For a safe electrical experience!

# FAIR Lighting Products Pvt. Ltd.

Company Profile & Product Catalogue

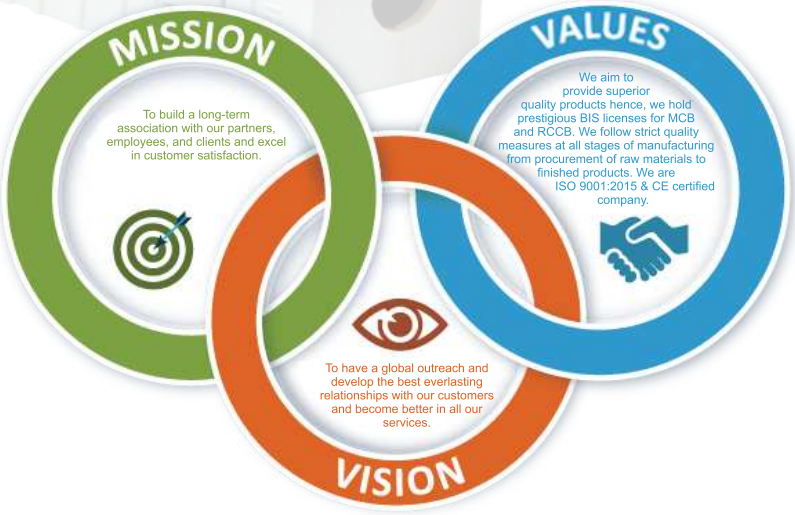

**Manufacturer of : MCB | Modular MCB | Isolator | RCCB | Changeover | Modular AC Box | Plugs & Sockets | D.B. | ACCL**

## About Us

Established in the year 2003, Fair Lighting Products Pvt. Ltd., is a renowned name in Switchgear manufacturing and is successfully operating under its brand FAIRTEK and WIDEX. We have successfully marked our presence in a variety of electrical switchgear products such as MCB, Changeover, Modular MCB, RCCB, ACCL, D.B's and MCCB with an enviable market dominance. By catering a successful range of clients and customers over the years, Fair Lighting now has a strong national and global presence. The Fair Lighting team is Dedicatedly working towards continual improvement and follows a problem solving approach to provide excellent services and build a life-long association. For us nothing matters more than providing customer satisfaction through quality products. The technocrat directors of the company are active business professionals overlooking a skilled workforce of multiple departments in the company. Our state-of-the-art manufacturing units are located at Sahibabad / Delhi NCR. Fair Lighting products are marketed through distributions & dealers located all over India and we are also manufacturing products for various prestigious OEMs With a world-class distribution network, supreme quality products, and the philosophy of Make in India, Fair Lighting has successfully captured the essence of the electrical switchgear products industry.

AN ISO 9001:2015 & 14001:2015 Certified Company

FAIR
SWITCHGEAR
Electrifying Your Life Everyday




## Certificates Awarded


FAIRTEK WIDEX

# DIRECTOR NOTE

Fair Lighting Products Pvt Ltd. ever since its incorporation has always believed in bringing a revolution in the electrical products market by providing safe and quality products. Always on the toes to bring about innovation, Fair Lighting Products Pvt Ltd. has fairly been synonymous with quality and implementing the latest technology. The team at Fair Lighting Products Pvt Ltd. has always been driven with one mission to provide the best electrical switchgear products in the market that solves problems at large.

Every product manufactured at Fair Lighting Products Pvt Ltd. be it under our brand name, FAIRTEK and WIDEX', or for OEMS, we are proud to say that every promise has been delivered with utmost precision and commitment With changing industry standards we have adapted our products as we drive high on innovation. Be it MCB, Changeover, Modular MCB, RCCB, ACCL, D.B's and MCCB, we are a leading name and continue to thrive to success by bringing In innovative products and solving the electrical needs at large. Quality products and innovation are a promise and commitment at Fair Lighting Products Pvt Ltd. and we hope to serve you better with every passing year.

Directors
Sanjay Nagpal
Ranjna Nagpal

AN ISO 9001:2015 & 14001:2015 Certified Co.

FAIR SWITCHGEAR
Electrifying Your Life Everyday



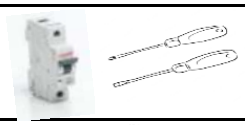
# Contents

## MCB (Miniature Circuit Breaker)

A miniature circuit breaker controls the supply to various miniature circuits on the main circuit. They switch off if they detect an overcurrent i.e. current that supersedes the circuit's current rating. And as power distribution play vital role in all commercial, Industrial & Residential sectors, breaker performance by electrical safety, longlasting functionality, and economic cost have main factors of Fair Switchgear MCB.
Fair Switchgear MCB have been designed to consistently fulfil all safety & technical requirements and with these features Fair Switchgear is benchmarking new standards for customer friendly and electrical fault protection and ability to disconnect short-circuits up to 10kA.

The available range is in tripping characteristics type B &C for SP, SPN ,DP,TP ,TPN &FP with configurationin 6A to 63A current ratings. The MCB conforming to IS/IEC60898-1:2015 .

## Highlights - MCB

| | | |
|---|---|---|
| Trip Free Mechanism<br>Rapid Close Mechanism | MCB Trips even if held in ON position |  |
| Current Limiting Design | Less let through energy under any fault condition by fast contact isolation and quick Arc Quenching of the Arc and this reduces stress on connected load / cables |  |
| Combination Head Screw | Easy to operate , safe and provide the flexibility for Both + /- Head Screw Driver |  |
| Low Watt Loss & Energy Saving( Low Power Consumption) | Cost Effective and Energy Saving through less watt loss over its whole life cycle. |   |
| Din Rail Mounting | Easy user friendly Snapping & firm seating on 35mm Din Rail |  |
| IP 20 Degree Protection | IP 20 Degree Protection is there |  |
| Consistent Protection in Over Load & Short Circuit | Very fast tripping & circuit isolation consistently when overload or short-circuit faults occurs | |
| Fire Retardant Body<br><br>Air Circulation | Fire Retardant Body Cover helps to prevent burning issue.<br>Air Vent provision for effective air circulation around individual poles to emit the air to outside |   |
| Finger Touch proof terminal protection | All Terminal are Finger Touch Proof and also prevent Electrical Shock even if accidental touch |  |

## MCB Features ( 10kA)

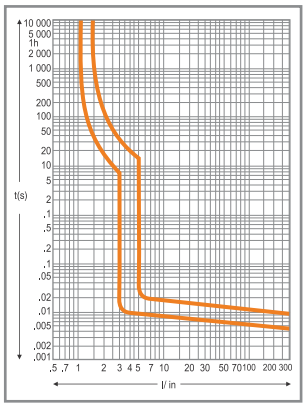
- Protects against Overloads & Short Circuits.
- Short Circuit Breaking Capacity 10 kA.
- Low Watt-loss and Energy Saving.
- Rapid closing mechanism.
- Easy to operate & replace.
- Low-temperature rise.
- Tough fire resistance body.
- Higher operational endurance.
- Finger proof terminal protecting against accidental contact with live part.
- Clear indication of the operational status of device.
- MCB Body is Moulded Flame Retardant Thermoplastic Material.
- Consistency in tripping characteristics.
- Mid Trip Function in Center Knob MCB.

