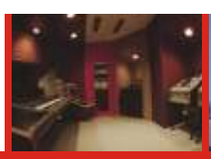
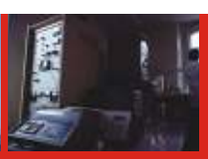
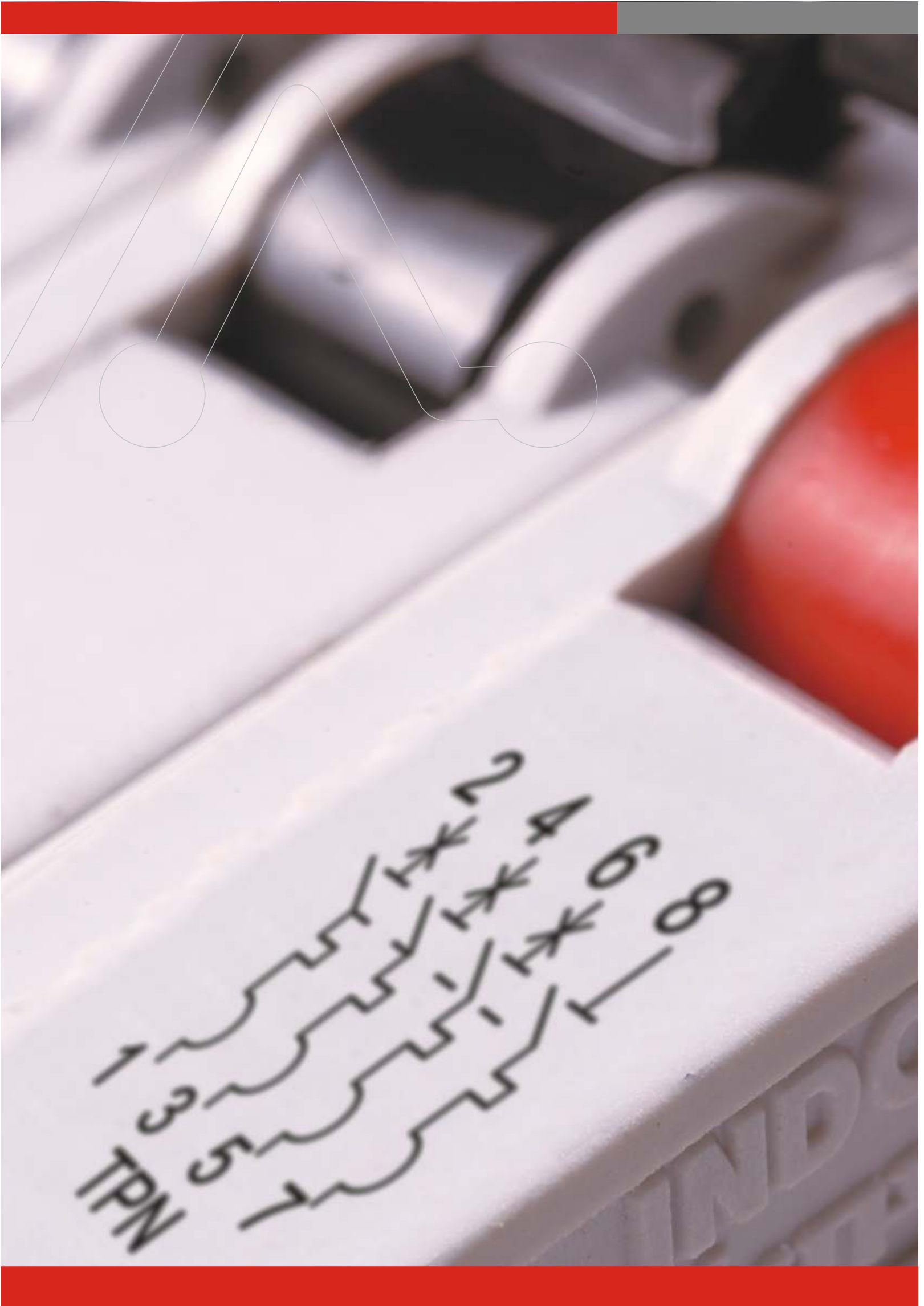
INDOASIAN

INDO Kopp Goldline Miniature Circuit Breakers

INDOASIAN™
energy management






TPN

Since its inception in 1958 Indo Asian has created innovative products and electrical systems that contribute to the quality of life. Keeping with this philosophy, our products are focused on the protection, control and energy conservation aspects of electrical systems.

