

State of the art Manufacturing Facilities



Haridwar, Noida Ph-I  
& Noida Ph-II Plant

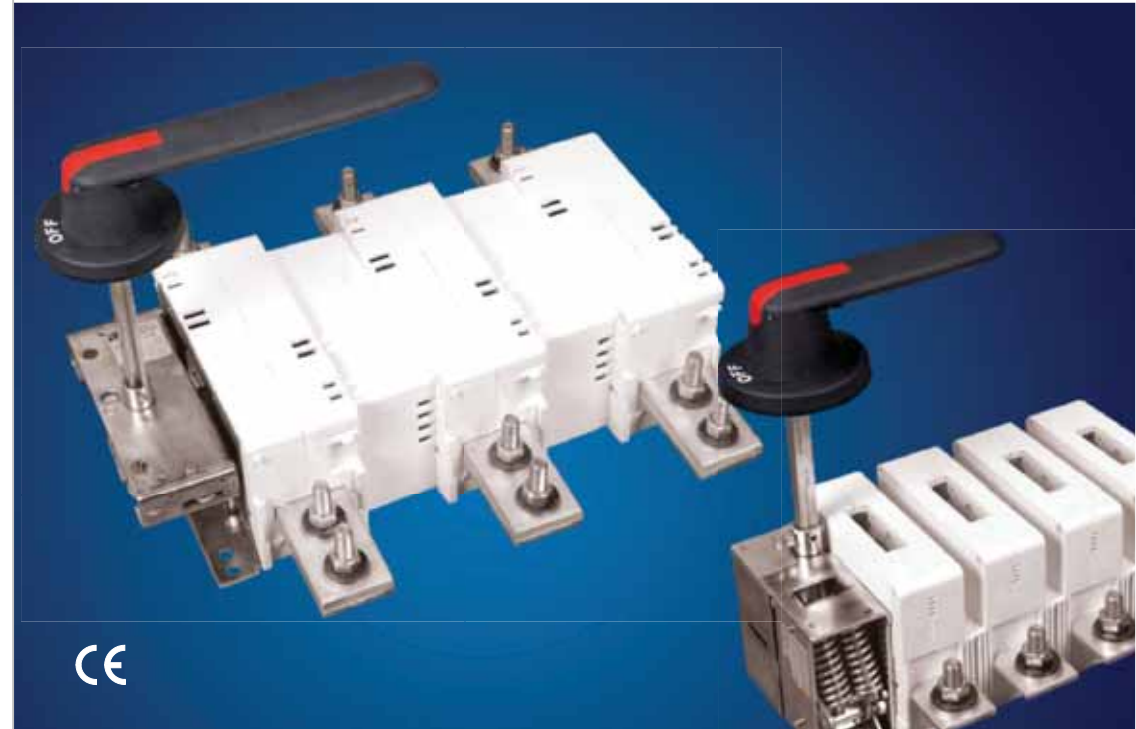


**C&S Electric Limited**

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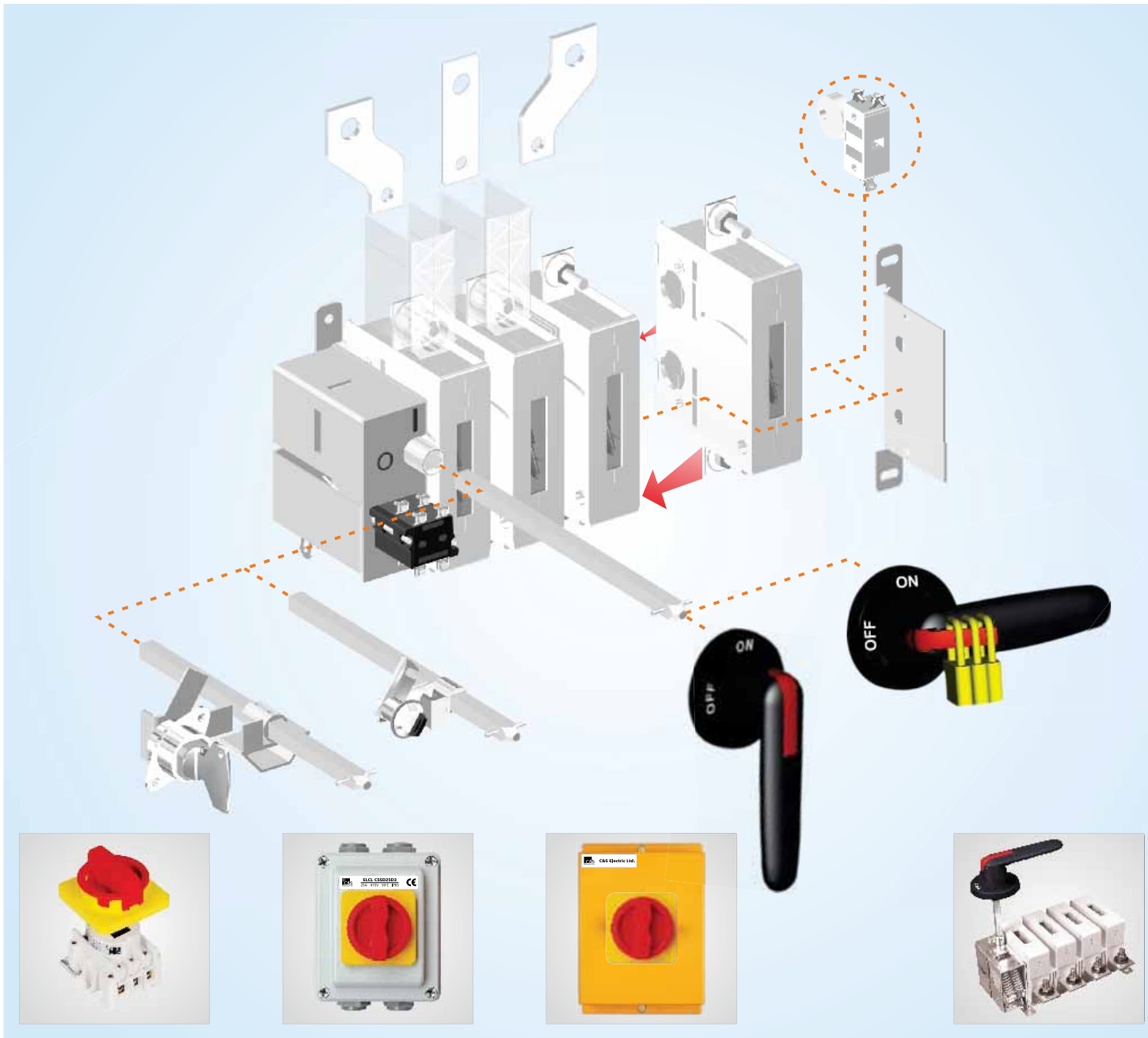
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CE



Switch Disconnectors



## Rugged construction, Integrating end user convenience with installation flexibility

C&S Electric offers a wide range of Switch Disconnectors (On Load Break Switches) - 25A to 3150A, suitable for operation upto 750/1000V. Available in 3 Pole as well as 4 Pole, interiors as well as in enclosure, they are suitable for AC23A utilization category and conform to IEC 60947-3 / IS 13947-3.

Available in ratings of 63A and above. These switches are of single pole construction, enabling combination up to 8 poles. Thus, modular yet rugged construction, with all poles including the neutral having 100% rating & reliability.

Modular arrangement also eliminates need for matching standard 3 pole switch to specific installation requirement by adding neutral pole in 3 phase 4 wire AC system or looping poles for DC system. Hence these switches are most suited and economical for any applications.

- Main Incomer Switch
- AC or DC Power Distribution System
- Switching & Isolating Motors
- Switching & Isolating Capacitors
- Switching & Isolating Industrial Control Equipment
- AC or DC Safety Switch

Their mounting flexibility offers numerous & matchless benefits for use in power distribution boards or for standalone mountings. They are compact enough occupying least panel space yet allowing ease of installation and rendering it safe for maintenance.

