

# Miniature Circuit Breakers

Comprehensive range offering reliable solution for protection of installations against overcurrent.



## Advantages for you:

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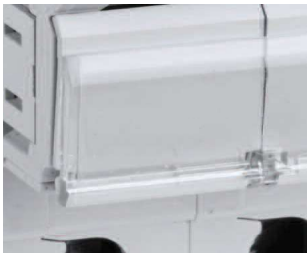
- Positive Contact Isolation ensuring complete protection to user
- Ergonomically designed toggle for comfort switching
- Insulated safety shutter for finger touch proof terminal
- Laser marking to ensure permanent information
- Front product labeling for displaying of load information
- Energy Limiting Class 3 to ensure low let through energy to limit thermal & mechanical stress on cables
- Direct mounting of wide range of accessories like OV, UV, ST, AX, AL, OV + UV release

## Technical data:

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- Conforms to IS / IEC 60898-1:2002, IEC 60898 - 1995
- Ratings: 0.5 to 125 A
- No. of poles: 1P, 2P, 3P & 4P
- Tripping characteristics: B, C & D curves
- Breaking capacity: 10kA (as per IS/IEC 60898)
- ISI Marking

# Expert tips



1

Front product labeling for displaying of load information



2

Ergonomically designed toggle for comfort switching



3

Laser marking to ensure permanent information



4

Insulated safety shutter for finger touch proof terminal



5

Direct mounting of wide range of accessories like OV, UV, ST, AX, AL, OV + UV release



6

Energy Limiting Class 3 to ensure low let through energy to limit thermal & mechanical stress on cables

# Miniature circuit breakers 10kA

## type NBN, NCN, NDN

### Description

- Protects circuits against over-load & short circuit faults
- Provides isolation to downstream circuits

### Technical data





- Conforms to IEC 60898-1:2002, IS/IEC 60898-1:2002
- ISI marking
- CE marking
- Ratings - 0.5 to 63 A
- No. of poles - 1P, 2P, 3P & 4P
- Tripping curves - B, C & D
- Breaking capacity - 10kA (as per IEC 60898-1)
- Suitable for isolation as per IEC 60947

### Features & benefits

- Positive Contact Isolation ensuring complete protection to user
- Ergonomised toggle for comfort switching
- Insulated safety shutter for finger touch proof terminal
- Laser marking to ensure permanent information
- Front product labeling for displaying of load information
- Energy Limiting Class 3 to ensure low let through energy to limit thermal & mechanical stress on cables
- Direct mounting of wide range of accessories like OV, UV, ST, AX, AL, OV + UV release

### Connection

- 25sq mm rigid cables
- 16sq mm flexible cables

	Description	Modules	In (Amp)	B Curve	C Curve	D Curve
 NCN110N	1P	1	0.5		NCN100N	NDN100N
		1	1		NCN101N	NDN101N
		1	2		NCN102N	NDN102N
		1	3		NCN103N	NDN103N
		1	4		NCN104N	NDN104N
		1	6	NBN106N	NCN106N	NDN106N
		1	10	NBN110N	NCN110N	NDN110N
		1	16	NBN116N	NCN116N	NDN116N
		1	20	NBN120N	NCN120N	NDN120N
		1	25	NBN125N	NCN125N	NDN125N
		1	32	NBN132N	NCN132N	NDN132N
		1	40	NBN140N	NCN140N	NDN140N
		1	50	NBN150N	NCN150N	NDN150N
1	63	NBN163N	NCN163N	NDN163N		
 NCN220N	2P	2	0.5		NCN200N	NDN200N
		2	1		NCN201N	NDN201N
		2	2		NCN202N	NDN202N
		2	3		NCN203N	NDN203N
		2	4		NCN204N	NDN204N
		2	6	NBN206N	NCN206N	NDN206N
		2	10	NBN210N	NCN210N	NDN210N
		2	16	NBN216N	NCN216N	NDN216N
		2	20	NBN220N	NCN220N	NDN220N
		2	25	NBN225N	NCN225N	NDN225N
		2	32	NBN232N	NCN232N	NDN232N
		2	40	NBN240N	NCN240N	NDN240N
		2	50	NBN250N	NCN250N	NDN250N
2	63	NBN263N	NCN263N	NDN263N		
 NCN316N	3P	3	0.5		NCN300N	NDN300N
		3	1		NCN301N	NDN301N
		3	2		NCN302N	NDN302N
		3	3		NCN303N	NDN303N
		3	4		NCN304N	NDN304N
		3	6	NBN306N	NCN306N	NDN306N
		3	10	NBN310N	NCN310N	NDN310N
		3	16	NBN316N	NCN316N	NDN316N
		3	20	NBN320N	NCN320N	NDN320N
		3	25	NBN325N	NCN325N	NDN325N
		3	32	NBN332N	NCN332N	NDN332N
		3	40	NBN340N	NCN340N	NDN340N
		3	50	NBN350N	NCN350N	NDN350N
3	63	NBN363N	NCN363N	NDN363N		
 NCN432N	4P	4	0.5		NCN400N	NDN400N
		4	1		NCN401N	NDN401N
		4	2		NCN402N	NDN402N
		4	3		NCN403N	NDN403N
		4	4		NCN404N	NDN404N
		4	6	NBN406N	NCN406N	NDN406N
		4	10	NBN410N	NCN410N	NDN410N
		4	16	NBN416N	NCN416N	NDN416N
		4	20	NBN420N	NCN420N	NDN420N
		4	25	NBN425N	NCN425N	NDN425N
		4	32	NBN432N	NCN432N	NDN432N
		4	40	NBN440N	NCN440N	NDN440N
		4	50	NBN450N	NCN450N	NDN450N
4	63	NBN463N	NCN463N	NDN463N		