IS/IEC:60898-1
CM/L-8700147519
RoHS Compliant

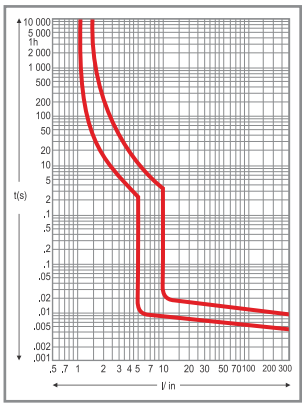
## Technical Data - Characteristics, MCB - ( 10kA) AC

| | |
|---|---|
| Standard Conformity - | IS/ IEC 60898-1-2015 |
| Type / Series - | B & C Curve |
| Model/ Brand - | Top Knob & Center Knob |
| Rated Current ( In) - | 6A to 63A |
| Rated Voltage AC ( Ue) - | 240/415V |
| Rated Frequency (Hz) - | 50 / 60 Hz |
| No. of Poles ( Execution) - | SP ,SPN,DP,TP,TPN & FP |
| Rated Short Circuit Breaking Capacity - | 10kA |
| Magnetic Release Setting - | B Curve (3-5) In , C Curve ( 5-10) In |
| Rated Impulse Voltage ( Uimp) - | 4kV |
| Electrical /Mechanical Life - | 4000 Cycles |
| Dielectric Strength kV - | 2.5kV |
| Rated Insulation Voltage (Ui) - | 660V |
| Mounting - | Clip on Din Rail |
| Degree of Protection - | IP 20 |
| Ambient Reference Temperature ( Operative) - | -5°C to +55°C Tightening Torque = 2 N-m |
| Terminal Capacity (Max) sq.mm - | 35 Sq. mm |
| Installation Position - | Vertical / Horizontal |
| Body & Cover - | PA 6, GF & FR grade, Thermoplastics Material |
| Contact Indication Window- | Contact Indication is available |
| Air Channels - | Yes Available |
| Fast Trip Mechanism - | Yes ( MCB Trips even if held in ON position) |
| Shuttered Terminals - | No |
| Bi- Connect - | Choice to use Busbar or cable in the same terminal to provides reliable termination |
| ISI Mark - | Yes |

'B' characteristic



'C' characteristic

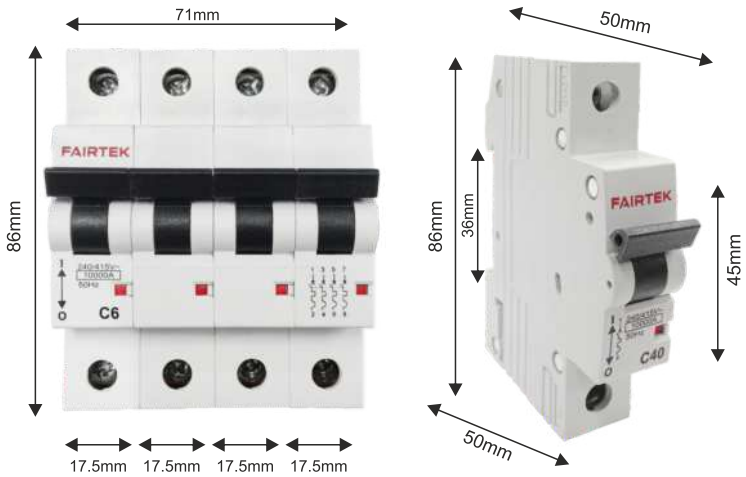


### Temperature derating

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

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

## Dimension - MCB




| Type | Application | Thermal Test Current | | Tripping Time In≤63A | Electro Magnetic Test Current | | Tripping Time (t) |
|---|---|---|---|---|---|---|---|
| | | Low | High | | | | |
| B | Lighting & Distribution with no surge Current | 1.13xIn | | >1hour | 3xIn | | ≥0.1s |
| | | | 1.45xIn | <1hour | | 5xIn | <0.1s |
| C | Inductive Load with surge Current | 1.13xIn | | >1hour | 5xIn | | ≥0.1s |
| | | | 1.45xIn | <1hour | | 10xIn | <0.1s |


SINGLE POLE
CENTER KNOB

SINGLE POLE
TOP KNOB

SINGLE POLE
TOP KNOB (E)

| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 6A | FLMB1B6 | FLMB1C6 | FL1MB1B6 | FL1MB1C6 | FL2MB1B6 | FL2MB1C6 |
| 10A | FLMB1B10 | FLMB1C10 | FL1MB1B10 | FL1MB1C10 | FL2MB1B10 | FL2MB1C10 |
| 16A | FLMB1B16 | FLMB1C16 | FL1MB1B16 | FL1MB1C16 | FL2MB1B16 | FL2MB1C16 |
| 20A | FLMB1B20 | FLMB1C20 | FL1MB1B20 | FL1MB1C20 | FL2MB1B20 | FL2MB1C20 |
| 25A | FLMB1B25 | FLMB1C25 | FL1MB1B25 | FL1MB1C25 | FL2MB1B25 | FL2MB1C25 |
| 32A | FLMB1B32 | FLMB1C32 | FL1MB1B32 | FL1MB1C32 | FL2MB1B32 | FL2MB1C32 |
| 40A | FLMB1B40 | FLMB1C40 | FL1MB1B40 | FL1MB1C40 | FL2MB1B40 | FL2MB1C40 |
| 63A | FLMB1B63 | FLMB1C63 | FL1MB1B63 | FL1MB1C63 | FL2MB1B63 | FL2MB1C63 |


SINGLE POLE NEUTRAL
CENTER KNOB

SINGLE POLE NEUTRAL
TOP KNOB

SINGLE POLE NEUTRAL
TOP KNOB (E)

| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 6A | FLMB1B6N | FLMB1C6N | FL1MB1B6N | FL1MB1C6N | FL2MB1B6N | FL2MB1C6N |
| 10A | FLMB1B10N | FLMB1C10N | FL1MB1B10N | FL1MB1C10N | FL2MB1B10N | FL2MB1C10N |
| 16A | FLMB1B16N | FLMB1C16N | FL1MB1B16N | FL1MB1C16N | FL2MB1B16N | FL2MB1C16N |
| 20A | FLMB1B20N | FLMB1C20N | FL1MB1B20N | FL1MB1C20N | FL2MB1B20N | FL2MB1C20N |
| 25A | FLMB1B25N | FLMB1C25N | FL1MB1B25N | FL1MB1C25N | FL2MB1B25N | FL2MB1C25N |
| 32A | FLMB1B32N | FLMB1C32N | FL1MB1B32N | FL1MB1C32N | FL2MB1B32N | FL2MB1C32N |
| 40A | FLMB1B40N | FLMB1C40N | FL1MB1B40N | FL1MB1C40N | FL2MB1B40N | FL2MB1C40N |
| 63A | FLMB1B63N | FLMB1C63N | FL1MB1B63N | FL1MB1C63N | FL2MB1B63N | FL2MB1C63N |


