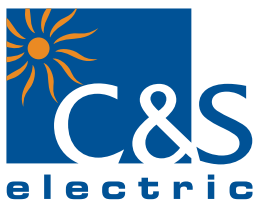


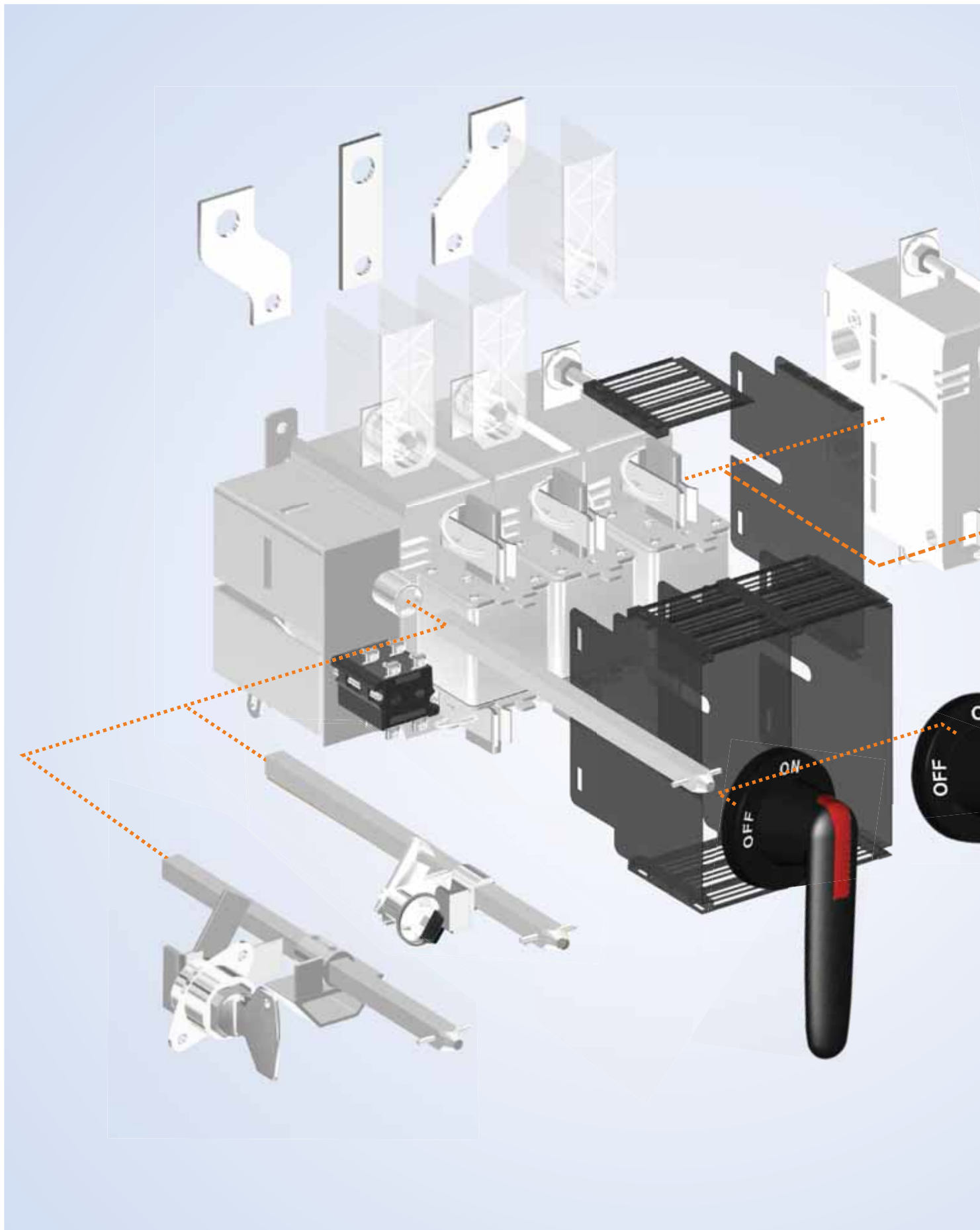
We touch your **electricity** everyday!



