



ADVAC[®] & AMVAC[™] Advance design
vacuum circuit breakers
Metal-clad switchgear components
OEM catalog & pricing

Power and productivity
for a better world[™]



Introduction

ADVAC and AMVAC circuit breakers and Advance metal-clad switchgear components offer the benefits of the latest technology, value, flexibility and quality necessary to meet the demanding requirements of switchgear customers and their original equipment manufacturer (OEM) suppliers. Whether mechanical or magnetically actuated breakers are most suitable for the application, ABB medium voltage breakers utilize technological innovations well ahead of the competition. Our new direct roll out onto the floor option offers even greater flexibility in the application of these breakers.

A modular system of switchgear building blocks and cassettes provide untouchable flexibility and quality to switchgear OEMs. A wide array of primary and secondary compartment modules can be stacked in a variety of arrangements to meet virtually any application, with compact footprints to reduce floor space. L-Frame cassettes are available to maximize the value-added contribution of the OEM, while incorporating all necessary breaker integration parts in a sturdy, pre-aligned assembly.

The ABB OEM program is founded on a commitment to outstanding customer service and the best reputation in the industry for long-term product support. Our OEM Sales and Marketing Team is here to help, and we are committed to the success of your business.

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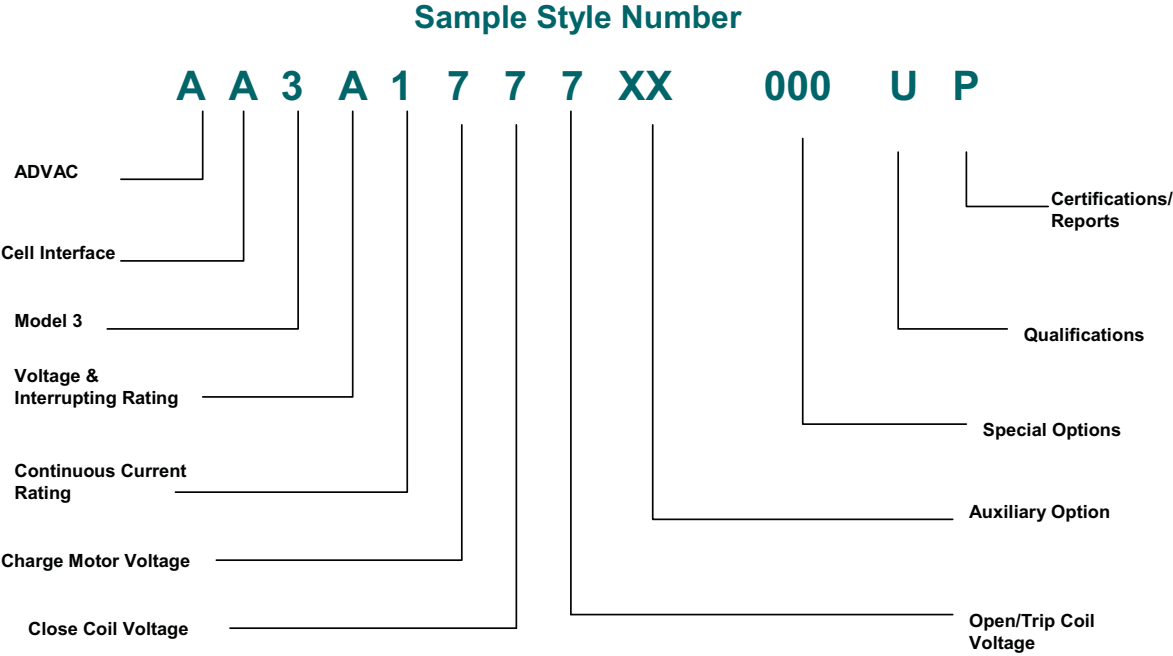
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ADVAC Breaker Selection

Style Number Reference

The ADVAC breaker product line has a structured, smart style number ordering system. The complete style number is built up of 15 customer selection characters. Each character identifies features or functions that can be incorporated into the breaker application.

The first five characters of the style number define the basic breaker. The next three characters define electrical control options. The last seven characters are used to define various options.