DOUBLE POLE
CENTER KNOB

DOUBLE POLE
TOP KNOB

DOUBLE POLE
TOP KNOB(E)

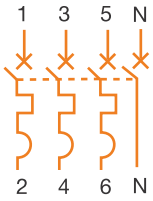
| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 6A | FLMB2B6 | FLMB2C6 | FL1MB2B6 | FL1MB2C6 | FL2MB2B6 | FL2MB2C6 |
| 10A | FLMB2B10 | FLMB2C10 | FL1MB2B10 | FL1MB2C10 | FL2MB2B10 | FL2MB2C10 |
| 16A | FLMB2B16 | FLMB2C16 | FL1MB2B16 | FL1MB2C16 | FL2MB2B16 | FL2MB2C16 |
| 20A | FLMB2B20 | FLMB2C20 | FL1MB2B20 | FL1MB2C20 | FL2MB2B20 | FL2MB2C20 |
| 25A | FLMB2B25 | FLMB2C25 | FL1MB2B25 | FL1MB2C25 | FL2MB2B25 | FL2MB2C25 |
| 32A | FLMB2B32 | FLMB2C32 | FL1MB2B32 | FL1MB2C32 | FL2MB2B32 | FL2MB2C32 |
| 40A | FLMB2B40 | FLMB2C40 | FL1MB2B40 | FL1MB2C40 | FL2MB2B40 | FL2MB2C40 |
| 63A | FLMB2B63 | FLMB2C63 | FL1MB2B63 | FL1MB2C63 | FL2MB2B63 | FL2MB2C63 |


THREE POLE
CENTER KNOB

THREE POLE
TOP KNOB

THREE POLE
TOP KNOB(E)

| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 6A | FLMB3B6 | FLMB3C6 | FL1MB3B6 | FL1MB3C6 | FL2MB3B6 | FL2MB3C6 |
| 10A | FLMB3B10 | FLMB3C10 | FL1MB3B10 | FL1MB3C10 | FL2MB3B10 | FL2MB3C10 |
| 16A | FLMB3B16 | FLMB3C16 | FL1MB3B16 | FL1MB3C16 | FL2MB3B16 | FL2MB3C16 |
| 20A | FLMB3B20 | FLMB3C20 | FL1MB3B20 | FL1MB3C20 | FL2MB3B20 | FL2MB3C20 |
| 25A | FLMB3B25 | FLMB3C25 | FL1MB3B25 | FL1MB3C25 | FL2MB3B25 | FL2MB3C25 |
| 32A | FLMB3B32 | FLMB3C32 | FL1MB3B32 | FL1MB3C32 | FL2MB3B32 | FL2MB3C32 |
| 40A | FLMB3B40 | FLMB3C40 | FL1MB3B40 | FL1MB3C40 | FL2MB3B40 | FL2MB3C40 |
| 63A | FLMB3B63 | FLMB3C63 | FL1MB3B63 | FL1MB3C63 | FL2MB3B63 | FL2MB3C63 |

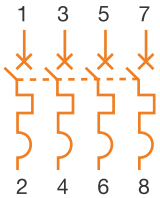



THREE POLE NEUTRAL
CENTER KNOB

THREE POLE NEUTRAL
TOP KNOB

THREE POLE NEUTRAL
TOP KNOB(E)

| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 6A | FLMB3B6N | FLMB3C6N | FL1MB3B6N | FL1MB3C6N | FL2MB3B6N | FL2MB3C6N |
| 10A | FLMB3B10N | FLMB3C10N | FL1MB3B10N | FL1MB3C10N | FL2MB3B10N | FL2MB3C10N |
| 16A | FLMB3B16N | FLMB3C16N | FL1MB3B16N | FL1MB3C16N | FL2MB3B16N | FL2MB3C16N |
| 20A | FLMB3B20N | FLMB3C20N | FL1MB3B20N | FL1MB3C20N | FL2MB3B20N | FL2MB3C20N |
| 25A | FLMB3B25N | FLMB3C25N | FL1MB3B25N | FL1MB3C25N | FL2MB3B25N | FL2MB3C25N |
| 32A | FLMB3B32N | FLMB3C32N | FL1MB3B32N | FL1MB3C32N | FL2MB3B32N | FL2MB3C32N |
| 40A | FLMB3B40N | FLMB3C40N | FL1MB3B40N | FL1MB3C40N | FL2MB3B40N | FL2MB3C40N |
| 63A | FLMB3B63N | FLMB3C63N | FL1MB3B63N | FL1MB3C63N | FL2MB3B63N | FL2MB3C63N |




FOUR POLE
CENTER KNOB

FOUR POLE
TOP KNOB

FOUR POLE
TOP KNOB(E)

| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 6A | FLMB4B6 | FLMB4C6 | FL1MB4B6 | FL1MB4C6 | FL2MB4B6 | FL2MB4C6 |
| 10A | FLMB4B10 | FLMB4C10 | FL1MB4B10 | FL1MB4C10 | FL2MB4B10 | FL2MB4C10 |
| 16A | FLMB4B16 | FLMB4C16 | FL1MB4B16 | FL1MB4C16 | FL2MB4B16 | FL2MB4C16 |
| 20A | FLMB4B20 | FLMB4C20 | FL1MB4B20 | FL1MB4C20 | FL2MB4B20 | FL2MB4C20 |
| 25A | FLMB4B25 | FLMB4C25 | FL1MB4B25 | FL1MB4C25 | FL2MB4B25 | FL2MB4C25 |
| 32A | FLMB4B32 | FLMB4C32 | FL1MB4B32 | FL1MB4C32 | FL2MB4B32 | FL2MB4C32 |
| 40A | FLMB4B40 | FLMB4C40 | FL1MB4B40 | FL1MB4C40 | FL2MB4B40 | FL2MB4C40 |
| 63A | FLMB4B63 | FLMB4C63 | FL1MB4B63 | FL1MB4C63 | FL2MB4B63 | FL2MB4C63 |

