

Disconnect switches
Non-fusible
Fusible

Low voltage disconnect switches from ABB

ABB is committed to offering high quality and innovative low voltage products. ABB's disconnect switch lines are no exception.

Modern materials and manufacturing technology coupled with advanced features allow ABB's disconnect switches to offer superior customer benefits – exceptional performance, easy installation, and ultimate protection – like no other. Through a broad range of product offerings, ABB sets the standard for disconnect switches industry-wide.

The disconnect switch is largely used in low voltage switchgear for distribution of power, for starting and stopping motors and for isolating loads during maintenance. ABB's range of disconnect switches are suitable for diverse applications, in motor control centers, in switchboards and as main switches in various equipment and machinery.

The disconnect product line ranges from standard 3-pole configurations to specialty combination switches for transfer, bypass and reversing. The comprehensive ABB range of Low Voltage Disconnect Switch products is the perfect choice for all switching applications.

Disconnect switches are integral to ABB's line of circuit protection devices to guard against equipment damage in multiple applications. ABB prides itself in being the Safety Pioneer for the low voltage electrical product industry as our products offer maximum protection of the electrical installation and the user. Designed to meet customer requirements for safety, ABB's disconnect switch lines feature:

Fingerproof construction – IP 20

Dead-front construction plus terminal shrouds reduce the risk of touching live parts.

Padlockable mechanisms & handles

Handles can be padlocked in the OFF position with up to three padlocks. Additionally, the switch mechanism can be directly padlocked in the OFF position when the door is open.

Welded contact protection

Positive opening operation safeguards users in case of welded contacts due to an extreme overcurrent situation. The ABB switch design cannot reach the OFF position unless the contacts are truly open. This safeguards the user by alerting them of the problem, maintains door interlock safety and does not allow a padlock to be inserted.



Track resistant material

Excellent track resistant material reduces the risk of flashover between phases even in the most severe circumstances.

Door Interlock

The handle and shaft provide door interlock so that the door cannot be opened when the switch is in the ON position.

Clear position indication

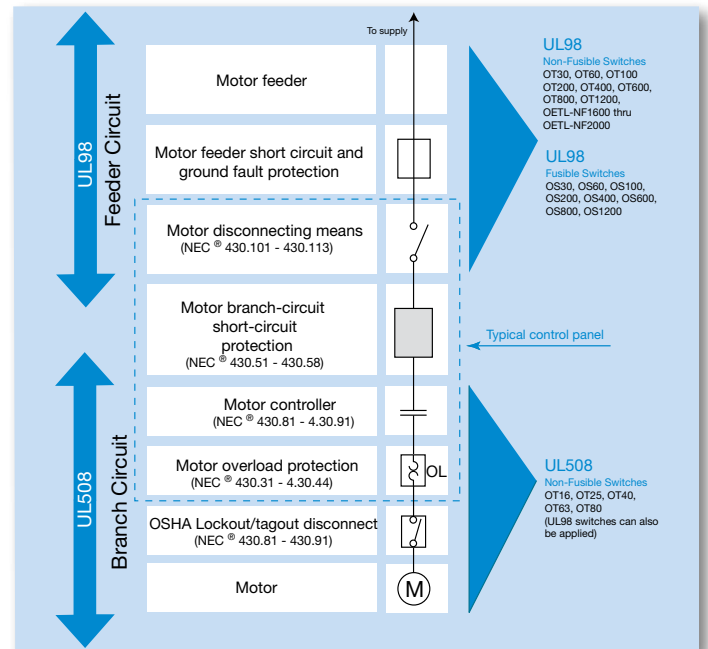
All ABB disconnect switches and handles are clearly marked with ON and OFF designations, which allow for quick position identification whether the door is open or closed.

Selecting disconnect switches

Use of UL98 & UL508 Disconnects according to NEC Article 430

ABB differentiates itself in the disconnect switch market by offering UL98, UL508 and IEC rated switches. ABB's UL98 listed disconnect range includes 30 to 2,000 A non-fusible and 30 to 1200 A fusible switches. These may be used in a variety of applications — on service equipment, motor control centers, or as motor branch circuits. The UL508 listed offering has clearance distances less than those required by UL98. ABB's line of UL508 listed non-fusible disconnects ranges from 16 to 80 A and can be used as motor controllers.

IEC rated switches are available from 16 - 3150 A (non-fusible) and 30 - 1200 A (fusible).



Article 430 of the US National Electric Code includes two methods for properly sizing disconnect switches.

Single motor application

A properly sized disconnect switch for a single motor will:

- Have an ampere rating greater than or equal to 115 percent of the rated motor full load current; or,
- Have a HP rating greater than or equal to the rated motor HP (at applied voltage) if the disconnect switch under consideration is HP rated.