CE



Switch Disconnecter Fuse



Integrating end user convenience with installation flexibility

C&S offers Switch Disconnecter Fuse units from 32A to 800A ratings, 3 Pole as well as 4 Pole. These have AC23A utilisation category as per IEC 60947 / IS 13947. They are available with DIN as well as BS type fuse holder & suitable for operations upto 690V. They have been tested in independent & internationally acclaimed laboratories of ASTA for compliance to IEC standards, and at CPRI & ERDA for conformity to IS standards.

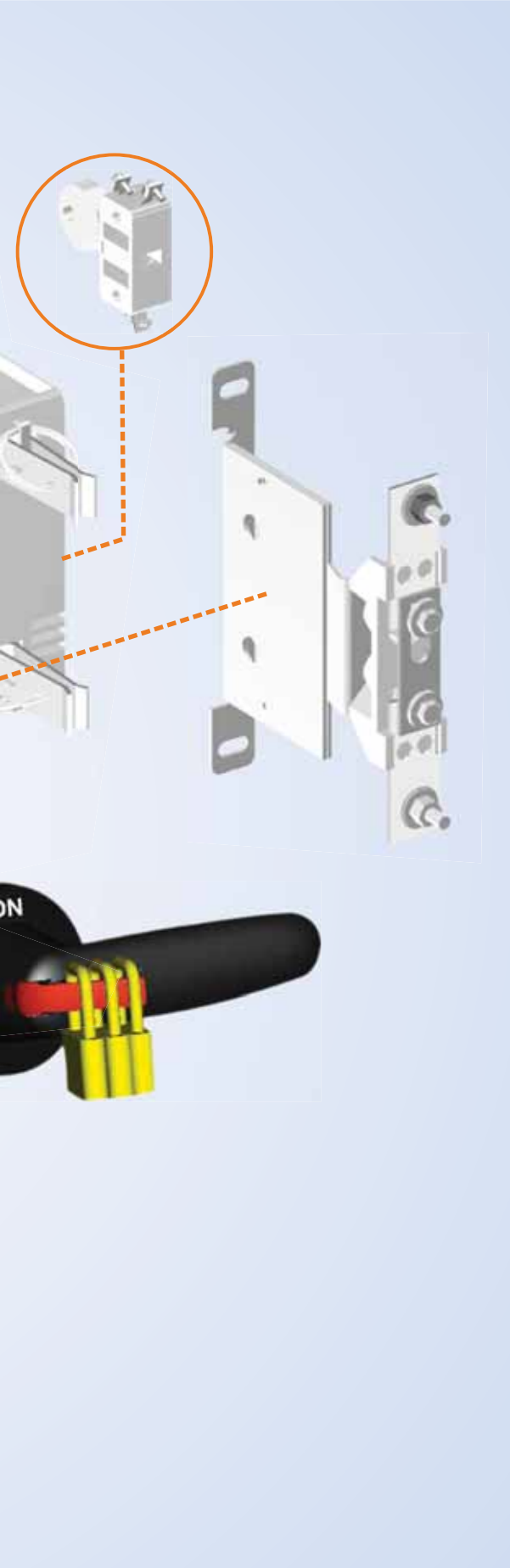
Modular yet rugged construction of the Switch Disconnecter Fuse units gives Add – On pole flexibility while maintaining absolute reliability and 100% rating as the main poles. This arrangement is suitable for 3 Phase 3 Wire, 3 Phase 4 Wire as well as any type of Earthing and DC installation.

The mounting flexibility offers matchless benefit for use in MCC / PCC distribution boards or for standalone mountings. It is compact enough to occupy small panel space yet allowing installation as per convenience and rendering it safe for maintenance.

Multiple accessories to suit application requirements enhance flexibility of operation and the safety level of installation. It also ensures use in diverse applications.

