

Final Distribution - Multi 9

perfect coordinated solution for
flawless performance

A man wearing a white dress shirt, a purple and white striped tie, and a yellow hard hat is sitting on a construction site. He is leaning over a laptop computer, which is open on a wooden surface. The background shows several multi-story buildings under construction, with visible concrete frames and some windows. A yellow excavator is partially visible on the left side of the frame.

Schneider
Electric

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*For the last 30 years, Schneider Electric
has offered solutions in the area of people's safety
for the most complex of application*

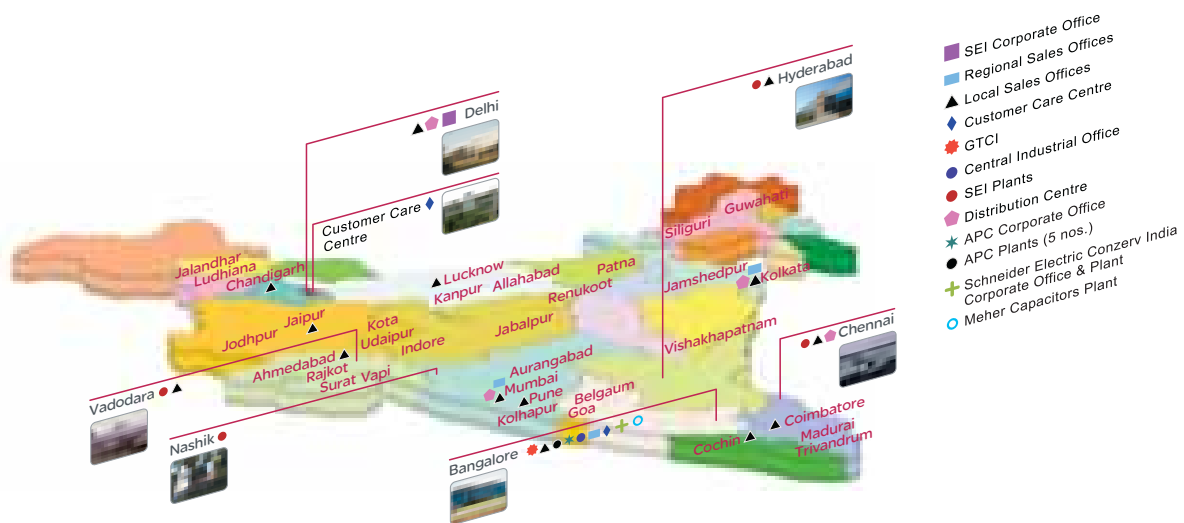
Schneider Electric India

As a global specialist in energy management with operations in more than 100 countries, Schneider Electric offers integrated solutions across multiple market segments, including leadership positions in energy and infrastructure, industrial processes, building automation, and data centres/networks, as well as a broad presence in residential applications. Focused on making energy safe, reliable, and efficient, the company's 114,000 employees achieved sales of more than 18.3 billion euros in 2008, through an active commitment to help individuals and organisations

“make the most of their energy™”.

Schneider Electric’s comprehensive solutions combine hardware, software, communication & services. As specialists in the management of electricity and automation, we are committed to converting electricity into smart energy that powers the way we work, live and play. Developing technologies, processes and solutions that are so simple, efficient and environment friendly that you forget they’re even there. We are making tomorrow’s world a better place to be in by providing safe, reliable, productive, efficient and green power.

- Global Specialist in Energy Management
- Making Energy safe, reliable, productive, efficient and green.
- Presence in **180 + countries**
- Specialised workforce of **1,14,000 employees**
- Consolidated revenue worth **Rs. 1,28,100 Cr. in 2008**
- **25 Research and development centers**
- Developing technologies, processes and solutions that are simple, efficient and environment friendly.



MCBs

Miniature Circuit Breaker

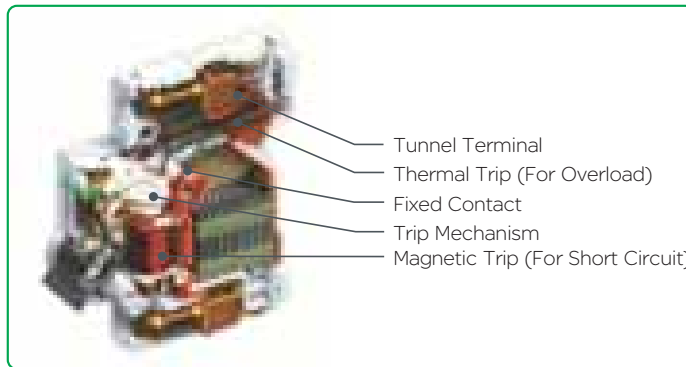
C60, C120

Miniature Circuit breaker gives reliable protection against Overload & short circuit in AC circuits & also can be used for limited DC applications.

Range	C60	C120
Ratings	1 to 63 A	80 to 125A
Poles	1,2,3,4	1,2,3,4
curves	B,C,D	B,C,D
Breaking capacity	H→10kA	N→10kA H→15kA



Construction



Technical Data

- Positive break indication - the green strip indicates that all the poles are open and allows work to be carried out on the downstream circuit safely.
- Suitable for isolation
- Increase in the service life of the product: thanks to fast closure independent of the speed of action on the handle.
- Current limitation in the event of a fault: fast opening of the contacts prevents the loads from being destroyed in the event of a short-circuit.
- ISI marking conforming to IS 8828 for C60 H series.

Parameter	C60H	C120N	C120H
Comply with	IEC 60898 & IS 8828	IEC 60947	IEC 60947
Current rating	1 to 63 A	80,100,125A	80,100,125A
Poles	1,2,3,4	1,2,3,4	1,2,3,4
voltage rating	230-440V	230-440V	230-440V
Insulation voltage U_i	500V	500V	500V
Impulse withstand voltage U_{imp}	6kV	6kV	6kV
Breaking capacity	10kA	10kA	15kA
No. Of operating cycles	20000	20000	20000
Tropicalization	Treatment 2	Treatment 2	Treatment 2
Connections	25 sq.mm ≤25A 35 sq.mm >25A	Up to 50 sq.mm	Up to 50 sq.mm

Thermal Release

Under overload condition the bimetal strip deflects & subsequently trips the operating mechanism

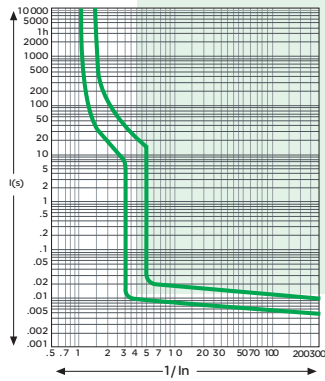
Magnetic Release

In case of short circuit high current flows through the magnetic coil activates the plunger to strike operating mechanism.

Tripping Curves

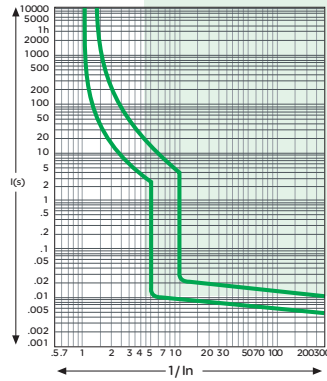
B curve

Under 'B' Characteristics the operating limits (for short circuit operation) are between 3 to 5 times the rated current



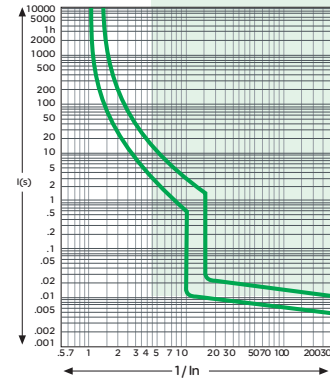
C Curve

Under 'C' Characteristics the operating limits (for short circuit operation) are between 5 to 10 times the rated current



D Curve

Under 'D' Characteristics the operating limits (for short circuit operation) are between 10 to 20 times the rated current

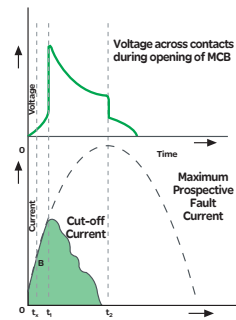


Current limitation curve

The current limitation Curve design of the circuit breaker ensures the clearance of fault in less than half cycle.

