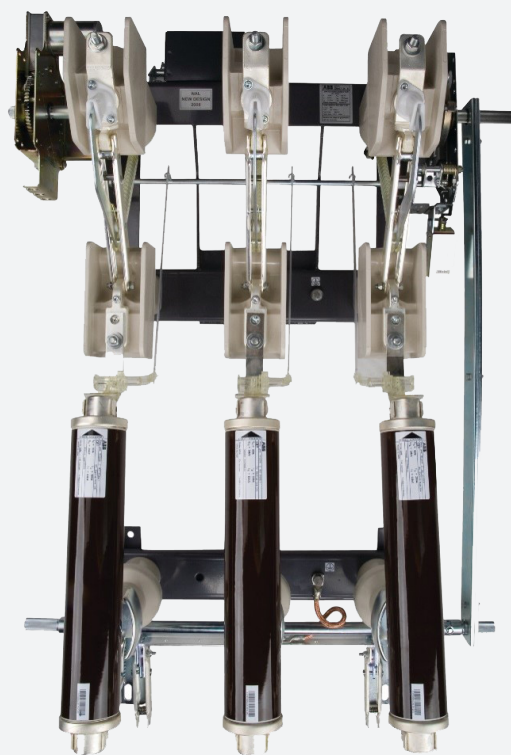


ORDER ENTRY GUIDE

# VersaRupter® medium voltage indoor switch

4.76–38 kV, 200–1200 A, 25–61 kA



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**The VersaRupter® medium voltage indoor switch has been on the market for more than 35 years, with product modernization and development a key priority. With a unique design that extinguishes electric arcs and enables high switching capacity, it is an attractive solution as a key breaking element for applications in enclosed switchgear and transformer compact substations. The VersaRupter switch can be used in all medium voltage primary and secondary distribution systems such as industrial workshops, factories, prefabricated substations, and solar and wind grid connection stations.**

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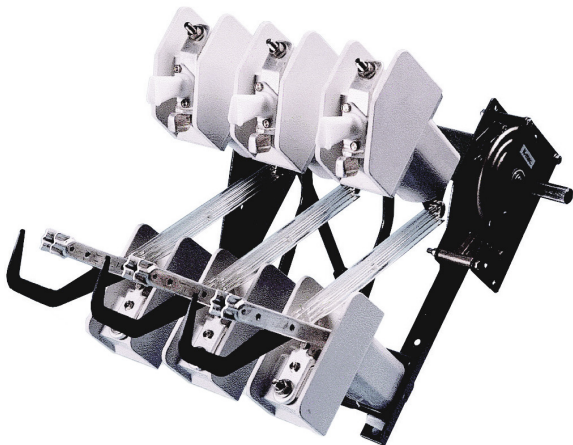
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# VersaRupter® switch overview

## General description

—  
VersaRupter switch  
assembled with snap  
action K-mechanism



The VersaRupter switch is a general purpose, three-pole, loadbreak switch that offers switchgear owners and assemblers the advantages of an advanced interrupting technology and proven, dependable performance in a compact design. The switch is available to switchgear assemblers as a building block for metal-enclosed and padmounted switchgear applications in ratings from 4.76 – 38 kV.

- Puffer arc extinguishing system allows for a high number of operations without excessive wear
- Lack of gravity dependent latches allows for flexible mounting arrangements
- Tight phase spacing without the requirement for interphase barriers on most ratings
- Compact operating mechanisms available in stored energy or snap action varieties
- Compact motor operator provides local or remote control of VersaRupter

VersaRupter at a glance		
Applications	Metal-enclosed and padmount switchgear for utility distribution, industrial, mining, and commercial installations	
Ratings	Voltage	Loadbreak current
	4.76-17 kV	200, 600, and 1200 A
	27 kV	200 and 600
	38 kV	600, 800, and 1000 A
	15 kV	600 and 1200 A
Standards	IEEE C37.20.4 (2001 and 2013) IEC 60129, 60254, 60265, 60694, 420, 62271-105 For UL and CSA listings see Tables 1A and 1B	
Experience	Over 35 years of product design and field experience with attention to product modernization and development	
Actuators	Manual operation with choice of chain drive, side direct drive, or HE/HM shaft drive	
	Optional motor operation, optional shunt trip with A-mech only	
Options	Left or right side mounting available with most options	
	Grounding switch, fuse base, mechanical fuse tripping, auxiliary switches, key interlocks	
Quality	ISO-9001	
	Complete IEEE design test reports	
	Switches are tested to a minimum of 1,000 mechanical operations, 100 open/close operations up to 600 A, and 20 open/close operations at 1200 A	



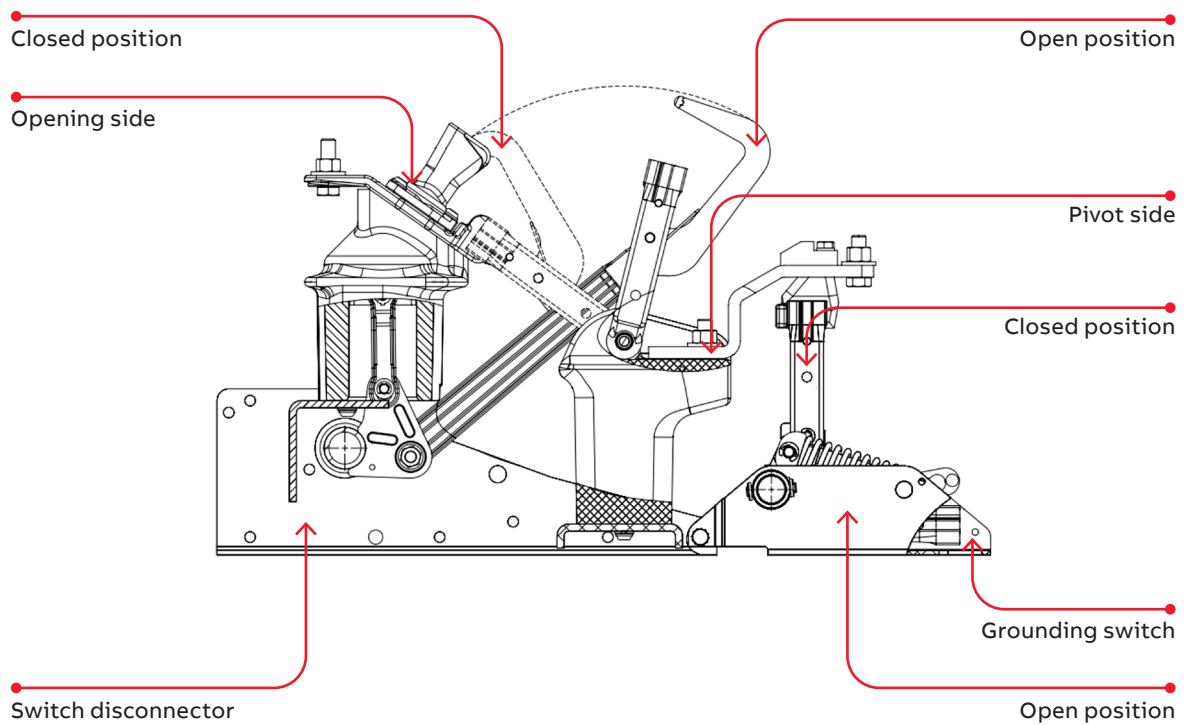
## Main product features

The VersaRupter switch includes a heavy-duty steel frame with stand-off insulators, a unique puffer type arc extinguishing system, and an operating mechanism. The current-carrying components include blade-type interrupters with cast hinges and jaw connectors. Optional accessories and features include operating handles, auxiliary switches, grounding switches, fuse bases, mechanical fuse tripping, motor operator, shunt trip, mechanical door interlocking, and key interlocking.

For bus or cable connections to the VersaRupter switch, the standard switch provides a single hole on 200/600 A switches and two holes on 1200 A