The entire range of Switch Disconnecter Fuse unit integrates end-user convenience with features suiting OEMs & Switchboard builder requirements.

For over 15 years now, with their rugged design combined with ease of operation and maintenance, they have stood the test of adverse environments in all climate of various countries. 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, etc.



Modular and user friendly

Internationally Endorsed

Tested & Accepted
World over

C&S Switch Disconnecter Fuse units 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 and quality is being used and exported to many countries world over.

ISO 9001 certified manufacturing facilities assure quality & consistency.

Flexible Design

Modular yet reliable
construction

C&S Switch Disconnecter Units have a modular assembly design, allowing 1 Pole to a 4 Pole combination. The flexibility of design lets the spring operating mechanism also to be placed in the side or in between the Poles.

Thus all possible combination like the TP / TP + Isolable Neutral / Four Pole in 2 options - Switched Neutral or Fused Neutral are obtainable. And each additional Pole retains the same reliability and 100% rating as the main phase Pole. As each Pole is independent of the other, its maintenance or replacement is easy and economical in the event of damage.

Unique Contact Mechanism

Efficient Switching
& Long life

Switch Disconnecter Fuse units of rating 200A and above employ unique Knife Contact Mechanism on both sides of the fuse. It uses the magnetic attraction principle in iron circuit on the moving contacts. When current increases, the contact force too increase, 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 alongwith Arc - Chute fins blows away the arc in the Arc-Chute where it is swiftly extinguished under controlled conditions making it safer.

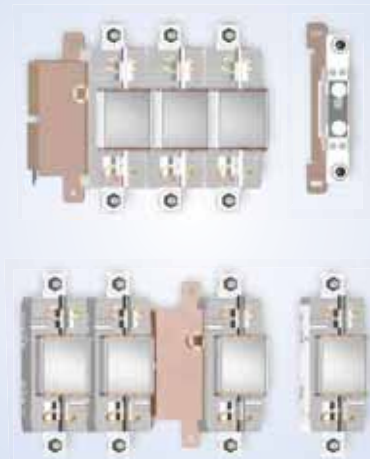
With every switching, the knife contacts clean themselves. This makes them perfectly suited for applications like Motors and capacitor switching. All these qualities makes them ideally suited for Indian conditions in general and for high pollution and corrosive conditions as in Chemical Plants, Cement Plants, Steel Plants, etc.

CPRI

ERDA

CE

ASTA



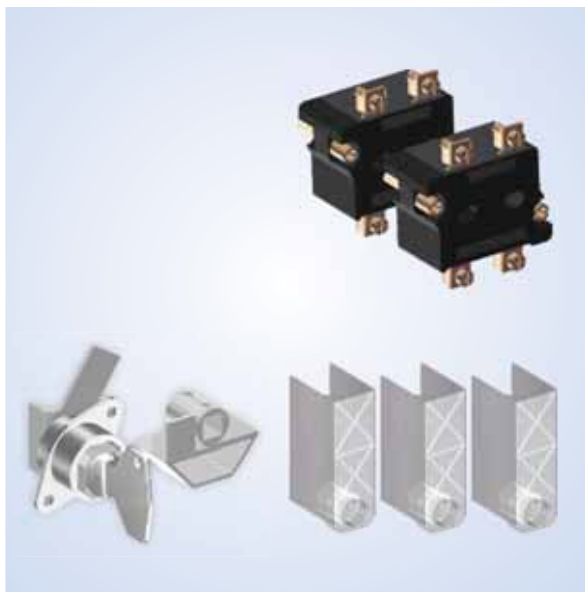


Easy Installation

Convenient, Swift & Economical

The handle in the C&S switch disconnecter fuse unit has a telescopic shaft. The handle & shaft assembly adjusts to wide depth of the panel so there is no need to place a bracket below the switch while aligning it with enclosure door. It permits installation of the same switch in installations of different depths, without any modification or addition to the enclosures. Four hole handle fixing on the door permits last minute rotation of the switch inside the panel by 90 degrees or 180 degrees 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

These units come with a multiple accessories to increase their suitability for diverse application, to enhance operational flexibility and to improve installation safety.