How to Order

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

- Step 1: Select basic breaker (characters 1-5) from Table 1.1 for 5-15kV.
- Step 2: Select control voltage options (character 6-8) from Table A: 120VAC, 240VAC, 24VDC, 48VDC, 125 VDC, 250VDC
- Step 3: Select auxiliary options (characters 9-10) from Table B: 2nd shunt trip and dual disconnect, Undervoltage Trip and dual disconnect, dual disconnect only. Single secondary disconnect is standard, with 8 aux contacts (4 a, 4 b).
Dual secondary disconnect, with 17 aux contacts (9 a, 9 b) is automatically provided at no extra charge when either auxiliary option is selected. To order optional dual secondary disconnect when no other auxiliary options are selected, specify "XX" in digits 9-10 of the smart style code.
- Step 4: Select special options (characters 11-13) from Table C: trip coil monitor wire, reverse label kit, close button cover
- Step 5: Select special qualifications (character 14) from Table D: UL, CSA, UL+CSA, None
- Step 6: Select certifications and reports (character 15) from Table E: No certifications, customer witness, certified productions reports, etc.

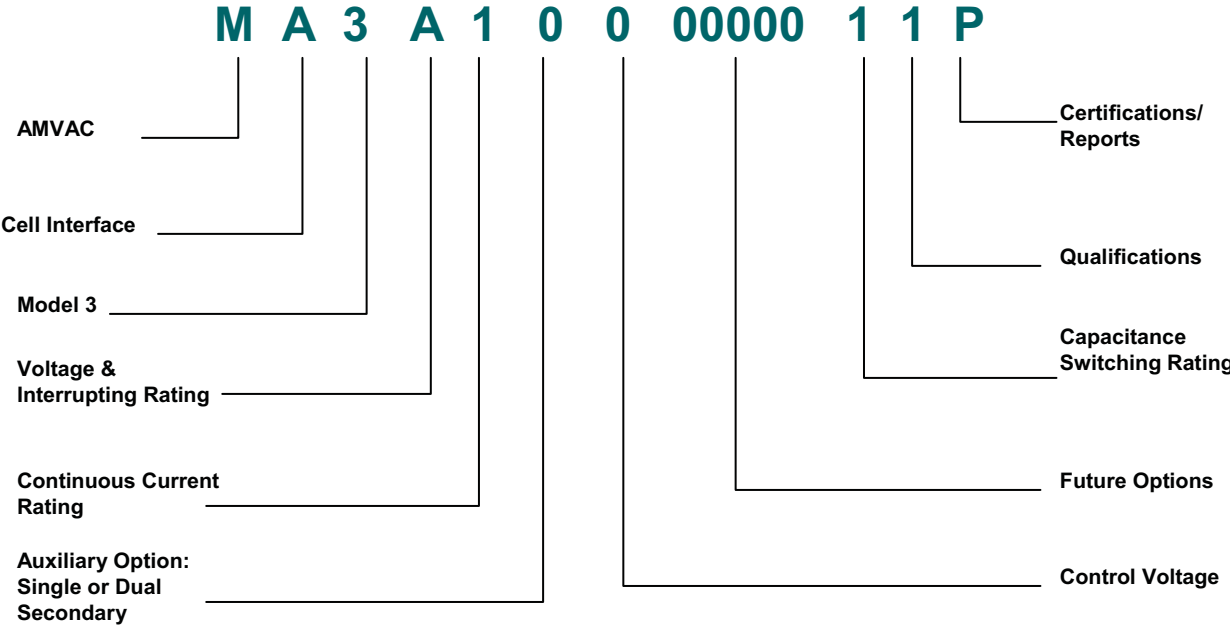
AMVAC Breaker Selection

Style Number Reference

The AMVAC breaker product line has a structured, smart style number ordering system. The complete style number is built up of 15 customer selection characters. Each character identifies features or functions that can be incorporated into the breaker application.

The first five characters of the style number define the basic breaker. The next three characters define electrical control options. The last seven characters are used to define various options.

