SD Series Non-Fused Load Switches

Features

- High breaking capacity (AC 22A - AC 23A)
- Double break contacts
- High electrical and mechanical endurance
- Resistant to damp heat
- IP20 degree of protection
- 35 mm DIN-rail mountable or screw mountable
- Modular 45mm frame
- SD1 and SD2 series can be locked in 0 position
- Handle with door interlock feature can be locked with up to three padlocks in 0 position
- Wide range of accessories

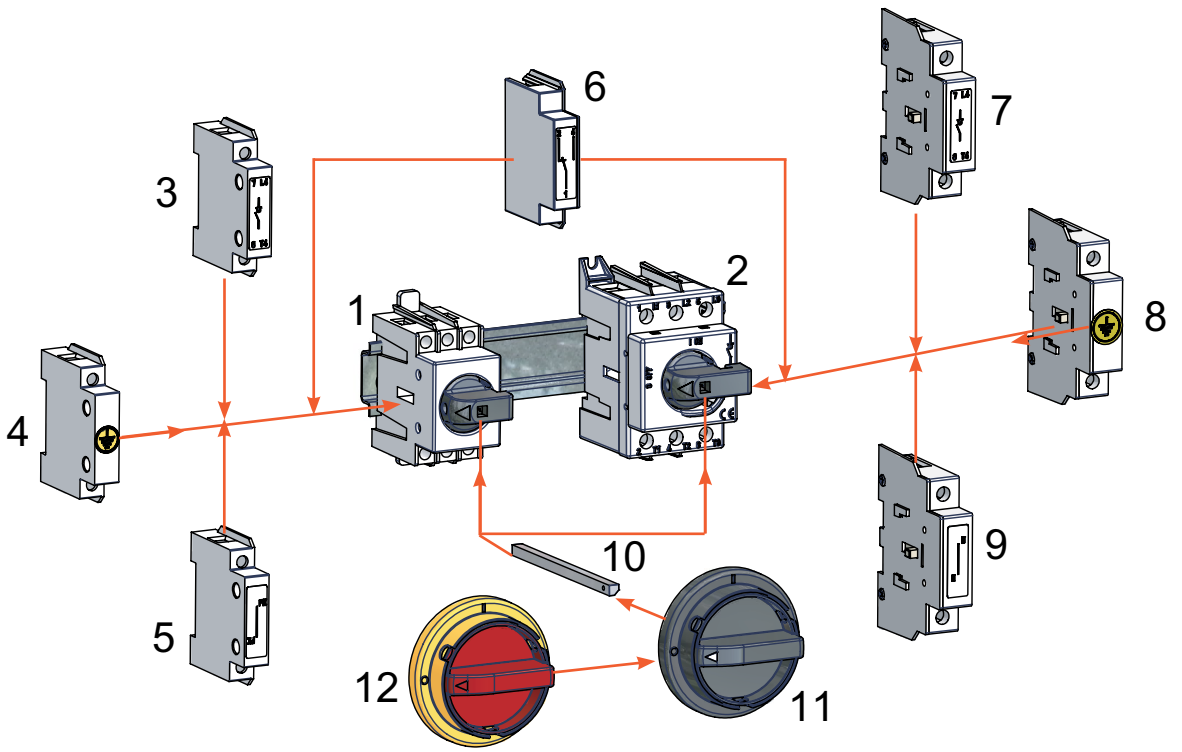
Overview

The SD1 and SD2 series of non-fused load switches are listed as Manual Motor Controllers and are designed for use in local motor isolation. The SD series of modular load switches are used for breaking of equipment loads up to 600 VAC, at a nominal current ranging from 16 to 125 amps.

These load switches are most commonly used for the following applications:

- Local load switch for motors
- IEC load switch applications outside-North America

Selecting Switches According to IEC 947/1-3 Standard		
AC	***Use***	***Application***
AC20	No-load making and breaking	Load switch (device without no-load making and breaking capacity)
AC21	Resistive loads including moderate overloads	Switches at installation head or for resistive circuits (heating, lighting, except discharge lamps, etc.)
AC22	Inductive and resistive mixed loads including moderate overloads	Switches in secondary circuits or reactive circuits (capacitor banks, discharge lamps, shunt motors, etc.)
AC23	Loads made of motors or other highly inductive loads	Switches feeding one or several motors or inductive circuits (electric carriers, brake magnet, series motor, etc.)



