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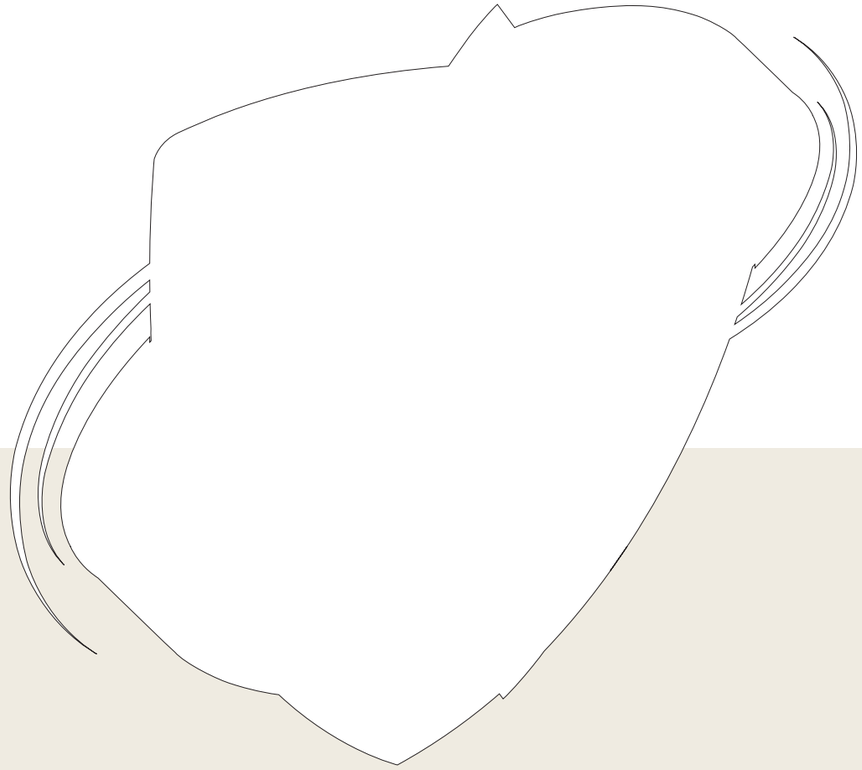
ANCHOR by Panasonic

Uno COMPLETE PROTECTION RANGE



SAFETY REVOLUTION DELIVERED

ISO 9001:2015 CERTIFIED COMPANY

Technical Catalogue 2023

COMPLETE PROTECTION RANGE

SIMPLER, SAFER AND COMFORTABLE

The journey of five decades and the trust of millions of Indians continues to inspire and aid us in ushering in newer developments in the electrical building constructions business. Today, Anchor Electricals Pvt. Ltd. is a vital part of the Eco-Solutions Company of Panasonic Corporation Japan.

Backed with the legacy of the nation's trust for fifty long years and the vision of manufacturing products to make lives of our customers safer and comfortable, has enabled it to reach this far. Since 1963, Anchor has constantly endeavored to deliver path-breaking products to India and neighboring markets. Today it has a thriving business presence in five verticals of electrical building constructions business, namely switches and accessories, switchgear and protection devices, lighting, wires and cables and fans.

The journey of fifty years has been made memorable with some enviable firsts such as

- First organized player that started manufacturing tumbler switches in 1963
- In 1973 introduced India to the first Piano Switch under the brand 'Penta' which incidentally is the first non-modular switch of India
- Concept of Plates for Modular switches with Roma in 1993
- Introduced India to Fire Retardant Wires in 1999
- First in the country to receive an ISO certification
- First in the country to stop profitable production and distribution of incandescent (GLS) bulbs as an active step for preserving the environment
- Introduced India to the first Screwless Terminal Switch in the country as well as Touch Switch under the brands Panasonic Vision and Ave

In the near future, Anchor will explore newer dimensions through Energy Generation, Management & Conservation expanding itself across the solutions space in the electrical building constructions business. It is presently set to step into the energy generation vertical by exploring Solar ventures for the nation's development through solutions from Panasonic.

ANCHOR SWITCHGEAR VERTICAL AND ITS ONGOING COMMITMENT

Anchor's Switchgear Unit constantly endeavors to bring alive a complete sense of electrical security and safety to assorted spaces and premises across the nation.

Public Spaces, Health care and Hospitality.

Residential

Industrial

IT Technology

Commercial Building

MANUFACTURING & QUALITY

Anchor's Switchgear is manufactured in its state-of-the-art facility at Haridwar, currently possessing an annual capacity of manufacturing over 20 million switchgear products.

Panasonic technology has brought in its best practices that have been fine-tuned for nearly a century. Since 2012, Anchor has started manufacturing the RoHS compliant switchgear range under the brand Panasonic. This facility is equipped with the best-in-class manufacturing technology. The Moulding section houses the latest L&T injection moulding machines; latest automatic welding machines and a in-house welding shop. Some of the most advanced technological instruments such as Semi-automatic yoke riveting machines, Production test equipments-testing panels and HV testing machines ensure consistent upgradation in the manufacturing standards. Anchor's Testing Lab is also equipped with latest instruments for "RoHS compliance" testing. It is extensively focussed on upgrading the testing machinery ensuring consistency in the product quality through specialized instruments like 10x profile projector/salt spray chamber & spring load testing machines.

The Haridwar facility is certified by TUV for ISO- 9001-2008. All switchgear products are manufactured and tested as per the IS/IEC standards defined by BIS.

In 2011, Anchor started its Switchgear Design and Development Centre in New Delhi. Panasonic has brought in stellar innovation in this business vertical of Anchor bringing in the globe's best technology offerings to India.

Automatic riveting machine

Magnetic tripping test machine

Thermal calibration & verification bench

Manufacturing in Haridwar

Raising the Paradigms of Sustainable and Innovative Switchgear

Security is not just a need; it is an essential attribute of individual life. Electrical security is one of the primary needs of every premise be it a home, an office, a hotel, a library, a hospital, a school or a shop.

The origin of UNO Switchgear stems from this basic aspect of electrical security. Its primary aim is to secure lives, precious appliances and the premises from electrical hazards. Path-breaking technology of Panasonic makes this complete range class-apart from the ordinary.

This range offers optimum security to assorted premises through a wide range in product offerings. Stellar designs, superior mechanisms, long operational life, ease of installation and operation and its adherence to IS/IEC standards makes this the perfect fit for modern premises. The UNO Switchgear Range is the latest offering from the house of Anchor, comprising of premium Distribution Boards, AC Boxes, MCBs, RCCBs, Isolators & Mini-MCBs (Modular & Non Modular).

The UNO distribution boards range is equipped with stylish color, elegant curves and a distinctive finish that blends with all kinds of interior décor and provides a new dimension of protection in homes, offices and industries. It offers dual benefits of flexibility and safety, thus enabling safe and efficient distribution of electrical power. IP 43 degree protection, reversible door and pan assembly are some of the unique offerings provided through this series. The AC Boxes from UNO offer IP 30 Protection, boast of aesthetic design and are manufactured in adherence to IS 8623.

A sustainable and unique offering from Anchor, the UNO Switchgear rings in a new dimension of security for modern spaces due to its best-in-class manufacturing processes, use of superior raw-materials and stringent quality control adding to the comfort and safety of millions of Indians.

The UNO Mini-MCB range comprises of the most compact circuit breakers available in the world, incorporating all the safety features of a traditional MCB. This is one of Anchor's specialty range that carries an ISI marking as well as complies with IS/IEC standards. UNO MCB boasts of high speed & high breaking capacity mechanism, mid-trip feature and is also energy-efficient. UNO RCCB is one of the fastest tripping RCCBs (under earth leakage current), operates at low voltage and has high short current withstand capacity. UNO Isolator carries its uniqueness with maximum terminal capacity of 50 sq. mm, clear on-off Indication and offers unparalleled safety by being in accord with IS/IEC 60947-3.

ISO Certification

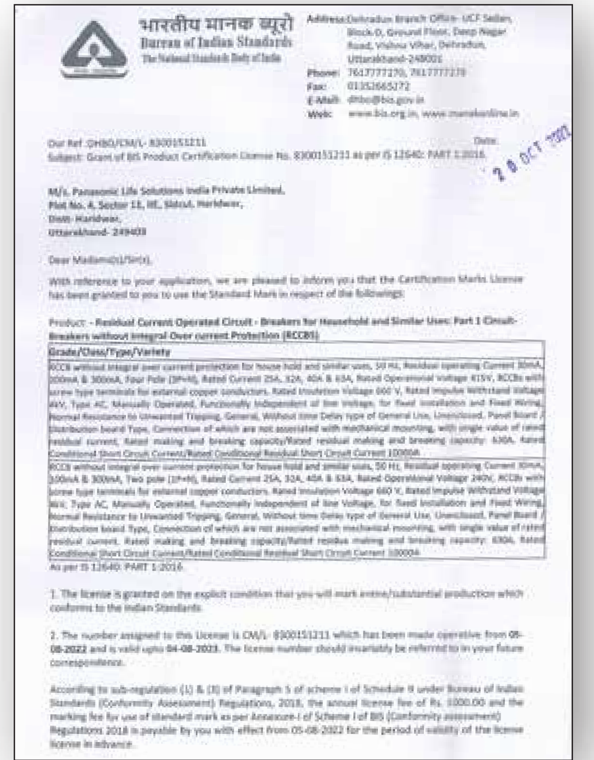

TÜV NORD

CERTIFICATE

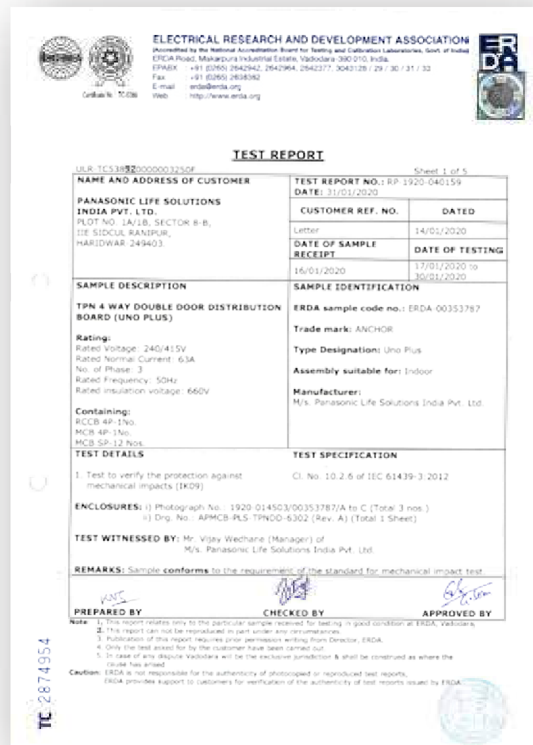
Management system as per
ISO 9001 : 2015

PANASONIC LIFE SOLUTIONS INDIA PVT. LTD. Panasonic

Certification for BIS


भारतीय मानक ब्यूरो
Bureau of Indian Standards

ERDA Certification


ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

TEST REPORT

CPRI Certification


CENTRAL POWER RESEARCH INSTITUTE

“My Most Trusted Brand”

IT COMES WITH SAFETY FEATURES LIKE:

- High Short Circuit Breaking capacity of 10000A (10kA)
- Positive Contact Indication (Clear ON-OFF Indication)
- Trip Indication by Mid - Trip
- Trip Free Mechanism
- Energy Efficient MCB

Uno
COMPLETE PROTECTION RANGE

INDEX

ASSURED SAFETY FROM ELECTRICAL HAZARDS

Engineered to deliver optimum security to the heavy electrical appliances of your home and office, the Anchor UNO MCB range becomes a cherished partner of the premise. Powered by Panasonic technology, this range is designed by the finest brains of India and Japan.

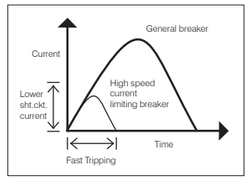
These Circuit breakers secure the premise from electrical fire caused due to short circuits. Its exclusive mid-trip function makes it easy to identify circuit fault as a knob stays in centre in case of overload or short circuit. Manufactured with superior fire-resistant plastic parts, which prevent abnormal heating and offer resistance against strong impacts. The high short-circuit breaking capacity of 10000A (10kA).

UNO MCB at a glance

- State-of-the-Art Design
- High Speed and High Breaking Capacity Mechanism
- Independent Manual Operation
- Mid-Trip Feature
- Flame Retardant Material of Housing and Cover
- Easy Mounting with Two Steps DIN Rail Clip
- Contact Position Indicating Window
- Trip-Free Mechanism
- Bus bar and Cable Connection Facility
- Energy-Efficient MCB
- Large Cable Terminals
- IP 20 Degree Protection

KEY FEATURES OF UNO MCB

- **State-of-the-art design:** UNO MCB is elegant in appearance, has a dumbbell shaped knob for easy holding and operation.
- **Position Indicator:** UNO MCB has a positive contact position indicator to identify the ON/OFF position of the MCB.
  - Red shows MCB in ON state
  - Green shows MCB in OFF state
- **Rated Short Circuit Breaking Capacity 10kA:** UNO MCB can break high short-circuit fault currents under the conditions of Single phase and Three phase faults, thus protecting the equipments and cables from damage.
- **Mid Trip Indication:** UNO MCB is equipped with a trip indication feature. This is an in-built feature reflecting the difference between OFF and TRIP (during fault) of MCB.
- **Current Limiting Design:** UNO MCB operates with high-speed mechanism in which Electro-dynamic forces set up by the heavy current due to short-circuit, separate the contacts several times faster, before it could reach the peak value, thus suppressing the high current.
- **Trip-Free Mechanism:** UNO MCB freely trips open during fault condition, even if the knob is held in the ON position. Tripping cannot be by-passed by holding the tripping mechanism, thus ensuring the safety of the connected loads.
- **Energy-Efficient:** UNO MCB has lower watt loss values compared to the specification of Indian standards. Thus, it runs at a cool temperature. Due to lower wattage loss, it can effectively be termed an energy efficient.



POWER LOSS IN WATT PER POLE

Rating (Amp.)	As Per IS.IEC Maximum watt loss	Uno MCB Maximum watt loss in SP
6	3.00W	0.78W
10	3.00W	1.74W
16	3.50W	2.4W
20	4.50W	2.8W
25	4.50W	2.2W
32	6.00W	2.23W
40	7.50W	3.4W
63	13.00W	5.6W

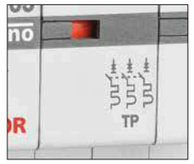
- **Bi-Connect Terminals:** UNO MCB is equipped with a bi-connect termination that allows connection of either cable or bus-bar for making connections.
- **High Conductor Capacity:** UNO MCB has high terminal capacity of 35 sq. mm that allows using Aluminium conductors or bus-bars for connection, thus saving cost of installation in switchboards.
- **Plastic Material:** The plastic material used is High performance engineering plastics, which meets a glow wire test of 960 degrees. The plastic material used is sourced from world-class manufacturers.

- **IP 20 Degree Protection:** UNO belives in safety first. Finger-proof terminals eliminate chances of accidental contact with live parts as all of them are shrouded/inaccessible, ensuring safety of installers.

- **Certificates:** UNO MCB is ISI marked as per IS/IEC 60898-1:2002. The third party tests are done at CPRI, ERDA. A design registration patent is also registered.

- **Padlocking Facility:** Padlocking facility of the Dolly ensures operational safety during maintenance.
  - OFF position for personal safety during maintenance
  - ON position for extremely critical load

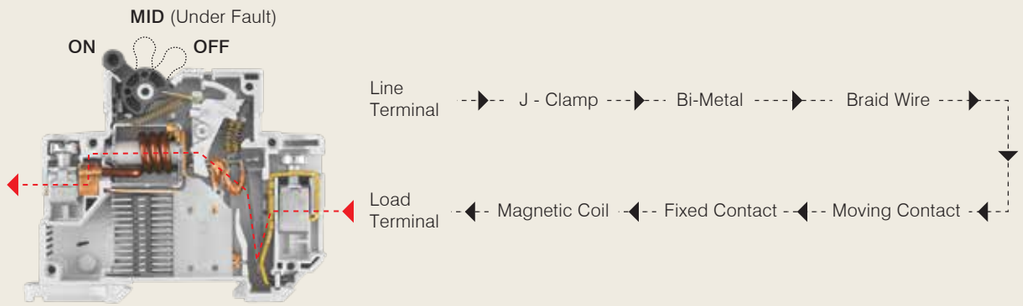
- **Suitable for Isolation:** UNO MCB guarantees complete electrical isolation of the downstream circuit when switched off, thus enhancing safety for users.



TECHNICAL SPECIFICATIONS

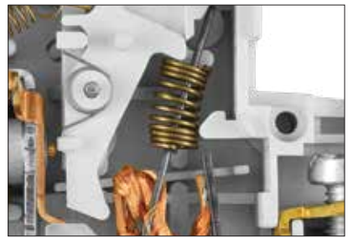
SR. NO.	FEATURES	UNO MCB
1	Standard Conformity	IS/IEC 60898-1:2015
2	Rated Current (In)	6A to 63A
3	Poles	SP, SP+N, DP, TP, TP+N, FP
4	Tripping Characteristics	B(SP), B & C
5	Rated short circuit breaking capacity (Icn)	10,000A
6	Rated Voltage (Un)	240 / 415V~ AC
7	Rated Frequency (f)	50 Hz
8	Rated Insulation Voltage (Ui)	660V
9	Rated Impulse Voltage (Uimp)	4 kV
10	Di-electric Strength	2.5 kV
11	Terminal Capacity	Line: 35 mm^2 (max.) and Load: 25 mm^2 (max.) copper
12	Ambient working temperature	-5 to 50 ^oC
13	Protection class	IP20
14	Relative Humidity	95%
15	Vibration	3 g
16	Endurance (Mechanical)	20000 operations
17	Endurance (Electrical)	10000 operations (In<32A) / 5000 operations (In>32A)
18	Wattage Loss	As per IS/IEC Standards
19	Design	Current limiting design
20	Case & cover material	Molded, Flame retardant plastic
21	Switching mechanism	Manual & Trip-free mechanism
22	Tripping mechanism	Thermal –Magnetic
23	Installation position	Vertical/horizontal
24	Contact position indication	Yes
25	Trip fault indication	Mid Trip Feature
26	Knob padlocking	Yes
27	Termination	Bi-connect (Bus bar/cable) can be used
28	Mounting	Din-Rail mounted (35 x 7.5 mm)
29	Certifications	ISI marked, Certificates from CPRI, ERDA
30	Design Registration Certificate	Registered, Design Registration Number: 252903

HOW DOES THE CURRENT FLOW IN THE MCB?

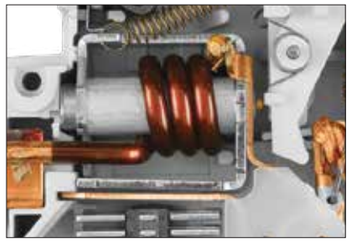


Thermal Tripping (Over Load Protection)

The Over Load Protection is achevied with a thermal Bi-Metal Strip made from a combination of differernt materials with each material having a different linear expansion coefficient. The composite products are rolled into a strip under the high pressure. The change in temperature produces a change of curvature. One side of the Bi-Metal supports are fixed & uneven expansion of Bi-Metal causes bending of the strip. The bending strip hits the latch spring & knob mechanism, hence the MCB trips. The overload protection works only upto the level where magnetic tripping starts.



Magnetic Tripping (Short-Circuit Protection)



Magnetic Tripping is based on the electromagnetic principle. When short circuit, measured generally in (kA) comes through the solenoid, electromagnetic force is induced in the plunger that strikes on the latch ensuring immediate release of the tripping mechanism causing the contacts to open. Fast mechanism design enables fastest tripping of the UNO MCB. On opening of contacts, arc (Column of ionized gases) is generated at the point of contacts matching. The components are designed so that the arc moves into the arch chutes and arc is quenched inside the arc chutes under the principle of the arc splitting.

Tripping Characteristics & Applications

“B” - Tripping Characteristics: Resistive Load: Tripping current setting of 3 to 5 times the rated current(In).

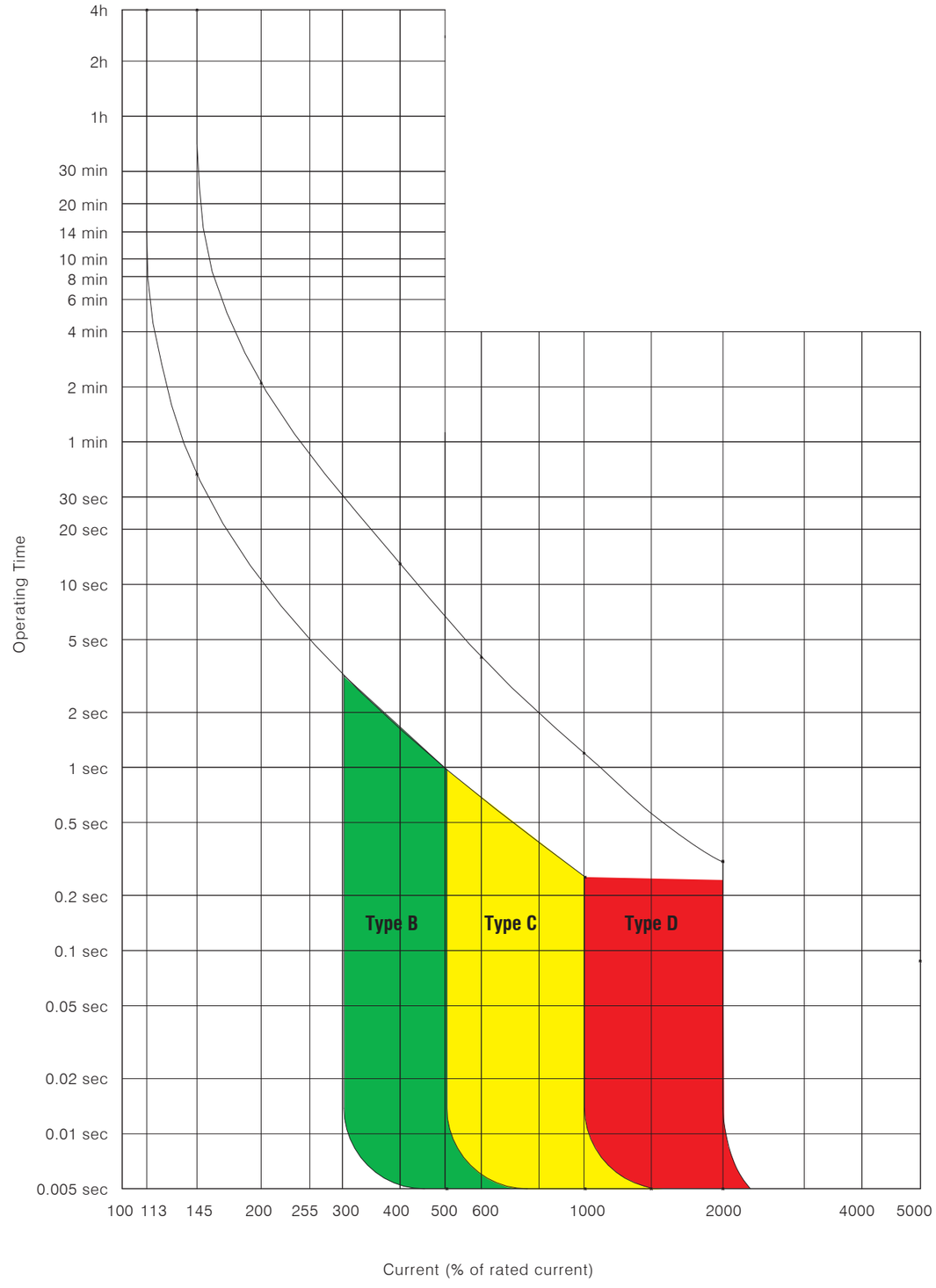
Applications: Suitable for lighting and distribution circuits.

“C” - Characteristics: Inductive Load: Tripping current setting of 5 to 10 times the rated current(In).

Applications: Suitable for Inductive & Motor Circuits with high Inrush current.

“D” - Characteristics: Short circuit release is set to 10-20 times for protecting circuits that cause heavy surge currents.

Applications: Very High Inrush (Up to 10 times of In) suitable for use in Welding machines, X Ray machines and Load that is close to the transformer, Power supplies, Heaters, Reactive load (heavy), IT industry UPS supplies and Medical Equipments.



TRIPPING CHARACTRISTICS: CURVE TYPE B, C & D

Sr. No.	Thermal Tripping			Magnetic Tripping		
Tripping Curve	Non-Tripping Current (A)	Tripping Current (A)	Tripping time In < = 63A	Hold Current	Trip Current	MCB Tripping Time (t)
B	1.13 In		>1hour	3 In		t >= 0.1s
		1.45 In	<1hour		5 In	t <=0.1s
C	1.13 In		>1hour	5 In		t >= 0.1s
		1.45 In	<1hour		10 In	t <=0.1s
D	1.13 In		>1hour	10 In		t >= 0.1s
		1.45 In	<1hour		20 In	t <=0.1s

THEORY OF CURRENT LIMITING

Current Limiting Design

This is the mechanism of the breaker in which electro-dynamic forces set up by the heavy current due to short circuit, separate the contacts several times faster, before it reaches the peak value. This process is called as Current Limiting and the design of MCB is called Current Limiting Design.

Minimum let through energy in case of fault, ensures safety and longevity of downstream circuit / installation.

Current Limiting Class (i^2t)

UNO MCB trips below the cut-off level before reaching the prospective current. Let through energy is kept low to reduce the thermal and dynamic stress. Thermal (joule integral i^2t) & Dynamic is square of the peak value of the fault current, resulting in low power loss to avoid required back-up protection as a HRC. Class 3 is a design of MCB which trips fastest during short-circuit condition.

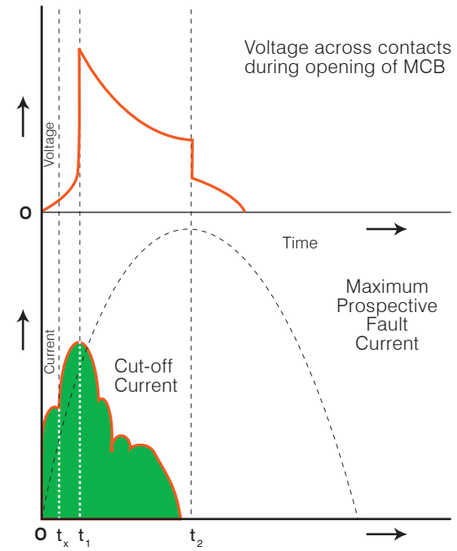
Current Limiting Mechanism

The tripping and arc control mechanism of UNO MCB is designed such that under the short-circuit condition, the contacts are physically separated with high speed and the electro-dynamic forces set up by fault current assist the extinction in less than half cycle.

Current Limiting Curve

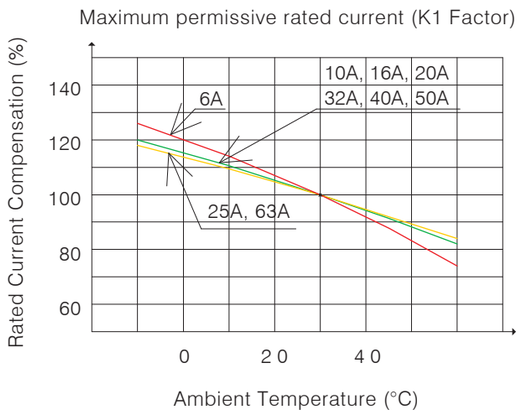
The Current Limiting Curve Design of the circuit breaker ensures the clearance of fault in less than half cycle.