The mission has now expanded and evolved further to include exciting new products, new markets. It also involves a far greater responsibility to mankind and to our increasingly vulnerable planet.

We build electrical products and systems that do much more than just protect & control - they actually manage electrical energy to match individual needs.

Our miniature circuit breakers and distribution systems ensure a precisely controlled and efficient flow of energy to billions of homes and industries across the globe.

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SALIENT FEATURES

Goldline MCBs have been designed for the world...

Standards

Goldline MCBs conform to the latest standard IS 8828 : 1996/IEC: 898 1995

Mid-Trip Position

The Mid trip position of the knob is visible indication of fault condition. Identification of faulty circuit becomes very easy.

Energy Saving

Watt loss - 40%-75% of stipulated values in IS : 1996 / IEC Pub 898 1995, making it one of the most energy efficient MCB's .

Low let through energy

Under short circuit conditions I^2t (let through energy) is minimum in Goldline MCBs (Class-3 as per BS EN 60898) - ensuring longer life of contacts and reduces thermal stresses in the distribution circuits.

Safety

Goldline MCBs have incorporated shrouds to prevent direct touch with live parts ensuring protection against electric shock.

Perfect Connections

Goldline MCBs have been provided with serrated box type terminals with saw tooth type serrations & stirrup type terminal surface on both sides. Thus it ensures perfect grip on conductors. Torque withstand capacity of terminals is more than 2 Nm.

2 step mounting clip

The MCB has been fitted with 2-step thermoplastic mounting clip which provides convenient mounting and removal of MCBs.

CB Certification

The only MCB in India under IECEE-CB scheme as per IEC:898-1995. The CB certificate is acceptable to all member countries globally.

CONSTRUCTIONAL FEATURES

Save

energy

all the time ...

Housing

The housing of Goldline MCBs is made of injection moulded thermoplastic polyester (PBT) in RAL 7035 Grey colour, as per international code. This material is fire retardant, anti tracking and non-hygroscopic.

Contacts

The contacts are made of Silver-inlaid copper which ensure longer life of contacts. These have low resistance resulting in low watt loss. The contacts are designed to have zero bounce during closing operation.

Operating Mechanism

Goldline MCBs have quick make, quick break, trip-free mechanism.

Mounting Arrangement

Goldline MCBs are installed directly on 35mm DIN Rail in distribution boards / control panels simply by snap-on-fixing, hence saves time in installation or removal.

Working Principle

Miniature Circuit Breakers are based on thermal magnetic technology. The protection is provided by combining a temperature sensitive device (bimetal) and a current sensitive electromagnetic device. Both components triggers the mechanism mechanically. The MCB design is based on current limiting technology.

Back up Protection

Goldline MCBs are capable of handling fault levels of current up to 10,000 A. However, for installations where the fault current is expected to be more than 10,000A, backup can be achieved by using Indo Asian HRC Fuse links 100A, gG type fuse link.

Low Watt Loss

Goldline MCBs have been designed to minimize energy loss through unique contact configuration and reduction of hot spots. Watt loss per pole in Goldline MCB is far lower than that specified in IS 8828:1996 / IEC Pub 898-1995.