For machine tool or distribution systems which are scattered in buildings, switches upto 125A are also available in plastic enclosure, which are corrosion proof and add to the aesthetics of the installation.

Multiple accessories suiting application requirements enhance the flexibility of operation and safety level of installation. These switches also facilitate and match diverse application requirements.

Manufactured in ISO 9001 certified facilities, rugged design combining ease of operation and maintenance, they have stood the test of adverse environments in all types of climate in various countries, including India for more than 15 years .

These switches are ideal for breaking stalled motor current, switching highly inductive loads, capacitor banks, DC loads etc.

They have been used successfully in almost every industry, becoming the exclusive choice of every discerning user, be it Power Plants, Building segments, Telecommunication field or industries like Steel, Chemical, Cement, Automobile, Machine Tools etc.

# Modular and user friendly

## Internationally Endorsed

Tested & Accepted  
World over

C&S Switch Disconnectors have been tested for their conformity to International as well as Indian Standards at various independent Laboratories like - ASTA for conformity to International Standards – IEC 60947 - 3 and CPRI, ERDA for conformity to Indian Standards IS 13947 - 3. These also conform to the safety regulations adopted in the European Union and carry the CE marking.

OEMs and panel assemblers can be re-assured that the design is being used and exported to many countries world over.

An ISO 9001 certified manufacturing facilities gives the assurance of quality & consistency of these switches



## Flexible Design

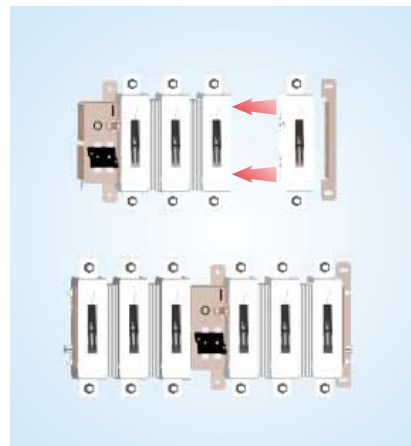
Modular yet reliable  
construction

C&S Switch Disconnector have a modular assembly for operating mechanism and pole. Contact system, placed in separate housing for individual phase poles, are joined together to form a switch with multi -pole formation upto 8 poles.

This arrangement offers flexibility of placing mechanism in between the poles. 63A-800A, switches with side operated mechanism are also offered.

Every pole has 100% rating and operates with same reliability. As each pole is independent of the other, its maintenance or replacement is easy & economical in the event of damage.

Switches can hence be ordered as per installation requirement 2 pole for DC; 3 pole for 3 phase, 3 wire system; 4 pole for 3 phase, 4 wire system or 6 pole for Star Delta motors.



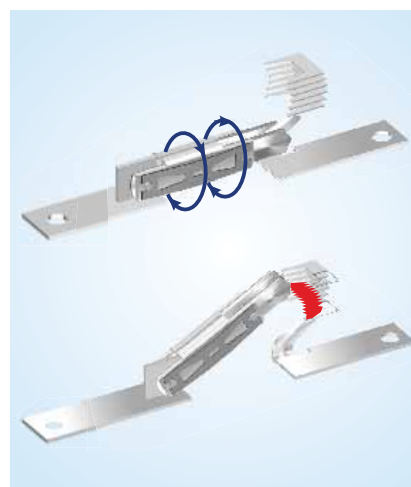
## Unique Contact Mechanism

Efficient Switching  
& Long life

Switch Disconnectors of rating 200A and above employ unique Knife Contact Mechanism, which uses magnetic attraction principle in iron circuit on the moving contacts. As current increases, automatically the contact force too increases, ensuring - good contacts at all times, high making and breaking capacity upto 690V and low temperature rise leading to long electrical life.

The special form of fixed contacts results in separate arcing and current carrying surfaces. It again ensures that current carrying surface remains unaffected by arcing, maintaining identical contact pressure and enhancing electrical life. Special shape of fixed contacts also help blow out the Arc into Arc-Chute where it is swiftly extinguished under controlled conditions, safely.

During each switching, the knife contacts cleans itself. This makes them perfectly suited for Indian conditions in general and for high pollution and corrosive conditions as in Chemical Plants, Cement Plants, Steel Plants, etc., including applications like Motors and capacitor switching.



## Easy Installation

Convenient, Swift  
& Economical

The handle in the C&S switch disconnectors has a telescopic shaft. The handle & shaft assembly adjusts to wide depth of the panel so there is no need to place a space below the switch while aligning it with enclosure door. It permits installation of the switch in installations of varying depths, without any modification of the enclosure.

Four hole handle fixing on the door permits last minute rotation of the switch inside the panel by 90 degrees on either side as per convenience, again without any modification to the door.

These time saving features increase the ease and flexibility of installation and also reduce installation cost.

## Accessories

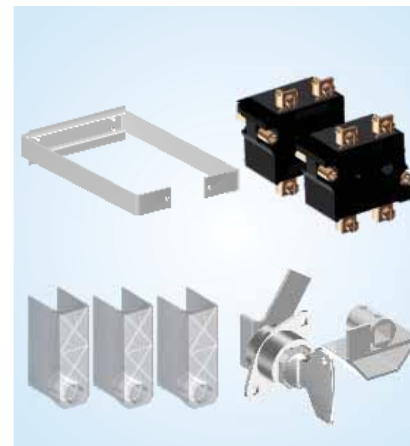
Flexibility to  
suit Application

Multiple accessories increase suitability for diverse application, enhance operational flexibility and improve installation safety.

Handle mounting kit allows complete Switch to be mounted inside enclosure door so that it can be operated only after opening the door. Door mounting kit lets fixing complete switch on to the door, doing away with need for fixing switch on base plate & aligning with door.

Auxiliary contacts permit electrical interlocking, remote indication and Alarm. Key Lock and Castle Lock help interlocking with different category of products.

Extended terminals allow for liberal termination or termination of large number of cables with higher clearances. Shrouds encase the terminals so that no falling hardware may get embedded between the terminals resulting in flashovers.



## Switch Construction

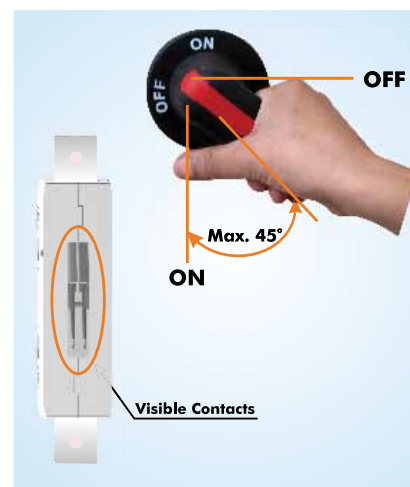
Safety Built-in

C&S pioneered the concept of positive isolation in case of welding of contacts. In the event of extremely high current leading to welding of contacts, the handle will not turn beyond 45° from the ON position, clearly indicates that the supply is ON and contacts get welded.

Convenience of clear contacts visibility, permits contact position inspection, without removing the switch from installation, thus enhancing reliability and saving valuable down time.

Self extinguishing fibre glass re-inforced insulating body of poles has very high tracking index. Large gap between fixed and moving contacts in OFF position, make them suitable for isolation function.

Door interlocking prevents opening in the ON position, guarding the operator against an accidental mishap. As a standard upto 3 padlocks are provided in the OFF position to prevent closing the circuit during maintenance work. They can also be provided in the ON position. Using a suitable gasket alongwith handle enhances ingress protection level to IP 54.