CURRENT LIMITING GRAPH

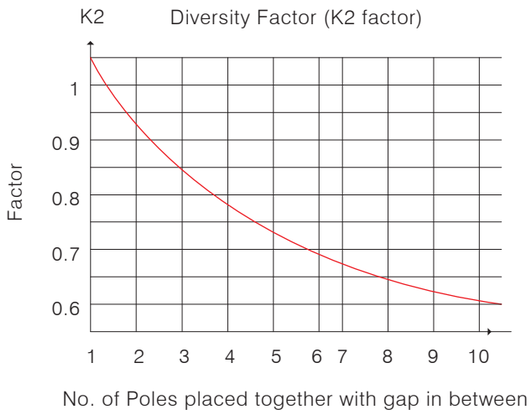


0	Point of initiation
tx	Contact opening time
t1	Current / Voltage peak (i.e. current limitation)
t2	Time to total extinction of arc (i.e. complete shutdown of fault current)

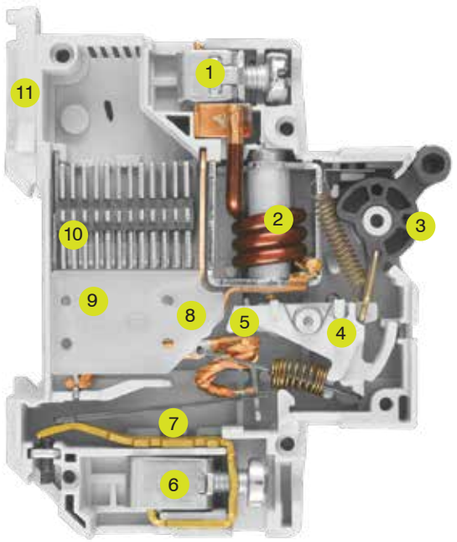
AMBIENT TEMPERATURE COMPENSATION / DIVERSITY FACTOR CHART



Calculation In/MCB = K1 x K2 x In
In is Rated current of MCB

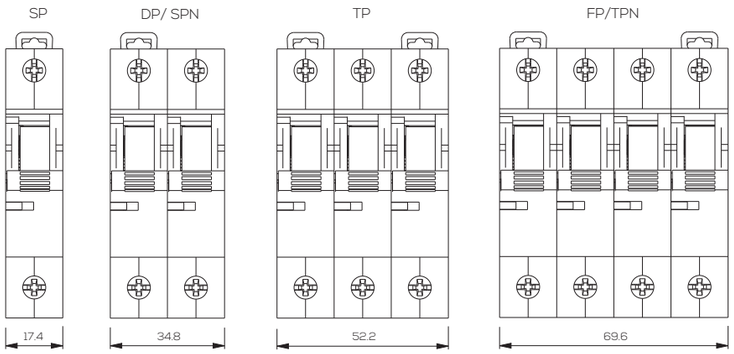


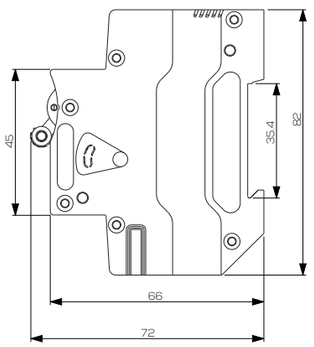
INTERNAL MECHANISM OF OPEN UNO MCB WITH NOMENCLATURE



1 Upper Terminal
2 Magnetic Coil (Magnetic Tripping)
3 Knob
4 Operating Mechanism
5 Moving Contact
6 Lower Terminal
7 Bi-metal (Thermal Tripping)
8 Fixed Contact
9 Plastic Plate
10 Arc Chute
11 Thermoplastic Base

DIMENSIONS (in mm)





CODE	ITEM DESCRIPTION
	SINGLE POLE "B" CURVE
98101	UNO SERIES B 06A SP MCB
98102	UNO SERIES B 10A SP MCB
98103	UNO SERIES B 16A SP MCB
98104	UNO SERIES B 20A SP MCB
98105	UNO SERIES B 25A SP MCB
98106	UNO SERIES B 32A SP MCB
	SINGLE POLE "C" CURVE
98001	UNO SERIES C 06A SP MCB
98002	UNO SERIES C 10A SP MCB
98003	UNO SERIES C 16A SP MCB
98004	UNO SERIES C 20A SP MCB
98005	UNO SERIES C 25A SP MCB
98006	UNO SERIES C 32A SP MCB
98007	UNO SERIES C 40A SP MCB
98008	UNO SERIES C 63A SP MCB
	SINGLE POLE NEUTRAL "C" CURVE
98009	UNO SERIES C 06A SPN MCB
98010	UNO SERIES C 10A SPN MCB
98011	UNO SERIES C 16A SPN MCB
98012	UNO SERIES C 20A SPN MCB
98013	UNO SERIES C 25A SPN MCB
98014	UNO SERIES C 32A SPN MCB
98015	UNO SERIES C 40A SPN MCB
98016	UNO SERIES C 63A SPN MCB
	DOUBLE POLE "C" CURVE
98017	UNO SERIES C 06A DP MCB
98018	UNO SERIES C 10A DP MCB
98019	UNO SERIES C 16A DP MCB
98020	UNO SERIES C 20A DP MCB
98021	UNO SERIES C 25A DP MCB
98022	UNO SERIES C 32A DP MCB
98023	UNO SERIES C 40A DP MCB
98024	UNO SERIES C 63A DP MCB

CODE	ITEM DESCRIPTION
	THREE POLE "C" CURVE
98025	UNO SERIES C 06A TP MCB
98026	UNO SERIES C 10A TP MCB
98027	UNO SERIES C 16A TP MCB
98028	UNO SERIES C 20A TP MCB
98029	UNO SERIES C 25A TP MCB
98030	UNO SERIES C 32A TP MCB
98031	UNO SERIES C 40A TP MCB
98032	UNO SERIES C 63A TP MCB
	THREE POLE NEUTRAL "C" CURVE
98033	UNO SERIES C 06A TPN MCB
98034	UNO SERIES C 10A TPN MCB
98035	UNO SERIES C 16A TPN MCB
98036	UNO SERIES C 20A TPN MCB
98037	UNO SERIES C 25A TPN MCB
98038	UNO SERIES C 32A TNP MCB
98039	UNO SERIES C 40A TPN MCB
98040	UNO SERIES C 63A TPN MCB
	FOUR POLE "C" CURVE
98041	UNO SERIES C 06A FP MCB
98042	UNO SERIES C 10A FP MCB
98043	UNO SERIES C 16A FP MCB
98044	UNO SERIES C 20A FP MCB
98045	UNO SERIES C 25A FP MCB
98046	UNO SERIES C 32A FP MCB
98047	UNO SERIES C 40A FP MCB
98048	UNO SERIES C 63A FP MCB

UNO Isolators are perfect companions for ensuring the complete de-energisation of the electrical circuits of residences, commercial premises and adhere to the IS/IEC 60947-3 norms. These are equipped with Silver alloy contacts for weld-free operations and form the perfect fitments as incomers for individual residences.

Isolator is a switch disconnector with independent manual operation, capable of making, carrying and breaking current under normal conditions which may include operation under overload condition.

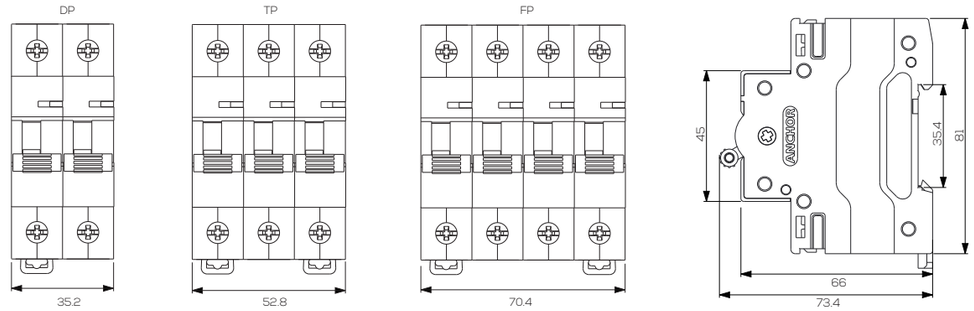
Features

- Low Watt Loss
- Complete range in same frame
- Clear ON-OFF Indication for the complete range
- Bi-connect Terminals offer flexibility to operate either with Bus bar or cable connection
- Utilization category AC22A
- Longer Electrical and Mechanical life
- Low Power Consumption, thus cost effective and energy saving

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	UNO ISOLATOR
1	Conformity Standard	IS / IEC 60947-3
2	Poles	SP, DP, TP & FP
3	Current Rating (In)	40A , 63A, 100A & 125A
4	Rated Voltage (Ue)	240/415V~ AC
5	Rated Frequency(f)	50 Hz
6	Rated Insulation Voltage(Ui)	660 V
7	Rated Impulse Voltage (Uimp)	4 kV
8	Electrical/Mechanical Operation	20000 operations
9	Operating Temperature	-5 to 50°C
10	Terminal Capacity	35 mm^2 (max.) copper and 50 mm^2 for 100A & 125A
11	Relative Humidity	95%
12	Vibration	3 g
13	Protection Class	IP20
14	Contact Position Indication	Yes
15	Termination	Bi-connect (bus bar/cable), <= 63A, Cable =>63A
16	Design	Double break contact design
17	Mounting	Clip on Din rail (35 mm * 7.5 mm)
18	Installation Position	Vertical / Horizontal
19	Case and cover Material	Molded, Flame Retardant Plastic
20	Utilization Category	AC 22A

DIMENSIONS (in mm)



CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
	DOUBLE POLE ISOLATOR		THREE POLE ISOLATOR
98055	UNO SERIES 40A DP ISOLATOR	98059	UNO SERIES 40A TP ISOLATOR
98056	UNO SERIES 63A DP ISOLATOR	98060	UNO SERIES 63A TP ISOLATOR
98095	UNO SERIES 100A DP ISOLATOR	98097	UNO SERIES 100A TP ISOLATOR
98096	UNO SERIES 125A DP ISOLATOR	98098	UNO SERIES 125A TP ISOLATOR
	FOUR POLE ISOLATOR		
98063	UNO SERIES 40A FP ISOLATOR		
98064	UNO SERIES 63A FP ISOLATOR		
98099	UNO SERIES 100A FP ISOLATOR		
98100	UNO SERIES 125A FP ISOLATOR		

India's First Dual Indication with Registered Design

UTILIZATION CATEGORY

The category of duty defines the basic type of circuit and switching capability of the device hence selection should be made accordingly.

CATEGORY OF DUTY	AC 20	AC 21	AC 22	AC 23
TYPES OF LOAD	NO LOAD	RESISTIVE LOAD	MIXED LOAD	INDUCTIVE LOAD
MAKING CAPACITY	V = 0,	V = Rated,	V = Rated,	V = Rated,
	I = 0,	I = Rated ,	I = 3In	I =10 In
	PF = N/A	PF = 1	PF = 0.65	PF = 0.35
BREAKING CAPACITY	V = 0,	V = Rated	V = Rated,	V = 0.1V
	I = 0,	I = Rated	I = Rated ,	I = 6-8 In
	PF = N/A	PF = 1	PF = 0.65	PF = 0.45
OPERATION	Off condition	Suitable for purely Resistive load	Suitable for mix load Resistive/Inductive load	Provided mainly as back-up to other means of switching as switching operation is difficult.
APPLICATION	Connection and disconnection under no-load. Suitable for all. Switching operations are carried out by other devices before this device is operated	Suitable for purely resistive type of load. Device can switch 150% of its rated current under fault conditions	Distribution Circuit	Switching of highly inductive load where devices are the only means of controlling individual motors, They should comply with the requisites of the standard, i.e. (IEC- 60947-3)

MCB Changeover Switch
(Two way centre off)

UNO MCB Changeover Switch is a manual operated changeover switch which finds its application in switching load between two power supplies.

UNO MCB Changeover switch finds wide applications in industries as well as in domestic area specially in Individual Bungalow(IB) for use in low voltage distribution circuits. Changeover switches are used to shift from one source of supply to another source and vice versa. The changeover switch comes in 2P and 4P versions, for single and three phase application respectively. It has three positions (I-O-II) with centre-off. They are switch disconnectors with independent manual operation, capable of making, carrying and breaking currents under normal circuit conditions.

UNO MCB at a glance

- Double break contact mechanism
- Single frame for complete range
- Three position indication (I-O-II) with Red and Green Indicators
- Centre position OFF.
- Maximum terminal capacity of 35sq. mm
- Easy snap on DIN Rail mounting

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	Uno MCB Changeover Switcht
1	Reference Standard	IS/IEC 60947-3
2	No. of Poles	DP & FP
3	Current Rating (In)	25A, 32A, 40A & 63A
4	Rated Voltage (Ue)	240/ 415V~ AC
5	Rated Frequency	50Hz
6	Rated Insulation voltage	660V
7	Rated impulse voltage	4kV
8	Dielectric Strength	2.5kV
9	Utilisation Category	AC22A
10	Protection	IP20
11	Ambient temperature	-5° to 50°C
12	Mounting	Clip on Din rail (35mm * 7.5mm) Vertical

INSTALLATION

- Switch OFF MCB to disconnect power supply.
- Mount MCO in vertical position over DIN rail with snap at bottom
- Check operation of knob position before connecting cables
  - **When Knob position is I**

  Top indicator RED, Bottom Indication GREEN

  Load is connected through power supply I
  - **When Knob position is II**

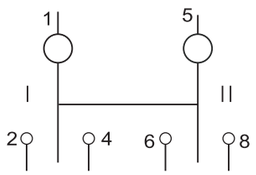
  Top indicator GREEN, Bottom Indication RED

  Load is connected through power supply II
  - **When Knob is at MID position**

  Both indicators show GREEN & it is NO LOAD/ OFF position
- Connect cables at incoming & outgoing
- Select power supply (I or II) for Load
- Switch ON MCB

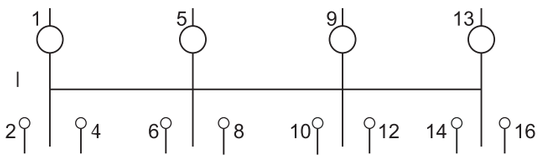
TERMINAL DIAGRAM

TWO POLE (DP)



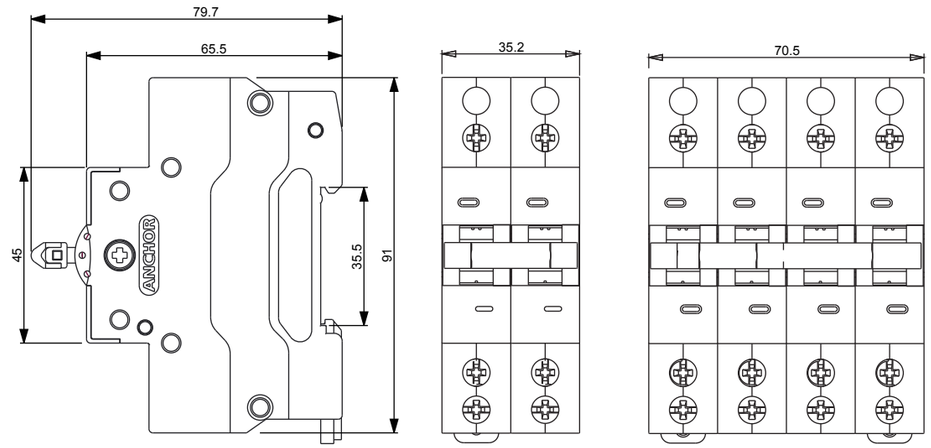
"I"	Incoming terminals (main supply I)	2 & 6
"II"	Incoming terminals (standby supply II)	4 & 8
	Outgoing terminals (to load)	1 & 5
O	NO Load/ OFF position	

FOUR POLE (FP)



"I"	Incoming terminals (main supply I)	2, 6, 10 & 14
"II"	Incoming terminals (standby supply II)	4, 8, 12 & 16
	Outgoing terminals (to load)	1, 5, 9 & 13
O	NO Load/ OFF position	

DIMENSION IN (mm)



CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
	DOUBLE POLE COS		FOUR POLE COS
98081	UNO SERIES 25A DP COS	98085	UNO SERIES 25A FP COS
98082	UNO SERIES 32A DP COS	98086	UNO SERIES 32A FP COS
98083	UNO SERIES 40A DP COS	98087	UNO SERIES 40A FP COS
98084	UNO SERIES 63A DP COS	98088	UNO SERIES 63A FP COS

Uno COS Enklozr is a compact modular changeover switch box with sleek indications of power supply, designed to serve the purpose of change of power supply on availability of two power sources.

Installation

1. Switch OFF input power supplies through MCB
2. Remove Top cover of COS enklozr
3. Mount COS Enklozr in vertical position- Flush / Surface mounting
4. Check operation of knob position before connecting cables
5. **When Knob position is I;**

   Top indicator on Uno COS is RED, Bottom indicator is Green

   Load is connected through power supply I

   When Knob position is II;

   Top indicator on Uno COS is GREEN, Bottom indicator is Red

   Load is connected through power supply II

   When Knob position is at MID position;

   Both indicators on Uno COS show GREEN & it is in NO LOAD/OFF position
6. Remove insulation of cables 8mm-10mm and connect at incoming & outgoing terminals with torque of 2Nm and Knob in OFF position
7. Assemble Top Cover with screws
8. Switch ON MCB of input power supply I, Supply I indication will glow RED.
9. Switch ON MCB of input power supply II, Supply II indication will glow RED.
10. Select power supply I / II as per the requirement. LOAD indication will glow RED

Technical Features

Salient features- Uno COS enklozr:

- Alluring & Distinct Aesthetics
- Sleek power supply indications- Supply-I, Supply-II & Load circuit
- Compact & Light weight
- Flush/surface mounting
- IP30 protection
- Available in 25,32, 40 & 63A in DP & FP versions
- Registered Design

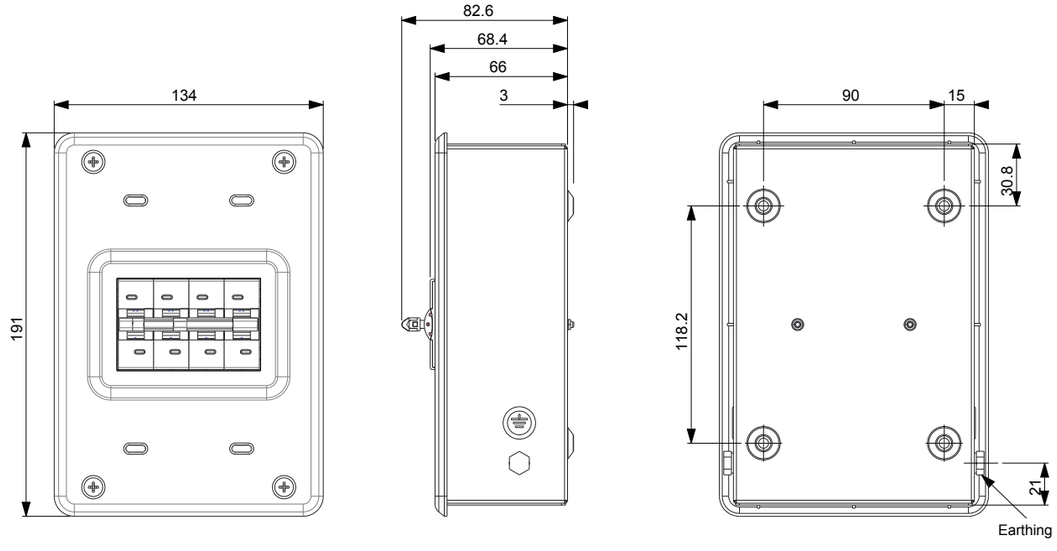
Salient features – Uno MCO (MCB Changeover Switch):

- Double break contact mechanism
- Three position indicator(I-O-II) with Red & Green indicators
- OFF/NO LOAD position at Knob's middle position
- Utilisation category of AC22A
- Maximum terminal capacity of 35 sq.mm
- Registered Design

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	COS enklozr
1	Design Registration certificate	Regd. Design No. : 287527
2	Reference Standard	IS/IEC 60947-3
3	No. of Poles	DP & FP
4	Current Rating (In)	25A, 32A, 40A & 63A
5	Rated Voltage (Ue)	240/415V~ AC
6	Utilisation category	AC22A
7	Frame	Single frame for complete range
8	Mechanism	Double break contact mechanism
9	Positions	3 position with Centre OFF (I-O-II)
10	Terminal capacity	35 mm^2
11	Indications	Two stage visual indication for both I and II LED indications
12	Protection	IP30
13	Mounting	Surface / Flush mounted
14	Weight(kg)	0.85(2P), 1(4P)

DIMENSIONS (in mm)



CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
	DOUBLE POLE COS		FOUR POLE COS
98081enk	25 A DP UNO Changeover Switch with enklozr	98085enk	25 A FP UNO Changeover Switch with enklozr
98082enk	32 A DP UNO Changeover Switch with enklozr	98086enk	32 A FP UNO Changeover Switch with enklozr
98083enk	40 A DP UNO Changeover Switch with enklozr	98087enk	40 A FP UNO Changeover Switch with enklozr
98084enk	63 A DP UNO Changeover Switch with enklozr	98088enk	63 A FP UNO Changeover Switch with enklozr

SPN ACCL

A changeover device transfers the Load from Mains power supply to the Generator, automatically upon failure of Mains power supply. It also functions as a Load limiter with monitoring of the Generator supply, thereby reducing stress on the Generator.

WORKING:

1. When Mains Supply is Available:
Uno ACCL will give supply from the Mains without any direct interruption to the LOAD.

2. When Mains Supply Fails & Generator Supply is Available:
Uno ACCL will connect the Load to supply from the Generator after a delay of 5 seconds.

After connecting the Load, ACCL will monitor the Load current drawn from the Generator.If the value of current is within the preset rating marked on ACCL, current will be drawn from the Generator supply, without any interruption.

SPN ACCL

If the Load current drawn from the Generator is greater than the preset rating marked on ACCL, warning signal will be generated from ACCL, with blinking of the Overload LED and Buzzer BEEP.

Along with the LED blinking, supply from the Generator to the connected Load is switched OFF for 10 seconds and then reconnected for 10 seconds.

Overload Warning:

10 sec ON	10 sec OFF	10 sec ON	20 sec OFF	10 sec ON	30 sec OFF	10 sec ON	2 min OFF

During this cycle, the Load current should be reduced by the consumer to the preset Generator rating marked on ACCL , by switching OFF the heavy loads.

This cycle of connection & disconnection lasts till the Load is reduced to allowable limits of the Generator.

Once the Load is reduced to the marked Generator rating of ACCL, Load current will flow without any interruption.

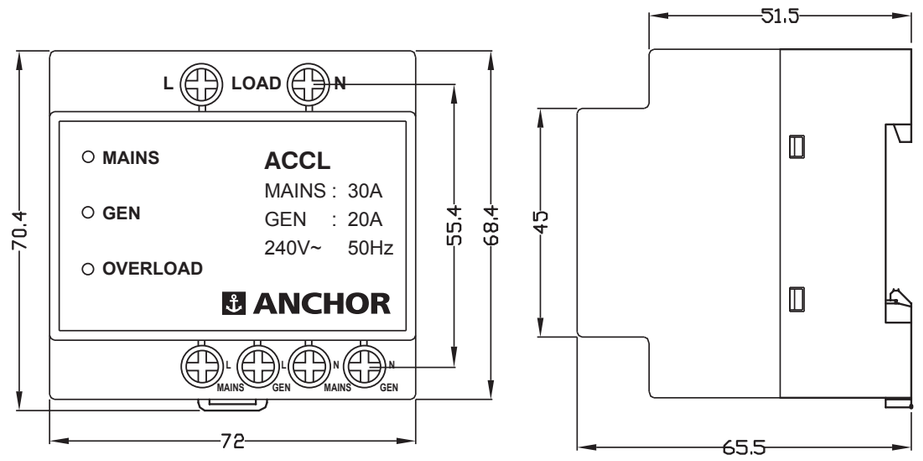
3. When Mains Supply Resumes & Generator Supply is Available:
The Load will be disconnected from Generator supply and will operate through Mains supply.

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
98600	30/0.5A UNO SPN ACCL	98608	30/09A UNO SPN ACCL
98601	30/1.0A UNO SPN ACCL	98612	30/10A UNO SPN ACCL
98602	30/1.5A UNO SPN ACCL	98609	30/12A UNO SPN ACCL
98603	30/2.5A UNO SPN ACCL	98610	30/15A UNO SPN ACCL
98604	30/03A UNO SPN ACCL	98611	30/20A UNO SPN ACCL
98605	30/04A UNO SPN ACCL	98613	30/25A UNO SPN ACCL
98606	30/05A UNO SPN ACCL	98614	30/30A UNO SPN ACCL
98607	30/06A UNO SPN ACCL		

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	UNO ACCL
1	Standard Conformity	IEC 60947-3/ IEC 60947-6
2	No. of Poles	SPN
3	Mains Current Rating(In)	30A
4	Gen Current Rating(In)	0.5A to 20A
5	Rated Voltage (Ue)	240V~ AC, 50Hz
6	Rated Impulse Voltage	2.5 kV
7	Design	Contactor Based Design
8	Housing Material	Thermoplastic, FR Grade
9	Class of Equipment	PC
10	Duty	Continuous
11	Utilisation Category	AC22A(IEC 60947-3), AC32A (IEC 60947-6)
12	Conditional Short -Circuit Current(Inc)	5kA
13	Electrical Life	25000 Operations
14	Power Losses	0.2 VA Mains, 15 VA Gen
15	Pollution Degree	3
16	Protection	IP20
17	Led Indications	Mains, Gen, Overload
18	Wiring Termination	Bottom to Top Wiring
19	Operating Temperature	-5 to +55° C
20	Terminal Capacity	10mm²
21	Reset Provision	Auto Reset
22	Tripping Accuracy	± 10% of Trip Current
23	Timing Accuracy	± 5%
24	Mounting	Mounting Rail(35x 7.5mm)
25	Mounting Position	Vertical/ Horizontalt

DIMENSIONS (in mm)



TPN ACCL

A changeover device, which on failure of Mains power supply, automatically transfers the Load from Mains power supply to Generator supply. It also functions as a Load Limiter with monitoring of current drawn from Generator, thereby reducing stress on the Generator.