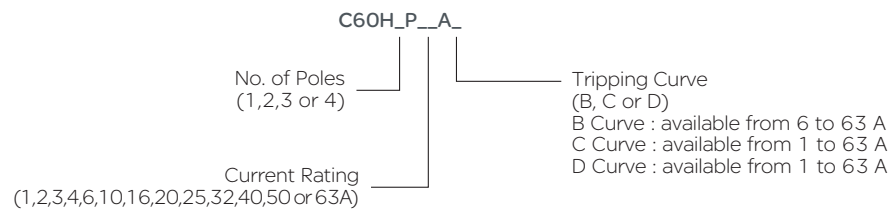
The figure shows the current limitation curve effect of a circuit breakers.

- O = Point of Initiation
- t_x = Contact opening time (i.e. creation of arc)
- t_i = Current / Voltage peak (i.e., current limitation)
- t_z = Time to total extinction of arc (i.e., complete shutdown of fault current)



References

Easy reckoner for references-C60



C120

No. of Poles	Rating (A)	C120N (10kA) Reference	C120H (15kA) Reference
1	80	18357	18446
	100	18358	18447
	125	18359	18448
2	80	18361	18457
	100	18362	18458
	125	18363	18459
3	80	18365	18468
	100	18367	18469
	125	18369	18470
4	80	18372	18479
	100	18374	18480
	125	18376	18481

DC Circuit Breaker

C60N, C60H

DC Circuit Supplementary Protectors for feeders / Distribution system

In alternating current circuits, arc quenching is assisted by the fact that current passes through zero, and that the current can only continue to flow if the arc is re-struck across the open contacts during the following half wave. Direct current does not provide such assistance and the breaking of DC circuit is more severe and hence special DC MCB s are designed

Schneider electric has two comprehensive ranges for DC application

- C60N DC (125V-1P, 250V -2P)
- C60H DC (250V-1P, 500 V -2P)



»DC Circuit Breaker

Range

	C60N DC	C60H DC
Current Ratings	1 to 63	0.5 to 63
Voltage Ratings	125V-1P, 250V-2P	250V-1P, 500V-2P
Poles	1,2	1,2
Curves	*C Curve	*C Curve
Breaking capacity	10kA	10kA

Technical Data

- Tripping curves: C curve - Overcurrent protection for any type of application.
- Positive break indication - the green strip indicates that all the poles are open and allows work to be carried out on the downstream circuit in complete safety.
- Suitable for isolation.
- Increase in the service life of the product: thanks to fast closure independent of the speed of action on the handle.
- Current limitation in the event of a fault: fast opening of the contacts prevents the loads from being destroyed in the event of a short-circuit.

References

Current rating (A)	C60N DC		C60H DC	
	1 Pole	2 Pole	1 Pole	2 Pole
0.5	-	-	MGN61500	MGN61520
1	MGN22300	MGN22320	MGN61501	MGN61521
2	MGN22301	MGN22321	MGN61502	MGN61522
3	MGN22302	MGN22322	MGN61503	MGN61523
4	MGN22303	MGN22323	MGN61504	MGN61524
6	MGN22304	MGN22324	MGN61506	MGN61526
10	MGN22305	MGN22325	MGN61508	MGN61528
16	MGN22306	MGN22326	MGN61511	MGN61531
20	MGN22307	MGN22327	MGN61512	MGN61532
25	MGN22308	MGN22328	MGN61513	MGN61533
32	MGN22309	MGN22329	MGN61515	MGN61535
40	MGN22310	MGN22330	MGN61517	MGN61537
50	MGN22311	MGN22331	MGN61518	MGN61538
63	MGN22312	MGN22332	MGN61519	MGN61539

* C - Curve for DC. Circuit Breaker is according to IEC 60947

I- Switches

The Isolator switches combine the control function (opening and closing of on-load circuits) & disconnection.

Range

Current Ratings	32 to 100A
Poles	1,2,3,4
Voltage	240-415V



»I- Switches

Parameter	I- Switch
Comply with	IEC 60669-1 / 60947-3
Current rating	32 to 100A
Poles	1,2,3,4
Voltage rating	240-415V
Insulation voltage U_i	500V
Impulse withstand voltage U_{imp}	6kV
Short Circuit withstand capacity	20In for 1 sec
No. Of operating cycles	20000
Tropicalization	Treatment 2
Connections	10 sq.mm for 32A
	50 sq.mm > 32A

References

No. of Poles	Rating (A)	Voltage (V AC)	Reference
1	32	250	15009*
	32	415	15010*
2	40	415	15020
	63	415	15014
	32	415	15011
3	40	415	15023
	63	415	15015
	32	415	15012
4	40	415	15019
	63	415	15016
	100	415	15093

* Width for 32A 1P/2P is 18mm.

RCDs

Residual Current Devices

When dealing with electricity, safety has top priority. Every human being must be particularly conscientious where safety is concerned, and must apply the required protective measures correctly. In consumer installations, residual current protective devices (RCDs) must be given unreserved preference over alternative protective equipment. In addition to protection in cases of indirect contact, residual current protective devices with rated residual currents up to 30 mA also provide extensive protection in cases of direct contact.

The flow of current through electrical facilities always involves risks.

Poorly insulated apparatus, faulty wires or the incorrect use of an electrical device cause current to flow through the wrong path (i.e. through the insulation) to the earth. This current is called the **'Leakage Current'**. Leakage current in an electrical system poses two major risks:

- Risk of Fire
- Risk of Electrocution

Two Major Risks

■ Risk of Fire

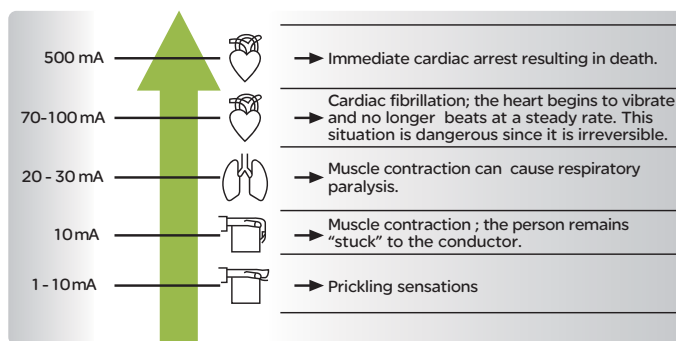
A poorly insulated wire, or a loose connection is enough to create fire hazard: a portion of the current which normally flows in the conductor can find a way back to the earth through these "leaks", and through materials with varying degrees of conductivity (metal frames, wet dust, etc.).

These materials are not intended to conduct current, and may heat up to such a degree that they will set fire. The consequences of the flow of fault currents through inappropriate materials may be limited by systematically using detection devices set to 100 or 300 mA. These devices are capable of detecting any earth leakage current greater than 100/ 300 mA. All risk of fire is avoided.

■ Risk of Electrocution

Electrocution is the passage of current through human body, which is dangerous. The flow of current through human body affects two vital functions in terms of breathing & heartbeat. A 30 mA RCCBS will trip instantly when it detects fault current greater than or equal to 30 mA. All risk of serious electrocution is avoided.

Effect of electric current through human body has been well researched and following chart summarizes the results:



However, electrocution should not be viewed in terms of "current" alone but in terms of "contact voltage" also. A person gets electrocuted by coming in contact with an object that has a different potential from his/her own. This difference in potential causes the current to flow through the body. The human body has known limits:

- Under normal dry conditions, voltage limit = 50 V
- In damp surroundings, voltage limit = 25 V
- 30 mA is considered to be the allowable maximum current that will not cause irreversible harm.

Super Immunised RCDs

Two Enhanced ranges of RCDs from Schneider Electric for special application

- Si – Super Immunized RCCBs RCBOs
- SiE – Super immunized RCCBs for harsh environments

Si RCDs

The **new generation** of Schneider Electric's Multi 9 "si" type super immunized earth leakage protection range has been specially developed to be **used with loads or in environments causing disturbances**. It can be adapted to the constraints of sophisticated installations, there by ensuring enhanced safety.

The disturbances can have two effects on the residual current devices:

- Nuisance tripping. When people's safety is not threatened:

deterioration continuity of supply

- Blinding, that is residual current devices failing to trip when there is a danger to people's safety downstream:

people's safety is no longer guaranteed

Si RCD is the perfect solutions for above problems

SiE RCDs

SiE is exclusive range in super immunized category from Schneider Electric for hostile environment.

Exposed sites like Chemical plants, Swimming pools, Construction sites, Marine, affects the electrical characteristics & working of the protecting breaker. Due to the hostile environments, the metal parts start to corrode which will further lead to the welding of standard RCCBs. Due to this phenomenon the RCCB may not trip under fault condition. But in SiE RCDs a special type of relay is used which is insensitive to corrosion, so as to avoid the problem of Nuisance tripping & Blinding in harsh environment.