Rated Current (A)	Max. allowable Watt loss per pole as per IS: 8828-1996, IEC Pub 898 (1995) & IEC-60898-1, 2002	Goldline MCB Max. Watt Loss Per pole
<10	3.0	1.3
10<In=16	3.5	2.5
16<In=25	4.5	2.7
25<In=32	6.0	4.0
32<In=40	7.5	4.3
40<In=50	9.0	4.5
63	13.0	7.0

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DC MCB

APPLICATIONS

B Type

For protection of Resistive loads such as bulbs, heaters etc.

C type

For protection of Inductive loads such as motors, air conditioners etc.

D type

For protection of Cables and highly inductive loads which have high starting current such as transformers.

Indo Kopp MCBs for DC application have all features as those of AC MCBs with following additional features making it suitable for DC circuits.

FEATURES

- DC MCB incorporates **built in permanent magnet,** which directs the arc in to the arc quenching chamber.
- **Free from nuisance tripping** caused by vibrations.
- **Clear indication of polarity** by the use of stickers, + sign on incoming terminal of single pole and + symbol on first pole/ - symbol on second pole of 2 pole MCBs.
- **Time constant > 5 ms.**
- DC MCB with extended terminals meeting RSDO specification no. SPEC/E-12/1/04 are also available.

AUXILIARY SWITCH

The auxiliary switch is used for remote signalling, auxiliary supplies and other similar functions. The auxiliary switch is switched ON and OFF together with the MCB through internal linkage. This can be used in following configurations application. This is fitted on left side of the MCB.

Configuration	Combination of Terminals to be used
1. N.C. & N.O.E	21-22, 11-14
2. N.C. & Changover	21-22, 11-12, 14
3. N.C. & N.C.	21-22, 11-12

Technical Data

Rated Voltage, Max.	:	220 V AC
		110 V DC
Rated Current	:	6 A AC / 1 A DC
Conductor Cross section	:	up to 1 mm^2
Module Width	:	9 mm

SHUNT TRIP

The shunt trip switch provides the facility of tripping MCBs from remote locations. Depending on the construction and use, this is available in two different versions as described below:

1. Shunt trip function only

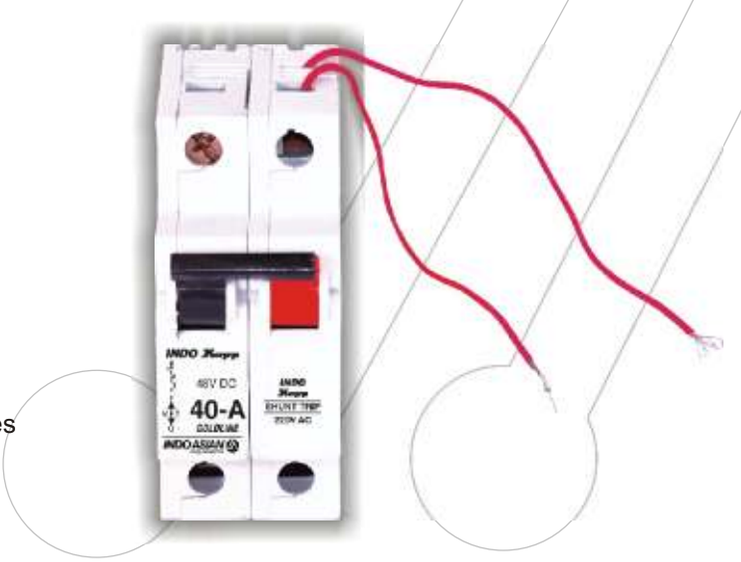
For tripping, the required tripping voltage is applied across the leads taken out of the shunt trip.

2. Shunt trip with isolable neutral

In this version in addition to shunt coil, the isolable neutral is provided in the same housing.

The two leads are taken out for application of tripping voltage to the coil. The instant tripping voltage to the coil can be for less than 100 milliseconds preferably via push button or any other device. In case tripping voltage is continuously applied, for longer, the coil can burn.

The shunt trip release is fixed on the right side of the MCB.