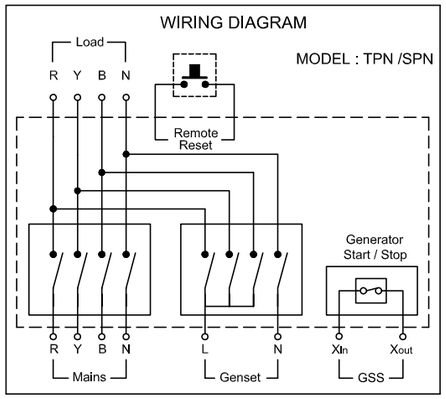
TECHNICAL FEATURES

- UL marked robust contactors design
- Compact size saving panel space
- Dual Interlock between Mains & Gen supply (Electrical & Mechanical)
- Manual & Remote reset provision
- Automatic Generator Start/Stop
- Overload monitoring of Generator supply
- Indication of status through coloured LED
- Break before make changeover system

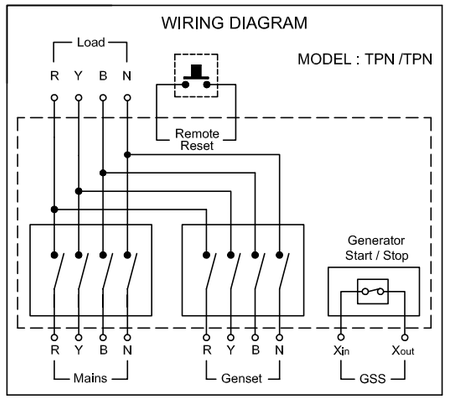
TPN ACCL

CONNECTION DIAGRAM

TPN/SPN



TPN/TPN



RELAY SWITCHING DELAY TIME:

S.No.	Condition	Delay time
1	Mains ON	1.5 s
2	Mains to GEN (GEN supply unavailable)	10 s
3	Mains to GEN (GEN supply available)	4 s
4	GEN to Mains	4 s

MODES:

T-Mode - When all the three phase or R-phase Falls, Load will disconnect form mains,
S-Mode - When any one phase falls load disconnect from mains,

OVERLOAD CYCLES

S.No.	ON time(s)	OFF time(s)	O/L indication RG, YG, BG
1	5	8	Blink
2	5	8	Blink
3	5	8	Blink
4	5	8	Blink
5	5	Continuous	Continuous ON

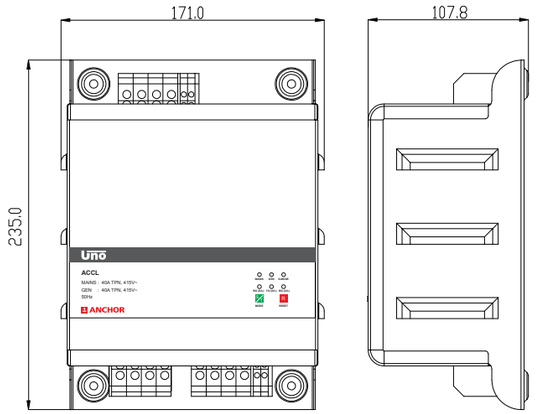
LED INDICATION

Condition	LED colour	Description	LED function
MAINS	Green	3 phase available	Continuous ON
		Any one phase fails	Blink
GEN	Red	Available	Continuous ON
S-MODE	Blue	S mode ON	Continuous ON
RG (O/L),	Amber	Overload on R, Y, B phase	Blink
YG(O/L), BG(O/L)		After 5th cycle	Continuous ON

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	UNO TPN ACCL
1	Standard Conformity	IEC 60947-6
2	Versions	TPN/SPN & TPN/TPN
3	Mains Current & Voltage	40A & 415V ~ (P-P)
4	Gen Current & Voltage	6-40A & 230V~(P-N) & 6-40A & 415V ~(P-P)
5	Frequency	50Hz
6	Rated impulse voltage(Uimp)	6kV
7	Duty	Continuous duty
8	Utilization category	AC32A
9	Conditional short circuit	5kA
10	Electrical life	25000 ops.
11	Power consumption	<8VA (Mains/ GEN)
12	Protection	IP20 (Terminal Enclosure)
13	Pollution degree	III
14	Operating temperature	-5 to 55°C
15	Mounting	Panel mounting
16	Weight	2.3kg (Unpacked)
17	Operating position	Horizontal/ Vertical
18	Tripping accuracy	± 5-10% of Trip current
19	Timing accuracy	±5%

DIMENSIONS (in mm)



Remote Reset and GSS	
Wiring	: 0.5 to 2.5mm2, CU 60/75°C
Torque	: 0.4Nm / M2.5
Mains, Genset and Load	
Wiring	: 1.5 to 10mm2, CU 60/75°C
Torque	: 1.2Nm / M4

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
98615	Uno 40A/6A TPN/SPN ACCL	98630	Uno 40A/6A TPN/TPN ACCL
98616	Uno 40A/10A TPN/SPN ACCL	98631	Uno 40A/10A TPN/TPN ACCL
98617	Uno 40A/16A TPN/SPN ACCL	98632	Uno 40A/16A TPN/TPN ACCL
98618	Uno 40A/20A TPN/SPN ACCL	98633	Uno 40A/20A TPN/TPN ACCL
98619	Uno 40A/25A TPN/SPN ACCL	98634	Uno 40A/25A TPN/TPN ACCL
98620	Uno 40A/32A TPN/SPN ACCL	98635	Uno 40A/32A TPN/TPN ACCL
98621	Uno 40A/40A TPN/SPN ACCL	98636	Uno 40A/40A TPN/TPN ACCL

Residual Current Circuit Breaker (RCCB) also called Earth Leakage Circuit Breaker (ELCB) is a device designed to disconnect the load from the supply mains, when the residual current (IΔn) is flowing in the circuit.

The flow of currents in the electrical system is risky. Low quality faulty wires, poorly insulated equipments or incorrect use of electrical devices cause current to flow through the wrong path to the earth. This current is called “Leakage Current”.

Features

- Elegant appearance
- Advance Neutral breaks after phases, ensuring complete discharge
- No nuisance tripping
- Fastest Tripping Mechanism
- Bi-connect terminals for bus bar as well as cable connections
- IP 20 protection finger touch proof connection terminals as well
- Truly current operated, operates even at very low voltage
- High short current withstand capacity
- Large terminal size 35 sq mm
- Manufactured in accordance with IS 12640 Part I
- Flame retardant body and cover, does not melt / drip even at high temperature

To be used for A/C (Alternating Current) (~) only

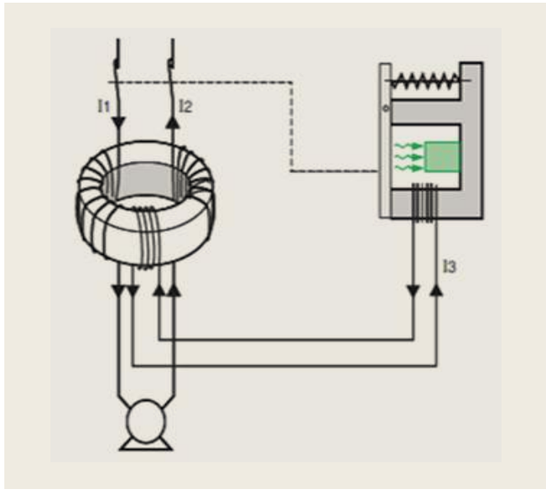
OPERATING PRINCIPLE

The RCCB function is based on Kirchhoff's Current Law i.e. If the vector sum of incoming current is equal to vector sum of outgoing current, the RCCB would not trip. On the other hand if the vector sum of incoming currents is not equal to the vector sum of outgoing currents, acting as an indication of leakage, the RCCB will trip.

RCCB is a current operated device operating on the principle of measuring of differential (residual) current using a Core Balance Current Transformer and tripping of a switching device, through an electromagnetic tripping relay.

RCCB incorporates a Core Balance Current Transformer (CBCT) having primary winding and secondary winding with sensitive relay for instantaneous detection of fault. The primary winding lies in series with the supply mains and load secondary winding is connected to a very sensitive relay. In a balanced circuit the magnetizing effects of the current carrying conductors cancel each other. There is no residual magnetic field that can induce voltage in the secondary winding. During flow of leakage current in the circuit, an imbalance is created in the circuit that gives rise to leakage flux in core. This leakage flux generates an electrical signal that is sensed by the relay and it trips the mechanism, thereby disconnecting the supply.

The trip mechanism is operational at a Residual Current between 60% - 80% of its Rated Leakage Current.



The essential features are shown schematically in the figure

A magnetic core encompasses all the current-carrying conductors of an electrical circuit and the magnetic flux generated in the core will depend at every instance on the arithmetical sum of the currents. Thus, the currents passing in one direction are considered as positive (I1) and those passing in the opposite direction are negative (I2)

In a normal circuit (I1) + (I2) = 0, which means there is no flux in the magnetic core and zero e.m.f in its coil.

The current balance in the conductors passing through the magnetic core therefore is non-existent and the difference creates a magnetic flux in the core.

This difference current is known as the ‘residual’ current and the principle is known as the ‘residual current principle’.

The resultant alternating flux in the core induces an e.m.f. in its coil, so that a current I3 flows in the tripping-device operating coil. If the residual current exceeds the value required to operate the tripping device either directly or via an electronic relay, then the associated circuit breaker would trip.

TECHNICAL SPECIFICATIONS

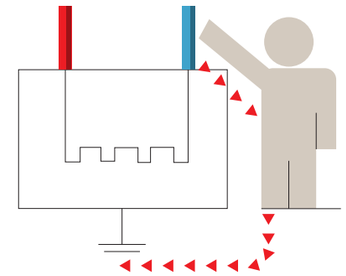
Sr. No.	FEATURES	RCCB
1	Reference Standard	IS 12640-1:2016, IEC 61008-1:2012
2	Poles	DP & FP
3	Current Rating(In)	25A, 40A & 63A
4	Rated Voltage(Ue)	240/ 415V~ AC
5	Rated Residual Operating Current(IΔn)	30mA, 100mA & 300mA
6	Protection	Against Earth fault / Leakage Current
7	Operating Device	Current operating device
8	Rated Frequency(f)	50 Hz
9	Rated Insulation Voltage(Ui)	660 V
10	Rated Conditional Short Circuit Current(Inc)	6 kA upto 63A
11	Rated Conditional Short Circuit Current(Inc)	10 kA for 80A & 100A
12	Rated Making Capacity(IΔm)	500A or 10In whichever is greater
13	Operating Characteristic	'AC' Type
14	Dielectric Strength	2.5 kV
15	Trip Time	Instantaneous <40ms, Selective > 150ms
16	Operating Temperature	-5° to 50° C
17	Terminal Capacity	35mm² (max.) copper
18	Relative Humidity	95%
19	Vibration	3g
20	Protection Class	IP 20
21	Contact Position Indication	Yes
22	Installation Position	Vertical / Horizontal
23	Mounting	Clip on Din rail (35 mm * 7.5 mm)

PROTECTION AGAINST DIRECT & INDIRECT CURRENT

Protection Against Direct Contact

Accidental contact with live parts of electric appliances cause earth leakage current to flow through the human body resulting in shocks that may be fatal. RCCB trips immediately under these circumstances and saves human lives. For e.g. when someone makes contact with a live electrical component of a device, touches a live bus bar in distribution panel or unprotected test cables or when a person sticks a metal object into a power socket or touches a live cable.

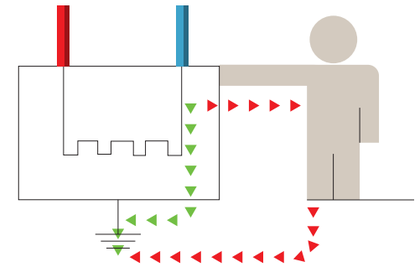
Direct Contact

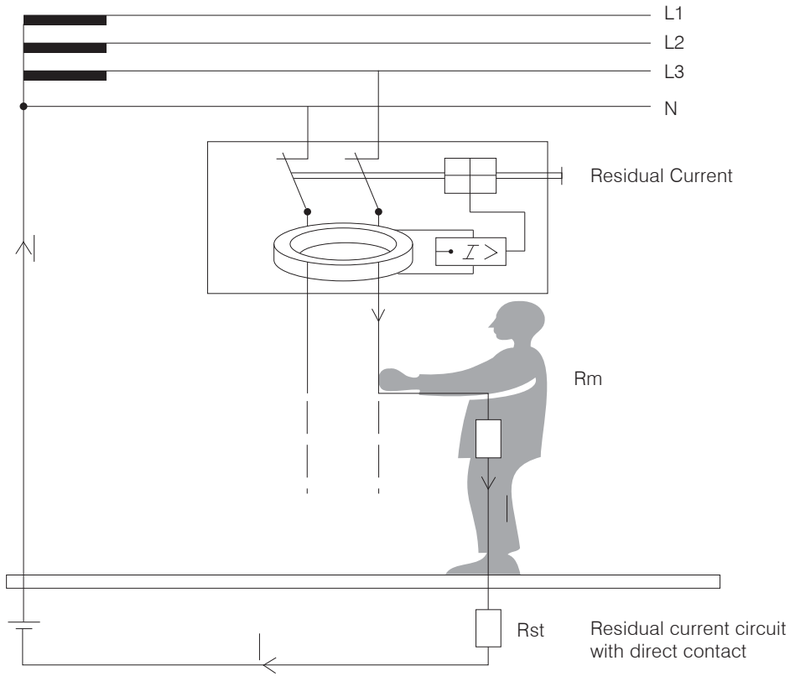


Protection Against Indirect Contact

The metal enclosures of electric appliances can become live and cause electric shock to unwary persons touching them during an internal fault or insulation failure. RCCB trips instantaneously and thus removes the possible risk from dangerous indirect contact. Indirect contacts are independent of humans, such as a person touching an electric metal frame. This is when a person makes contact with a metal earthed part which has accidently been powered up following an insulation fault. These type of contacts are very dangerous.

Indirect Contact





RISKS INVOLVED

The flow of current while using electricity always involves risk. Poorly insulated apparatus, faulty wires or incorrect use of an electrical device may cause the current to flow through the wrong path.

The above mentioned current is also known as Leakage Current.

The two major risks associated with it are:

- **Fire Hazards**
- **Electrocution**

FIRE HAZARDS

A 100/300 mA RCCB is recommended for protection against fire

A poorly insulated wire or a loose connection is enough to create a fire hazard. A portion of the current that normally flows in the conductor may find a way back to the earth through these leakages and through materials with varying degrees of conductivity such as metal frames, wet dust, etc. These materials though are not used intentionally to conduct current and hence are at the risk of heating up to such a degree that they would heat up whatever they are in direct contact with insulation, saw dust etc. This phenomenon may ignite a spark, resulting in subsequent fire.

FIRE PROTECTION

The RCCBs having sensitivity of 300 mA can be used to provide effective protection against fire caused by earth leakage faults. With residual currents 300mA, the electrical energy released at the location of the earth fault is not sufficient to ignite normal building materials. With large residual currents, the RCCB switches off the current in less than 200mA and thus limits the amount of energy release to harmless level.

The majority of fires which occur as a result of faulty wiring are started by current flowing to the earth. Fire can be started by fault current of less than 1 Amp.

The normal domestic overload protection such as a fuse or MCB will not detect such a small current. A correctly chosen RCCB will detect this fault current and interrupt the supply, thus reducing the risk of a fire outbreak.

ELECTROCUTION

Electrocution involves direct contact of the human body with an electric current and may be fatal to its vital functions such as:

- **Breathing**
- **Heartbeat**

A correctly chosen RCCB can detect small currents flowing to earth and reduces the risk of electrocution. Effects of electric current passing through the human body have been well researched and following chart summarizes the results.

HAZARDS OF LEAKAGE CURRENT EFFECTS

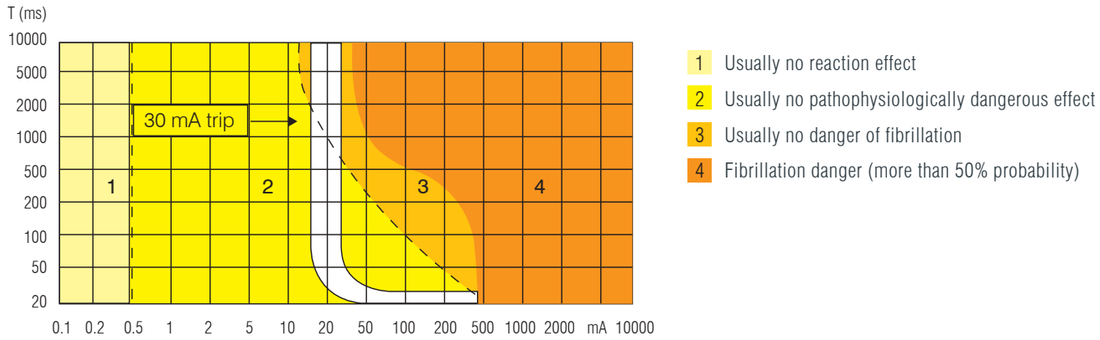
- DAMAGE TO ELECTRICAL WIRING
- DAMAGE TO ELECTRICAL EQUIPMENTS
- DAMAGE TO PROPERTY
- DAMAGE TO LIFE
- ELECTROCUTION

EFFECTS OF ELECTRIC CURRENT THROUGH HUMAN BODY

500 mA	Immediate heart attack leading to death
70-100 mA	Cardiac fibrillation, the heart vibrates at an unsteady rate and can get fatal as it is irreversible
20-30 mA	Muscle contraction can cause respiratory paralysis
10 mA	The person remains stuck to the conductor due to muscle contraction
1-10 mA	Prickling sensations

Electrocution should not be viewed in terms of “Current” alone, but in terms of “contact voltage”. A person gets electrocuted by coming in contact with an object that has a different potential from his/her own. The difference in potential causes the current to flow through the body.

The amount of current through the human body for a given voltage depends on the resistance of the body. The interior of the human body is a good conductor due to abundance of iron in the body fluids. The main barrier to current flow is the skin. The resistance of the skin decreases significantly when it is wet.



The Human Body has known Limits

- Under Normal Dry Conditions, Voltage Limit = 50V AC
- Under Damp Surrounding, Voltage Limit = 25V AC

Sensitivity Application Selection Criteron of RCCB

	RCCB	APPLICATION
SENSITIVITY	30mA	Protection against Direct Current contact with human body
SELECTION	100mA	Protection against Direct and Indirect Current contact with human body
CRITERIA	300mA	Preventing Building Fire Hazards and Direct Contact with human body

UNO RCCB Trip Band on Different Current Value:

Rating (mA)	Not Trip Band (mA)	Trip Band (mA)	UNO RCCB Trip Band (mA)
30	15	30	18 - 27
100	50	100	60 - 90
300	150	300	180 - 270

RCCB

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
	DOUBLE POLE RCCB		FOUR POLE RCCB
98201	25A DP 30mA UNO RCCB	98213	25A FP 30mA UNO RCCB
98202	25A DP 100mA UNO RCCB	98214	25A FP 100mA UNO RCCB
98203	25A DP 300mA UNO RCCB	98215	25A FP 300mA UNO RCCB
98207	40A DP 30mA UNO RCCB	98219	40A FP 30mA UNO RCCB
98208	40A DP 100mA UNO RCCB	98220	40A FP 100mA UNO RCCB
98209	40A DP 300mA UNO RCCB	98221	40A FP 300mA UNO RCCB
98210	63A DP 30mA UNO RCCB	98222	63A FP 30mA UNO RCCB
98211	63A DP 100mA UNO RCCB	98223	63A FP 100mA UNO RCCB
98212	63A DP 300mA UNO RCCB	98224	63A FP 300mA UNO RCCB

HIGHER RATING (HR) RCCB

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
	DOUBLE POLE RCCB		FOUR POLE RCCB
98500	80A DP 30mA UNO RCCB	98506	80A FP 30mA UNO RCCB
98501	80A DP 100mA UNO RCCB	98507	80A FP 100mA UNO RCCB
98502	80A DP 300mA UNO RCCB	98508	80A FP 300mA UNO RCCB
98503	100A DP 30mA UNO RCCB	98509	100A FP 30mA UNO RCCB
98504	100A DP 100mA UNO RCCB	98510	100A FP 100mA UNO RCCB
98505	100A DP 300mA UNO RCCB	98511	100A FP 300mA UNO RCCB

- **Fault finding when RCCB trips -**

Identifying earth leakage fault with this RCCB as an incomer or sub-incomer is very simple. First, switch off all the Switches/MCBs, switch the RCCB ON and simultaneously switch on the remaining switches one after the other. One would find that while a particular circuit is being switched ON, the RCCB trips time and again. This is the quickest way to identify a faulty circuit/appliance. One can then isolate that faulty circuit, rectify the fault and switch ON the RCCB.

- **Test button (T):** This is provided to verify whether RCCB is functioning properly or not.
  The test button working can be checked only if it is connected with supply, RCCB shall trip when test button is pressed. “RCCB should ideally be tested once in a month.”

- **Neutral Advance Mechanism:** The neutral makes first and breaks last before the phase terminals get ON.
  This helps in discharging of current in case of capacitive current. Vice versa in case the RCCB is OFF.

- **Voltage Independent:** UNO RCCB is not voltage dependent and it’s a purely current operated circuit breaker.
  It does not trip if voltage drops, thus providing protection against leakage current at reduced voltage too.

- **Installation -**

To ensure correct functioning of the RCCB, the neutral conductor on the load side must not be connected to earth, otherwise unwanted nuisance tripping may occur. Care must be taken to ensure that the earth loop impedance as given is not exceeded so that the maximum permissible touch voltage of 50/25V is not exceeded.

- **Protection from Nuisance Tripping -**

UNO RCCB is truly current operated and operates independent of voltage. It prevents the risk of nuisance tripping due to transient voltage created by lighting, line disturbance (from other equipments) and transient currents (from high capacitive circuits).

Selection of Wire/Cable for MCB, Isolator and RCCB Selection

Cross Sectional areas (S) test copper conductors corresponding to the rated currents

S mm²	Values of the rated current In A
1	$In \leq 6$
1.5	$6 < In \leq 13$
2.5	$13 < In \leq 20$
4	$20 < In \leq 25$
6	$25 < In \leq 32$
10	$32 < In \leq 50$
16	$50 < In \leq 63$
25	$63 < In \leq 80$
35	$80 < In \leq 100$
50	$100 < In \leq 125$

RESIDUAL CURRENT CIRCUIT BREAKER WITH OVER CURRENT PROTECTION (RCBO)

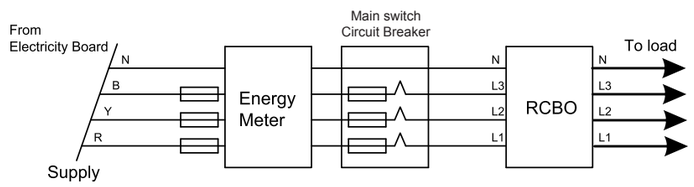
Residual Current Circuit Breaker with Over Current Protection (RCBO) is a combination of MCB and RCCB, commonly used in applications where there is the need to combine protection against Overcurrent (Overload and Short-circuit) and protection against Earth Leakage currents.
RCBOs help in sensing this kind of faults and trip the circuit ensuring complete protection of the human and connected equipment.

2 Pole (1P +N)

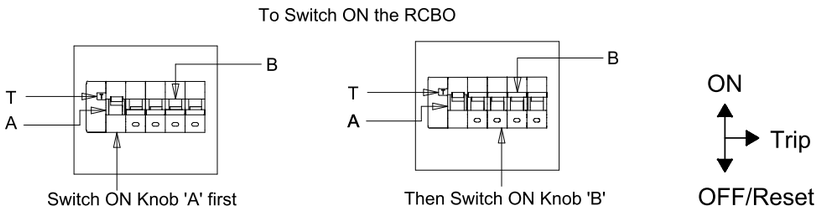
4Pole (3P+N)

INSTALLATION

- RCBO has to be mounted on DIN channel in Distribution Board, and can be used as a Main Incomer, immediately after Energy meter and Main switch (as shown in below diagram)



- Before servicing/ inspection of the product; Turn OFF the upstream circuit breaker to ensure no voltage is present.
- Copper Lugs recommended for connecting cables to the Uno RCBO.
- After installation, Switch ON the main Incoming supply
- Switch ON the knob ‘A’ of RCBO first, and then switch ON the knob ‘B’ of RCBO (as shown in below diagram)



- Test Button “T” is provided on the RCBO. The purpose of this is to facilitate periodic checking of the correct functioning of the mechanism and the sensing unit of Uno RCBO.
- To check the functioning of installed RCBO, press test knob ‘T’ while main supply is ON; RCBO must trip instantly.
- It is recommended that the RCBO is tested at least once in a month by the operation of the ‘T’ test button.
- Do not keep the ’T’ test button pressed for a long time.

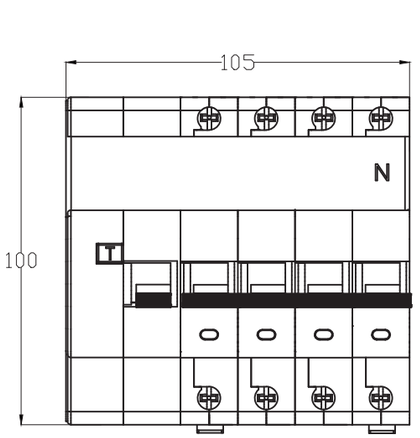
FAULT FINDINGS WHEN RCBO TRIPS

1. Switch OFF all the switches/MCBs connected in circuit downstream with RCBO
2. Switch ON RCBO and simultaneously switch ON the switches one by one.
3. You will find during switching ON of particular appliance/switch ON, RCBO trips again and again. This shows that this is a faulty circuit/appliance.
4. Mid Trip indication on MCB (knob B) will appears when RCBO Trips due to any electrical fault like Overload, Short circuit, Earth fault.
5. Isolate the faulty circuit, rectify the fault and switch ON the RCBO. To switch ON RCBO again, RESET knob B of MCB first and then switch ON knob A followed by switching ON Knob B of MCB.

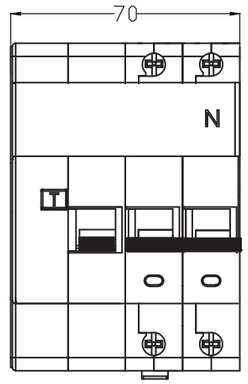
TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	UNO RCBO
1	Type	AC applications
2	Standard	IS 12640-2, IEC 61009-1
3	Current rating	6-63A
4	Current sensitivity	30mA, 100mA & 300mA
5	No. of poles	2 Pole (1P +N), 4Pole (3P+N)
6	Rated Voltage	240V~, 415V~
7	Rated short circuit breaking capacity	10000A
8	Fault type	Type AC
9	Terminal capacity	35 sq.mm
10	Electrical operations	4000
11	Mechanical operations	10000
12	Mid Trip indication	Yes
13	Contact Position indicator	Yes
14	ISI marking	Yes
15	Ingress protection	IP20
16	Operating temperature	-5 to 40°C

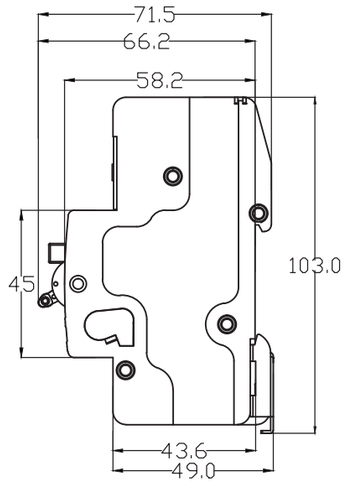
DIMENSIONS (in mm)



4 POLE (3P+N)



2 POLE (1P+N)



UNO Mini Miniature Circuit Breaker (MINI MCB) is a brand new product range of the most compact circuit breakers available in the world, incorporating all the safety features of a traditional MCB. Powered by the Panasonic technology, it redefines the concept of protection.

This compact and reliable range of MINI MCBs is available with two unique mounting choices-modular and flush mounted and screw mounted. Ensuring operational safety of precious appliances is the foremost objective of UNO MINI-MCB range. It thus offers undeterred protection from overload and short-circuit, securing the precious appliances by increasing their operational longevity.

UNO MINI MODULAR MCB

Mini-modular MCBs can be snapped fit on modular plates to incorporate the latest developments in the manufacturing technology as well as that of circuit protection for various applications.

The UNO Mini modular MCB is designed to protect household appliances from electrical overload and short-circuit. It offers continuing protection and thus prolongs the life of gadgets. Aesthetically designed with a fire-retardant body, it fits snugly into the modular switch-plates, making installation user-friendly as well as economical by

avoiding the cost of a separate board.

Features

- Protects against over load and short-circuit
- High breaking capacity of 3000A
- Low watt loss and energy saving
- Can be snapped fit on modular plates and can be screw mounted
- Can be used for per point protection
- Ideal for being used in Single phase Distribution Circuit
- Available as Single pole or Double pole versions in ratings from 6A to 32A
- Compact and trendy Designs and latest Technology
- All live metal parts are covered with non-inflammable thermostat material
- Longer Electrical and Mechanical life
- Finger-proof terminals offering IP20 degree of protection

Applications

- Residential: AC, Refrigerators, Geyser, Washing Machine, Home Theater, Domestic Pump Set, Oven cum griller, Cooking Range, Single Phase Motor etc.
- Commercial: AC, Hot plate, Xerox machines
- Hospitality: AC's, Heaters, Heavy duty mixer-grinders, Coolers
- Health care: Low-watt X-ray machines, Laboratory equipments etc. in individual clinics

UNO FLUSH (SCREW) MOUNTED MINI MCB

The UNO flush mounted mini-mcb range with screw-mounting feature is designed for use in domestic & commercial distribution systems, at the most downstream circuit (switchboards/decorative electrical switch boards) and offers high degree of protection for various appliances.