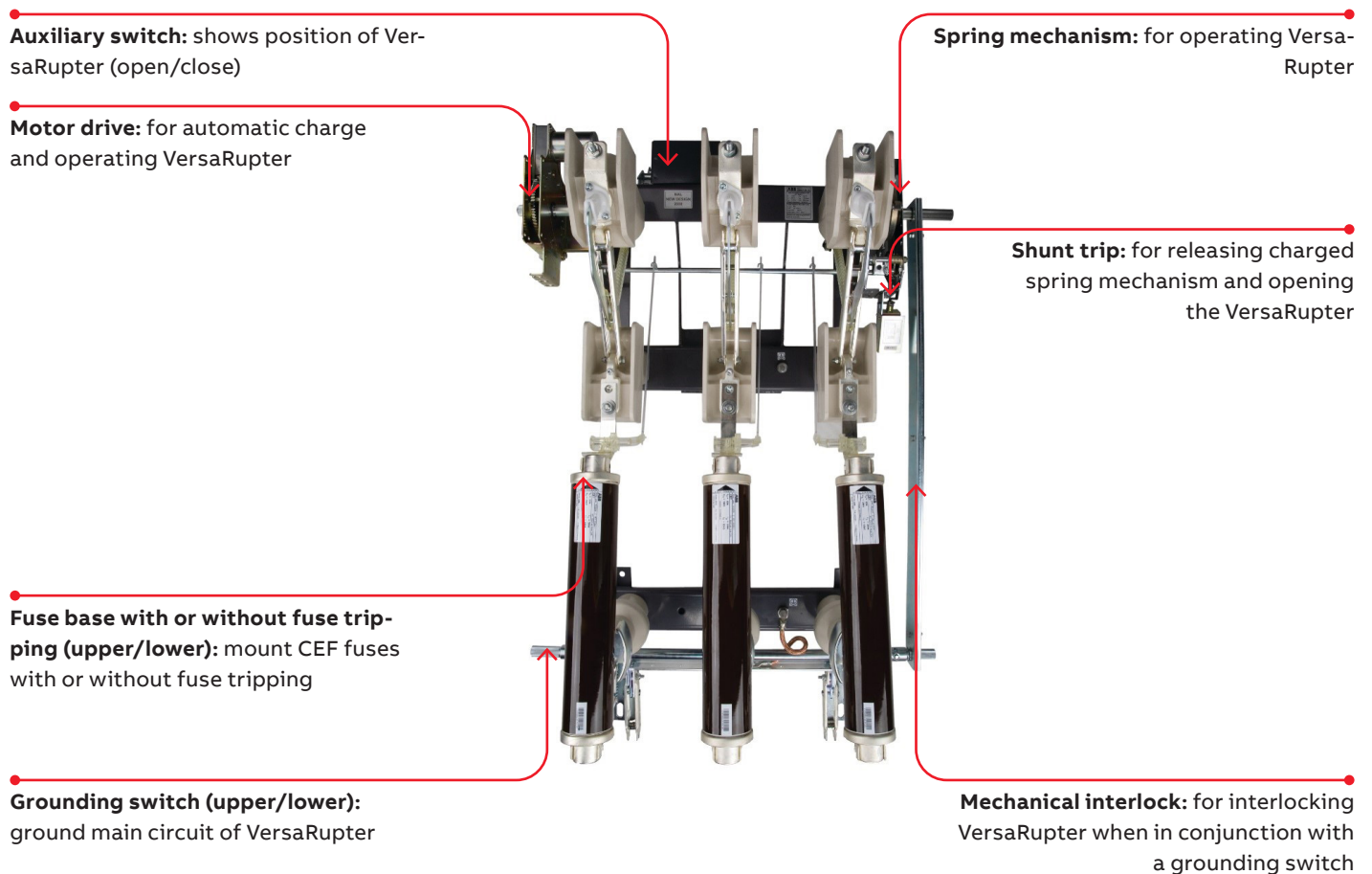
switches with a 25 kA symmetrical short-time withstand. In addition to the standard VersaRupter bus or cable connections, ABB offers a NEMA 2-hole lug pattern on VersaRupter switches rated 15/17/27 kV, 200/600/1200 A, and 25 kA symmetrical short-time withstand. Although the standard 1200 A switches have a 2-hole pattern, they differ from the NEMA 2-hole pattern since they are not spaced 1.75" apart. NEMA 2-hole lug configurations do not apply to 4.76 or 38 kV switches. They also do not apply to 61 kA VersaRupter switches, as those include a NEMA 4-hole lug pattern.

Standard VersaRupter switch with grounding switch Type E



## VersaRupter arrangement

The VersaRupter switch has a modular design that allows for easy adaptation inside switchgear, and can be easily configured in line with specific application requirements. Optional accessories and features include operating handles, auxiliary switches, grounding switches, fuse bases, mechanical fuse tripping, motor operator, shunt trip, mechanical door interlocking, and key interlocking.



## Functional description

To ensure correct operation for all relevant currents, the VersaRupter switch is equipped with a dual arc extinguishing system. As the current is being interrupted, the arc will be exposed to:

- A current independent air blast that automatically starts during the interrupting process. The insulators on the opening side contain cylinders with pistons that are connected to the mechanism in the same way as the moving contacts. The air blast then starts simultaneously with the contact movement (autopneumatic air blast).
- A current dependent gas blast that occurs when the walls of the arcing nozzles are exposed to the hot arc.

During this opening process, large volumes of gas are released and the arc is effectively cooled.

Since the switch's arcing blade is centered within the two main contact blades, the arcing blade opens secondarily during this process, allowing the arc to form within the arc chute. When closing the VersaRupter switch, the main contact touches first, followed by the arcing blade.

—  
Switch interruption

Gas blast

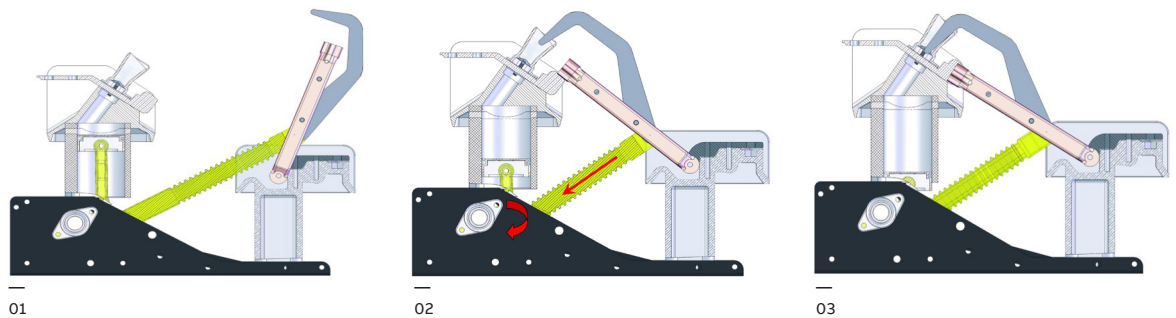
Operating rod

Air blast

—  
01  
Switch open

—  
02  
Switch closing

—  
03  
Switch closed



# Technical data

## VersaRupter switch technical details

Rated voltage (kV)	Rated maximum voltage (kV)	Rated current (A)	BIL (kV)	60 Hz withstand 1 minute (kV)	Pole spacing (in/mm)	Peak withstand* (kA)	Fault-making* (kA)	Short time current symmetrical (kA/sec)
4.73	4.76	200	60	19	5.91/150	65	40	25/2
		600						
		1200						
12-13.8	15	200	95	36	6.69/170	65	40	25/2
		600						
		1200						
12-16.5	17	200	110	50	9.25/235	65	40	25/2
		600						
		1200						
23.9-24.9	27	200	125	60	10.8/275	65	52	25/2
		600						
		800						
34.5	38	1000	150	80	14.1/360	65	42	25/2
<b>UL Recognized</b>								
4.73	4.76	200	60	19	5.9/150	65	40	25/2
		600						
		1200						
12-13.8	15	200	95	36	6.69/170	65	40	25/2
		600						
		1200						
13.8	15	1200	95	36	9.25/235	98.8	61	50/2
12-16.5	17	200	110	50	9.25/235	65	40	25/2
		600						
		1200						
34.5	38	800	150	80	14.1/360	52	52	20/2

\*Per IEEE C37.20.4 (2013) table 4, the rating previously called momentary asymmetrical current is now called peak withstand current, and fault-making asymmetrical current is now fault-making current.



### Shunt trip

The shunt trip option is available for local push button or remote switching applications. Additional information (including ordering information) for the shunt trip can be found on page 17.

#### Technical data: shunt trip device

Nominal coil voltage	Voltage range	Average current (Amps)		Power (VA)	Resistance ( $\Omega$ )
		IN	Istart		
24 V DC	-15% to +10%	10.0	10.0	240	3.4 $\pm$ 15%
48 V DC	-15% to +10%	2.40	2.40	115	13 $\pm$ 15%
110 V DC	-15% to +10%	1.40	1.40	155	79 $\pm$ 15%
220 V DC	-15% to +10%	1.50	0.50	110	320 $\pm$ 15%
110 V AC	-15% to +10%	2.70	5.00	300	79 $\pm$ 15%
220 V AC	-15% to +10%	1.50	2.80	320	320 $\pm$ 15%
125 V DC	-15% to +10%	1.40	1.40	155	79 $\pm$ 15%

### Manual operation with NM motor

The compact, lightweight NM motor operator provides remote electrical opening and closing of the VersaRupter. The NM motor operator also allows for manual operation of the VersaRupter via a direct shaft drive HM operator with a removable handle (chain drive and side direct drive handles cannot be used). Additional information (including ordering information) for the NM motor operator can be found on pages 25-26.

Voltage AC/DC $\pm$ 10%	24 V	48 V	110 V	220 V
Current (A)	3	3	0.8	0.4
Power consumption (W)	70	140	85	90
Operating time (sec)	~4	~4	~4	~4
Operating temperature ( $^{\circ}$ F)	-40 to 131	-40 to 132	-40 to 134	-40 to 135
Signaling time (sec)	0.5 - 2.0	0.3 - 1.0	0.5 - 2.0	0.5 - 2.0
Weight (lbs) (kg)	13.2 (6)	13.2 (6)	13.2 (6)	13.2 (6)
Operating voltage AC (V)	17-26	34-52	77-137	154-242
Operating voltage DC (V)	22-28	43-57	99-150	198-264

### Grounding switches, Types E and EB

Grounding switches are available for connection to the lower terminals of the VersaRupter switch or the VersaRupter switch fuse base. Additional information (including ordering information) for the grounding switches can be found on pages 27-28.

