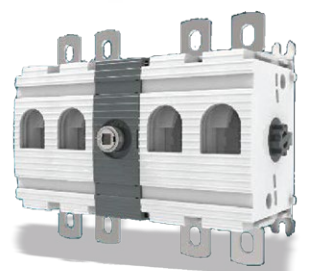
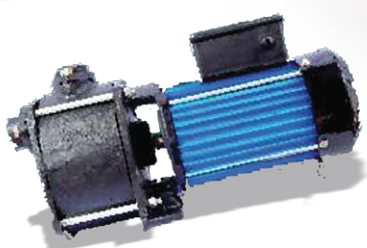
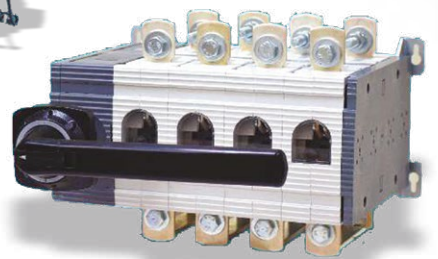


A:N



RENER



## Domestic, Agriculture, Commercial & Industrial Services

### DSP Service - Sump water transfer pumps

Self Priming (Range - 0.5 to 3m<sup>3</sup>/h @ 40m)



### Non Self-priming (Range - 1 to 30m<sup>3</sup>/h @ 40m)



### Bore / Openwell water transfer pumps

(Range - 2 to 10m<sup>3</sup>/h @ 150m)



### ASP & CSP Service - Surface & Submersible water transfer pumps

(Range - 10 to 100m<sup>3</sup>/h @ 300m)

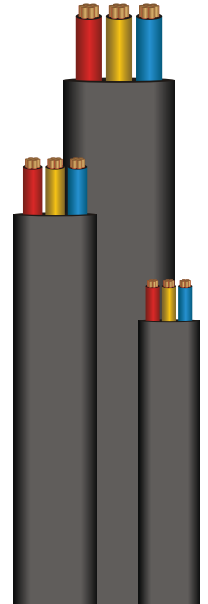
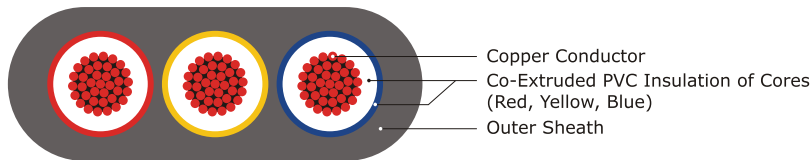


### Pressure Booster Pumps



## Flat Cable, Round Cable, House Wires & Industrial Control Wires

### 3 Core Flat Cables as per IS 694:2010 with ISI mark



**ABN** 3 Core Flat Cables have been specifically designed for submersible pump motors. It is manufactured keeping in mind tough and difficult conditions in which they have to operate.

- ⦿ **Conductors** : The conductors are drawn from bright electrolytic grade copper annealed and bunched together & have 99.97 % Purity.
- ⦿ **Insulation** : Bunched conductors are insulated with specially formulated PVC Compound having high insulation resistance values.
- ⦿ **Sheathing** : 3 Core are in parallel position and sheathed with a special grade of PVC Compound which is impervious to water, grease, oil etc.
- ⦿ **3 CORE FLAT CABLES FOR SUBMERSIBLE PUMP MOTORS**

CONDUCTOR		PVC INSULATION		PVC SHEATH			Current Rating At 40°C In Amps.	Max. D/C Resistance @ 20°C Ohm. / km.
Nominal c/s Area Of Conductor In Sq. mm.	Conductor Construction No. /mm.	Nominal Insulation Thickness in mm.	Approx. Core Dia. In mm.	Nominal Thickness In mm.	Overall Dimensions			
					Height mm.	Width mm.		
1.00	14/0.30	0.7	2.7	0.9	5.20	10.30	11	18.10
1.50	22/0.30	0.7	3.2	0.9	5.60	12.00	14	12.10
2.50	36/0.30	0.8	3.6	1.0	6.40	14.00	18	7.41
4.00	56/0.30	0.8	4.2	1.1	7.40	15.80	26	4.61
6.00	84/0.30	0.9	5.3	1.2	7.90	18.60	31	3.08
10.00	140/0.30	1.0	6.7	1.4	9.90	23.70	42	1.83
16.00	226/0.30	1.0	8.2	1.4	11.4	28.00	57	1.15