This compact & reliable range of screw-mounting miniature circuit breakers from UNO aims at securing the appliances from electrical overload and short-circuits. Aesthetically designed and well engineered, these give an elegant look to your installations.

Features

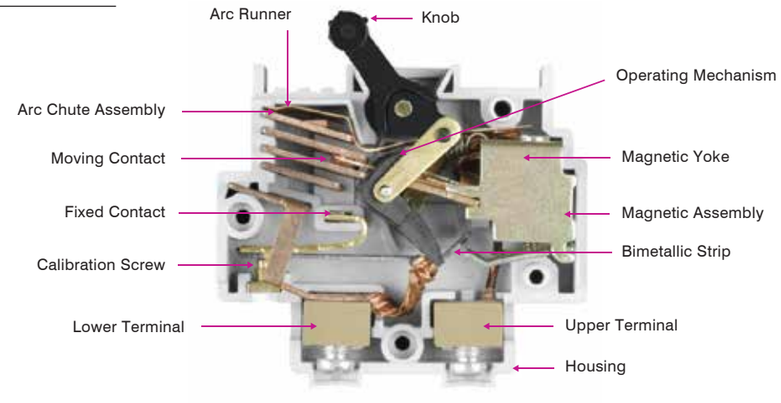
- Protects against over load and short-circuit
- Suitable for both DESB (Decorative Electrical Switch Board) and Switch board
- Can be used for per point protection
- High breaking capacity of 3000A
- Almost each and every point in your house, office can be protected without changing the look of the décor
- Available as Single pole or Double pole versions in ratings from 6A to 32A
- Low watt loss and Energy Saving
- Higher Reliability and offering continuity of service
- Compact in Size
- Longer Electrical and Mechanical life
- Finger-proof terminals offering IP20 degree of protection
- All live metal parts are covered with non-inflammable thermostat material
- Designed for Single Phase Distribution Circuit

Applications

- Residential: AC, Refrigerators, Geyser, Washing Machine, Home theater, Domestic Pump Set, Oven cum griller, Cooking Range
- Commercial: AC, Hot plate, Xerox machines
- Hospitality: AC's, Heaters, Heavy duty mixer-grinders, Coolers
- Health care: Low-watt X-ray machines, Laboratory equipments etc. in individual clinics

Internal mechanism of MINI-MCB

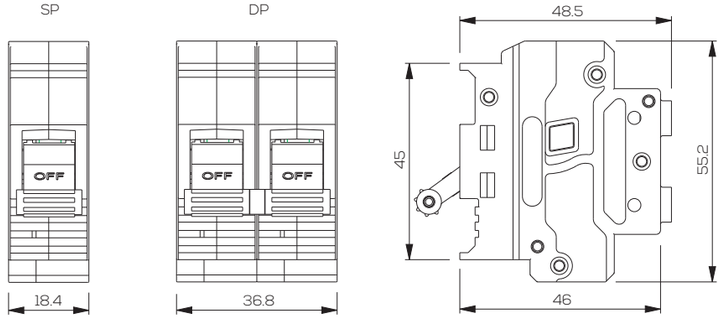
UNO Mini MCB Internal Structure



TECHNICAL SPECIFICATIONS

SR. NO.	FEATURES	UNO MINI MCB
1	Applicable standard	IS/IEC 60898-1:2015
2	Standard Rated Current (In)	6A to 32A
3	Tripping Characteristics	C curve
4	Poles	SP and DP
5	Rated short circuit breaking capacity (Icn)	3000A (3kA)
6	Rated Voltage (Un)	240V~ AC
7	Rated Frequency (f)	50 Hz
8	Ambient working temperature	-5 to 50°C
9	Rated Insulation Voltage (Ui)	660V
10	Rated Impulse Voltage (Uimp)	4kV
11	Dielectric Strength	2.5kV
12	Terminal Capacity	10 sq.mm (max.) copper
13	Relative Humidity	95%
14	Vibration	3 g
15	Endurance (Mechanical)	20000 operations
16	Endurance (Electrical)	20000 (In <16A) 5000 (In>16A)
17	Case and cover material	Molded, Flame retardant plastic
18	Switching mechanism	Manual & Trip-free mechanism
19	Tripping mechanism	Thermal-magnetic
20	Installation position	Vertical/horizontal
21	Wattage Loss	Much Lower than the values in IS Standard
22	Knob padlocking	Yes
23	Termination	Cable
24	Mounting	Snap fit/Screw mounted (on board)
25	Protection class	IP20
26	Suitable for protection	Per point protection
27	Design Registration certificate	Registered, Design Registration Number: 252904

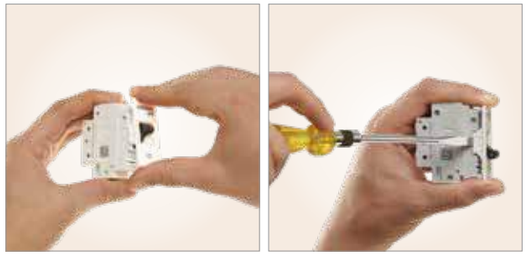
DIMENSIONS (in mm)



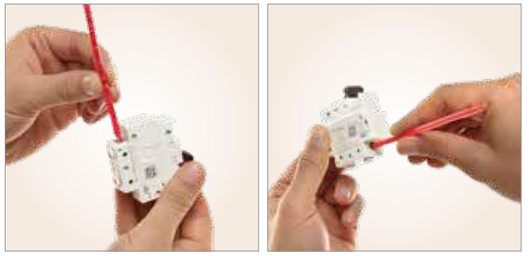
MINI MCB INSTALLATION CONCEPT

FOUR STEP INSTALLATION PROCESS (MODULAR MINI MCB)

- Separate the front plate of the MINI-MCB and detach it from the MINI-MCB unit with a screwdriver



- Connect and tighten the outgoing wire in the upper terminal and the incoming wire in the lower terminal

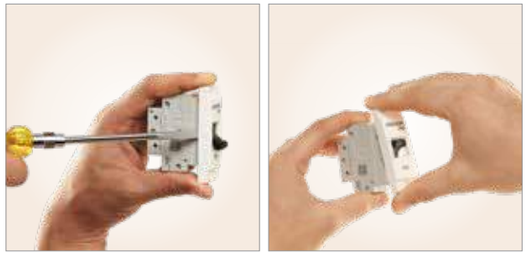


- Push fit the MINI-MCB from the hind side into the modular plate and press fit the front plate of the MINI-MCB on the modular plate

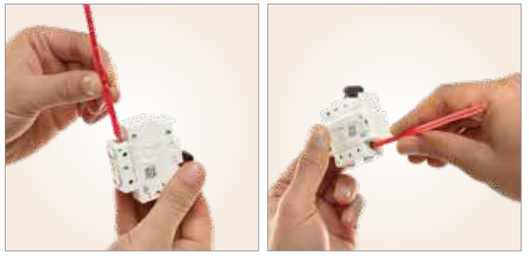
- The MINI-MCB is successfully installed and ready for use

FOUR STEP INSTALLATION PROCESS (SCREW MOUNTED MINI MCB)

- Detach the front plate from the MINI-MCB unit with a screwdriver and separate it from the MINI-MCB

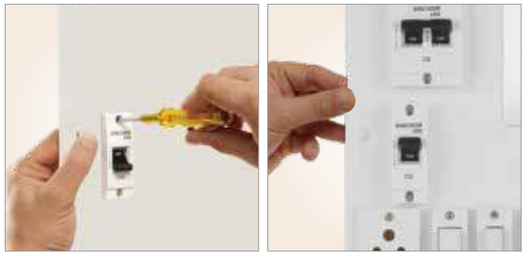


- Connect and tighten the outgoing wire in the upper terminal and the incoming wire in the lower terminal



- Push fit the MINI-MCB from the hind side into the non-modular board and press fit the front plate of the MINI-MCB on the non-modular board

- Tighten the screws on the MINI-MCB to hold the unit in place and complete the MINI-MCB installation to make it ready for use



WHY REPLACE DP SWITCH WITH UNO MINI MCB

DP switches with red indicators are now outdated as they were mainly used as a Main Switch for switching power supply ON & OFF operation. They did not protect the circuit at all from Overload and Short-Circuit.

Electrical safety is a need of every premises. Hence MINI MCB is the perfect replacement for the Traditional DP switches as it is equipped with advanced safety feature of per point protection from over load & short-circuit. Thus ensures that your home is safe from electrical hazards.

5 reasons to use a UNO MINI MCB

- It is an excellent alternative to a DP Switch as can be safely used as an incomer
- It can be an ideal fit to switch the appliances ON and OFF replacing the traditional rocker switches as it provides per point protection
- Its Smart-Trip feature offers added protection from short-circuit and overload
- Its unique design ensures a longer operational life as well as is energy-saving due to low watt losses
- It offers flexibility and installation convenience as it can be either snap-fitted into modular plates or screw-mounted on traditional mica boards

SCREW TYPE MINI MCB

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
98236	6A SP 'C' MCB	98246	6A DP 'C' MCB
98237	10A SP 'C' MCB	98247	10A DP 'C' MCB
98238	16A SP 'C' MCB	98248	16A DP 'C' MCB
98239	20A SP 'C' MCB	98249	20A DP 'C' MCB
98240	25A SP 'C' MCB	98250	25A DP 'C' MCB
98241	32A SP 'C' MCB	98251	32A DP 'C' MCB

ROMA CLASSIC

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
98069	6A SP 'C' MCB	98069	6A DP 'C' MCB
98070	10A SP 'C' MCB	98070	10A DP 'C' MCB
98071	16A SP 'C' MCB	98071	16A DP 'C' MCB
98072	20A SP 'C' MCB	98072	20A DP 'C' MCB
98073	25A SP 'C' MCB	98073	25A DP 'C' MCB
98074	32A SP 'C' MCB	98074	32A DP 'C' MCB

ROMA URBAN - WHITE

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
66151	6A SP 'C' MCB	66157	6A DP 'C' MCB
66152	10A SP 'C' MCB	66158	10A DP 'C' MCB
66153	16A SP 'C' MCB	66159	16A DP 'C' MCB
66154	20A SP 'C' MCB	66160	20A DP 'C' MCB
66155	25A SP 'C' MCB	66161	25A DP 'C' MCB
66156	32A SP 'C' MCB	66162	32A DP 'C' MCB

ROMA URBAN - SILVER

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
66151S	6A SP 'C' MCB	66157S	6A DP 'C' MCB
66152S	10A SP 'C' MCB	66158S	10A DP 'C' MCB
66153S	16A SP 'C' MCB	66159S	16A DP 'C' MCB
66154S	20A SP 'C' MCB	66160S	20A DP 'C' MCB
66155S	25A SP 'C' MCB	66161S	25A DP 'C' MCB
66156S	32A SP 'C' MCB	66162S	32A DP 'C' MCB

ROMA URBAN - BLACK

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
66151B	6A SP 'C' MCB	66157B	6A DP 'C' MCB
66152B	10A SP 'C' MCB	66158B	10A DP 'C' MCB
66153B	16A SP 'C' MCB	66159B	16A DP 'C' MCB
66154B	20A SP 'C' MCB	66160B	20A DP 'C' MCB
66155B	25A SP 'C' MCB	66161B	25A DP 'C' MCB
66156B	32A SP 'C' MCB	66162B	32A DP 'C' MCB

PENTA MODULAR - WHITE

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
65980	6A SP 'C' MCB	65989	6A DP 'C' MCB
65981	10A SP 'C' MCB	65990	10A DP 'C' MCB
65982	16A SP 'C' MCB	65991	16A DP 'C' MCB
65983	20A SP 'C' MCB	65992	20A DP 'C' MCB
65984	25A SP 'C' MCB	65993	25A DP 'C' MCB
65985	32A SP 'C' MCB	65994	32A DP 'C' MCB

PENTA MODULAR - GRAPHITE BLACK

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
65980GB	6A SP 'C' MCB	65989GB	6A DP 'C' MCB
65981GB	10A SP 'C' MCB	65990GB	10A DP 'C' MCB
65982GB	16A SP 'C' MCB	65991GB	16A DP 'C' MCB
65983GB	20A SP 'C' MCB	65992GB	20A DP 'C' MCB
65984GB	25A SP 'C' MCB	65993GB	25A DP 'C' MCB
65985GB	32A SP 'C' MCB	65994GB	32A DP 'C' MCB

ZIVA - WHITE

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
68980	6A SP 'C' MCB	68989	6A DP 'C' MCB
68981	10A SP 'C' MCB	68990	10A DP 'C' MCB
68982	16A SP 'C' MCB	68991	16A DP 'C' MCB
68983	20A SP 'C' MCB	68992	20A DP 'C' MCB
68984	25A SP 'C' MCB	68993	25A DP 'C' MCB
68985	32A SP 'C' MCB	68994	32A DP 'C' MCB

ZIVA - BLACK

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
68980B	6A SP 'C' MCB	68989B	6A DP 'C' MCB
68981B	10A SP 'C' MCB	68990B	10A DP 'C' MCB
68982B	16A SP 'C' MCB	68991B	16A DP 'C' MCB
68983B	20A SP 'C' MCB	68992B	20A DP 'C' MCB
68984B	25A SP 'C' MCB	68993B	25A DP 'C' MCB
68985B	32A SP 'C' MCB	68994B	32A DP 'C' MCB

TIONA - WHITE

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
65980	6A SP 'C' MCB	65989	6A DP 'C' MCB
65981	10A SP 'C' MCB	65990	10A DP 'C' MCB
65982	16A SP 'C' MCB	65991	16A DP 'C' MCB
65983	20A SP 'C' MCB	65992	20A DP 'C' MCB
65984	25A SP 'C' MCB	65993	25A DP 'C' MCB
65985	32A SP 'C' MCB	65994	32A DP 'C' MCB

TIONA - BLACK

CODE	ITEM DESCRIPTION	CODE	ITEM DESCRIPTION
SP	MINI MODULAR MCB 'C' TYPE	DP	MINI MODULAR MCB 'C' TYPE
66151	6A SP 'C' MCB	66157	6A DP 'C' MCB
66152	10A SP 'C' MCB	66158	10A DP 'C' MCB
66153	16A SP 'C' MCB	66159	16A DP 'C' MCB
66154	20A SP 'C' MCB	66160	20A DP 'C' MCB
66155	25A SP 'C' MCB	66161	25A DP 'C' MCB
66156	32A SP 'C' MCB	66162	32A DP 'C' MCB

UNO MODULAR AC BOX

Protecting the air-conditioning and offering steady ventilation for your dream space is at the heart of UNO AC Boxes. It is available in Modular AC Boxes. Aesthetic and sleek looks make them the ideal companions for your home, office or cabin air-conditioners.

POWER UNIT

Modular Box with MINI MCB

Features

- 16A ISI Marked tested upto 20A unbreakable heavy duty plug top
- Suitable for per point protection of home appliances
- Compact and Aesthetic Design
- Offers Overload and Short Circuit Protection
- Easy to operate and replace
- Completely Insulated Design

CODE	DESCRIPTION
98488	3M Modular AC Box 20A SP MCB With Plastic Enclosure & Plug Top
98489	3M Modular Surface AC Box 20A SP MCB & Plug Top Without Enclosure
98491	4M Modular AC Box 20A SP MCB With Metal Enclosure & Plug Top
98492	4M Modular AC Box 20A DP MCB With Metal Enclosure & Plug Top
98496	3M Modular AC Box 25A SP MCB With Plastic Enclosure & Plug Top
98497	3M Modular AC Box 25A SP MCB With Plug Top Without Enclosure
98498	4M Modular AC Box 25A SP MCB With Metal Enclosure & Plug Top
98499	4M Modular AC Box 25A SP MCB With Plug Top W/o Enclosure

Suitable for Protection of Home appliance like LCDs, ACs, Geyser and Micro Oven etc.

UNO GUARD

UNO GUARD

MINI MCB WITH ENCLOSURE

Anchor Uno launches Uno Guard a compact & aesthetic protection device which provides protection against Overload & Short circuit. It is design for quick & easy installation.

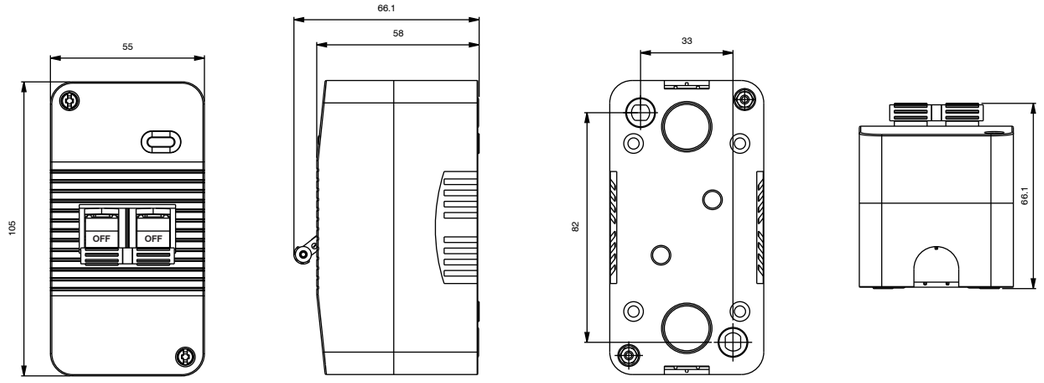
Features

- Compact & Space Saving Design
- Protection from Overload & Short-Circuit
- Completely Shock Proof Design
- Breaking Capacity (3kA)
- Power Supply Indication
- Easy Installation

Specifications

FEATURES	UNO GUARD
Reference Standard	IS/IEC 60898-1:2015
Rated Current	32A
Rated Voltage	240V~ AC, 50Hz
No. Of Poles	DP
Rated short circuit capacity	3kA
Degree of protection	IP20

Dimension in (mm)



CODE	DESCRIPTION
98494	UNO GUARD MINI MCB 20A DP WITH ENCLOSURE
98495	UNO GUARD MINI MCB 32A DP WITH ENCLOSURE

UNO DISTRIBUTION BOARDS

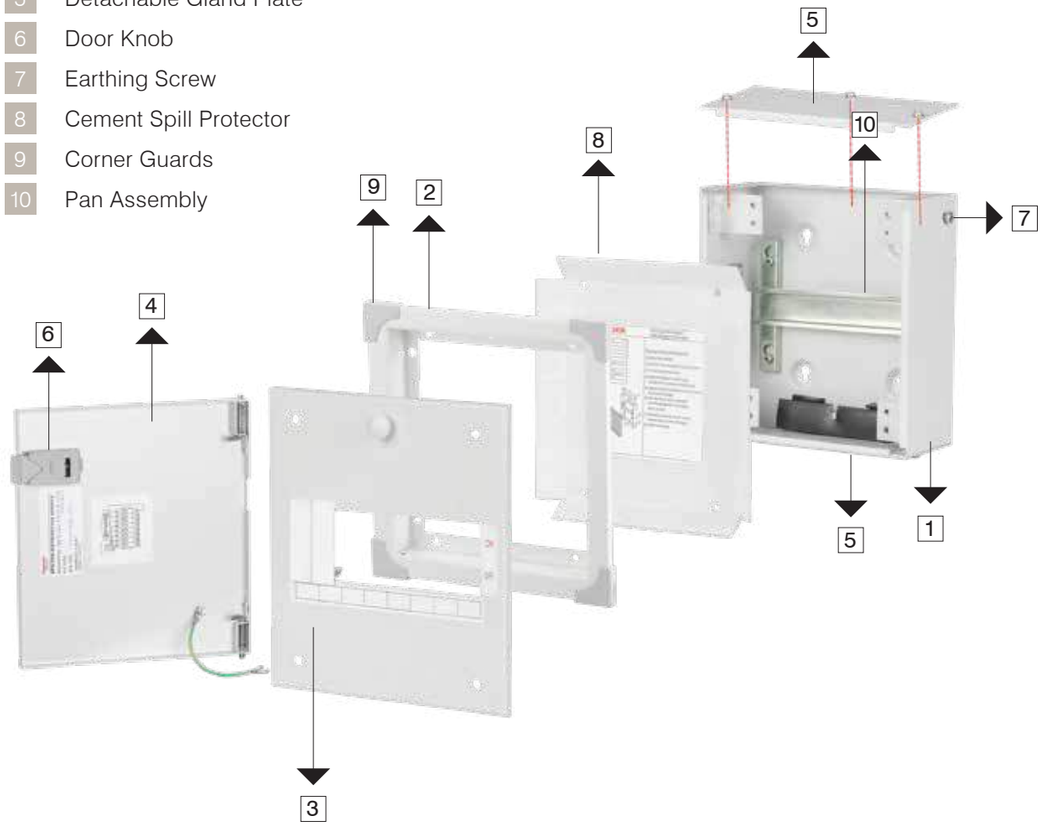
UNO Distribution boards has been designed to provide a new dimension of protection in Homes, Offices and Industries. It is equipped with stylish color, elegant curves and distinctive finish that blends with all kinds of interior décor.

UNO Distribution Boards thus offer dual benefits of Flexibility and Safety, enabling safe and efficient distribution of electrical power.

These boards undergo a seven-tank phosphating pre-treatment process to ensure anti-rust conditioning, superior finish and lasting strength. Post this process, premium quality powder coating is applied using the state-of-the-art techniques. These boards are also equipped with top and bottom removable gland plates with a number of knockouts. One can thus install them either flush or wall mounted.

PRODUCTS	I/C CURRENT RATING	INCOMER	SUB INCOMER	OUTGOING	EARTHING TERMINAL	SHROUDED NEUTRAL LINK
SPN DB	Up to 63A	SPN / DP	-	SP MCB	1	1
TPN DB	Up to 63A	TP/ TPN/ FP	-	SP MCB	1	1
Vertical TPN DB	Up to 63A	TP/ TPN/ FP	-	SP & TP MCB	1	1
PPI DB	Up to 63A	TP/ TPN/ FP	DP / MCB/ RCCB	SP MCB	3	3
Phase Selector DB	Up to 63A	TP/ TPN/ FP	FP / MCB/ RCCB	SP MCB	1	1
Eight Segment DB	Up to 63A	TP/ TPN/ FP	DP / MCB/ RCCB	SP MCB	4	4

1. Box
2. Frame
3. Shield
4. Door
5. Detachable Gland Plate
6. Door Knob
7. Earthing Screw
8. Cement Spill Protector
9. Corner Guards
10. Pan Assembly



INSTALLATION PROCEDURE	
1	Open the carton
2	Remove the Knockouts as required
3	Fix the box in/on wall
4	Remove cement protection cover after installation of box
5	Mount MCB's on Dinrail Pan Assembly after installing necessary wiring
6	Put frame and door assembly on the box and fit it by screws (M5 X 10CSK)
7	Fix shield on the frame using screw (M5 X 18 Philips Head)
8	Close the door

1

Reversible Door :

By simply shifting the hinge assembly from left to right the opening of the door can be interchanged depending on the location of the installation.

Benefits :

Unique flexibility as per customer convenience at the time of installation.

2

Pan Assembly :

This concept facilitates detaching of the Chassies from the DB and the required wiring for the circuit protection device can be done at a comfortable location.

Benefits :

- Easy and comfortable installation of the internal wiring
- Reduces the installation time and cost

3

Dust Guard :

The Cement Spill protector prevents entry of dust or cement particles inside the DB during the construction period at site. The installation guidelines are mentioned elaborately on cement spill protector.

Benefits :

- The Cement Spill protector ensures zero infiltration of dust or cement particles inside the DB
- The portable damage of the door is avoided

4

Door Earthing :

Door earthing makes the entire UNO DB totally shock-proof.

Benefits :

Highly shock-proof.

5

Integrated Frame Design :

UNO DB has a unique feature of the frame integrated into the BOX.

Benefits :

- The maintenance friendly design consists of simple 3 parts modular construction
- This aids in decreasing the number of subassemblies and thus provides additional space for cable assembly

6

Front Door Aesthetics :

The aesthetically designed front fascia of the DB adds an alluring dimension to the living space.

Benefits :

- Blends with any interior decor
- A distribution board that you no longer need to hide

Reversible Door :
By simply shifting the hinge assembly from left to right the opening of the door can be interchanged depending on the location of the installation

Dust Guard :
The Cement spill protector prevents entry of dust or cement particles inside the DB during the construction period at site.
The installation guidelines are mentioned elaborately on cement spill protector

Integrated Frame Design :
UNO DB has a unique feature of the frame integrated into the box

Internal Sliding Knob/Latch :
Aesthetically Appealing curved 2 pieces grey coloured auto locking latch

IP - 43 Protection :
Offers added Protection from solid and water fall at 60^{o} from verticals

Visual Anti-inserting facility :
Aids in identifying the box inserting level in the wall

Front Plate Studs :
Front plate studs are provided for easy lifting of front plate

Double mounting key holes :
Every UNO DB is provided with key holes for flush as well as surface mounting.

Pan Assembly :
This concept facilitates detaching of the Chassies from the DB and the required wiring for the circuit protection device can be done at a comfortable location

Door Earthing :
Door earthing makes the entire UNO DB totally shock proof.

