

Ambidex

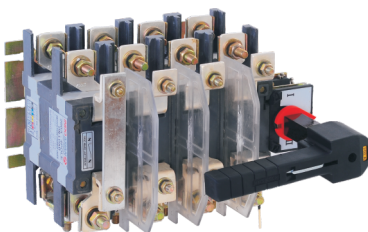
On-load Changeover Switch

Power Uninterrupted



As electrical control and safety has become a basic necessity these days, Indo Asian is at the forefront with cutting edge products designed with a vision of “enriching life by ensuring safe and efficient use of electricity”. Over the years, Indo Asian has grown to be amongst the leading Indian companies in Low Voltage Switchgear Products, enabling efficient distribution, protection, control and conservation of electrical energy.

Indo Asian now presents the Ambidex range of On-load changeover switch, Switch fuse changeover and Bypass switches. Just like an ambidextrous person can use both hands with equal comfort, similarly Indo Asian Ambidex changeover switches facilitate uninterrupted power supply from one source of power (main) to an alternative source (genset) in an easy and comfortable manner. Due to its compact design consisting of manually front operated four pole switches, Ambidex changeover switches require less space in panel boards. In short, Ambidex changeover switches provide *great flexibility in operation, ensure continuity of supply* and are a safe, reliable and durable solution for changing India’s every need.



On-load Changeover Switch (With and Without Fuses)

■ Salient Features:

- 4 pole compact design ranging from 63A-3150A for on-load changeover switch with and without fuse respectively.
- Available in both open execution and sheet steel enclosure.
- Conforming to IEC 60947-3
- Self-wiping contact mechanism for better cleaning of contact system resulting in better endurance.
- Suitable for isolation and prevents leakage current/ flash over between phases.
- Handle lock feature in off position with three padlocks.
- Same available for capacitor switching application.
- Door inter lock feature.
- Horizontal / Vertical mounting possible.
- Available in utilization category AC22A, AC23A and AC23B.
- Quick make and break mechanism.
- Bolt retainer installed on terminals for easy cable/bus bar termination.
- Less space required in panel boards due to compact construction.

■ Functions:

- Changeover switches are used to choose the supply from two incoming sources generally one is from utility and other from DG set.
- Changeover switches have position I, II and O to choose from. Position I is for circuit I, position II is for circuit II and position O is off, which means not connected to either of the circuits.

On-load Bypass Switches

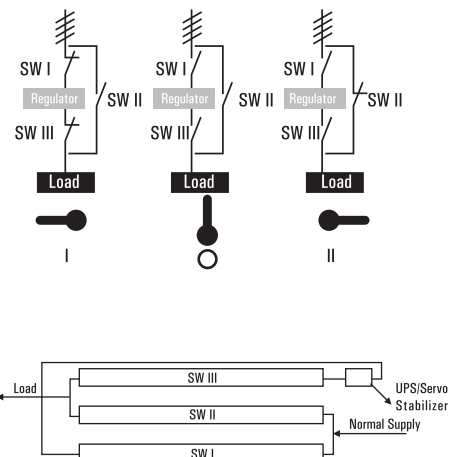


■ **Salient Features:**

- 4 pole compact design ranging from 125A-630A.
- Available in both open execution and sheet steel enclosure.
- Conforming to IEC 60947-3.
- Self-wiping contact mechanism for better cleaning of contact system resulting in better endurance.
- Suitable for isolation and prevents leakage current/ flash over between phases.
- Handle lock feature in off position with three padlocks.
- Door inter lock feature.
- Available in utilization category AC22A, AC23A and AC23B.
- Quick make and break mechanism.

■ **Functions:**

- Bypass switches are generally used when main source of supply to the load is through UPS and utility supply is secondary supply to the load.
- On-Load By-Pass switch is operated manually with single handle comfortably. It provides three stable positions: Position I is for loads connected to stabilized power supply, position O is for open circuit and position II is for loads connected to normal supply.



