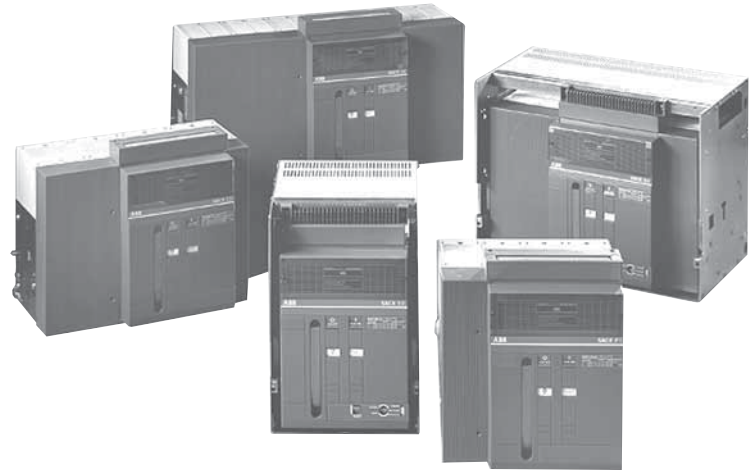


Emax

Power breakers



Emax power breakers



ABB's Emax series of low voltage power circuit breakers embodies over half a century's experience and technological development in power circuit breakers. The Emax offers a series of breakers that is totally innovative in its technological design, ease of installation and use, making it the ideal solution for the growing requirements of designers, switchboard and switchgear manufacturers, installers, OEMs and users.

The Emax power circuit breakers are UL Listed and meet the ANSI Standard for low voltage power circuit breakers.

ABB Emax power circuit breakers are available in five different models (four sizes) with rated continuous current from 800A to 5000A and rated short-circuit current range from 42kA to 125kA (480V).

Technical catalog 1SDC200003 D0201 is available upon request.

General information

UL general ratings and specifications



E1



E2



E3

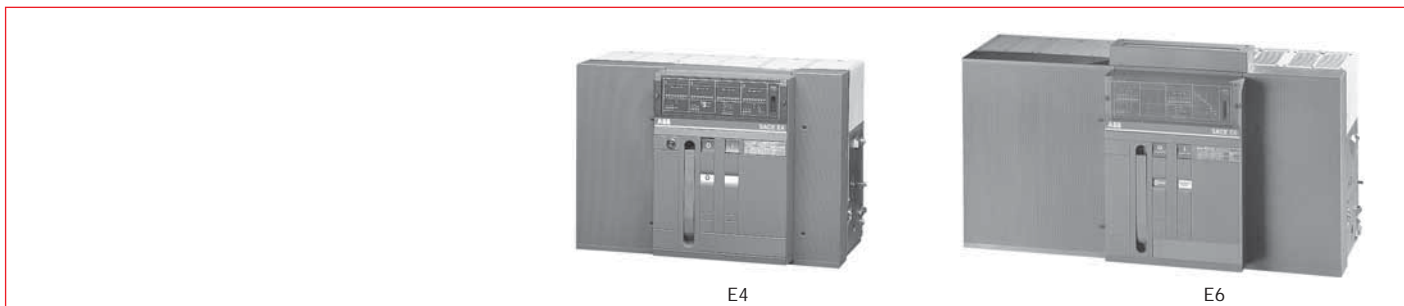
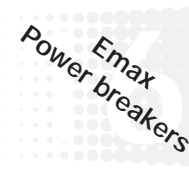
Circuit breaker type			E1	E2		E3			
Performance level			B-A	B-A	N-A	N-A	S-A	H-A	V-A
Rated continuous current, UL1066 File # E194191	A		800	1600	1200	2000	1200	1200	1200
	A		1200	—	1600	2500	1600	1600	1600
	A		—	—	—	—	2000	2000	2000
	A		—	—	—	—	2500	2500	2500
Rated short circuit current	240VAC	kA	42	42	65	65	85	85	100
	480VAC	kA	42	42	50	50	65	85	100
	600VAC	kA	35	42	50	50	65	65	85
Rated short time current		kA	35	42	50	50	65	65	65
Trip units									
PR111/P-A			•	•	•	•	•	•	•
PR112/P-A			•	•	•	•	•	•	•
Operation times									
Make time (max)	ms		80	80	80	80	80	80	80
Break time (<ST current)(max)	ms		70	70	70	70	70	70	70
Break time (>ST current)(max)	ms		30	30	30	30	30	30	30
Overall dimensions, 3 pole									
Fixed:	H=418mm / 16.46in D=302mm / 11.89in W (3 poles)	mm/in	296/11.65	296/11.65		404/15.91			
Drawout:	H=461mm / 18.15in D=396.5mm / 15.61in W (3 poles)	mm/in	324/12.76	324/12.76		432/17.01			
Weights (CB with releases, RH terminals and CTs, accessories excluded)									
Fixed 3 pole	Kg/lbs		42/93	46/101		68/150			
Drawout 3 pole	Kg/lbs		65/143	72/159		100/220			
Overall dimensions, 4 pole									
Fixed:	H=418mm / 16.46in D=302mm / 11.89in W (4 poles)	mm/in	386/15.20	386/15.20		530/20.87			
Drawout:	H=461mm / 18.15in D=396.5mm / 15.61in W (4 poles)	mm/in	414/16.30	414/16.30		558/21.97			
Weights (CB with releases, RH terminals and CTs, accessories excluded)									
Fixed 4 pole	Kg/lbs		50/110	55/121		80/176			
Drawout 4 pole	Kg/lbs		80/176	89/196		125/275			

