.5
50	3.43	9
63	5.32	13

Remarks: Tolerance $\pm 5\%$

Characteristics Curves

Appliances	Capacity / Approx Wattage at 240V AC Single Phase	Current Rating of MCB (Amps)	Type of MCB
Air-conditioners	i) 0.5 Ton 775W	6	C
	iii) 1 Ton up to 1.5kW	10	C
	iv) 1.5 Ton up to 2.5kW	16	C
	v) 2 Ton split unit upto 3.5kW	20	C
Refrigerator	i) 165 Ltrs.	6	C
	ii) 285 Ltrs.	6	C
	iii) 400 Ltrs.	6	C
	iv) 581 Ltrs.	6	C
Washing Machine	i) 300 Watts	6	C
	ii) 1300 Watts (with heater)	10	C
	iii) 1800 Watts (with heater)	10	C
	iv) 2200 Watts (with heater)	16	C
Domestic Pump Set	i) 0.5 H.P.	6	C
	ii) 1 H.P.	10	C
	iii) 2 H.P.	16	C
Water Heater (Storage or Instantaneous Geysers)	i) 1 kW	6	B
	ii) 2 kW	10	B
	iii) 3 kW	16	B
	iv) 6 kW	32	B
Cooking Range	4500 Watts	25	B
Oven Cum Griller	1750 Watts	10	B
Oven Only	750 Watts	6	B
Hot Plate Only	2000 Watts	10	B
Microwave Oven	1000 Watts	6	B
Electric Kettle	1500 Watts	10	B
	i) 1000 Watts	6	B
	ii) 2000 Watts	10	B
Iron	i) 750 Watts	6	B
	ii) 1250 Watts	10	B
Auto Toaster (2 Slices)	1200 Watts	10	B

OPTIMUM DESIGN MAXIMUM SAFETY

Distribution Boards



SnappTrip

Distribution Boards



Unique Design Feature

Superior Manufacturing

- Rigorous 8 tank process used for better life
- Modern technology used for powder coating to give best insulation values and aesthetics.

Cement Spill Protectors

- The CSP ensures no dust or cement particles will enter DBs during the construction period at site. The installation guidelines are mentioned elaborately on CSP.
- The proper use of CSP ensures the proper installation of the DB and ensures long life for the distribution system.

Independent Intermittent Shield

- The Shield of the DB can be removed without the removal of the door.
- This feature makes maintenance very easy.

User Friendly And Optimal Design

- The design of distribution boxes allows sufficient space for wires.
- Detachable gland plates and knockouts on all walls allows faster installation.
- The DB frame eliminates the probability of error occurring in flush mounting installation.

Ingress Protection Levels

- Degree of protection (IP) is a measure of level of protection of the enclosure against dust and water.
- DBs offer IP 43 protection in case of double door DBs while single door DBs offer IP 30 protection.
- These protection levels restrict the ingress of water and dust inside the DBs ensuring long life.

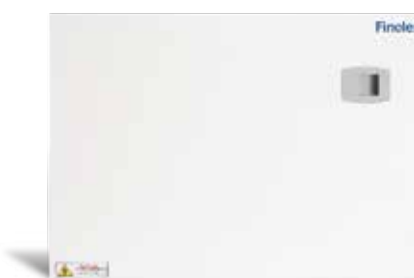


SPN DBs

Description	Product Code	Master Carton
SPN 4 way Single Door DB	9340110004	1
SPN 6 way Single Door DB	9340110006	1
SPN 8 way Single Door DB	9340110008	1
SPN 12 way Single Door DB	9340110012	1
SPN 16 way Single Door DB	9340110016	1

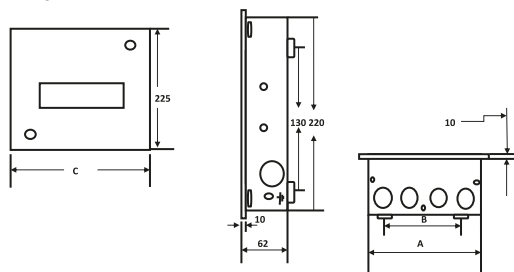


Description	Product Code	Master Carton
SPN 4 way Double Door DB	9340215004	1
SPN 6 way Double Door DB	9340215006	1
SPN 8 way Double Door DB	9340215008	1
SPN 12 way Double Door DB	9340215012	1
SPN 16 way Double Door DB	9340215016	1

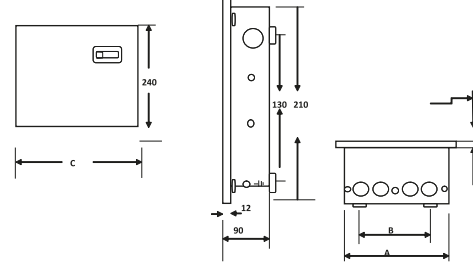


Dimensions SPN DBs

Single Door



Double Door



SPN SINGLE DOOR						
No. of Ways	Dimension in (mm)			Knock out dia - 26mm		
	A	B	C	Top	Bottom	Each Side
4 way	170	90	180	2	2	1
6 way	205	115	210	3	3	1
8 way	235	145	240	4	4	1
12 way	310	215	315	6	6	1
16 way	380	285	385	8	8	1

SPN DOUBLE DOOR						
No. of Ways	Dimension in (mm)			Knock out dia - 26mm		
	A	B	C	Top	Bottom	Each Side
4 way	160	75	195	2	2	1
6 way	195	110	230	4	4	1
8 way	230	145	265	4	4	1
12 way	300	210	335	6	6	1
16 way	370	280	405	8	8	1