On-Load Changeover Switch / Switch Fuse Changeover / Bypass Switches
Standard: IEC 60947-3

FRAME	Frame 00 (63-100A)		Frame 1 (125-160A)		Frame 2 (200-250A)		Frame 3 (320-400A)		Frame 4 (630A)	
Free Air Thermal Current at 40°C, I _{th} (A)	63	100	125	160	200	250	320	400	630	
Enclosed Thermal Current at 40°C, I _{the} (A)	63	100	125	160	200	250	320	400	630	
No. of Poles	4									
Insulation Voltage U _i (V)	1000									
Dielectrical Strength (V) 50Hz 1min	5000									
Rated Operational Voltage, U _e (V) AC at 50Hz	415									
Impulse Voltage (kV)	6	6	8	8	8	8	12	12	12	
Rated Operational Current I _e (A) at 415V AC	63A	100A	125A	160A	200A	250A	320A	400A	630A	
AC22A	..	..	125A	160A	200A	250A	320A	400A	630A
AC23A	..	..	125A	160A	200A	250A	320A	400A	630A
AC23B	..	..	125A	160A	200A	250A	320A	400A	630A
Rated Making Capacity Amp. 415V AC 23A pf=0.35	189A,415V	300A,415V	1250	1600	2000	2500	3200	4000	6300	
Rated Breaking Capacity Amp. 415V AC 23A pf=0.35	AC22A pf=0.65	AC22A pf=0.65	1000	1280	1600	2000	2560	3200	5040	
Rated Operational Power										
Rated Motor Power 415V, 3Ph (kW)			55	55	90	132	160	220	315	
Rated Capacitor Power 415V (kVAR)			50	50	80	100	125	160	250	
Fuse Rating (A)	63	100	125	160	200	250	315	400	630	
Rated Conditional Short Circuit Current (kA rms)	80									
Rated Short Time Withstand Current for 1sec (kA rms)	4		5		7.5		15		20	
No. of Mechanical Operations	8500		7000				4000			
No. of Electrical Operations	1500		1000				1000			
Total Operational Life (Electrical + Mechanical)	10000		8000				5000			
Temperature withstand range (Ambient in °C)	-5 to 50									
Operating Torque (Nm)	3		10		15		20			
Terminal Connection: Al / Cu Cable Cross section (Sq. mm)	25/16	50/35	70/50	95/70	150/95	185/150	240/185	300/240	2x300/370	
Weight of Product (Excluding Handle) (Kg)	1.4		3		5		8		9	

On-load Changeover Switch
Standard: IEC 60947-3

FRAME	Frame 5 (800A)	Frame 6 (1000-1600A)			Frame 7 (2000-3150A)		
Free Air Thermal Current at 40°C, Ith (A)	800	1000	1250	1600	2000	2500	3150
Enclosed Thermal Current at 40°C, Ithe (A)	800	1000	1250	1600	2000	2500	3150
No. of Poles	4						
Insulation Voltage Ui (V)	1000						
Dielectrical Strength (V) 50Hz 1min	10000						
Rated Operational Voltage, Ue (V) AC at 50Hz	415						
Impulse Voltage (kV)	12	12	12	12	15	15	15
Rated operational Current Ie (A) at 415V AC	---	---	---	---	---	---	---
AC22A	---	---	---	---	---	---	---
AC23A	---	---	---	---	---	---	---
AC23B	800	1000	1250	1600	2000	2000	2000
Rated Making Capacity Amp. 415V AC 23A pf=0.35	8000	10000	12500	16000	20000	20000	20000
Rated Breaking Capacity Amp. 415V AC 23A pf=0.35	6400	8000	10000	12800	16000	16000	16000
Rated Operational Power							
Rated Motor Power 415V, 3Ph (kW)	450	560	600	650	800	950	1100
Rated Capacitor Power 415V (kVAR)	300	400	450	500	600	700	825
Fuse Rating (A)	630/800	1000	1250	2X800	2X1000	2X1250	NIL
Rated Conditional Short Circuit Current (kA rms)	80						
Rated Short Time Withstand Current for 1 sec (kA rms)	30	50					
No. of Mechanical Operations	3000	3000	3000	3000	3000	3000	1500
No. of Electrical Operations	1000	1000	1000	1000	1000	1000	500
Total Operational Life (Electrical + Mechanical)	4000	4000	4000	4000	4000	4000	2000
Temperature withstand range (Ambient in °C)	-5 to 50						
Operating Torque (Nm)	40	42	45	50	60	70	70
Terminal Connection: Al / Cu Cable Cross section (Sq. mm)	3x300/ 3x240	4x300/ 4x240	3x400/ 2x500	3x800/ 3x500	3x1000/ 4x500	4x1000/ 5x500	4x1000/ 3x1000