## Common Characteristics

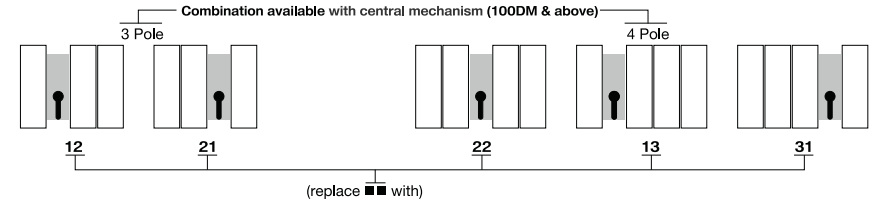
Conformity to Standards	-	IEC 60947-3 / IS 13947-3
Rated Operational Voltage (Ue)	V	415
Rated Operational Frequency	Hz	50 / 60
Suitability for Isolation	-	YES
Pollution Degree as per IEC / IS	-	3
Ambient / Cubicle Service Temp.	°C	55
IP Level after mounting	-	IP 54
Number of Poles <small>(4th Pole always 100% rated in 4 Pole switches)</small>	-	3/4P*

\*Other Pole configuration available on request

Replace ● with 3 in case of 3 pole or with 4 in case of 4 pole

## Parameters

Type - CSSD with side mechanism		
Type - CSSD with central mechanism, 3 pole		
Type - CSSD with central mechanism, 4 pole		
Rated insulation voltage and rated operational voltage AC20 / DC20 (Ui)		V
Dielectric strength	50 Hz, 1min.	KV
Rated impulse withstand voltage (Uimp)		KV
Rated thermal current and rated operational current AC20 / DC20 / ambient 40°C	Open Execution	A
/ ambient 40°C	Enclosure	A
/ ambient 60°C	Enclosure	A
With minimum conductor cross section	Cu	mm <sup>2</sup>
Rated operational current, AC-21A	up to 415V	A
	440-690V	A
	1000V	A
Rated operational current, AC-22A	up to 415V	A
	440-500V	A
	690V	A
	1000V	A
Rated operational current, AC-23A	up to 415V	A
	440V	A
	500V	A
	690V	A
	1000V	A
Rated operational current / poles in series, DC-21A	up to 48V	A
	110V	A
	220V	A
	440V	A
	750V	A
Rated operational current / poles in series, DC-22A	up to 48V	A
	110V	A
	220V	A
	440V	A
	750V	A
Rated operational current / poles in series, DC-23A	up to 48V	A
	110V	A
	220V	A
	440V	A
	750V	A




25A	40A	63A (3P)	63A (4P)	100A	125A	100A	125A	160A
CSSD25D●	CSSD40D●	CSSD63K●	CSSD63D●	CSSD100D●	CSSD125D●	CSSD100DM●	CSSD125DM●	CSSD160DM●
-	-	-	-	-	-	-	-	-
750	750	750	750	750	750	750	750	750
6	6	6	6	6	6	6	6	6
8	8	8	8	8	8	8	8	8
32	40	63	63	115	135	115	135	160
25	40	63	63	100	125	100	125	160
16	25	40	40	63	100	63	100	125
6	10	16	16	35	50	-	-	70
25	40	63	80	100	125	100	125	160
25	40	63	63	100	125	100	125	160
-	-	-	-	-	-	-	-	-
25	40	63	63	100	125	100	125	160
-	-	-	-	-	-	-	125	160
-	-	-	-	-	-	100	125	160
-	-	-	-	-	-	-	-	-
25	40	63	63	100	125	100	125	160
20	25	40	40	50	63	60	70	100
20	25	32	32	50	63	60	70	100
16	25	32	32	40	50	40	50	63
-	-	-	-	-	-	-	-	63
16/2	16/2	16/2	16/2	16/2	16/2	100/2	125/2	160/2
16/3	16/3	16/3	16/3	16/3	16/3	100/3	125/3	160/3
16/3	16/3	16/3	16/3	16/3	16/3	100/3	125/3	160/3
16/4	16/4	16/4	16/4	-	-	-	-	-
-	-	-	-	-	-	-	-	-
16/2	16/2	16/2	16/2	16/2	16/2	100/2	125/2	160/2
16/3	16/3	16/3	16/3	16/3	16/3	100/3	125/3	160/3
16/3	16/3	16/3	16/3	16/3	16/3	100/3	125/3	160/3
16/4	16/4	16/4	16/4	-	-	-	-	-
-	-	-	-	-	-	-	-	-
16/2	16/2	16/2	16/2	16/2	16/2	100/2	125/2	160/2
16/3	16/3	16/3	16/3	16/3	16/3	100/3	125/3	160/3
16/3	16/3	16/3	16/3	16/3	16/3	100/3	125/3	160/3
16/4	16/4	16/4	16/4	-	-	-	-	-
16/4	16/4	16/4	16/4	-	-	-	-	-



Parameters			
Rated operational power, AC-23A	The kW-ratings are accurate for 3 phase 1500 R.P.M. standard asynchronous motors	220-240V	kW
		400-415V	kW
		440V	kW
		500V	kW
		690V	kW
Rated breaking capacity, AC-23A		up to 415V	A
		440V	A
		500V	A
		690V	A
Rated breaking capacity/poles in series, DC-23A		up to 48V	A
		110V	A
		220V	A
		440V	A
		750V	A
Rated conditional (fused) short-circuit current r.m.s. and corresponding cut-off current of the fuse in single-phase test according IEC 269	Cut-off /Back up fuse Rating	50kA	kA
		415V	
		50kA	kA
		500V	
		50kA	kA
		690V	
		100kA	kA
		500V	
Rated short-time withstand current	R.M.S. -value Icw	690V,0.2s	kA
		690V,0.25s	kA
		690V,1s	kA
		690V/500V	kA
Rated short circuit making capacity	Peak value Icm	400V	kVAR
Rated capacitor power	The capacitor ratings are limited by the fuse link	415V	kVAR
Power loss / pole	At rated operational current		watt
Mechanical Endurance	Divide by two for operation cycles		Operations
Electrical Endurance	At 0.65 pf	415V	Operations
Weight without accessories	With handle and shaft	3-Pole	kg
		4-Pole	kg
Terminal suitable for cable lug size	Cu- wire suitable for terminal clamp		Sq mm
Terminal tightening torque	Counter torque required		Nm
Operating torque	3-pole switch-disconnector		Nm


25A	40A	63A		100A	125A	100A	125A	160A
4	5.5	11	11	22	22	22	22	22
9	11	22	22	37	45	37	45	45
9	11	22	22	37	45	37	45	45
9	11	22	22	37	45	37	45	45
9	11	15	15	37	45	37	45	45
200	320	504	504	800	1000	800	1000	1280
160	200	320	320	400	504	480	560	1280
160	200	256	256	400	504	480	560	1280
128	200	256	256	320	400	320	400	1280
100/2	128/2	180/2	180/2	400/2	500/2	400/2	500/2	640/1
100/2	128/2	180/2	180/2	400/2	500/2	400/2	500/2	640/2
100/4	128/4	180/4	180/4	252/4	252/4	252/4	252/4	252/4
40/4	40/4	40/4	40/4	-	-	-	-	-
64/8	64/8	-	-	-	-	-	-	-
6.5	6.5	13	13	16.5	16.5	16.5	16.5	18
40/32	40/32	100/80	100/80	125/125	125/125	125/125	125/125	160/160
6.5	6.5	13	13	16.5	16.5	16.5	16.5	18
40/32	40/32	100/80	100/80	125/125	125/125	125/125	125/125	160/160
4	4	11	11	10	10	10	10	10
25/16	25/16	80/63	80/63	63/63	63/63	63/63	63/63	63/63
-	-	17	17	-	-	-	-	-
-	-	100/80	100/80	-	-	-	-	-
1	1	2	2	5	5	5	5	8
1	1	2	2	5	5	5	5	8
0.5	0.5	1	1	2.5	2.5	2.5	2.5	5
0.7	0.7	1.4	1.4	3.6	3.6	3.6	3.6	7
10	15	25	25	40	50	40	50	60
10	15	25	25	40	50	40	50	60
0.6	1.6	2.8	2.8	4	6.3	4	6.3	9
20000	20000	20000	20000	20000	20000	20000	20000	20000
5000	5000	5000	5000	5000	5000	5000	5000	1000
0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	1.8
0.25	0.25	0.4	0.5	0.5	0.5	0.5	0.5	2.25
0.75-10	1.5-35	1.5-35	1.5-35	10-70	10-70	10-70	10-70	10-95
0.8	2	2	5.5	6	8	6	8	8
1	1	1.2	1.2	2	2	2	2	2.5