→ ID-RCCB

A Residual current circuit breaker ensures,

- Control & isolation of Electrical circuit.
- Protection of people against direct & indirect contact
- Protection of instillation .

They confirms to both the indian & international standards IS 12640 & IEC 61008 respectively.

Range

Current rating	25 to 125A
Poles	2P,4P
Sensitivity	30,100,300mA
Voltage	230-415V



»ID-RCCB

References

Type	Rating (A)	Sensitivity (mA)	Type AC	Si	SiE
2P	25	30	16201	16234	23300
		300	16202	-	-
	40	30	16204	16237	23307
		100	16205	-	-
		300	16206	-	-
	63	30	16208	16240	23352
		100	16209	-	-
		300	16210	16246	-
	80	300[S]	-	-	23355
		30	16212	-	-
		100	16213	-	-
		300	16214	-	-
4P	25	30	16251	16321	23377
		300	16252	-	-
	40	30	16254	16324	23379
		100	16255	-	-
		300	16256	-	-
	63	30	16258	16327	23383
		100	16259	-	-
		300	16260	16334	-
	80	300[S]	-	-	23401
		30	16261	-	-
		100	-	-	-
		300	16263	-	-
	300[S]	16266	-	-	

Special RCCBs-References

No. of Poles	Rating (A)	Sensitivity (mA)	Reference
4P	100A	30 mA	16900
		100 mA	16901
	125A	30 mA	16905
		100 mA	16906
		300 mA	16907

→ DPN N vigi-Integrated RCBO Module (2 pole)

The DPN N vigi is a monoblock three in one device. They are designed to carry out complete protection of final circuits (over current, short circuit & earth leakage)

- Protection of persons against direct/indirect contact.(30mA)
- Protection of installations against fire hazards (300mA)

Range

Current rating	6 to 40A
Poles	1P+N
Sensitivity	30,300mA
Voltage	230V



» DPN N vigi

References - DPN N Vigi

Sensitivity (mA)	Rating (A)	Type AC	Si
30	6	19661	19631
	10	19663	19632
	16	19665	19634
	20	19666	19635
	25	19667	19636
	32	19668	19637
	40	19669	19638
300	6	19681	19641
	10	19683	19642
	16	19685	19644
	20	19686	19645
	25	19687	19646
	32	19688	19647
	40	19689	19648

→ Vigi Block ADD-ON RCD Module RCBO

Vigi block is add-on RCD module which in combination with C60H MCB act a RCBO .i.e.

It gives

- Protection against residual fault current
- In addition protection against over load & short circuit

Vigi block earth leakage module has electromagnetic type of tripping unit. operates with out an auxiliary power supply.

Combination

The C60 circuit breaker - C60 Vigi module combination considered a residential current device in compliance with IC E000T-2 and IEC 61000



» Vigi



References

Type	Sensitivity (mA)	25A Reference	63A Reference
2	30	26581	26611
	100	26582	26612
	300	26583	26613
4	30	26595	26643
	100	26596	26644
	300	26597	26645

Technical Data

Specification	ID RCCB			DPN N vigi RCBO (Integrated)	Vigi MCB RCBO	DPN N Vigi Si RCBO (Integrated)
	Type AC IEC 61008	Si IEC 61008	SiE IEC 61008	Type AC 2 modules IEC 61009	Type AC 4 modules IEC 61009	Si IEC 61009
No. of Modules (9mm) 2P 4P	4 8	4 8	4 8	4 -	3 (25A),4 (63A) 6 (25A),7 (63A)	3 (40A),4 (63A) 6 (40A),7 (63A)
Frequency (Hz)	50/60	50	50	50/60	50/60	50
Current Rating (A)	25,40,63,80,100,125	25,40,63	25,40,63	6,10,16,20,25,32,40	25,63	25,40,63
Sensitivity (mA)	30,100,300	30,300	30,300	30,300	30,100,300	30,300
Operating voltage Ue (V AC)	230..400, (-15...+10%)	230..400, (-15...+10%)	230..400, (-15...+10%)	230	130 (110%), 230..400 (±10%)	130 (110%), 230..400 (±10%)
Rated Insulation voltage Ui (V AC)	440	440	440	440	440	440
Rated Impulse voltage Uimp (kV AC)	6	6	6	6	6	6
Impulse withstand level 8/20s	250, 3kA for selective	3kA, 5kA for selective	3kA, 5kA for selective	3kA	3kA	3kA
Short Circuit Current with stand (kA) (with Fuse Backup)	10	10	10	6	10	6
Indication						
Mechanical	On Front Panel	On Front Panel	On Front Panel	On Front Panel	On Front Panel	On Front Panel
Electrical	Using auxiliaries	Using auxiliaries	Using auxiliaries	Using auxiliaries	Using auxiliaries	Using auxiliaries
Operating Cycles	20000	20000	20000	20000	20000	20000
Operating Temperature (°)	(-5...+40)	(-5...+40)	(-5...+40)	(-5...+45)	(-5...+60)	(-25...+40)
Connections (mm ²)						
Flexible	35	35	35	10	16,25 (<= 25A)	16,25
Rigid	50	50	50	16	25,35 (40,63A)	25,35

→ RED Residual current device recloser

The RED, Residual current Device recloser, is made up of a residual current device and a recloser. It provides a solution for quickly putting installations back into operation in optimum safety conditions.

Range & Features

- **RED** : RCCB with automatic resetting after insulation monitoring
- **REDs** : same as RED + built in auxiliary contact for remote indication
- **REDtest** : same as RED + automatic earth leakage protection function test without power supply breaking



» Residual current device recloser

Range

	RED	REDs	REDtest
Current Rating	25,40,63A	25,40,63,100A	25,40,63A
Poles	2	2,4	2
Sensitivity	30mA	30,300mA	30mA
Voltage	230V	230V	230V

Operation:

The built-in automatic recloser automatically recloses the residual current device after checking the insulation of the downstream circuit. If the fault persists in the system, the RED reclosing is prohibited.

Maximum duration of a restart cycle: 90 Seconds

Minimum interval between two closings is 180 Seconds

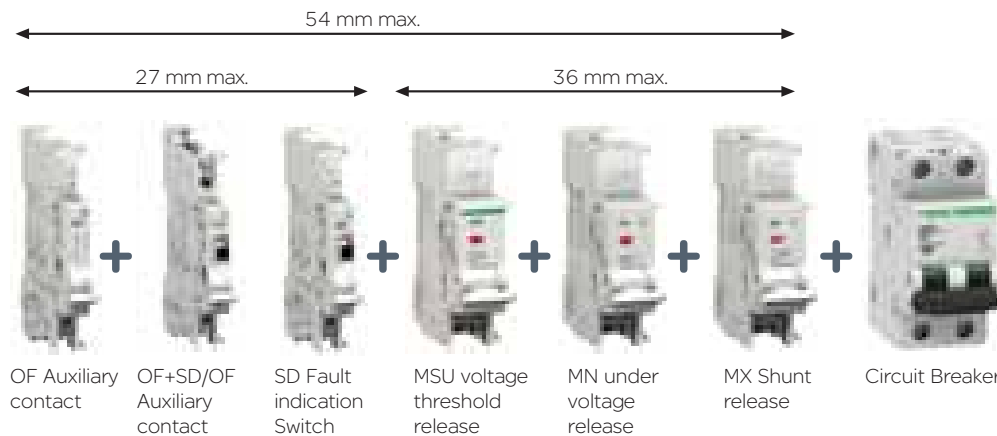
- Highly recommended in unmanned installations.

References RED, REDs & REDtest

No. of Poles	Rating (A)	Sensitivity	Ref no. RED	Ref no REDs	Ref no REDtest
2	25	30	18681	18687	18280
		300	-	18688	-
	40	30	18683	18689	18281
		300	-	18690	-
	63	30	18685	18691	-
		300	-	18692	-
4	25	30	-	18264	-
		300	-	18265	-
	40	30	-	18266	-
		300	-	18267	-
	63	30	-	18268	-
		300	-	18269	-
	100	300	-	18270	-

Auxiliaries/Accessories for C60/C120/RCCB

Function of C60 auxiliaries is to give remote indication to show the actual status of device (ON, OFF, TRIP). They are mounted by clipping on the left hand side of the MCB / RCCB



Remote Indication

A changeover switch which acts as an indicating or control device to monitor the "ON" or "OFF" position of an MCB.

OF Auxiliary Switch:

A changeover switch which acts as an indicating or control device to monitor the "ON" or "OFF" position of an MCB.

SD Alarm Switch:

An indicating device which monitors the tripping of an MCB, this device offers the following:

- A red flag trip indicator. ~
- Ability to reset without closing the MCB.
- Test function.