On-load Changeover Switch

Rated Current AC-22&23A/B	Open Execution Cat. No.	Sheet Steel Enclosure Cat. No.
63A	INAE0063	INAS0063
100A	INAE0100	INAS0100
125A	ICAE0125	ICAS0125
160A	ICAE0160	ICAS0160
200A	ICAE0200	ICAS0200
250A	ICAE0250	ICAS0250
320A	ICAE0320	ICAS0320
400A	ICAE0400	ICAS0400
630A	ICAE0630	ICAS0630
800A	ITAE0800	ITAS0800
1000A	ITAE1000	ITAS1000
1250A	ITAE1250	ITAS1250
1600A	ITAE1600	ITAS1600
2000A	ITAE2000	ITAS2000
2500A	ITAE2500	ITAS2500
3150A	ITAE3150	ITAS3150

On-load Switchfuse Changeover

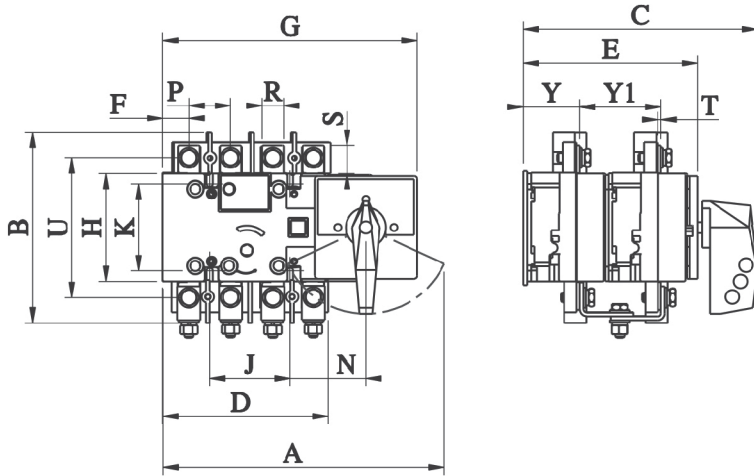
Rated Current AC23A	Recommended Fuse Link Type (BS)	Open Execution Cat. No.	Sheet Steel Enclosure Cat. No.
125A	FSF	ITBE0125	ITBS0125
200A	FSF	ITBE0200	ITBS0200
250A	FSK	ITBE0250	ITBS0250
320A	FSK	ITBE0320	ITBS0320
400A	FTS	ITBE0400	ITBS0400
630A	FTS	ITBE0630	ITBS0630

On-load Bypass Switches

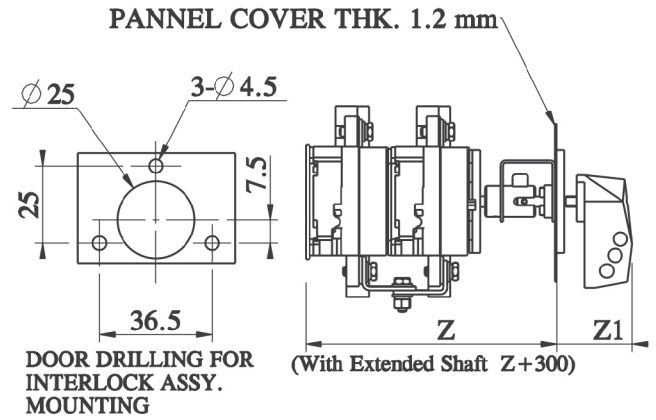
Rated Current AC23A	Open Execution Cat. No.	Sheet Steel Enclosure Cat. No.
125A	ITCE0125	ITCS0125
200A	ITCE0200	ITCS0200
250A	ITCE0250	ITCS0250
320A	ITCE0320	ITCS0320
400A	ITCE0400	ITCS0400
630A	ITCE0630	ITCS0630

On-load Changeover Switch (63A-100A)