Sample Style Number



How to Order

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

- Step 1: Select basic breaker (characters 1-5) from Table 1.2 for 5-15kV or from Table 1.3 for 27kV.
- Step 2: Select auxiliary option (character 6) from Table F: single secondary disconnect with 8 aux contacts (4 a and 4 b) or dual secondary disconnect with 17 aux contacts (9a and 8b)
- Step 3: Select control voltage (character 7) from Table G: 104-254VAC/100-280VDC or 48VDC
- Step 4: Select the capacitance switching rating (character 13) from Table H: general purpose, definite purpose isolated bank, or definite purpose isolated and back-to-back. Capacitance switching rating not available on 50kA or 27kV breakers.
- Step 5: Select special qualifications (character 14) from Table I: UL, CSA, UL+CSA, None
- Step 6: Select certifications and reports (character 15) from Table J: No certifications, customer witness, certified productions reports, etc.

5-15 kV ADVAC Vacuum Circuit Breakers

ADVAC Drawout Circuit Breakers

This table applies to ADVAC drawout circuit breakers compatible with 36-inch wide metal-clad switchgear compartments identified in this catalog. To order, select the appropriate basic unit catalog number for each required rating. Complete the catalog number by adding the appropriate digits for desired control voltages (Table A), auxiliary options (Table B), special options (Table C), qualifications (Table D) and certification reports (Table E). Compartments and accessories must be ordered separately.



Table 1.1

Versions available	Rated Max. Voltage (kV rms)	Continuous Current (A)	Interrupting Current (kA)	ADVAC Drawout Version Digits 1-5*	List Price			
Drawout, Fixed, or Roll-on-the-floor	4.76	1200	25	AA3A1	\$13,700			
		2000		AA3A2	\$18,221			
		3000		AA3A3	\$26,420			
Drawout, Fixed, or Roll-on-the-floor		4.76	1200	31.5	AA3B1	\$14,385		
			2000		AA3B2	\$19,132		
			3000		AA3B3	\$27,741		
Drawout, Fixed, or Roll-on-the-floor			4.76	1200	40	AA3C1	\$15,823	
				2000		AA3C2	\$21,045	
				3000		AA3C3	\$30,515	
Drawout, Fixed, or Roll-on-the-floor				4.76	1200	50	AA3D1	\$18,197
					2000		AA3D2	\$24,202
					3000		AA3D3	\$35,092
Drawout, Fixed, or Roll-on-the-floor	8.25				1200	40	AA3E1	\$18,495
					2000		AA3E2	\$24,968
					3000		AA3E3	\$36,203
Drawout, Fixed, or Roll-on-the-floor	15	1200			20	AA3F1	\$16,029	
		2000				AA3F2	\$21,318	
		3000				AA3F3	\$30,911	
Drawout, Fixed, or Roll-on-the-floor		15	1200		25	AA3G1	\$16,830	
			2000			AA3G2	\$22,384	
			3000			AA3G3	\$32,457	
Drawout, Fixed, or Roll-on-the-floor			15	1200	31.5	AA3H1	\$18,513	
				2000		AA3H2	\$24,622	
				3000		AA3H3	\$35,703	
Drawout, Fixed, or Roll-on-the-floor				15	1200	40	AA3J1	\$21,290
					2000		AA3J2	\$28,316
					3000		AA3J3	\$41,058
Drawout, Fixed, or Roll-on-the-floor	15				1200	50	AA3K1	\$27,677
					2000		AA3K2	\$36,811
					3000		AA3K3	\$53,376

* For direct roll onto the floor breakers, change second digit in unit prefix to "B", i.e. AB3A1

* For fixed breakers, change second digit in style number to "F", i.e. AF3A1.

* There is no difference in the list price for Fixed, Drawout, or Roll-on-the-Floor breaker versions.

ADVAC Ordering Aid

Control Voltage	Auxiliary Options	Special Options	Qualifications	Certifications
6 ○ 7 ○ 8 ○	9 ○ 10 ○	11 ○ 12 ○ 13 ○	14 ○	15 ○

Table A: Control Voltage Selection

Digit	Description	Selection
6	Charge Motor Voltage	1 = 120 VAC* 2 = 240 VAC* 5 = 24 VDC** 6 = 48 VDC*** 7 = 125 VDC 8 = 250 VDC
7	Close Coil Voltage	
8	Open/Trip Coil Voltage	

*AC trip not recommended. Specify "8" for use with remote capacitor trip (see page 16 for capacitor trip devices).

