



Product portfolio overview

ANSI medium voltage switchgear and motor control centers



Motor Control Centers



Product category			Product ratings		Product overview & highlights		Options	
Arc-resistent							Digital	SwitchgearMD Monitoring & diagnostics
Fully compliant to IEEE C37.20.7, UL 347 and Seismic certified			Characteristics	Unit	5 kV Class	7.2 kV Class		
SafeGear MCC			Characteristics	Unit	5 kV Class	7.2 kV Class		
	Main bus		A	1200, 2000, 3000		<ul style="list-style-type: none">• Compliant to UL 347 – UL & cUL labeling available• Withdrawable contactor truck assembly• One and two-high construction (400A & 720A)• Meets the IEEE C37.20.2 for metal-clad switchgear construction		
	System voltages		kV	2400, 4160, 4800, 6900, 7200				
	Contactor sizes		A	400, 720		<ul style="list-style-type: none">• Enclosure types: NEMA 1, 1G• Type 2B arc resistance accessibility as per IEEE C37.20.7		
	Accessibility type			Type 2B		<ul style="list-style-type: none">• No transition section required for coupling to ABB's SafeGear (front-aligned construction)• SmartRack™ remote racking system for contactors as well as PTs		
	Arc duration		sec	0.5				
	Short circuit current		kA	50		<ul style="list-style-type: none">• Available for FVNR motors and transformer feeders		

Metal-enclosed Switchgear

Product category		Product ratings		Product overview & highlights		Options	
Non-arc-resistant						Digital	SwitchgearMD Monitoring & diagnostics
Fully compliant to IEEE C37.20.3, UL and Seismic certified		Characteristics	Unit	5 kV Class	15 kV Class		
	BreakMaster LIS/ BreakMaster V	Continuous bus amperes	A	600, 1200, 2000	<ul style="list-style-type: none">Includes ABB's VersaRupter switch and IEEE tested fixed VD4 and VM1 breakers. Custom designed with many accessories to meet your switching requirementsATS option availableSpecial paint options to meet your industrial needs	No	Yes
		Switch amperes	A	600, 1200	<ul style="list-style-type: none">Configurations include:<ul style="list-style-type: none">Single switchesTwo-position with no-load selector switchesDuplex switchesLine-upsLine-ups with Utility Metering CompartmentSingle VCB		
		Switch ratings	kV	5, 15	<ul style="list-style-type: none">Enclosures: NEMA 1, 2 or 3RStandards: IEEE, ANSI, IBC and CBCCertifications: UL, cUL, HCAI (formerly, OSHPD)		
					<ul style="list-style-type: none">Arc flash protection in BreakMaster V provided via the latest relay technology including bus and transformer differential options		
		Fault close rating	kA	40, 61			

Metal-clad Switchgear

Product category		Product ratings		Product overview & highlights		Options	
Non-arc-resistant						SwitchgearMD	
Fully compliant to IEEE C37.20.2, UL and Seismic certified						Digital	Monitoring & diagnostics
	Advance	Characteristics	Unit	5 kV Class	15 kV Class		
		Rated maximum voltages	kV	4.76	8.25, 15		
		Main bus continuous current	A	1200, 2000, 3000, 4000 ⁽²⁾			
		Short circuit current (rms)	kA	25, 31.5, 40, 50, 63			
		Rated frequency	Hz	60			
		Low frequency withstand (rms)	kV	19	36		
		Impulse level (BIL, crest)	kV	60	95		
				<ul style="list-style-type: none">• 5–15 kV rated metal-clad switchgear• Compact footprint with two-high configurations• Delrin arc-quenching contact for aux units• Hem bending techniques for added stiffness and safety• Galvanized steel construction• Indoor construction and outdoor enclosures• Closed door breaker and auxiliary unit racking• SmartRack™ MV remote electrical racking system• UL Certified to IEEE C37.20.2• Seismic certification to CBC 2019• Seismic certification to 2021 IBC Region D, Ip1.5^E• cUL certified to CSA 22.2, No. 31		Yes	Yes
	Advance 27	Characteristics	Unit	27 kV Class			
		Maximum voltage rating	kV	27			
		Main bus continuous current	A	1200, 2000			
		Short circuit current (rms)	kA	16, 25			
		Rated frequency	Hz	60			
		Low frequency withstand (rms)	kV	60			
		Impulse level (BIL, crest)	kV	125			
				<ul style="list-style-type: none">• 27 kV rated metal-clad switchgear• Compact footprint with two-high configurations• Delrin arc-quenching contacts• Hem bending technique• Galvanized steel construction• Indoor construction and outdoor enclosures• Closed-door breaker and auxiliary unit racking• SmartRack™ MV remote electrical racking system• UL Certified to IEEE C37.20.2• Seismic certification to CBC 2019• Seismic certification to 2021 IBC Region D, Ip1.5^E• cUL certified to CSA 22.2, No. 31		Yes ⁽¹⁾	Yes