Handle mounting kit permits fixing complete Switch Disconnecter unit inside the enclosure door so that switch can be operated only after opening the 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 further 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 design introduced the concept of protection in case of welded contacts. In the event of high current and fuse failing to operate, leads to welding of contacts. In C&S switches, the handle will not turn beyond 45 degrees from the ON position, which clearly indicates that the supply is ON and contacts get welded.

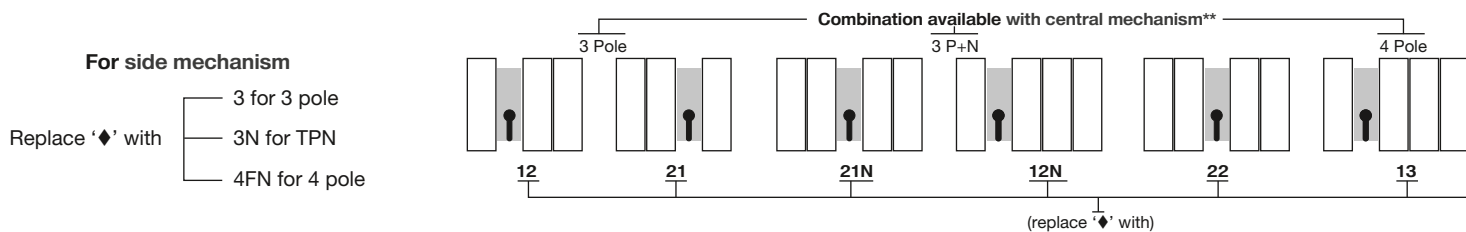
In OFF position, the fuse is discharged from both sides, permitting safe inspection or removal.

The individual pole is housed in fibreglass re-inforced insulating material that is self-extinguishing and can withstand high temperatures. The high tracking index makes these switches almost flashover proof and highly safe.

Door interlocking prevents it's 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 for the ON position. Using a suitable gasket alongwith handle enhances ingress protection level to IP 65.

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	45
IP Level after mounting	-	IP 54
Number of Poles (4P Neutrals-100%)	-	3P/TPN/4P

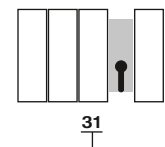
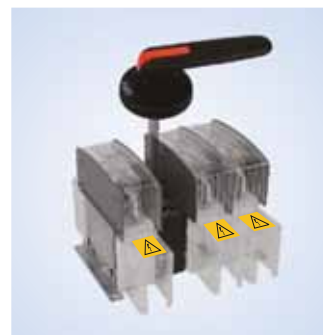


Replace '●' with 'D' in case of DIN type or 'B' in case of BS type

Parameters		32A	63A	100A
Type - CSSDF without Fuse Covers (side/central mechanism)		CSSDF32●◆	CSSDF63●◆	CSSDF100●◆
Type - CSSDF with Fuse Covers (side/central mechanism)		-	-	-
Rated Operational Current (Ie)	A	32	63	100
Max. Operational Voltage w/o derating	V	690	690	690
Rated Insulation Voltage (Ui)	V	750	750	750
Impulse Withstand Voltage (Uimp)	kV	12	12	12
Conventional Enclosed Thermal Rating @ 45°C (Ithe)	A	32	63	100
AC23A Utilisation Category Rating @ 415V	A	32	63	100
DC23A Utilisation Category Rating @ 220 V, 2 Poles in series	A	32	63	100
Rated Capacitor Power @ 415 V, 50 / 60 Hz	kVAR	15	30	45
Rated AC Making Capacity, 415V, 0.35 pf	A	320	630	1000
Rated AC Breaking Capacity, 415V, 0.35 pf	A	256	504	800
Rated DC Making / Breaking Capacity, 220V, L/R 15 ms	A	128	252	400
Rated Conditional (Fused) Short Circuit Current, RMS	kA	80	80	80
Back up Fuse Rating	A	32	63	100
Corresponding max. cut-off permitted	kAp	6	10	12
Mechanical Endurance	Operations	20000	20000	15000
Electrical Endurance @ 0.65 pf	Operations	1500	1500	1000
Terminals suitable for Cable Lug size	Sq. mm	16	25	95
Tightening Torque	N - m	3.5	5.5	9
Approx. Weight of Interior Unit, TPN / 4P	kg.	1.6 / 1.9	1.6 / 1.9	2.2/2.5
Fuse Ratings Available	A	4 - 32	32 - 63	50-100
Fuse Size as per IEC (DIN / BS)		00/A2	00/A3	00/A4
Auxiliary Contacts Ratings				
Thermal Rating	A	10	10	10
AC15 @ AC 415 V	A	4	4	4
DC13 @ 220 V	A	1	1	1