#### Technical data: grounding switches, Types E and EB

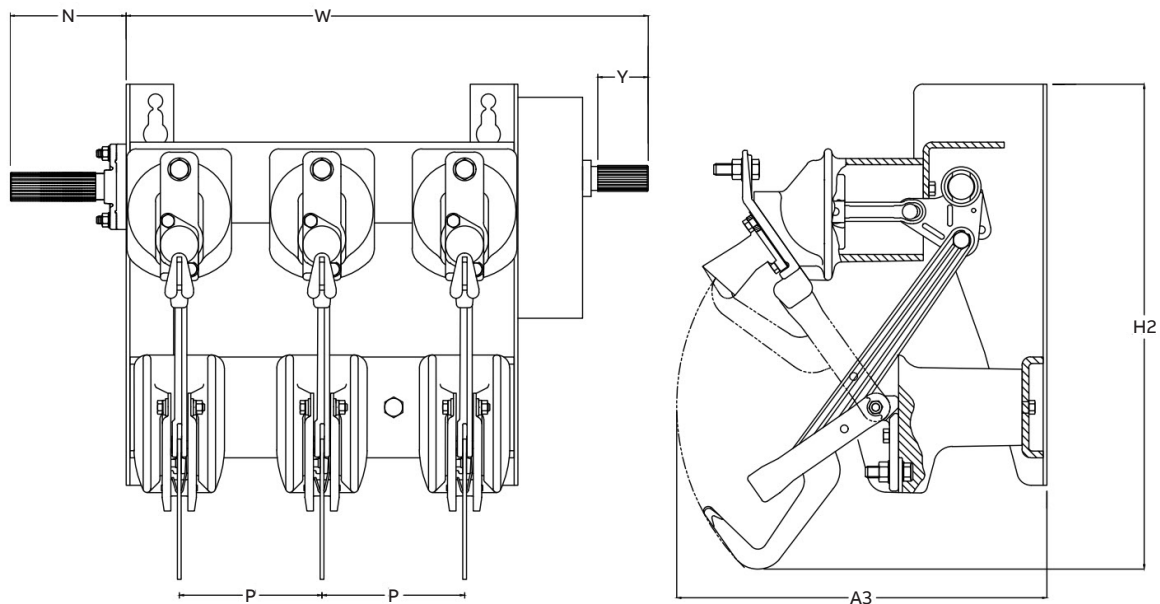
Rated voltage	kV	4.6-7.2	12.0-13.8	12.0-16.5, 22.9-24.9	34.5
Peak withstand current <sup>1</sup>	kA peak	62/82	40/82	38/82	66
Short circuit current	1 sec. kA	31.5	31.5	31.5	
	2 sec.	25	20	20	25
	3 sec.	20	16	16	
Short circuit making capacity	kA	62/67	40/62.5	38/50	50
Power frequency withstand voltage 50 Hz 1 min.	kV	42	45	50	80
Impulse withstand voltage 1.2/50 $\mu$ s	kV	75	95	125	170
Pole distance	in/mm	5.9/150	6.69/170	9.25/235, 10.82/275	14.17/360

<sup>1</sup>When fed from switch disconnecter/grounding switch side

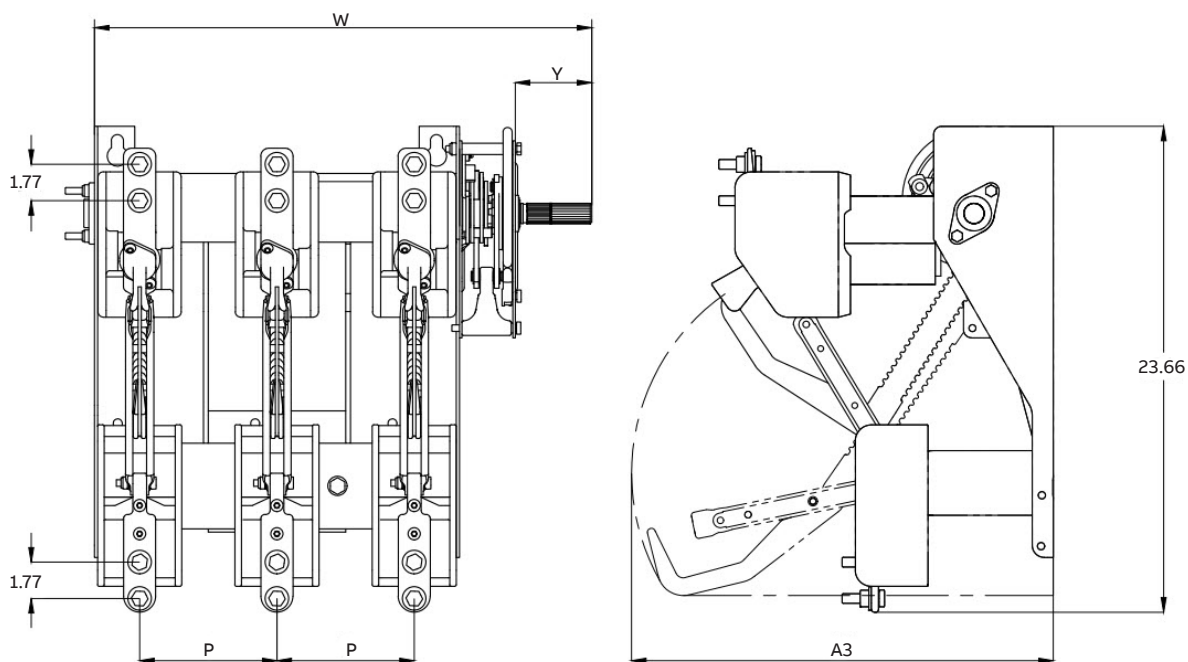
# Weights and dimensions

## Drawings

— Standard VersaRupter - single hole lug. Reference drawings for dimensions table on page 11.



— NEMA 2-hole lug



## Weights and dimensions table

Dimensions (in)													
Switch max kV / phase spacing			Width <sup>1</sup> (W)	Height (H2)	Depth (A3)	Optional shaft ext. (N)	Weight (lbs.)	Ref. drawing					
4.76 kV P = 5.91" (150 mm)	200 A	K-mechanism	22.68	20.08	15.51	4.80	71						
		A-mechanism	22.41										
	600 A	K-mechanism	22.68						S-20183				
		A-mechanism	22.41										
	1200 A	K-mechanism	22.68					S-20214					
		A-mechanism	22.41										
15 kV P = 6.69" (170 mm)	200 A	K-mechanism	24.25	23.62	20.12	4.80	75						
		A-mechanism	23.98										
	600 A	K-mechanism	24.25						S-20184				
		A-mechanism	23.98										
	1200 A	K-mechanism	24.25					S-20227					
		A-mechanism	23.98										
15 kV (61 kA) P = 9.25" (235 mm)	600 A	K-mechanism	29.37	24.17	21.55	7.32	110	2RFA019104A0001					
		A-mechanism	29.10										
	1200 A	K-mechanism	29.37										
		A-mechanism	29.10										
	17 kV P = 9.25" (235 mm)	200 A	K-mechanism					29.37		23.62	20.12	7.32	93
			A-mechanism					29.10					
600 A		K-mechanism	29.37	S-20348									
		A-mechanism	29.10										
1200 A		K-mechanism	29.37		S-20228								
		A-mechanism	29.10										
27 kV P = 10.8" (275 mm)	200 A	K-mechanism	32.52	23.62	20.12	7.32	95						
		A-mechanism	32.25										
	600 A	K-mechanism	32.52						S-20347				
		A-mechanism	32.25										
	1200 A	K-mechanism	32.52					S-20229					
		A-mechanism	32.25										
38 kV P = 14.1" (360 mm)	600 A	K-mechanism	46.61	34.25	33.46	10.08	220	2RFA018778A0001					
		A-mechanism	46.12										
	800 A	K-mechanism	46.61										
		A-mechanism	46.12										
	1000 A	K-mechanism	46.61										
		A-mechanism	46.12										

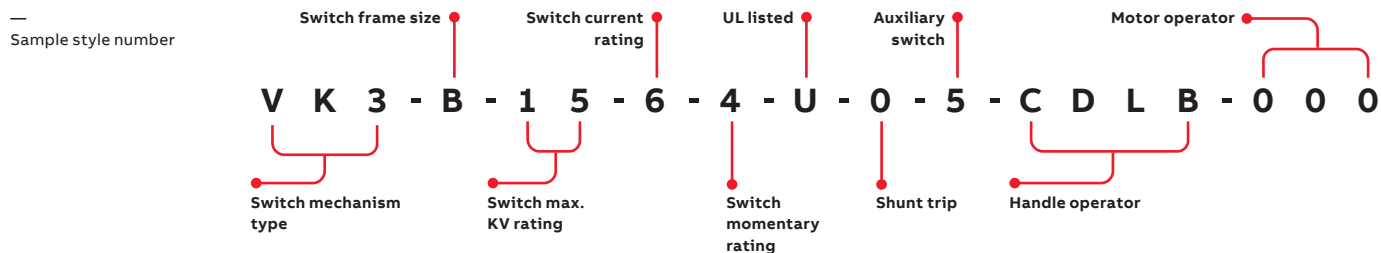
<sup>1</sup>Width for K-mechanism based on standard shaft (K3) where Y dimension = 3.77" excluding 38 kV where Y = 7.39"  
 Other options are: K2 snap action mechanism where Y = 2.69"  
 K5 snap action mechanism where Y = 5.26"

<sup>1</sup>Width for A-mechanism based on standard shaft (A3) where Y dimension = 3.50" excluding 38 kV where Y = 6.90"  
 Other options are: A4 stored energy mechanism where Y = 4.80"  
 A6 stored energy mechanism where Y = 6.90"

Note: See definitions for K and A mechanisms on page 13.

# VersaRupter® switch selection guide

## Style number reference



The VersaRupter switch product line has a structured, smart style number ordering system. The complete style number consists of 18 customer selection characters. Each character identifies features or functions that can be incorporated into the switch application. The first nine characters of the style number define the basic switch. The next two characters define electrical control options. The next four characters are used to define handle operator options, and the final three define motor operator requirements.

### How to order

Select the required option codes to fill in the smart style number. The total list price (USD) is computed by adding the individual list prices (USD) for each of the selections.

### Step 1: Select basic switch (characters 1 – 9)

Study the mechanism selection guide on page 13 to determine which mechanism is compatible with the features you require. Then select the 9 character switch smart style number code from Table 1A (K-mechanism) or Table 1B (A-mechanism).

### Step 2: Select shunt trip and auxiliary switch options (characters 10 & 11)

Select codes for the desired electrical control options from Tables 2 and 3 (page 17).

### Step 3: Select handle operator options (characters 12 – 15)

- Study the handle operator guide on page 18 to review features offered and compatibility.
- Select the smart style number code for the desired handle operator and location from the appropriate tables 4, 5, 6, 7, 8, or 10 on pages 19 - 24.

Note: If no handle is required, this field is filled with zeros "0000".

### Step 4: Select motor operator options (characters 16 – 18)

Select the desired motor operator and location code from Table 11 on page 25.

Notes: 1) If no motor is required, this field is filled with zeros "000"  
2) Pole spacing on Table 11 must match pole spacing for digits selected in Table 1A or 1B.