OF + SD/OF changeover contact

Double changeover contact indicates:

- the "open" or "closed" position of the circuit-breaker (OF)
- The "tripped" position of the device (SD).

OF.S contact for ID

Use of the OF.S auxiliary contact is mandatory when adding tripping and indication functions on a residual current circuit-breaker. This contact is mounted to the left and indicates the "open" or "closed" position of the residual current circuit-breaker.

Connection

Using screw clamp terminals:

- for 1 or 2 cables of a max. of 2.5 mm²
- 1.5 mm² with end.

Tripping (releases)

Controls tripping of the device with which it is combined when energized. It is fitted out with a changeover contact (O + C) to indicate the circuit-breaker's position.

MX + OF shunt trip release

Controls tripping of the device with which it is combined when energized. He is fitted out with a changeover contact (O + C) to indicate the circuit-breaker's position. It is fitted with a self-interrupting contact allowing the control circuit to remain on (latching emergency stop).

MX shunt release

Controls tripping of the device with which it is combined at power-up. It is fitted with a self-interrupting contact allowing the control circuit to remain on (latching emergency stop).

MSU voltage threshold release

Especially designed to monitor the voltage between the neutral and phase(s) conductors. It cuts off the supply by opening the protected device when a threshold level for overvoltages lasting more than a few tenths of a second is exceeded.

MN under voltage release

Controls tripping of the device with which it is combined when its supply voltage drops (threshold between 70 and 35 % of the U_n). It allows the device to be manually closed if the voltage exceeds 85 % of the nominal voltage.

MN selective s release

Undervoltage release that controls the opening of the device with which it is combined. 0.3 s time-delay on voltage dip: avoids tripping on brownouts or momentary voltage drops.

Connection

Using screw clamp terminals:

- For 1 or 2 cables of a max. of 2.5 mm²
- 1.5 mm² with end.

Note: Residual current devices auxiliary with in a max. width of 45mm

Auxiliaries

References - Remote Indication

Type	Reference
OF auxiliary switch	26924
SD alarm switch	26927
OF+SD/OF chengerover contact	26929
OF.S (ID) auxiliary contact	26923

References - Tripping

MX+OF shunt trip release

Control voltage (V AC)	(V DC)	Width module in 9mm	Reference
100.415	100.130	2	26946
48	48	2	26947
12/24	12/24	2	26948

MX shunt release

Control voltage (V AC)	(V DC)	Width module in 9mm	Reference
100.415	100.130	2	26476
48	48	2	26477
12/24	12/24	2	26478

MSU voltage threshold release

Tripping Voltage (V AC)	Width module in 9mm	Reference
275	2	26979
255	2	26479

MN undervoltage release

Control voltage (V AC)	(V DC)	Width module in 9mm	Reference
220..240		2	26963
220..240		2	26960
48	48	2	26961
115(400Hz)		2	26959

- The Auxiliaries are mounted to the left of MCB with in a maximum width of 54mm
- Maximum of 3 indication auxiliaries & 2 tripping auxiliaries on the same circuit breaker can be fitted

Accessories

Type	Description	Reference
Rotary Handle	Breaker Switching Sub-Assembly	27046
	Extended, Disconnectable handle	27047
Padlocking Facility	C60/RCCB (bag of 2)	26970
Terminal Shield	1 Pole	26975
C60/RCCB (bag of 2)	2 Pole	26976
	3 Pole 26975+26976 745	
Aluminium Cable Terminal		27060



Multi 9 Sheet Steel Distribution Boards

A Distribution Board is the point at which an incoming-power supply divides into separate circuits, each of which is controlled and protected by the switchgear of the board. A Distribution Board is divided into a number of functional units, each comprising of, all the electrical and mechanical elements, that contribute to the fulfillment of a given function. The Distribution board represents a key link in the dependability chain.

Consequently, the type of Distribution Board must be perfectly adapted to its application. Its design and construction must comply with the applicable standards and working practices.

A Distribution Board provides dual protection:

- Protection of Circuit protection devices, indicating devices, measuring devices, etc. against mechanical impacts, vibrations and other external influences likely to interfere with the operational integrity. (EMI, dust, moisture, vermin, etc.)
- Protection of human life against the possibility of direct and indirect electric shock.

Schneider Electric, with decades of expertise in the electrical field, launches, the state-of-the-art range of Distribution Boards. The range consists of metallic enclosures, with unique design and more safety. Its unique ability to accommodate wide range of modular products enables the same board to be configured to suit Residential, Commercial and Industrial applications.



Distribution Board providing dual benefits

- Flexibility
- Safety

Product Range At A Glance

- In Compliance with IS 8623-3.
- Supplied with bus bars, wire sets and blanking plates.
- Ingress Protection IP 43 for DD and IP 30 for SD as per IEC 60529.
- Dielectric Strength: 2.5KV per second.
- Surface and Flush Mounting.
- Removable Chassis.
- DB colour: White RAL 9010



Product	I/C Current Rating	Incomer	Sub - Incomer	Outgoing
SPN DB	upto 63A	SPN/DP	-	SP MCB
TPN DB	upto 100A	TP/TPN/FP	-	SP MCB
Per Phase Isolation DB	upto 100A	TP/TPN/FP	DP MCB/RCCB/RCBO	SP MCB
Tier DB	upto 100A	TP/TPN/FP	-	SP MCB
Phase Segregated DB	upto 100A	TP/TPN/FP	FP MCB/RCCB/RCBO	SP MCB
Vertical DB with MCB I/C	upto 100A	8 Module Multi 9 MCB	-	SP/TP MCB
Vertical DB with 100 A MCCB I/C	upto 100A	3P 100A MCCB	-	SP/TP MCB
Vertical DB with 160 A MCCB I/C	upto 160A	3P/4P upto 160A MCCB	-	SP/TP MCB
Vertical DB with 250 A MCCB I/C	upto 250A	3P/4P upto 250A MCCB	-	SP/TP MCB

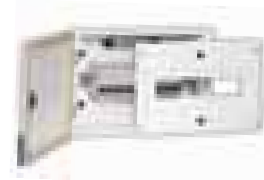
Unique Design Features

Integrated Frame design

Multi 9 range of DBs have a unique feature of the frame integrated into the U-Box.

Benefits:

- Simple 3-part Modular Construction.
- Leads to less number of subassembly.
- Increase in the cable space accessibility.

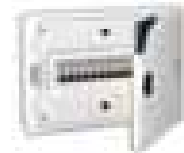


Reversible door

By simply shifting the hinge assembly from left to right the opening of the door can be interchanged depending on the location of the installation.

Benefits:

- Flexibility in selection for type of opening in case of space constraint.



Zero Error Installation

The DB frame eliminates the probability of error occurring in flush mounting installation

Benefits:

- Reduction in installation time.
- Increase in mounting accuracy.

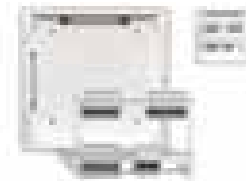


Detachable chassis concept

This concept facilitates detaching of the chassis from the DB and the required wiring for the circuit protection devices can be done at a comfortable location.

Benefits:

- Ease and comfort in internal wiring.
- Reduction in installation time and cost.

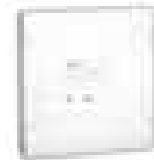


Cement Spill Protector (CSP)

The CSP ensures no dust or cement particles will enter DBs during the construction period at site. The installation guidelines are mentioned elaborately on CSP.

Benefits:

- No accumulation of dust / cement particle inside the DBs
- The probable damage of the door is avoided.



Front door aesthetics. (Door Knob, Corner Piece, Styling)

The stylish front facia of the DB gives an alluring dimension to your interiors.

Benefits:

- Blends with any interiors
- A Distribution board that you no longer need to hide !

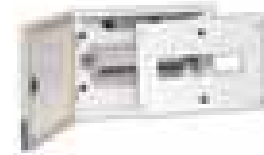


Independent Intermittent Shield

The shield of the DB can be removed without the removal of the door.

Benefits:

- Maintenance friendly design



Ingress protection levels

Degree of protection (IP) ensures the protection of the enclosure against dust and water. Multi 9 DBs are designed as per IP 43 for double door and IP 30 for single door.