Front Door Aesthetics :
The aesthetically designed front facia of the DB adds an alluring dimension to the living space

Insulated copper Bus Bar :
All UNO DBs have this facility for quick and easy installation for 100A Rating

Ample space for wiring :
Ample space for wiring is provided to ensure proper distribution of neutral and earth wires

Circuit lable diagram :
Circuit lable diagram is provided to avoid any mismatch during wiring

Identified wire set :
All UNO DBs are equipped with wire set for better device management

Shrouded Neutral Bar :
Shrouded Neutral bars facilitate safety of installation and human life

Installation Manual Sheet :
UNO DB comes with installation manual sheet for safe and easy installation of the circuit breakers

Side Locking DIN Bar :
Stoppers are provided at the corner of the DIN bar for avoiding slippage of device

Embossed Earthing Identification :
Clear earthing marking for ease of installation
Screw: UNO DB is equipped with stainless steel screws that prevent rusting of the surface

Identification level and Blank Plate :
Identification level and blank plates are provided for the circuit

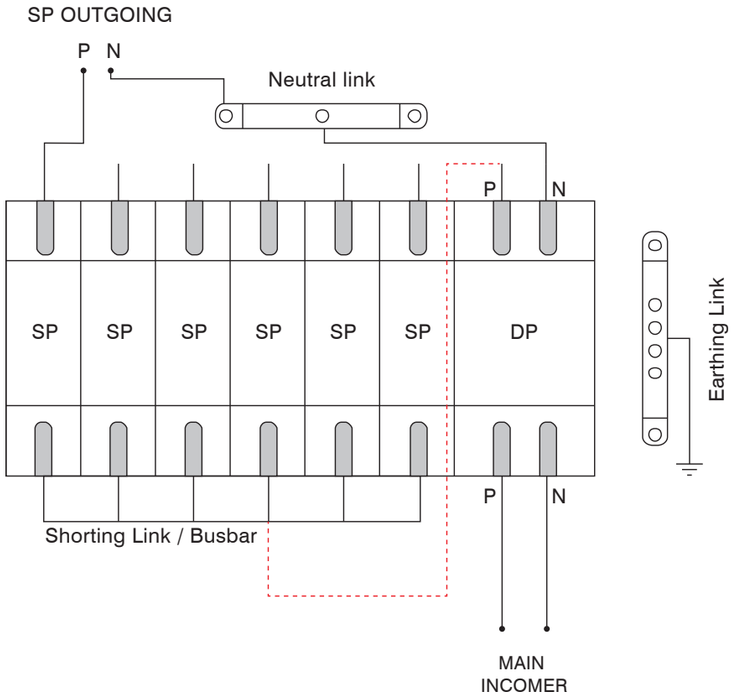
Door & Shield Independent :
During maintenance jobs, one can just remove the shield without removing the entire DB

Detachable Gland Plates with different size of knockouts :
Removable Gland plates at the top and bottom of the DB facilitate easy entry and exit of the cables. Thus one can remove the entire plate from incoming and outgoing terminals

*F: Stands for Features

SPN DOUBLE DOOR DISTRIBUTION BOARD

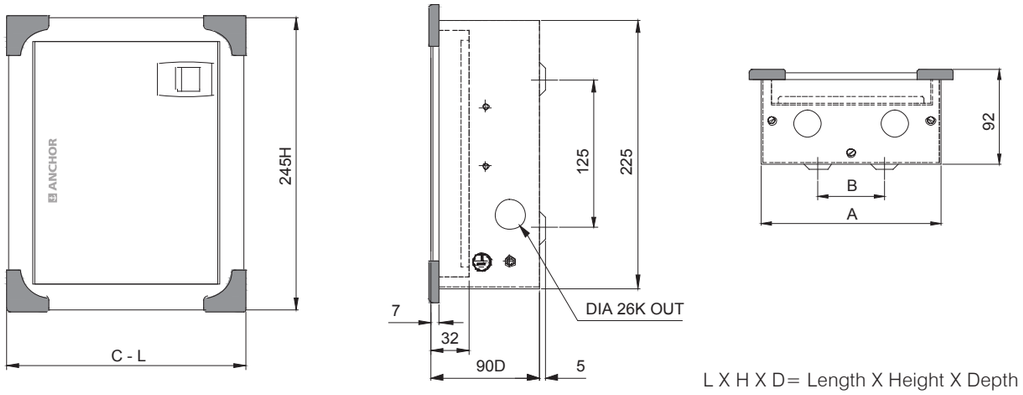
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**4, 6, 8, 12 & 16 ways**
Type of Installation	Surface and Flush mounting
Colour/Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max.63A
Outgoing	Max. Individual 63A
Voltage Rating	240/415V~ AC, Single Phase
Incoming Options	SPN / DP MCB / RCCB / Isolator
Outgoing Options	Single pole MCB up to 63A
Neutral Bar Terminal Capacity	25 mm^2
Earthing Bar Terminal Capacity	25 mm^2
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



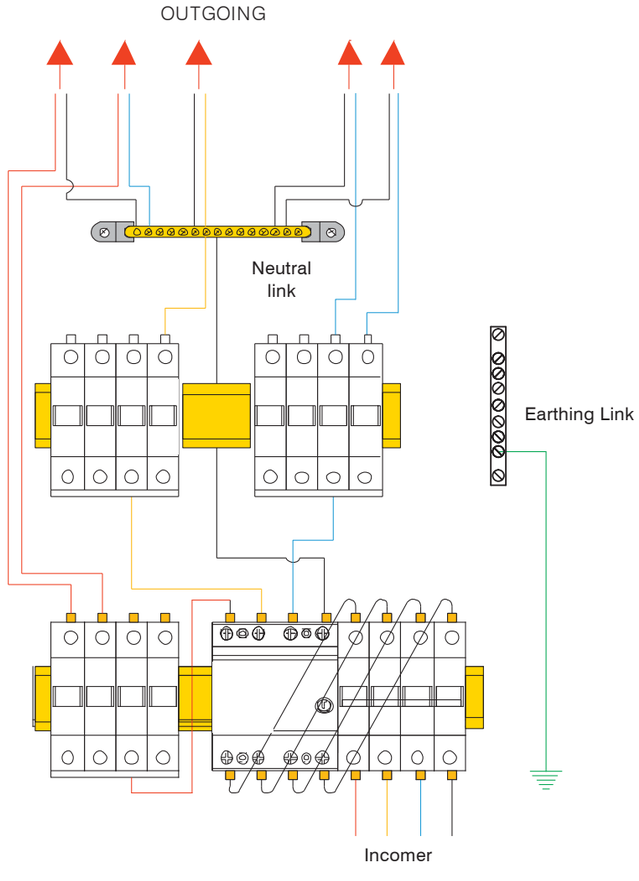
L X H X D= Length X Height X Depth

CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	Dimensions (in mm) A	B	C	Knockout Holes (ø25 mm) TOP	BOTTOM	EACH SIDE
98300	4	2+2	1.00	140	65	160	2	2	1
98301	6	2+4	1.00	175	65	195	2	2	1
98302	8	2+6	1.00	210	100	230	3	3	1
98303	12	2+10	1.00	285	175	305	4	4	1
98304	16	2+14	1.00	365	255	385	5	5	1

*1.2 mm and 1.6 mm sheet thickness as per customer request

TPN DOUBLE DOOR DISTRIBUTION BOARD

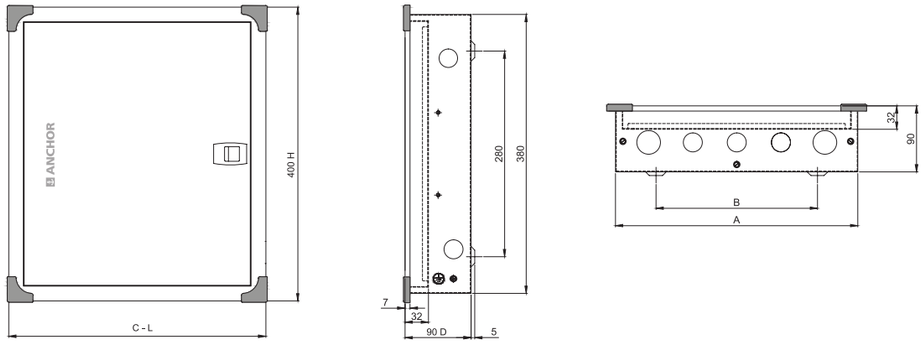
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**4, 6, 8 & 12 ways**
Type of Installation	Surface and Flush mounting
Colour/Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max. 63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase / 4 Wire
Incoming Options	Three phase MCB / RCCB / Isolator
Outgoing Options	Single pole MCB up to 63A
Neutral Bar Terminal Capacity	25 mm², Split on both sides
Earthing Bar Terminal Capacity	25 mm², Split on both sides
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



L X H X D= Length X Height X Depth

CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	Dimensions (in mm) A	B	C	Knockout Holes (ø25 mm) TOP ø25 mm	TOP ø32 mm	BOTTOM ø25 mm	BOTTOM ø32 mm	EACH SIDE
98305	4	8+12	1.00	330	220	350	3	2	3	2	2
98306	6	8+18	1.00	365	255	385	4	2	4	2	
98307	8	8+24	1.00	415	305	435	4	2	4	2	
98308	12	8+36	1.2	600	490	620	7	2	7	2	

*1.2 mm and 1.6 mm sheet thickness as per customer request

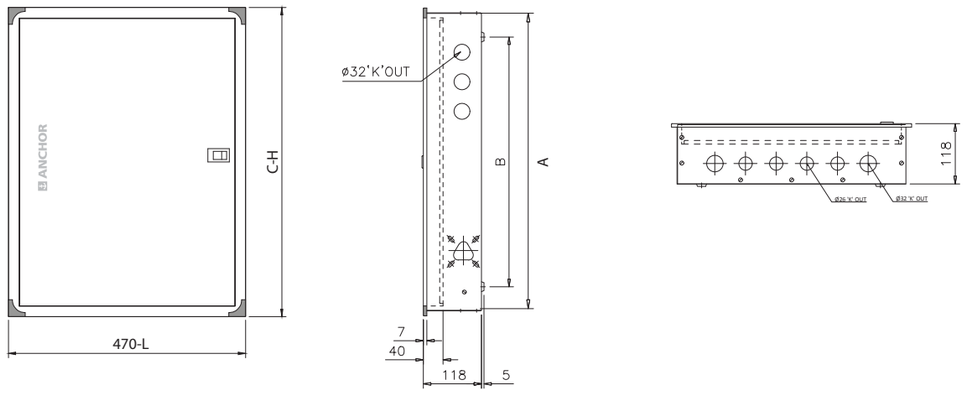
TPN VERTICAL DISTRIBUTION BOARD

CIRCUIT DIAGRAM

DB Technical Specifications

No. of Ways	**4, 6, 8 & 12 ways**
Type of Installation	Surface & Flush mounting
Colour / Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max. 63A
Outgoing	Max. Individual 63A SP & TP
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase/4 Wire
Main Incoming Options	Three Phase MCB or RCCB or ISOLATOR
Sub Incoming Options	SP or TP or Both MCB
Neutral Bar Terminal Capacity	25 mm^2, Split on both sides
Earthing Bar Terminal Capacity	25 mm^2, Split on both sides
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



L X H X D= Length X Height X Depth

				Dimensions (in mm)			Ø25, K' OUT		Ø32, K' OUT		Ø32, K' OUT
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	TOP	BOTTOM	SIDE
98317	4	8+12	1.2	500	400	520	4	4	2	2	2
98318	6	8+18	1.2	550	450	570	4	4	2	2	3
98319	8	8+24	1.2	600	500	620	4	4	2	2	4
98320	12	8+36	1.2	700	600	720	4	4	2	2	6

*1.6 mm sheet thickness as per customer request

VERTICAL TPN DB - MCB INCOMER

- Adheres to IS/IEC 61439 (Part 3) Norms
- Universal mounting DB supplied with copper insulated bus bar neutral link, earth link, earthing studs and connection wires
- Equipped with detachable Gland plates with knock outs on both sides
- Suitable for TP / TPN / FP as an incomer with 8 slots followed by SP / TP MCB as an outgoing
- Bus bar Rating 100A
- Flexible for Single Phase / Three Phase outgoing

Incomer

Provision for AC Socket

Removable Gland Plate

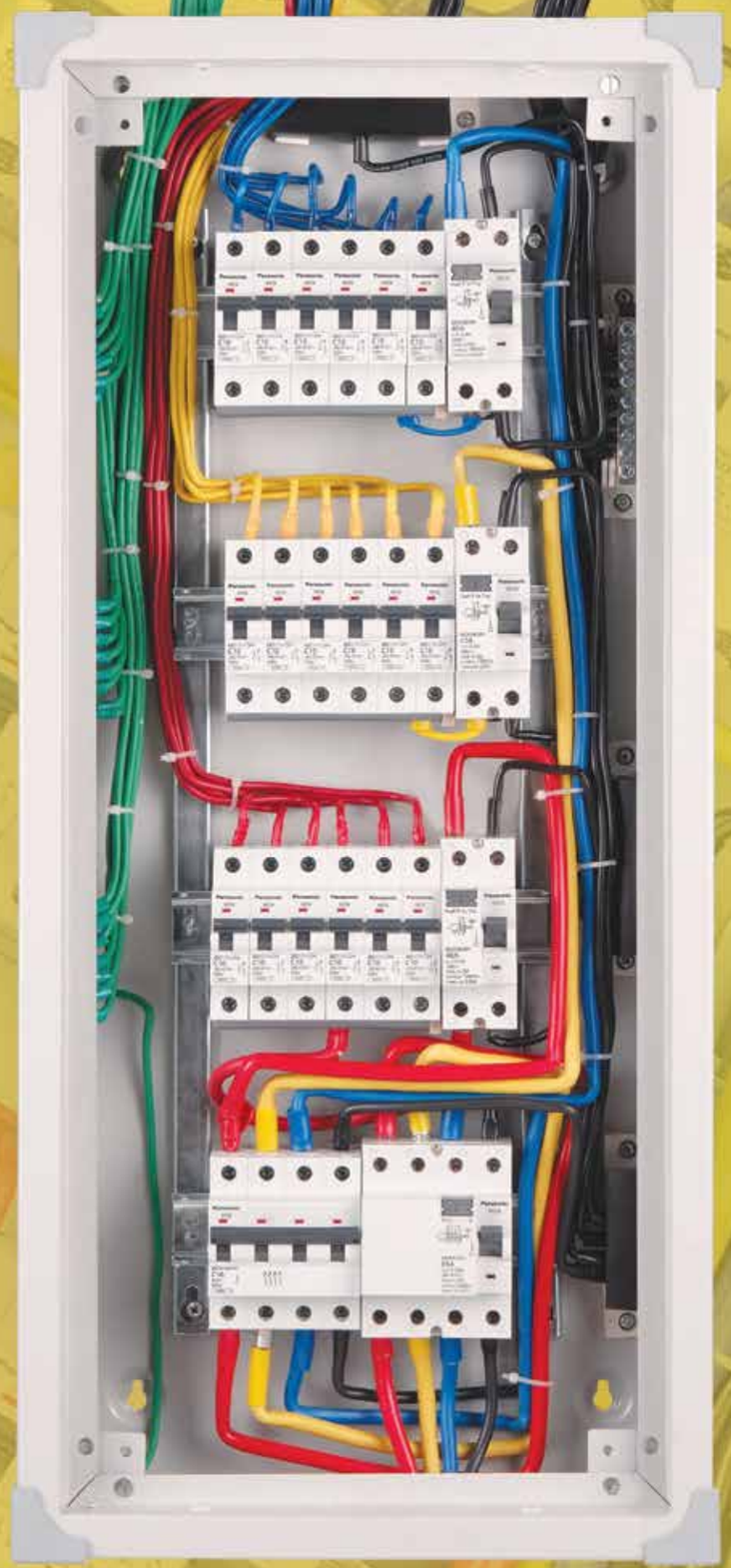
Outgoing MCB

Insulated IP 20 Fishbone

Insulated Neutral bar

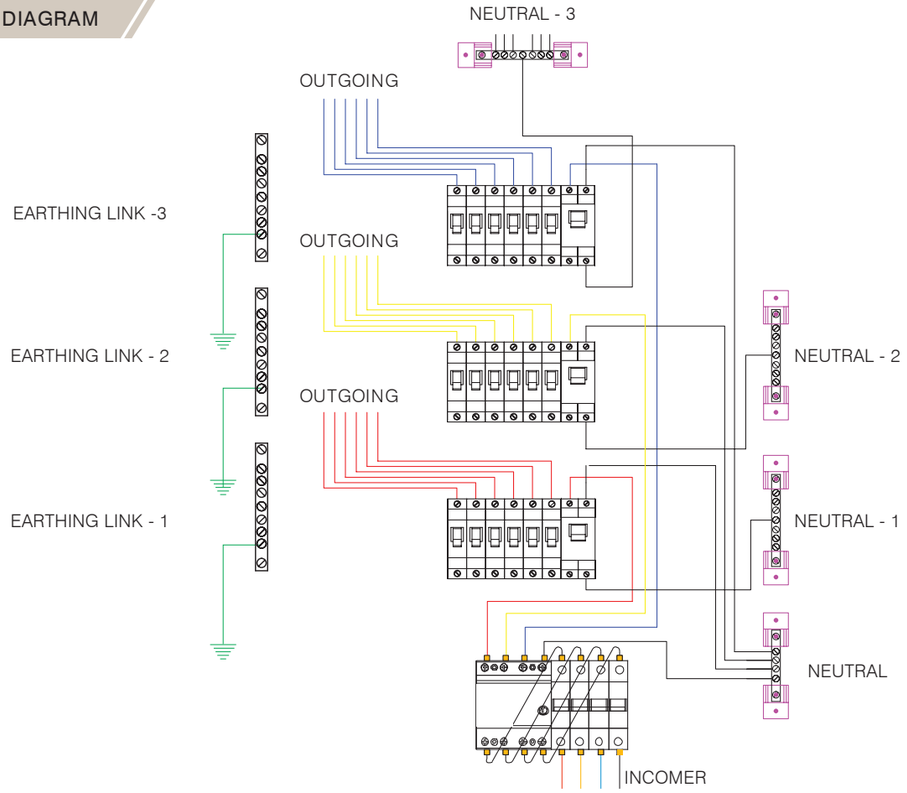
Earth bar

PER PHASE ISOLATION (PPI) VERTICAL WITH WIRING DIAGRAM



VERTICAL PER PHASE ISOLATION (PPI) DISTRIBUTION BOARD

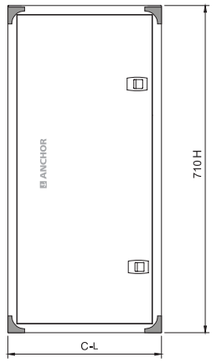
CIRCUIT DIAGRAM

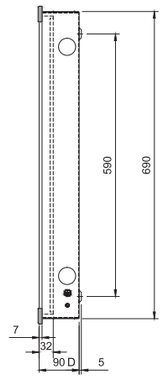


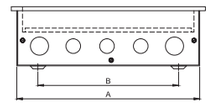
DB Technical Specifications

No. of Ways	**2+4, 2+6, 2+8 & 2+12 Ways**
Type of Installation	Flush / Surface
Colour / Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max.63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase/4 Wire
Main Incoming Options	Three Phase - MCB or RCCB or ISOLATOR
Sub Incoming Options	DP MCB / RCCB
Neutral Bar Terminal Capacity	25 mm²
Earthing Bar Terminal Capacity	25 mm²
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5˚ C to 40˚ C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)







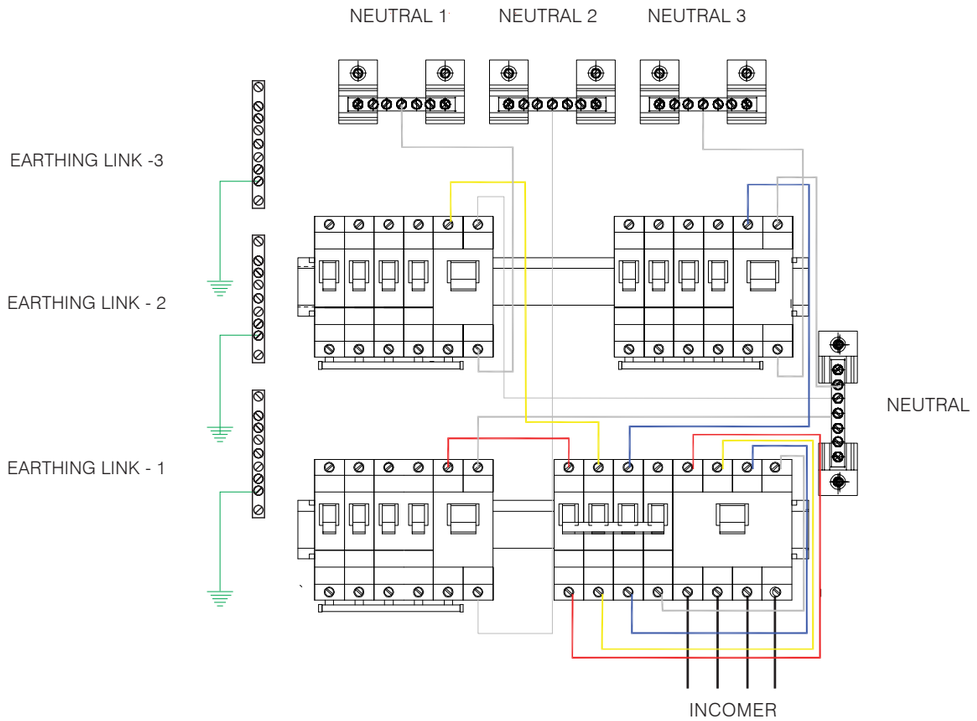
L X H X D= Length X Height X Depth

				Dimensions (in mm)			Ø25, K' OUT		Ø32, K' OUT		Ø32, K' OUT
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	TOP	BOTTOM	SIDE
98321	4+2	8+6+12	1.2	300	225	320	2	2	2	2	2
98322	6+2	8+6+18	1.2	300	225	320	2	2	2	2	2
98323	8+2	8+6+24	1.2	325	250	345	3	3	2	2	2
98324	12+2	8+6+36	1.2	400	325	420	4	4	2	2	2

*1.6 mm sheet thickness as per customer request

HORIZONTAL PER PHASE ISOLATION (PPI) DISTRIBUTION BOARD

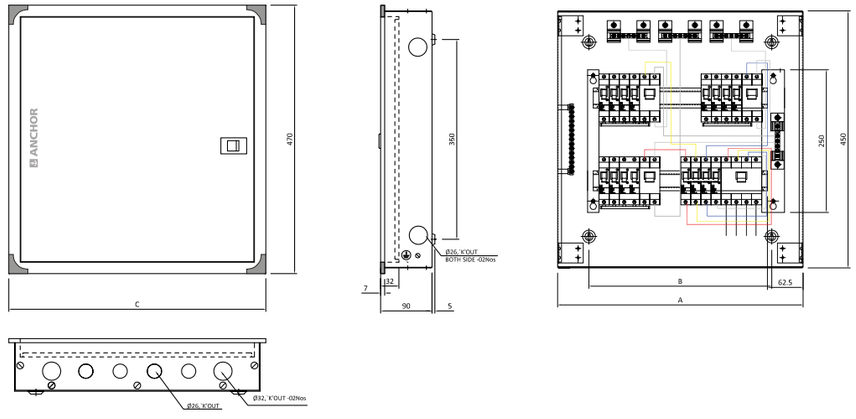
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**2+4, 2+6, 2+8 & 2+12 Ways**
Type of Installation	Flush / Surface
Colour / Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max.63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase/4 Wire
Main Incoming Options	Three Phase - MCB or RCCB or ISOLATOR
Sub Incoming Options	DP MCB / RCCB
Neutral Bar Terminal Capacity	25 mm²
Earthing Bar Terminal Capacity	25 mm²
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5˚ C to 40˚ C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



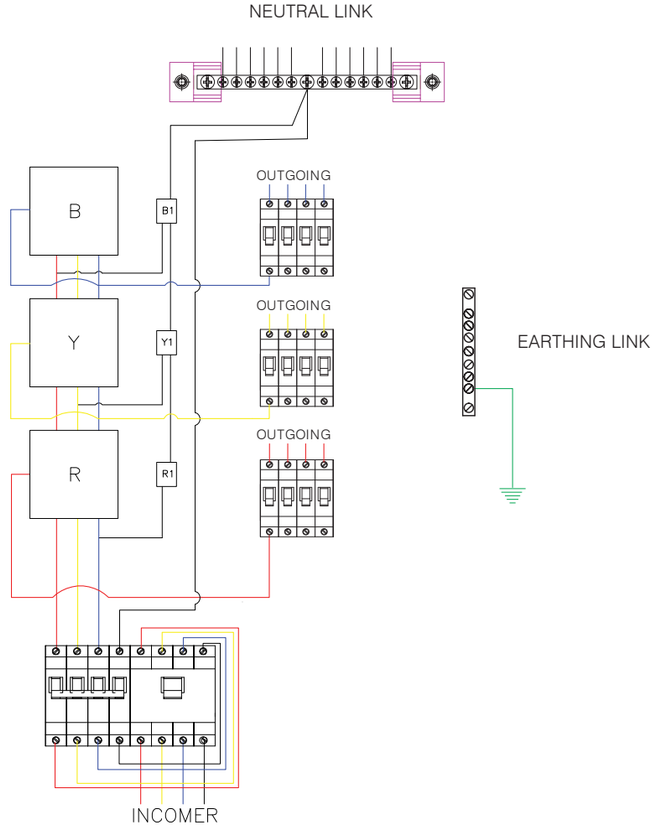
L X H X D= Length X Height X Depth

				Dimensions (in mm)			Ø25, K' OUT		Ø32, K' OUT		Ø32, K' OUT
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	TOP	BOTTOM	SIDE
98337	4+2	8+6+12	1.2	430	320	450	4	4	2	2	2
98338	6+2	8+6+18	1.2	464	355	485	5	5	2	2	2
98339	8+2	8+6+24	1.2	535	425	555	5	5	2	2	2

*1.6 mm sheet thickness as per customer request

PHASE SELECTOR (VERTICAL) DISTRIBUTION BOARD

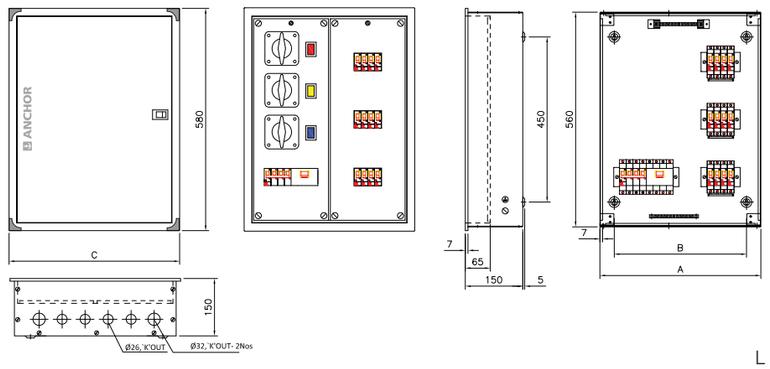
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**4, 6, 8 & 12 Ways**
Rotary Switch Rating	40A & 63A
Type of Installation	Flush / Surface
Colour / Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max. 63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase/4 Wire
Incoming Options	Three Phase MCB / RCCB / Isolator.
Rotary Switch with Indicators	Three Selectors with Three R, Y, B Indicating Lights Switch
Neutral Bar Terminal Capacity	25 mm^2
Earthing Bar Terminal Capacity	25 mm^2
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Di-electric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board - Reference Standards	IS/IEC 61439

Dimensions (in mm)



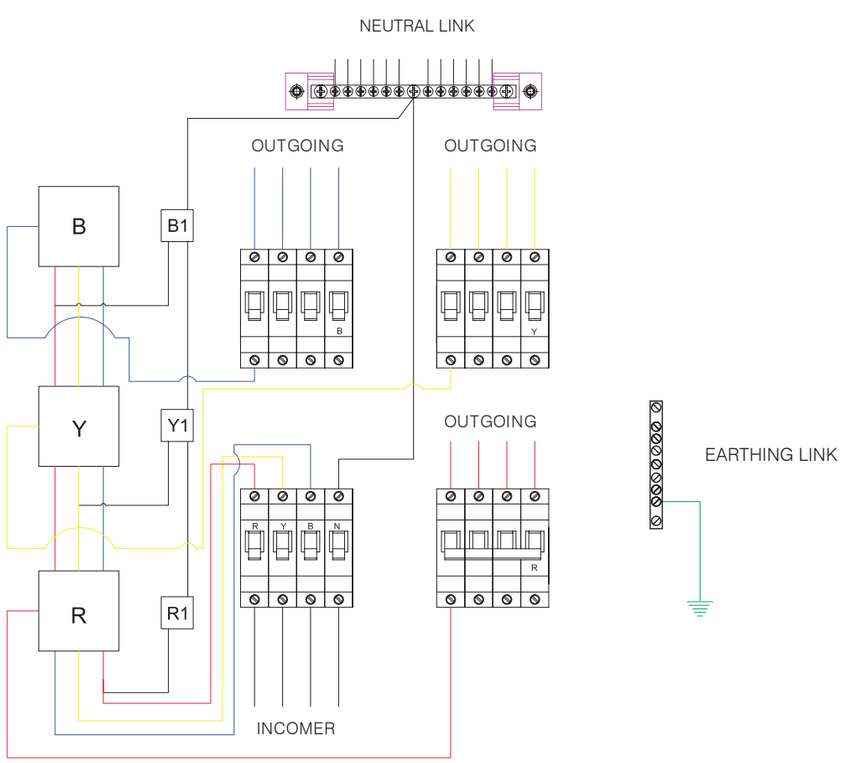
L X H X D= Length X Height X Depth

				Dimensions (in mm)			Ø26, K' OUT		Ø32, K' OUT	
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	TOP	BOTTOM
98325	4	8+12	1.2	400	325	420	4	4	2	2
98327	6	8+18	1.2	435	360	455	4	4	2	2
98329	8	8+24	1.2	470	395	490	5	5	2	2
98331	12	8+36	1.2	540	465	560	6	6	2	2