Product category			Product ratings		Product overview & highlights		Options	
Arc-resistant							SwitchgearMD	
							Monitoring &	
							Digital	diagnostics
Fully compliant to IEEE C37.20.2, UL and Seismic certified								
			Characteristics	Unit	5 kV Class	15 kV Class		
	SafeGear		Rated maximum voltages	kV	4.76	8.25, 15	• 5–15 kV and 50 kA rated metal-clad switchgear	
			Main bus continuous current	A	1200, 2000, 3000, 4000 ⁽²⁾		• Offers highest standard of protection during arc fault	
			Short circuit current (rms)	kA	25, 31.5, 40, 50		• Two-high configuration	
			Rated frequency	kV	60		• Smallest 15 kV, two-high arc-resistant switchgear	
			Low frequency withstand (rms)	kV	19	36	• Externally flanged plenum design for easy installation	
			Impulse level (BIL, crest)	kV	60	95	• Three-way vent flap system to ensure safety of personnel	
			Accessibility type	2, 2B 2C ⁽³⁾		2, 2B 2C ⁽³⁾	• SmartRack™ MV remote electrical racking system	
			Arc duration	10 cycle/ 0.5 s		10 cycle/ 0.5 s	• UL Certified to IEEE C37.20.2	
							Yes	Yes
SafeGear HD								
			Characteristics	Unit	5 kV Class	15 kV Class		
			Rated maximum voltages	kV	4.76	8.25, 15	• 5–15 kV and 63 kA rated metal-clad switchgear	
			Main bus continuous current	A	1200, 2000, 3000, 4000 ⁽²⁾		• Offers highest standard of protection during arc fault	
			Short circuit current (rms)	kA	50, 63		• Two-high configuration	
			Rated frequency	Hz	60		• Smallest 15 kV, two-high arc-resistant switchgear	
			Low frequency withstand (rms)	kV	19	36	• Externally flanged plenum design for easy installation	
			Impulse level (BIL, crest)	kV	60	95	• Three-way vent flap system to ensure safety of personnel	
			Accessibility type	2, 2B		2, 2B	• SmartRack™ MV remote electrical racking system	
							Yes	Yes
SafeGear HD								
		Arc duration	0.5 s		0.5 s	• UL Certified to IEEE C37.20.2		
							Yes	Yes
SafeGear HD								
		Arc duration	0.5 s		0.5 s	• UL Certified to IEEE C37.20.7		
							Yes	Yes
SafeGear HD								
		Arc duration	0.5 s		0.5 s	• cUL and CSA Certified to C22.2 No. 31		
							Yes	Yes
SafeGear HD								
		Arc duration	0.5 s		0.5 s	• Seismic certification to CBC 2019		
							Yes	Yes
SafeGear HD								
		Arc duration	0.5 s		0.5 s	• Seismic certification to 2021 IBC Region D, Ip1.5 ^E		
							Yes	Yes

1) Available without UL certification

2) 4000 A is forced-air cooled. For highest available performance with naturally cooled switchgear, please contact the factory.