## Catalogue Reference



**Mounting**


EABW	Plastic Enclosure, Gray base & Gray cover (25A-63A)
EACL	Plastic Enclosure, Gray base & Yellow cover (25A-63A)
ELCL / ELBL	Aluminum Enclosure, Gray base & Gray cover (16A-125A) <small>(Refer our Enclosed Switch Catalogue for more info.)</small>
E	In Sheet Steel Enclosure
Blank	Without Enclosure






**Rating**

40	40A
800	800A
2500	2500A



**Switch Type**

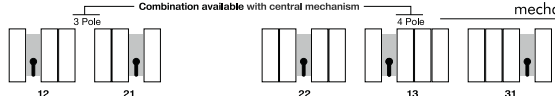
D	Old Series, 25A, 40A, 63A, 100A & 125A
DM	Compact Series, 100 ~ 400A
K	63A, 400A - 800A, 3 pole
P	1000A - 3150A
C	Toggle Type 25A - 125A




**No. of Poles**

3	3 Pole
4	4 Pole

Combination available with central mechanism



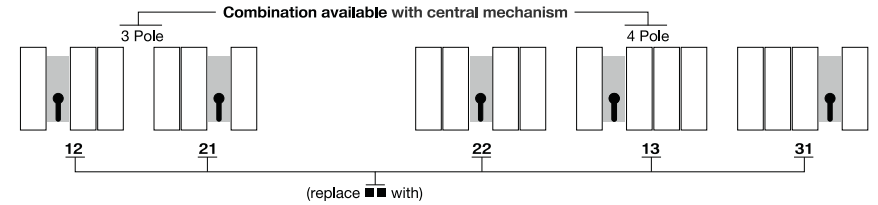
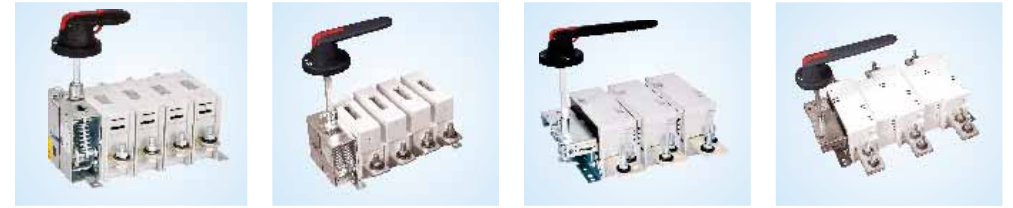


**Mechanism Type**

Blank	Front Operated
SO	Side Operated, 63 - 800A <small>(not applicable for combinations with central mechanism)</small>

## Common Characteristics

Conformity to Standards	-	IEC 60947-3 / IS 13947-3
Rated Operational Voltage (Ue)	V	415
Rated Operational Frequency	Hz	50 / 60
Suitability for Isolation	-	YES
Pollution Degree as per IEC / IS	-	3
Ambient / Cubicle Service Temp.	°C	55
IP Level after mounting	-	IP 54
Number of Poles <small>(4th Pole always 100% rated in 4 Pole switches) *Other Pole configuration available on request</small>	-	3P / 4P*



Replace ● with 3 in case of 3 pole or with 4 in case of 4 pole

Parameters			200A		250A		315A		400A		400A		630A		800A		1000A		1250A		1600A		2000A		2500A		3150A		
			CSSD200DM●	CSSD250DM●	CSSD315DM●	CSSD400DM●	CSSD400K●	CSSD630K●	CSSD800K●	CSSD1000P●	CSSD1250P●	CSSD1600P●	CSSD2000P●	CSSD2500P●	CSSD3150P●	CSSD200DM■	CSSD250DM■	CSSD315DM■	CSSD400DM■	CSSD400K■	CSSD630K■	CSSD800K■	CSSD1000P■	CSSD1250P■	CSSD1600P■	CSSD2000P■	CSSD2500P■	CSSD3150P■	
Type - CSSD with side mechanism																													
Type - CSSD with central mechanism, 3 pole																													
Type - CSSD with central mechanism, 4 pole																													
Rated insulation and rated operational voltage AC20/DC20 Ui	50 Hz 1min.	V	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Dielectric strength		KV	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	8	8	8	8	8	8	8	8	8	8	8	8
Rated impulse withstand voltage (Uimp)		KV	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Rated thermal current and rated operational current AC20/DC20 / ambient 40°C	Open Execution	A	250	315	350	400	500	630	800	1000	1250	1600	2000	2500	3150														
/ ambient 40°C	Enclosure	A	200	270	315	400	500	630	720	1000	1250	1600	2000	2300	2600														
/ ambient 60°C	Enclosure	A	175	220	260	320	410	500	600	900	1000	1250	2000	1950	2300														
with minimum conductor cross section	Cu	mm <sup>2</sup>	95	120	185	2x150	2x150	2x185	2x240	2x(60x5)	2x(80x5)	2x(100x5)	3x(100x5)	4x(100x5)	3x(100x10)														
Rated operational current, AC-21A	up to 415V	A	200	250	315	400	400	630	800	1000	1250	1600	2000 <sup>2)</sup>	2500 <sup>2)</sup>	3150 <sup>2)</sup>														
440-690V	A	200	250	315	400	400	630	800	1000	1250	1600	2000 <sup>2)</sup>	2500 <sup>2)</sup>	3150 <sup>2)</sup>															
1000V	A	200	250	315	400	400	630	800	1000	1250	1600	2000 <sup>2)</sup>	2500 <sup>2)</sup>	3150 <sup>2)</sup>															
Rated operational current, AC-22A	up to 415V	A	200	250	315	400	400	630	800	1000	1250	1600	1600 <sup>2)</sup>	1600 <sup>2)</sup>	1600 <sup>2)</sup>														
440-500V	A	200	250	315	400	400	630	800	1000	1250	1600	1600 <sup>2)</sup>	1600 <sup>2)</sup>	1600 <sup>2)</sup>															
690V	A	200	250	315	400	400	630	800	-	-	-	-	-	-															
1000V	A	200	250	315	400	400	630	800	-	-	-	-	-	-															
Rated operational current, AC-23A	up to 415V	A	200	250	315	400	400	630	720	1000	1000	1000	-	-	-														
440V	A	200	250	315	400	400	590	670	-	-	-	-	-	-															
500V	A	200	250	315	400	400	580	600	-	-	-	-	-	-															
690V	A	200	250	315	350	350	350	350	-	-	-	-	-	-															
1000V	A	125	125	125	125 <sup>2)</sup>	125 <sup>2)</sup>	150 <sup>2)</sup>	150 <sup>2)</sup>	-	-	-	-	-	-															
Rated operational current / poles in series, DC-21A	up to 48V	A	200/2	250/2	315/2	400/2	400/2	630/1	800/1	1000/1	1250/1	1600/1	-	-	-														
110V	A	200/2	250/2	315/2	400/2	400/2	630/2	800/2	1000/2	1250/2	1600/2	-	-	-															
220V	A	200/2	250/2	315/2	400/2	400/2	630/2	800/2	1000/3	1250/3	1600/3	-	-	-															
440V	A	200/3	250/3	315/3	400/3	400/3	630/3	800/3	-	-	-	-	-	-															
750V	A	200/4	250/4	315/4	-	-	-	-	-	-	-	-	-	-															
Rated operational current / poles in series, DC-22A	up to 48V	A	200/2	250/2	315/2	400/1	400/1	630/1	800/1	-	-	-	-	-															
110V	A	200/2	250/2	315/2	400/2	400/2	630/2	800/2	-	-	-	-	-	-															
220V	A	200/2	250/2	315/2	400/2	400/2	630/2	800/2	-	-	-	-	-	-															
440V	A	200/3	250/3	315/3	400/3	400/3	630/3	800/3	-	-	-	-	-	-															
750V	A	200/4	250/4	315/4	-	-	-	-	-	-	-	-	-	-															
Rated operational current / poles in series, DC-23A	up to 48V	A	200/2	250/2	315/2	400/1	400/1	630/1	800/1	-	-	-	-	-															
110V	A	200/2	250/2	315/2	400/2	400/2	630/2	800/2	-	-	-	-	-	-															
220V	A	200/2	250/2	315/2	400/2	400/2	630/2	800/2	-	-	-	-	-	-															
440V	A	200/3	250/3	315/3	400/3	400/3	630/3	800/3	-	-	-	-	-	-															
750V	A	200/4	250/4	315/4	-	-	-	-	-	-	-	-	-	-															