*1.6 mm sheet thickness as per customer request

PHASE SELECTOR (HORIZONTAL) DOUBLE DOOR DISTRIBUTION BOARD

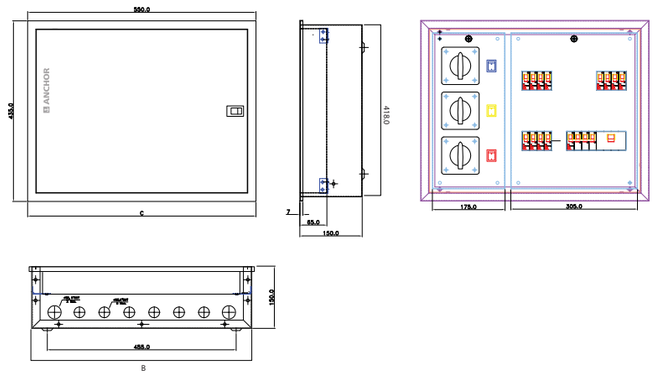
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**4, 6, 8 & 12 Ways**
Rotary Switch Rating	40A & 63A
Type of Installation	Flush / Surface
Colour / Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max. 63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase/4 Wire
Incoming Options	Three Phase MCB / RCCB / Isolator.
Rotary Switch with Indicators	Three Selectors with Three R, Y, B Indicating Lights Switch
Neutral Bar Terminal Capacity	25 mm^2
Earthing Bar Terminal Capacity	25 mm^2
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Di-electric Strength	2.5KV
Ambient Temperature	-5˚ C to 40˚ C
Distribution Board - Reference Standards	IS/IEC 61439

Dimensions (in mm)



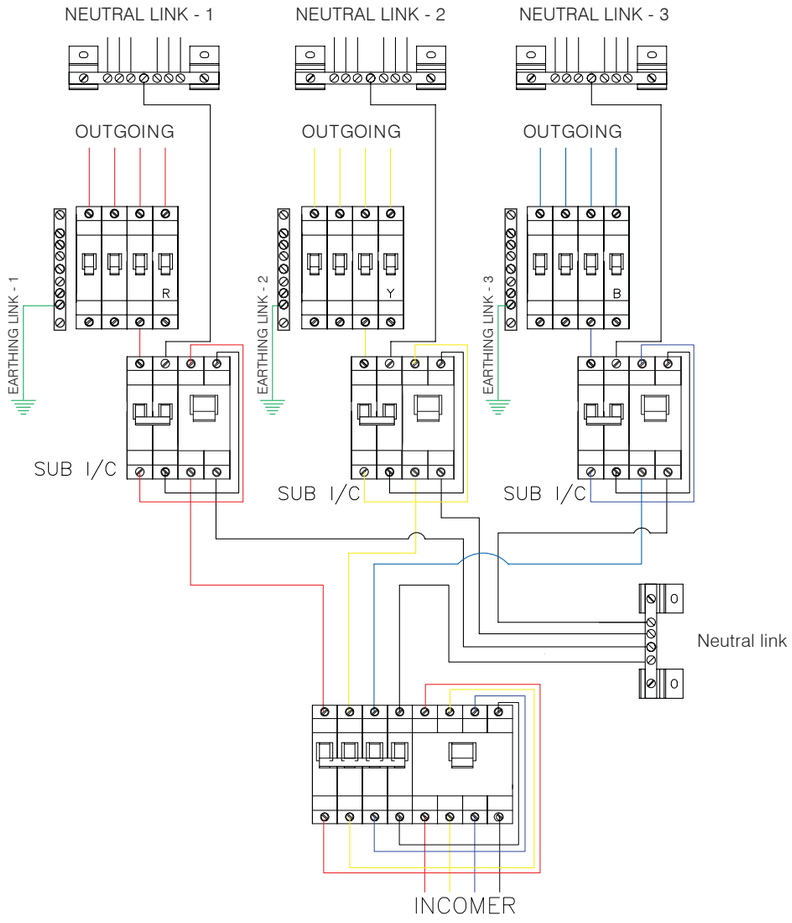
L X H X D= Length X Height X Depth

				Dimensions (in mm)			Ø25, K' OUT		Ø32, K' OUT	
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	TOP	BOTTOM
98451 / 98452	4	8+12	1.2	530	455	550	4	4	2	2
98453 / 98454	6	8+18	1.2	565	490	585	5	5	2	2
98455 / 98456	8	8+24	1.2	600	525	620	5	5	2	2
98457 / 98458	12	8+36	1.2	740	665	760	6	6	2	2

*1.6 mm sheet thickness as per customer request

EIGHT SEGMENT DISTRIBUTION BOARD

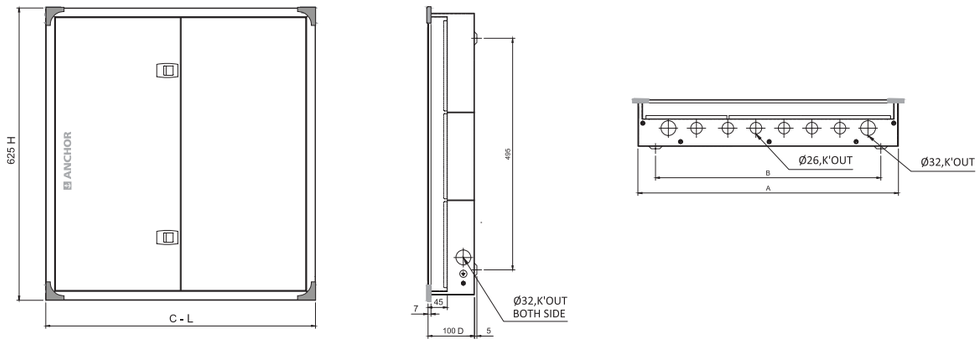
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**4, 6, 8 & 12 Ways**
Type of Installation	Flush / Surface
Colour / Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max. 63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase/4 Wire
Main Incoming Options	Three Phase - MCB or RCCB or ISOLATOR
Sub Incoming Options	DP MCB / RCCB
Neutral Bar Terminal Capacity	25 mm²
Earthing Bar Terminal Capacity	25 mm²
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Di-electric Strength	2.5KV
Ambient Temperature	-5˚ C to 40˚ C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



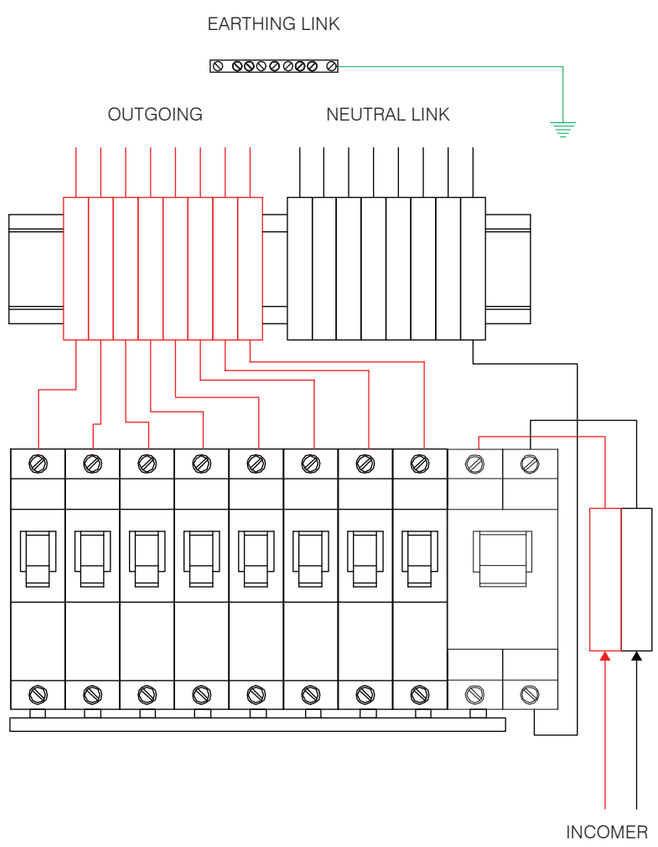
L X H X D= Length X Height X Depth

				Dimensions (in mm)			Ø26, K' OUT		Ø32, K' OUT	
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	TOP	BOTTOM
98333	4	8+6+12	1.2	451	361	471	5	5	2	2
98334	6	8+6+18	1.2	557	467	577	6	6	2	2
98335	8	8+6+24	1.2	662	572	682	8	8	2	2
98336	12	8+6+36	1.2	872	782	892	11	11	2	2

*1.6 mm sheet thickness as per customer request

PREWIRE SPN DOUBLE DOOR DISTRIBUTION BOARD

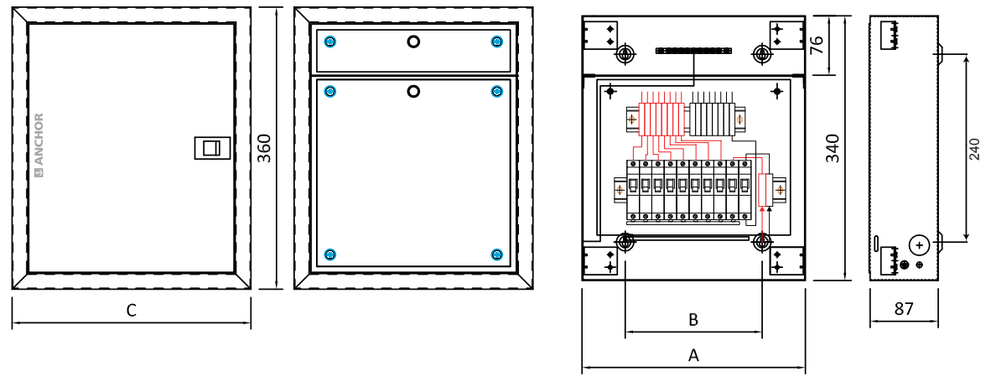
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**6, 8, 12 & 16 ways**
Type of Installation	Surface and Flush mounting
Colour/Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max.63A
Outgoing	Max. Individual 63A
Voltage Rating	240/415V~ AC, Single Phase
Incoming Options	SPN / DP MCB / RCCB / Isolator
Outgoing Options	Single pole MCB up to 63A
Neutral Bar Terminal Capacity	25 mm^2
Earthing Bar Terminal Capacity	25 mm^2
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)

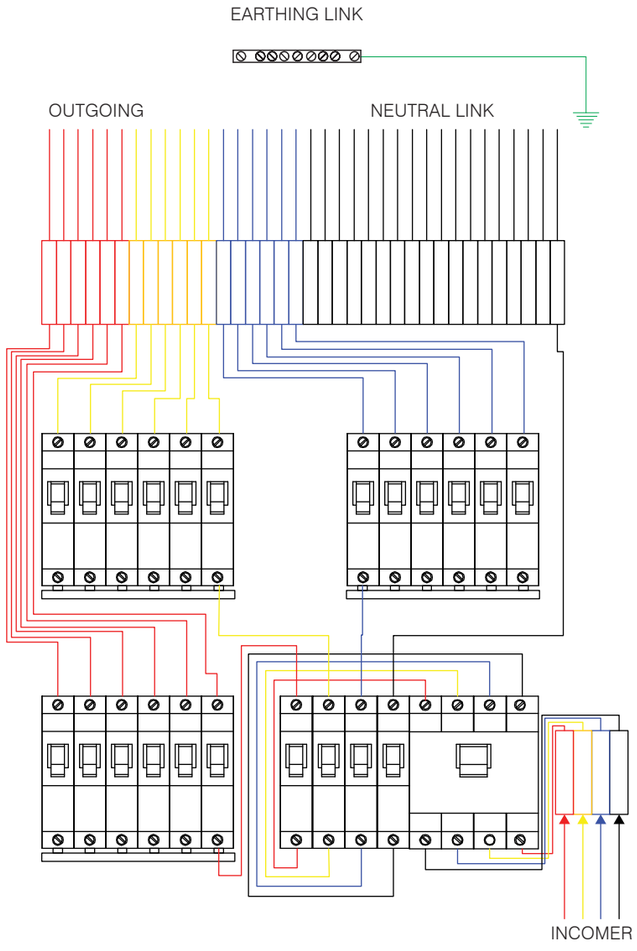


L X H X D= Length X Height X Depth

				Dimensions (in mm)			Knockout Holes (ø25 mm)		
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	EACH SIDE
98461	6	2+4	1.00	250	140	270	2	2	1
98462	8	2+6	1.00	285	175	305	3	3	1
98463	10	2+8	1.00	320	210	350	4	4	1
98464	12	2+10	1.00	355	245	375	5	5	1
98465	16	2+16	1.00	425	315	445	6	6	1

PREWIRE TPN DOUBLE DOOR DISTRIBUTION BOARD

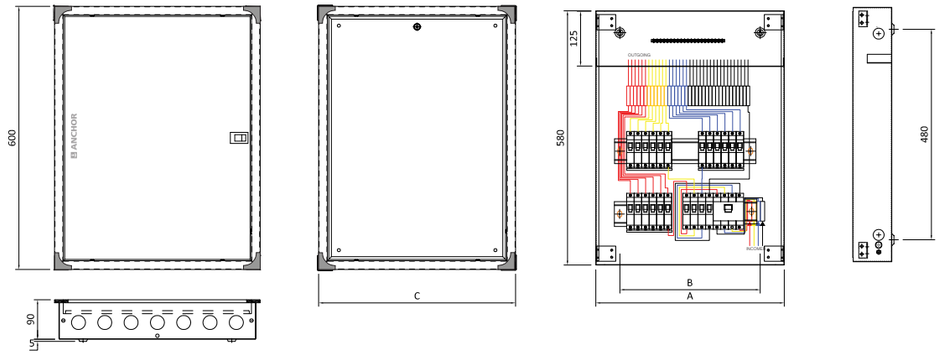
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**4, 6, 8 & 12 ways**
Type of Installation	Surface and Flush mounting
Colour/Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max. 63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase / 4 Wire
Incoming Options	Three phase MCB / RCCB / Isolator
Outgoing Options	Single pole MCB up to 63A
Neutral Bar Terminal Capacity	25 mm^2, Split on both sides
Earthing Bar Terminal Capacity	25 mm^2, Split on both sides
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



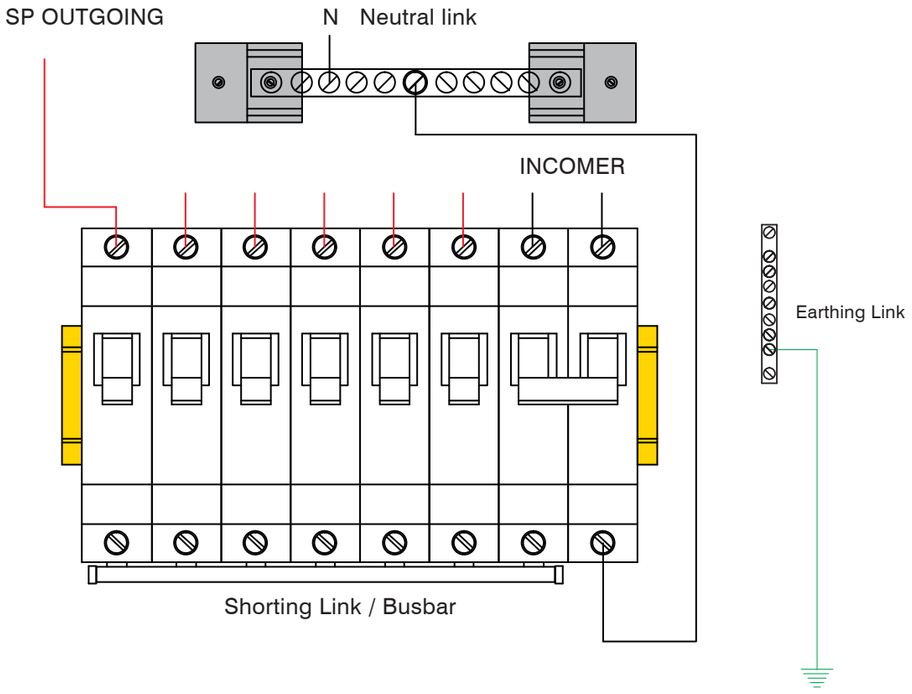
L X H X D= Length X Height X Depth

				Dimensions (in mm)			Knockout Holes (ø25 mm)				
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP ø25 mm	TOP ø32 mm	BOTTOM ø25 mm	BOTTOM ø32 mm	EACH SIDE
98471	4	8+12	1.00	400	290	420	3	2	3	2	2
98472	6	8+18	1.00	430	320	450	4	2	4	2	
98473	8	8+24	1.00	490	380	510	4	2	4	2	
98474	12	8+36	1.2	665	555	685	7	2	7	2	

*1.2 mm and 1.6 mm sheet thickness as per customer request

TV & TEL. SPN DOUBLE DOOR DISTRIBUTION BOARD

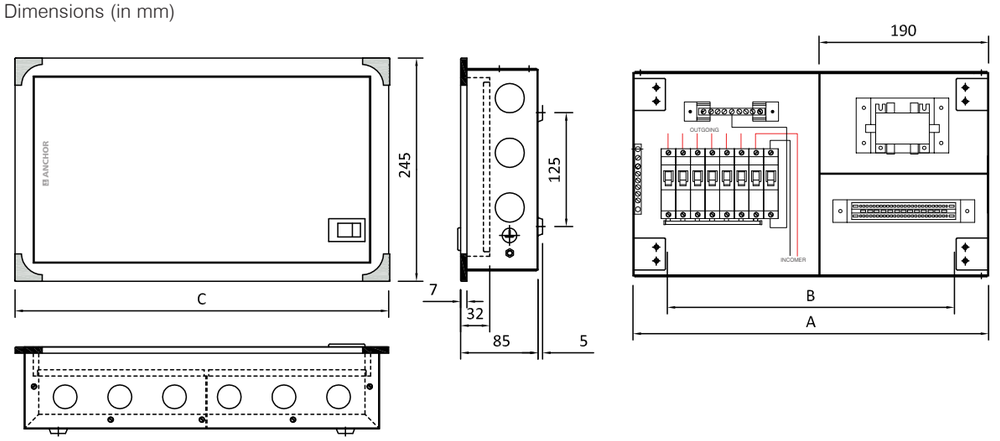
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**6, 8, 12 & 16 ways**
Type of Installation	Surface and Flush mounting
Colour/Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max.63A
Outgoing	Max. Individual 63A
Voltage Rating	240/415V~ AC, Single Phase
Incoming Options	SPN / DP MCB / RCCB / Isolator
Outgoing Options	Single pole MCB up to 63A
Neutral Bar Terminal Capacity	25 mm^2
Earthing Bar Terminal Capacity	25 mm^2
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)

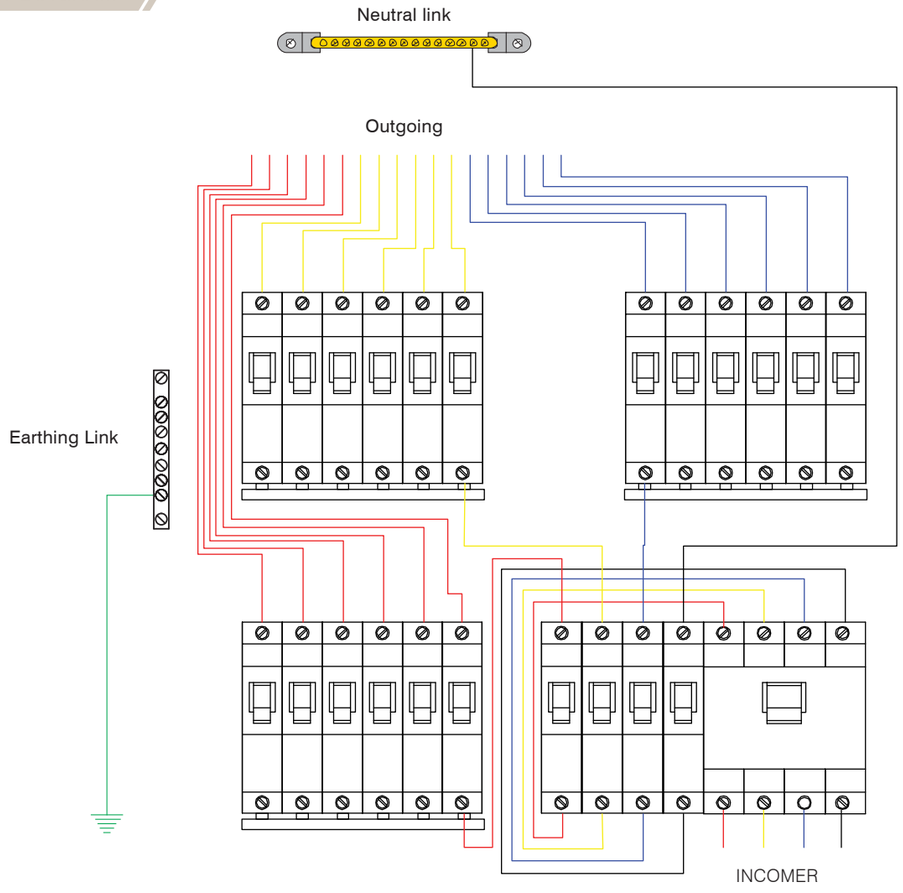


L X H X D= Length X Height X Depth

				Dimensions (in mm)			Knockout Holes (ø25 mm)		
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	EACH SIDE
98352	6	2+5	1.00	400	295	420	6	6	2
98353	8	2+8	1.00	435	330	455	7	7	2
98355	12	2+12	1.00	505	400	525	8	8	2
98356	16	2+16	1.00	575	470	595	9	9	2

TV & TEL. TPN DOUBLE DOOR DISTRIBUTION BOARD

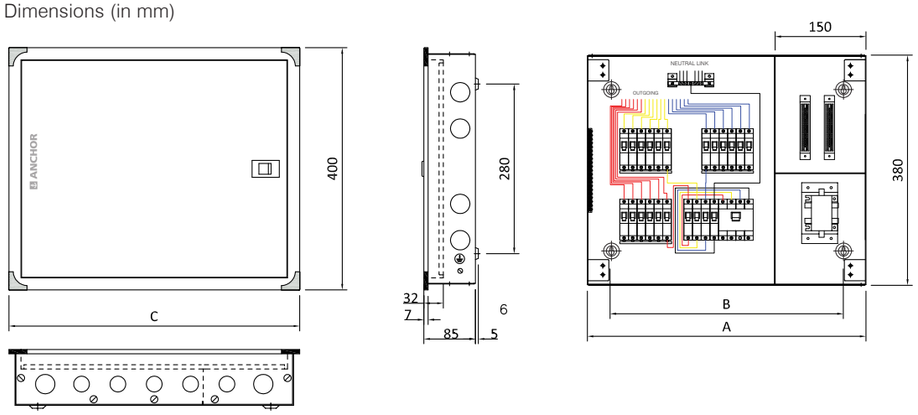
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	**4, 6, 8 & 12 ways**
Type of Installation	Surface and Flush mounting
Colour/Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max. 63A
Outgoing	Max. Individual 63A
Provision for Incomer slots	8 Slots
Voltage Rating	240/415V~ AC, 3 Phase / 4 Wire
Incoming Options	Three phase MCB / RCCB / Isolator
Outgoing Options	Single pole MCB up to 63A
Neutral Bar Terminal Capacity	25 mm², Split on both sides
Earthing Bar Terminal Capacity	25 mm², Split on both sides
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



L X H X D= Length X Height X Depth

CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	Dimensions (in mm) A	B	C	Knockout Holes TOP ø25 mm	TOP ø32 mm	BOTTOM ø25 mm	BOTTOM ø32 mm	EACH SIDE ø26 mm
98360	4	8+12	1.20	460	385	480	5	2	5	2	2
98361	6	8+18	1.20	495	420	515	5	2	5	2	
98362	8	8+24	1.20	530	455	550	6	2	6	2	

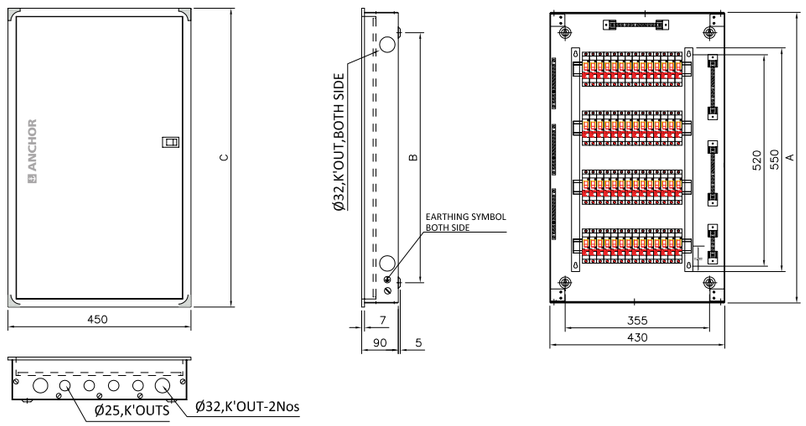
*1.6 mm sheet thickness as per customer request

FLEXI TIER DOUBLE DOOR DISTRIBUTION BOARD

DB Technical Specifications

No. of Ways	**28, 42, 56 ways**
Type of Installation	Surface and Flush mounting
Colour/Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	63A
Incoming	Max.63A
Outgoing	Max. Individual 63A
Voltage Rating	240/415V~ AC, Single Phase
Incoming Options	SPN / DP MCB / RCCB / Isolator
Outgoing Options	Single pole MCB up to 63A
Neutral Bar Terminal Capacity	25 mm^2
Earthing Bar Terminal Capacity	25 mm^2
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V~
Frequency	50Hz
Dielectric Strength	2.5KV
Ambient Temperature	-5° C to 40° C
Distribution Board-Reference Standards	IS/IEC 61439

Dimensions (in mm)



L X H X D= Length X Height X Depth

				Dimensions (in mm)			Knockout Holes (ø25 mm)		
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	EACH SIDE
98345	28	-	1.20	400	300	420	6	4	2
98346	42	-	1.20	545	445	565	6	4	2
98347	56	-	1.20	690	590	710	6	4	2

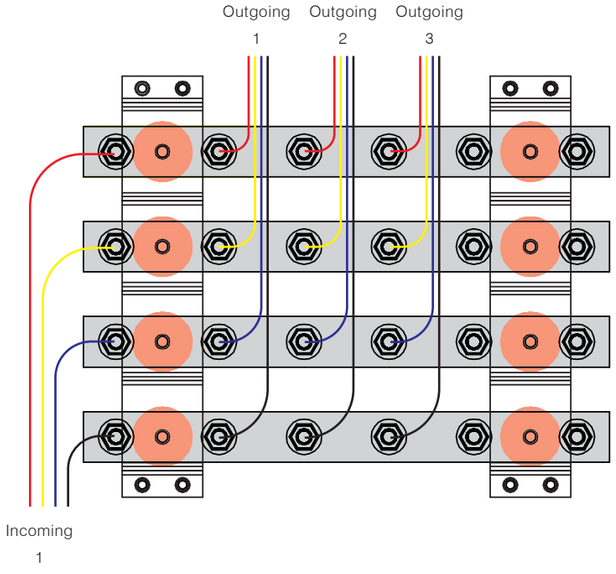
BUSBAR DISTRIBUTION BOARD

BUSBAR Distribution Board is designed with copper Busbar(strip), which is used to distribute the 3 phase incoming supply with multiple outgoing connections of 3 phase or 1 phase.