Specifications common to the entire range

Rated max voltage	635VAC
Rated voltage	600VAC
Test voltage (1min 50/60Hz)	2.2kV
Frequency	50-60Hz
Service temperature	-5... +70°C
Storage temperature	-40... +70°C
Number of poles	3/4
Versions	Fixed/Drawout

General information

UL general ratings and specifications



Circuit breaker type			E4			E6	
			S-A	H-A	V-A	H-A	V-A
Performance level							
Rated continuous current, UL 1066 File # E194191	A		3200	3200	3200	4000	4000
	A		3600	3600	3600	5000	5000
	A		—	—	—	—	—
	A		—	—	—	—	—
Rated short circuit current	240VAC	kA	85	100	100	125	125
	480VAC	kA	65	85	100	85	125
	600VAC	kA	65	85	85	85	85
Rated short time current		kA	65	85	85	100	100
Trip units							
PR111/P-A			•	•	•	•	•
PR112/P-A			•	•	•	•	•
Operation times							
Make time (max)		ms	80	80	80	80	80
Break time (I<ST current)(max)		ms	70	70	70	70	70
Break time (I>ST current)(max)		ms	30	30	30	30	30
Overall dimensions, 3 pole							
Fixed:	H=418mm / 16.46in	mm/in	566/22.28			782/30.79	
	D=302mm / 11.89in						
	W (3 poles)						
Drawout:	H=461mm / 18.15in	mm/in	594/23.39			810/31.89	
	D=396.5 / 15.61in						
	W (3 poles)						
Weights (CB with releases, RH terminals and CTs, accessories excluded)							
Fixed 3 poles		Kg/lbs	95/209			140/309	
Drawout 3 poles		Kg/lbs	147/324			210/463	
Overall dimensions, 4 pole							
Fixed:	H=418mm / 16.46in	mm/in	656/25.83			908/35.75	
	D=302mm / 11.89in						
	W (4 poles)						
Drawout:	H=461mm / 18.15in	mm/in	684/26.93			936/36.85	
	D=396.5 / 15.61in						
	W (4 poles)						
Weights (CB with releases, RH terminals and CTs, accessories excluded)							
Fixed 4 pole		Kg/lbs	115/253			170/374	
Drawout 4 pole		Kg/lbs	190/418			260/573	

Specifications common to the entire range

Rated max voltage	635VAC
Rated voltage	600VAC
Test voltage (1min 50/60Hz)	2.2kV
Frequency	50-60Hz
Number of poles	3/4
Versions	Fixed/Drawout