OPEN EXECUTION

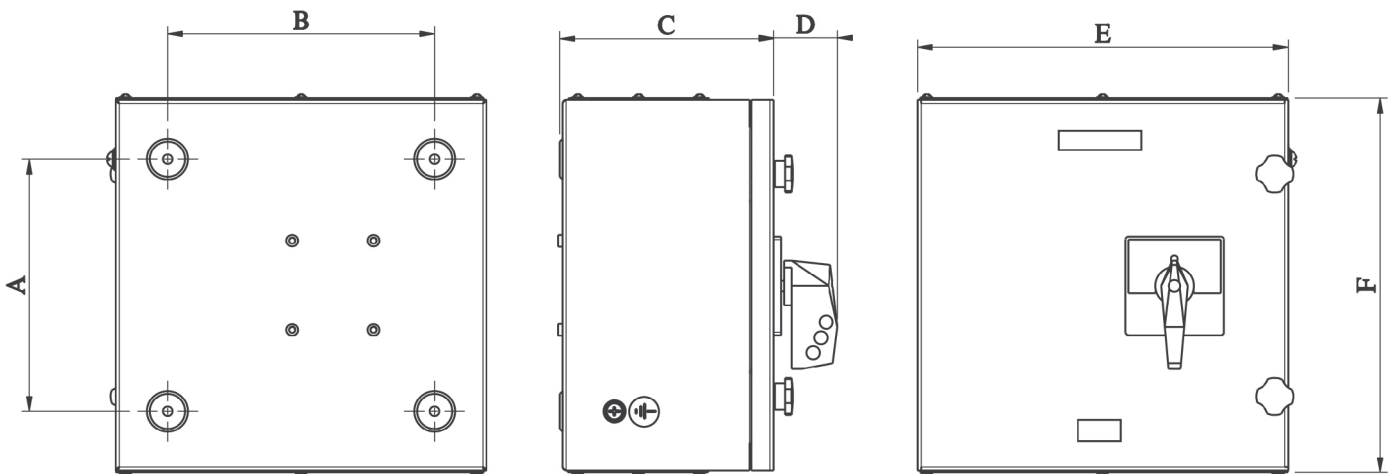


PANEL BOARD EXECUTION



FRAME SIZE	RATING	OVERALL DIMENSIONS								SWITCH MOUNTING			CONNECTION TERMINALS							
		A	B	C	D	E	F	G	H	J	K	N	P	R	S	T	U	ØX	Y	Y1
00	63A	177	124	153	106	113	16	165	70	54	58	48	27	14	18	2	90	6.5	38	52
	100A	177	124	153	106	113	16	165	70	54	58	48	27	14	18	2	90	6.5	38	52