TECHNICAL FEATURES

- Conformity to IS /IEC 61439-1 & 6 standards
- Available in 32A, 63A, 100A, 200A rating.
- Stepwise Busbar mounting.
- Tin Plated ETP Copper Strips.
- 100% Neutral Rating
- High insulating DMC material support for Busbar assembly.
- Ample space for wiring
- Clear phase indication (R, Y, B, N)

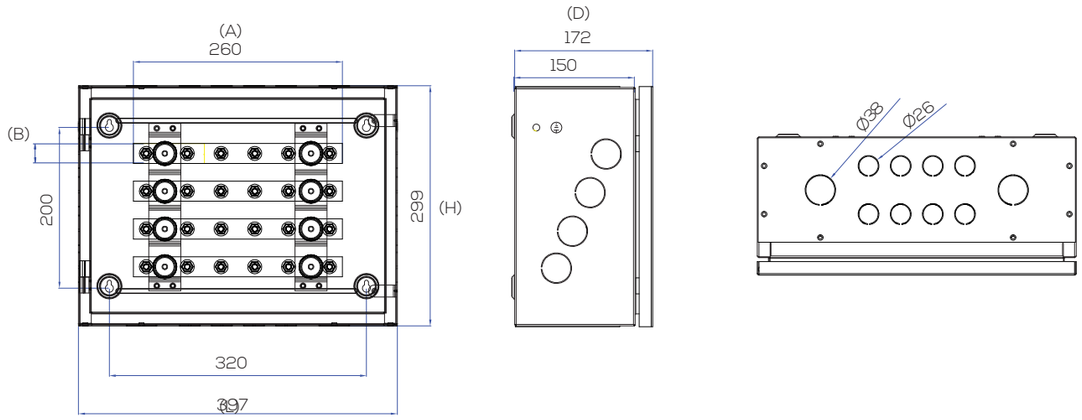
CIRCUIT DIAGRAM



DB Technical Specifications

Reference Standard	IS/IEC 61439
Product Range	32A, 63A, 100A & 200A
Product variant	4 Way
Busbar chamber sheet thickness	1 mm & 1.6mm
Colour	RAL 7035 Semi Glossy
IP	IP 30
Rated Voltage	690V AC
Support Material for Busbar	DMC
Busbar Dimension	260x25x4 mm
Busbar material	ETP Copper tin plated
Busbar rating	100A
Busbar Pitch	47 mm
Neutral Busbar rating	100% rated (same as phase busbar)
Dimensions (LxBxH)	497x299x157 mm
Ambient temperature	40°C

Dimensions (in mm)



				Copper Strips Dimensions (in mm)			DB Dimensions (in mm)		
CODE	NO. OF WAYS	SHEET THICKNESS mm	Busbar Rating	A Length	B Height	Thickness	L Length	H Height	D Depth
98377	4	1.6	32	260	20	2	397	299	172
98378	4	1.6	63	260	20	3	397	299	172
98379	4	1.6	100	260	25	4	397	299	172
98380	4	1.6	200	260	25	5	397	299	172
98381	4	1	32	260	20	2	397	299	172
98382	4	1	63	260	20	3	397	299	172
98383	4	1	100	260	25	4	397	299	172
98384	4	1	200	260	25	5	397	299	172

UNO ORNET PLUS SPN DISTRIBUTION BOARDS

UNO ORNET PLUS Distribution Board is designed keeping in mind the modern day aspirations of discerning new-age citizens. Equipped with stylish design comprising of transparent cover, elegant curves, ABS (specialized thermoplastic cover) offering added heat resistance and metallic base, it is the perfect fitment for the walls of your dream space. The lock-click fit enables the distribution board to blend seamlessly with the interiors of the modern spaces with its LED indicator enabling one to identify the power supply position.

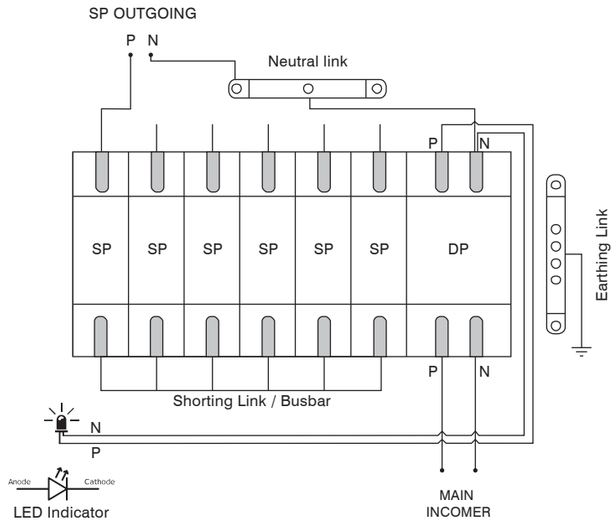
UNO ORNET PLUS thus offer dual benefits of Flexibility and Safety, enabling safe and efficient distribution of electrical power.

These boards undergo a seven-tank phosphating pre-treatment process to ensure anti-rust conditioning, superior finish and lasting strength. Post this process, premium quality powder coating is applied using the state-of-the-art techniques. These boards are also equipped with top and bottom removable gland plates with a number of knockouts. One can thus install them either flush or wall mounted.

Features

- Conformity to IS 8623/13032
- Polycarbonate Transparent Cover
- Sleek incoming power supply indication
- Flush / Surface type mounting
- IP 30 Protection

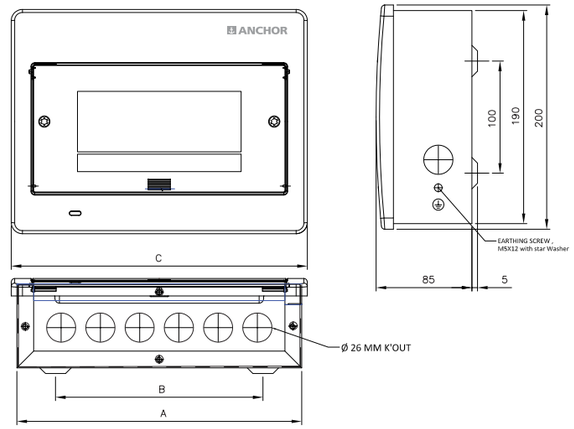
CIRCUIT DIAGRAM



TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	COS enklozr
1	Reference Standard	IS/IEC 61439
2	No of ways	6, 8, 10 & 12 ways
3	Protection	IP 30
4	Colour/Finish	RAL7011 Grey Texture
5	Transparent Cover	Polycarbonate Smoke Grey Colour
6	DB Cover	ABS White Colour
7	Sheet thickness	1mm
8	Door Locking Options	Click Fit
9	Power Supply Indication	LED Indicator
10	Voltage Rating	240/415V AC , Single Phase
11	Incoming Option	SPN/DP - MCB/RCCB/ Isolator
12	Incoming	Max. 63A
13	Outgoing	Max. Indivisual 63A
14	Dielectric Strenght	2.5kV
15	Frequency	50Hz
16	Bus Bar Rating	63A
17	Ingress Protection(IP)	IP30
18	Distribution Technique	Insulated Copper Bas Bar
19	Removable Gland Plates	Top & Bottom with Rectangular Cutout

DIMENSIONS (in mm)



L X H X D= Length X Height X Depth

				Dimensions (in mm)			Knockout Holes (ø25 mm)		
CODE	NO. OF WAYS	INCOMING + OUTGOING	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	EACH SIDE
98371	6	2 + 4	1.00	254	185	264	6	6	1
98372	8	2 + 6	1.00	254	185	264	6	6	1
98373	10	2 + 8	1.00	326	257	336	8	8	1
98374	12	2 + 10	1.00	326	257	336	8	8	1

ACCESSORIES

Blanking Plate

Neutral Link (SPN & TPN)

Shrouded Cover For Neutral Link

Single Phase Insulated Bus Bar (Fork Type)

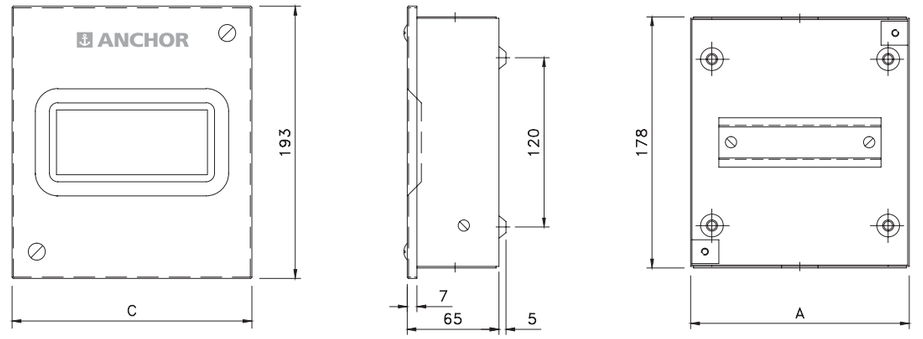
4 WAY/ 5 WAY/ 6 WAY/ 7 WAY/ 8 WAY/ 11WAY/ 12 WAY/ 15WAY/ 16WAY

Spare Earth Links (SPN & TPN)

CODE	DESCRIPTION	CODE	DESCRIPTION
98401	SLIDING KNOB		EARTH LINK
98402	BLANKING PLATE	98431	6 WAY SPN EARTH LINK
98403	NEUTRAL LINK BASE	98432	8 WAY SPN EARTH LINK
	SINGLE PHASE INSULATED BUS BAR / (FORK TYPE)	98433	12 WAY SPN EARTH LINK
98405	4 WAY	98434	16 WAY SPN EARTH LINK
98406	5 WAY	98435	4 WAY TPN EARTH LINK
98407	6 WAY	98436	6 WAY TPN EARTH LINK
98408	7 WAY	98437	8 WAY TPN EARTH LINK
98409	8 WAY		SHROUDED NEUTRAL LINK COVER
98410	11 WAY	98441	6 WAY SPN NEUTRAL LINK SHROUDED COVER
98411	12 WAY	98442	8 WAY SPN NEUTRAL LINK SHROUDED COVER
98412	15 WAY	98443	12 WAY SPN NEUTRAL LINK SHROUDED COVER
98413	16 WAY	98444	16 WAY SPN NEUTRAL LINK SHROUDED COVER
	NEUTRAL LINK	98445	4 WAY TPN NEUTRAL LINK SHROUDED COVER
98421	6 WAY SPN NEUTRAL LINK	98446	6 WAY TPN NEUTRAL LINK SHROUDED COVER
98422	8 WAY SPN NEUTRAL LINK	98447	8 WAY TPN NEUTRAL LINK SHROUDED COVER
98423	12 WAY SPN NEUTRAL LINK		
98424	16 WAY SPN NEUTRAL LINK		
98425	4 WAY TPN NEUTRAL LINK		
98426	6 WAY TPN NEUTRAL LINK		
98427	8 WAY TPN NEUTRAL LINK		

MCB ENCLOSURE - SHEET STEEL

Dimensions (in mm)



CAT REF	NO. OF WAYS	A	B	C
98292	1/2	85	45	100
98294	3/4	120	80	135

It consists of three (single phase) change over switches, each connected to one of the three phases. The single phase loads are distributed over the three outgoing phase connections. It helps to fight the common problem of Phase Cut in a three phase connection having single phase loads. (load is distributed over the three phases.)

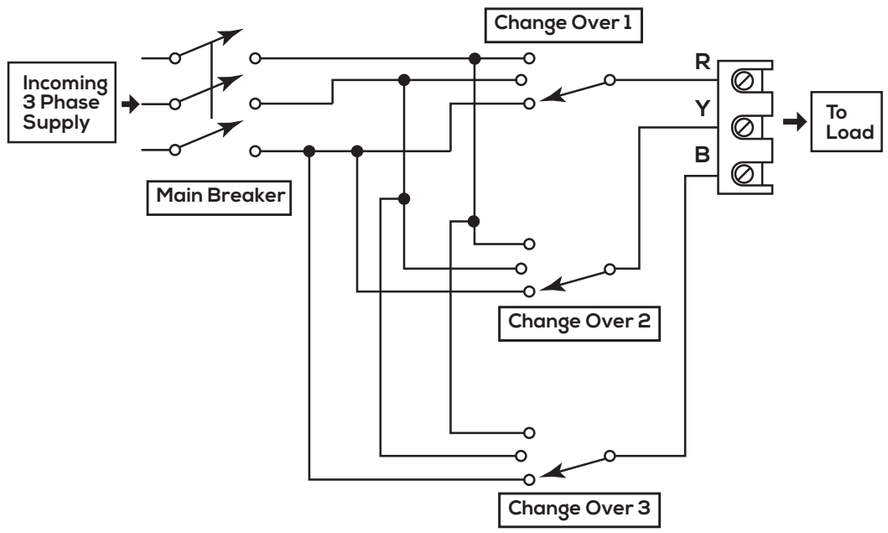
Technical Features

- Silver alloy contacts ensures high durability & endurance.
- Double break contact mechanism
- Ability of positive making & breaking of contact
- Flame Retardant Material of Contact Housing
- Superior insulating material for electrical & mechanical stability
- Superior Aesthetic and Technologically updated.
- Attractive combination of colors for knob, Handle & Escutcheon plates.
- User friendly & mounting arrangements can be suitably custom made.

Installation

1. Disconnect all AC or DC power originating from the MV & HV Circuit panels.
2. Disconnect the main positive DC cable from all batteries to eliminate the possibility of a short circuit and to disable the circuit breaker while installing the switch.
3. Select a mounting location which is protected from water on the front & back of the switch.
4. Unscrew the red knob from the bottom.
5. Remove legend plate by pinching the upper & lower clips in the centre
6. Remove the back plate and find the mounting screws behind.
7. Remove flush plate from the mounting plate by unscrewing the 4 screws.
8. Fit the switch from behind panel plate alongwith flush plate in the front.
9. Put the back plate and the legend plate & press till click & Screw back the knob
10. Connect the incoming phases to the label # R, Y, B respectively & Connect outgoing to label # 1.
11. Apply tightening torque maximum 5 Nm.

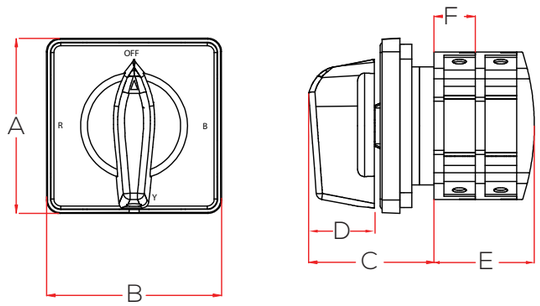
CIRCUIT DIAGRAM



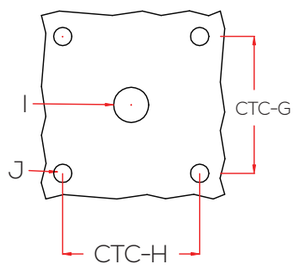
ELECTRICAL PARAMETERS

Sr. No.	FEATURES	COS enklozr			
1	Standard Conformity	IEC 60947-6			
2	Current rating	25A	32A	40A	63A
3	Operational Voltage	440 V	440 V	440 V	440 V
4	Operational Current a.c.	25A	32A	40A	63A
5	Utilisation Category	AC-23	AC-23	AC-23	AC-23
6	Dielectric Strength	2.5 kv	2.5 kv	2.5 kv	2.5 kv
7	Insulation Resistance	≥500 MΩ	≥500 MΩ	≥500 MΩ	≥500 MΩ
8	Standerd Mounting 4 Hole (mm)	M5-49.5 ctc M5-48.0 ctc	M5-49.5 ctc M5-48.0 ctc	M5-68.0 ctc	M5-68.0 ctc
9	Escutcheon plate	75 X 75 mm	75 X 75 mm	90 X 90 mm	90 X 90 mm
10	Mechanical Life (Operation)	1,00,000	1,00,000	1,00,000	1,00,000
11	Electrical Life (Operation)	30,000	30,000	30,000	30,000

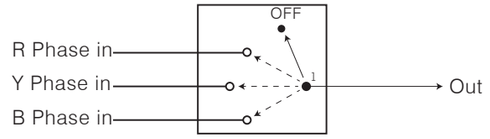
DIMENSIONS (in mm)



PANEL CUTOUT



Circuit Diagram For Individual Connection



	25A	32A	40A	63A
A	75	75	90	90
B	75	75	90	90
C	50	50	64	64
D	25	25	35.5	35.5
E	92	92	92	115
F	15	15	15	21
G	48	48	68	68
H	48	48	68	68
I	ø12.5	ø12.5	ø12.5	ø12.5
J	ø5.5 x 4nos	ø5.5 x 4nos	ø6.5 x 4nos	ø6.5 x 4nos

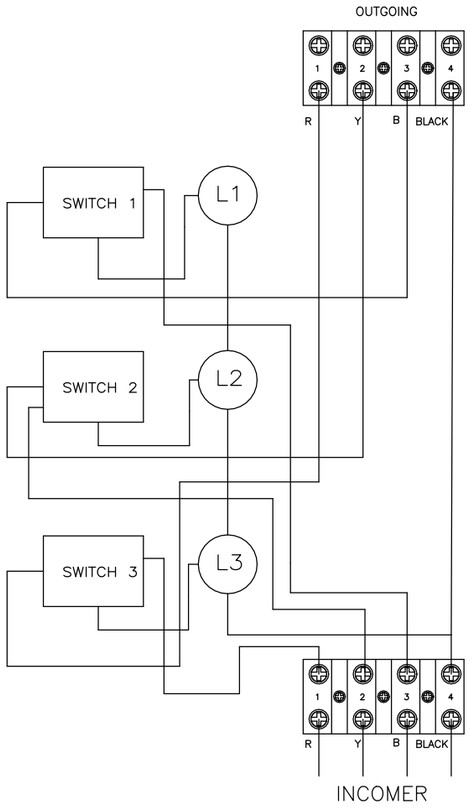
CODE	ITEM DESCRIPTION
98651	Phase Selector Rotary Switch - 25A
98652	Phase Selector Rotary Switch - 32A
98653	Phase Selector Rotary Switch - 40A
98654	Phase Selector Rotary Switch - 63A

PHASE SELECTOR ROTARY SWITCH ENCLOSURE

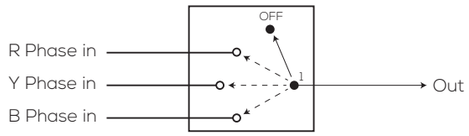
3 Incomer & 1 Outgoing

3 Incomer & 3 Outgoing

CIRCUIT DIAGRAM



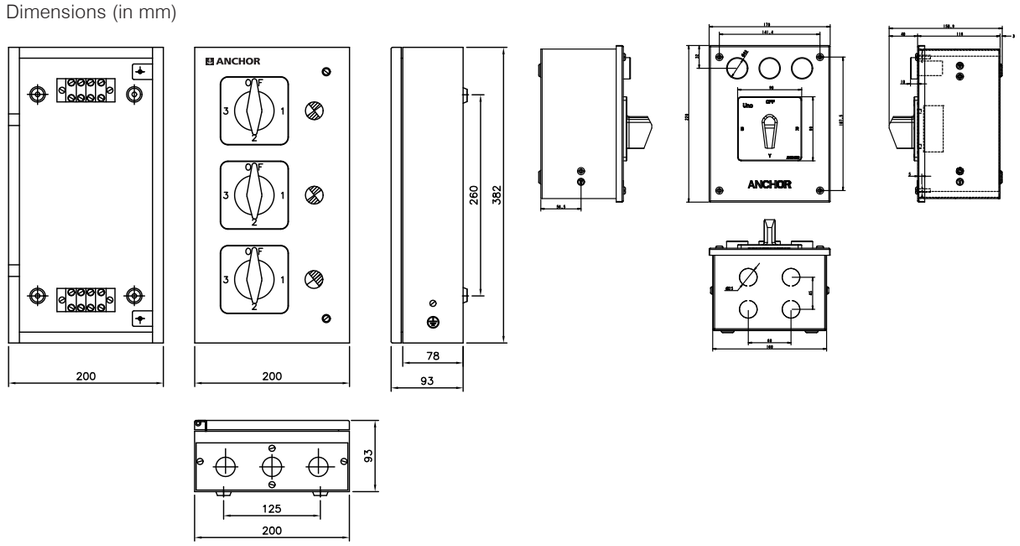
For Individual connection



DB Technical Specifications

FEATURES	Uno Rotary Switch Enclosure
Standard	IC 61439-3, IC 60947-5
	IS: 13032 & IS:8623
Current Range	40A & 63A
Rated Voltage (Ue)	440V AC
Rated Insulation Voltage (Ui)	500V
Rated Impulse Withstand Voltage (Uimp)	2.5kV
Frequency	50 H7
Utilization Category	AC-23
Rated Current of Busbar	63A
Indicating Light	With Respective Phase
Rated Dutv	Uninterrupted
Ingress Protection	1P40
Dimensions (LxWxH) mm	382x200x93

Dimensions (in mm)



L X H X D= Length X Height X Depth

CODE	NO. OF WAYS	RATING	SHEET THICKNESS mm	Dimensions (in mm)			Knockout Holes (ø25 mm)		
				A	B	C	TOP	BOTTOM	EACH SIDE
98459	4	40A	1.2	385	200	90	3	3	2
98460	4	63A	1.2	385	200	90	3	3	2
98655	4	40A	1.0	220	170	116	4	4	2
98656	4	63A	1.0	220	170	116	4	4	2

Moulded Case Circuit Breakers (MCCB) are electromechanical devices which find application in protecting electrical circuit from over load and short circuit currents. MCCB is designed in compliance with IS/IEC 60947-2 with Thermal and Magnetic tripping element for circuit protection.

Rated Ultimate Short Circuit Breaking Capacity (I_{CU})

I_{CU} is really the maximum prospective fault which a circuit breaker can clear (with the fault current being expressed as rms for ac). This is verified by testing in accordance with the standard and is applicable at a specific set of electrical and environmental conditions. If these conditions change then it may be necessary to derate the circuit breaker. After clearing a fault the circuit breaker does not have to remain serviceable and could be dangerous to operate. This point is particularly important in circuit breakers when the I_{CS} is lower than the I_{CU}.

Rated Service Short Circuit Breaking Capacity (I_{CS})

I_{CS} is the maximum prospective fault current which the circuit breaker can clear and still remain serviceable. The standard does allow some minor welding of the contacts to take place, so after a large fault it would still be necessary to inspect the breaker. When specified as a percentage of I_{CS}, the standard proposes ranges of 25%, 50%, 75% and 100%.

Rated Short-time withstand Current (I_{CW})

I_{CW} is the prospective fault withstand rating (rms for ac). Circuit breakers may be subject to through fault which they are not intended to clear. While not clearing these faults, the breaker will still need to withstand the thermal and mechanical stress imposed by the fault current. The longer a fault is present the more the effects build up and I_{CW} always has a time element associated with it (i.e. 50 kA for 1 second). The standard specified preferred time ranges of 0.05, 0.1, 0.25. 0.5 and 1 second (although 3 seconds is also often used in practice).

Difference between I_{CU} and I_{CS}

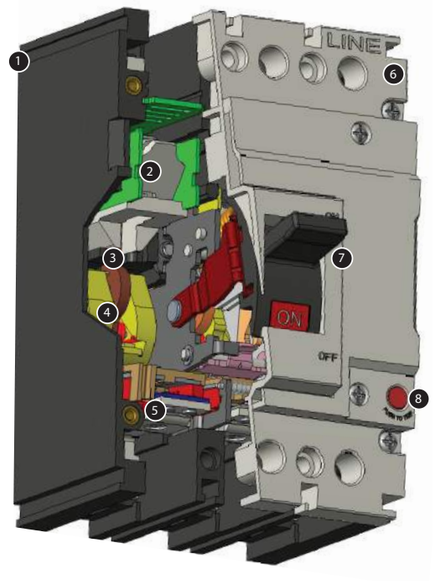
When tested against the standard, circuit breakers under go the following tests:
I_{CU} is subject to an O-t-CO sequence. The breaker is then certified safe by a simple dielectric test.
I_{CS} is subject to O-t-CO-t-CO sequences. The breaker is then subject to both dielectric withstand and temperature rise tests.

O	breaking operation
CO	making operation followed by breaking operation
t	time interval (short as possible, but minimum of 3 minutes)

Tests are carried out at the specified fault current.

All ratings are derived under specific electrical and environmental conditions and are verified with the circuit breaker in free air. As soon as the enclosed in any kind of panel or cabinet the ratings change and need to be re-assessed as part of the assembly testing.

OVERVIEW



1. Housing
2. Arcchute assembly
3. Moving & fixed contacts
4. Rotor mechanism
5. Over load & short circuit elements
6. Cover
7. Operating Knob
8. Push to TRIP

Energy let-through (I^2t)

Energy let through is not a rated value but is used in the consideration of back-up and selectivity. I^2t is a measure of the energy let-through by the circuit-breaker under short-circuit conditions.

MCCB Trip Elements

Trip elements trip the operating mechanism of a circuit breaker during either a prolonged overload or a short circuit current. Some molded case circuit breakers have a screwdriver slot located on the front of the trip unit used for adjusting sensitivity.

Instantaneous Magnetic Trip

Magnetic trip works by using an electromagnet in series with the load current. When the current reaches the set point, the electromagnet instantaneously trips. This type of trip is commonly found in low voltage breakers (e.g., household circuit breakers).

Thermal Trip

Considered the industry standard, these trip elements work using a bimetal heated by the load current. When overheated, indicating an overload, the bimetal will detect, which causes the operating mechanism to trip.

Thermal Magnetic Trip

A thermal magnetic trip, in addition to providing short circuit protection, guards against long-term current overloads existing longer than roughly 10 seconds. Because bimetal detection is dependent on current and time, the thermal unit provides long-time delay for light overloads and fast response for heavy overloads.

The thermal magnetic unit may be ambient temperature sensitive(breaker trips at a lower current as ambient temperature rises).

UNO B0 MCCB 125AF

Moulded Case Circuit Breakers (MCCB) are electromechanical devices which find application in protecting electrical circuit from over load and short circuit currents. MCCB is designed in compliance with IS/IEC 60947-2 with Thermal and Magnetic tripping element for circuit protection.

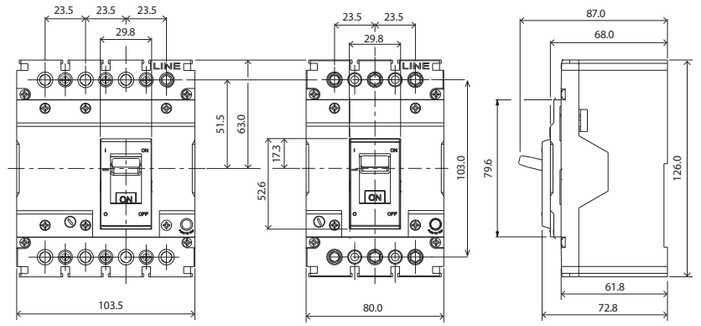
- Adjustable Thermal Fixed Magnetic
- Compact Frame
- Suitable for Isolation
- 100% Neutral Protection
- Trip Free Mechanism
- Utilization Category A
- 3P & 4P
- Ics = Icu =100%
- Icu =10kA

CODE	ITEM DESCRIPTION
98521	UNO B0 MCCB 20A 10kA 3P Frame125
98522	UNO B0 MCCB 25A 10kA 3P Frame125
98523	UNO B0 MCCB 32A 10kA 3P Frame125
98524	UNO B0 MCCB 40A 10kA 3P Frame125
98525	UNO B0 MCCB 50A 10kA 3P Frame125
98526	UNO B0 MCCB 63A 10kA 3P Frame125
98527	UNO B0 MCCB 80A 10kA 3P Frame125
98528	UNO B0 MCCB 100A 10kA 3P Frame125
98529	UNO B0 MCCB 125A 10kA 3P Frame125
98530	UNO B0 MCCB 20A 10kA 4P Frame125
98531	UNO B0 MCCB 25A 10kA 4P Frame125
98532	UNO B0 MCCB 32A 10kA 4P Frame125
98533	UNO B0 MCCB 40A 10kA 4P Frame125
98534	UNO B0 MCCB 50A 10kA 4P Frame125
98535	UNO B0 MCCB 63A 10kA 4P Frame125
98536	UNO B0 MCCB 80A 10kA 4P Frame125
98537	UNO B0 MCCB 100A 10kA 4P Frame125
98538	UNO B0 MCCB 125A 10kA 4P Frame125

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	UNO B0 MCCB 125AF
1	Applicable standard	IS/IEC 60947-2
2	Frame type	Uno B0
3	Frame size	125AF
4	Rated current @ 40°C , In (A)	20, 25, 32, 40, 50, 63, 80, 100, 125
5	No. of Poles	3P, 4P
6	Rated operational voltage, Ue (ac) Vmax.	415
7	Rated impulse withstand voltage, Uimp (kV)	6
8	Rated insulation voltage, Ui (V)	800
9	Operational frequency (Hz)	50 / 60
10	Reference Temperature	40°C
11	Rated ultimate short circuit breaking capacity, Icu, 380/415V ac	10
12	Rated service breaking capacity, Ics (% Icu)	100%
13	Type of Release	Adjustable Thermal - Fixed Magnetic
14	Thermal setting	Variable 0.8 to 1.0
15	Magnetic setting	Fixed – 450A upto 50A, 10In from 63 to 125A
16	Mechanical life	15000 Nos.
17	Electrical life	3000 Nos.
18	Suitable for Isolation	Yes
19	Line- Load Biased (Reversibility)	No
20	Pollution Degree	3
21	IP Protection	IP 20
22	Terminal Capacity (without spreaders)	35 mm2
23	Cable with Lug (mm2)	50 mm2
24	Operating Temperature	-5°C to + 45°C
25	Storage Temperature	-35°C to + 70°C
26	Total Opening Time	< 12 ms
27	Basic dimension, WxHxD (mm) 3Pole	80 x 126 x 68
28	Basic dimension, WxHxD (mm) 4Pole	103.5 x 126 x 68
29	Weight (Kg) – Net Weight 3 Pole	~ 0.8
30	Weight (Kg) – Net Weight 4 Pole	~ 1.1
31	Neutral position	R-Y-B-N
32	4 pole with protection	YES
33	Watt Loss (3W/Pole)	Max. 15W

DIMENSIONS (in mm)



UNO B1 MCCB 125AF

Moulded Case Circuit Breakers (MCCB) are electromechanical devices which find application in protecting electrical circuit from over load and short circuit currents. MCCB is designed in compliance with IS/IEC 60947-2 with Thermal and Magnetic tripping element for circuit protection.