### House Wire

Conductor Area	Insulation Thickness mm.	Number Nominal Dia of strands	Approx overall diameter	DC Conductor Resistance ohm/km at 20 C (Max)
0.5	0.6	16/0.2	2.3	39.00
0.75	0.6	24/0.2	2.5	26.00
1	0.6	14/0.3	2.7	18.1
1.5	0.7	22/0.3	3.1	12.1
2.5	0.8	36/0.3	3.7	7.41
4	0.8	56/0.3	4.1	4.95
6	0.8	84/0.3	4.8	3.3



**Colours** : Red Yellow, Blue, Black, Green, Grey

**Packing**: 90 mtrs coils packed in protective cartons. Also available coils as per customer need.



## Control Cables

PVC INSULATED AND SHEATHED  
FLEXIBLE CONTROL CABLES



Insulation	Applications	Specifications
70°C/105°C Heat Resistant PVC.	Wiring of panels for use in high ambient temperatures.	IS-694, BS 6004, IEC 60227, DIN VDE-0281-3, AWM-UL 1015, UL 758, VW-1, FT-1, BS 6231
70°C/105°C Heat Resistant PVC.	Internal wiring of appliances.	AWM-UL 1007, 1569, UL 758, VW-1, FT-1, UL 1015, UL 1275
Flame Retardant (FR)	Wiring in high density & critical installations.	IEC 694, IEC 60332-1, BS 4006-1, IEC 60754-1, ASTM D 2863
Flame Retardant Low Smoke Halogen (FR-LSH)	Wiring in public places & fire prone areas.	IEC 694, IEC 60332-1, BS 4006-1, IEC 60754-1, ASTM D 2863 and 2463
Halogen Free Flame Retardant (HFFR)	Wiring for critical installations in public places and in vicinity of electronic systems.	BS 7211, DIN VDE 0281-15, IEC 60754-1 & 2, ASTM D 2843 and 2863

**Conductor:** Compactly bunched, electrolytic grade, annealed copper with high flexibility according to class 5 conductor as per IS 8130. Available in various sizes from 0.5 sq. mm to 300 sq. mm.

**Colours:** Red, Yellow, Blue, Green, Green/Yellow, Grey & Black.

**Packing:** 100 mtrs. Coils. Longer lengths can be made available on request

## Armoured & Unarmoured Cables

PVC INSULATED HEAVY DUTY POWER +  
CONTROL CABLE AS PER IS 1554 (P-1)



- Heavy Duty Performance
- Offers the best combination safety, efficiency & economy

**Applications:** Heavy Duty Power and Control Cables are used for Underground power supply by utility provider for Street Lights, Industrial Automation with mechanical strength for protection on insulated cores and other industrial applications.

**Specifications: IS 1554 (P-1)**

Construction	IS Specifications
<b>Conductor</b> : ETP Grade Copper	8130
<b>Insulation</b> : PVC Type A or C	5831
<b>Inner Sheath</b> : PVC Type ST1 or ST2	5831
<b>Armour</b> : Galvanised Steel Wire Strip	3975
<b>Outer Sheath</b> : PVC Type ST1 or ST2	5831

The sheath is also provided in with FR and FRLSH PVC

**Core Identification: For power cable and control cable upto 4 cores, the cores are identified by different colours as per IS 1554: (Part1)**

<b>Single Core</b>	: Red, Yellow, Blue, Black, etc. (only unarmoured).
<b>2 Core</b>	: Red and Black.
<b>3 Core</b>	: Red, Yellow and Blue.
<b>4 Core</b>	: Red, Yellow, Blue and Black.
<b>5 Core</b>	: Red, Yellow, Blue, Black and Grey.

Duration of short ckt. in sec.	1 Cycle = 0.02 s	2 Cycles	5 Cycles	10 Cycles	25 Cycles	50 Cycles	2 sec.	3 sec.	4 sec.	5 sec.
Short ckt. Constant per unit area	536	378	239	169	107	75.5	53	43.6	37.8	34.0

## Miniature Circuit Breaker

ABN miniature circuit Breakers were developed accordingly to IS/IEC 60898-1. This product play a major role in commercial, industrial and residential. Better Breaker performance through electrical safety high operational endurance and continued service.



### Technical Data - Characteristics

MCB-AC	
Standard Conformity	IS/IEC60898-1-2002
Utilization Category	C
Rated Current (In)	2.0-63A
Rated Voltage AC (Ue)	240/415V
Rated Frequency Hz	50/60Hz
No. of Poles (Execution)	1P, 1P+N, 2P, 3P, 3P+N & 4P
Rated Short Circuit Breaking Capacity	10kA
Rated Insulation Voltage (Ui)	660V
Magnetic Release Setting	(5-10)In
Rated Impulse Voltage (Uimp)	4kV
Electrical/Mechanical Life	
<32A	30,000 Operations
>32A	10,000 Operations
Ambient Temperature	-5°C to +55°C
Energy Limiting Class	ELC 3
Mounting	Clip on Din rail (35 mm x 7.5 mm)
Line Terminal Capacity	35 mm <sup>2</sup>
Degree of Protection	IP 20
Resistance to Shock	40mm free fall
Ambient reference temperature	30°C
Installation Position	Vertical/Horizontal
Short circuit breakers capacity	10KA