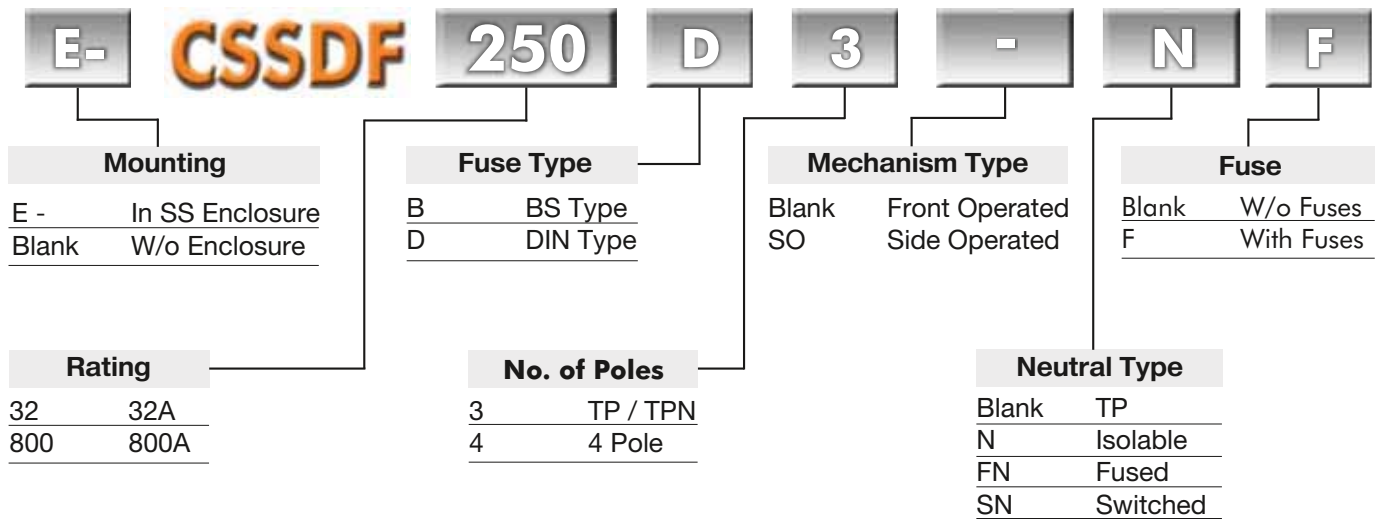
* Fuse Cover is not available for CSSDF630A in BS type.