Combination load application

A properly sized disconnect switch for a combination load will be selected by adding all the simultaneous individual loads in the circuit under consideration.

Using motor nameplate information, load information, and tables from section 430 of the NEC, determine one equivalent full load current and one equivalent locked rotor current. The equivalent locked rotor current can be used with table 430-151 to determine an equivalent HP rating. Select a disconnect switch:

- Greater than or equal to 115 percent of the equivalent full load current; or,
- Greater than or equal to the equivalent HP rating.

Non-fusible disconnect switches



OT16F3 OT25F3 OT40F3



OT63F3 OT80F3



OT30F3 OT60F3 OT100F3

Standard catalog number	3 pole	UL508 / IEC				UL98 / IEC			
		OT16F3	OT25F3	OT40F3	OT63F3	OT80F3	OT30F3	OT60F3	OT100F3
Amp rating	A	20	30	40	60	80	30	60	100
Approvals									
2 pole		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3 pole		UL508 / IEC	UL508 / IEC	UL508 / IEC	UL508 / IEC	UL508 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC
4 pole		UL508 / IEC	UL508 / IEC	UL508 / IEC	UL508 / IEC	UL508 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC
Technical ratings – UL, CSA									
Max operating voltage	V	600	600	600	600	600	600	600	600
Max horsepower rating									
Three phase									
240 V	HP	5	7.5	10	15	20	10	20	30
480 V	HP	10	15	20	30	40	20	40	50
600 V	HP	10	20	25	30	40	30	40	50
Single phase									
120 V		1	1.5	2	2	2	2	3	5
240 V		2	3	5	5	5	5	7.5	15
Technical ratings – IEC									
Rated insulation and operational voltage, AC20 and DC20	V	750	750	750	750	750	750	750	750
Rated thermal current, I _{th}									
AC 20/DC 20 open	A	25	32	40	63	80	40	63	115
AC 20/DC 20 enclosed	A	25	32	40	63	80	40	63	115
AC 21A ≤500 V	A	16	25	32	63	80	40	63	100
AC 21A ≤690 V	A	16	25	32	63	80	40	63	100
Rated operational power AC23									
400/415 V	kW	7.5	9	11	22	37	15	18.5	37
690 V	kW	7.5	9	11	15	18.5	15	15	37
Short circuit interrupting capacity									
Fuse type CC	kA	10	—	10	—	—	—	—	—
Fuse type J	kA	10	10	10	10	100	—	50	200
Fuse type T	kA	10	10	10	10	100	—	50	200
Fuse type RK1	kA	10	—	10	—	—	—	—	—
Fuse type RK5	kA	5	5	5	5	10	5	—	—
Fuse type L	kA	—	—	—	—	—	—	—	—
Fuse type H	kA	—	—	—	—	—	—	—	—
Maximum fuse size	A	30	60 ⊕	30	60 ⊕	100	150	60	60
Physical characteristics									
Weight 1 3 pole	lb	0.24	0.24	0.24	0.59	0.59	0.79	0.79	0.79
Dimensions 3 pole	H in	2.68	2.68	2.68	3.60	3.60	3.94	3.94	3.94
	W in	1.38	1.38	1.38	2.07	2.07	2.76	2.76	2.76
	D in	2.20	2.20	2.20	2.85	2.85	2.95	2.95	2.95

⊕ Switch only.

⊗ Fuse size 70 A for RK5.

ABB's non-fusible disconnect switches are designed to offer maximum versatility to meet specific customer requirements. All sizes are compact, heavy duty, 600 V disconnect switches. The basic construction provides flexibility, safety, and high performance in an extremely compact size.

The non-fusible switch line includes 16 amperage sizes ranging from 16 A to 3150 A, and includes both UL 98, UL 508 and IEC switches.

ABB non-fusible disconnects are also customizable in that they are available in a number of special premium configurations.

- Side operated
- Maintenance bypass
- Flange operated
- Double throw
- Multiple poles, (2, 3, 4 & 6)
- Motor operators