General information

Catalog number information

Emax breaker, UL

E 1 S 16 X X X X X X X X X X

Accessories: X = none
A = mechanical counter
B = button guard
F = A & B

Accessories: X = none
A = mechanical trip indicator
B = mechanical trip indicator & bell alarm
C = padlock provision (open)
D = keylock (open)
E = position lock
F = access pos. lock
G = A & C
H = A & D
J = A & E
K = A & F
L = A, C & E
M = A, C & F
N = B & C
P = B & D
Q = B & E
R = B & F
S = B, C & E
T = B, C & F
U = C & E
V = C & F
W = D & E
Y = D & F

Undervoltage trip: 0 = none
50/60Hz & VDC: A = 24VDC, B = 30V, C = 48V, D = 60V, E = 110 - 120V, F = 125 - 127V, G = 220 - 240V, H = 250V, J = 380 - 400VAC, K = 440 - 480VAC
Second shunt trip: L = 24VDC, M = 30V, N = 48V, P = 60V, Q = 110 - 120V, R = 125 - 127V, S = 220 - 240V, T = 250V, U = 380 - 400VAC, V = 440 - 480VAC

Shunt trip: 0 = none
50/60Hz & VDC: A = 24VDC, B = 30V, C = 48V, D = 60V, E = 110 - 120V, F = 125 - 127V, G = 220 - 240V, H = 250V, J = 380 - 400VAC, K = 440 - 480VAC

Spring charging motor: (includes spring charged signal, P/N does not show)
0 = none, A = 24 - 30VAC/VDC, B = 48 - 60VAC/VDC, C = 110-130VAC/VDC, D = 220 - 250VAC/VDC, E = spring charged signal only

Contacts:
A = 4 aux
E = UV energ.NC
J = B & E
B = 10 aux
F = A & D
K = C & D
C = 15 aux
G = A & E
L = C & E
D = UV energ. N.O.
H = B & D

Closing coil: 0 = none
50/60Hz & VDC: A = 24VDC, B = 30, C = 48, D = 60, E = 110 - 120, F = 125 - 127, G = 220 - 240, H = 250, J = 380 - 400VAC, K = 440 - 480VAC

Terminal types: (1st letter is upper terminal, 2nd letter is lower terminal)
H = rear horz ②, V = rear vert. ①
H = HH, V = VV
A = HV, B = VH

Trip unit: A = PR111/P, LI
D = non-automatic
G = PR112/PD, LSI
P = PR113/PD
B = PR111/P, LSI
E = PR112/P, LSI
H = PR112/PD, LSI
C = PR111/P, LSI
F = PR112/P, LSI
N = PR113/P

Version: B = fixed breaker, UL; D = withdrawable breaker, UL, less cradle

Max. ampere rating: 02 = 250, 04 = 400, 08 = 800, 10 = 1000, 12 = 1200, 16 = 1600, 20 = 2000, 25 = 2500, 32 = 3200, 36 = 3600, 40 = 4000, 50 = 5000