** Central Mechanism option available with 200-630A in DIN type & 200-400A in BS type



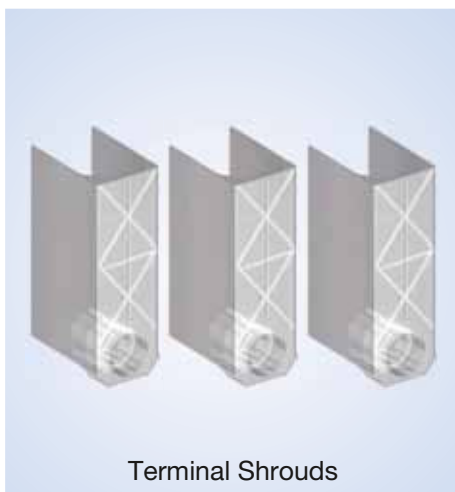
125A		160A		200A		250A		315A		400A		630A		800A	
CSSDF125◆◆		CSSDF160◆◆		CSSDF200◆◆		CSSDF250◆◆		CSSDF315◆◆		CSSDF400◆◆		CSSDF630◆◆		CSSDF800◆◆	
-		-		CSSDF200◆◆FCC		CSSDF250◆◆FCC		CSSDF315◆◆FCC		CSSDF400◆◆FCC		CSSDF630◆◆FCC*		-	
125	160	200	250	315	400	630	800								
690	690	690	690	690	690	690	690								
750	750	750	750	750	750	750	750								
12	12	12	12	12	12	12	12								
125	160	200	250	315	400	630	800								
125	160	200	250	315	400	630	800								
125	160	200	250	315	400	630	800								
50	60	90	115	145	180	250	310								
1250	1600	2000	2500	3150	4000	6300	8000								
1000	1280	1600	2000	2520	3200	5040	6400								
500	640	800	1000	1260	1600	2520	3200								
80	80	80	80	80	80	80	80								
125	160	200	250	315	400	630	800								
15	18	24	28	32	36	60	65								
15000	15000	10000	10000	10000	10000	6000	6000								
1000	1000	1000	1000	1000	1000	1000	1000								
95	120	240	240	300	300	400	625								
12	16	25	30	35	45	50	75								
2.2/2.5	2.2/2.5	7 / 8	7 / 8	7.3 / 8.3	7.8 / 8.8	15.5/19	17/21								
50- 125	80-160	125 - 200	125 - 250	250- 315	355 - 400	400-630	500-800								
00/A4	00/B1-B2	1 / B1-B2	1 / B2	2 / B3	2 / B4	3 / C1-C2	3 / C3								
10	10	10	10	10	10	10	10								
4	4	4	4	4	4	4	4								
1	1	1	1	4	1	1	1								

Accessories & Ordering Info



Parameters
Catalogue Reference with Enclosure
Rated Operational Current
Handle
Handle Shaft
Handle Mounting Kit
Auxiliary Contact - 1 NO + 1 NC
Auxiliary Contact - 2 NO + 2 NC
Extended Terminals, 3P/ 4P
Terminal Shrouds
Key Interlock
Castle lock
Neutral Links
Side Operated Mechanism

32A	63A
E-CSSDF32	E-CSSDF63
32	63
CSWH 80 S6	
CSP6 X 165	
-	
CSSDFZX 46	
CSSDFZX 32	
ET323 / ET324	
-	
CSSDFZW-16	
CSSDFZW-15	
CSSDF ZX 87	
Available	





