

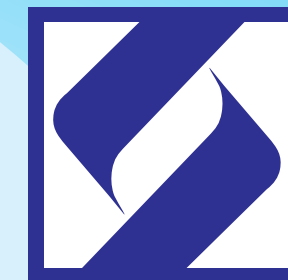
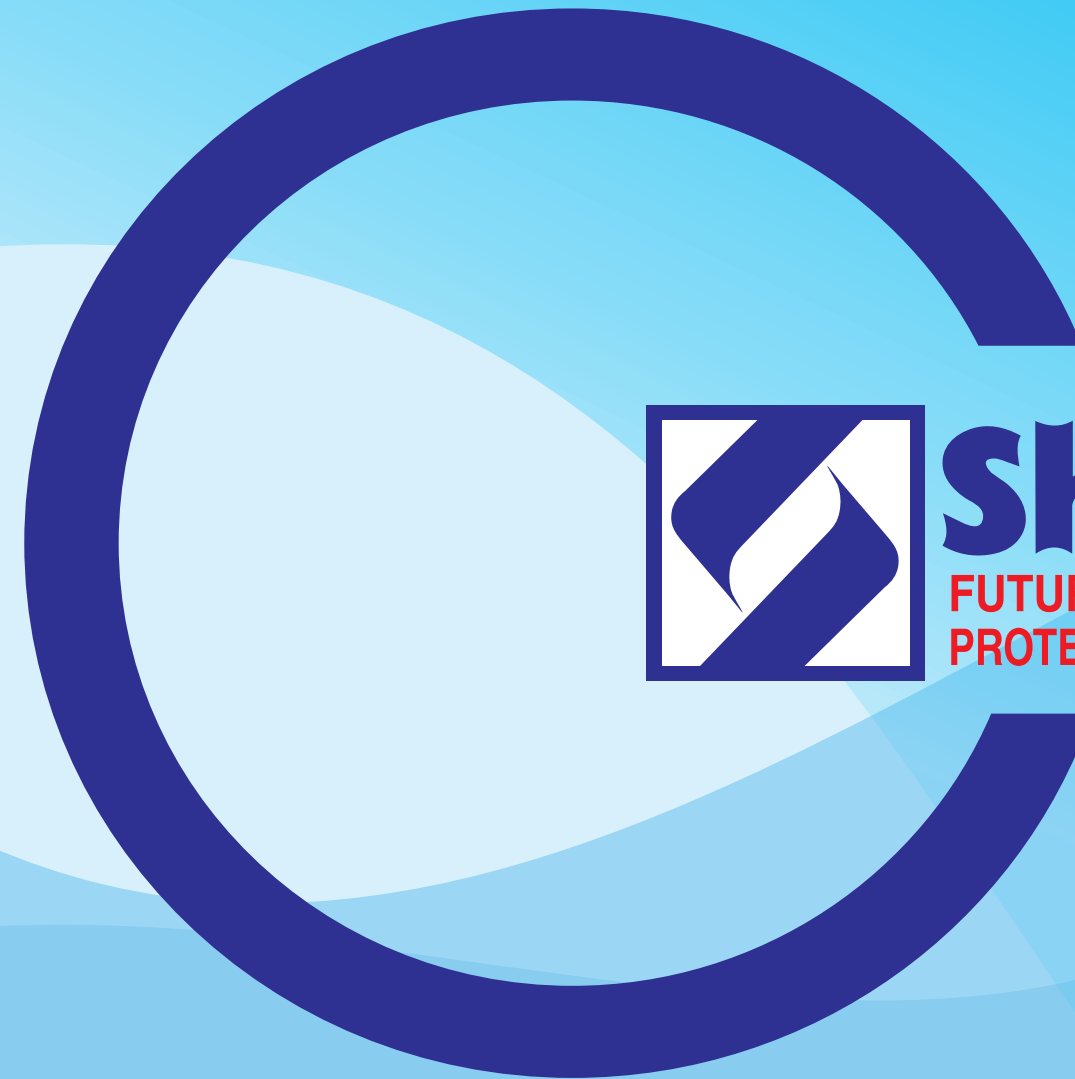
RAAJAS TECHNOLOGIES PVT. LTD.