# Isolator

## Technical Data

| | |
|---|---|
| Standard Conformity | IEC 60947-3 |
| Model/ Brand | Top Knob & Center Knob |
| Rated Current ( In) | 40A & 63A |
| Rated Voltage AC ( Ue) | 240/415V |
| Rated Frequency (Hz) | 50 / 60 Hz |
| No. of Poles ( Execution) | SP ,DP & FP |
| Rated Impulse Voltage ( Uimp) | 6kV |
| Electrical /Mechanical Life | 4000 Cycles |
| Dielectric Strength kV | 2.0kV |
| Utilisation Category | AC 22A |
| Mounting | Clip on Din Rail |
| Degree of Protection | IP 20 |
| Ambient Reference Temperature ( Operative) | 5°C to +55°C |
| Tightening Torque | 2 N-m |
| Terminal Capacity (Max) sq.mm | 35 Sq. mm |
| Installation Position | Vertical / Horizontal |
| Body & Cover - | PA 6, GF & FR grade/ Thermoplastics Material |
| Contact Indication Window | Contact Indication is available |
| Air Channels | Yes Available |

## Highlights

- Can be used safely as Incomer
- Heavy Duty Frame Size for the complete Range
- Silver Alloy Contacts for weld free operations
- Easy to operate & replace.
- Utilization Category AC22A
- Finger proof terminal protecting against accidental contact with live part
- Clear indication of the operational status of device
- MCB Isolator Body is Moulded Flame Retardant Thermoplastic Material


DOUBLE POLE
CENTER KNOB

DOUBLE POLE
TOP KNOB

DOUBLE POLE
TOP KNOB(E)

| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 25A | FLMB2ISO025 | FLMC2ISO025 | FL1MB2ISO025 | FL1MC2ISO025 | FL2MB2ISO025 | FL2MC2ISO025 |
| 40A | FLMB2ISO040 | FLMC2ISO040 | FL1MB2ISO040 | FL1MC2ISO040 | FL2MB2ISO040 | FL2MC2ISO040 |
| 63A | FLMB2ISO063 | FLMC2ISO063 | FL1MB2ISO063 | FL1MC2ISO063 | FL2MB2ISO063 | FL2MC2ISO063 |


FOUR POLE
CENTER KNOB

FOUR POLE
TOP KNOB

FOUR POLE
TOP KNOB(E)

| In(A) | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve | 'B" Curve | 'C" Curve |
|---|---|---|---|---|---|---|
| 25A | FLMB4ISO025 | FLMC4ISO025 | FL1MB4ISO025 | FL1MC4ISO025 | FL2MB2ISO025 | FL2MC2ISO025 |
| 40A | FLMB4ISO040 | FLMC4ISO040 | FL1MB4ISO040 | FL1MC4ISO040 | FL2MB2ISO040 | FL2MC2ISO040 |
| 63A | FLMB4ISO063 | FLMC4ISO063 | FL1MB4ISO063 | FL1MC4ISO063 | FL2MB2ISO063 | FL2MC2ISO063 |

# Modular MCB

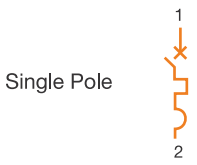
Our Tiny Miniature Circuit Breaker (Mini MCB) is designed with new concept alongwith compactibility, relaibility & economical in two variant . This is one of the most compact circuit breakers available with all the safety & Protection requirement . Our main objective to ensure operational safety of precious appliances through our Tiny MCB range. It is protected from overload and short-circuit, securing the appliances Tiny modular MCBs snapped fit design on modular plates with advance developments in the manufacturing technology as well as the circuit protection.

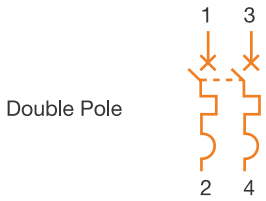
## Technical Data

| | |
|---|---|
| Standard Conformity | IS/ IEC 60898-1-2015 |
| Type / Series | C Curve |
| Rated Current ( In) | 6A to 32A |
| Rated Voltage AC ( Ue) | 240V |
| Rated Frequency (Hz) | 50 / 60 Hz |
| No. of Poles ( Execution) | SP & DP |
| Rated Short Circuit Breaking Capacity | 3kA |
| Magnetic Release Setting | C Curve ( 5-10) In |
| Rated Impulse Voltage ( Uimp) | 4kV |
| Electrical /Mechanical Life6A to 32A | 4000 Cycles |
| Rated Insulation Voltage | 500V |
| Dielectric Strength kV | 2.5kV |
| Mounting | Fitted with modular plate |
| Degree of Protection | IP 20 |
| Ambient Reference Temperature | 30°C |
| Tightening Torque | 1.2 N-m |
| Body & Cover | Nylon 6, GF & FR grade/ Thermoplastics Material |
| Installation Position | Vertical |
| Air Channels | Yes Available |
| Fast Trip Mechanism | Yes |
| ISI Mark | Yes |

## MCB Features ( 3kA)

- Protects against Overloads & Short Circuits.
- Short Circuit Breaking Capacity 3kA.
- Per Point Protection for Individual Appliances.
- Low Watt-loss and Energy Saving.
- Compact and space saving design.
- Finger proof terminal protecting against accidental contact with live part.
- Rapid closing mechanism.
- Easy to operate & replace.
- Brass terminals in both side.
- MCB Body is Moulded Flame Retardant Thermoplastic Material
- Consistency in tripping characteristics.





SINGLE POLE
CENTER KNOB


DOUBLE POLE
CENTER KNOB


SINGLE POLE
TOP KNOB


DOUBLE POLE
TOP KNOB

| Product Reference | | | | |
|---|---|---|---|---|
| | (Center Knob MCB) | | (Top Knob MCB) | |
| **In(A)** | **SP C Curve** | **DP C Curve** | **SP C Curve** | **DP C Curve** |
| **6A** | FLMBT1B6 | FLMBT2C6 | FL1MBT1B6 | FL1MBT2C6 |
| **10A** | FLMBT1B10 | FLMBT2C10 | FL1MBT1B10 | FL1MBT2C10 |
| **16A** | FLMBT1B16 | FLMBT2C16 | FL1MBT1B16 | FL1MBT2C16 |
| **20A** | FLMBT1B20 | FLMBT2C20 | FL1MBT1B20 | FL1MBT2C20 |
| **25A** | FLMBT1B25 | FLMBT2C25 | FL1MBT1B25 | FL1MBT2C25 |
| **32A** | FLMBT1B32 | FLMBT2C32 | FL1MBT1B32 | FL1MBT2C32 |

# MCB DC

Product Details - Reference IS /IEC-60898-1:2015

Circuit Breaker for DC application are designed to manage tough arc quenching conditions . DC MCB manufactured built in magnet to direct the arc into the arc quenching chamber. DC MCB is very suitable and safe guard for Protection against Overload and Short Circuit for DC Supply 110V per pole. This MCB generally using to control & regulate the electrical power system. Our DC MCB having capacity to protect and break the circuit up to 10kA. and built in magnet to give direction fastly removal through Arc Chamber. finest quality and rest assured to get the best in terms of both durability and performance.