** 24 VDC available for trip coil only. Not available for motor charging, close coil or undervoltage trip.

***48 VDC not recommended for motor charging.

Table B: Auxiliary Option Selection

Digit	Description	Specify "0" for None	List Price Adder
9	2nd Shunt Trip and Dual Disconnect	Appropriate Voltage Selection from Table A	\$1,125
10	Undervoltage Trip and Dual Disconnect	Appropriate Voltage Selection from Table A	\$1,530
Both	Dual Secondary Disconnect Only	"X" in Each Block	\$950

Single secondary disconnect is standard, with 8 auxiliary contacts (4 a, 4 b). Dual secondary disconnect with 17 auxiliary contacts (9 a, 8 b) is automatically provided at no extra charge when either auxiliary option is selected. To order optional Dual Secondary Disconnect with 17 auxiliary contacts when no other auxiliary option is selected, specify "X" in each block. Price adder applies.

Table C: Special Option Selection

Digit	Description	Specify "0" for None	List Price Adder
11	Trip Coil Monitor Wire****	1	\$455
12	Reverse Label Kit	1	\$375
13	Close Button Cover	1	\$250

****Care must be taken not to allow full voltage/current to be applied to trip coil for more than pulse duration.

Table D: Qualifications Selection/Capacitance Switching

Digit	Description	Specify "0" for None	List Price Adder
14	None	0	No Cost
	UL	U	\$225
	Definite Purpose Cap. Switching Isolated	D	N/C
	Definite Purpose Cap. Switching Back to Back	E	N/C
	Definite Purpose Cap. Switching Isolated & UL	F	\$225
	Definite Purpose Cap. Switching Back to Back & UL	G	\$225

Refer to MV Switchgear Technical Information and Application Guide for available switching ratings.

Table E: Certifications/Reports Selection

Digit	Description	Specify "0" for None	List Price Adder
15	Customer Witness Testing	W	\$900
	Customer Witness Testing	W	\$900
	Certified Production Test Reports	P	\$475
	Certification of Conformance	C	\$225
	Witness & Production	4	\$1,375
	Witness & Conformance	5	\$1,125
	Production & Conformance	6	\$700
	Witness, Production & Conformance	7	\$1,600

5-15 kV AMVAC Vacuum Circuit Breakers

AMVAC Drawout Circuit Breakers

This table applies to AMVAC drawout circuit breakers compatible with 36-inch wide metal-clad switchgear compartments identified in this catalog. To order, select the appropriate basic unit catalog number for each required rating. Complete the catalog number by adding the appropriate digits for desired auxiliary options (Table F), control voltages (Table G), capacitance switching (Table H), qualifications (Table I) and certification reports (Table J). Compartments and accessories must be ordered separately.



Table 1.2

AMVAC Versions Available	Rated Max. Voltage (kV rms)	Continuous Current (A)	Interrupting Current (kA)	AMVAC Drawout Version Digits 1-5*	List Price
Drawout, Fixed, or Roll-on-the-floor	4.76	1200	25	MA3A1	\$13,700
		2000		MA3A2	\$18,221
		3000		MA3A3	\$26,420
Drawout, Fixed, or Roll-on-the-floor		1200	31.5	MA3B1	\$14,385
		2000		MA3B2	\$19,132
		3000		MA3B3	\$27,741
Drawout, Fixed, or Roll-on-the-floor		1200	40	MA3C1	\$15,823
		2000		MA3C2	\$21,045
		3000		MA3C3	\$30,515
Drawout, Fixed, or Roll-on-the-floor		1200	50	MA3D1	\$18,197
		2000		MA3D2	\$24,202
		3000		MA3D3	\$35,092
Drawout, Fixed, or Roll-on-the-floor	8.25	1200	40	MA3E1	\$18,495
		2000		MA3E2	\$24,968
		3000		MA3E3	\$36,203
Drawout, Fixed, or Roll-on-the-floor	15	1200	20	MA3F1	\$16,029
		2000		MA3F2	\$21,318
		3000		MA3F3	\$30,911
Drawout, Fixed, or Roll-on-the-floor		1200	25	MA3G1	\$16,830
		2000		MA3G2	\$22,384
		3000		MA3G3	\$32,457
Drawout, Fixed, or Roll-on-the-floor		1200	31.5	MA3H1	\$18,513
		2000		MA3H2	\$24,622
		3000		MA3H3	\$35,703
Drawout, Fixed, or Roll-on-the-floor		1200	40	MA3J1	\$21,290
		2000		MA3J2	\$28,316
		3000		MA3J3	\$41,058
Drawout, Fixed, or Roll-on-the-floor	1200	50	MA3K1	\$27,677	
	2000		MA3K2	\$36,811	
	3000		MA3K3	\$53,376	