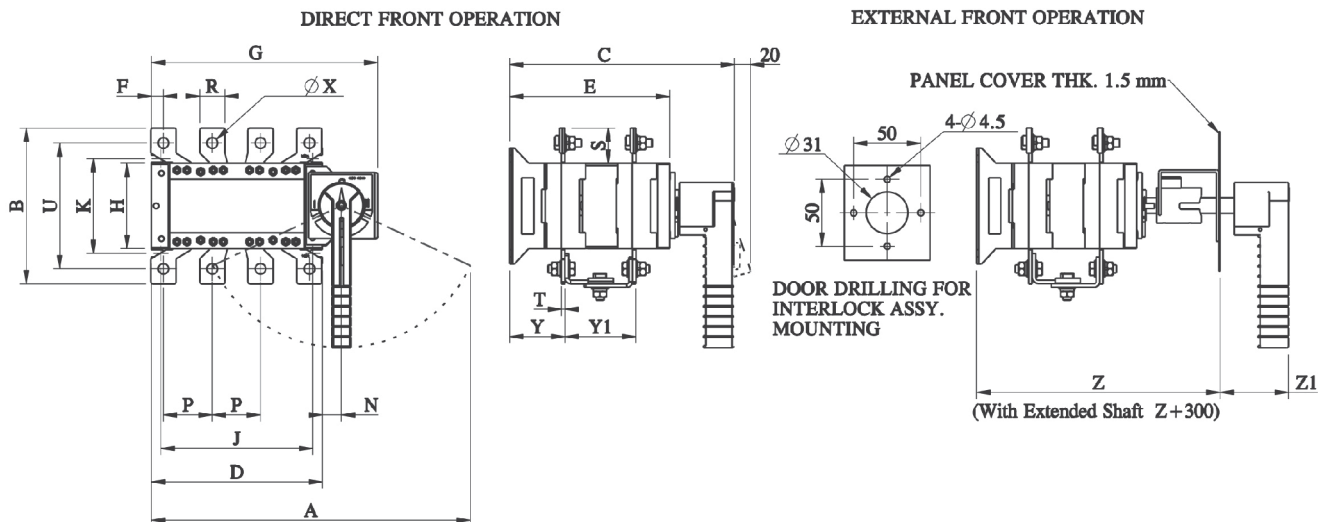
SHEET ENCLOSURE



FRAME SIZE	RATING	A	B	C	D	E	F
00	63A	170	180	171	40	250	253
	100A	170	180	171	40	250	253

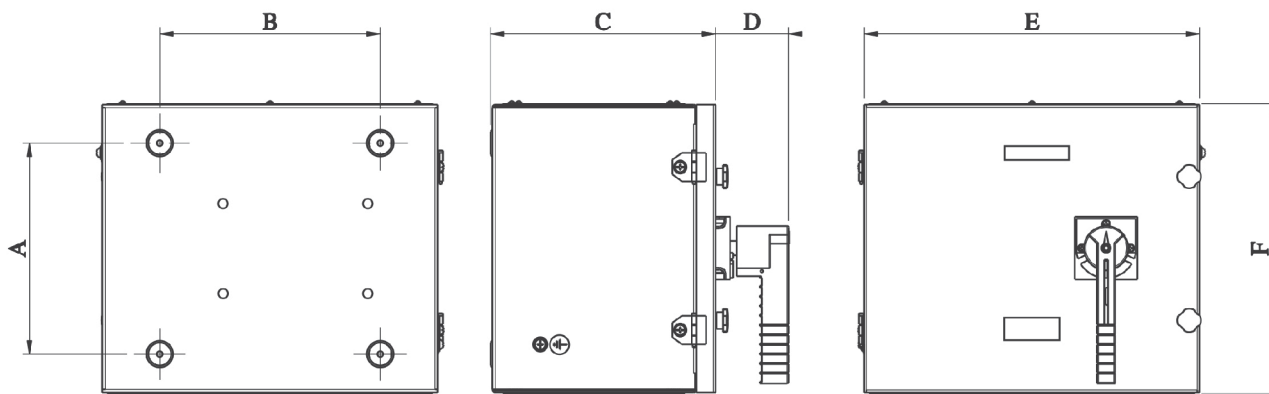
Dimensions

On-load Changeover Switch (125A-630A)



FRAME SIZE	RATING	OVERALL DIMENSIONS											SWITCH MOUNTING		CONNECTION TERMINALS									
		A	B	C	D	E	F	G	H	J	K	N	P	R	S	T	U	ØX	Y	Y1	Z	Z1		
01	63A	318	155	223	170	158	11.5	226	85	151	96	20	48	25	35	3.5	126.5	10.5	55.5	70	233.5	76		
	100A	318	155	223	170	158	11.5	226	85	151	96	20	48	25	35	3.5	126.5	10.5	55.5	70	233.5	76		
	125A	318	155	223	170	158	11.5	226	85	151	96	20	48	25	35	3.5	126.5	10.5	55.5	70	233.5	76		
	160A	318	155	223	170	158	11.5	226	85	151	96	20	48	25	35	3.5	126.5	10.5	55.5	70	233.5	76		
02	200A	384	202.5	247	230	184.5	16	285.5	110	210	116	20	64	32	46	3.5	162.5	12	64	84	256.5	76		
	250A	384	202.5	247	230	184.5	16	285.5	110	210	116	20	64	32	46	3.5	162.5	12	64	84	256.5	76		
03	320A	474	260	312	290	244	17	360	160	270	179	35	86	32	50	5	226	11	85	114	319.5	76		
	400A	474	260	312	290	244	17	360	160	270	179	35	86	32	50	5	226	11	85	114	319.5	76		
04	630A	474	280	312	290	244	29	360	160	270	179	35	79	50	60	6	240	13	85	114	319.5	76		