1. ***SD1 direct handle load switch***
2. ***SD2 direct handle load switch***
3. ***4th pole for SD1***
4. ***Grounding pole for SD1***
5. ***Fixed neutral pole for SD1***
6. ***SD1-SD2 auxiliary contact 1NO + 1NC***
   One auxilliary contact block can be used on the SD series disconnect switch
7. ***4th pole for SD2***
8. ***Grounding pole for SD2***
9. ***Fixed neutral pole for SD2***
10. ***Operating shaft***
11. ***Non-defeatable door interlock handle***
12. ***Emergency door interlock handle***

SD Series Non-Fused Load Switches Technical Specs

Non-Fused Load Switches Technical Specifications According to UL 508									
Specifications		**SD1**				**SD2**			
Rated Current - 3 Poles		**16A**	**25A**	**32A**	**40A**	**63A**	**80A**	**100A**	**125A**
Rated Operational Voltage (VAC)		600	600	600	600	600	600	600	600
Short Circuit Rating (kA)		5	5	5	5	5	5	5	5
Fuse Type (if fusing separately)		RK5	RK5	RK5	RK5	RK5	RK5	RK5	RK5
Fuse Rating (A) (if fusing separately)		40	40	40	40	125	125	125	125
Maximum UL Horsepower, Three Phase	**120V**	3	3	3	3	5	5	5	5
	240V	5	7.5	7.5	10	10	15	15	15
	415V	7.5	10	10	15	20	25	25	25
	480V	10	15	20	20	25	30	30	30
	600V	15	20	25	30	30	40	40	40
Maximum UL Horsepower, Single Phase	**120V**	–	–	–	–	3	5	5	5
	240V	–	–	–	–	7.5	10	10	10
Mechanical Endurance (number of operations)		6000	6000	6000	6000	6000	6000	6000	6000
Electrical Endurance (number of operations)		6000	6000	6000	6000	6000	6000	6000	6000
Wire Size Range (AWG)		16-6	16-6	16-6	16-6	6-1	6-1	6-1	6-1
Tightening Type		Cu	Cu	Cu	Cu	Cu	Cu	Cu	Cu
Maximum Terminal Torque N-m (lb-in)		2 (17.2)	2 (17.2)	2 (17.2)	2 (17.2)	3.5 (31)	3.5 (31)	3.5 (31)	3.5 (31)
Net Weight (lb/kg)		0.29/0.13	0.29/0.13	0.29/0.13	0.29/0.13	0.55/0.25	0.55/0.25	0.55/0.25	0.55/0.25

Non-Fused Load Switches Technical Specifications According to IEC/CEI/EN 60947/1-3									
Specifications		**SD1**				**SD2**			
Rating - 3 Poles		**16A**	**25A**	**32A**	**40A**	**63A**	**80A**	**100A**	**125A**
Rated Insulation Voltage Ui (V)		800	800	800	800	800	800	800	800
Impulse Withstand Voltage Uimp (kV)		8	8	8	8	8	8	8	8
Rated Thermal Current at 40°C (A)		16	25	32	40	63	80	100	125
Rated Operational Current AC-21A	**415V**	16	25	32	40	63	80	100	125
	500V	16	25	32	40	63	80	100	125
	690V	16	25	32	40	63	80	100	125
Rated Operational Current AC-22A	**415V**	16	25	32	40	63	80	100	125
	500V	16	25	32	40	63	80	100	100
	690V	16	25	32	40	40	40	40	40
Rated Operational Current AC-23A	**415V**	16	25	32	40	63	80	80	80
	500V	16	25	32	40	63	63	63	63
	690V	16	25	25	25	32	32	32	32
Rated Making Capacity AC23	**415V**	160	250	320	400	630	800	800	800
Rated Breaking Capacity AC23	**415V**	128	200	256	320	504	640	640	640
Rated Operational Power AC23 (W)	**415V**	7.5	11	14	15	29	37	37	37
(kW)	**500V**	7.5	11	14	15	35	35	35	35
(kW)	**690V**	7.5	11	14	15	24	24	24	24
Short-circuit Withstand Current 1 sec. (kA)	**400V**	1.1	1.1	1.1	1.1	1.5	1.5	1.5	1.5
Rated Fuse Short-circuit Current (if fusing separately)									
Back-up Fuse gG (A)		16	25	32	40	63	80	100	125
RMS Value (kA)		50	50	50	50	50	50	30	20
Peak Value (kA)		3.8	4.5	5	5.7	8	9.9	9.9	9.9
Mechanical Endurance (n)		50000	50000	50000	50000	30000	30000	30000	30000
Electrical Endurance (n)		3000	3000	3000	3000	3000	1500	1500	1000
Power Loss Per Pole (W)		0.1	0.1	0.2	0.3	0.8	1.3	2.0	3.1
Cable Section (mmq)		16	16	16	16	16-50	16-50	25-50	35-50
Max Terminal Torque (N-m)		2	2	2	2	2	2	2	2
Operation Torque (N-m)		1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Auxiliary Contacts AC 15/415V (A)		3	3	3	3	3	3	3	3