Breaking capacity: B = basic, N = normal, S = standard, H = high, V = very high

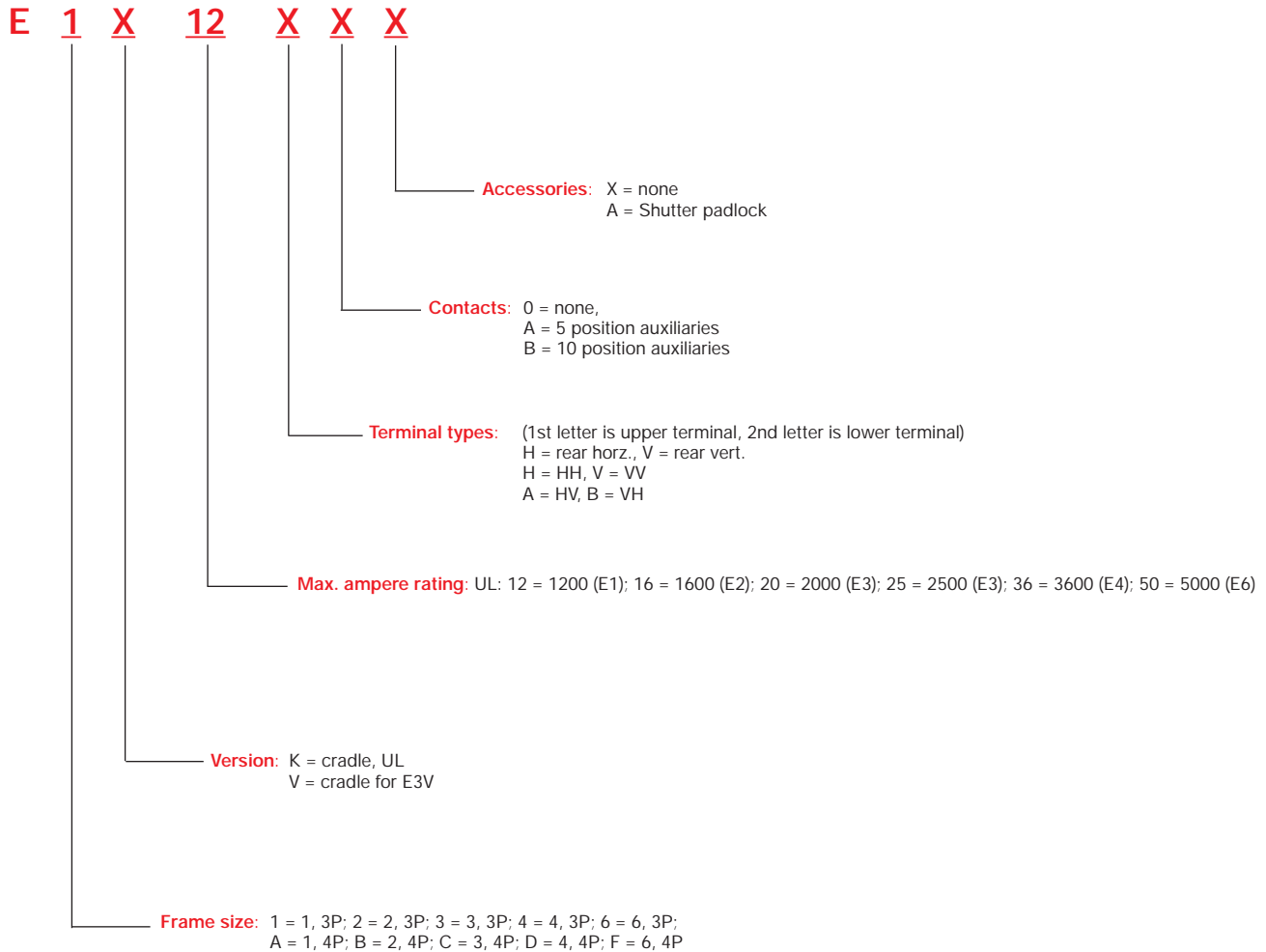
Frame size: 1 = 1, 3P; 2 = 2, 3P; 3 = 3, 3P; 4 = 4, 3P; 6 = 6, 3P; A = 1, 4P; B = 2, 4P; C = 3, 4P; D = 4, 4P; F = 6, 4P

① Will be shipped separately.
② For withdrawable breakers, use "H".
③ Not available with PR112 trip units. External 15A auxiliary kit can be used.

General information

Catalog number information

Emax, cradle (fixed part) UL



General information

Standard features

Fixed breaker		Drawout breaker	
Manual operated	Electrically operated	Manual operated	Electrically operated
T.U. — PR111/P, LI Aux. SW., 4 Spring charged indicator Flange Accessory support Terminal block Lifting plate	T.U. — PR111/P, LI Motor operator Closing coil Shunt trip Aux. SW., 4 Spring charged indicator Flange Accessory support Terminal block Lifting plate	T.U. — PR111/P, LI Aux. SW., 4 Spring charged indicator Flange Crank Accessory support Sliding contacts Anti-insertion lock Lifting plate	T.U. — PR111/P, LI Motor operator Closing coil Shunt trip Aux. SW., 4 Spring charged indicator Flange Crank Accessory support Sliding contacts Anti-insertion lock Lifting plate

NOTE: Switches provided standard without 4 auxiliary contacts.