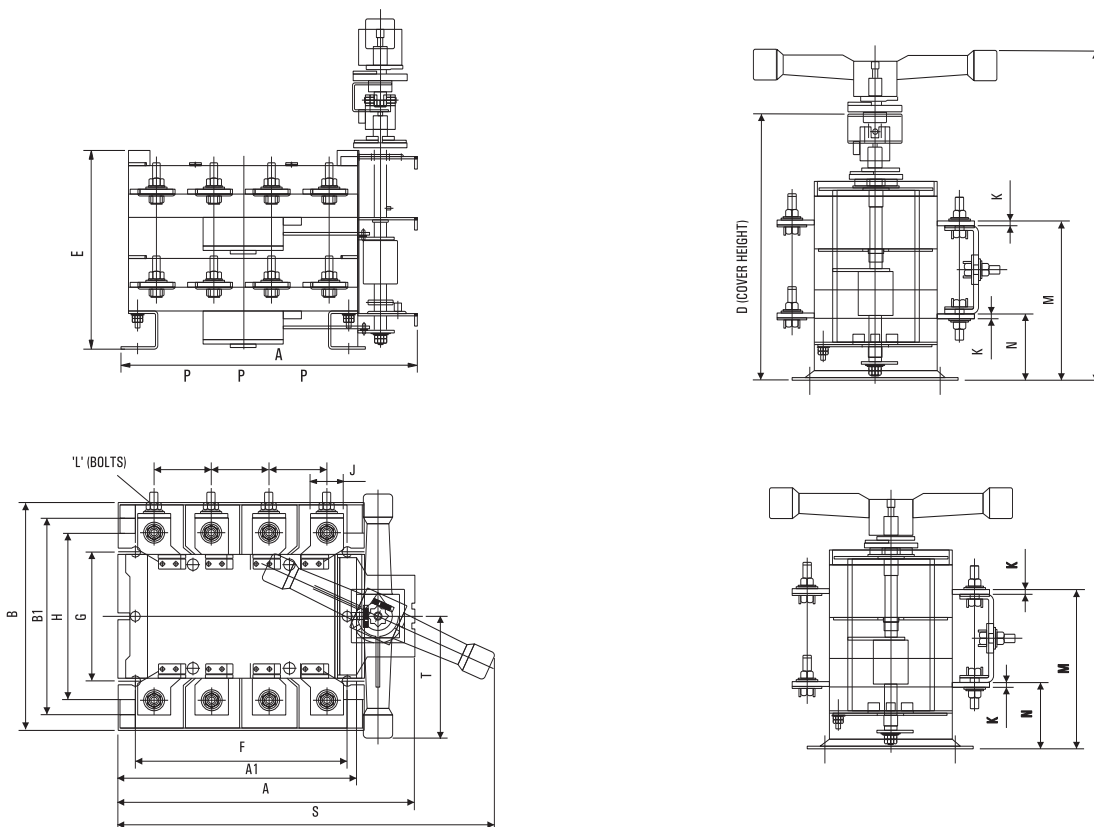
SHBET ENCLOSURE



FRAME SIZE	RATING	A	B	C	D	E	F
01	63A	220	230	235	76	350	303
	100A	220	230	235	76	350	303
	125A	220	230	235	76	350	303
	160A	220	230	235	76	350	303
02	200A	270	290	265	76	410	355
	250A	270	290	265	76	410	355
03	320A	329	357	328	76	496	431
	400A	329	357	328	76	496	431
04	630A	329	357	328	76	496	431

On-load Changeover Switch (800A-3150A)