### Step 5: Identify other optional accessories to be ordered as separate items

- See Table 12 for grounding switches.
- Pole spacing for grounding switches must match that in Table 1A or 1B for which the grounding switch will be applied to. When grounding switches are selected, a mechanical interlock must also be selected that matches the switch's pole spacing.
- See Tables 13-16 for fuse bases.
- Fuse bases are not available for 1200 A switches.
- See Table 17 for CEF fuses.
- See page 32 for other accessories.

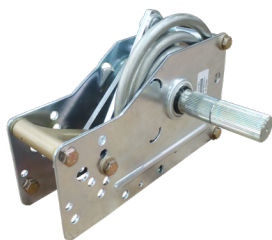


# Operating mechanism

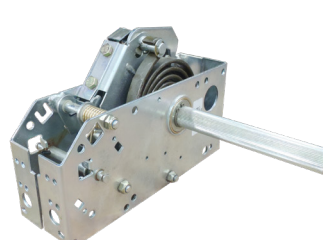
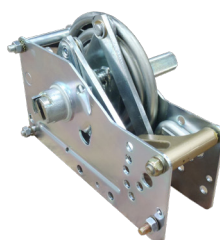
## Selection guide

—  
01  
Snap action  
K-mechanism

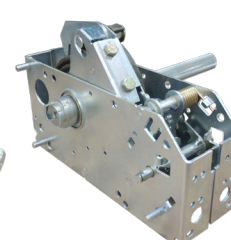
—  
02  
Stored energy  
A-mechanism



01



02



### Snap action K-mechanism

The K-mechanism is a single spring snap action device. The switch opens or closes by charging the spring past dead center using one of the manual operating handles. The K-mechanism may be used with all handle options as well as with type NM motor operators. The K-mechanism cannot be used for shunt trip or fuse trip applications.

- Use the K-mechanism if you need chain drive or side direct drive handles.

### Stored energy A-mechanism

The A-mechanism is a dual spring stored energy device that is well suited for remote tripping applications. When shunt tripping or mechanical fuse tripping is specified, the type A-mechanism must be used. In closed operation, the opening spring is charged and latched by an operating handle or by a motor operator. The VersaRupter is then opened by any of the following methods below:

- Movement of the operating handle
- Motor operator
- Electrical signal to a shunt trip device
- Mechanical fuse tripping linkage

### Operating features and functions

		Mechanism type			
		Snap action K-mech		Stored energy A-mech	
		40 kA	61 kA	40 kA	61 kA
UL recognized and CSA compliant		X	X	X	X
Electrical control options	Remote shunt trip <sup>1</sup>			X	X
	Auxiliary switch	X	X	X	X
	Open fuse auxiliary switch			X	
Operating handles	Side direct drive	X	X		
	HE shaft drive <sup>2</sup>	X	X	X	X
	HM shaft drive	X	X	X	X
	Chain drive	X	X		
Motor operator (optional)	NM motor <sup>3</sup>	X	X	X	X
Interlocks	Mechanical door interlock	X	X	X	X
	Key interlock	X	X	X	X
	Padlock	X	X	X	X
Grounding switch	Type E grounding switch	X		X	
	Mechanical interlock	X		X	
Fuse options	Fuse bases	X		X	
	Mechanical fuse tripping <sup>4</sup>			X	

<sup>1</sup>Shunt trip option provides for operation by local push button or remote signal. Shunt trip requires stored energy type A-mechanism.

<sup>2</sup> The HM drive must be used if manual operation is needed in conjunction with motor operator.

<sup>3</sup> Chain and direct drive handles cannot be used with motor operators.

<sup>4</sup> This feature provides for the switch to open if a fuse operates.



VersaRupter price and order entry worksheet

Complete switch																	
Switch smart style number																	
V																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
														Smart code			
Step 1: Select basic switch with operating mechanism from tables 1A or 1B (required) Enter 9 character smart number (digits 2-9)																	
Step 2: Select shunt trip option from Table 2 (Optional) Enter "0" if none required (digit 10)																	
Step 3: Select auxiliary switch option from Table 3 (Optional) Enter "0" if none required (digit 11)																	
Step 4: Select 4 character handle operator from Tables 4, 5, 6, 7, 8, or 10 (Optional) Enter "0000" if none required (digits 12 - 15)																	
Step 5: Select 3 character number for motor operator from Table 11 (Optional) Enter "000" if none required (digits 16 - 18)																	
Step 6: Enter complete smart switch style number at the top of the page																	

Other accessories (Order as separate line items)	
Description	Catalog number
Removable handle (table 7)	
Grounding switch (table 12)	
Grounding switch interlock (table 12)	
Fuse base (tables 13-16)	
Fuses (table 17)	
Shaft extensions (page 32)	
Splined tubes (page 32)	

# VersaRupter styles

## Snap action operating mechanism (K-mechanism)

K-mechanism switches must be selected when chain drive or side direct drive handles are required.

**Table 1A: VersaRupter with snap action mechanism (K-mechanism)**

System rating nominal (kV)	Rated voltage max. (kV)	Rated BIL (kV)	Rated current (A)	Short time current symmetrical (kA/sec)	Fault making* (kA)	Peak withstand* ( kA)	UL	Smart style code	Smart style code with NEMA 2-hole pattern
4.73	4.76	60	200	25/2	40	65	No	VK3A0524N	-
			600				No	VK3A0564N	
			1200				No	VK3A0514N	-
12-13.8	15	95	200	25/2	40	65	No	VK3B1524N	VK3F1524N
			600				No	VK3B1564N	VK3F1564N
			1200*				No	VK3B1514N	VK3F1514N
12-16.5	17	110	200	25/2	40	65	No	VK3C1724N	VK3G1724N
			600				No	VK3C1764N	VK3G1764N
			1200				No	VK3C1714N	VK3G1714N
23.9-24.9	27	125	200	25/2	52	65	No	VK3P2724N	VK3U2724N
			600				No	VK3P2764N	VK3U2764N
UL recognized									
4.73	4.76	60	200	25/2	40	65	Yes	VK3A0524U	-
			600				Yes	VK3A0564U	-
			1200				Yes	VK3A0514U	-
12-13.8	15	95	200	25/2	40	65	Yes	VK3B1524U	VK3F1524U
			600				Yes	VK3B1564U	VK3F1564U
			1200*				Yes	VK3B1514U	VK3F1514U
13.8	15	95	600	50/2	61	98.8	Yes	VK3L1566U	-
			1200*				Yes	VK3L1516U	-
12-16.5	17	110	200	25/2	40	65	Yes	VK3C1724U	VK3G1724U
			600				Yes	VK3C1764U	VK3G1764U
			1200				Yes	VK3C1714U	VK3G1714U

\* Must use interphase barriers, not supplied.

\*\* Smart style codes for UL recognized designs have U in the 9th digit position. Smart style codes for non-UL designs end with N. UL recognized designs can be used with chain drive handles, side direct drive handles, HE or HM handles, and auxiliary switches. Motor operators are not included. Style numbers shown are based on the standard shaft, K3 (3.77" shaft length). Some switches are also available with K2 (2.69" shaft length), K5 (5.26" shaft length), and K7 (7.39" shaft length) snap action mechanisms. Please contact the factory for more details.

## Stored energy operating mechanisms (A-mechanism)

A-mechanism switches must be selected when shunt trip or mechanical fuse tripping is required. Switches with A-mechanisms cannot be used with chain or side direct drive handles.

Table 1B: VersaRupter with stored energy mechanism (A-mechanism)

System rating nominal (kV)	Rated voltage max. (kV)	Rated BIL (kV)	Rated current (A)	Short time current symmetrical(kA/ sec)	Fault making* (kA)	Peak withstand*(kA)	UL	Smart style code	Smart style code with NEMA 2-hole pattern
4.73	4.76	60	200	25/2	40	65	No	VA3A0524N	-
			600				No	VA3A0564N	-
			1200				Yes	VA3A0514N	-
12-13.8	15	95	200	25/2	40	65	No	VA3B1524N	VA3F1524N
			600				No	VA3B1564N	VA3F1564N
			1200*				No	VA3B1514N	VA3F1514N
12-16.5	17	110	200	25/2	40	65	No	VA3C1724N	VA3G1724N
			600				No	VA3C1764N	VA3G1764N
			1200				No	VA3C1714N	VA3G1714N
23.9-24.9	27	125	200	25/2	52	65	No	VA4P2724N	VA4U2724N
			600				No	VA4P2764N	VA4U2764N
			800				No	VA6Q3864N	-
34.5	38	150	1000	25/2	42	65	No	VA6Q3884N	-
							No	VA6Q3884N	-
							No	VA6Q3814N	-
UL recognized									
4.73	4.76	60	200	25/2	40	65	Yes	VA3A0524U	-
			600				Yes	VA3A0564U	-
			1200				Yes	VA3A0514U	-
12-13.8	15	95	200	25/2	40	65	Yes	VA3B1524U	VA3F1524U
			600				Yes	VA3B1564U	VA3F1564U
			1200*				Yes	VA3B1514U	VA3F1514U
13.8	15	95	600	50/2	61	98.8	Yes	VA3L1566U	-
			1200				Yes	VA3L1516U	-
							Yes	VA3L1516U	-
12-16.5	17	110	200	25/2	40	65	Yes	VA3C1724U	VA3G1724U
			600				Yes	VA3C1764U	VA3G1764U
			1200				Yes	VA3C1714U	VA3G1714U
34.5	38	150	600	20/2	52	52	Yes	VA6Q3865U	-
			800				Yes	VA6Q3885U	-
							Yes	VA6Q3885U	-

\* Must use interphase barriers, not supplied.

\*\* Smart style codes for UL recognized designs have U in the 9th digit position. Smart style codes for non-UL designs end with N. UL recognized designs can be used with chain drive handles, side direct drive handles, HE or HM handles, and auxiliary switches. Motor operators are not included. Style numbers shown are based on the standard shaft, K3 (3.77" shaft length). Some switches are also available with K2 (2.69" shaft length), K5 (5.26" shaft length), and K7 (7.39" shaft length) snap action mechanisms. Please contact the factory for more details.