Key Lock



Castle Lock

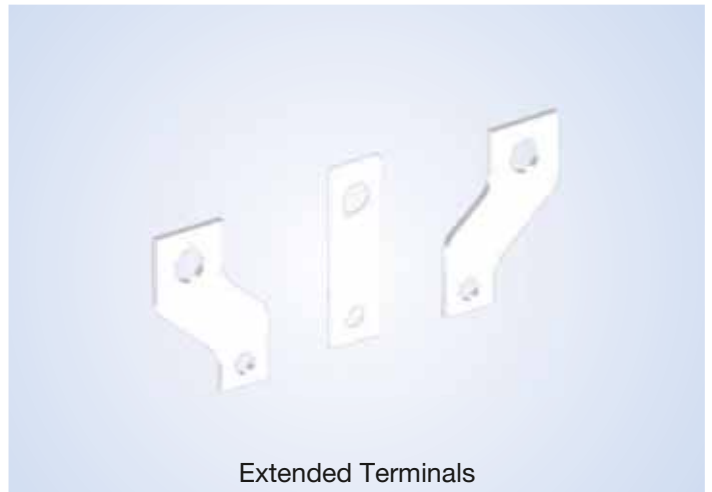


Handle & Shaft

100A	125A	160A	200A	250A	315A	400A	630A	800A
E-CSSDF100	E-CSSDF125	E-CSSDF160	E-CSSDF200	E-CSSDF250	E-CSSDF315	E-CSSDF400	E-CSSDF630	E-CSSDF800
100	125	160	200	250	315	400	630	800
CSWH 80 S6			CSWH 145 S12		CSWH 145 S12		CSWH 220 S12	
CSP6 X 165			CSP12 X 255		CSP12 X 255		CSP12 X 255	
-			HMK-1-2		HMK-1-2		HMK-3-2	
CSSDFZX 1			CSSDFZX 33		CSSDFZX 33		CSSDFZX 35	
CSSDFZX 16			CSSDFZX 34		CSSDFZX 34		CSSDFZX 36	
ET327 / ET328			ET329 / ET330		ET329 / ET330		-	
SF702			SF703		SF703		SF704	
CSSDFZW-16			CSSDFZW-5		CSSDFZW-5		CSSDFZW-5	
CSSDFZW-15			CSSDFZW-4		CSSDFZW-4		CSSDFZW-4	
CSSDF ZX 86			CSSDF ZX 85		CSSDF ZX 85		CSSDF ZX 88	
Available			Not Available		Not Available		Not Available	



Manually Isolable Neutral Link



Extended Terminals

SS Enclosure 32A - 800A

FRONT VIEW

TOP VIEW

Rating (A)	A	B	C	D	E	F	G	Knockout DIA. (Numbers/Side)
32 - 63A (DIN/BS-3P/4P)	275	225	180	235	185	115	233	Ø30(3)
100 - 125A (DIN/BS-3P/4P)	275	275	180	235	235	115	233	Ø38(3)
160A (DIN-3P/4P) & (BS-3P)								
160A (BS-4P)	325	275	220	285	235	155	283	Ø38(8)
200 - 250A (DIN/BS-3P)	325	400	220	285	360	155	283	Ø38(4)
200 - 250A (DIN/BS-4P)								
315 - 400A (DIN/BS-3P/4P)	400	400	220	360	360	155	358	Ø38(4)
630A (DIN/BS-3P/4P)								
800A (BS-3P/4P)	600	500	275	560	460	210	558	Ø38(8)

SS Enclosure Details	
Gasket Type	EPDM Sponge Rubber
Cover Sheet Thickness	18 SWG
Gland Sheet Thickness	16 SWG
Enclosure Paint Shade	Basalt Grey RAL 7012
Door Paint Shade	Light Grey RAL 7035
IP Level	IP 54
Door Hinges Degree	120 °
Earthing Studs	2

Mounting Details, 32A - 800A

630-800A

200-400A

32-160A

Rating (A)	32-63		100-160DIN		160BS		200-250		315-400		630DIN		630-800BS	
	TPN	4P	TPN	4P	TPN	4P	TPN	4P	TPN	4P	TPN	4P	TPN	4P
L	138	171	160	200	182	235	199	260	223	294	278	358	338	438

Handle Mounting Instructions:

- 1) Minimum distance from hinge should be 175mm for proper door locking
- 2) Drill Ø45mm for Handle mounting and take impression from telescopic shaft on inside of the panel door for drilling Ø45 hole.

- 3) Do not tighten the fixing screws till the panel door is closed and Handle has taken its position.

Castle Lock

Catalogue No.	Type of Switch
CSSDFZW15	CSSDF 32-160A

Panel Drilling Plan

Key Interlock

Catalogue No.	Type of Switch	'A'
CSSDFZW16	CSSDF 32-160A	47.7 ±0.3
CSSDFZW5	CSSDF 200-800A	53.0 ±0.3

Panel Punching Plan

Switch Disconnect Fuse

State of the art Manufacturing Facilities



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



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