

BULLETIN

Product portfolio overview

ANSI medium voltage switchgear and motor control centers

Motor Control Centers

Product category		Product ratings		Product overview & highlights	Options			
Arc-resistant					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 Enclosure types: NEMA 1, 1G Type 2B arc resistance accessibility as per IEEE C37.20.7 No transition section required for coupling to ABB's SafeGear (front-aligned construction) SmartRack™ remote racking system for contactors as well as PTs Available for FVNR motors and transformer feeders 			
	System voltages	kV	2400, 4160, 4800, 6900, 7200			No	Yes	
	Contactor sizes	A	400, 720					
	Accessibility type			Type 2B				
	Arc duration	sec				0.5		
	Short circuit current	kA				50		

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		Characteristics	Unit	5 kV Class	15 kV Class		
	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 requirements ATS option available Special paint options to meet your industrial needs Configurations include: <ul style="list-style-type: none"> Single switches Two-position with no-load selector switches Duplex switches Line-ups Line-ups with Utility Metering Compartment Single VCB Enclosures: NEMA 1, 2 or 3R Standards: IEEE, ANSI, IBC and CBC Certifications: UL, cUL, HCAI (formerly, OSHPD) Arc flash protection in BreakMaster V provided via the latest relay technology including bus and transformer differential options 		
	Switch amperes	A	600, 1200			No	Yes
	Switch ratings	kV	5, 15				
	Fault close rating	kA	40, 61				

Metal-clad Switchgear

Product category		Product ratings		Product overview & highlights		Options		
Non-arc-resistant						SwitchgearMD Monitoring & Diagnostics		
Fully compliant to IEEE C37.20.2, UL and Seismic certified						Digital		
		Characteristics	Unit	5 kV Class	15 kV Class			
	Advance	Rated maximum voltages	kV	4.76	8.25, 15	<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
	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				
	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					

Product category	Product ratings		Product overview & highlights		Options
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Arc-resistant

SwitchgearMD
Monitoring &
Diagnostics
Digital

Fully compliant to IEEE C37.20.2, UL and Seismic certified

SafeGear	Characteristics	Unit	5 kV Class		15 kV Class		Options	
			4.76	8.25, 15	4.76	8.25, 15		
	Rated maximum voltages	kV	4.76	8.25, 15	<ul style="list-style-type: none"> 5–15 kV and 50 kA rated metal-clad switchgear Offers highest standard of protection during arc fault 		Yes	
	Main bus continuous current	A	1200, 2000, 3000, 4000 ⁽²⁾		<ul style="list-style-type: none"> Two-high configuration Smallest 15 kV, two-high arc-resistant switchgear 			
	Short circuit current (rms)	kA	25, 31.5, 40, 50		<ul style="list-style-type: none"> Externally flanged plenum design for easy installation 			
	Rated frequency	kV			<ul style="list-style-type: none"> Three-way vent flap system to ensure safety of personnel 			
	Low frequency withstand (rms)	kV	19	36	<ul style="list-style-type: none"> SmartRack™ MV remote electrical racking system UL Certified to IEEE C37.20.2 			
	Impulse level (BIL, crest)	kV	60	95	<ul style="list-style-type: none"> UL Certified to IEEE C37.20.7 cUL and CSA Certified to C22.2 No. 31 			
	Accessibility type	2, 2B 2C ⁽³⁾		2, 2B 2C ⁽³⁾		<ul style="list-style-type: none"> Seismic certification to CBC 2019 		
	Arc duration	10 cycle/0.5 s		10 cycle/0.5 s		<ul style="list-style-type: none"> Seismic certification to 2021 IBC Region D, Ip1.5^E 		

SafeGear HD	Characteristics	Unit	5 kV Class		15 kV Class		Options	
			4.76	8.25, 15	4.76	8.25, 15		
	Rated maximum voltages	kV	4.76	8.25, 15	<ul style="list-style-type: none"> 5–15 kV and 63 kA rated metal-clad switchgear Offers highest standard of protection during arc fault 		Yes	
	Main bus continuous current	A	1200, 2000, 3000, 4000 ⁽²⁾		<ul style="list-style-type: none"> Two-high configuration Smallest 15 kV, two-high arc-resistant switchgear 			
	Short circuit current (rms)	kA	50, 63		<ul style="list-style-type: none"> Externally flanged plenum design for easy installation Three-way vent flap system to ensure safety of personnel 			
	Rated frequency	Hz			<ul style="list-style-type: none"> SmartRack™ MV remote electrical racking system 			
	Low frequency withstand (rms)	kV	19	36	<ul style="list-style-type: none"> UL Certified to IEEE C37.20.2 			
	Impulse level (BIL, crest)	kV	60	95	<ul style="list-style-type: none"> UL Certified to IEEE C37.20.7 cUL and CSA Certified to C22.2 No. 31 			
	Accessibility type	2, 2B		2, 2B		<ul style="list-style-type: none"> Seismic certification to CBC 2019 		
	Arc duration	0.5 s		0.5 s		<ul style="list-style-type: none"> Seismic certification to 2021 IBC Region D, Ip1.5^E 		

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 Advantant 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.