# Electrical control options

## Shunt trip/auxiliary switches

### Shunt trip

The shunt trip option is available for local push button or remote switching applications. The shunt trip can only be installed on a VersaRupter switch with a stored energy mechanism (A-mechanism). The shunt trip utilizes a solenoid to actuate the A-mechanism trip latch. An auxiliary switch is required with the shunt trip option. Shunt trip coils are intermittent duty coils. A VersaRupter switch-operated auxiliary contact must be in series with the trip coil so that power is removed from the coil after the VersaRupter switch change of state. See Table 3 for auxiliary switch selection.

Table 2: Shunt trip device

Control voltage	Catalog number	Digit position 10
No shunt trip		0
24 V DC	186-873-006	1
48 V DC	186-873-005	2
110 V DC	186-873-004	3
220 V DC	186-873-003	4
110 V AC	186-873-002	5
220 V AC	186-873-001	6
125 V DC	186-873-007	7

Price includes shunt trip device, mounting brackets, and hardware.

### Auxiliary switches

VersaRupter switches do not include auxiliary contacts unless specified as an option in Table 3. The auxiliary switch contacts change state when the VersaRupter switch contacts change state. The auxiliary switch can be installed on all VersaRupter switches. Auxiliary switches are available for grounding switches per special request and are shipped with an equal number of normally open and normally closed contacts, which can be reconfigured in the field as needed. An optional fuse auxiliary switch is available to indicate an open fuse condition. This switch has two contacts, one normally open and one normally closed, and is actuated by the tie rod linkage connected to the Type CEF fuse base.

Table 3: Auxiliary switches

Description	Catalog number		Digit position 11
	4.76 - 27 kV	38 kV	
No auxiliary contacts			0
	244-006-516		5
6 Contact switch		244-006-514	6
	244-006-515		7
8 Contact switch		244-006-517	8
Open fuse aux. Switch <sup>1</sup>	244-006-518		9

Price includes auxiliary switch, linkage, and mounting bracket

<sup>1</sup>A-mech only

01 Shunt trip installed

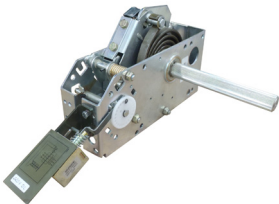
02 Shunt trip

03 Aux switch

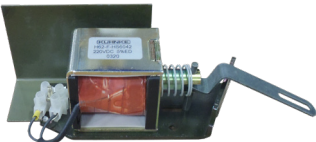
04 Aux switch installed

05 Open fuse aux switch

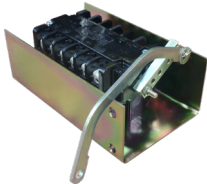
06 Open fuse aux switch installed



01



02



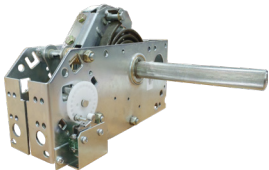
03



04



05



06

# Operating handles

## Selection guide

The VersaRupter switch can be operated with a variety of handles as well as a motor operator. Operators may be mounted in a variety of positions and offer various features. Some operators are not compatible with all mechanisms and features. The chart below provides compatibility guidance.

Selection guide - operators vs. feature compatibility

Handle operator	Location	Use with K-mech	Use with A-mech	Mechanical door interlock	Key interlock	Shunt trip	Motor operator <sup>1</sup>
Chain drive without door interlock (see Table 4)	Front mounted with left or right side drive	•			•		
Chain drive with door interlock (see Table 5)	Front mounted with left or right side drive	•		•	•		
Direct drive (see Table 6)	Shaft mounted with left or right side drive	•			•		
Manual shaft drive type HE <sup>2</sup> without door interlock (see table 7 and 8)	Front mounted with right or left side drive	•	•		•	•	
	Manual with NM motor (HM handle)	•	•		•	•	•
Manual shaft drive type HE <sup>2</sup> with door interlock (see table 10)	Front mounted with right or left side drive	•	•	•	•	•	
	Manual with NM motor (HM handle)	•	•	•	•	•	•

<sup>1</sup>If manual operator is required in conjunction with NM motor operator, a type HM shaft drive with removable handle should be selected  
<sup>2</sup>The HE operator has provisions for padlocking the handle spline, which prohibits installation of the removable handle

Handle options with type K snap action mechanism		
	Front mounted chain drive handle without mechanical door interlock	Right side mounting
		Left side mounting
	Front mounted chain drive handle with mechanical door interlock	Right side mounting
		Left side mounting
	(side mounted) Direct drive handle	Right side mounting
		Left side mounting
Handle operator	(front mounted) HE/HM shaft operator	Right side mounting
		Left side mounting

Handle options with Type A stored energy mechanism		
	(front mounted) HE shaft operator	Right side mounting
		Left side mounting
Handle operator	(front mounted) HM shaft operator (use with NM motor)	Right side mounting
		Left side mounting

Chain drive handles without door interlock

The following chain drive handles are for use with K-mechanism snap action switches that do not require a door interlock.

Front-mounted right side chain drive handles are for attachment directly to the type K-mechanism on the right side of the VersaRupter switch. The “spreader bar” spans the distance from the front door flange where the handle is located to the center-line of the switch shaft, maintaining tension on the drive chain.

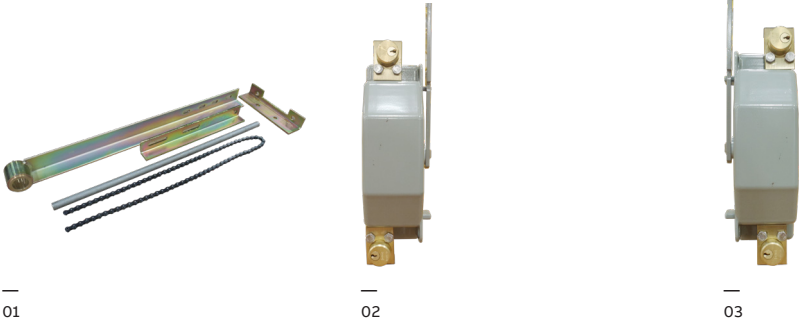
Front-mounted left side chain drive handles connect to the VersaRupter switch using a left hand shaft extension. These handles do not utilize a spreader bar. Left side catalog numbers below include all the chain drive handle parts, plus the left hand shaft extension. Select left side chain drive handles in accordance with the voltage rating of the VersaRupter switch from Table 1A so that the proper left hand shaft extension will be provided with this handle.

Chain drive handles have provisions for two key interlocks and can handle three interlock schemes including lock open only, lock closed only, and lock open only/lock closed only. Key interlock systems will function on left and right hand mounted chain drive handles. A type F Kirk Key interlock with a 2" lock bolt should be specified for the key to be withdrawn in the extended position (KFL020010E). This ensures that possession of the key indicates the switch is locked in the desired scheme. Two 3/8"-16 x 1-3/4" bolts are required per key interlock for mounting. Information to achieve desired schemes is available in drawing per request. Interlocks must be ordered from Kirk Key interlock.

Table 4: Chain drive handles without door interlock

Description	Catalog number	Digit position 12-15
<b>Right side options</b>		
Front mounted, right side operation, spreader bar: 29.625" To 34"	244-037-510	CCR1
Front mounted, right side operation, spreader bar: 34.625" To 39.0"	244-037-511	CCR2
Front mounted, right side operation, spreader bar: 39.625" To 44.0"	244-037-512	CCR3
Front mounted, right side operation, spreader bar: 61.625" To 66.0"	244-037-514	CCR4
<b>Left side options</b>		
Front mounted, left side operation for 4.76 kV switch (5.9" pole spacing)	244-037-501	CCLA
Front mounted, left side operation for 15.0 kV switch (6.69" pole spacing)	244-037-502	CCLB
Front mounted, left side operation for 15.0-17.0 kV switch (9.25" pole spacing)	244-037-503	CCLC
Front mounted, left side operation for 27.0 kV switch (10.8" pole spacing)	244-037-504	CCLD
Front mounted, left side operation for 38.0 kV switch (14.1" pole spacing)	244-037-505	CCL E

- 01 Spreader bar and chain
- 02 Kirk Key right
- 03 Kirk Key left



Chain drive handles with mechanical door interlock

- 01 Mechanical door interlock assembly
- 02 Chain drive handle installed on switchgear



01



02

The following chain drive handles are for both right and left side operation, utilizing a mechanical door interlock. The mechanical door interlock automatically latches the switchgear door when the VersaRupter switch is closed. Each assembly includes all parts required to actuate the VersaRupter switch while interlocking the switchgear door. The mechanical door interlock is pre-installed on the chain drive handle assembly and includes the catch plate that fastens to the door to be automatically latched. Two styles are offered: standard and offset. Standard doors close against the front of the switchgear frame and project forward from the switchgear frame a dimension equal to the door depth. Offset doors are those that close into a recess in the switchgear frame so that the door is flush with the switchgear front when closed. When pairing Kirk Keys with the mechanical door interlock, only one Kirk Key is accessible as the second Kirk Key disc is used with the door interlock latch. Select the chain drive handle assembly according to the type of door and switch used. Right hand chain drive handles include a spreader bar of various lengths from which to select. Left hand chain drive handles include the left hand shaft extension sized to the voltage rating of the switch.

Do not use these handles with type A-mechanism stored energy mechanisms.