Technical Data

Rated Voltage Un	:	24-415 VAC
		24-220 VDC
Rated Frequency	:	50 Hz or D.C.
Break time	:	<0.1 sec.
Module Width	:	17.5 mm.
Connecting Terminal	:	6 inch Long flexible wires

All above accessories are available factory fitted.

MCBs

AC MCBs							DC MCBs		DC MCBs for the Railways
CURRENT AMPS	SINGLE POLE	DOUBLE POLE	SINGLE POLE & NEUTRAL	TRIPLE POLE	TRIPLE POLE & NEUTRAL	FOUR POLE	DC SINGLE POLE	DC DOUBLE POLE	DC6R SINGLE POLE
0.5	G#SP00P5	G#DP00P5	G#SPN0P5	G#TP00P5	G#TPN0P5	G#FP00P5	GDSPC0P5	GDDPC0P5	GDSPR0P5
1.0	G#SP0001	G#DP0001	G#SPN001	G#TP0001	G#TPN001	G#FP0001	GDSPC001	GDDPC001	GDSPR001
1.5	G#SP01P5	G#DP01P5	G#SPN1P5	G#TP01P5	G#TPN1P5	G#FP01P5	GDSPC1P5	GDDPC1P5	GDSPR1P5
1.6	G#SP01P6	G#DP01P6	G#SPN1P6	G#TP01P6	G#TPN1P6	G#FP01P6	GDSPC1P6	GDDPC1P6	GDSPR1P6
2.0	G#SP0002	G#DP0002	G#SPN002	G#TP0002	G#TPN002	G#FP0002	GDSPC002	GDDPC002	GDSPR002
2.5	G#SP02P5	G#DP02P5	G#SPN2P5	G#TP02P5	G#TPN2P5	G#FP02P5	GDSPC2P5	GDDPC2P5	GDSPR2P5
3.0	G#SP0003	G#DP0003	G#SPN003	G#TP0003	G#TPN003	G#FP0003	GDSPC003	GDDPC003	GDSPR003
4.0	G#SP0004	G#DP0004	G#SPN004	G#TP0004	G#TPN004	G#FP0004	GDSPC004	GDDPC004	GDSPR004
5.0	G#SP0005	G#DP0005	G#SPN005	G#TP0005	G#TPN005	G#FP0005	GDSPC005	GDDPC005	GDSPR005
6.0	G*SP0006	G*DP0006	G*SPN006	G*TP0006	G*TPN006	G*FP0006	GDSPC006	GDDPC006	GDSPR006
7.5	G*SP07P5	G*DP07P5	G*SPN7P5	G*TP07P5	G*TPN7P5	G*FP07P5	GDSPC7P5	GDDPC7P5	GDSPR7P5
10.0	G*SP0010	G*DP0010	G*SPN010	G*TP0010	G*TPN010	G*FP0010	GDSPC010	GDDPC010	GDSPR010
16.0	G*SP0016	G*DP0016	G*SPN016	G*TP0016	G*TPN016	G*FP0016	GDSPC016	GDDPC016	GDSPR016
20.0	G*SP0020	G*DP0020	G*SPN020	G*TP0020	G*TPN020	G*FP0020	GDSPC020	GDDPC020	GDSPR020
25.0	G*SP0025	G*DP0025	G*SPN025	G*TP0025	G*TPN025	G*FP0025	GDSPC025	GDDPC025	GDSPR025
32.0	G*SP0032	G*DP0032	G*SPN032	G*TP0032	G*TPN032	G*FP0032	GDSPC032	GDDPC032	GDSPR032
40.0	G*SP0040	G*DP0040	G*SPN040	G*TP0040	G*TPN040	G*FP0040	GDSPC040	GDDPC040	GDSPR040
50.0	G*SP0050	G*DP0050	G*SPN050	G*TP0050	G*TPN050	G*FP0050	-	-	-
63.0	G*SP0063	G*DP0063	G*SPN063	G*TP0063	G*TPN063	G*FP0063	-	-	-

Note :

B Series : 6A to 63A
For 6A to 63A replace "*" in the ordering codes with "B"

C Series : 0.5A to 63A
For Under rating 0.5A to 6A replace "#" with "C"
For 6A to 63A replace "*" with "C"

D Series : 0.5A to 32A
For Under rating 0.5A to 6A replace "#" with "D"
For 6A to 63A replace "*" with "D"

Accessories : Replace the 4th character of the code 'P' with 'A' for MCB with auxiliary switch & 'S' for MCB with shunt trip.