* For direct roll onto the floor breakers, change second digit in unit prefix to “B”, i.e. MB3A

* For fixed breakers, change second digit in style number to “S”, i.e. MS3A1.

* There is no difference in the list price for Fixed, Drawout, or Roll-on-the-Floor breaker versions.

27 kV AMVAC Vacuum Circuit Breakers

AMVAC Drawout Circuit Breakers

This table applies to AMVAC drawout circuit breakers compatible with 36-inch wide metal-clad switchgear compartments identified in this catalog. To order, select the appropriate basic unit catalog number for each required rating. Complete the catalog number by adding the appropriate digits for desired auxiliary options (Table F), control voltages (Table G), capacitance switching (Table H), qualifications (Table I) and certification reports (Table J). Compartments and accessories must be ordered separately.



Table 1.3

AMVAC Versions Available	Rated Max. Voltage (kV rms)	Continuous Current (A)	Interrupting Current (kA)	AMVAC Drawout Version Digits 1-5*	List Price	
Drawout or Fixed	27	1200	16	MA3P1	\$29,900	
		2000		MA3P2	\$34,975	
1200		25	MA3Q1	\$31,750		
2000			MA3Q2	\$36,400		
Drawout or Fixed						

AMVAC Ordering Aid

Auxiliary Options	Control Voltage	Digits 8-12	Capacitance Switching	Qualifications	Certifications
6 ○	7 ○	00000	13 ○	14 ○	15 ○

Table F: Auxiliary Option Selection

Digit	Description	Selection	List Price Adder
6	Standard Package Single Secondary Disconnect	0	No Cost
	Optional Package (with Undervoltage Trip) Dual Secondary Disconnect	1	\$950
	“Not Ready” Light Option	2	\$950

Single secondary disconnect is standard, with 8 auxiliary contacts (4 a, 4 b). Dual secondary disconnect with 17 auxiliary contacts (9 a, 8 b) is available in combination with the undervoltage trip option.

Table G: Control Voltage Selection

Digit	Description	Selection
7	104-254 VAC or 100-280 VDC	0
	48 VDC	1

Table H: Capacitance Switching* (not available on 50 kA or 27 kV breakers)

Digit	Description	Selection
13	General Purpose Isolated Bank	0
	Definite Purpose Isolated Bank	1
	Definite Purpose Isolated and Back to Back	2

*Refer to MV switchgear technical information and application guide for available switching ratings.