Table 5: Chain drive handles with mechanical door interlock

Description	Door type	Catalog number	Digit position 12-15
<b>Right side options</b>			
Front mounted, right side operation, spreader bar: 29.625" to 34.0"	Standard	244-037-517	CDR1
	Offset	244-037-521	CFR1
Front mounted, right side operation, spreader bar: 34.625" to 39.0"	Standard	244-037-518	CDR2
	Offset	244-037-522	CFR2
Front mounted, right side operation, spreader bar: 39.625" to 44.0"	Standard	244-037-519	CDR3
	Offset	244-037-523	CFR3
Front mounted, right side operation, spreader bar: 61.625" to 66.0"	Standard	244-037-520	CDR4
	Offset	244-037-524	CFR4
<b>Left side options</b>			
Front mounted, left side operation, for 4.76 kV switch (5.9" pole spacing)	Standard	244-037-525	CDLA
	Offset	244-037-530	CFLA
Front mounted, left side operation, for 15.0 kV switch (6.69" pole spacing)	Standard	244-037-526	CDLB
	Offset	244-037-531	CFLB
Front mounted, left side operation, for 15.0-17.0 kV switch (9.25" pole spacing)	Standard	244-037-527	CDLC
	Offset	244-037-532	CFLC
Front mounted, left side operation, for 27.0 kV switch (10.8" pole spacing)	Standard	244-037-528	CDLD
	Offset	244-037-533	CFLD
Front mounted, left side operation, for 38.0 kV switch (14.1" pole spacing)	Standard	244-037-529	CDLE
	Offset	244-037-534	CFL E

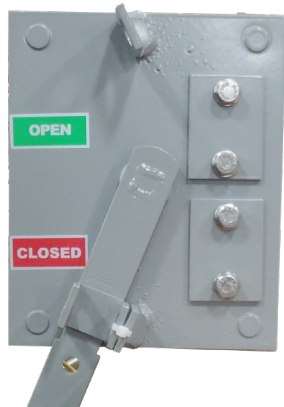


## Direct drive handle

- 01 Direct drive handle
- 02 Direct drive close up



01



02

A manual operator handle is available for shaft-mounted direct operation of the VersaRupter switch from either side of the switchgear cabinet. The handles are available for fixed-mount applications. The left side handle includes the appropriate left-hand shaft extension kit. Padlocking is available with the fixed mount handle. Direct drive handles have provisions for two key interlocks and can handle two interlock systems including lock open only and lock open/lock closed. Key interlock systems will function on left and right hand mounted direct drive handles. A type B Kirk Key interlock with a 3/8" lock bolt should be specified for the key to be withdrawn in the extended position (KBL003710E). This ensures that possession of the key indicates the switch is locked in the desired scheme. Two 3/8"-16 x 3/4" bolts are required per key interlock for mounting. Information to achieve desired schemes is available in drawing S-20138 per request.

**Table 6: Direct drive operating handles (side-mounted)**

Description	Catalog number	Digit position 12-15
Side mounted, right side operation for switches of all voltage ratings	244-063-501	DDRR
Side mounted, left side operation for 4.76 kV switches (5.9" pole spacing)	244-063-505	DDLA
Side mounted, left side operation for 15.0 kV switches (6.69" pole spacing)	244-063-506	DDL B
Side mounted, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	244-063-507	DDLC
Side mounted, left side operation for 27.0 kV switches (10.8" pole spacing)	244-063-508	DDL D
Side mounted, left side operation for 38.0 kV switches (14.1" pole spacing)	244-063-509	DDLE

Type HE/HM shaft drive operator

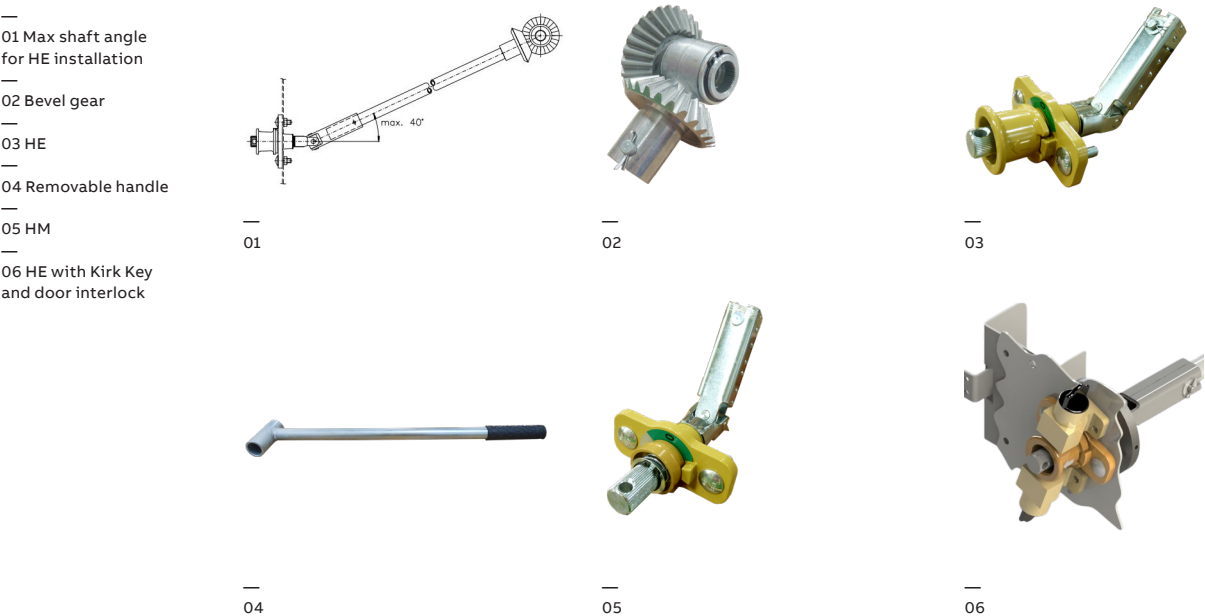
The HE and HM shaft drive operating handles each provide a front mounted direct drive connection to the switch main shaft. Both operators include a bevel gear for connection to the switch shaft, and a universal joint linkage at the handle. These components accept a 0.75" galvanized pipe (not provided), which allows for the VersaRupter switch to be positioned up to five feet from the front of the enclosure (special 1" fittings are required for greater distances). The primary

difference between the HE and HM operating handles is the addition of an arrestor ring on the HE handle. The arrestor ring must be pulled out as the removable handle is rotated to open or close the switch. The HM handle does not have the arrestor ring, allowing it to be used if manual operation is desired with use of the NM motor operator. Mechanical door interlock, key interlock, and padlocking provisions are all available for both the HE and HM operating handles.

Table 7: Type HE/HM shaft drive (front-mounted)

Description	Catalog number	Digit position 12-15
Manual HE, right side operation for switches of all voltage ratings	186-023-301	HERR
Manual HE, left side operation for 4.76 kV switches (5.9" pole spacing)	186-023-406	HELA
Manual HE, left side operation for 15.0 kV switches (6.69" pole spacing)	186-023-407	HELB
Manual HE, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	186-023-408	HELC
Manual HE, left side operation for 27.0 kV switches (10.8" pole spacing)	186-023-409	HELD
Manual HE, left side operation for 38.0 kV switches (14.1" pole spacing)	186-023-410	HELE
Manual HM for use with type NM motor operator right side operation all ratings	186-023-304	HMRR
Manual HM for use with type NM motor operator, left side operation for 4.76 kV switches (5.9" pole spacing)	186-023-411	HMLA
Manual HM for use with type NM motor operator, left side operation for 15.0 kV switches (6.69" pole spacing)	186-023-412	HMLB
Manual HM for use with type NM motor operator, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	186-023-413	HMLC
Manual HM for use with type NM motor operator, left side operation for 27.0 kV switches (10.8" pole spacing)	186-023-414	HMLD
Manual HM for use with type NM motor operator, left side operation for 38.0 kV switches (14.1" pole spacing)	186-023-415	HMLE
Removable handle <sup>1</sup>	183-786-001	-
Bevel gear assembly	2RGA025034A0001	-
Handle yoke assembly (HE)	2RGA024154A0002	-
Handle yoke assembly (HM)	2RGA024154A0001	-

<sup>1</sup>Included with all HE/HM assemblies



## HE/HM shaft drive operators with Kirk Key interlock provisions

The following HE and HM handles are used for both right and left side operation, with provisions for the addition of Kirk Key interlocks. HE and HM handles have provisions for two key interlocks and can handle three interlock schemes including lock open only, lock closed only, and lock open only/lock closed only. Key interlock systems will function on left and right hand HE and HM handles. The suggested Type B Kirk Key interlock (MD) with a 1" lock bolt should be specified for the key to be

withdrawn in the extended position (HBL010010). This ensures that possession of the key indicates the switch is locked in the desired scheme. Two bolts are required per key interlock for mounting, with the size dependent on the Kirk Key selected. Information to achieve desired schemes is available in drawing per request. Additional Kirk Keys that are recommended for use with the HE/HM handles are shown in Table 9 below.