## Technical Data

SINGLE POLE - DC
CENTER KNOB MCB




**Technical Data - Characteristics**

| | |
|---|---|
| Standard Conformity | IS/ IEC 60898-1-2015 |
| Rated Current ( In) | 6A to 32A |
| Rated Voltage AC ( Ue) | 110V DC (per pole) |
| No. of Poles ( Execution) | SP & DP |
| Rated Short Circuit Breaking Capacity | 10kA |
| Dielectric Strength kV | 2.5kV |
| Mounting | Fitted with modular plate |
| Degree of Protection | IP 20 |
| Ambient Reference Temperature | 30°C |
| Tightening Torque | 2.0 N-m |
| Body & Cover | Nylon 6, GF & FR grade |
| Installation Position | Horizonal / Vertical |
| Air Channels | Yes Available |
| Fast Trip Mechanism | Yes |

## Product Reference

| Product Reference | | |
|---|---|---|
| | (Center Knob DC MCB-220V) | |
| In(A) | SP C Curve | DP C Curve |
| 6A | FLMDC1C6 | FLMDC2C6 |
| 10A | FLMDC1C10 | FLMDC2C10 |
| 16A | FLMDC1C16 | FLMDC2C16 |
| 20A | FLMDC1C20 | FLMDC2C20 |
| 25A | FLMDC1C25 | FLMDC2C25 |
| 32A | FLMDC1C32 | FLMDC2C32 |
| 40A | FLMDC1C40 | FLMDC2C40 |
| 63A | FLMDC1C63 | FLMDC2C63 |

DOUBLE POLE - DC
CENTER KNOB MCB


# DP Tiny MCB Enclosure

Our DP Tiny MCB Enclosure is very compact design manufactured to provide overload and short circuit protection. It is easy to operate, install, and replace.

## Features

- Compact & Space Saving Design
- Overload & Short Circuits Protection
- MCB Trip Free Mechanism for Longer Life
- Easy to Operate & Install
- Heat Dissipating Ventilation for Cooling
- Appealing & Attractive Aesthetics
- Completely insulated design
- LED Indication of Supply

FL-1 Enclosure


## Applications

**Suitable for Residential and Commercial use**
**Range - 6 A to 32 A**
**Pole- 2P**

| Product Reference | | |
|---|---|---|
| In(A) | FL-1 Enclosure | FL-2 Enclosure |
| 6A | FL1MBTE2C6 | FL2MBTE2C6 |
| 10A | FL1MBTE2C10 | FL2MBTE2C10 |
| 16A | FL1MBTE2C16 | FL2MBTE2C16 |
| 20A | FL1MBTE2C20 | FL2MBTE2C20 |
| 25A | FL1MBTE2C25 | FL2MBTE2C25 |
| 32A | FL1MBTE2C32 | FL2MBTE2C32 |

FL-2 Enclosure


# RCCB (Residual Current Circuit Breaker)

**RCCB**, Residual Current Circuit Breaker. It is an electrical wiring device whose function is to disconnect the circuit when it detects currents leaking to the earth wire.

It also gives protection against **electric shock** or **electrocution** caused by direct contacts.RCCB is particularly useful in situations where there is a sudden earth fault occuring in the circuit.
e.g. A person accidentally comes in contact with an open live wire in the circuit.In such situation, in absence of an RCCB in the circuit, an earth fault may occur and the person is at the risk of receiving an electrical shock.

However, if the same circuit is protected with RCCB, it will trip the circuit in fraction of a second thus preventing the person from receiving an electrical shock.

Therefore, it is a good and safe practice to install RCCB in your electrical circuit.A person can feel prickling sensations when he contacts with 10 m A of current. If hegets contact with 30 m A of current, he will face muscle contraction that might leads to respiratory paralysis. And when e gets in touch with above 100 m A, it will lead to electrocution.

## Highlights - RCCB

Rated residual current An is the value of residual current 1A specified by the manufacturer at which the residual current circuit breaker must switch out under specified conditions. Alternating residual current must release the residual current circuit breaker within An.

Rated current In is the value of current specified by the manufacturer, which can be transferred by the residual current circuit breaker continuously. So, the current In can pass through the contacts for an unlimited time

Rated operating voltage Un is the voltage the residual current circuit breaker is to be connected to and which properties are related to. The connected voltage has no effect on the device function but on the function of the test circuit and isolation properties.

Rated frequency fn is the frequency the residual current circuit breaker is designed for and at which it works correctly under stated conditions. Majority of residual current circuit breakers are designed for fn =50 to 60 Hz. As the residual current circuit breaker function is based on the induction principle, the residual current behaviour and frequency show an effect upon tripping. When using a device designed for 50/60 Hz in a network with a different frequency, the user must count on a change of the tripping threshold i.e., a change of [1An

Ambient temperature T for the residual current circuit breakers is (-5°C to 40°C) according to almost all international standards. Some residual current circuit breakers work in an extended range (-25°C to 40°C). This possibility is identified by the following symbol on the rating plate.

Residual current circuit breaker - type AC - reacts to sine-wave residual current - it is used inconventional AC networks.

Application
« Protection against indirect contact (indirect personnel protection). Protection is provided by disconnecting hazardous high touch voltages caused by a short circuit to exposed conductive parts of equipment.

## Precautions

+ Wiring should be done by a trained & qualified electrician as per the wiring diagram.

« All wiring necessary for operation shall be passed through the RCCB.

« The neutral conductor must be insulated against earth to the same extent as the live conductors.

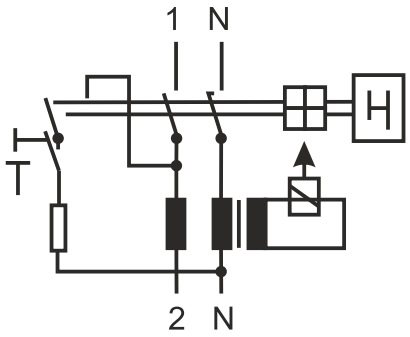
« All equipment used must be properly earthed.

« To ensure correct functioning care must be taken that the neutral conductor on the load side of the RCCB must not be connected to earth, otherwise nuisance tripping may occur or tripping may be impaired.

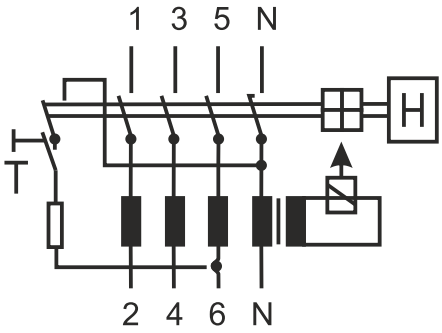
« Suitable device either MCB or HRC fuses shall be used for short circuit and overload protection of the circuit under installation.

«Don't expose the circuit breaker to direct sunlight, rough weather and keep it away from the influence of magnetic field.