3) Type 2C only available with 10-cycle arc duration

Construction Characteristics

Product name	Dimensions (in) W × D × H	Primary connections	Ground bus (in × in)	Current transformers	Voltage transformers
Advance	36 × 95 ⁽¹⁾ × (85 or 92)	Cable or bus duct, top or bottom entry	$\frac{1}{4}$ × 2.0 Tin-plated copper ⁽⁴⁾	SAB-1, 1D, 2, 2D	VIY-60, VIZ-75, VIZ-11
Advance 27	36 × 95 × 92	Cable or bus duct, top or bottom entry	$\frac{1}{4}$ × 2.0 Tin-plated copper	SAB-1, 1D, 2, 2D	VIZ-12, VIZ-12G
SafeGear	36 × 116 ⁽³⁾ × (85 or 92)	Cable or bus duct, top or bottom entry	$\frac{1}{4}$ × 2.0 Tin-plated copper	SAB-1, 1D, 2, 2D	VIY-60, VIZ-75, VIZ-11
SafeGear HD	36 × 116 ⁽³⁾ × 112	Cable or bus duct, top or bottom entry	$\frac{1}{2}$ × 2.0 Tin-plated copper	SAB-1, 1D, 2, 2D	VIY-60, VIZ-75, VIZ-11

1) Add 7.5" for vent box assembly for all 2000, 3000 & 4000 A ratings

2) Includes vent box assembly, all ratings

3) Heights include plenum. For 2000, 3000 and 4000 A breaker frames, add 13.5" for vent box with handle in closed position

4) For Advance 63 kA ratings, ground bus is 1/2 × 2.0 tin – plated copper

Notes:

Standard paint is ANSI 61

Bus Insulation is epoxy

Bus plating is silver, but tin plating of main bus is optional

Additional Features, Options and Accessories

Product	Advance	Advance 27	SafeGear	SafeGear HD
Features				
Modular, hem bent galvanized steel construction	•	•	•	•
Reduced depth	•	•	•	
Withdrawable AMVAC breaker	•	•	•	
Withdrawable ADVAC breaker	•		•	•
Automatic engaging, self-aligning primary and secondary disconnects	•	•	•	•
Closed door racking for breakers	•	•	•	•
Closed door racking or levering for aux units	•	•	•	•
Lexan viewing window for breakers and aux units	•	•	•	•
Delrin arc-quenching contacts for aux units	•	•	•	•
Isolated low voltage instrument compartments	•	•	•	•
2-high breaker designs	•	•	•	•
Options				
Digital switchgear with current and voltage sensors	•	•	•	•
SwitchgearMD, bus temp, humidity & PD monitoring	•	•	•	•
ADVAC G40/G50 generator circuit breaker	•		•	
ADVAC G63 generator circuit breaker	•			•
SmartRack for use with breakers	•	•	•	•
SmartRack for use with aux units (PT, CPT, Fuse)	•	•	•	•
Ground studs	•	•	•	•
IR window/Test ports	•	•	•	•
Outdoor non-walk in (ODNWI) enclosure	•	•		
Outdoor single row walk in (sheltered aisle) enclosure ^(C)				
eHouse/PDC installation	•	•	•	•
Ultra-fast earthing switch (UFES) ^(A)	•	•	•	•
REA arc detection system	•	•	•	•
Arc-resistant transition section to MV MCC ^(B)			•	•
Non-arc-resistant transition section to MV MCC	•			
Integral breaker racking	•	•	•	•
Automatic transfer schemes	•	•	•	•
Bus duct connection for primary bus ^(D)	•	•	•	•
Close coupled to BreakMaster LIS (Indoor & Outdoor)	•	•		
Transformer throat connections (Indoor & Outdoor)	•	•		
Drawout CPT carriage, 5–15 kVA, single phase	•		•	•
Drawout CPT fuse unit, 1-ph/3-ph	•	•	•	•
Fixed mount CPT, 3-ph, 75 kVA or 1-ph, 50 kVA	•	•	•	•
Zero sequence CTs (BYZ-O; BYZ-S)	•	•	•	•
Accessories				
Breaker lift truck	•	•	•	•
Test cabinet and test jumper	•	•	•	•
Breaker ramp	^(E)	•	•	•
Manually operated ground & test device	•	•	•	•
Electrically operated ground & test device	•		•	
Breaker operating and handling accessories	•	•	•	•

A) UFES is not used to achieve compliance with C37.20.7.

B) 7.2 kV, 60 KV BiL ratings available for switchgear that includes a transition section.

C) Contact factory for availability.

D) Bottom entry bus duct not available for 4000 A ratings.

E) MOG&T available for Advance ratings up to 50 kA only at this time. Contact factory for 63 kA MOG&T availability.

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