2) IEC-947-3, utilization category B, infrequent operation

# Technical Data

Parameters				250A	315A	400A	400A	630A	800A	1000A	1250A	1600A	2000A	2500A	3150A
				Rated operational power, AC-23A	The kW-ratings are accurate for 3 phase 1500 R.P.M. standard asynchronous motors.	220-240V	kW	75	90	132	132	180	200	250	250
	400-415V	kW	132	160		200	200	315	355	400	400	400	400	400	400
	440V	kW	132	160		315	315	355	355	400	400	400	400	400	400
	500V	kW	160	200		315	355	400	450	450	450	450	450	450	450
	690V	kW	200	250		315	315	355	355	-	-	-	-	-	-
Rated breaking capacity, AC-23A		up to 415V	A	2000	2520	3200	4000	5040	5760	8000	8000	8000	8000	8000	8000
		440V	A	2000	2520	3200	4000	4720	5360	-	-	-	6400	6400	6400
		500V	A	2000	2520	3200	4000	4640	4800	-	-	-	6400	6400	6400
		690V	A	2000	2520	2800	2800	2800	2800	2500 <sup>3)</sup>	2500 <sup>3)</sup>	2500 <sup>3)</sup>	4800 <sup>4)</sup>	4800 <sup>4)</sup>	4800 <sup>4)</sup>
Rated breaking capacity/poles in series, DC-23A		up to 48V	A	1000/2	1260/2	-	-	-	-	-	-	-	-	-	-
		110V	A	1000/2	1260/2	-	-	-	-	-	-	-	-	-	-
		220V	A	1000/2	1260/2	-	-	-	-	-	-	-	-	-	-
		440V	A	1000/3	1260/3	-	-	-	-	-	-	-	-	-	-
		750V	A	1000/4	1260/4	-	-	-	-	-	-	-	-	-	-
Rated conditional(fused) short-circuit current r.m.s. and corresponding cut-off current of the fuse in single-phase test according IEC 269	Cut-off /Back up fuse Rating	50kA	kA	36	36	40	42	63	63	105	105	105	140	140	140
		415V		400/400	400/400	400/400	500/500	630/800	630/800	-	-	-	-	-	-
		50kA	kA	36	36	40	42	63	63	105	105	105	140	140	140
		500V		400/400	400/400	400/400	500/500	630/800	630/800	-	-	-	-	-	-
		50kA	kA	48	48	40	54	70	70	105	105	105	140	140	140
		690V		400/400	400/400	400/400	500/500	630/800	630/800	-	-	-	-	-	-
		100kA	kA	48	48	48	54	70	70	105	105	105	105	105	105
	500V		400/400	400/400	400/400	500/500	630/800	630/800	-	-	-	-	-	-	
Rated short-time withstand current	R.M.S.-value Icw	690V,0.2s	kA	17.5	17.5	-	-	38	38	-	-	-	-	-	-
		690V,0.25s	kA	-	-	-	31	-	-	56 <sup>5)</sup>	56 <sup>5)</sup>	56 <sup>5)</sup>	-	-	-
		690V,1s	kA	8	8	12	17	17	17	50 <sup>5)</sup>	50 <sup>5)</sup>	50 <sup>5)</sup>	80 <sup>5)</sup>	80 <sup>5)</sup>	80 <sup>5)</sup>
Rated short circuit making capacity	Peak value Icm	690V/500V	kA	35	35	35	65	80	80	105	105	105	105/140	105/140	105/140
Rated capacitor power	The capacitor ratings are limited by the fuse link	400V	kVAR	110	140	180	250	300	330	-	-	-	-	-	-
		415V	kVAR	110	140	180	250	300	330	-	-	-	-	-	-
Power loss / pole	at rated operational current		w	5.5	8.5	12	13	22	40	27	40	67	80	90	140
Mechanical Endurance	Divide by two for operation cycles		Operations	16 000	16 000	10 000	10 000	10 000	10 000	6 000	6 000	6000	1200	1200	1200
Electrical Endurance	At 0.65 pf	415V	Operations	1000	1000	1000	1000	500	500	500	500	500	100	100	100
Weight without accessories	With handle and shaft	3-Pole	kg	3	3	3.3	5.2	6.2	6.2	16.3	16.3	17.5	37	37	37
		4-Pole	kg	3.7	3.7	4	6.4	7.6	7.6	20.5	20.5	22.5	47	47	47
Terminal suitable for cable lug size	Cu- wire suitable for terminal clamp		Sq mm	10x30	10x30	10x40	10x40	12x40	12x40	12x60	12x60	12x60	12x60	12x60	12x60
Terminal tightening torque	Counter torque required		Nm	30...44	30...44	30...44	30...44	50...75	50...75	50...75	50...75	50...75	50...75	50...75	50...75
Operating torque	3-pole switch-disconnector		Nm	8.2	8.2	9	17	21	21	21	21	21	50	50	50

Ratings	25 - 40 Type D	63 Type K/D	100-125 Type D	100 - 160 Type DM	200 - 400 Type DM	400 - 800 Type D/K	1000 - 1600 Type P	2000 - 3150 Type P
Handle - Black <sup>7)</sup>	CSSDZX111	CSSDZX111	CSSDZX104	CSWH 80 S6	CSWH 80 S8	CSWH 145 S12	CSWH 220 S12	CSWH 220 S12/CSDA 8 <sup>8)</sup>
Handle Shaft	CSP5X70	CSP5X70	CSP5X70	CSP6X165	CSP8X240	CSP12X255	CSP12X255	CSP12X325
Handle Mounting Kit	-	-	-	-	HMK-2	HMK-1-1	HMK-3-1	-
Door Mounting Kit, 3P / 4P	DMK1/1A	DMK1/3	DMK2/3	-	-	-	-	-
Changover Mechanism	CSSDZW 6	CSSDZW 6/1	CSSDZW 6/1	CSSDZW 6/1	CSSDZW 6/1	CSSDZW 11	CSSDZW 12	CSSDZW 12
Auxiliary Contact - 1NO + 1NC, 3P-4P	CSSDZX 49/87	CSSDZX 79/55	CSSDZX 52/55	CSSDZX 1	CSSDZX 37	CSSDZX 33	CSSDZX 35	CSSDZX 35
Auxiliary Contact - 2NO + 2NC, 3P-4P	CSSDZX 50/88	CSSDZX 80/56	CSSDZX 53/56	CSSDZX 16	CSSDZX 38	CSSDZX 34	CSSDZX 36	CSSDZX 36
Terminal Shrouds	-	-	SF701	SF702	SF703	SF703(200-400)/SF704(630-800)	-	-
Extended Terminals, 3P/4P	-	-	ET325/ET326	ET327/ET328	ET329/ET330	ET329/ET330(upto 400A)	-	-
Key Interlock	CSSDZW-16	CSSDZW-16	CSSDZW-16	CSSDZW-16	CSSDZW-5	CSSDZW-5	CSSDZW-5	CSSDZW-5
Castle Lock	CSSDZW-15	CSSDZW-15	CSSDZW-15	CSSDZW-15	CSSDZW-4	CSSDZW-4	CSSDZW-4	CSSDZW-4
Neutral Link	-	-	-	-	-	CSSDFZX85	CSSDZX159	CSSDZX159(2Nos.)

