


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 	No	Yes
	System voltages	kV	2400, 4160, 4800, 6900, 7200				
	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/ BreakMaster V		Characteristics	Unit	5 kV Class	15 kV Class		
	Continuous bus amperes	A	600, 1200, 2000		<ul style="list-style-type: none"> 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: UL, cUL, ANSI, IEEE, NEMA Arc flash protection in BreakMaster V provided via the latest relay technology including bus and transformer differential options 	No	Yes
	Switch amperes	A	600, 1200				
	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						Digital	SwitchgearMD Monitoring & diagnostics
Fully compliant to IEEE C37.20.2, UL and Seismic certified							
	Characteristics	Unit	5 kV Class	15 kV Class	<ul style="list-style-type: none"> Narrow-design metal-clad switchgear Compact space-saving design Delrin arc-quenching contact for aux units Galvanized steel construction One or two-high modular configurations Closed door breaker racking Closed door auxiliary unit insertion and removal Outdoor enclosures SmartRack™ MV remote electrical racking system Active arc mitigation available UL Certified to IEEE C37.20.2 Seismic certification to 2021 IBC Region D, Ip1.0^F 	Yes	Yes
	Rated maximum voltages	kV	4.76	8.25, 15			
	Main bus continuous current	A	1200, 2000	1200, 2000			
	Short circuit current (rms)	kA	25, 31.5	25, 31.5			
	Rated frequency	Hz	50, 60	50, 60			
	Low frequency withstand (rms)	kV	19	36			
	Impulse level (BIL, crest)	kV	60	95			
Advance	Characteristics	Unit	15 kV Class		<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^F cUL certified to CSA 22.2, No. 31 	Yes	Yes
	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			
	Advance 27	Characteristics	Unit	27 kV Class		<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^F cUL certified to CSA 22.2, No. 31 	Yes ⁽¹⁾
	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

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

SafeGear	Characteristics	Unit	5 kV Class		15 kV Class		Product overview & highlights	Digital	SwitchgearMD Monitoring & diagnostics	
			Class	Class	Class	Class				
	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 			
	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			60		<ul style="list-style-type: none"> Three-way vent flap system to ensure safety of personnel 	Yes	Yes	
	Low frequency withstand (rms)	kV	19	36				<ul style="list-style-type: none"> SmartRack™ MV remote electrical racking system 		
	Impulse level (BIL, crest)	kV	60	95				<ul style="list-style-type: none"> UL Certified to IEEE C37.20.2 UL Certified to IEEE C37.20.7 		
	Accessibility type			2, 2B 2C ⁽³⁾		2, 2B 2C ⁽³⁾		<ul style="list-style-type: none"> cUL and CSA Certified to C22.2 No. 31 		
	Arc duration			10 cycle/0.5 s	10 cycle/0.5 s				<ul style="list-style-type: none"> Seismic certification to CBC 2019 Seismic certification to 2021 IBC Region D, Ip1.5^E 	

SafeGear HD

SafeGear HD	Characteristics	Unit	5 kV Class		15 kV Class		Product overview & highlights	Digital	SwitchgearMD Monitoring & diagnostics	
			Class	Class	Class	Class				
	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 			
	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 			
	Rated frequency	Hz			60		<ul style="list-style-type: none"> Three-way vent flap system to ensure safety of personnel 	Yes	Yes	
	Low frequency withstand (rms)	kV	19	36				<ul style="list-style-type: none"> SmartRack™ MV remote electrical racking system 		
	Impulse level (BIL, crest)	kV	60	95				<ul style="list-style-type: none"> UL Certified to IEEE C37.20.2 UL Certified to IEEE C37.20.7 		
	Accessibility type			2, 2B		2, 2B		<ul style="list-style-type: none"> cUL and CSA Certified to C22.2 No. 31 		
	Arc duration			0.5 s	0.5 s				<ul style="list-style-type: none"> Seismic certification to CBC 2019 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
ReliaGear ND	26 × 104 ⁽²⁾ × 77 for 1H 26 × 104 ⁽²⁾ × 85 for 2-H	Cable or bus duct, top or bottom entry	$\frac{1}{4}$ × 2.0 Tin-plated copper	SCH-3U, SCH-3UD	VIY-60, VIZ-75, TJC5
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	ReliaGear ND	SafeGear	SafeGear HD
Features					
Modular, hem bent galvanized steel construction	•	•	•	•	•
Reduced width			•		
Reduced depth	•	•	•	•	
Withdrawable AMVAC breaker	•	•		•	
Withdrawable ADVAC breaker	•			•	•
Withdrawable Vmax/A breaker			•		
Automatic engaging, self-aligning primary and secondary disconnects	•	•		•	•
Automatic engaging, self-aligning primary disconnects & manual 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	•	•	•	•	•
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 ^(C)					
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	•	•	(C)	•	•
Fixed mount CPT, 3-ph, 75 kVA or 1-ph, 50 kVA	•	•	(C)	•	•
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.