## Circuit Diagram

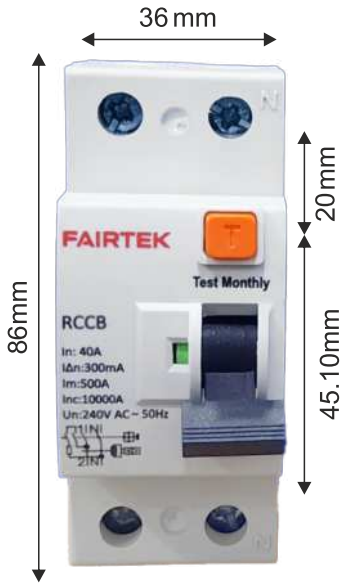



2 Pole RCCB




4 Pole RCCB

## Dimensions - RCCB




Double Pole - Front View


Four Pole - Front View


Side View

| | |
|---|---|
| Standard Conformity | IS 12640-1 : 2008 |
| Residual Tripping Characteristics Type | AC |
| Tripping Time at Iδn ( Instantaneous) | < 40 m S |
| Rated Current ( In) | 25A, 40A, 63A |
| Rated Residual Current I▲n ( Sensitivity) | 30mA, 100mA, 300mA |
| Rated Making & Breaking Capacity (Im) | 25A to 40A = 500A & 63A = 630A |
| No. of Poles ( Execution) | DP & FP |
| Rated Voltage AC (Un) | DP : 240 V & FP : 415V |
| Short Circuit With Stand Capacity (Inc) | 10 kA |
| Rated Insulation Voltage (Ui) | 440 V |
| Rated Impulse Voltage ( Uimp) | 4 k V |
| Dielectric Strength kV | 2.5kV |
| Rated Frequency (Hz) | 50Hz |
| Degree of Protection | IP 20 |
| Pollution Degree | 3 |
| Ambient Reference Temperature ( Operative) | -5°C to +55°C |
| Terminal Capacity (Max) | 35 mm² |
| Mounting | Clip on Din rail |
| Installation Position | Vertical / Horizontal |
| Tightening Torque | 2 N-m |
| Electrical /Mechanical Life | 4000 Cycles |
| Body & Cover | PA 6, GF & FR grade, Thermoplastic Material |
| Contact Indication Window | Contact Indication is available |
| Air Channels | Yes, Available |
| Shuttered Terminals | No |
| Bi- Connect | Choice to use Busbar or cable in the same terminal to provides reliable termination |
| ISI Mark | Yes, Available |

LIFE SAVER ENERGY SAVER


Test Button


Rated current In / IΔn

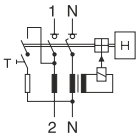

DIN Rail Mounting

## RCCB - Features

IS-12640-1
CM/L-8700032013

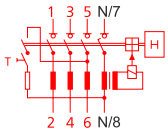
- Protects against Earth fault / Leakage Current & fulfil Isolation function.
- Advance Neutral breaks after phases, ensuring complete discharge.
- Truly current operated, operates even at very low voltage
- Elegant appearance & Easy to operate & replace.
- Low-temperature rise
- Truly current operated, operates even at very low voltageHigher operational endurance
- Finger proof terminal protecting (IP20)against accidental contact with live part
- Clear indication of the operational status of device
- RCCB Body is Moulded Flame Retardant Thermoplastic Material
- Bi-connect terminals for bus bar as well as cable connections

# Technical Data - RCCB (Residual Current Circuit Breaker)



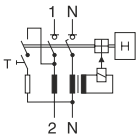

| Product Reference | | | |
|---|---|---|---|
| | (FL 2P RCCB) | | |
| In(A) | Sensitivity-30mA | Sensitivity-100mA | Sensitivity-300mA |
| 25A | FLRB2P25A30 | FLRB2P25A100 | FLRB2P25A300 |
| 40A | FLRB2P40A30 | FLRB2P40A100 | FLRB2P40A300 |
| 63A | FLRB2P63A30 | FLRB2P63A100 | FLRB2P63A300 |

DOUBLE POLE RCCB - FL



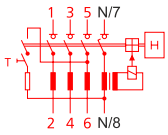

| Product Reference | | | |
|---|---|---|---|
| | ( FL-1 2P RCCB) | | |
| In(A) | Sensitivity-30mA | Sensitivity-100mA | Sensitivity-300mA |
| 25A | FL1RB2P25A30 | FL1RB2P25A100 | FL1RB2P25A300 |
| 40A | FL1RB2P40A30 | FL1RB2P40A100 | FL1RB2P40A300 |
| 63A | FL1RB2P63A30 | FL1RB2P63A100 | FL1RB2P63A300 |

FOUR POLE RCCB - FL




| Product Reference | | | |
|---|---|---|---|
| | (FL 4P RCCB) | | |
| In(A) | Sensitivity-30mA | Sensitivity-100mA | Sensitivity-300mA |
| 25A | FLRB4P25A30 | FLRB4P25A100 | FLRB4P25A300 |
| 40A | FLRB4P40A30 | FLRB4P40A100 | FLRB4P40A300 |
| 63A | FLRB4P63A30 | FLRB4P63A100 | FLRB4P63A300 |

DOUBLE POLE RCCB - FL1




| Product Reference | | | |
|---|---|---|---|
| | ( FL-1 4P RCCB) | | |
| In(A) | Sensitivity-30mA | Sensitivity-100mA | Sensitivity-300mA |
| 25A | FL1RB4P25A30 | FL1RB4P25A100 | FL1RB4P25A300 |
| 40A | FL1RB4P40A30 | FL1RB4P40A100 | FL1RB4P40A300 |
| 63A | FL1RB4P63A30 | FL1RB4P63A100 | FL1RB4P63A300 |

FOUR POLE RCCB - FL1


# TWO WAY CENTRE OFF CHANGEOVER SWITCH

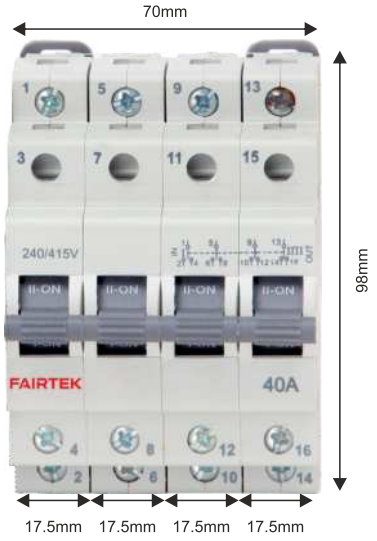
## Application

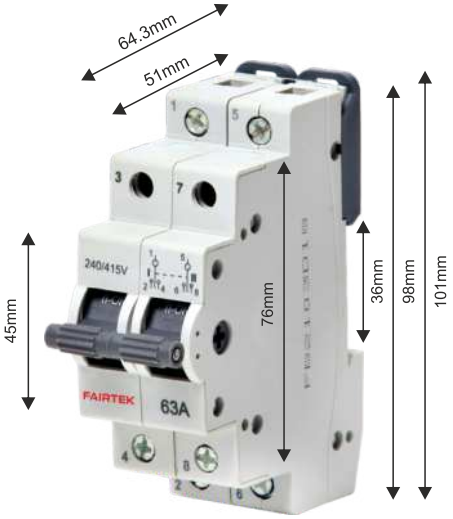
MCB Changeover manually switching to an alternate source power supply MCB Changeover Switch usage in industries & domestic area especially for use in low voltage distribution circuits. MCB Changeover switches are used to shift from one source of supply to another source and vice versa.
The changeover switch comes in 2P and 4P versions. It has three positions ( I-O-II ) with centre-off. They are switch disconnectors with the independent manual They operation, capable of making, carrying and breaking currents under normal circuit conditions.