**Table 8: Type HE/HM shaft drive (front-mounted) with Kirk Key interlock provisions**

Description	Catalog number	Digit position 12-15
<b>Kirk Key provisions only</b>		
Manual HE, right side operation for switches of all voltage ratings	186-023-420	KERR
Manual HE, left side operation for 4.76 kV switches (5.9" pole spacing)	186-023-426	KELA
Manual HE, left side operation for 15.0 kV switches (6.69" pole spacing)	186-023-427	KELB
Manual HE, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	186-023-428	KELC
Manual HE, left side operation for 27.0 kV switches (10.8" pole spacing)	186-023-429	KELD
Manual HE, left side operation for 38.0 kV switches (14.1" pole spacing)	186-023-430	KELE
Manual HM for use with type NM motor operator, right side operation for switches of all voltage ratings	186-023-423	KMRR
Manual HM for use with type NM motor operator, left side operation for 4.76 kV switches (5.9" pole spacing)	186-023-441	KMLA
Manual HM for use with type NM motor operator, left side operation for 15.0 kV switches (6.69" pole spacing)	186-023-442	KMLB
Manual HM for use with type NM motor operator, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	186-023-443	KMLC
Manual HM for use with type NM motor operator, left side operation for 27.0 kV switches (10.8" pole spacing)	186-023-444	KMLD
Manual HM for use with type NM motor operator, left side operation for 38.0 kV switches (14.1" pole spacing)	186-023-445	KMLE
Removable handle	183-786-001	

**Table 9: Suggested source of supply for Kirk Keys for HE/HM handle operators**

Supplier	Kirk Key type	Description	Part number
Kirk Key Interlock Company	Type B (SD)	Type "B"-single cylinder with "one inch" locking bolt in retracted position. Key removable in bolt extended position. Specify orientation of name plate to be rotated 180 degrees from neutral when ordering. (Key is included.)	KBL010010
	Type B (MD)	Type "B"-single cylinder with "one inch" locking bolt in retracted position. Key removable in bolt extended position. Specify orientation of name plate to be rotated 180 degrees from neutral when ordering. (Key sold separately P/N# H7006.)	HBL010010
	Type B (HD)	Type "B"-single Cylinder with "one inch" locking bolt in retracted position. Key removable in bolt extended position. Specify orientation of name plate to be rotated 180 degrees from neutral when ordering. (Key sold separately P/N# S7006.)	SBL010010

## HE/HM shaft drive operators with Kirk Key and door interlock provisions

The following HE and HM shaft drive handles are for both right and left side operation, utilizing both Kirk Key and door interlock provisions. These handles provide the same features as the HE/HM handles with Kirk Key provisions, plus a mechanical door interlock. The mechanical door interlock automatically latches the switchgear door closed when the VersaRupter switch is closed. Each assembly includes all parts required to actuate the VersaRupter switch, while interlocking the switchgear door. The mechanical door interlock is pre-installed on the HE/HM handle assembly and includes the catch plate that fastens to the door to

be automatically latched. Two styles are offered: standard and offset. Standard doors close against the front of the switchgear frame and project forward from the switchgear frame a dimension equal to the door depth. Offset doors are those that close into a recess in the switchgear frame so that the door is flush with the switchgear front when closed. The Kirk Key interlock provisions are still accessible with the door interlock assembly. Select the HE/HM handle assembly according to the type of door and switch used. Left hand HE/HM handles include the left hand shaft extension sized to the voltage rating of the switch. The same Kirk Keys specified in Table 9 are recommended for use with these handles.

**Table 10: Type HE/HM shaft drive (front-mounted) with Kirk Key and door interlock provisions**

Description	Door type	Catalog number	Digit position 12-15
<b>Kirk Key and door interlock provisions</b>			
Manual HE, right side operation for switches of all voltage ratings	Standard	186-023-421	SERR
Manual HE, left side operation for 4.76 kV switches (5.9" pole spacing)	Standard	186-023-431	SELA
Manual HE, left side operation for 15.0 kV switches (6.69" pole spacing)	Standard	186-023-432	SELB
Manual HE, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	Standard	186-023-433	SELC
Manual HE, left side operation for 27.0 kV switches (10.8" pole spacing)	Standard	186-023-434	SELD
Manual HE, left side operation for 38.0 kV switches (14.1" pole spacing)	Standard	186-023-435	SELE
Manual HE, right side operation for switches of all voltage ratings	Offset	186-023-422	FERR
Manual HE, left side operation for 4.76 kV switches (5.9" pole spacing)	Offset	186-023-436	FELA
Manual HE, left side operation for 15.0 kV switches (6.69" pole spacing)	Offset	186-023-437	FELB
Manual HE, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	Offset	186-023-438	FELC
Manual HE, left side operation for 27.0 kV switches (10.8" pole spacing)	Offset	186-023-439	FELD
Manual HE, left side operation for 38.0 kV switches (14.1" pole spacing)	Offset	186-023-440	FELE
Manual HM for use with type NM motor operator, right side operation for switches of all voltage ratings	Standard	186-023-424	SMRR
Manual HM for use with type NM motor operator, left side operation for 4.76 kV switches (5.9" pole spacing)	Standard	186-023-446	SMLA
Manual HM for use with type NM motor operator, left side operation for 15.0 kV switches (6.69" pole spacing)	Standard	186-023-447	SMLB
Manual HM for use with type NM motor operator, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	Standard	186-023-448	SMLC
Manual HM for use with type NM motor operator, left side operation for 27.0 kV switches (10.8" pole spacing)	Standard	186-023-449	SMLD
Manual HM for use with type NM motor operator, left side operation for 38.0 kV switches (14.1" pole spacing)	Standard	186-023-450	SMLE
Manual HM for use with type NM motor operator, right side operation for switches of all voltage ratings	Offset	186-023-425	FMRR
Manual HM for use with type NM motor operator, left side operation for 4.76 kV switches (5.9" pole spacing)	Offset	186-023-451	FMLA
Manual HM for use with type NM motor operator, left side operation for 15.0 kV switches (6.69" pole spacing)	Offset	186-023-452	FMLB
Manual HM for use with type NM motor operator, left side operation for 15.0-17.0 kV switches (9.25" pole spacing)	Offset	186-023-453	FMLC
Manual HM for use with type NM motor operator, left side operation for 27.0 kV switches (10.8" pole spacing)	Offset	186-023-454	FMLD
Manual HM for use with type NM motor operator, left side operation for 38.0 kV switches (14.1" pole spacing)	Offset	186-023-455	FMLE
Removable handle		183-786-001	

# Motor operator option

## Type NM

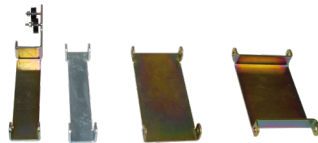
—  
Note: Spacer brackets  
must be ordered  
separately.



—  
01 NM motor operator



—  
02 Motor controller



—  
03 Spacer brackets

The compact, lightweight NM motor operator provides for remote electrical opening and closing of the VersaRupter switch. The NM motor operator also allows for manual operation of the VersaRupter switch via a direct shaft drive HM operator with a removable handle (chain drive and side direct drive handles cannot be used). The NM motor operator does not have to be electrically cycled after a manual operation of the VersaRupter switch; it will automatically resume proper electrical operation in the proper position. The NM motor operator is installed on the splined shaft of the VersaRupter switch mechanism (either K-mechanism or A-mechanism) or on a left-hand shaft extension. The NM motor operator requires a motor contactor/relay assembly (3" x 3" x 8"), which may be mounted in the switch enclosure or an adjacent vertical section. A spacer bracket must be ordered separately. The spacer bracket for the A-mechanism allows for proper installation of the open fuse auxiliary switch.

—  
**Table 11: Type NM motor operator**

Control voltage	Catalog number	Digit position 16-18
Mounted on right side of switch splined shaft (includes motor controller board) - spacer bracket must be ordered separately		
24 V AC or V DC	245-869-001	1RR
48 V AC or V DC	245-869-002	2RR
110 V AC or V DC	245-869-003	3RR
220 V AC or V DC	245-869-004	4RR
Mounted on left side of switch (includes left hand shaft extension and motor controller board) - spacer bracket must be ordered separately		
24 V AC or V DC	5.9" pole spacing	1LA
	6.69" pole spacing	1LB
	9.25" pole spacing	1LC
	10.8" pole spacing	1LD
	14.1" pole spacing	1LE
48 V AC or V DC	5.9" pole spacing	2LA
	6.69" pole spacing	2LB
	9.25" pole spacing	2LC
	10.8" pole spacing	2LD
	14.1" pole spacing	2LE
110 V AC or V DC	5.9" pole spacing	3LA
	6.69" pole spacing	3LB
	9.25" pole spacing	3LC
	10.8" pole spacing	3LD
	14.1" pole spacing	3LE
220 V AC or V DC	5.9" pole spacing	4LA
	6.69" pole spacing	4LB
	9.25" pole spacing	4LC
	10.8" pole spacing	4LD
	14.1" pole spacing	4LE

VersaRupter switch	4.76		15 40 kA		15/15.5 kV 61 kA		17		27		38	
Motor mounting side	L	R	L	R	L	R	L	R	L	R	L	R
Part number	Description											
245-870-011	NM spacer bracket 39 mm											
245-870-012	NM spacer bracket 55 mm											
245-870-014	NM spacer bracket 105 mm											
245-870-017	NM spacer bracket 39 mm + 105 mm											

[illegible]

# Optional accessories

## Grounding switches Type E

- 01 Type E grounding switch
- 02 Removable handle option
- 03 Mechanical interlock



—  
01

Grounding switches are available for connection to the lower terminals of the VersaRupter switch or the VersaRupter switch fuse base. Grounding switches are not available for 61 kA VersaRupter switches. Refer to the grounding switch technical data table on page 9 of this guide. Grounding switch handles must be installed on the same side of the switch where a handle is installed, to ensure fit of the mechanical interlock. An additional handle is required to operate the grounding switch. All handles can be used.



—  
02

Mechanical interlocks are required to be used in conjunction with grounding switches. The mechanical interlock prevents the VersaRupter switch from being closed when the Type E grounding switch is closed. Mechanical interlocks are available in various lengths to accommodate grounding switches mounted on the hinged side of the VersaRupter switch or at the bottom of the fuse base. Select an appropriate interlock from one of the lower sections in Table 12.



—  
03

It is recommended to install the mechanical interlock on the opposite side of the operating handle. A left hand shaft extension must be purchased separately if installing on the left side of the switch. Grounding switches are not compatible with 61 kA VersaRupter switches.