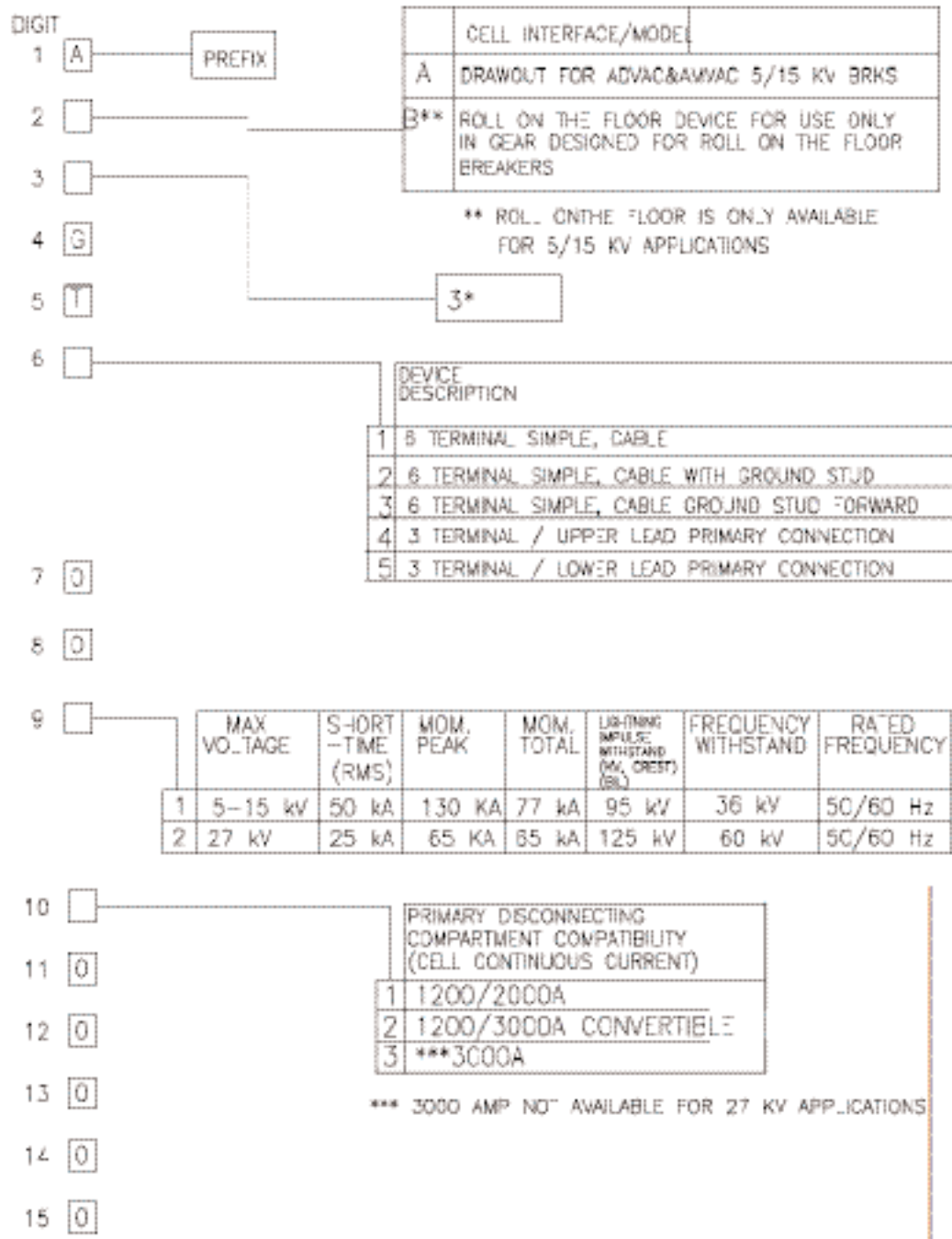
Table I: Qualifications Selection

Digit	Description	Specify “0” for None	Add to List Price
14	No Qualifications	0	No Cost
	UL	1	\$225
	CSA	2	\$225
	UL & CSA	3	\$450