Catalog number	3 pole	UL98 / IEC					IEC		
		OT200U03	OT400U03	OT600U03	OT800U03	OT1200U03	OETL-NF1600SW	OETL-NF2000SW	OETL-NF3150SW
Amp rating	A	200	400	600	800	1200	1600	2000	3150
Approvals [Ⓞ]									
2 pole		N/A	N/A	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	IEC
3 pole		UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	IEC
4 pole		UL98 / IEC	UL98 / IEC	UL98 / IEC	IEC	IEC	IEC	IEC	IEC
Technical ratings – UL, CSA									
Max operating voltage	V	600	600	600	600	600	600	600	600
Max horsepower rating									
Three phase									
240 V	HP	75	125	200	15	—	—	—	—
480 V	HP	150	250	400	30	—	—	—	—
600 V	HP	200	350	500	30	—	—	—	—
Single phase									
120 V		—	—	—	—	—	—	—	—
240 V		—	—	—	—	—	—	—	—
Technical ratings – IEC									
Rated insulation and operational voltage, AC20 and DC20	V	1000	1000	1000	1000	1000	1000	1000	1000
Rated thermal current, I _{th}									
AC 20/DC 20 open	A	250	400	800	1250	1600	2500	2500	3150
AC 20/DC 20 enclosed	A	250	400	720	1250	1600	2300	2500	2600
AC 21A ≤500 V	A	250	400	800	1250	1600	2500 [Ⓞ]	2500 [Ⓞ]	3150 [Ⓞ]
≤690 V	A	250	400	800	1250	1600	2500 [Ⓞ]	2500 [Ⓞ]	3150 [Ⓞ]
Rated operational power AC23									
400/415 V	kW	132	220	355	400	400	400	400	400
690 V	kW	240	355	355	—	—	—	—	—
Short circuit interrupting capacity									
Fuse type CC	kA	—	—	—	—	—	—	—	—
Fuse type J	kA	200	100	100	—	—	—	—	—
Fuse type T	kA	—	—	100	—	—	—	—	—
Fuse type RK1	kA	—	—	—	—	—	—	—	—
Fuse type RK5	kA	—	—	100	—	—	—	—	—
Fuse type L	kA	—	—	—	100	100	100	100	—
Fuse type H	kA	—	—	—	—	—	—	—	—
Maximum fuse size	A	350	600	600	1200	1200	2000	2000	—
Physical characteristics									
Weight [Ⓞ] 3 pole	lb	2.9	5.7	13.66	35.9	38.55	127.7	127.7	127.7
Dimension 3 pole	H in	6.69	8.66	11.77	19.09	19.09	25.04	25.04	25.04
	W in	6.67	8.7	11.93	14.29	14.29	18.43	18.43	18.43
	D in	3.30	3.35	5.12	4.92	4.92	10.67	10.67	10.67

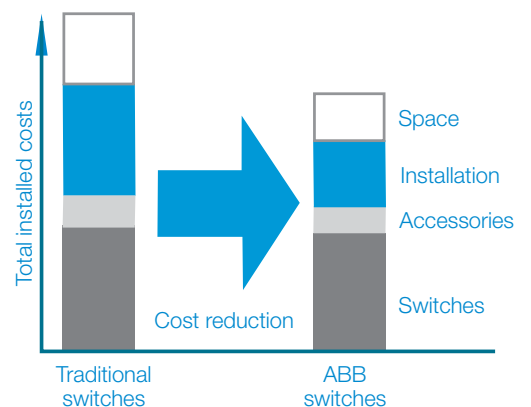
[Ⓞ] Switch only
[Ⓢ] IEC 947-3 Utilization Category B, Infrequent operation

Flexible installation & mounting options

Mount the switch based on your specific panel requirements. Simply install the handle on the door, in line with the switch. The switch and handle are mechanically linked through an easy to install shaft, allowing fast and flexible installation into various panel depths and configurations.

- Door mounting 16 A - 100 A
- DIN rail mounting 16 A - 100 A
- Base mount with screws 16 A - 3150 A