#### Watt Loss

Rating (Amp)	As per IS/IEC60898-1:2002 Maximum watt loss	Maximum watt loss in SP
6	3.0W	0.76W
8	3.0W	1.20W
10	3.0W	1.83W
16	3.5W	2.44W
20	4.5W	3.07W
25	4.5W	2.80W
32	6.0W	3.92W
40	7.5W	3.96W
63	13.0W	6.06W

#### Maximum Backup Protection

To Protect the ABN circuit breakers against higher short circuit current, fuses should be installed at the incoming side. The current rating of these fuse links should not be more than the values in the table.

MCB Rating	Back-up Fuse Rating
4A	50A
6A	80A
10A	100A
63A	100A

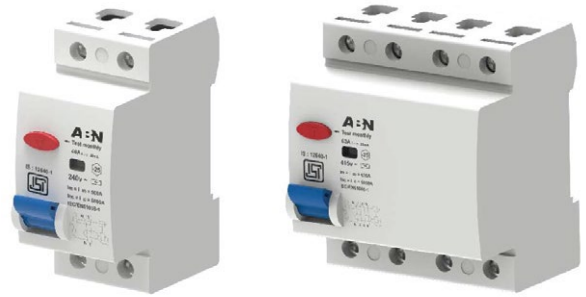


## Earth Leakage Circuit Breaker






Electricity is the most important part in our life and we are using in houses, apartments, trade centre, hotels, elevators, industries, hospitals etc.

Frequently we are facing events hampering human lives and fire due to negligent usage of electricity. Poor insulated equipment or wrong usage of electrical device leads current flow through the insulation to earth is called leakage current. This current leads fire and electrocution.

Earth Leakage Circuit Breaker (ELCB) protected to isolate the power from the equipment during leakage current and prevent fire. It also protection of the human body from electrocution.




### Physiological Effect of Electric Current on Human Body





- 500 mA  Immediate cardiac arrest resulting in death
- 70-100 mA  Cardiac fibrillation; the heart begins to vibrate and and no longer beats at a steady rate. This situation is dangerous since it is irreversible
- 20-30 mA  Muscle contraction can cause respiratory paralysis
- 10 mA  Muscle contraction : the person remains "stuck" to the conductor
- 1-10 mA  Prickling sensations

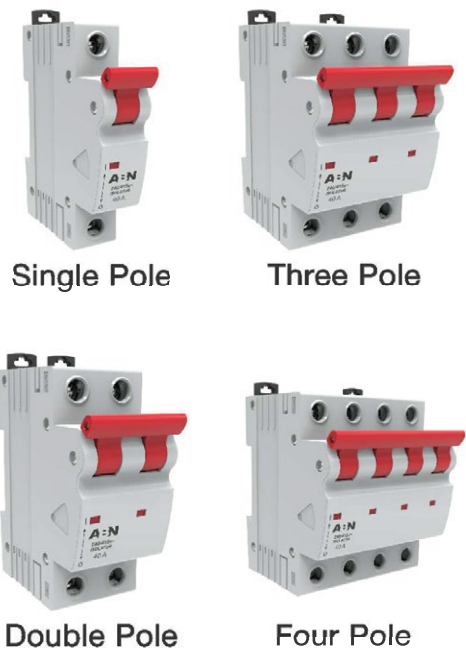
As per Indian Electricity Rules 1956 at all installations with load above 5 KW use of RCCB is compulsory

### Features - Performance

Type AC		
Rated Current setting In	A	16, 20, 25, 32, 40, 63, 80, 100
Residual current IΔn	mA	30, 100, 300
Rated voltage AC Un	V	2P : 240; 4P : 415
Minimum operating voltage U <sub>min</sub>	V	2P : 100; 4P : 190
Mechanical/electrical endurance		20000 / 10000
Tropicalisation acc.to EN/IEC 60068-2-28/2-30 and DIN 40046		95% RH at 55 °C
Terminal capacity exible/rigid cable	mm <sup>2</sup>	25/25
Poles		2, 4
Nuisance tripping resistance		250A 8/20us; 200A 0.5us - 100kHz
Ambient temperature	°C	-5 to 40
Weight	g	2P- 225; 4P-410