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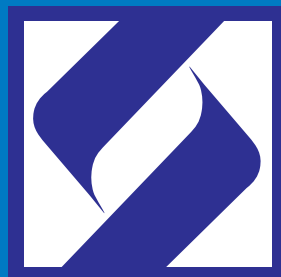
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Shield[®]
FUTURE GENERATION
PROTECTION PRODUCTS



Shield[®]
FUTURE GENERATION
PROTECTION PRODUCTS



AN ISO 9001:2008 CERTIFIED COMPANY



PRODUCT RANGE

FUTURE GENERATION PROTECTION PRODUCTS

Raajas Technologies Pvt. Ltd. which has been in this industries since 1997 and master's in manufacturing **miniature circuit breaker** which is a safety device and has been a part of the upcoming global manufacturing country (**INDIA**). Raajas Technologies Pvt. Ltd. has been associated with brands like **standard electricals** now the company has its own brand by the name of **SHIELD** which is accepted nation wide.

OUR PRODUCT RANGE :

CIRCUIT BREAKER SERIES



DISTRIBUTION SERIES



OTHER ESSENTIALS



FINAL DISTRIBUTION PRODUCTS INDEX

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MINIATURE CIRCUIT BREAKER (MCB)



WIDE RANGE

- 1P, 1P+N, 2P, 3P, 3P+N, 4P
- Trip Type 'B' & 'C' Breaking capacity 10kA
- Ratings 6A to 63A*
- IP- 20 Degree of protection (Finger -touch safe)
- Trip free mechanism
- Mechanism with pad locking facility
- Low Watt power loss
- Current limiting design- Class 3
- ISI & CE Marked

APPLICATION

SHIELD Miniature Circuit Breakers are used in power distribution systems for protection against overload and short circuit faults. The product is highly reliable, excellent in performance and has a high breaking capacity. The product has been designed for un-interrupted duty at 230/400V circuits for overload as well as short circuit protection. The **SHIELD** Series MCBs comply with IS/IEC 60898-1.

HOUSING

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

OPERATING MECHANISM

SHIELD circuit breakers are based on Current Limiting Principle. The protection is ensured by combining a temperature receptive mechanism (bimetal) and a current sensitive electromagnetic device. The thermal operation provides protection from normal overloads and the electro-magnetic device against large overloads and short circuits.

SUPERIOR CONTACT MECHANISM

The mechanism comprises of fixed and moving contacts made up of high conductivity materials ensuring extended life span with anti-weld properties. These contacts having low contact resistance resulting in reduced voltage drop and low watt loss leads to energy savings.

EFFECTIVE ARC BLOWERS

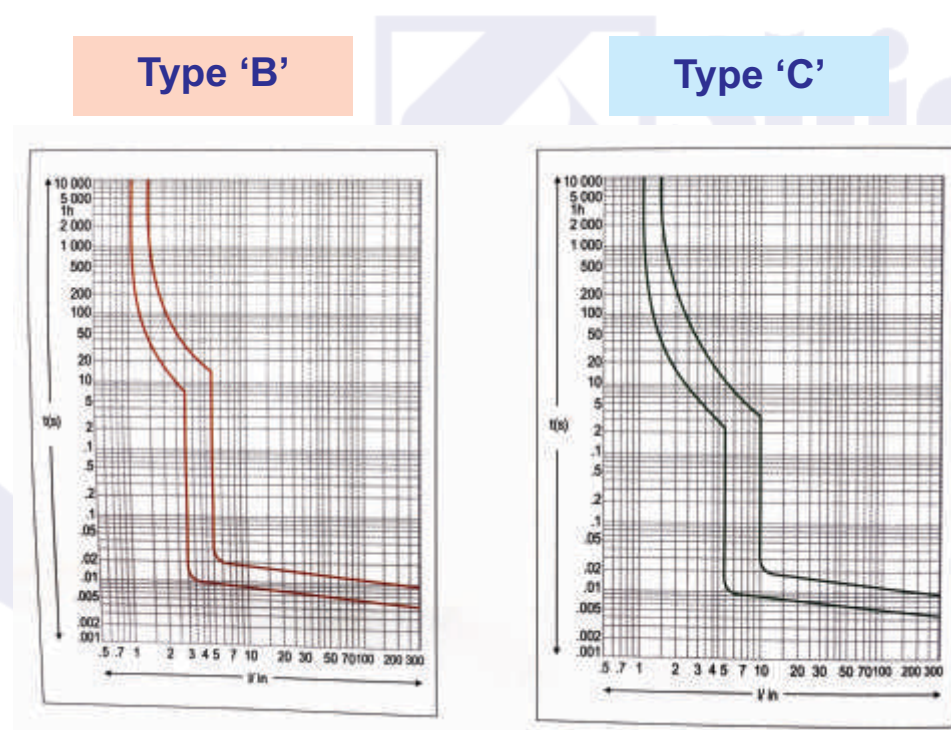
The arc under the influence of magnetic field is driven directly into the arc-chute where it is quickly extinguished and quenched.