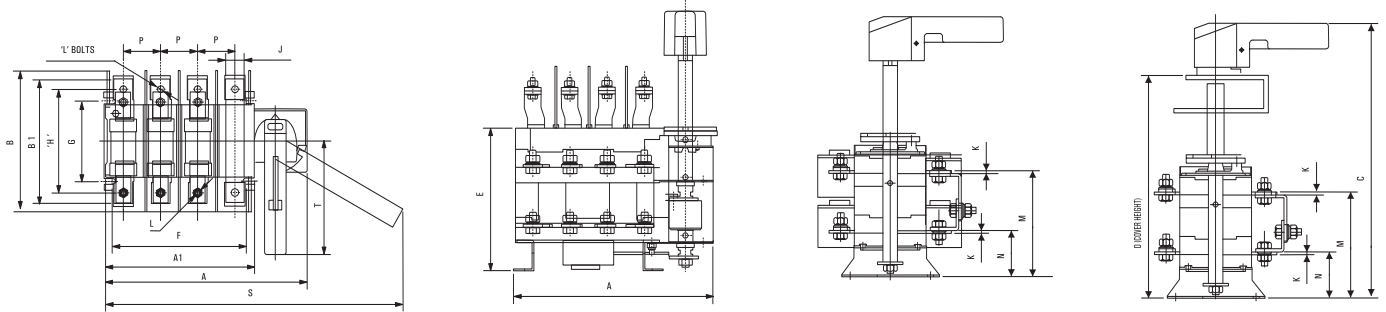
Open Execution



Amps	Frame	Over-all Dimensions				Foot Hole							Terminal Dimensions									
		Total Length	Total Width	Total Height	Cover Height	A	B	C	D	A1	B1	E	F	G	H	J	K	L	M	N	P	S
800A	5	445	330	460	380	360	330	295	360	225	270	60	8.0	16	240	100	80	560	175			
1000A	6	600	340	460	380	510	340	295	510	225	280	70	8.0	10	240	100	120	750	225			
1250A	6	600	340	460	380	510	340	295	510	225	280	70	10.0	10	240	100	120	750	225			
1600A	6	600	340	460	380	510	340	295	510	225	280	100	13.0	10	240	100	120	750	225			
2000A	7	600	340	625	545	510	340	460	510	225	280	70	16.0	10	240	100	120	750	225			
2500A	7	600	340	625	545	510	340	460	510	225	280	70	20.0	10	240	100	120	750	225			
3150A	7	600	340	625	545	510	340	460	510	225	280	100	26.0	10	240	100	120	750	225			

On-load Switch Fuse Changeover (63A-630A)

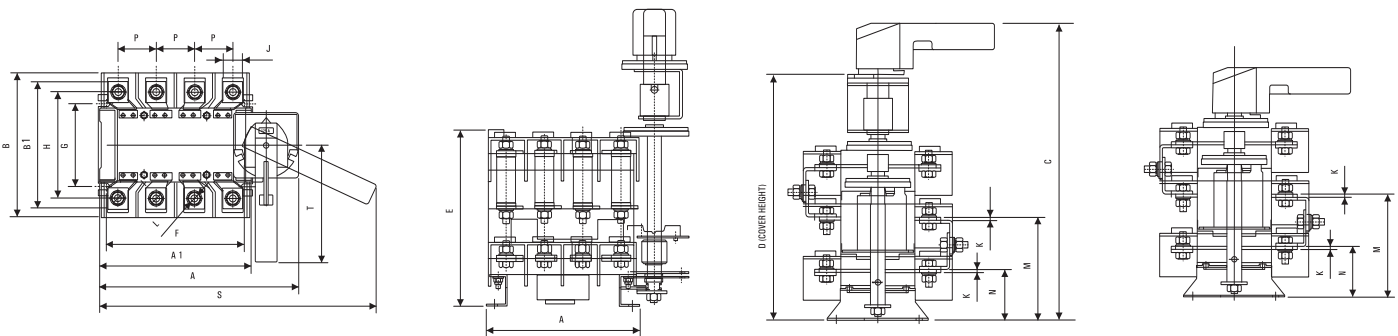
Open Execution



Amps	Frame	Over-all Dimensions				Feet Hole								Terminal Dimensions									
		Total Length	Total Width	Total Height	Cover Height	A	B	C	D	A1	B1	E	F	G	H	J	K	L	M	N	P	S	T
63A	1	230	165	370	300	170	150	230	158	95	126	22	2.6	8	126	57	44	220	135				
125A	1	230	165	370	300	170	150	230	158	95	126	22	3.6	8	127	58	44	320	135				
200A	2	300	215	420	350	243	195	290	205	111	160	32	5.0	10	162	75	62	415	160				
250A	2	300	215	420	350	243	195	290	205	111	160	32	5.8	12	162	75	62	415	160				
320A	2	300	215	420	350	243	195	290	205	111	160	32	6.5	12	162	75	62	415	160				
400A	3	410	315	550	470	320	270	370	290	180	230	46	6.5	12	220	93	80	510	175				
630A	3	410	315	550	470	320	280	370	290	180	240	52	8.0	16	222	94	80	510	175				