## Isolator & Accessories

Description	In(A)	Reference
Single Pole 	25 40 63	RV1ISO25 RV1ISO40 RV1ISO63
Double Pole 	25 40 63	RV2ISO25 RV2ISO40 RV2ISO63
Three Pole 	25 40 63	RV3ISO25 RV3ISO40 RV3ISO63
Four Pole 	25 40 63	RV4ISO25 RV4ISO40 RV4ISO63



## Power Contactors

Contactors and contactor relays  
To keep things running you need control

ABN offers a comprehensive selection of contactors for simple and extreme application as well as products with specific purposes. The ABN contactor technology revolutionizes how we use contactors and allows use in all parts of the world and in all network conditions. Furthermore, mini-contactor range offers compact dimensions and specific connection possibilities. The AS contactor is efficient and allows you to optimize your equipment design. You can choose terminals between screw, push-in spring and ring tongue through our ranges. So whatever your need of a contactor might be, ABN will have a variant meeting just that.



ABN1-0910

ABN1-3210



ABN-0910



ABN-3210



ABN-5011



ABN-9511



ABN1-400



ABN1-630

### Power Contactors

- 6A - 630A 3 Pole and 4 Pole
- Thermal Overload Relays
- 0.16A - Upto High Range CT Operated Relays
- Accessories for Power Contactors
- Accessories for Thermal Overload Relays

## Auxillary Contact Block



F4-11



F4-31



F8-20

## Time Delay Block



LA2-DT2



LA3-DR2





# Capacitor Duty Contactor



## Introduction

When Switched on a capacitor can function as short circuit element. The capacitor inrush or charging current magnitude depends on AC voltage at turn on and on the impedance of connection cable and power supply transformer.

In case of individual capacitor load charging peaks that are 30 times greater than rated capacitor current. In case of multi stage capacitor the inrush current can exceed 180 times rated capacitor current. Such strong current occur from power supply network and capacitor is already connected.

Such inrush current is undesirable since main contacts of standard duty contactors are likely to weld.

ABN capacitor duty contactor is designed to meet the requirements of capacitor duty application.

## Concepts of Operation

Capacitor duty contactor connected the capacitor loads series with resistor for the duration of 5 to 10 milli seconds. After lapse of 10 milli seconds these resistance wire permanently isolate from the supply and main contacts share the load until the coil supply interrupted.



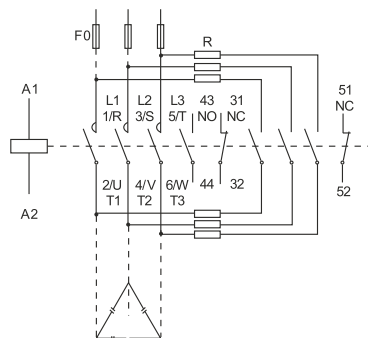
The purpose of adding resistance wire in the capacitor circuit is to limit the heavy inrush current of capacitor and avoid contact welding. This was achieved by specially made integral pre-contacts and fiber glass teflon coated resistance wire.

All capacitor duty contactors are fitted with coil suppressor across the coil terminal to suppress the surge voltage that occurs due to self-inductance of the coil during interruptions. By providing suppressor the malfunction of APFC controller would be totally eliminated, resulting in a better life of the contactor and capacitor.

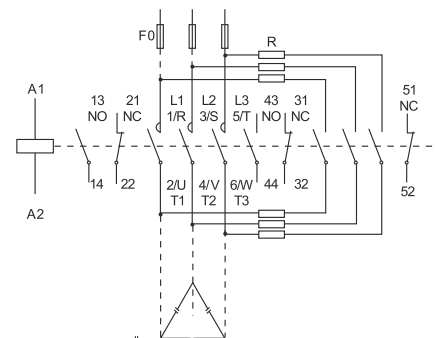
Three pole capacitor duty contactors from 5 kVAR to 75 kVAR available in 10 ratings complying with the International standard EN/IEC 60947-4-1 and IS:60947-4-1

## Circuit Diagram

RVCC07...CC25



RVCC33...CC75



## Function diagram



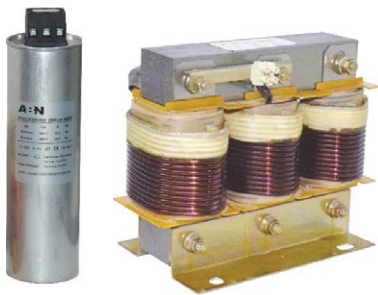


# Power Factor Correction Capacitors

## Introduction

ABN Capacitors are designed and manufactured for the most demanding applications and toughest ambient conditions. These capacitors are durable, safe, reliable and high performance solution for power factor correction in industrial & semi-industrial applications.