3) PF 0,95 4) PF 0,65 5) Max. Distance between busbar support and switch terminal shall be 70 mm 6) Metallic Handle (CSDA 8) for 2500 - 3150A 7) Red / Yellow available on request.

## Mounting Instruction for Accessories

### Auxiliary Contact

#### For CSSD25-125A

- Unscrew the two grub screws and remove the bush from the switch.
- Fit the auxiliary bracket onto the switch and place the locking bush on it.
- Fit the cam and screw it with the locking bush.
- Fit auxiliary contact at the corner and screw it diagonally.
- Fit the two NO/NC auxiliary at the other corner and screw it properly, if required.

#### For CSSD100-160A Compact (ZX1, ZX16)

- Place the auxiliary and name plate at rear end (opposite to mechanism) by ensuring name plate between auxiliary and switch and screw them properly.
- Fit the cam on the main shaft and screw it on the flat surface of the shaft.

#### For CSSD200-400A Compact (ZX37, ZX38)

- Fit the auxiliary contact on the top of mechanism and screw it diagonally at the provided holes properly.
- Fit the two NO/NC auxiliary at the top of the auxiliary and screw it diagonally, if required.

#### For CSSD400-800A (ZX33, ZX34)

- Fit the auxiliary contact on the top of mechanism and screw it diagonally on the provided thread.
- Fit the two NO/NC auxiliary at the top of the auxiliary and screw it diagonally, if required.

#### For CSSD1000-3150A (ZX35, ZX36)

- Fit the cam on the tubular shaft with the square bush.
- Fit the auxiliary contact along with the bracket (Z type) by screwing diagonally, if provided separately.
- Place and screw the auxiliary contact onto the mechanism by matching of bracket hole and tubular shaft.

### Auxiliary Contacts ratings

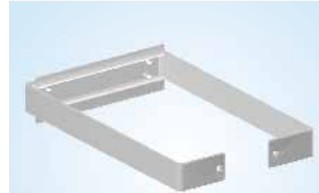
- Thermal Rating 10A
- AC 15 @ 415V - 4A
- DC 13 @ 220V - 1A



Auxiliary Contacts - 200A & above



Auxiliary Contacts - 100A to 160A



Door Mounting Kit (25A - 125A Type D)

### Castle Lock

- Make a hole in panel door for fitment of castle lock as per given drawing.
- Fit the castle lock onto the panel door from front.
- Fit the lever onto the lock shaft in unlock position from back and tighten the lever by providing U clamp and screw.
- Fit the Square pipe assembly with the switch main shaft and adjust the position so that the lever can lock it from behind of this assembly and tighten the screw.



Castle Lock

### Key Interlock

- Make a hole in the panel door for castle lock fitment as per given drawing.
- Fit the key lock onto the panel door from front.
- Fit the lever onto the lock shaft and circlip it in unlock position.
- Fit the square pipe assembly with the switch main shaft and adjust the position so that the lever can lock it in groove provided and tighten the screw.



Key Lock

### Door Mounting Kit (25-125A)

- Fit the switch at the rear using din rail mounting channel.
- Mount the channel using hole provided for screwing on the door.

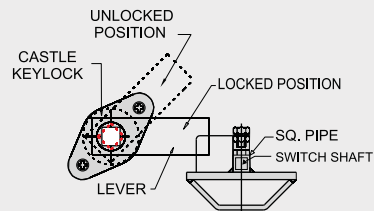


Handle Mounting Kit (200A - 1800A)

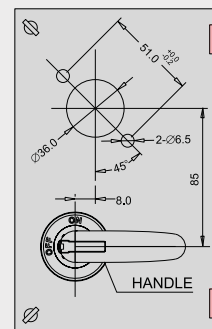
### Handle mounting Kit (200A-1800A)

- Unscrew the bolt (provided for earthing on mechanism) and Philips head screw (given below the earth bolt) as shown in model.
- Fit the handle mounting bracket and tighten the bolt and screw.
- Fit the handle assembly on given profile of the mounting kit.

### Castle Lock

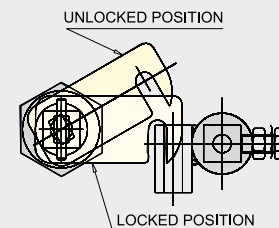


Panel Drilling Plan

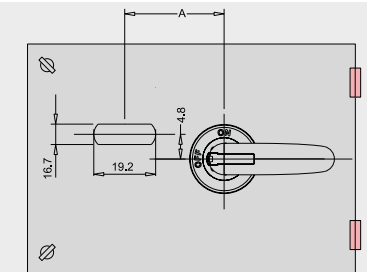


Catalogue No.	Type of Switch
CSSDZW15	CSSD 25-160A
CSSDZW4	CSSD 200-3150A

### Key Interlock



Panel Punching Plan

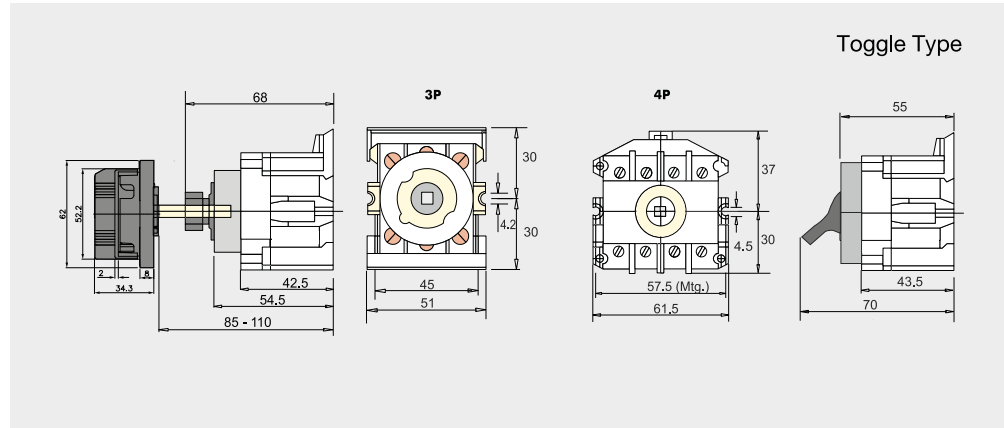


Catalogue No.	Type of Switch	'A'
CSSDZW16	CSSD 25-160A	60.7 ±0.3
CSSDZW5	CSSD 200-3150A	66.0 ±0.3