## Technical Specification

| | |
|---|---|
| Standard Conformity | Conforms to IS/IEC 60947-3 |
| Rated Current | 25A, 40A, 63A |
| No. of Poles ( Execution) | 2P & 4P |
| Rated Operational Voltage | 240V / 415V |
| Rated Insulation Voltage | 660V |
| Rated Impulse Voltage | 4kV |
| Rated Frequency | 50 Hz |
| Dielectric Strength | 2.5 KV |
| Operating Ambient temperature | -5 to 55°C |
| Electrical /Mechanical Life | 4000 Cycles |
| Index Of Protection | IP20 |
| Terminal Capacity | 10mm2 |
| Utilisation Category | AC 22A |
| Mounting | Clip on Din Rail |
| Body & Cover | PA 6, GF & FR grade, Thermoplastic Material |

## Dimension - Changeover



## Features

| | |
|---|---|
| Compact Construction | Compact Size & easy mounting |
| Silver Contact Tips | For Better Electrical Conductivity |
| Centre position OFF | Front operation with three stable positions I-0-II. Off at middle position |
| Mounting | Easy snap on DIN Rail mounting. Vertical & Can be mounted with other products like MCB, RCCB & Isolators in Distribution Board |
| Contacts | Double Break Contacts |


DOUBLE & FOUR POLE MCB CHANGEOVER WITH INDICATOR

DOUBLE & FOUR POLE MCB CHANGEOVER

| Product Reference ( Changeover With Indicator) | | |
|---|---|---|
| **In(A)** | **DP** | **FP** |
| **25A** | FLMB2CO025 | FLMB4CO025 |
| **40A** | FLMB2CO040 | FLMB2CO040 |
| **63A** | FLMB2CO063 | FLMB2CO063 |

| Product Reference ( Changeover Without Indicator) | | |
|---|---|---|
| **In(A)** | **DP** | **FP** |
| **25A** | FL1MB2CO025 | FL1MB4CO025 |
| **40A** | FL1MB2CO040 | FL1MB2CO040 |
| **63A** | FL1MB2CO063 | FL1MB2CO063 |

## Modular AC Box - Metal

A compact design manufactured to provide overload and short circuit protection. Our ISI marked Modular AC Box has been a preferred choice among our customers creating the right balance between aesthetics and safety. Best suitable for point protection of home appliances, Fair Switchgear modular AC box is easy to operate, install, and replace.

## Modular AC Box - Features

- ISI marked of 16/20A unbreakable heavy duty plug top.
- Complete protection from overload and short circuit.
- Best suitable for per point protection of home appliances.
- Appealing design which is compact too.
- Mini MCB ISI marked that can withstand a short circuit breaking capacity of 3000A.

**Application -**
**Suitable for Residential use Range - 6 A to 32 A**


MODULAR AC BOX

## Industrial Plug & Socket

20A & 30 amp Industrial plugs & Sockes usually supplied with fantastic insulation properties and are used for **high-demand power applications, such as in industrial environments, machinery or the entertainment sector**. And High reliability suited to indoor & outdoor conditions.

| Product Reference ( Plug & Socket ) | | |
|---|---|---|
| **In(A)** | **2 Pin Socket** | **3 Pin Socket** |
| **20A** | FLPS220A | FLPS320A |
| **30A** | ~ | FLPS330A |

## Product Specifications

| | | |
|---|---|---|
| Type | 3P+E ( TPN) | 2P+E ( SPN) |
| Pin Type | 3 Pin Type | 2 Pin |
| Current Rating | 20A & 30A | 20A |
| IP Rating | Ip30 | Ip30 |
| Rated Voltage | 415V | 220V - 250V |
| Material | Plug Body made with PBT duly 60 µ Powder Coated & Socket made with Porcelain | Plug Body made withPBT duly 60 µ Powder Coated & Socket made with Porcelain |
| | Plug Sleeves & Protection Caps made of high grade Plastic | Plug Sleeves & Protection Caps made of high grade Plastic |
| Contact Plating | Nickle Plated | Nickle Plated |
| Color | Silver | |



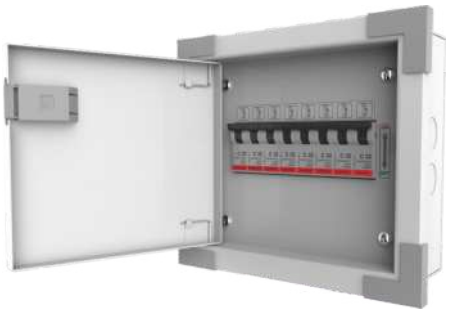

20A 2Pin & 3Pin Design Plug & Socket


30A 2Pin & 3Pin Design Plug & Socket

## Features

**Our Distribution Board design is specially to meeting the requirements of all the segments Industrial, commercial and residential purpose. For safe power distribution & sub distribution & DBs supplied with busbar, earth links, neutral links and inter connecting links.. These Boards are with sufficient number of knock outs, which is for easy installation and connection of conduits of all sizes. These DBs are flush or wall mounted based on the requirement.**
**These DBs are with proper Power coated ( ≥60µ) with advance powder coating process to avoid any rust and with smooth finish. Our double door DBs are with IP42 Protection making boards dust free and for safe usages. All MCBs are very easily mounted inside of DB and same way very easy to remove as well and proper wiring space.**