Benefits:

- Total protection against dust and water particles



References

Single Phase Neutral DBs

Description	Capacity in mod* width	Reference Double Door	Reference Single Door	Reference Acrylic Door
4 way SPN	4	MGNSPNDD04	MGNSPNSD04	MGNSPNDD04T
6 way SPN	6	MGNSPNDD06	MGNSPNSD06	MGNSPNDD06T
8 way SPN	8	MGNSPNDD08	MGNSPNSD08	MGNSPNDD08T
12 way SPN	12	MGNSPNDD12	MGNSPNSD12	MGNSPNDD12T
16 way SPN	16	MGNSPNDD16	MGNSPNSD16	MGNSPNDD16T

Three Phase Neutral DBs

Description	I/C	O/G per phase	Reference Double Door	Reference Single Door	Reference Acrylic Door
4 way TPN with 4 mod I/c	4	4	MGNTPNDD04I	MGNTPNSD04I	MGNTPNDD04IT
4 way TPN	8	4	MGNTPNDD04	MGNTPNSD04	MGNTPNDD04T
6 way TPN	8	6	MGNTPNDD06	MGNTPNSD06	MGNTPNDD06T
8 way TPN	8	8	MGNTPNDD08	MGNTPNSD08	MGNTPNDD08T
12 way TPN	8	12	MGNTPNDD12	MGNTPNSD12	MGNTPNDD12T

Per Phase Isolation DBs

Description	I/C + Sub - I/C per phase	O/G per phase	Reference Double Door	Reference Acrylic Door
6+2 TPN PPI	4+2	6	MGNPPIDD06	MGNPPIDD06T
8+2 Tier PPI	4+2	8	MGNPPIDD08	MGNPPIDD08T
12+2 Tier PPI	4+2	12	MGNPPIDD12	MGNPPIDD12T

Phase Segregated DBs

Description	I/C + Sub - I/C per phase	O/G per phase	Reference Double Door
4 way phase segregated	8+4	4	MGNPSGDD04
6 way phase segregated	8+4	6	MGNPSGDD06
8 way phase segregated	8+4	8	MGNPSGDD08
12 way phase segregated	8+4	12	MGNPSGDD12

Tier DBs

Description	Capacity in mod* width per Tier	No. of Tier	Reference Double Door	Reference Acrylic Door
2 tier 24 module	12	2	MGN2T24MDD	MGN2T24MDDT
3 tier 36 module	12	3	MGN3T36MDD	MGN3T36MDDT
4 tier 40 module	10	4	MGN4T40MDD	MGN4T40MDDT
4 tier 56 module	14	4	MGN4T56MDD	MGN4T56MDDT

Plug & Socket DBs (with Electra metal plug & socket)

Description	Capacity in mod* width	Reference
10 A SPN plug & socket DB	1	MGNPSS1P10
20 A SPN plug & socket DB	1	MGNPSS1P20
20 A TPN plug & socket DB	3	MGNPST3P20
30 A TPN plug & socket DB	3	MGNPST3P20

* 1 mod. width 18mm.

PK Plug & Socket DBs (with provision for PK plug & socket)

Description	Total Capacity in mod* width	Reference
DB with prov to mount 3 pin 16A P&S	2	MGNPS3P16
DB with prov to mount 3 pin 32A P&S	2	MGNPS3P32
DB with prov to mount 5 pin 32A P&S	4	MGNPS5P32
DB with prov to mount 5 pin 63A P&S	4	MGNPS5P63

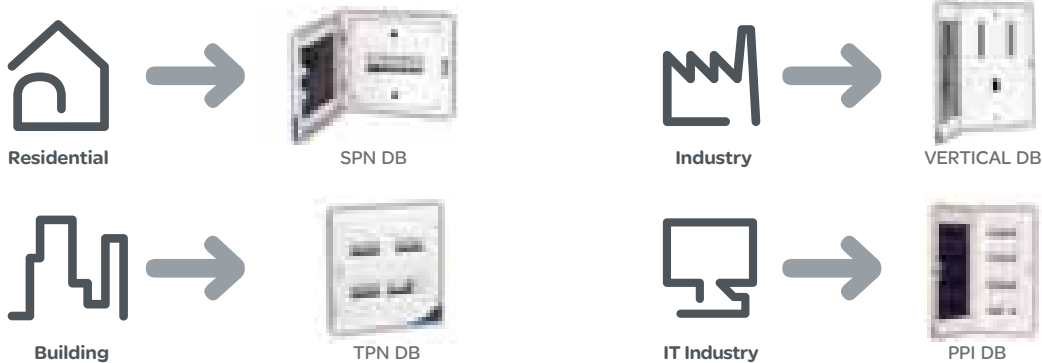
Enclosures

Description	Total Capacity in mod* width	Reference
2 pole enclosure	2	MGNME02M
4 pole enclosure	4	MGNME04M

Vertical DBs

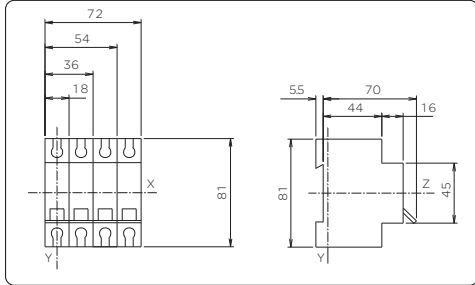
Description	Total Capacity in mod* width	Reference Double Door	Reference Acrylic Door
Vertical DB with provision for 125A MCB incomer			
4 way vertical	12	MGNVTPNDD04	MGNVTPNDD04T
8 way vertical	24	MGNVTPNDD08	MGNVTPNDD08T
12 way vertical	36	MGNVTPNDD12	MGNVTPNDD12T
Vertical DB with provision for 3P 100A MCCB incomer			
4 way vertical DD DB	12	MGNV10MDD04	MGNV10MDD04T
8 way vertical DD DB	24	MGNV10MDD08	MGNV10MDD08T
12 way vertical DD DB	36	MGNV10MDD12	MGNV10MDD12T
Vertical DB with provision for 3P/4P upto 160A MCCB incomer			
4 way vertical DD DB	12	MGNV16MDD04	MGNV16MDD04T
8 way vertical DD DB	24	MGNV16MDD08	MGNV16MDD08T
12 way vertical DD DB	36	MGNV16MDD12	MGNV16MDD12T
Vertical DB with provision for 3P/4P upto 250A MCCB incomer			
4 way vertical DD DB	12	MGNV25MDD04	MGNV25MDD04T
8 way vertical DD DB	24	MGNV25MDD08	MGNV25MDD08T
12 way vertical DD DB	36	MGNV25MDD12	MGNV25MDD12T

Applications:

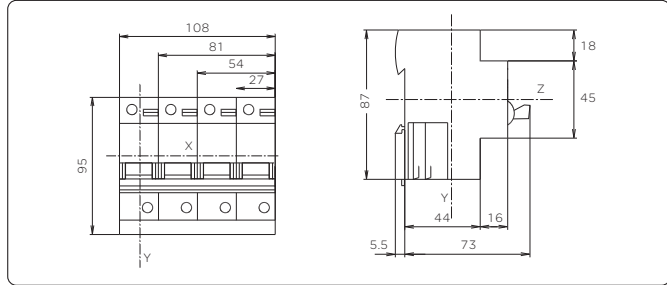


Dimensions

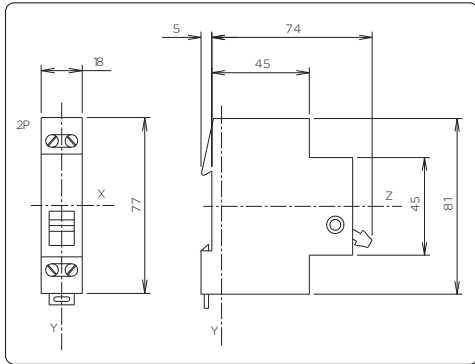
C60H, C60N DC, C60H DC



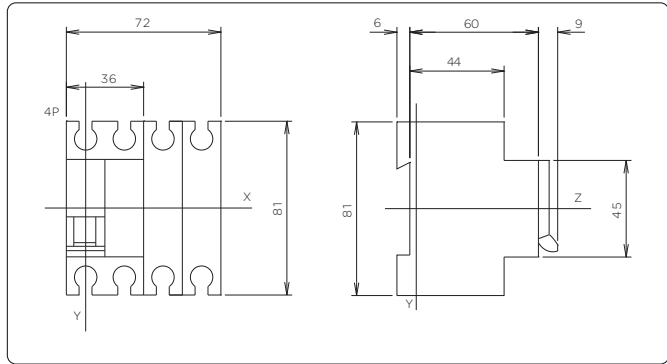
C120N, C120H



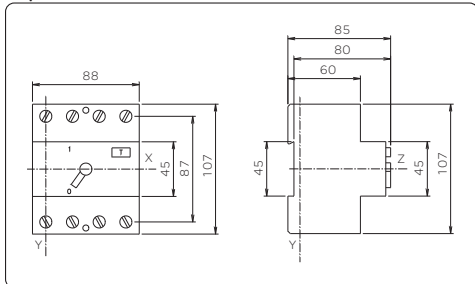
Isolators



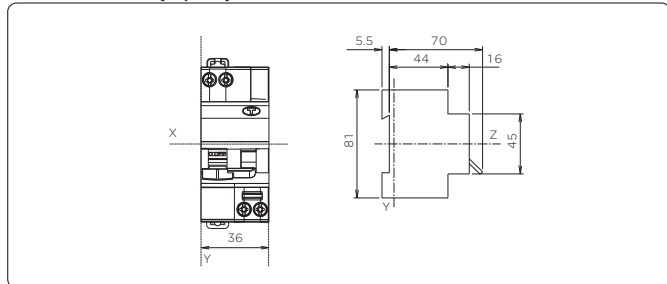
RCCB-ID



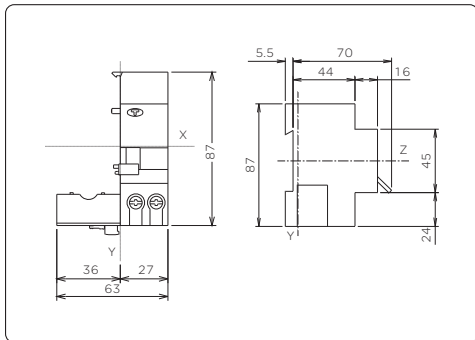
Special RCCBs-References



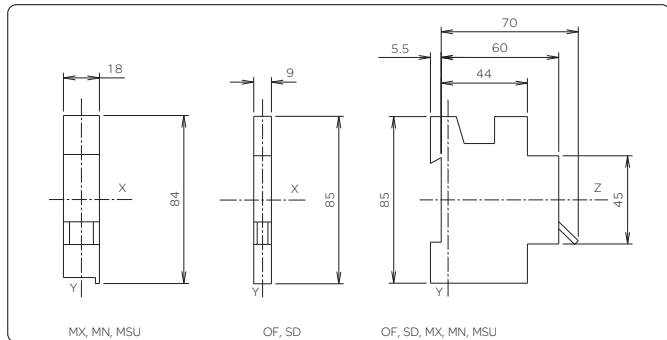
DPN N vigi-Integrated RCBO Module (2 pole)



Vigi Block-Add on RCD Module RCBO



Auxiliaries & Accessories



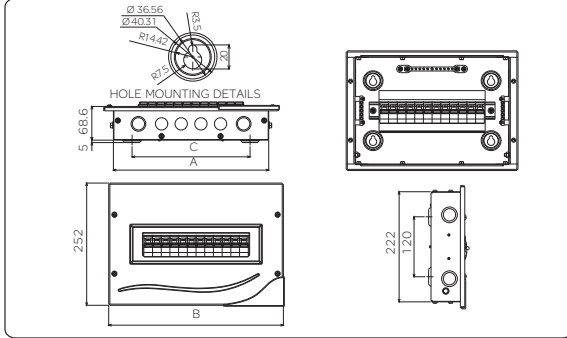
MX, MN, MSU

OF, SD

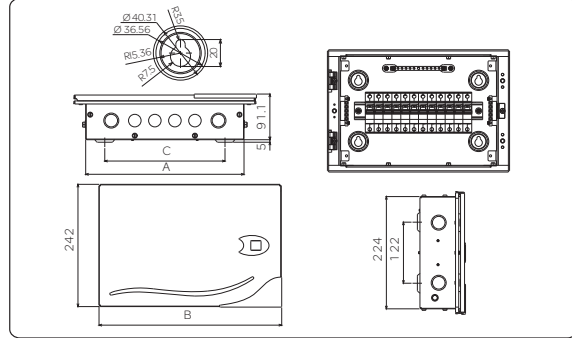
OF, SD, MX, MN, MSU

Dimensions: SPN DBs

Single Door



Double Door



SPN-Single Door-IP30

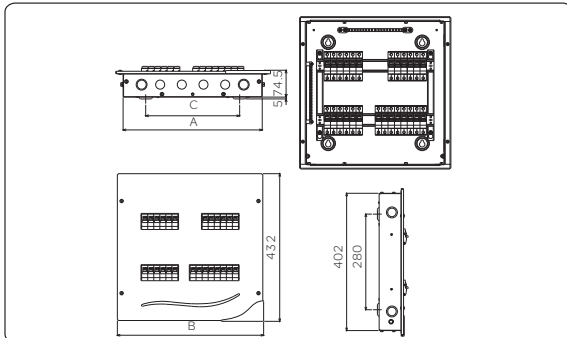
Sr.No.	Cat. No.	No. of ways	A	B	C	Top		Bottom		Sides
						$\varnothing 32$ Knock out	$\varnothing 25$ Knock out	$\varnothing 32$ Knock out	$\varnothing 25$ Knock out	$\varnothing 32$ Knock out
1	MGNSPNSD04	4	172	216	96	2 nos.	0	2 nos.	0	2nos.
2	MGNSPNSD06	6	208	252	132	2 nos.	1 no.	2 nos.	1 no.	2nos.
3	MGNSPNSD08	8	244	288	168	2 nos.	2 nos.	2 nos.	2 nos.	2nos.
4	MGNSPNSD12	12	316	360	240	2 nos.	3 nos.	2 nos.	3 nos.	2nos.
5	MGNSPNSD16	16	408	452	332	2 nos.	4 nos.	2 nos.	4 nos.	2nos.

SPN-Double Door/Acrylic Door-IP43

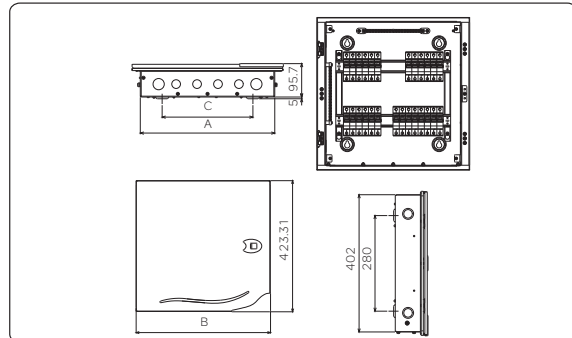
1	MGNSPNSDD04/T	4	172	221	96	2 nos.	0	2 nos.	0	2nos.
2	MGNSPNSDD06/T	6	208	257	132	2 nos.	1 no.	2 nos.	1 no.	2nos.
3	MGNSPNSDD08/T	8	244	293	168	2 nos.	2 nos.	2 nos.	2 nos.	2nos.
4	MGNSPNSDD12/T	12	316	365	240	2 nos.	3 nos.	2 nos.	3 nos.	2nos.
5	MGNSPNSDD16/T	16	408	457	332	2 nos.	4 nos.	2 nos.	4 nos.	2nos.

Dimensions: TPN DBs

Single Door



Double Door



TPN-Single Door-IP30

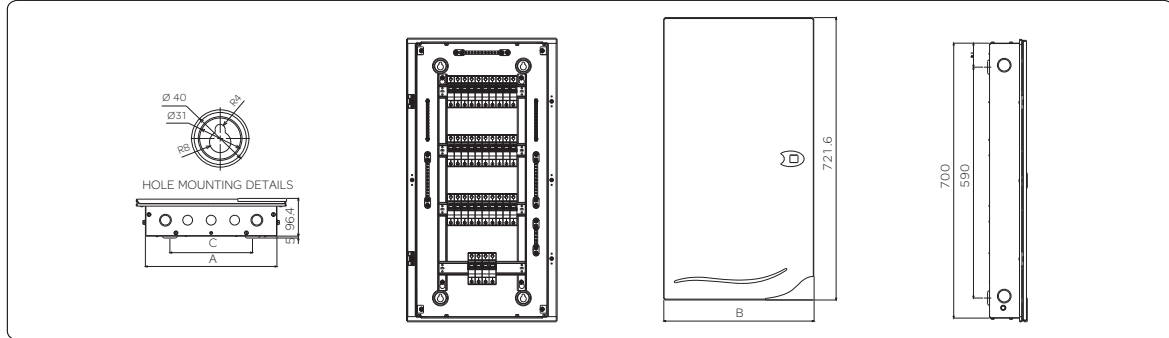
Sr.No.	Cat. No.	No. of ways	A	B	C	Top		Bottom		Sides
						$\varnothing 32$ Knock out	$\varnothing 25$ Knock out	$\varnothing 32$ Knock out	$\varnothing 25$ Knock out	$\varnothing 32$ Knock out
1	MGNTPNSD04I	4	313	357	188	2 nos.	3 nos.	2 nos.	3 nos.	2nos.
2	MGNTPNSD04	4	349	393	224	2 nos.	3 nos.	2 nos.	3 nos.	2nos.
3	MGNTPNSD06	6	385	429	260	2 nos.	4 nos.	2 nos.	4 nos.	2nos.
4	MGNTPNSD08	8	431	475	306	2 nos.	5 nos.	2 nos.	5 nos.	2nos.
5	MGNTPNSD12	12	575	619	450	2 nos.	7 nos.	2 nos.	7 nos.	2nos.