Isolators

CURRENT AMPS	SINGLE POLE	DOUBLE POLE	TRIPLE POLE	FOUR POLE
40	GBSPI040	GBDPI040	GBTPI040	GBFPI040
63	GBSPI063	GBDPI063	GBTPI063	GBFPI063
80	-	GBDPI080	-	GBFPI080
100	-	GBDPI100	-	GBFPI100
125	-	GBDPI125	-	GBFPI125

Tripping Characteristics

Goldline MCB	Type	Non Tripping Curent Min. (1hr.)	Tripping Current Max. (1 hr.)	Magnetic Tripping Min.	Max.
6A to 63A	B	1.13 In	1.45 In	3 In	5 In
0.5A to 63A	C	1.13 In	1.45 In	5 In	10 In
0.5A to 63A	D	1.13 In	1.45 In	10 In	20 In

Development is a continuous process at Indo Asian. Technical data is subject to change without notice.

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Technical Specifications

AC MCB

Specifications		:	IS 8828 : 1996, IEC Pub 898-1995
Number of Poles		:	1, 1+N, 2, 3, 3+N & 4
Tripping Characteristic & Rated		:	B characteristics - 6A to 63A
Currents (In)		:	C characteristics - 0.5A to 63A
			D characteristics - 0.5A to 63A
Rated breaking capacity (Icn)		:	10,000 A
Energy Limiting Class		:	Class 3 as per BS EN 60898
Rated Voltages (Ue)	Single Pole	:	240 / 415 VAC / 60 VDC
	Multi Pole	:	415 VAC / 110 VDC (When 2 poles connected in Series)
Insulation Voltage (Ui)		:	500V
Rated Frequency		:	50/60 Hz
Impulse withstand voltage (Uimp)		:	4 KV (1.2 / 50 u s)
Impulse power frequency voltage		:	2KV (50 Hz)
Housing material		:	Polybutylene Terephthalate in RAL 7035 Grey colour
Degree of Protection		:	IP 20 as per IS : 13947 / IEC 60529
Mounting		:	Quick-snap on DIN rails, 35mm
Connecting Terminals		:	Combination box terminals on incoming and outgoing sides. Suitable for single-core, stranded and flexible conductors upto 25 Sq mm.
Electrical Service Life		:	Min. 30,000 make/break operations
Ambient Temperature		:	T max. : +55° C T min. : -25° C

DC MCB

Specifications	:	IEC-60898-2-2002/RSDO - SPEC/E-12/1/04
No. of Poles	:	Single pole, Double Pole
Rated Current	:	0.5 to 63A
Rated Voltage	:	220 V DC
Rated short circuit breaking capacity	:	at 48V DC-10kA above 48V DC & upto 130 VDC-1kA
Insulation Voltage	:	500V
Mounting	:	Quick snap to mounts rails 35 mm on mounting bracket for RDSO
Connecting Terminals	:	Combination box type terminals on both sides and also with extended terminals
Electrical Service Life	:	10,000 make/break operations
Vibration Level	:	3g, 50 cycles

ISOLATORS

Specifications	:	IS 13947 Part 3/IEC-60947-3, 1999
Current Ratings	:	40,63,80,100 and 125A
Rated Voltage	:	240/415 V
Number of Poles	:	SP, DP, TP & FP
Utilization Category	:	AC23A

Dimensions

MCB and Isolators

Single Pole MCB with Auxiliary Switch

INDOASIAN™
energy management

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