### SPN DD ( Enerzio) - Double Door



### SPN DD (Equa) - Double Door


### SPN DD (G-Alfa) - Double Door

### SPN DD (Primo) - Double Door

## SPN PD (Vectro) - Acrylic Flap Door



## SPN SD (Primo) - Single Door




## TPN SD (Primo) - Single Door


## Phase Selector

## Rotary Cam


**Product Reference ( Distribution Board )**

| Variant | CAT Code SPN SD (Primo) | CAT Code SPN DD (Enerzio) | CAT Code SPN DD (Equa) | CAT Code SPN DD (G-Alfa) | CAT Code SPN DD (Primo) | CAT Code SPN with Acrylic Flap Cover (Vectro) | CAT Code TPN (Primo) | CAT Code Vertical TPN |
|---|---|---|---|---|---|---|---|---|
| 4 Way | FLDBSPNSD04 | FLDBSPNDD04-En | FLDBSPNDD04-Eq | FLDBSPNDD04-Al | FLDBSPNDD04-Pr | FLDBSTPNAD04 | FLDBTPNDD04 | FLDBVTPNSD04 |
| 6 Way | FLDBSPNSD06 | FLDBSPNDD06-En | FLDBSPNDD06-Eq | FLDBSPNDD06-Al | FLDBSPNDD06-Pr | FLDBSTPNAD06 | FLDBTPNDD06 | FLDBVTPNSD06 |
| 8 Way | FLDBSPNSD08 | FLDBSPNDD08-En | FLDBSPNDD08-Eq | FLDBSPNDD08-Al | FLDBSPNDD08-Pr | FLDBSTPNAD08 | FLDBTPNDD08 | FLDBVTPNSD08 |
| 10 Way | ~ | FLDBSPNDD10-En | FLDBSPNDD10-Eq | ~ | ~ | ~ | ~ | ~ |
| 12 Way | FLDBSPNSD12 | FLDBSPNDD12-En | FLDBSPNDD12-Eq | FLDBSPNDD12-Al | FLDBSPNDD12-Pr | FLDBSTPNAD12 | FLDBTPNDD12 | ~ |
| 16 Way | FLDBSPNSD16 | FLDBSPNDD16-En | FLDBSPNDD16-Eq | FLDBSPNDD16-Al | FLDBSPNDD16-Pr | FLDBSTPNAD16 | ~ | ~ |

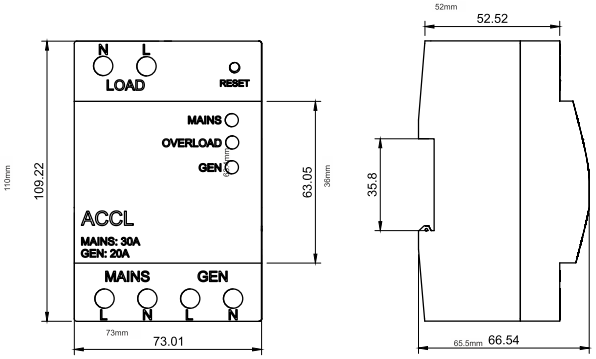
## AUTOMATIC CHANGE OVER WITH CURRENT LIMITER(ACCL)

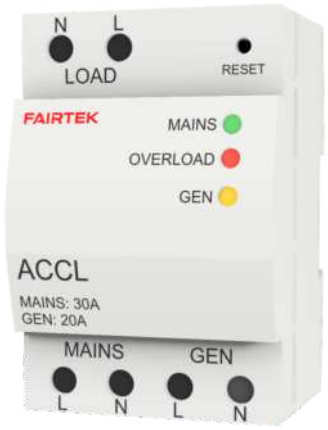
**A changeover device, which on failure of Mains power supply, automatically transfers the Load from Mains power supply to Generator supply. It also functions as a Load Limiter with monitoring of current drawn from Generator, thereby reducing stress on the Generator. For Seamless Changeover between Power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

### Technical Specification

| FEATURES | ACCL |
|---|---|
| Standard Conformity | IEC 60947-6-1 |
| Versions ( No. of Poles ) | 1P+N |
| Rated Current ( In) | 30A on Mains & 1.5A to 10A on Generator |
| Rated Operating Voltage | 240V AC |
| Frequency | 50 Hz |
| Rated Insulation Voltage | 1000 V |
| Transfer Changeover Time | 1.5 Sec to 3 Sec |
| Restoring Time | 1 Sec to 3 Sec |
| Rated impulse voltage(Uimp) | 2.5kV |
| Duty | Continuous duty Uninterrupted |
| Indication | Mains , Generator, Overload |
| Utilization category | AC31A |
| Conditional short circuit | 3kA |
| Electrical life ( no. of Operations) | 6000 ops. |
| Power consumption | <8VA (Mains/ GEN) |
| Protection Class | IP20 (Terminal Enclosure) |
| Pollution degree | 2 |
| Operating Ambient temperature | -5 to 55°C |
| Mounting Position | Panel mounting on Standard Mounting Rail |
| Operating position | Horizontal/ Vertical |
| Tripping accuracy | ± 5-10% of Trip current |
| Timing accuracy | ±5% |
| Weight | |
| Display | LED |

### Dimensions - ACCL



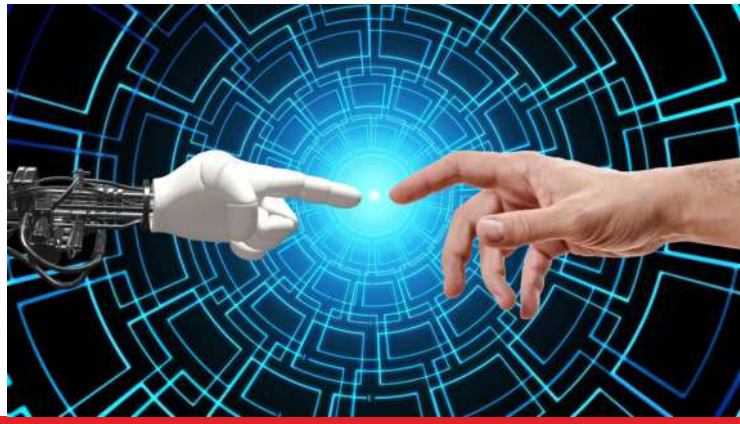




### Features

* Potential free contact for connecting power load ( Single Phase / Relay version)
*Compact size saving panel space
*Dual Interlock between Mains & Gen supply (Electrical & Mechanical)
*Manual reset provision
*Automatic Generator Start/Stop
*Overload monitoring of Generator supply
*Indication of status through coloured LED
*Break before make changeover system
*Reduced wiring cost as single phase ACCL has separate control for power and lighting load
* Intelligent re-connection once trip has occurred due to either over voltage or overload
* Under and Over voltage protection when load is running on DG
*Microcontroller based automatic source changeover with neutral isolation
*Staggered terminal design for better isolation between phase and neutral.
* Eco friendly thermoplastic and fire retardant body cover.












**FAIR Lighting Products Pvt. Ltd.( Unit-1)**
4/36, Site-IV, Industrial Area ,
Sahibabad, Distt.- Ghaziabad
Uttar Pradesh - 201010
Phone : 0120-4372040

**FAIR Lighting Products Pvt. Ltd.( Unit-2)**
C-18, Jhandapur, Site-IV,
Industrial Area , Sahibabad,
Distt.- Ghaziabad
Uttar Pradesh - 201010
Phone : 0120-4904751

**Spark Switchgear India**
C-18,Jhandapur, Second Floor,
Site-IV, Industrial Area,
Sahibabad, Distt.- Ghaziabad
Uttar Pradesh - 201010
Phone : 0120-4904751

For any Query/ Assistance
Contact us on : 0120-4904751
Email : info@fairlighting.co.in
www.fairlighting.co.in

CE

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CM/L-8700147519

IS-12640-1
CM/L-8700032013

MAKE IN INDIA

Electrifying Your Life Everyday