TPN-Double Door/Acrylic Door-IP43

1	MGNTPNDD04I/T	4	313	362	188	2 nos.	3 nos.	2 nos.	3 nos.	2nos.
2	MGNTPNDD04/T	4	349	398	224	2 nos.	3 nos.	2 nos.	3 nos.	2nos.
3	MGNTPNDD06/T	6	385	434	260	2 nos.	4 nos.	2 nos.	4 nos.	2nos.
4	MGNTPNDD08/T	8	431	480	306	2 nos.	5 nos.	2 nos.	5 nos.	2nos.
5	MGNTPNDD12/T	12	575	624	450	2 nos.	7 nos.	2 nos.	7 nos.	2nos.

Dimensions: PPI DBs

Double Door

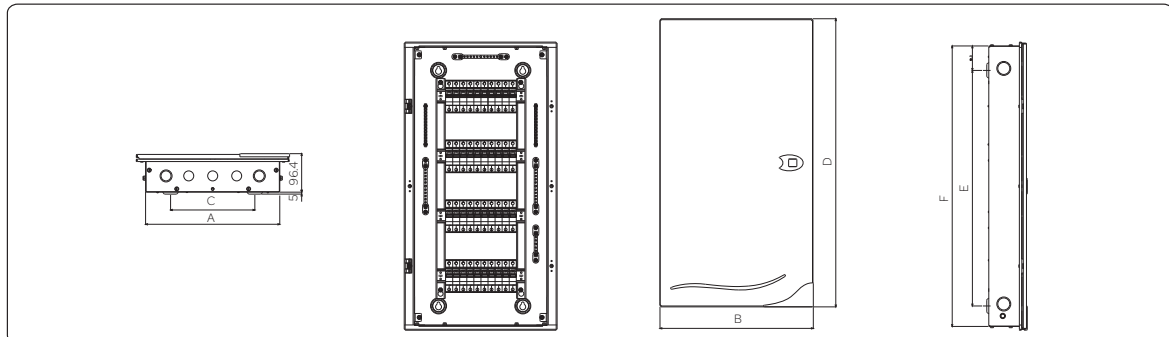


PPI-Double Door/Acrylic Door-IP43

Sr.No.	Cat. No.	No. of ways	A	B	C	Top		Bottom	
						Ø 30 Knock out	Ø 25 Knock out	Ø 30 Knock out	Ø 25 Knock out
1	MGNPIDD06/T	6	500	549	375	2 nos.	6 nos.	2 nos.	6 nos.
2	MGNPIDD08/T	8	336	385	211	2 nos.	3 nos.	2 nos.	3 nos.
3	MGNPIDD12/T	12	408	457	283	2 nos.	4 nos.	2 nos.	4 nos.

Dimensions: TIER DBs

Double Door

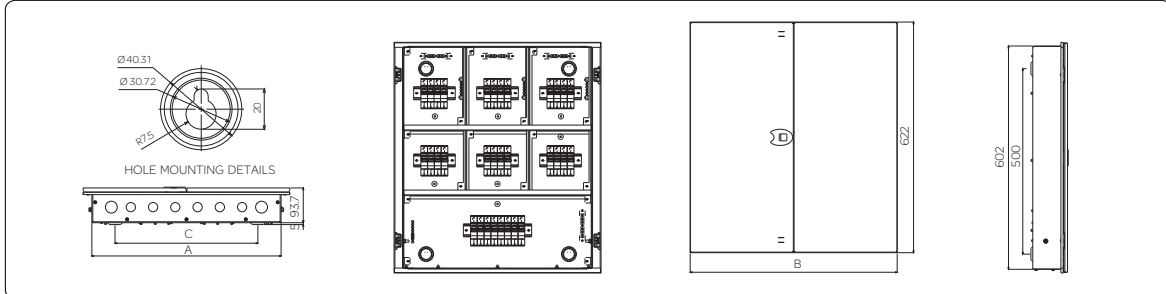


TIER Double Door-IP43

Sr.No.	Cat. No.	No. of ways	A	B	C	D	E	F	Top		Bottom		Sides	TIER (T)
									Ø 32 Knock out	Ø 25 Knock out	Ø 32 Knock out	Ø 25 Knock out	Ø 32 Knock out	
1	MGN2T24MDD/T	-	336	385	211	422	280	402	2	3	2	3	2	2
2	MGN3T36MDD/T	-	372	421	249	572	440	552	2	4	2	4	2	3
3	MGN4T40MDD/T	-	336	385	211	722	590	702	2	3	2	3	2	4
4	MGN4T56MDD/T	-	408	457	283	722	590	702	2	4	2	4	2	4

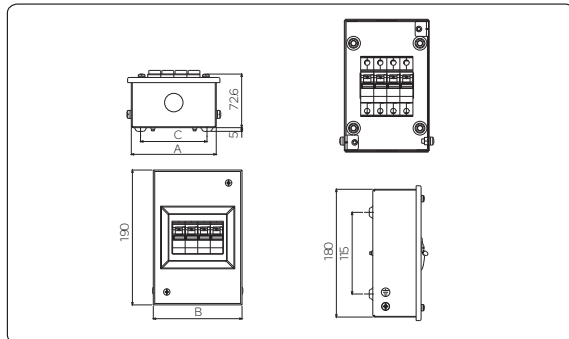
Dimensions: Phase Segregated (PSG) DBs / 7 Segment DB

Double Door



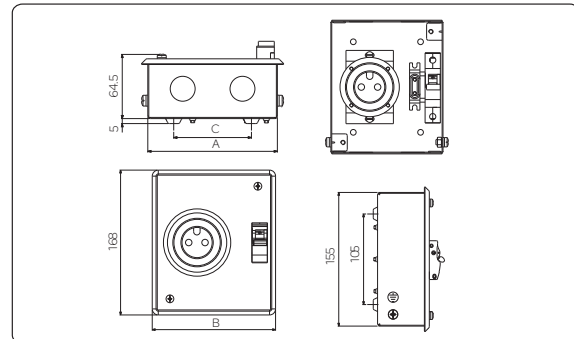
PSG-Double Door-IP43									
Sr.No.	Cat. No.	No. of ways	A	B	C	Top		Bottom	
						Ø 30 Knock out	Ø 25 Knock out	Ø 30 Knock out	Ø 25 Knock out
1	MGNPSGDD04	4	510	558	385	2 nos.	9 nos.	2 nos.	3 nos.
2	MGNPSGDD06	6	618	666	493	2 nos.	12 nos.	2 nos.	4 nos.
3	MGNPSGDD08	8	726	774	601	2 nos.	15 nos.	2 nos.	5 nos.
4	MGNPSGDD12	12	942	990	817	2 nos.	18 nos.	2 nos.	6 nos.

Dimensions: METAL ENCLOSURE



METAL ENCLOSURE									
Sr.No.	Cat. No.	No. of ways	A	B	C	Top	Bottom		
						Ø 25 Knock out	Ø 25 Knock out		
1	MGNME02M	2	80	95	60	1 no.	1 no.		
2	MGNME04M	4	115	130	70	1 no.	1 no.		

Dimensions: SPN-P&S DBs

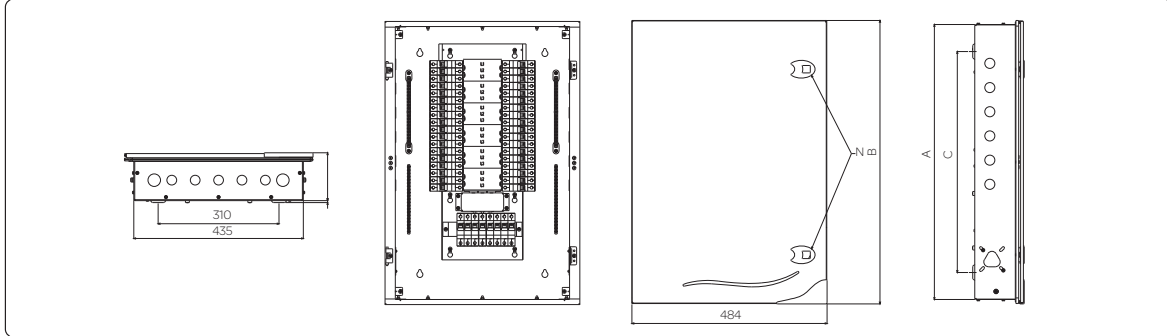


SPN-P&S DBs									
Sr.No.	Cat. No.	No. of ways	A	B	C	Top	Bottom		
						Ø 25 Knock out	Ø 25 Knock out		
1	MGNPSS1P10	-	130	143	78	2 no.	2 no.		
2	MGNPSS1P20	-	130	143	78	2 no.	2 no.		