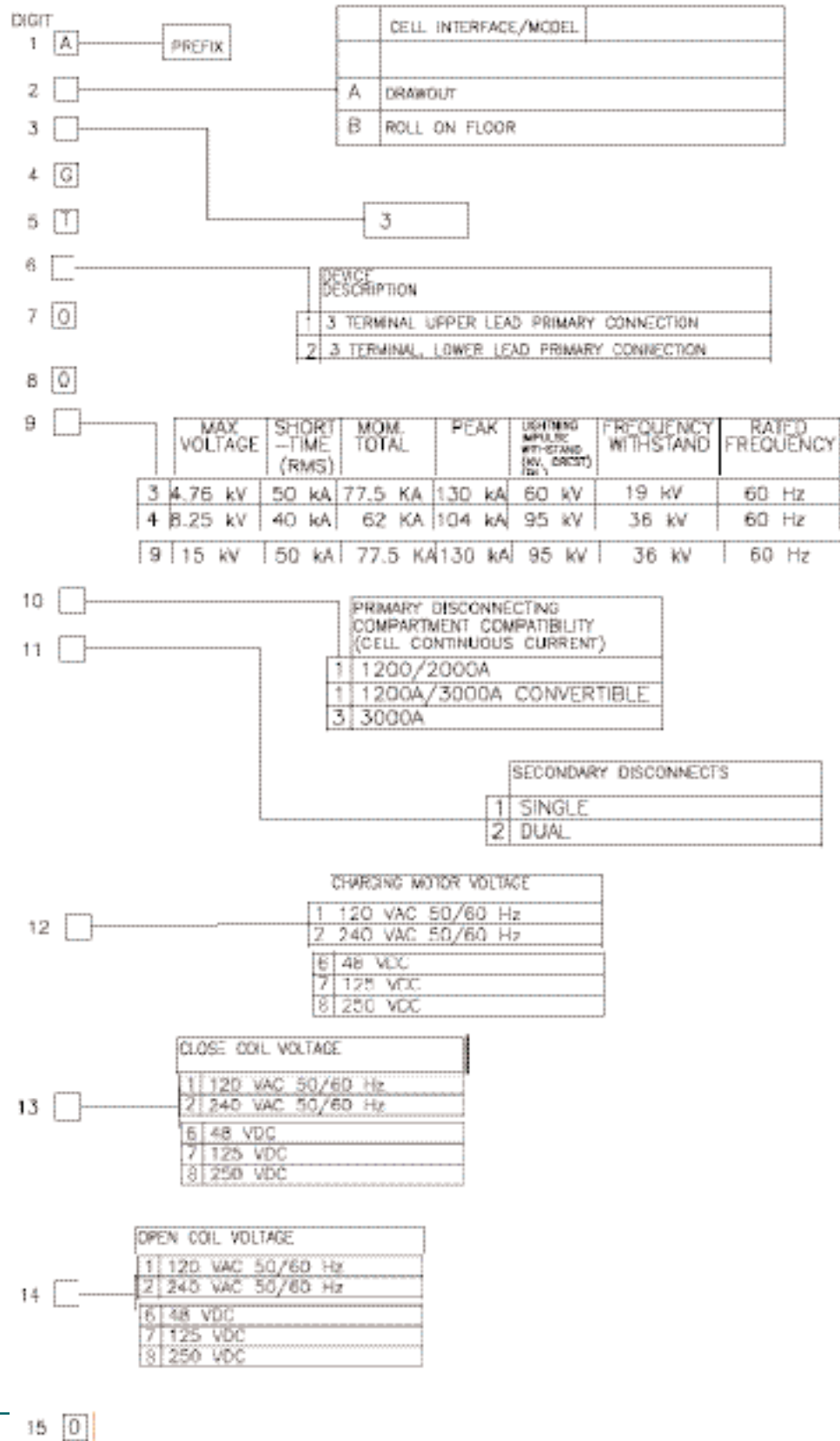
Table J: Certifications/Reports Selection

Digit	Description	Specify “0” for None	List Price Adder
15	No Certifications	0	No Cost
	Customer Witness	W	\$900
	Certified Production Reports	P	\$474
	Certification of Conformance	C	\$225
	Witness & Production	4	\$1,375
	Witness & Conformance	5	\$1,125
	Production & Conformance	6	\$700
	Witness, Production & Conformance	7	\$1,600

Manually Operated Ground & Test Device Ordering Aid



Electrically Operated Ground & Test Device Ordering Aid



Breaker Accessories

A manual charging handle and racking crank are required for each drawout installation. Other accessories are recommended, but optional. Use part numbers for ordering.