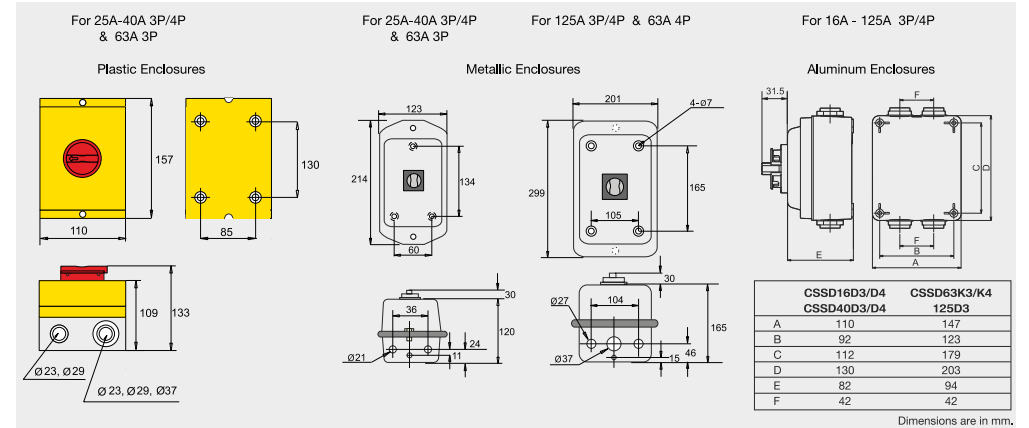


# Dimensional Details

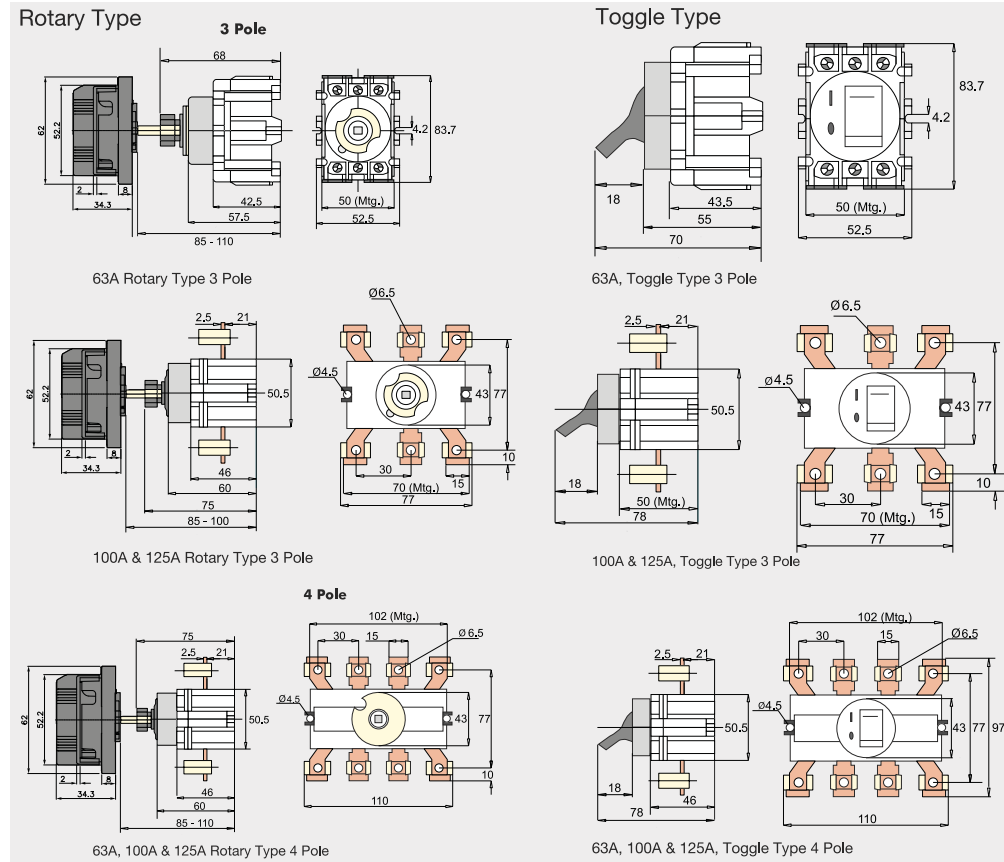
## 25A & 40A



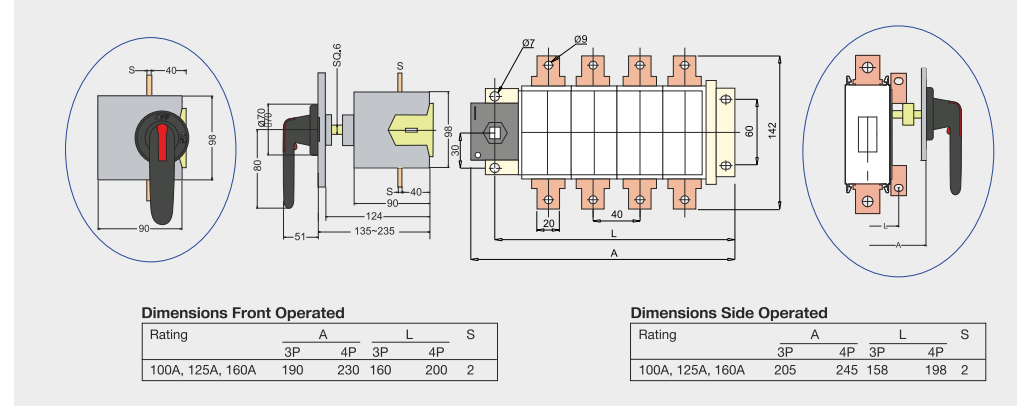
## Enclosures CSSD25A - 125A



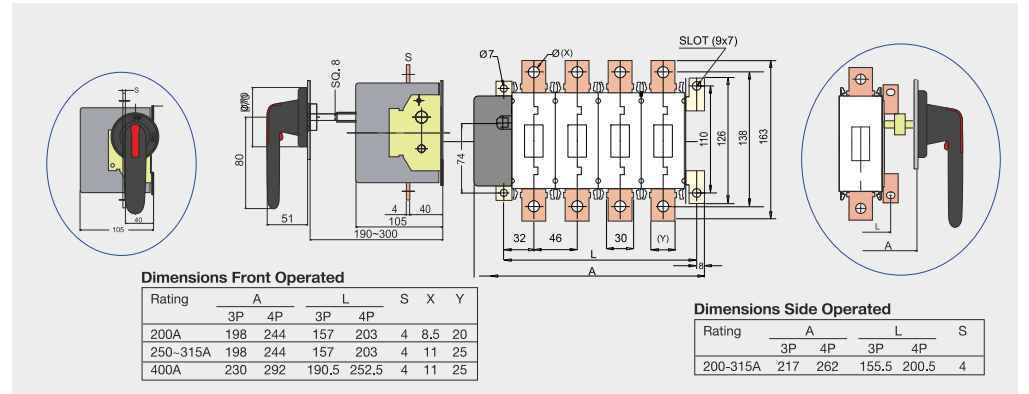
## 63A, 100A & 125A (Type D/K)