SELECTION

DESCRIPTION	TYPE 'B'	TYPE 'C'
Single Pole	6/10/16/20/25/32/40/63	6/10/16/20/25/32/40/63
Single Pole + Neutral	6/10/16/20/25/32/40/63	6/10/16/20/25/32/40/63
Double Pole	6/10/16/20/25/32/40/63	6/10/16/20/25/32/40/63
Three Pole	6/10/16/20/25/32/40/63	6/10/16/20/25/32/40/63
Three Pole + Neutral	6/10/16/20/25/32/40/63	6/10/16/20/25/32/40/63
Four Pole	6/10/16/20/25/32/40/63	6/10/16/20/25/32/40/63

TRIPPING CHARACTERISTIC CURVE 'B' & 'C' SERIES



MCB ISOLATORS

SHIELD ISOLATORS ARE AVAILABLE IN RATINGS 40,63 & 100A IN SP,DP,TP & FP EXECUTIONS

TECHNICAL DATA

SPECIFICATION	SHIELD MCB	SHIELD ISOLATOR
TYPE	'B' 'C'	
Standard conformity	IS/IEC60898-1	IS/IEC60947-3
Rated Current (In)	6-63/A	40-63A-100A
Rated Voltage AC	230/400V	230/400V
Utilization category	-	AC22A
Rated frequency (Hz)	50Hz	50Hz
No. of pole (Execution)	1P, 1P+N, 2P, 3P,3P+N & 4P	1P,2P,3P, & 4P
Rated short circuit breaking capacity	10kA	
Rated insulation voltage	660V	660V
Magnetic release setting	B-(3-5) In C-(5-10)In	
Rated impulse voltage	6kV	6kV
Electrical / Mechanical life <32A	30000	30000
>32A	10000	10000
Ambient temperature	-5°C to +55°C	-5°C to +55°C
Mounting	Clip on din rail	Clip on din rail
Degree of protection (Finger touch safe)	IP20	IP20
Resistance to shock	40mm free fall	40mm free fall

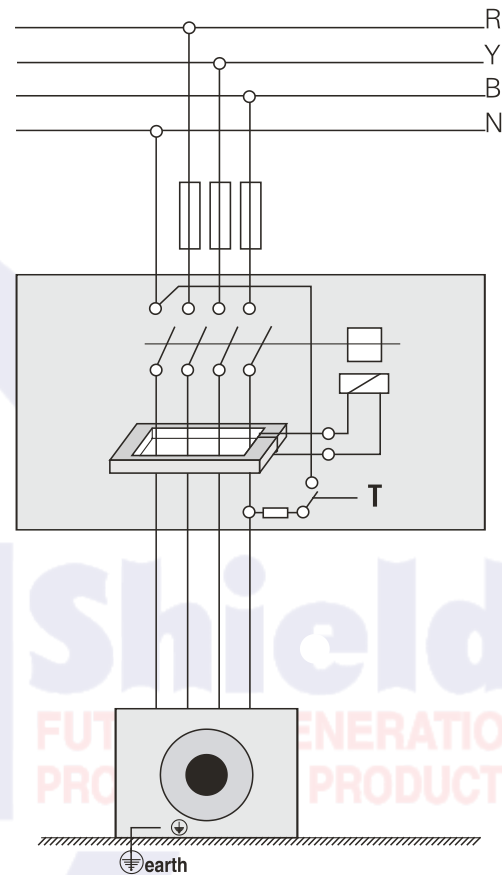


SHIELD RESIDUAL CURRENT CIRCUIT BREAKER (RCCB)

INTRODUCTION

RCCB works on balance current principle. The supply side of the current carrying conductors is passed through a torroid and act as the primary winding of Core Balanced Current Transformer. The secondary winding of this transformer is connected to an extremely sensitive electromagnetic trip relay which operates the tripping mechanism. In normal healthy circuit the vector sum of currents in all phases and neutral is equal to zero, if there is leakage in any of the phases flowing to earth the vector sum becomes not equal to zero. This residual current is enough to develop a resultant current flow in the secondary of Core Balanced Current Transformer which is applied to the sensitive relay resulting in actuating the tripping mechanism thereby tripping the supply.

Thus RCCB provides earth leakage protection in electrical circuits and even provides protection due to electric shocks against accidental coming in contact with live parts / leaky equipments in an electrical circuit.