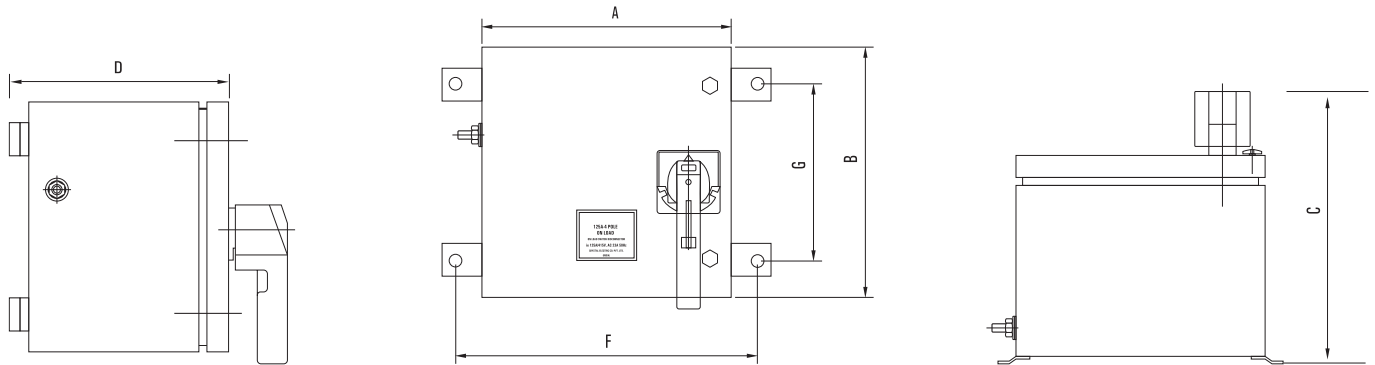
On-load Bypass Switches (63A-630A)

Open Execution



Amps	Frame	Over-all Dimensions				Feet Hole								Terminal Dimensions									
		Total Length	Total Width	Total Height	Cover Height	A	B	C	D	A1	B1	E	F	G	H	J	K	L	M	N	P	S	T
63A	1	230	165	400	320	170	150	225	158	95	126	22	2.6	8	195	57	44	320	135				
125A	1	230	165	400	320	170	150	225	158	95	126	22	3.6	8	195	57	44	320	135				
200A	2	300	215	460	380	243	195	290	205	111	160	32	5.0	10	253	75	62	415	160				
250A	2	300	215	460	380	243	195	290	205	111	160	32	5.8	12	253	75	62	415	160				
320A	2	300	215	460	380	243	195	290	205	111	160	32	6.5	12	253	75	62	415	160				
400A	3	410	315	580	500	320	270	405	290	180	230	46	6.5	12	350	93	80	510	175				
630A	3	410	315	580	500	320	280	405	290	180	240	52	8.0	16	350	94	80	510	175				

Sheet Enclosure Execution



On-load Changeover Switch (Sheet Enclosure Execution)

Amps	Frame	A	B	C	D	F	G
800A	5	550	500	480	410	610	375
1000A	6	700	600	480	410	760	475
1250A	6	700	600	480	410	760	475
1600A	6	700	600	480	410	760	475
2000A	7	700	750	640	570	760	575
2500A	7	700	750	640	570	760	575
3150A	7	700	750	640	570	760	575

On-load Switch Fuse Changeover (Sheet Enclosure Execution)

Amps	Frame	A	B	C	D	F	G
63A	1	300	250	390	320	320	175
125A	1	300	250	390	320	320	175
200A	2	380	350	440	370	405	260
250A	2	380	350	440	370	405	260
320A	2	380	350	440	370	405	260
400A	3	525	450	570	500	555	345
630A	3	525	450	570	500	555	345

On-load Bypass Switches (Sheet Enclosure Execution)

Amps	Frame	A	B	C	D	F	G
63A	1	300	250	41	340	320	175
125A	1	300	250	410	340	320	175
200A	2	380	350	470	400	405	260
250A	2	380	350	470	400	405	260
320A	2	380	350	470	400	405	260
400A	3	525	450	590	520	555	345
630A	3	525	450	590	520	555	345

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