The efficiency of power generation, transmission or conversion is improved when operated at near unity power factor. The least expensive way to achieve the same is by installing power factor correction capacitors. Power correction capacitors must be able to withstand high voltage transients and power line variations without breakdown.



Range of PFC Capacitors

Series	Voltage	Type	Output
STANDARD DUTY	400V	Cylindrical	1-50 KVAR
	415V	Cylindrical	1-50 KVAR
	440V	Cylindrical	1-50 KVAR
HEAVY DUTY	440V	Cylindrical	5-25 KVAR
	480V	Cylindrical	5-30 KVAR
SUPER HEAVY DUTY	525V	Cylindrical	5-33 KVAR
	690V	Cylindrical	5-25 KVAR



## MFD Capacitors



### TECHNICAL FEATURES

1	Operating temperature range	-25 °c to +85°c
2	Operating frequency range	40 Hz to 60 Hz
3	Capacitance range (@100 Hz & 25 0 c )	20 Mfd to 1350 Mfd 410%)
4	Voltage range	400v ac to 440v ac
5	Surge voltage	528v ac for 440v ac rate capacitor
6	Power factor/tangent of loss angle (440v ac,50 Hz & 25 0 c)	10% maximum
7	Insulation voltage	It can withstand 3 KV AC for 2 sec. between termination and outer case
8	Insulation resistance	Minimum 100 MO between leads and the case
9	Polarity	May be connected either way



## ABN Series Moulded Case Circuit Breaker

### 1. Application

ABN series MCCB is suitable for industrial or commercial power and lighting with AC50/60Hz, rated working voltage up to AC600V/DC250V, rated current up to 630A. It's a kind of economical breaker with the characters of stable and reliable function, beautiful appearance, small size and long life. It can be used for conversion of line and infrequently starting motor. It can also be attached to install the accessories which have protection function for avoiding loss voltage, undervoltage. The product can connect line with front board and back board, it also can be equipped with hand-operating apparatus or motor-operating apparatus to control in a remote distance.



AM9-63S



AM9-103S



AM9-203S



AM9-403S

### 2. Specification

The rated insulation voltage for this series of circuit breaker is 690V, the rated operating voltage is 600V, the rated frequency is 50/60Hz, the other rated values for the main circuit.

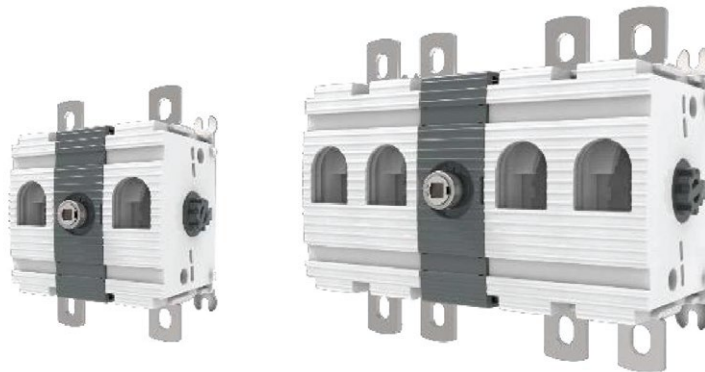
Type	3pole	AM9-32E	AM9-52E	AM9-52S	AM9-62E	AM9-62S
	4pole	AM9-33S	AM9-53E	AM9-53S	AM9-63E	AM9-63S
Frame size(AF)		30	50		60	
Rated current(A)		5,10,15,20,30	5,10,15,20,30,40,50		60	
Rated operational voltage(V)Ue (50/60Hz)		600	600	600	600	600
Rated insulation voltage(V)Ui(50/60Hz)		690	690	690	690	690
Rated impulse withstand voltage(kV)Uimp		6	6	6	6	6
Ultimate breaking capacity (kA,Icu AC 50/60Hz)	220V/240V	10	10	25	10	25
	380V	7.5/5	7.5/5	14/10	7.5/5	14/10
	415V	7.5/5	7.5/5	14/10	7.5/5	14/10
	440/460V	5	5	10	5	10
	480/500V	2.5	2.5	7.5	2.5	7.5
	600V	2.5	2.5	5	2.5	5
Utilisation category		A	A	A	A	A
Endurance	Mechanical	8500	8500	8500	8500	8500
	Electrical	1500	1500	1500	1500	1500