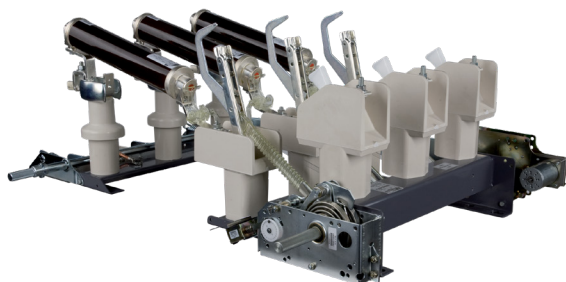
**Table 12: Grounding switches for connection to VersaRupter switch - lower terminal (not compatible with 61 kA VersaRupter switch)**

System rating (kV)	Nominal rated current (A)	Catalog number
<b>Grounding switches for connection to VersaRupter switch lower terminal (not compatible with 61 kA VersaRupter switch)</b>		
4.6 - 7.2	200, 600	323-026-010
[5.9" (150 mm) pole spacing]	1200	323-026-001
12.0 - 13.8	200, 600	323-026-012
[6.69" (170 mm) pole spacing]	1200	323-026-003
12.0 - 16.5	200, 600	323-026-013
[9.25" (235 mm) pole spacing]	1200	323-026-004
22.9 - 24.9	200, 600	323-026-014
[10.82" (275 mm) pole spacing]	1200	323-026-005
34.5		
[14.17" (360 mm) pole spacing]	600-1000	323-026-025
<b>Grounding switches for connection to VersaRupter switch fuse base (not compatible with 61 kA VersaRupter switch)</b>		
4.6 - 7.2	200, 600	323-026-015
[5.9" (150 mm) pole spacing]	1200	323-026-020
12.0 - 13.8	200, 600	323-026-017
[6.69" (170 mm) pole spacing]	1200	323-026-022
12.0 - 16.5	200, 600	323-026-018
[9.25" (235 mm) pole spacing]	1200	323-026-023
22.9 - 24.9	200, 600	323-026-019
[10.82" (275 mm) pole spacing]	1200	323-026-024
34.5		
[14.17" (360 mm) pole spacing]	600-1000	323-026-025
<b>Mechanical interlocks for VersaRupter switch w/o fuse base (not compatible with 61 kA VersaRupter switch)<sup>1</sup></b>		
4.6 - 7.2		
[5.9" (150 mm) pole spacing]	200-1200	186-856-001
12.0 - 13.8		
[6.69" (170 mm) pole spacing]	200-1200	186-856-002
12.0 - 16.5		
[9.25" (235 mm) pole spacing]	200-1200	186-856-002
22.9 - 24.9		
[10.82" (275 mm) pole spacing]	200-1200	186-856-002
34.5		
[14.17" (360 mm) pole spacing]	600-1000	186-856-010
<b>Mechanical interlocks for VersaRupter switch with fuse base (not compatible with 61 kA VersaRupter switch)<sup>1</sup></b>		
System rating (kV)	CEF fuse length (in)	Catalog number
	7.5	186-856-004
4.6 - 7.2	11.5	186-856-003
[5.9" (150 mm) pole spacing]	17.4	186-856-005
12.0 - 13.8		
[6.69" (170 mm) pole spacing]	11.5	186-856-006
12.0 - 16.5		
[9.25" (235 mm) pole spacing]	17.4	186-856-007
22.9 - 24.9	17.4	186-856-008
[10.82" (275 mm) pole spacing]	21.1	186-856-009
34.5		
[14.17" (360 mm) pole spacing]	21.1	186-856-012

<sup>1</sup>If a handle is installed on the right side of the switch, then a left hand shaft extension must be ordered separately for mechanical interlock mounting.

# Fuse options

## Fuse bases



Fuse bases are offered for mounting Type CEF fuses, with or without fuse tripping, on the upper or lower terminals of the VersaRupter switch rated below 1200 A. Use the fuse bases with fuse tripping only with the latching stored energy mechanism (A-mechanism) found on the switches in Table 1B. Fuse bases in Tables 13-16 use Type CEF fuses only. Order fuses from Table 17. (Prices include fuse clamps.)

### Accessory

Open fuse auxiliary switch (244-006-518)

Note: Fuse base not available for 1200 A switches.

**Table 13: Bottom mounted fuse base without fuse tripping - (Use with Type CEF fuses only)**

System rating (kV, nominal)	Pole spacing (in/mm)	Rated current (A)	Catalog number
4.6 - 7.2	5.9/150	200	186-900-001
12.0 - 13.8	6.69/170	200	186-900-003
12.0 - 16.5	9.25/235	200	186-900-004
22.9 - 24.9	10.82/275	200	186-900-005
34.5	14.17/360	200	186-900-006

**Table 14: Top mounted fuse base without fuse tripping - (Use with Type CEF fuses only)**

System rating (kV, nominal)	Pole spacing (in/mm)	Rated current (A)	Catalog number
4.6 - 7.2	5.9/150	200	186-900-007
12.0 - 13.8	6.69/170	200	186-900-009
12.0 - 16.5	9.25/235	200	186-900-010
22.9 - 24.9	10.82/275	200	186-900-011
34.5	14.17/360	200	186-900-012

**Table 15: Bottom mounted fuse base with fuse tripping - (Use with Type CEF fuses only)**

System rating (kV, nominal)	Pole spacing (in/mm)	Rated current (A)	Catalog number
4.6 - 7.2	5.9/150	200	186-899-001
12.0 - 13.8	6.69/170	200	186-899-003
12.0 - 16.5	9.25/235	200	186-899-004
22.9 - 24.9	10.82/275	200	186-899-005
34.5	14.17/360	200	186-899-006

**Table 16: Top mounted fuse base with fuse tripping - (Use with Type CEF fuses only)**

System rating (kV, nominal)	Pole spacing (in/mm)	Rated current (A)	Catalog number
4.6 - 7.2	5.9/150	200	186-899-007
12.0 - 13.8	6.69/170	200	186-899-009
12.0 - 16.5	9.25/235	200	186-899-010
22.9 - 24.9	10.82/275	200	186-899-011

Type CEF Fuses

Table 17: Type CEF fuses

Rating voltage (kV)	Rated current (A)	Fuse dimensions length/Diameter (in)	Catalog number
3.6 / 7.2	6		186-904-048
	10		186-904-049
	16		186-904-050
	25		186-904-051
	40		186-904-052
	50		186-904-053
	63	7.55 / 2.55	186-904-054
	80		186-904-055
	100	7.55 / 3.4	186-904-056
	125		186-904-057
	160		186-904-058
	200	11.5 / 3.4	186-904-059
12	6		186-904-001
	10		186-904-002
	16		186-904-003
	25		186-904-004
	40		186-904-005
	50		186-904-006
	63	11.5 / 2.55	186-904-007
	80		186-904-008
	100	11.5 / 3.4	186-904-009
	125		186-904-010
	160		186-904-011
	200	17.4 / 3.4	186-904-012
17.5	6		186-904-013
	10		186-904-014
	16		186-904-015
	25	11.5 / 2.55	186-904-016
	40		186-904-017
	50		186-904-018
	63	11.5 / 3.4	186-904-019
	80		186-904-020
	100		186-904-021
	125	17.4 / 3.4	186-904-022
24	6		186-904-023
	10		186-904-024
	16		186-904-025
	25		186-904-026
	40	17.4 / 2.55	186-904-027
	50		186-904-028
	63		186-904-029
	80	17.4 / 3.4	186-904-030
	80		186-904-031
	100		186-904-032
	125	21.1 / 3.4	186-904-033

Rating voltage (kV)	Rated current (A)	Fuse dimensions length/Diameter (in)	Catalog number
27	6	17.4 / 2.55	186-904-034
	10		186-904-035
	16		186-904-036
	25		186-904-037
	40		186-904-038
	50		186-904-039
	63	17.4 / 3.4	186-904-040
	80		186-904-041
	100	21.1 / 3.4	186-904-042
36	6	21.1 / 2.55	186-904-043
	10		186-904-044
	16		186-904-045
	25		186-904-046
	40		186-904-047


Use with fuse bases in Tables 13-16. Consult the factory for CMF style fuses, which may be used in fuse bases in Tables 13-16 for medium voltage motor applications.

# Miscellaneous accessories

## Shaft extensions and splined tubes


### Left side shaft extensions

Optional shaft extensions are available for left-hand operation using motor operators or manual operator handles. Some shaft extensions may be grooved for cutoff to the precise extension required. Catalog numbers include shaft mounting hardware. Pole spacing for extensions must match that of switch to be installed onto.

	Description	Catalog number
	4.76 kV switch, 5.9" (150 mm) pole spacing	244-044-501
	15.0 kV switch, 6.69" (170 mm) pole spacing	244-044-502
	17.0 kV and 61 kA switch, 9.25" (235 mm) pole spacing	244-044-504
	27.0 kV switch, 10.8" (275 mm) pole spacing	244-044-505
	38.0 kV switch, 14.1" (360 mm) pole spacing	244-044-506


### Right side shaft extensions

Optional shaft extensions are available for right-hand operation. To order, select the desired shaft extension and then select the joint link.

	Description	Catalog number
	Right side shaft extension, 14.96" (380 mm)	1YMX053349M0001
	Right side shaft extension, 18.50" (470 mm)	1YMX053348M0001
	Joint link for right side shaft extension	1YMX053350M0001

### Splined tube

An optional splined tube provides the ability to create shaft extensions, customize operator handles, or link the mechanical actuation of the switch together.

	Type	Catalog number	Length (in)
	Splined tube (1.125")	186-851-001	1.125
	Splined tube (2.880")	186-083-003	2.880

# Online configurator tool

A web-based configurator tool is available to simplify the selection of ratings and accessories offered for the VersaRupter switch. The online configurator tool can be accessed via computer, smart phone, or tablet. Follow the steps below to create an ABB eConfig account and access the configurator:

1. Go to [www.abb.com](http://www.abb.com).
2. Click the Lock Icon on the top right of the screen, then click the Sign Up button.
3. Enter the required information, then click the Sign up for an account button.
4. You should receive an email to verify your account setup with a password.
5. Click the eConfig link:  
<https://spine.abb.com/eConfig/>.
6. Enter your email and password, then click the Login button.
7. You should receive a confirmation email that your account has access to eConfig. You should now be able to start working with the configurator!

After you receive access to the configurator, use the drop down boxes to select the desired options. The correct smart style code will be generated, along with outline drawings in pdf and dwg formats. The list price will be displayed and the sales price can be calculated when a multiplier, provided by ABB, is entered. Users can send an email inquiry from the tool directly to ABB or themselves for future reference.

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