**Description**

- Protects circuits against over-load & short circuit faults
- Provides isolation to downstream circuits

**Technical data**

- Conforms to IEC 60947
- CE marking
- Ratings – 80A, 100A & 125A
- No. of poles - 1P, 2P, 3P & 4P
- Tripping curve - C
- Breaking capacity - 10kA (as per IEC 60947)
- Suitable for isolation as per IEC 60947

**Features & benefits:**

- MCBs handle can be locked in "off" position
- Large terminal capacity - upto 70 sq mm
- Steel reinforcement plate to improve terminal strength
- Serrations on jaws to provide better grip on cables
- Line-load reversible
- RoHS compliant, "Green" product
- Wide range of accessories are available

**Connection capacity**

- 35 sq mm flexible wire (50 sq mm possible with some cable end-caps)
- 70 sq mm rigid wire

IP2X terminals



HLF199S







HLF299S



HLF399S



HLF499S

Description	In (Amp)	Modules	Cat. Ref.
	80	1.5	HLF180S
	100	1.5	HLF190S
	125	1.5	HLF199S
	80	3	HLF280S
	100	3	HLF290S
	125	3	HLF299S
	80	4.5	HLF380S
	100	4.5	HLF390S
	125	4.5	HLF399S
	80	6	HLF480S
	100	6	HLF490S
	125	6	HLF499S

# Residual Current Circuit Breakers

contemporary range with user friendly features to ensure earth leakage protection



## Advantages for you:

- Earth fault Indicator on front face for easy fault diagnosis
- Contact position indication on front face
- Bi-connect terminals for simultaneous termination of bus bar & wires
- Unique pull up terminals with safety shutters for enhanced safety of users
- IEC, CE & RoHS compliance
- Hi version for disturbed electrical networks having pulsated, DC currents, harmonics and transient voltage

## Technical data:



- IS 12640-1, IEC 61008
- ISI marking
- Ratings - 16A, 25A, 40A, 63A, 100A
- No. of poles - 2P & 4P
- Sensitivity - 10mA, 30mA, 100mA & 300mA
- Trip class - class AC and class Hi
- Earth fault trip indicator on front face
- Protection against nuisance tripping caused by switching transients

# Expert tips



1

Earth fault indication on front face

-  Grey : normal condition
-  Yellow : tripping on earth fault
- yellow flag provides visual indication on earth fault



2

User friendly terminal design

- bi-connect terminal
- pull-up design
- safety shutter (IP 2X)
- line - load reversible



3

Positive contact indicator

-  Red : ON
-  Green : OFF
- more safety to the user
- positive contact indication
- indicates actual contact position



4

Special Hi RCCBs for commercial application

- ideal earth leakage protection solution for offices, IT parks & BPOs
- avoid nuisance tripping in electrical networks with electronic loads
- ensure tripping in networks with pulsed DC components

# Residual current circuit breakers (RCCBs)

## Description

- Automatically trips in event of earth leakage fault
- Provides protection against direct & indirect contact with live parts

## Technical data

- IS 12640-1, IEC 61008
- ISI marking
- CE marking
- Ratings - 16A, 25A, 40A, 63A, 100A
- No. of poles - 2P & 4P
- Sensitivity - 10mA, 30mA, 100mA & 300mA
- Trip class - class AC

## Features & benefits

- Positive contact indicator on front face
- Earth fault indicator on front face
- Bi-connect terminals with pull-up design
- Finger proof (IP2X) terminal with safety shutters
- Protection against nuisance tripping due to switching transients
- CE & RoHS compliant, "Green" product
- Wide range of accessories are available