Type	3pole	AM9-102E	AM9-102S				
	4pole	AM9-103E	AM9-103S	AM9-203E	AM9-203S	AM9-403E	AM9-403S
Frame size(AF)		100		225		400	
Rated current(A)		5,10,15,20,30,40,50,60,75,100	15,20,30,40,50,60,75,100	100,125,150,175,200,225		250,300,350,400	
Rated operational voltage(V)Ue (50/60Hz)		600	600	600	600	600	600
Rated insulation voltage(V)Ui(50/60Hz)		690	690	690	690	690	690
Rated impulse withstand voltage(kV)Uimp		6	6	6	6	6	6
Ultimate breaking capacity (kA,Icu AC 50/60Hz)	220V/240V	10	50	35	50	35	50
	380V	7.5/5	25	18	25	30	42
	415V	7.5/5	25	18	25	25	35
	440/460V	5	25	18	25	25	35
	480/500V	2.5	25	10	14	18	25
	600V	2.5	14	7.5	10	18	22
Utilisation category		A	A	A	A	A	A
Endurance	Mechanical	8500	8500	7000	7000	4000	400
	Electrical	1500	1500	1000	1000	1000	1000

## DC Switch Disconnecter

### Photovoltaic Switch Features

- Compact Design
- Modular Construction
- As per IEC Standard
- 690V , 1000V & 1500 V
- 1 circuit , 2 circuit, 3 circuit connections
- IP66 Door fixing handle
- Derating Factor in 1500 V applications  
Ex. 1600A Switch in 1500 V application  
it will be calculated for 800A
- Master products in solar panels



### DC switch-disconnectors 20...1600 A

#### Simply optimal

ABN DC switch-disconnectors provide robust and reliable switching and isolation in a wide variety of applications. Their efficient design makes your operations smoother and more sustainable.

ABN DC switch-disconnectors are suitable for many applications, such as solar/PV, Energy Storage System (ESS), EV Charging, marine, DC microgrids, DC datacenters, rail and DC distribution.

#### The versatile portfolio includes solutions for up to 1500 VDC:

##### High performance

The unique 2-pole switch design has been optimized to break mid-currents up to 1500Vdc easily and reliably, across the complete lifespan of the installation. ABN DC switch-disconnectors have been certified according to all main international standards and can be used in demanding conditions. With ABN DC switch-disconnectors, you have the flexibility to design the best installation and equipment, while decreasing labor time.

##### Efficient design

ABN DC switch-disconnectors have been designed with sustainability in mind when it comes to operation, transportation, and installation. As a result, ABN DC has a compact design, high energy efficiency and fast installation.





## AC Switch Disconnecter

### Features

- WIDE RANGE OF 20Amps to 3200Amps
- Suitable isolation as per IS/IEC 60947
- Available DP, TP, TPN & 4P Variants
- Suitable for AC23 Duty and DC21B
- IP65 Handle with door Interlock
- Closing of Double breaking
- Fuse links available Separately
- NC contact inbuilt for ON OFF feedback



## Switch-disconnectors 16 to 3200 Amperes High performance compact solution

### Reliable in extreme conditions

ABN switch-disconnectors are designed, built and tested for the best possible performance. They are designed to be virtually maintenance-free across their entire extended lifespan and offer reliable performance in any and all possible circumstances. Durability has been ensured by testing switches against the IEC60947-3, UL508, UL98 and CSA standards.

### Space saving

All our switches have been designed for easy and cost-efficient installation, maintenance and use. The modular design enables 2-, 3- and 4-pole installation with different position of the switching mechanism to suit your needs and spacial requirements. The devices can be optimized in relation to busbar and cable connections as well as handles and other accessories.

### Easy to install

The adjustable shaft (for external handles) and mounting feet, along with snap-on auxiliary contacts and terminal shrouds create considerable savings in terms of installation time and costs. For example, the shaft can be adjusted to various installation depths, which eliminates the need for special cutting tools. This decrease handle installation times by up to 50%.

In addition, switch disconnectors from 16...3200 A are extremely flexible regarding installation orientation. They work just as well installed horizontally or vertically, or even on the ceiling.

## Change Over Switches

ABN offers wide range of Change Over Switches for manual operation. The range of Change Over Switches conforms to latest IEC 60947-3, 60947-6-1 standards. The products are in line with best design and quality standards



### Features and benefits

- CB certifications for IEC 60947-3 from UL lab to conform IEC 60947-3/EN 60947-3 /UL 60947-3/IS: 13947-3 for isolated Switch
- Compact and modular construction
- AC-23A and AC-33 rating for voltage level up to 690/1000V
- Double quick make/break operation feature that enhance performance
- Provision for add on auxiliary contact for identification of switch position
- Front operated mechanism
- Suitable for vertical, horizontal, upwards, downwards orientation
- Modular switch, can be configured from single pole to 8 pole

ABN Change Over Switches were developed according to IEC 60947-3 / IEC 60946-6-7 and enable the manual drive of motors, machines and other equipment. Besides carrying and interrupting electric currents under normal or over load conditions, the design of the switches provides complete physical insulation between the circuit on the power supply when in the Off position. In this position, it is possible to use 3 pad locks in order to prevent inadvertent actuations, increasing the safety of operators and maintenance personnel.