## 100A - 160A (DM)



## 200A - 400A (DM)

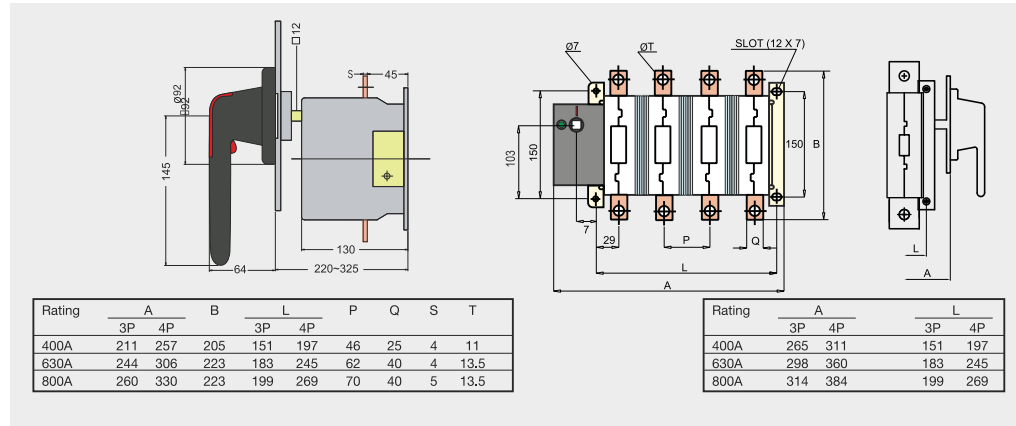


ILLUSTRATIONS NOT TO SCALE

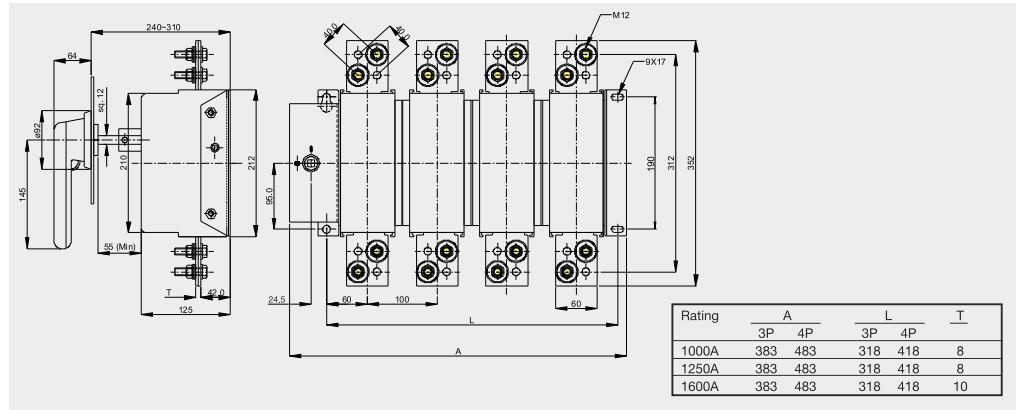
ILLUSTRATIONS NOT TO SCALE

# Dimensional Details

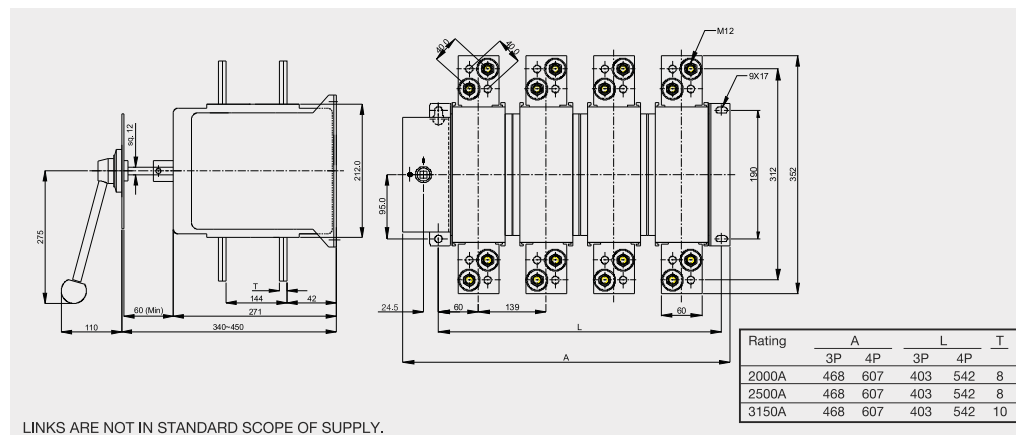
## 400A - 800A



## 1000A - 1600A



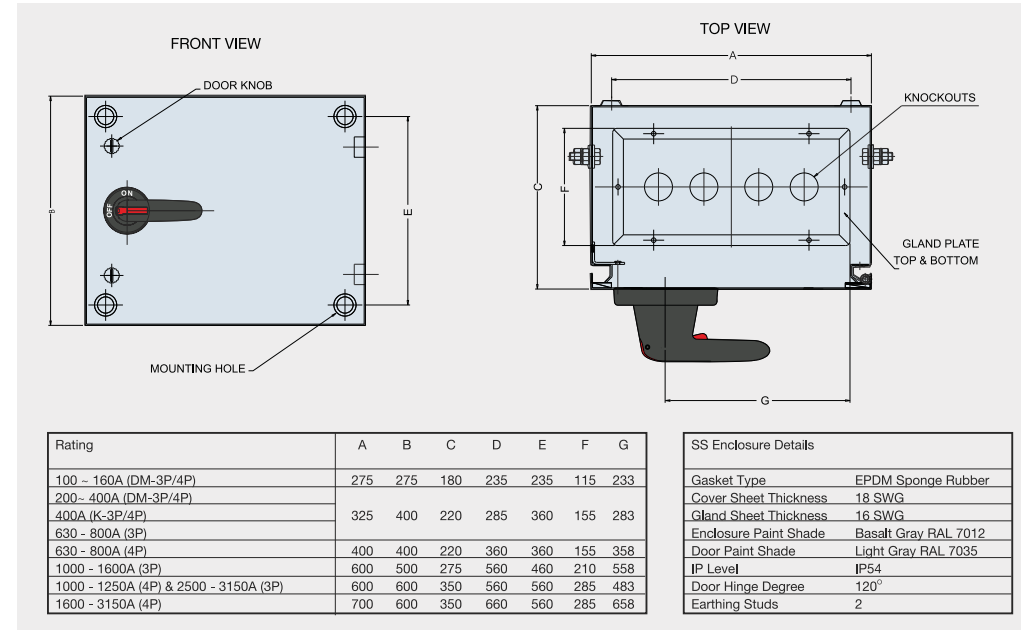
## 2000A - 3150A



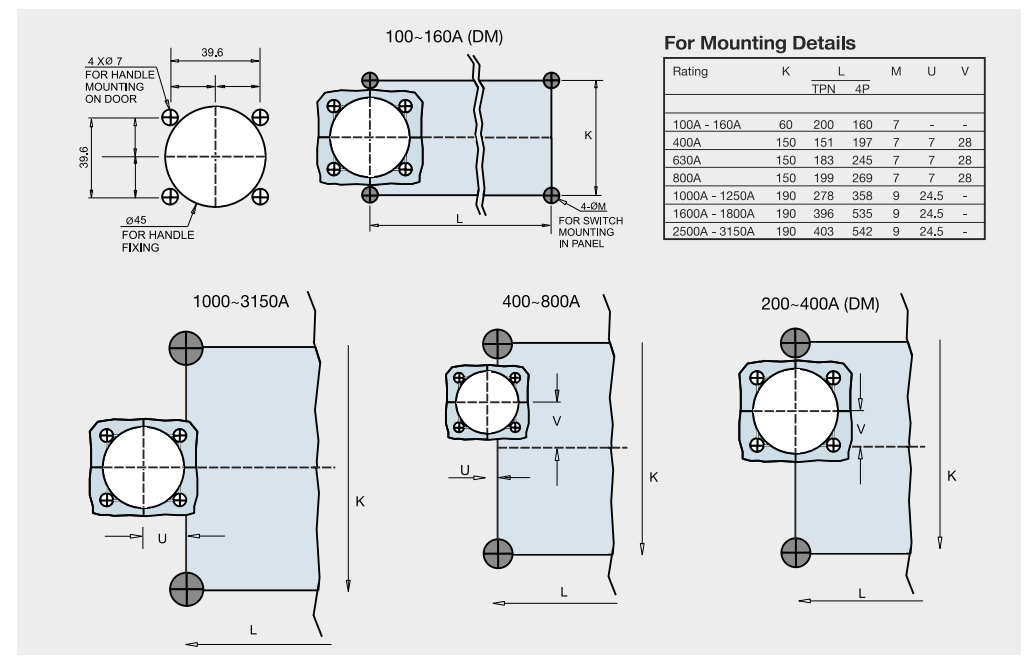
LINKS ARE NOT IN STANDARD SCOPE OF SUPPLY.

ILLUSTRATIONS NOT TO SCALE.

## SS Enclosure 100A - 400A (DM) & 400A - 3150A



## Mounting Details, 100A - 315A (DM) & 200A - 3150A



ILLUSTRATIONS NOT TO SCALE.