TPN Horizontal DBs

Description	Product Code	Master Carton
TPN 4 way Single Door DB Horizontal	9341120004	1
TPN 6 way Single Door DB Horizontal	9341120006	1
TPN 8 way Single Door DB Horizontal	9341120008	1
TPN 12 way Single Door DB Horizontal	9341120012	1

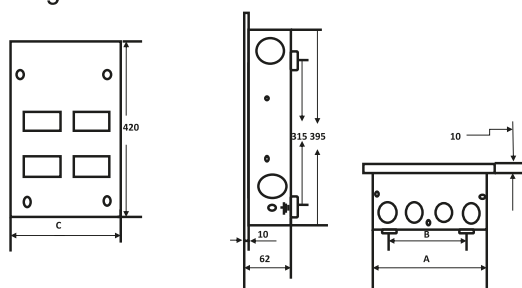


Description	Product Code	Master Carton
TPN 4 way Double Door DB Horizontal	9341225004	1
TPN 6 way Double Door DB Horizontal	9341225006	1
TPN 8 way Double Door DB Horizontal	9341225008	1
TPN 12 way Double Door DB Horizontal	9341225012	1

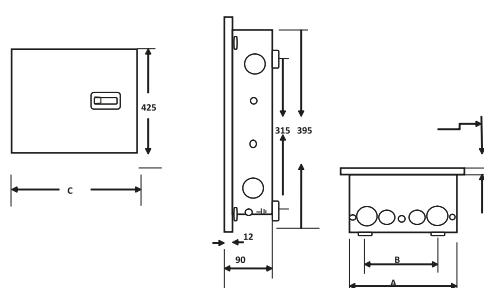


Dimensions TPN DBs

Single Door



Double Door



TPN SINGLE DOOR						
No. of Ways	Dimension in (mm)			Knock Out		
	A	B	C	Top	Bottom	Each Side
4 way	305	180	315	2/2	2/2	2
6 way	375	260	385	4/2	4/2	2
8 way	445	320	455	6/2	6/2	2
12 way	585	450	595	10/2	10/2	2

TPN DOUBLE DOOR						
No. of Ways	Dimension in (mm)			Knock out dia - 26mm		
	A	B	C	Top	Bottom	Each Side
4 way	300	200	340	4/2	4/2	2/0
6 way	370	270	410	4/2	4/2	2/0
8 way	440	340	480	6/2	6/2	2/0
12 way	580	480	620	8/2	8/2	2/0

TPN Vertical DBs

Description	Product Code	Master Carton
TPN 4 way Single Door DB Vertical	9341301004	1
TPN 8 way Single Door DB Vertical	9341301008	1
TPN 12 way Single Door DB Vertical	9341301012	1
TPN 4 way Double Door DB Vertical	9341302004	1
TPN 8 way Double Door DB Vertical	9341302008	1
TPN 12 way Double Door DB Vertical	9341302012	1



Plug & Socket DBs

Description	Product Code	Master Carton
P&S 10A SPN DB with 3 Pin Socket	9341030101	1
P&S 20A SPN DB with 3 Pin Socket	9342030101	1
P&S 20A TPN DB with 4 Pin Socket	9342040303	1
P&S 30A TPN DB with 4 Pin Socket	9343040303	1



Metal Enclosures

Description	Product Code	Master Carton
1 Way Metal Enclosure	9300000001	1
2 Way Metal Enclosure	9300000002	1
3 Way Metal Enclosure	9300000003	1
4 Way Metal Enclosure	9300000004	1



Phase Selector Vertical

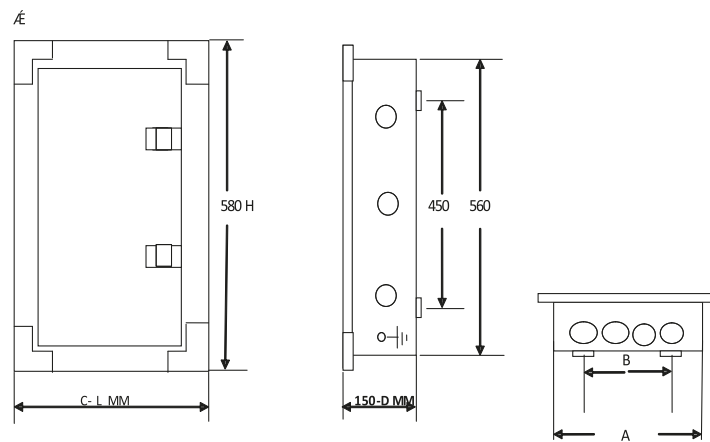
Double Door DBs

Description	Product Code	Master Carton
4 Way PSDB with 63 A Selector Switch	9340126304	1
6Way PSDB with 63 A Selector Switch	9340126306	1
8Way PSDB with 63 A Selector Switch	9340126308	1
12Way PSDB with 63 A Selector Switch	9340126312	1



Dimensions PSDB

Double Door



PHASE SELECTOR VERTICAL DOUBLE DOOR DB

No. of Ways	Incoming + Outgoing	Dimension in (mm)			Knock Out Dia 26 /32 (mm)		
		A	B	C	Top 26/32	Bottom 26/32	Each Side 32 Mm
4 + 2	8 + 6 + 12	400	325	430	4/2	4/2	3
6 + 2	8 + 6 + 18	435	360	460	4/2	4/2	3
8 + 2	8 + 6 + 24	470	395	490	4/2	4/2	3
12 + 2	8 + 6 + 36	540	465	560	6/2	6/2	3

Salient Features

Range: 4,6,8 & 12 Way

Features

- Inbuilt 3 No of 63 A Phase selector switches.
- Supplied with wire set.
- Suitable for flush mounting & surface mounting.
- Fully insulated bus bar
- With 100 A copper bus bar for each phase.
- With neutral bar, earth bar & wire ties.

Finolex :DELIGHT

Customer Care
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