ABN Change Over Switches provide reliable protection for personnel and ensure high system availability in buildings, infrastructure and industrial plants.

### IEC

$I_{th}$ in A	20, 25, 32, 40, 50, 63, 80, 100, 125	125, 160, 200, 250, 315	315, 400, 500, 630
le AC 22A / AC23A / AC 33 A in A	20, 25, 32, 40, 50, 63, 80, 100, 125	125, 160, 200, 250, 315	315, 400, 500, 630

### IEC

$I_{th}$ in A	500, 630, 800	1000, 1250, 1600
le AC 22A / AC23A / AC 33 A in A	500, 630, 800	1000, 1250, 1600

## Enclosure Switches

Rove Electric Pvt Ltd have been designing, manufacturing and supplying low voltage electrical control and switchgear for the past 20 years. The range of switchgear are conforming to IEC-60947-4 standards, enclosures are conforming to IP 67/ IP 55 standard. The product are in line with best quality standards.

Aluminium Die cast Enclosure



Sheet Steel Enclosure



<p><b>Plastic enclosure.</b> The plastic enclosures are under development.</p>	<p><b>Aluminium die cast enclosures</b> Aluminium enclosures have very good impact strength and protection against UV light. They are suitable for both indoor and outdoor use in medium to heavy duty applications.</p>
<p><b>Steel sheet enclosures</b> The steel sheet enclosure are hot dip galvanized and the surface is polyester powder coated. The enclosure are durable and robust for various environment</p>	<p><b>Stainless steel sheet enclosure</b> The stainless sheet enclosures are made of Al 304 stainless steel. They are used in particularly in food and beverage industries where high hygiene is required. The smooth surface does not required any painting and easy to clean.</p>
<p><b>Safety for personnel - reliable position indication</b></p> <ul style="list-style-type: none"> <li>● Pad locking in the off position with 3 locks against unintentional start up</li> <li>● Cover cannot be removed if the handle in on position</li> <li>● Door interlock in on position and 1 padlock provision in on position</li> <li>● IP 67 protection for aluminium die cast enclosures, IP 55 protection for sheet steel/stainless steel fabricated enclosures</li> </ul>	



# Third Party Type Test

ABNCC capacitor duty contactors were tested at UL Lab for electrical life test as per IEC 60947-4-1 for AC-6b (capacitor loads) up to 1 lakh operations with severe condition. After 1 lakh operations the conditions of the test is only 30 % eroded and it can work further 2 lakhs operations.

**Test Report**

REPORT NUMBER: 4787519965-OTHERS-S1  
PROJECT NUMBER: 4787519965

Location (a)  
UL India Lab,  
UL India Pvt Limited,  
Laboratory building,  
Kalyani Plaza  
Campus, Sy no. 127/4,  
EPID Zone, Phase II,  
Whitefield,  
Bangalore - 560 066  
P91-80-41384400

Location (b)  
UL India Pvt Limited,  
413 Sector-8, IMT  
Manesar, Gurgaon P  
91-124-22990246

REPORT NUMBER: 4787519965-OTHERS-S1

**3. Test results:**

Sample No.	43368-2	Required	Actual
<b>CLASSIFICATION</b>	<b>REQUIREMENT TEST</b>		
<b>TEST REQUIREMENTS</b>			
<b>3.3.3.6 OPERATIONAL PERFORMANCE CAPABILITY</b>			
<b>UL LOCATION CATEGORY</b>	AC-6b	AC-6b	
<b>Rated operational voltage</b>	400V 50 Hz 400V 50 Hz		
<b>Rated operational capacitive load(kVA)</b>	30	30	30
<b>Test voltage</b>			
	L1 400	410	
	L2 400	410	
	L3 400	410	
<b>Test current</b>			
	L1 18	18.5	
	L2 18	18.5	
	L3 18	18.5	
<b>Cable size in Sq. mm</b>	6	4	
<b>Cable length in M</b>	1	1	
<b>Torque in Nm</b>	2.5	3.0	
<b>On time</b>	1 sec	1 sec	
<b>Off time</b>	8 sec	8 sec	
<b>Number of operating cycle</b>	1,00,000	1,00,000	
<b>3.3.3.8 Behavior and condition during and after test</b>			
<b>Permanent arcing</b>	No	No	
<b>Flash over between poles</b>	No	No	
<b>Blowing of the fusible element in the earth circuit</b>	No	No	
<b>Welding of contacts</b>	No	No	
<b>The contacts shall operate when the contactor or starter is switched by the applicable method of control</b>	Yes	Yes	
<b>Dielectric verification</b>	1000	Without	

Note: Sample complies with the above requirement.