SELECTION OF RCCBS

RCCBs can be selected as per individual need based on application as under

Sensitivity	Application
• 30mA	Designed for additional protection against direct contact. The 30mA RCCBs protects against leakage currents and indirect contact with earth loop impedance electric shock hazards.
• 100mA	Suitable for protection against indirect contact and leakage currents for larger installation.
• 300mA	Suitable for large installation having high levels of leakage currents. 300mA RCCBs protect against leakage currents, indirect contact & fire hazards.

SALIENT FEATURES OF SHIELD RCCBS

SHIELD RCCBs are highly reliable, hi-tech state of the art product. These are composite unit RCCBs for single phase and three phase applications with current sensitivity of 30,100 & 300mA against all kind of faults due to earth leakage. **SHIELD** RCCBs ensure safely to human life and installations against fire and electric shocks. In short human life is extremely precious and **SHIELD** RCCBs are the answer to safeguard the same.

SOME MAJOR SALIENT FEATURES

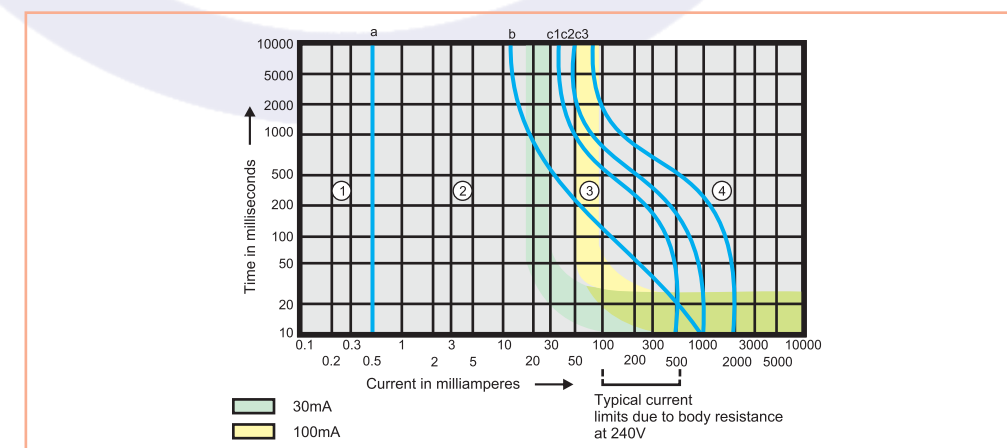
- Provides protection against earth fault/ leakage and also fulfill the function of isolation.
- Automatically measures and disconnect the circuit when earth fault/ leakage current occurs and exceeds the rated sensitivity.
- High short-circuit current withstand capacity.
- Dual termination possible for cable and comb type bus bar connection.
- Having finger-touch safe connection terminals (IP 20 Protection).
- Fire resistant plastic parts to withstand abnormal heating and strong impact.
- Independent of power supply and line voltage. Also free from external voltage fluctuation.
- Incorporates a filtering device for prevention of nuisance tripping due to transient voltage.
- High current ratings upto 100A.

Physiological damage to human body by electric current due to accidental contact is explained below

- 70-100mA Results in irreversible cardiac fibrillation leading to non study beating of heart which may be non reversible at times.
- 20-30mA May cause respiratory damage due to contraction of muscles.
- 10mA May cause muscle contraction.
- 1-10mA May cause needle like pricking sensation.

* More technical details & data on request

Indian Electricity Rules mandate for compulsory use of RCCBs for loads beyond 5KW



SHIELD DISTRIBUTION BOARDS

Distribution of power in Residential & Commercial Buildings, Independent Villas, Hotels, Hospitals and of course Industries is ensured through composite system known as Distribution Boards.

Distribution Boards are made up of metallic or engineering plastic single door or double door enclosures complete with DIN-Rail, Copper/Aluminum Bus Bars, Neutral Link and Earth Link.

The enclosure known as Distribution Board is used for installing Isolators, RCCBs, MCBs etc. to make composite Power Distribution System complete with all these protective devices.

For safety of installations and human beings it is imperative to properly select Distribution Boards. SHIELD has introduced a very exhaustive range of high quality Distribution Boards.

SHIELD high quality Distribution Boards are manufactured using CRCA sheet steel Powder Coated with state-of-the-art powder coating technology making it highly corrosion resistant over a long period of time.

SHIELD Distribution Boards blend very well with MCBs, RCCBs & Isolators to provide a very reliable and comprehensive protection system for power distribution.

DB RANGE

SHIELD offers complete range of Distribution Boards suitable for various applications as under

- SPN Distribution Boards- Single & Double Door.
- TPN Distribution Boards Horizontal- Single & Double Door.
- Vertical TPN Distribution Boards with MCB as incomer.
- Vertical TPN Distribution Boards with MCCB as incomer.
- PPI Distribution Boards.
- TPN Phase Selector Distribution Boards.
- Seven Segment Distribution Boards.