Lowered install costs



Fusible disconnect switches



OS30FA_12 OS60GJ03 OS100GJ03 OS200J03 OS400J03 OS600J03 / OS800L03 OS1200L03

		UL98 / IEC								
Catalog number	3 pole	OS30FACC12	OS30FAJ12	OS60GJ03	OS100GJ03	OS200J03	OS400J03	OS600J03	OS800L03	OS1200L03
Amp rating	A	30	30	60	100	200	400	600	800	1200
Approvals										
2 pole		N/A	N/A	N/A	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC
3 pole		UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC
4 pole		UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC	UL98 / IEC
Technical ratings – UL, CSA										
Max operating voltage	V	600	600	600	600	600	600	600	600	600
Max horsepower rating										
Three phase										
240 V	HP	7.5	7.5	15	30	60	125	200	250	—
480 V	HP	15	15	30	60	125	250	400	500	—
600 V	HP	20	20	50	75	150	350	500	600	—
Single phase										
120 V	HP	2	2	—	—	—	—	—	—	—
240 V	HP	3	3	—	—	—	—	—	—	—
UL fuse class		CC	J	J	J	J	J	J	L	L
Technical ratings – IEC										
Rated insulation and operational voltage, AC20 and DC20	V	1000	1000	1000	1000	1000	1000	1000	1000	1000
Rated thermal current, I _{th}										
AC 20/DC 20 open	A	32	32	63	160	200	400	630	800	1250
AC 20/DC 20 enclosed	A	32	32	63	160	200	400	630	720	1250
AC 21A ≤500 V	A	32	32	63	160	200	400	630	800	1250
≤690 V	A	32	32	63	160	200	400	630	800	1250
Rated operational power AC23										
400/415 V	kW	14/15	14/15	30	80/90	110	210/230	315/340	350/380	560
690 V	kW	25	25	60	132	200	330	540	600	1000
Short circuit interrupting capacity	kA	200	200	200	200	200	200	200	200	200
UL Fuse size	A	30	30	60	100	200	400	600	800	1200
UL Fuse type		CC	J	J	J	J	J	J	L	L
Physical characteristics										
Weight										
3 pole	lb	1.54	1.54	2.86	3.30	5.9	17.18	37.44	37.44	63.93
4 pole	lb	1.98	1.98	3.52	3.96	7.5	19.38	46.26	46.26	77.16
Dimension (3 pole)										
H in		3.66	3.60	3.94	7.91	6.5	8.90	10.10	10.10	11.30
W in		4.15	4.15	5.69	5.77	7.1	11.26	14.80	14.80	16.42
D in		4.10	4.10	4.65	4.10	5.2	8.07	9.17	9.17	11.62

All ABB UL98 listed fusible switches are designed to meet customer requirements in terms of high interrupting capacity (all rated 200 kA) and long electrical life while occupying little more panel space than the appropriate fuses.

The basic construction provides flexibility and high performance in an extremely compact size. The fusible switch line's unique compact dimensions allow panel size reduction in new applications and easily retrofit into existing applications where space is limited.

ABB's fusible disconnect line includes eight amperage sizes from 30A to 1200A and are complemented by a wide range of fuse clip options. ABB fusible switches offer an economical and reliable solution for fused short circuit protection.

Fuse isolation

ABB fusible switches contain contacts on both sides of the fuse. The fuses are totally isolated in the OFF position, reducing the risk of shock to authorized personnel – even if the switch has been back fed.

Disconnect switch accessories

Customize your ABB switch with our extensive line of disconnect switch accessories. From handles to power poles, our accessory line follows the same superior craftsmanship as the switches themselves.

Selector handles

The design of the ABB selector handles incorporates quick and easy mounting, ergonomic and uniform design as well as safety in application. The selector handle range offers base mounting and door mounting options with screw and snap-on features. ABB selector handles provide door interlock in the ON position and when padlocked in the OFF position.

Pistol handles

Robust construction coupled with stunning high torque allows the use of plastic handles even with the largest switches. ABB pistol handles are easy to install as mounting hardware fastens to brass inserts in the back of the handle.

Pistol handles are available in a variety of lengths from 65mm to 330mm for 6mm and 12mm shaft diameters. Black/Red and Red/Yellow plastic as well as 316L stainless steel versions are available for use with non-fusible and fusible disconnects.

Shafts

A full range of 6 and 12mm shafts coordinate with selector and pistol grip handles for all disconnect switches. Shafts are offered in a variety of lengths in order to meet customer mounting depth specifications.

Flange operators

Flange operated disconnect switches are available as rigid shaft or flexible cable designs. The cable operated version allows installation of the disconnect anywhere in the enclosure depending on the length of the cable. Cables are available in lengths from 36 to 84 inches. Along with optional direct mount rotary handles, ABB's full flange offering provides compliance with

NFPA79 and UL508A requirements for industrial machinery operation handles.

Conversion mechanisms

Convert a standard non-fusible ABB disconnect to a custom solution by installing one of the available conversion mechanisms.

- 6 or 8 pole mechanism - operates 2 switches with a single handle.
- Transfer mechanism - manually transfers between 2 power sources.
- Bypass mechanism - operates 3 switches (2 in a series and 1 transfer switch to provide bypass).
- Mechanical interlock - prevents 2 switches from simultaneously being in the ON position.

Other common accessories

- Motor operators
- Terminal shrouds
- Additional power poles
- Additional terminal poles (neutrals and grounds)
- Electro-mechanical interlocks
- Auxiliary contacts



Selector handles



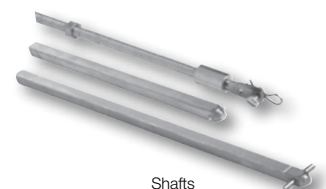
Auxiliary contacts



Pistol handles



Double throw mechanism



Shafts

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