Non-Fused Load Switches - SD1 Series

SD1-032-BR

Our SD1 series non-fused load switches allow breaking of equipment loads up to 600 VAC, at a nominal current of 32 amps. They are DIN-rail or panel-mountable. A line of standard accessories is available for this model.

SD1 Series Non-Fused Load Switches						
Part Number	Price	Handle Type	Color	Ampere Rating	Voltage	Interrupt Capacity
SD1-032-BR	$26.00	Rotary handle	Black	32	600VAC	5kA

SD1-4P

SD1-GP

SD1-NP

SD-CON

SD1 Series Non-Fused Load Switches Accessories Selection Guide		
Part Number	Price	Description
SD1-4P	$12.00	Additional 4th pole for SD1 non-fused load switches; 40A rating
SD1-GP	$15.00	Ground pole for SD1 non-fused load switches
SD1-NP	$15.00	Neutral pole for SD1 non-fused load switches
SD-CON	$20.00	Connector, six to eight poles, to connect two non-fused load switches to one remote operator (Use with 200mm max. shaft length.)
SD-S100	$7.00	Remote operator shaft for 100mm length (purchase handle separately)
SD-S200	$7.00	Remote operator shaft for 200mm length (purchase handle separately)
SD-S300	$7.00	Remote operator shaft for 300mm length (purchase handle separately)
SD-HB	$9.00	Remote black handle, non-defeatable, IP65 when properly installed
SD-HRY	$9.00	Remote red-yellow handle, non-defeatable, IP65 when properly installed

SD-S100, SD-S200, SD-S300

SD-HB

SD-HRY

Non-Fused Load Switches - SD2 Series

Our SD2 Series non-fused load switches allow breaking of equipment loads up to 600 VAC, at a nominal current range from 63 amps to 125 amps. They are DIN-rail or panel-mountable. A complete line of standard accessories including an optional auxiliary contact (one N.O. and one N.C. contact) is available for this model.

SD2-063-BR

SD2-063-RR

SD2 Series Non-Fused Load Switches						
Part Number	***Price***	***Handle Type***	***Color***	***Ampere Rating***	***Voltage***	***Interrupt Capacity***
SD2-063-BR	Retired	Rotary handle	Black	63	600VAC	5 kA
SD2-100-BR	$45.00			100		
SD2-125-BR	$50.00			125		
SD2-063-RR	Retired	Rotary handle	Red	63	600VAC	5 kA
SD2-080-RR	$43.00			80		
SD2-100-RR	$45.00			100		
SD2-125-RR	$49.50			125		

Note: One auxilliary contact block can be used on the SD series disconnect switch

SD2-4P

SD2-GP

SD2-NP

SD2-AUX

SD2 Series Non-Fused Load Switches Accessories Selection Guide		
Part Number	***Price***	***Description***
SD2-4P	$15.00	Additional 4th pole for SD2 non-fused load switches; 125A rating
SD2-GP	$15.00	Ground pole for SD2 non-fused load switches
SD2-NP	$15.00	Neutral pole for SD2 non-fused load switches
SD2-AUX	$15.00	Auxiliary contact for SD2 non-fused load switches. **One N.O.** and **one N.C.** contact.
SD-CON	$20.00	Connector, six to eight poles, to connect two non-fused load switches to one remote operator (Use with 200mm max. shaft length.)
SD-S100	$7.00	Remote operator shaft for 100mm length (purchase handle separately)
SD-S200	$7.00	Remote operator shaft for 200mm length (purchase handle separately)
SD-S300	$7.00	Remote operator shaft for 300mm length (purchase handle separately)
SD-HB	$9.00	Remote black handle, non-defeatable. IP65 when properly installed.
SD-HRY	$9.00	Remote red-yellow handle, non-defeatable. IP65 when properly installed.