PLUG & SOCKET DB

Finished sheet metal powder coated Plug & Socket Distribution Boards.

Range available in 10 & 20 ASPN and 20 & 30 ATPN.

Adjustable 35 sq.mm din rail with connecting Links.

Insulated neutral link in SPN Board.

SPN & TPN boards with sockets having plastic cover.

Connecting Links cross section SPN-2.5 sq.mm flexible cable, TPN-6.0 sq.mm flexible cable.

Provision for both flush & wall mounting.

Heavy duty screw type out going wire nozzle.

Body in matt finish and cover in semi glossy finish.

Paint 60 micron powder coating.

Plug & Sockets internal material PBT/ Porcelain.

Plug & Sockets are also available as spares.



SHIELD DISTRIBUTION BOARD-SELECITON TABLE

SINGLE POLE NEUTRAL DISTRIBUTION BOARD

SINGLE DOOR

Type	No. of Modules (Incomer+outgoing)	Total Module
4 WAY SINGLE DOOR	4	4
6 WAY SINGLE DOOR	6	6
8 WAY SINGLE DOOR	8	8
12 WAY SINGLE DOOR	12	12
16 WAY SINGLE DOOR	16	16



DOUBLE DOOR

Type	No. of Modules (Incomer+outgoing)	Total Module
4 WAY DOUBLE DOOR	4	4
6 WAY DOUBLE DOOR	6	6
8 WAY DOUBLE DOOR	8	8
12 WAY DOUBLE DOOR	12	12
16 WAY DOUBLE DOOR	16	16



TRIPLE POLE NEUTRAL DISTRIBUTION BOARD-HORIZONTAL

SINGLE DOOR

Type	No. of Modules (Incomer+outgoing)	Total Module
4 WAY SINGLE DOOR	8+12	20
6 WAY SINGLE DOOR	8+18	26
8 WAY SINGLE DOOR	8+24	32
12 WAY SINGLE DOOR	8+36	44
16 WAY SINGLE DOOR	8+48	56



DOUBLE DOOR

Type	No. of Modules (Incomer+outgoing)	Total Module
4 WAY DOUBLE DOOR	8+12	20
6 WAY DOUBLE DOOR	8+18	26
8 WAY DOUBLE DOOR	8+24	32
12 WAY DOUBLE DOOR	8+36	44
16 WAY DOUBLE DOOR	8+48	56



Triple Pole Neutral Vertical Distribution Board with provision for MCB/Isolator as incomer

Triple Pole Neutral Distribution Board with per Phase Isolation

Type	No. of Modules (Incomer+outgoing)	Total Module
4 WAY DOUBLE DOOR	8+12	20
6 WAY DOUBLE DOOR	8+18	26
8 WAY DOUBLE DOOR	8+24	32
12 WAY DOUBLE DOOR	8+36	44

Type	No. of Modules (Incomer+outgoing)	Total Module
4 WAY DOUBLE DOOR	8+12	20
6 WAY DOUBLE DOOR	8+18	26
8 WAY DOUBLE DOOR	8+24	32
12 WAY DOUBLE DOOR	8+36	44

Triple Pole Neutral Vertical Distribution Board with provision for MCCB as incomer

MCCB as incomer 100A DD04 way Ip43
MCCB as incomer 100A DD08 way Ip43
MCCB as incomer 100A DD012 WAY Ip43
MCCB as incomer 225A DD04 WAY Ip43
MCCB as incomer 225A DD08 WAY Ip43
MCCB as incomer 225A DD012 WAY Ip43

* More Technical details available on request.



PLUG AND SOCKET DISTRIBUTION BOARD



SINGLE POLE NEUTRAL PLUG AND SOCKET DB (WITHOUT MCB)

10A SPN Plug & Socket DB
20A SPN Plug & Socket DB
20A SPN Plug & Socket (1P Out-outs)

TRIPLE POLE NEUTRAL PLUG AND SOCKET DB (WITHOUT MCB)

20A TPN Plug & Socket DB
30A TPN Plug & Socket



METAL ENCLOSURE (WITH DIN RAIL)

SP MCB ENCLOSURE
DP MCB ENCLOSURE
TP MCB ENCLOSURE
FP MCB ENCLOSURE

PLASTIC ENCLOSURE

SP & DP PLASTIC MCB ENCLOSURE
TP & FP PLASTIC MCB ENCLOSURE