Accessories		
Part Number	Description	List Price
14020P00	Manual Charging Handle (ADVAC)	\$130
19540G00	Manual Opening Handle (AMVAC)	\$355
14024G00	Standard Duty Racking Crank	\$200
14024G00	Heavy Duty Racking Crank	\$240
14038G00	Lift Yoke	\$270
14039G00	Complete Set (ADVAC) - Manual Charging Handle, Standard Duty Racking Crank & Lift Yoke	\$600
14039G30	Complete Set (ADVAC) - Manual Charging Handle, Heavy Duty Racking Crank & Lift Yoke	\$640
14039G10	Complete Set (AMVAC) - Manual Opening Handle, Standard Duty Racking Crank & Lift Yoke	\$825
14039G40	Complete Set (AMVAC) - Manual Opening Handle, Heavy Duty Racking Crank & Lift Yoke	\$865
14050G00	ADVAC Slow-Close Device	\$1,500
19548G00	AMVAC Slow-Close Handle	\$130
14725G00	Electrical Racking Device	\$11,000
Lift Trucks (see Note 1)		
931868T01	Lift Truck - Foot Operated	\$6,040
931868T04	Lift Truck - Battery Operated	\$10,000
Breaker Ramps (see Note 2)		
931713T01	5-15 kV - 1200 A Breaker (for lower compartment only)	\$745
961705T01	5-15 kV - 2000 A Breaker (for lower compartment only)	\$970
962968T01	27 kV 1200 A/2000 A Breaker (for lower compartment only)	\$970
Test Cables (Jumpers)		
925324T03	Test Cable - Single Secondary Disconnect	\$400
925324T01	Test Cable - Dual Secondary Disconnect	\$520
Test Cabinets		
925320T01	Test Cabinet - Single Secondary Disconnect	\$760
925320T02	Test Cabinet - Dual Secondary Disconnect, Dual Trip	\$1,200
925320T03	Test Cabinet - Dual Secondary Disconnect, Single Trip	\$880
Ground & Test Devices		
AA3GT1001100000	5-15 kV, Manually Operated G&T, 1200 A/2000 A, 6-terminal	\$11,800
AA3GT1001300000	5-15 kV, Manually Operated G&T, 3000 A, 6-terminal	\$15,000
AA3GT1002100000	27 kV, Manually Operated G&T, 1200 A/2000 A, 6-terminal	\$18,950
AA3GT1009117770	15 kV, Electrically Operated G&T, upper 3-terminal, 1200 A/2000 A single secondary disconnect, 125 VDC motor/close coil/open coil	\$39,900
10" Frame Extension and Dummy Breakers		
14019P00	10" Racking Handle Extension	\$150
14800G00	Racking Truck for 10" Extension	\$970
14024G10	Racking Crank with 10" Extension	\$240
AA2DB21000	1200 A/2000 A Dummy Breaker Element	\$6,750
AA2DB23000	3000 A Dummy Breaker Element	\$13,500

Notes:

1. Breaker lift truck not required for direct roll out onto the floor breakers in lower position.
2. Breaker ramps for use with one-high configurations with breakers in the lower position only.

Appendix B: Breaker Price and Order Entry Worksheet

Complete ADVAC														
ADVAC Smart Style Number														
A	A*	3												
1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15
										Smart Code	List Price			
Step 1: Select basic breaker with rating from page 4. Enter digits 4 & 5.														
Step 2: Select control voltage from Table A. Enter digits 6-8.														
Step 3: Select auxiliary option from Table B. Enter digits 9 & 10.														
Step 4: Select special options from Table C. Enter digits 11-13.														
Step 5: Select capacitance switching from Table D. Enter digit 14.														
Step 6: Select certifications and reports from Table E. Enter digit 15.														
										Total List Price				
										Enter Multiplier				
										Calculate Net Price				

*For direct roll on the floor breakers, change the second digit to "B."

* For fixed mount breakers, change the second digit to "F."

Complete AMVAC														
AMVAC Smart Style Number														
M	A*	3					0	0	0	0	0			
1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15
										Smart Code	List Price			
Step 1: Select basic breaker with rating from page 6. Enter digits 4 & 5.														
Step 2: Select auxiliary option from Table F. Enter digit 6.														
Step 3: Select control voltage from Table G. Enter digit 7.														
Step 4: Select capacitance switching from Table H. Enter digit 13.														
Step 5: Select qualifications from Table I. Enter digit 14.														
Step 6: Select certifications and reports from Table J. Enter digit 15.														
										Total List Price				
										Enter Multiplier				
										Calculate Net Price				

*For direct roll on the floor breakers, change the second digit to "B."

* For fixed mount breakers, change the second digit to "S."

Appendix A



AMVAC manual opening handle



ADVAC manual charging handle



Breaker lift yoke



Breaker racking crank



10" racking crank extension



Racking truck for 10" extension



Test cabinet



Electrical racking device



Manually operated G&T



Test cable (jumper)



Foot-operated lift truck



Electrically operated G&T



Breaker ramp



ADVAC slow close device



AMVAC slow close handle

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Components in this catalog are intended for use by switchgear assemblers engaged in original equipment manufacturing. All sales are subject to ABB Inc. General Terms and Conditions of Sale, ABBGTC073101.

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