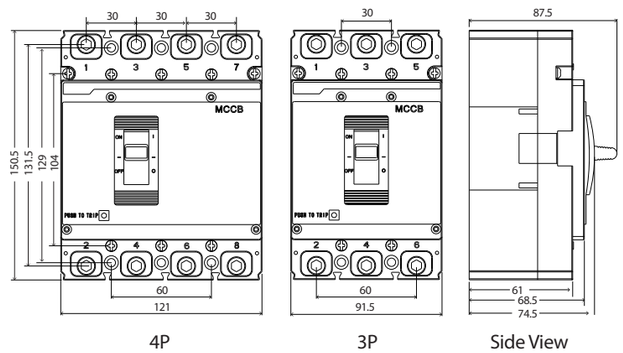
- Quick Make & Quick Break Mechanism
- Line Load Reversible
- Suitable for Isolation
- Utilization Category A
- Fixed Thermal Magnetic
- Trip Free Mechanism
- 3P & 4P
- Ics = 75% Icu
- Icu =10kA

CODE	ITEM DESCRIPTION
98541	UNO B1 MCCB 20A 10kA 3P Frame125
98542	UNO B1 MCCB 25A 10kA 3P Frame125
98543	UNO B1 MCCB 32A 10kA 3P Frame125
98544	UNO B1 MCCB 40A 10kA 3P Frame125
98545	UNO B1 MCCB 50A 10kA 3P Frame125
98546	UNO B1 MCCB 63A 10kA 3P Frame125
98547	UNO B1 MCCB 80A 10kA 3P Frame125
98548	UNO B1 MCCB 100A 10kA 3P Frame125
98549	UNO B1 MCCB 125A 10kA 3P Frame125
98550	UNO B1 MCCB 20A 10kA 4P Frame125
98551	UNO B1 MCCB 25A 10kA 4P Frame125
98552	UNO B1 MCCB 32A 10kA 4P Frame125
98553	UNO B1 MCCB 40A 10kA 4P Frame125
98554	UNO B1 MCCB 50A 10kA 4P Frame125
98555	UNO B1 MCCB 63A 10kA 4P Frame125
98556	UNO B1 MCCB 80A 10kA 4P Frame125
98557	UNO B1 MCCB 100A 10kA 4P Frame125
98558	UNO B1 MCCB 125A 10kA 4P Frame125

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	UNO B1 MCCB 125AF
1	Applicable standard	IS/IEC 60947-2
2	Frame type	Uno B1
3	Frame size	125AF
4	Rated current @ 400C , In (A)	20, 25, 32, 40, 50, 63, 80, 100, 125
5	No. of Poles	3P, 4P
6	Rated operational voltage, Ue (ac) Vmax.	415
7	Rated impulse withstand voltage, Uimp (kV)	8
8	Rated insulation voltage, Ui (V)	800
9	Operational frequency (Hz)	50 / 60
10	Reference Temperature	40°C
11	Rated ultimate short circuit breaking capacity, Icu, 380/415V ac	10
12	Rated service breaking capacity, Ics (% Icu)	75%
13	Type of Release	Fixed Thermal - Fixed Magnetic
14	Magnetic setting	Fixed – 450A upto 50A, 10In from 63 to 125A
15	Mechanical life	10000 Nos.
16	Electrical life	3000 Nos.
17	Suitable for Isolation	Yes
18	Line- Load Biased (Reversibility)	Yes
19	Pollution Degree	3
20	IP Protection	IP 20
21	Terminal Capacity (without spreaders)	35 mm2
22	Cable with Lug (mm2)	50 mm2
23	Operating Temperature	-5°C to + 45°C
24	Storage Temperature	-35°C to + 70°C
25	Total Opening Time	< 12 ms
26	Basic dimension, WxHxD (mm) 3Pole	91.5 x 104 x 74.5
27	Basic dimension, WxHxD (mm) 4Pole	121 x 104 x 74.5
28	Weight (Kg) – Net Weight 3 Pole	~ 0.8
29	Weight (Kg) – Net Weight 4 Pole	~ 1.1
30	Neutral position	R-Y-B-N
31	4 pole with protection	No (Switched Neutral)
32	Watt Loss (3W/Pole)	Max. 15W

DIMENSIONS (in mm)



UNO B0 MCCB 250AF

Moulded Case Circuit Breakers (MCCB) are electromechanical devices which find application in protecting electrical circuit from over load and short circuit currents. MCCB is designed in compliance with IS/IEC 60947-2 with Thermal and Magnetic tripping element for circuit protection.

Technical Features

- Conform to IS/IEC 60947 - 2.
- Frame 250 range : 125A, 160A, 200A & 250A (AC).
- Available Pole : In 3P & 4P version.
- Short circuit current breaking capacity 18kA. (Ics = 100% Icu, Fixed Thermal & Fixed Magnetic type.)
- Short circuit current breaking capacity 25kA. (Ics = 100% Icu, Adjustable Thermal & Adjustable Magnetic type.)
- High Mechanical & Electrical life.
- Push to Trip button for testing.
- Clear indication of 'ON', 'OFF' & 'TRIP' Position.
- Neutral Pole 100% Protected

ACCESSORIES	UNO B0 MCCB 250AF
Auxiliary Switch (AUX)	√
Alarm Switch (ALR)	√
Combination Switch (AUX+ALR)	√
Shunt Release (SHT)	√
Under Voltage Trip Device (UVT)	√
Panel Mounted Rotary Operating Handle	√

Overload protection
(Thermal) setting current, Ir1
Adjustable 0.8 to 1 In

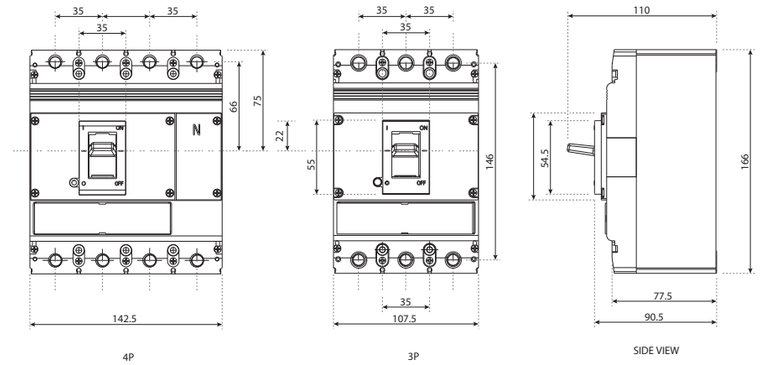
Short-circuit protection
(Magnetic) setting, Ir2
Adjustable 5 to 10 In

CODE	ITEM DESCRIPTION
98561	UNO B0 MCCB 125A 18KA 3P Frame 250
98562	UNO B0 MCCB 160A 18KA 3P Frame 250
98563	UNO B0 MCCB 200A 18KA 3P Frame 250
98564	UNO B0 MCCB 250A 18KA 3P Frame 250
98565	UNO B0 MCCB 125A 18KA 4P Frame 250
98566	UNO B0 MCCB 160A 18KA 4P FFrame 250
98567	UNO B0 MCCB 200A 18KA 4P Frame 250
98568	UNO B0 MCCB 250A 18KA 4P Frame 250
98569	UNO B0 MCCB 125A 25KA 3P Frame 250
98570	UNO B0 MCCB 160A 25KA 3P FFrame 250
98571	UNO B0 MCCB 200A 25KA 3P Frame 250
98572	UNO B0 MCCB 250A 25KA 3P Frame 250
98573	UNO B0 MCCB 125A 25KA 4P Frame 250
98574	UNO B0 MCCB 160A 25KA 4P Frame 250
98575	UNO B0 MCCB 200A 25KA 4P Frame 250
98576	UNO B0 MCCB 250A 25KA 4P Frame 250

TECHNICAL SPECIFICATIONS

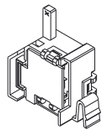
Sr. No.	FEATURES	UNO B0 MCCB 250AF
1	Applicable standard	IS/IEC 60947-2
2	Frame type	Uno B0
3	Frame size	250AF
4	Rated current @ 400C , In (A)	125, 160, 200,250A
5	No. of Poles	3P, 4P
6	Rated operational voltage, Ue (ac) Vmax.	415 V AC
7	Rated impulse withstand voltage, Uimp (kV)	8
8	Rated insulation voltage, Ui (V)	800
9	Operational frequency (Hz)	50 / 60
10	Reference Temperature	40°C
11	Rated ultimate short circuit breaking capacity, Icu, 380/415V ac	18kA & 25kA
12	Rated service breaking capacity, Ics (% Icu)	100%
13	Type of Release	18kA - Fixed Thermal - Fixed Magnetic
		25kA - Adjustable Thermal - Adjustable Magnetic
14	Magnetic setting	Adjustable 5 to 10 In
15	Mechanical life	15000 Nos.
16	Electrical life	3000 Nos.
17	Suitable for Isolation	Yes
18	Line- Load Biased (Reversibility)	No
19	Pollution Degree	3
20	IP Protection	IP 20
21	Terminal Capacity (without spreaders)	70 mm2
22	Cable with Lug (mm2)	120 mm2
23	Operating Temperature	-5°C to + 45°C
24	Storage Temperature	-35°C to + 70°C
25	Total Opening Time	< 12 ms
26	Basic dimension, WxHxD (mm) 3Pole	107.5 x 166 x 90.5
27	Basic dimension, WxHxD (mm) 4Pole	142.5 x 166 x 90.5
28	Weight (Kg) – Net Weight 3 Pole	~ 2
29	Weight (Kg) – Net Weight 4 Pole	~ 2..6
30	Neutral position	R-Y-B-N
31	4 pole with protection	Yes

DIMENSIONS (in mm)



Uno MCCB offers snap fit, easily installable, safe and reliable internal accessories. The internal accessories are housed in an insulated casing to ensure first level of insulation. When the front cover is opened for installing internal accessories, the live parts of MCCB are totally insulated ensuring the double insulation.

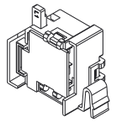
Auxiliary Switch (AUX)



- Auxiliary Switch is used to indicate open and closed position of MCCB contacts.
- This is required for applications requiring remote ON & OFF indication.
- Each Switch contains NO/NC contacts having a common connection. One is Open

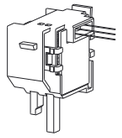
  and the other is Closed, when the MCCB is OFF and vice versa
- Rating- 5A at 250Vac

Alarm Switch (ALR)



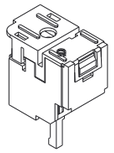
- Alarm switch is used to signal open position of MCCB contacts due to tripping.
- MCCB may be tripped due to Overload, Short-circuit or Ground fault.
- MCCB can also be tripped intentionally by Shunt Release (SHT), operation of Under voltage release (UVT), or by manual Push To Trip button
- This switch has NO-NC contacts like Auxiliary switch (AUX); but it will change its state only when the breaker is tripped.
- There will be no change in the state of Alarm switch (ALR) when the breaker is switched OFF
- Rating- 5A at 250Vac

Combination Switch (AUX+ALR)



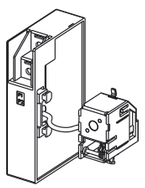
- It consist of one Auxiliary switch (AUX) and Alarm switch(ALR) in a body to connect into the same position in the breaker
- It has 1NO -1NC contact for Auxiliary switch and 1 NO-1NC contact for Alarm switch
- Rating- 5A at 250V ac

Shunt Release (SHT)



- A device designed to trip MCCB remotely by means of an electrical command
- This release ensures tripping of MCCB between 70% and 110% of its Rated Supply Voltage.
- Available in voltages AC - 220V, 415V and DC - 24V, 48V, 110V, 220V

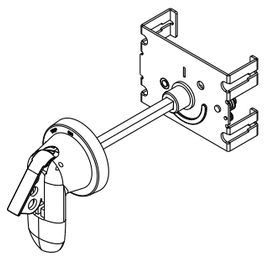
Under Voltage Trip Device (UVT)



- A device designed to trip MCCB, when the voltage at the MCCB terminals drops below the predefined value, which is normally 70%.
- This gives protection by de-energising the downstream circuits;until a convenient voltage is available at the terminals of the breaker.
- The under voltage trip device is energized at 85% - 110% of the Rated Supply Voltage.
- Once the voltage dips to 70% - 35% of the Rated Supply Voltage, the UVT is activated and it Trips the MCCB.
- The breaker cannot be switched ON, with under voltage (< 35%) prevailing in the system. Circuit breaker can be switched ON, only when the under-voltage release is energized.
- Available in voltages AC - 220V, 415V and DC - 24V, 48V, 110V, 220V

Panel Mounted Rotary Operating Handle

- This device allows the MCCB installed in Switchboard, Deep motor control center to be operated manually without opening Panel door of Switchboard.



Below table indicates Maximum possibilities of Internal accessories fitment with wire diagram

Accessories	3 Pole	4 Pole	Possible configuration	Should work			Should not work		
				ON	OFF	TRIP	ON	OFF	TRIP
Alarm Switch (ALR)	● ■ ●	● ■ ● ●	Left/Right	B11 B14 B12	B11 B14 B12	B11 B14 B12	B11 B14 B12	B11 B14 B12	B11 B14 B12
Auxiliary Switch (AUX)	○ ■ ○	○ ■ ○ ○	Left/Right	F11 F12 F14	F11 F12 F14	F11 F12 F14	F11 F12 F14	F11 F12 F14	F11 F12 F14
Combination Switch Auxiliary Switch (AUX) + Alarm Switch (ALR)	□ ■ □	□ ■ □ □	Left/Right	F11 F12 F14 B11 B14 B12	F11 F12 F14 B11 B14 B12	F11 F12 F14 B11 B14 B12	F11 F12 F14 B11 B14 B12	F11 F12 F14 B11 B14 B12	F11 F12 F14 B11 B14 B12
Shunt Release (SHT)	■ ■ ■	■ ■ ■ ■	Left/Right						
Under Voltage (UVT)	▲ ■ ▲	▲ ■ ▲ ▲	Left	P1 P2					

● Alarm Switch ○ Auxiliary Switch □ Combination Switch ■ Shunt Release ▲ Under Voltage ■ MCCB Knob

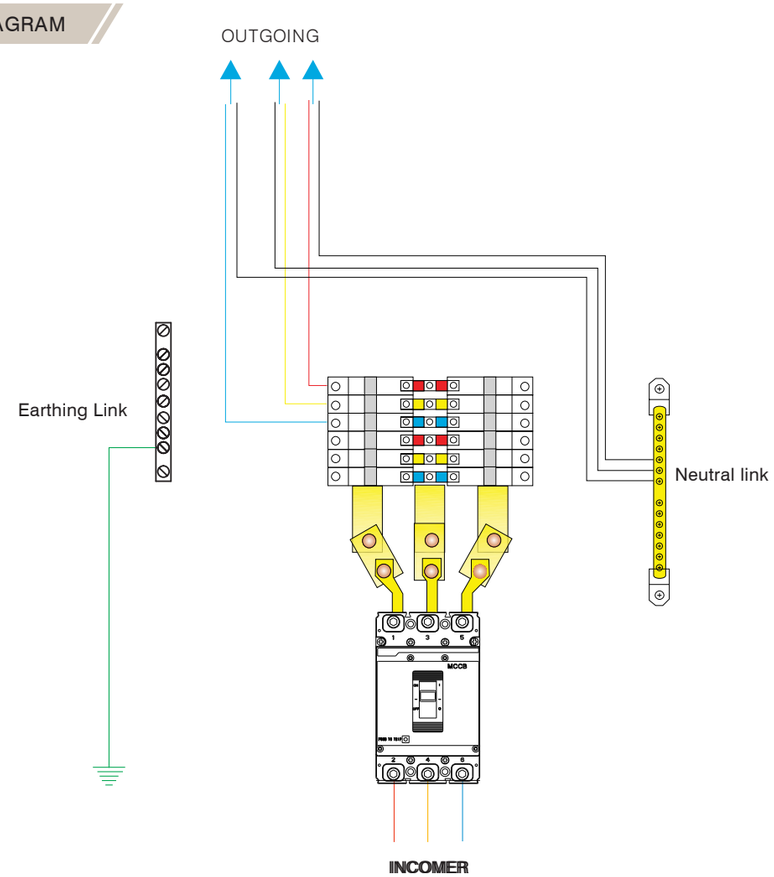
	PANEL MOUNTED ROTARY OPERATING HANDLE (ROH)
98559	Panel Mounted Extended Rotary Handle for B0 MCCB 125A
98577	Panel Mounted Extended Rotary Handle for B0 MCCB 250A
	ALARM SWITCH (ALR)
98580	ALR-L 1NO+1NC
98581	ALR-R 1NO+1NC
	SHUNT RELEASE (SHT)
98582	SHT 220Vac
98583	SHT 415Vac
98584	SHT 24Vdc
98585	SHT 48Vdc
98586	SHT 110Vdc
98587	SHT 220Vdc

	AUXILIARY SWITCH (AUX)
98578	AUX-L 1NO+1NC
98579	AUX-R 1NO+1NC
	COMBINATION SWITCH (AUX+ALR)
98594	Combi Switch(AUX+ALR)-L
98595	Combi Switch(AUX+ALR)-R
	UNDER VOLTAGE TRIP DEVICE (UVT)
98588	UVT-L 220Vac
98589	UVT-L 415Vac
98590	UVT-L 24Vdc
98591	UVT-L 48Vdc
98592	UVT-L 110Vdc
98593	UVT-L 220Vdc

VERTICAL TPN DB - B1 MCCB INCOMER

BUSBAR Distribution Board is designed with copper Busbar(strip), which is used to distribute the 3 phase incoming supply with multiple outgoing connections of 3 phase or 1 phase.

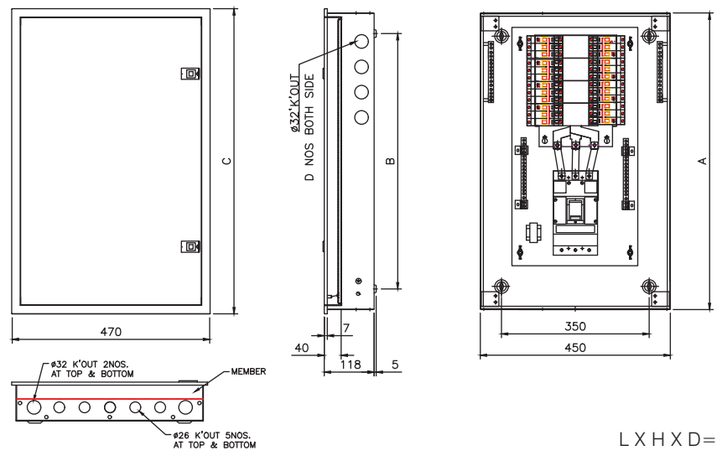
CIRCUIT DIAGRAM



DB Technical Specifications

No. of Ways	4, 6, 8 & 12 ways
Type of Installation	Surface & Flush mounting
Colour / Finish	RAL 7035 Grey (Semi Glossy)
Door Options	Reversible
Door Locking Options	Sliding Lock
Removable Gland Plates	Top & Bottom
Protection Level of Distribution Board	Advanced
Distribution Technique	Insulated Busbar
Bus Bar Rating	125A
Incoming	Max. 125A
Outgoing	Max. Individual 63A SP & TP
Provision for Incomer slots	4P B1 MCCB
Voltage Rating	240/415V— AC, 3 Phase/4 Wire
Main Incoming Options	Uno B1 MCCB 125AF 3P/4P
Outgoing Options	SP or TP or Both MCB
Neutral Bar Terminal Capacity	25 mm2, Split on both sides
Earthing Bar Terminal Capacity	25 mm2, Split on both sides
Ingress Protection (IP)	IP43
Rated Insulated Voltage (Ui)	690V-
Frequency	50Hz
Dielectric Strength	25KV
Ambient Temperature	-50 C to C
Distribution Board- Reference Standards	IS/IEC 61439

Dimensions (in mm)



L X H X D= Length X Height X Depth

				Dimensions (in mm)			Knockout Holes (ø25 mm)		Knockout Holes (ø25 mm)		
CODE	NO. OF WAYS	"INCOMING+ OUTGOING "	SHEET THICKNESS mm	A	B	C	TOP	BOTTOM	TOP	BOTTOM	EACH SIDE
98669	4	4P MCCB+ 12	1.2	653	553	673	5	5	2	2	4
98671	6	4P MCCB+ 18	1.2	700	600	720	5	5	2	2	6
98672	8	4P MCCB+ 24	1.2	757	657	777	5	5	2	2	8
98673	12	4P MCCB+ 36	1.2	764	764	884	5	5	2	2	12

UNO B0/B1 MCCB ENCLOSURE

Uno MCCB enclosure can be used with B0 & B1 MCCB for three phase application. It has wide application in building, commercial & industrial application. Used as a flush & surface mounted with IP 30 degree protection. MCCB enclosure has many no. of detachable gland plate in different size for incoming & outgoing connection.

TECHNICAL FEATURES

- Suitable for Flush and Surface Mounting
- RAL 7035 Semi Glossy Finish
- IP30 Protection
- Level Marking to the Installation
- Neutral Block for Termination of Neutral Wire

TECHNICAL SPECIFICATIONS

Sr. No.	FEATURES	UNO B1 MCCB 125AF
1	Standard	IS/IEC 61439
2	No of Poles	3P & 4P
3	Protection	IP30
4	Color	RAL 7035 Semi Glossy
5	Mounting	Flush and Surface Mounting
6	Dimensions (LxWxH) mm	325x215x90
7	Box Sheet thickness	1.2 mm
8	Box Insertion (Level) marks	Available
9	Detachable Gland Plate	Available
10	Side lock for Din Rail Channel	Available

CODE	ITEM DESCRIPTION
98539	Enclosure w/o 125AF B0 MCCB
98540	Enclosure w/o 125AF B1 MCCB
98560	Enclosure w/o 250AF B0 MCCB

IP (INGRESS PROTECTION)

IP (Ingress Protection) rating given to an enclosure states the degree of protection it offers by means of two digits. A summary of these is shown below. For a detailed definition, please refer IEC 60529:2000, BS EN 60529:1992.

There are two digits for IP protection.

First Digit:
Defines the protection offered against penetration by solid objects & access to hazardous parts.

TEST IP	PROTECTION
SOLIDS	
0	No Protection
1	Protected against solid objects up to 50 mm. E.g. accidental touch by hands
2	Protected against solid objects up to 12 mm. E.g. fingers
3	Protected against solid objects over 2.5 mm. E.g. tools and wires
4	Protected against solid objects over 1mm. E.g. tools and wires
5	Protected against dust-limited ingress, no harmful deposits
6	Totally protected against dust

Second Digit:
Defines the protection offered against ingress of water.

TEST IP	PROTECTION
WATER	
0	No Protection
1	Protected against vertically falling drops of water E.g. condensation
2	Protected against direct sprays of water up to 15˚ from the vertical
3	Protected against sprays of water up to 60˚ from the vertical
4	Protected against after splash from all directions-limited ingress permitted
5	Protected against low pressure jets of water from all directions limited ingress permitted
6	Protected against strong jets of water. E.g. for use on ship decks-limited ingress permitted
7	Protection against the effects of immersion in water between 15 cm and 1m for 30 minutes.
8	Protection against the effects of immersion in water under pressure for long periods.

Rating Example:

IP43

INGRESS PROTECTION

MCB SELECTION CHART

Appliances		Capacity/W(Load) (240V - 1 Phase)	MCB Rating	Type of MCB	Wire Size Sq.mm.
Air Conditioner		1 Ton	10A	C	2.5
		1.5 Tons	16A	C	4.0
		2 Tons	20A	C	4.0
Refrigerator	165 Ltrs	400W	3A	C	1.5
	285 Ltrs	600 W	4A	C	1.5
	350 Ltrs	750W	5A	C	1.5
Iron		750 W	5A	B	1.5
		1000W	6A	B	1.5
		1250W	7.5A	B	2.5
Water Heater	1/3 Ltrs.	3000W- 4000W	20A	B	4.0
	1/3 Ltrs.	3000W- 4000W	20A	B	4.0
	6/10/15 Ltrs.	2000/3000W	10/16A	B	4.0
Room Heater		1000W	6A	B	1.5
		2000W	10A	B	2.5
Oven cum Griller		1600/2200W	8A/12A	B	2.5
Oven		750/1000W	4A/6A	B	1.5
Hot Plate		2000W	10A	B	2.5
Electric Kettle		1200/2200W	7.5/12A	B	2.5
Auto Toaster(2Slices)		1200W	7A	B	1.5
Washing Machine		300W	2A	C	1.0
		800W	7.5A	C	1.5
		1200W	12A	C	2.5
		1800W	16A	C	4.0
Microwave		800/1600W	5A/8A	B	1.5
Hair Dryer		1000W	6A	B	1.5
Water Cooler		700W	6A	B	1.5
LED TV		200W	1A	B	1.0
Vacuum Cleaner		400/1200W	3A/7.5A	B	1.0
Ceiling Fan		22/80W	*	B	1.0
Tabel, Pedestal & Wall Fan		60-120	*	B	1.0
Heavy Duty Exht. Fan		200-600W	1A/4A	B	1.0
Lamp, Tubelight		40W	*	B	1.0
Mixer Grinder		200 W	1.5A	C	1.0
		1200 W	7.5A	C	1.5
Water Filter (Aqua Guard)		500 W	3A	C	1.0

Formula For Load Calculation:

- Incomer Rating: Single Phase* $= \frac{\text{Total Load in Watts}}{240 \text{ Volts}}$
- Incomer Rating: Three Phase* $= \frac{\text{Total Load in Watts}}{\sqrt{3} \times 415 \text{ Volts}}$

* The given data is only for guidance and may vary for different manufactural

NOTES