## Connection

- 25-63A: 25sq,mm rigid / 16sq,mm flexible
- 100A: 50sq,mm rigid / 35sq,mm flexible

	Sensitivity IDn	Rating In	Modules	Cat. Ref.	
 CD240Y	<b>Double Pole (1P + N)</b>				
	10mA	16A	2	<b>CC216Y</b>	
		25A	2	<b>CC225Y</b>	
	30mA	25A	2	<b>CD225Y</b>	
		40A	2	<b>CD240Y</b>	
		63A	2	<b>CD263Y</b>	
		100A	2	<b>CD284Y</b>	
	100mA	25A	2	<b>CE225Y</b>	
		40A	2	<b>CE240Y</b>	
		63A	2	<b>CE263Y</b>	
		100A	2	<b>CE284Y</b>	
	300mA	25A	2	<b>CF225Y</b>	
		40A	2	<b>CF240Y</b>	
		63A	2	<b>CF263Y</b>	
	 CD440Y	<b>Four Pole</b>			
		30mA	25A	4	<b>CD425Y</b>
40A			4	<b>CD440Y</b>	
63A			4	<b>CD463Y</b>	
100A			4	<b>CD484Y</b>	
100mA		25A	4	<b>CE425Y</b>	
		40A	4	<b>CE440Y</b>	
		63A	4	<b>CE463Y</b>	
		100A	4	<b>CE484Y</b>	
300mA		25A	4	<b>CF425Y</b>	
		40A	4	<b>CF440Y</b>	
		63A	4	<b>CF463Y</b>	
		100A	4	<b>CF484Y</b>	

**Description**

- Automatically trips in event of earth leakage fault
- Provides protection against direct & indirect contact with live parts
- Suitable for electrically disturbed networks with pulsated DC, transients & harmonics
- Avoids "nuisance tripping" & "blinding"

**Technical data**

- Conforms to IEC 61008
- Ratings - 25A, 40A, 63A
- No. of poles - 2P & 4P
- Sensitivities - 30mA & 300mA
- Trip Class - class Hi

**Features & benefits**

- Positive contact indicator on front face
- Earth fault indicator on front face
- Bi-connect terminals with pull-up design
- Finger proof (IP2X) terminal with safety shutters
- Protection against nuisance tripping due to switching transients & harmonics
- Avoids "blinding" due to pulsated DC currents
- RoHS compliant, "Green" product
- Wide range of accessories are available

**Connection**

- 25sq.mm rigid
- 16sq.mm flexible



CH225J



CQ440J

Sensitivity IDn	Rating In	Modules	Cat. Ref.
<b>Double Pole (1P + N)</b> 30mA	25A	2	<b>CH225J</b>
	40A	2	<b>CH240J</b>
	63A	2	<b>CH263J</b>
300mA	25A	2	<b>CQ225J</b>
	40A	2	<b>CQ240J</b>
	63A	2	<b>CQ263J</b>
<b>Four pole</b> 30mA	25A	4	<b>CH425J</b>
	40A	4	<b>CH440J</b>
	63A	4	<b>CH463J</b>
300mA	25A	4	<b>CQ425J</b>
	40A	4	<b>CQ440J</b>
	63A	4	<b>CQ463J</b>



# Residual circuit breakers (RCBOs): 2P, 2 module with overcurrent protection

## Description

- Provides protection on over-load, short-circuit & earth leakage faults
- Compact 2 pole, 2 module device, saves space

## Technical data

- Conforms to IEC 61009
- Ratings - 6 to 40 A
- No. of poles - 2 pole (in 2 modules)
- Sensitivity - 30mA, 100mA & 300mA
- Tripping curve - C
- Trip Class - class AC
- Breaking capacity – 6kA as per IEC 61009

## Features & benefits:

- Earth fault indicator on front face
- Bi-connect terminals with pull-up design
- Finger proof (IP2X) terminal with safety shutters
- Energy let thru Class 3 reduces stress on cables & insulators
- RoHS compliant, "Green" product
- Wide range of accessories are available

## Connection

- 25sq.mm rigid
- 16sq.mm flexible



AD956Y

Sensitivity IDn	Rating In	Modules	Cat. Ref.
<b>Double Pole (1P + N)</b>			
30mA	6A	2	<b>AD956Y</b>
	10A	2	<b>AD960Y</b>
	16A	2	<b>AD966Y</b>
	20A	2	<b>AD970Y</b>
	25A	2	<b>AD975Y</b>
	32A	2	<b>AD982Y</b>
	40A	2	<b>AD990Y</b>
100mA	6A	2	<b>AE956Y</b>
	10A	2	<b>AE960Y</b>
	16A	2	<b>AE966Y</b>
	20A	2	<b>AE970Y</b>
	25A	2	<b>AE975Y</b>
	32A	2	<b>AE982Y</b>
	40A	2	<b>AE990Y</b>
300mA	6A	2	<b>AF956Y</b>
	10A	2	<b>AF960Y</b>
	16A	2	<b>AF966Y</b>
	20A	2	<b>AF970Y</b>
	25A	2	<b>AF975Y</b>
	32A	2	<b>AF982Y</b>
	40A	2	<b>AF990Y</b>

### Description

- Provides protection on overload, short-circuit & earth leakage faults
- Suitable for electrically disturbed networks with pulsated DC, transients & harmonics

### Technical data

- Conforms to IEC 61009
- Ratings - 6 to 40A
- No. of poles - 2P
- Sensitivities - 30mA & 300mA
- Tripping curve - C
- Trip class - class Hi
- Breaking capacity – 6kA as per IEC 61009

### Features & benefits

- Earth fault indicator on front face
- Bi-connect terminals with pull up design
- Finger proof (IP2X) terminal with safety shutters
- Protection against nuisance tripping due to switching transients & harmonics
- Avoids “blinding” due to pulsated DC currents
- RoHS compliant, “Green” product
- Wide range of accessories are available

### Connection

- 25sq.mm rigid
- 16sq.mm flexible



ADH956

Sensitivity IDn	Rating In	Modules	Cat. Ref.
<b>Double Pole (1P + N)</b>			
30mA	6A	2	<b>ADH956</b>
	10A	2	<b>ADH960</b>
	16A	2	<b>ADH966</b>
	20A	2	<b>ADH970</b>
	25A	2	<b>ADH975</b>
	32A	2	<b>ADH982</b>
	40A	2	<b>ADH990</b>
300mA	6A	2	<b>AFH956</b>
	10A	2	<b>AFH960</b>
	16A	2	<b>AFH966</b>
	20A	2	<b>AFH970</b>
	25A	2	<b>AFH975</b>

## Description

- Provides protection on over-load, short-circuit & earth leakage faults
- 2 pole RCBO-4 module width
- 4 pole RCBO-7,5 module width

## Technical data

- ISI Marked
- Conforms to IEC 61009/IS 12640-2
- Ratings - 6 to 63 A
- No. of poles - 2 pole and 4 pole
- Sensitivity - 30mA, 100mA & 300mA
- Tripping curve - C
- Trip Class - class AC
- Breaking capacity - 10kA

## Features & benefits:

- No of Poles: 2P, 4P
- Current Rating: 6A to 63A
- Sensitivity: 30, 100, 300mA
- Breaking Capacity: 10kA
- RCD Type: Type AC
- MCB Trip Curve: C
- Trip Indication: Blue colour on toggle
- Terminal Cover: Yes
- Accessories: Yes (on the left side)

## Connection

- 25sq.mm rigid
- 16sq.mm flexible



ADC225Y



ADC425Y

Sensitivity IDn	Rating In	Modules	Cat. Ref.
<b>Double Pole</b>			
30mA	6A	4	<b>ADC206Y</b>
	10A	4	<b>ADC210Y</b>
	16A	4	<b>ADC216Y</b>
	25A	4	<b>ADC225Y</b>
	32A	4	<b>ADC232Y</b>
	40A	4	<b>ADC240Y</b>
	63A	4	<b>ADC263Y</b>
100mA	6A	4	<b>AEC206Y</b>
	10A	4	<b>AEC210Y</b>
	16A	4	<b>AEC216Y</b>
	25A	4	<b>AEC225Y</b>
	32A	4	<b>AEC232Y</b>
	40A	4	<b>AEC240Y</b>
	63A	4	<b>AEC263Y</b>
300mA	16A	4	<b>AFC216Y</b>
	25A	4	<b>AFC225Y</b>
	32A	4	<b>AFC232Y</b>
	40A	4	<b>AFC240Y</b>
	63A	4	<b>AFC263Y</b>
<b>Four Pole</b>			
30mA	16A	7.5	<b>ADC416Y</b>
	25A	7.5	<b>ADC425Y</b>
	32A	7.5	<b>ADC432Y</b>
	40A	7.5	<b>ADC440Y</b>
	63A	7.5	<b>ADC463Y</b>
100mA	16A	7.5	<b>AEC416Y</b>
	25A	7.5	<b>AEC425Y</b>
	32A	7.5	<b>AEC432Y</b>
	40A	7.5	<b>AEC440Y</b>
	63A	7.5	<b>AEC463Y</b>
300mA	16A	7.5	<b>AFC416Y</b>
	25A	7.5	<b>AFC425Y</b>
	32A	7.5	<b>AFC432Y</b>
	40A	7.5	<b>AFC440Y</b>
	63A	7.5	<b>AFC463Y</b>