SD-CON

Note: One auxilliary contact block can be used on the SD series disconnect switch

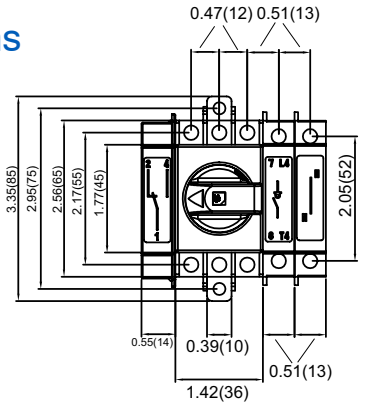
SD-HB

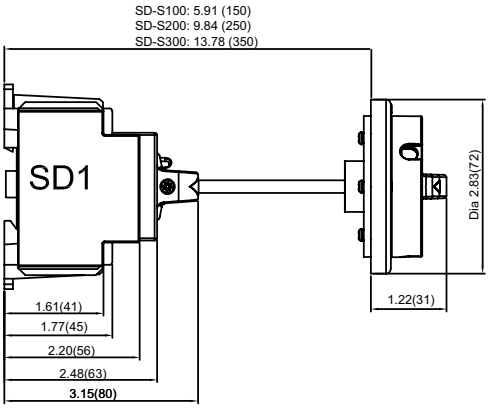
SD-HRY

SD-S100, SD-S200, SD-S300

Non-Fused Load Switches - Dimensions

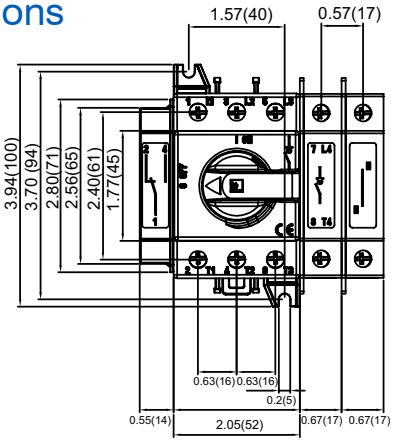
SD1 dimensions

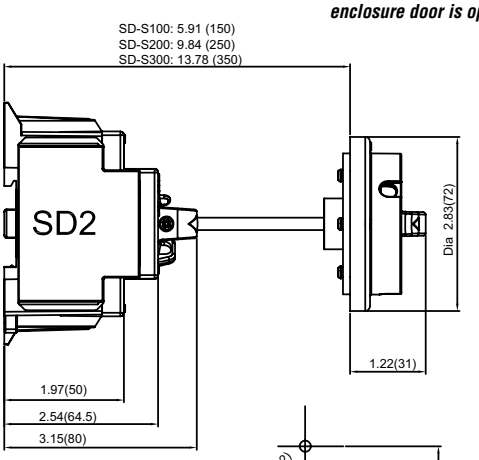


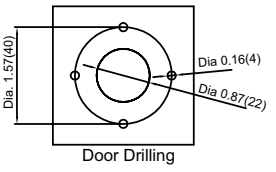


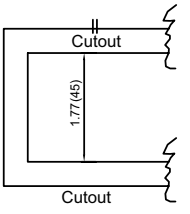
Note: Rod stays with switch when enclosure door is opened.

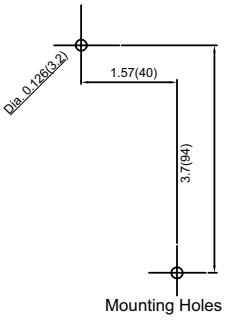
SD2 dimensions



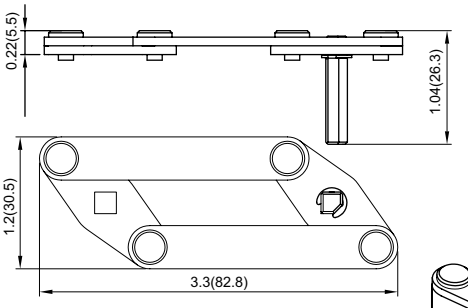


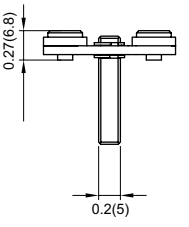


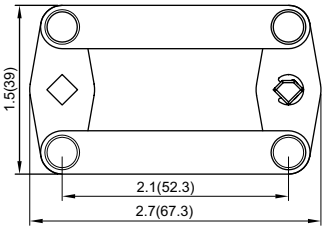


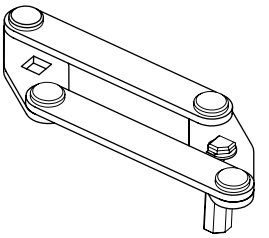


SD-CON dimensions









Dimensions in inches(millimeters)