Dimensions: Vertical DBs

VTPN-63A-MCB I/C

Double Door



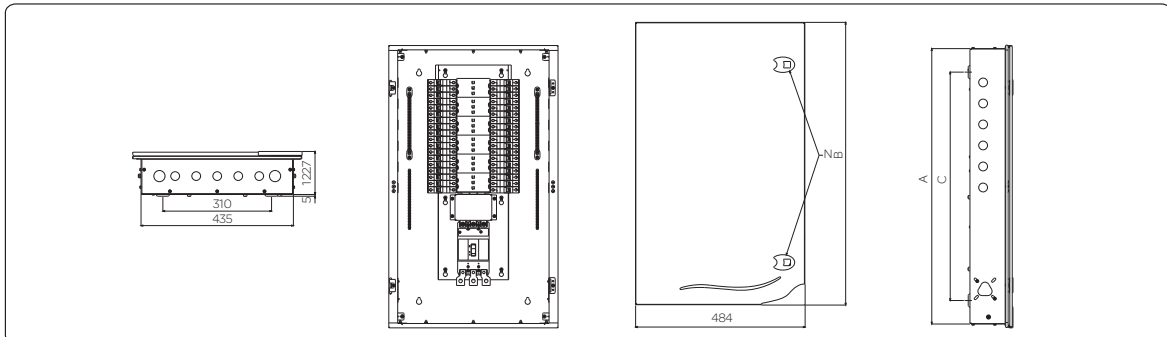
VTPN-63A-MCB I/C IP43 Double Door/Acrylic Door

Sr.No.	Cat. No.	No. of ways	A	B	C	Top		Bottom		Sides	N
						Ø 30 Knock out	Ø 25 Knock out	Ø 30 Knock out	Ø 25 Knock out		
1	MGNVTPNDD04/T	4	464	422	332	2 nos.	5 nos.	2 nos.	5 nos.	3 nos.	1 no.
2	MGNVTPNDD08/T	8	572	530	440	2 nos.	5 nos.	2 nos.	5 nos.	4 nos.	1 no.
3	MGNVTPNDD12/T	12	680	700	548	2 nos.	5 nos.	2 nos.	5 nos.	6 nos.	2 nos.

Dimensions: Vertical DBs

Vertical-100A-MCCB I/C

Double Door

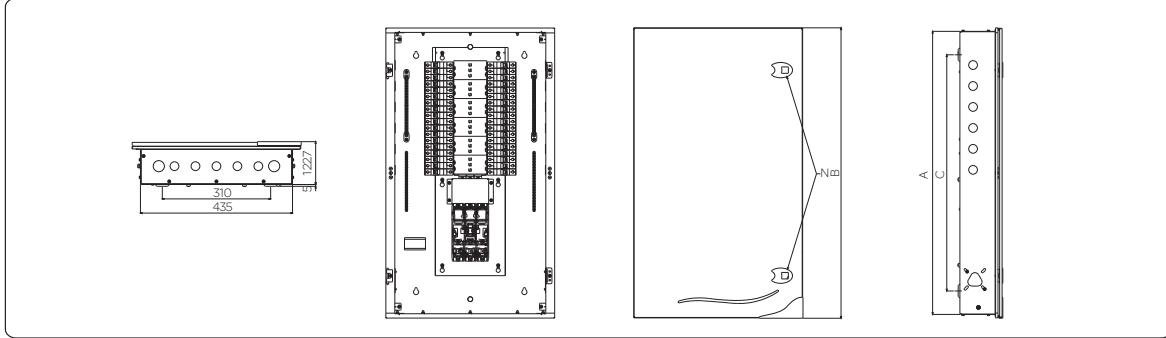


VTPN-100A-MCCB I/C IP43 Double Door/Acrylic Door

Sr.No.	Cat. No.	No. of ways	A	B	C	Top		Bottom		Sides	N
						Ø 30 Knock out	Ø 25 Knock out	Ø 30 Knock out	Ø 25 Knock out		
1	MGNV10MDD04/T	4	570	590	436	2	5	2	5	3	1
2	MGNV10MDD08/T	8	378	698	544	2	5	2	5	4	1
3	MGNV10MDD12/T	12	786	806	652	2	5	2	5	6	2

Dimensions: Vertical DBs

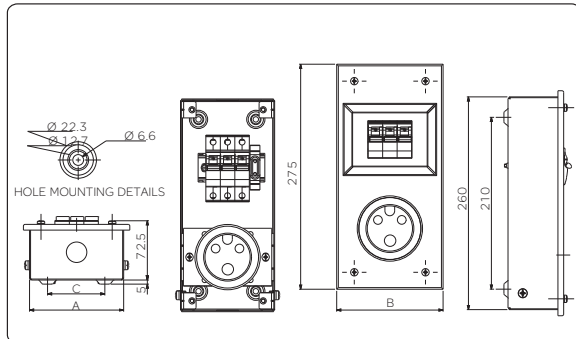
Vertical-250A/160A MCCB I/C
Double Door



VTPN-250A/160A MCCB I/C IP43 Double Door/Acrylic Door

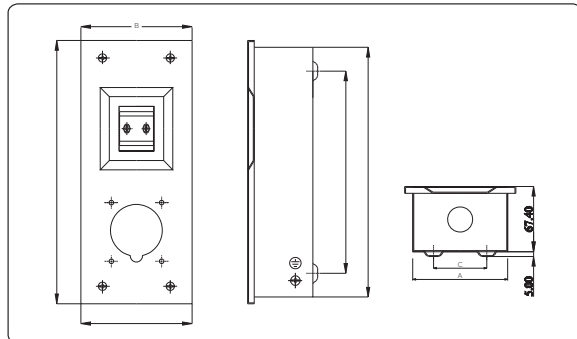
Sr.No.	Cat. No.	No. of ways	A	B	C	Top		Bottom		Sides	N
						Ø 30 Knock out	Ø 25 Knock out	Ø 30 Knock out	Ø 25 Knock out		
1	MGNV25MDD04/T	4	594	615	460	2 nos.	5 nos.	2 nos.	5 nos.	3 nos.	1
2	MGNV25MDD08/T	8	702	723	568	2 nos.	5 nos.	2 nos.	5 nos.	4 nos.	1
3	MGNV25MDD12/T	12	810	831	678	2 nos.	5 nos.	2 nos.	5 nos.	6 nos.	2

Dimensions: TPN P&S DBs



TPN-Plug & Socket							
Sr.No.	Cat. No.	No. of ways	A	B	C	Top	Bottom
						Ø 25 Knock out	Ø 25 Knock out
1	MGNPSS3P20	-	115	130	70	1 no.	1 no.
2	MGNPSS3P30	-	115	130	70	1 no.	1 no.

Dimensions: PK Plug & Socket 63A



PK Plug & Socket 63A								
Sr.no	Cat. no.	No. of ways	A	B	C	D	Top Ø25	Bottom Ø25
1	MGNPS3P16	2	98	115	55	258	1	1
2	MGNPS3P32	2	98	115	55	258	1	1
3	MGNPS5P32	4	135	150	55	276	2	2
4	MGNPS5P63	8	205	220	160	300	3	3

Advanced Products

MCB

- C60L - 20kA
- NG125N - 25kA (up to 125A)
- NG125L - 50kA (up to 125A)
- C60 - UL Approved
- Accessories & Auxiliaries
- Photovoltaic DC MCBs

DIN Mounted Devices

- CT Contactors - Modular Contactors
- Time Switches
- Light Sensitive Switches
- CM Selector Switch
- SPDs

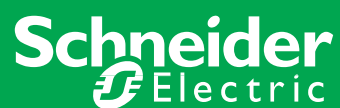
Measurement and indication products

- Indicator Light
- TI Current Transformer
- Power meter

PK - Industrial Plugs & Sockets

- Low & Extra Low Voltage Plug & Sockets
- Interlock Switches
- Thermo Plastic Enclosers - IP 65





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