REPORT NUMBER: 4787519965-OTHERS-S1

**Test results (Cont....):**

Sample No.	43368-2	Required	Actual
<b>CLASSIFICATION</b>	<b>REQUIREMENT TEST</b>		
<b>TEST REQUIREMENTS</b>			
<b>3.3.3.6 OPERATIONAL PERFORMANCE CAPABILITY</b>			
<b>UL LOCATION CATEGORY</b>	AC-6b	AC-6b	
<b>Rated operational voltage</b>	400V 50 Hz 400V 50 Hz		
<b>Rated operational capacitive load(kVA)</b>	30	30	30
<b>Test voltage</b>			
	L1 400	410	
	L2 400	410	
	L3 400	410	
<b>Test current</b>			
	L1 18	18.5	
	L2 18	18.5	
	L3 18	18.5	
<b>Cable size in Sq. mm</b>	6	4	
<b>Cable length in M</b>	1	1	
<b>Torque in Nm</b>	2.5	3.0	
<b>On time</b>	1 sec	1 sec	
<b>Off time</b>	8 sec	8 sec	
<b>Number of operating cycle</b>	1,00,000	1,00,000	
<b>3.3.3.8 Behavior and condition during and after test</b>			
<b>Permanent arcing</b>	No	No	
<b>Flash over between poles</b>	No	No	
<b>Blowing of the fusible element in the earth circuit</b>	No	No	
<b>Welding of contacts</b>	No	No	
<b>The contacts shall operate when the contactor or starter is switched by the applicable method of control</b>	Yes	Yes	
<b>Dielectric verification</b>	1000	Without	

Note: Sample complies with the above requirement.

REPORT NUMBER: 4787519965-OTHERS-S1

**Test results (Cont....):**

Sample No.	43368-1	Required	Actual
<b>CLASSIFICATION</b>	<b>REQUIREMENT TEST</b>		
<b>TEST REQUIREMENTS</b>			
<b>3.3.3.6 OPERATIONAL PERFORMANCE CAPABILITY</b>			
<b>UL LOCATION CATEGORY</b>	AC-6b	AC-6b	
<b>Rated operational voltage</b>	400V 50 Hz 400V 50 Hz		
<b>Rated operational capacitive load(kVA)</b>	30	30	30
<b>Test voltage</b>			
	L1 400	410	
	L2 400	410	
	L3 400	410	
<b>Test current</b>			
	L1 18	18.5	
	L2 18	18.5	
	L3 18	18.5	
<b>Cable size in Sq. mm</b>	6	4	
<b>Cable length in M</b>	1	1	
<b>Torque in Nm</b>	2.5	3.0	
<b>On time</b>	1 sec	1 sec	
<b>Off time</b>	8 sec	8 sec	
<b>Number of operating cycle</b>	1,00,000	1,00,000	
<b>3.3.3.8 Behavior and condition during and after test</b>			
<b>Permanent arcing</b>	No	No	
<b>Flash over between poles</b>	No	No	
<b>Blowing of the fusible element in the earth circuit</b>	No	No	
<b>Welding of contacts</b>	No	No	
<b>The contacts shall operate when the contactor or starter is switched by the applicable method of control</b>	Yes	Yes	
<b>Dielectric verification</b>	1000	Without	

Note: Sample complies with the above requirement.

## Upcoming Products Available on Request

### Air Circuit Breaker



ABN1-2000

ABN1-3200

#### Type Selection Guide

ABN1	2000	3P	400A	F	AC230V	Horizontal wiring
↓	↓	↓	↓	↓	↓	↓
Product code	Frame size	Polenumber	Current class	Installation code	Code of control circuit source voltage	Connection mode
Conventional circuit breaker	2000	3P: three-pole	400A	D: draw out type F: fixed type	AC230V	Horizontal wiring Vertical wiring
	3200		2500A		AC400V	
	6300	4P: four-pole	2900A		DC220V	
			800A		DC110V	
			3200A			
			3900A			
			1000A			
			1250A			
			1600A			
			2000A			
			2500A			
			2900A			
			3200A			
			3900A			
			4000A			
			5000A			
			6300A			

## Industrial Plug, Socket, Weather Protected Isolating Switch, Portable Powerhouse Boards & Distribution Box





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SF No: 193/1B, Vellakinar,  
Coimbatore - 641029,  
Tamil Nadu. INDIA.  
Regional Office No.+91 9778826699  
Email: [info@renerin.com](mailto:info@renerin.com) | [sales@renerin.com](mailto:sales@renerin.com)

Sales Contact: