

DISTRIBUTION CUTOUTS

ICX

Outdoor open type cutout



The ICX cutout is used on overhead distribution systems to provide overcurrent protection and visible indication of fuse operation.

Product features

- 15 and 27 kV, 110 and 150 kV BIL, 100 A silicone designs are updated and tested to the latest IEEE standard. New style numbers have “A” as the first digit; legacy styles retain “X” as the first digit.
- New design available with three environmental options: standard, enhanced inland, or coastal
- Porcelain (110 - 170 kV BIL), silicone (110 - 180 kV BIL), or polymer concrete (110 and 125 kV BIL) insulator
- Optional seacoast design utilizes corrosive resistant stainless steel hardware for coastal environments
- 100 and 200 A fuse holders available
- 300 A disconnect blade
- Interruption ratings up to 16 kA
- Kickout spring for extra assistance in opening
- Wildlife guard option available
- Choice of multiple mounting bracket types
- Cutout/arrester combination

Description

The ICX cutout is used on overhead distribution systems to provide overcurrent protection and visible indication of fuse operation. It provides a visible break sectionalizing point for maintenance personnel and is equipped with hooks for use with a portable load-break tool, allowing the ICX to be used as a loadbreak switch to open the circuit with load current flowing.

ABB cutouts are RUS-certified and assembled in Pinetops, North Carolina.

Ratings

The ICX is offered in several frame sizes to properly match each system BIL. Each fuse support has “universal” contacts that accommodate a 100 A fuseholder, a 200 A fuseholder, or a 300 A disconnect blade.

Design features

The ICX is provided with a moisture-proof tube as a standard offering. Cutouts operate by expelling gases out of the bottom of the fuse tube during interruption. For the highest interrupting rating, a link extender rod is attached to the fuse tube cap, improving the efficiency of gas expulsion and arc interruption. Fuse tubes are clearly labeled to indicate interrupting capability.

Interchangeability

The ICX cutout is designed to be electrically and mechanically interchangeable with the Hubbell (A.B. Chance) type “C” and Cooper type “L” cutouts. Testing has confirmed the performance of the ICX fuseholder and fuse support with S&C and Chance.

Standards and design testing

New variants are being released, beginning with 15 and 27 kV silicone insulators, tested to IEEE C37.41-2008/2016 and C37.42-2016 standards.

Warranty

A 10-year warranty is offered on silicone and polymer concrete ICX cutouts and a 5-year warranty is offered on porcelain ICX cutouts.

Options and construction details

- Silicone rubber
 - Silicone rubber has been used for more than 30 years as an outdoor insulation material and is the fastest growing choice for polymeric material for medium and high voltage outdoor insulation. Silicone is used for its superior performance, durability, and insulation properties. It has the unique ability to maintain its hydrophobicity and offers greater stability against heat and ultraviolet radiation compared to other polymers. In addition, silicone cutouts are 30% - 50% lighter than porcelain units. Silicone insulators are available in all ratings up to 180 kV BIL.
- Polymer concrete
 - ABB has been using polymer concrete for more than twenty years. Available in 110 and 125 kV BIL ratings, polymer concrete provides a safe, shatter-proof design with molded-in rods to prevent moisture penetration. Because it resists damage from freeze/thaw cycles, the material is an excellent alternative to porcelain in colder climates. Polymer concrete is a field-proven material that provides excellent electrical properties and dielectric strengths, as well as superior mechanical durability.
- Kick-out spring
 - All ICX 100 A and 200 A fuse tubes are available with an optional kick-out spring. The spring assists the drop-out operation by increasing the kick-out force on the tube.
- Arrester combinations
 - ABB offers a combination ICX cutout with an arrester option. This combination unit is pre-assembled at the factory and provides overall savings by reducing installation time and accumulated costs that result from independently purchased parts.
 - ICX combination units are available with various mounting brackets to fulfill industry requirements. The combo units are equipped with normal duty, heavy duty, or riser pole polymer metal oxide arresters.

Fuse tube construction

New optimized variants are available exclusively with moisture proof tubes. Legacy ICX cutouts utilize two different types of fuse tubes: a moisture-proof fuse tube or a horn fiber fuse tube. The moisture-proof tube reduces swelling of the liner that can create problems with interruption.

The legacy 200 A design utilizes a horn fiber fuse tube, composed of a horn fiber liner surrounded by a glass filament wound outer shell. Both designs have a durable tube that withstands the rigors of high fault current interruptions. In addition, the tube is applied with paint to provide protection against the effects of ultraviolet rays.

Voltage levels

Single voltage rated cutouts can be applied on any single or three-phase system where the line-to-line voltage does not exceed the cutout rating. Dual voltage rated cutouts are suitable on single-phase circuits where maximum line-to-ground voltage does not exceed the value shown to the left of the slash (for example, does not exceed 15 kV in 15/27 kV).

ICX cutouts may be used on three-phase circuits that are solidly grounded and where the maximum line-to-line voltage does not exceed the value shown to the right of the slash (for example, does not exceed 27 kV in 15/27 kV).

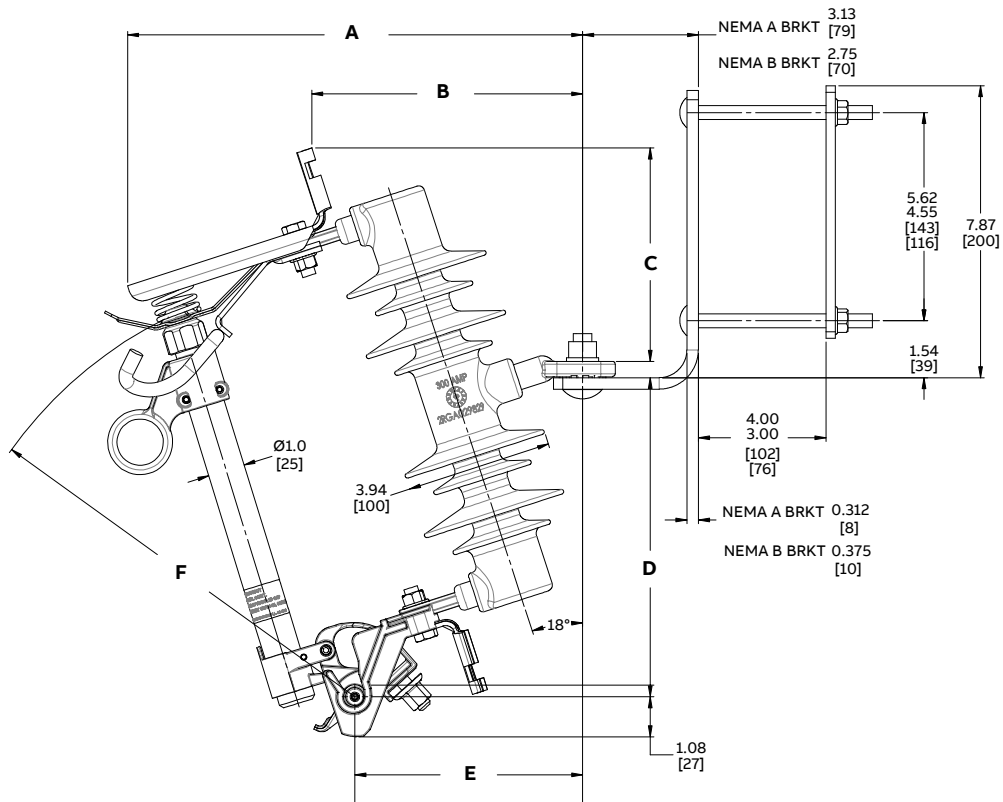
Environmental classes

The new variant of the ICX is available in three environmental options. Metallic parts are designed with the appropriate materials and coatings for optimized performance with the level of pollution:

- Standard: low pollution
- Enhanced inland: medium pollution
- Coastal: high pollution

Legacy ICX styles continue to be available with standard and coastal options.

New ICX unit dimensions and weight

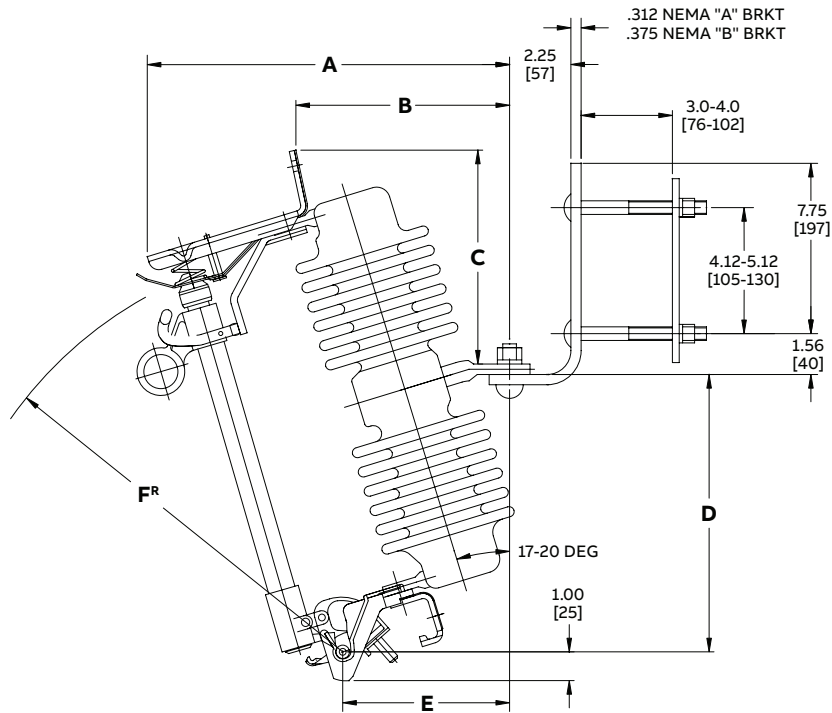


kV Class	BIL (kV)	Unit dimensions (in)						Creep (in)	Weight (lb)
		A	B	C	D	E	F ^R		
15.5	110	12.27	7.3	5.76	8.63	6.14	11.41	15.16	8.58
27	150	12.8	7.83	7.37	10.24	5.61	14.86	20.47	9.27

kV Class	BIL (kV)	Unit dimensions (mm)						Creep (mm)	Weight (kg)
		A	B	C	D	E	F ^R		
15.5	110	312	185	146	219.2	156	290	385	3.89
27	150	325	199	187	260.1	142	377	520	4.21

Note: all dimensions shown in inches [mm]

Legacy ICX unit dimensions and weight

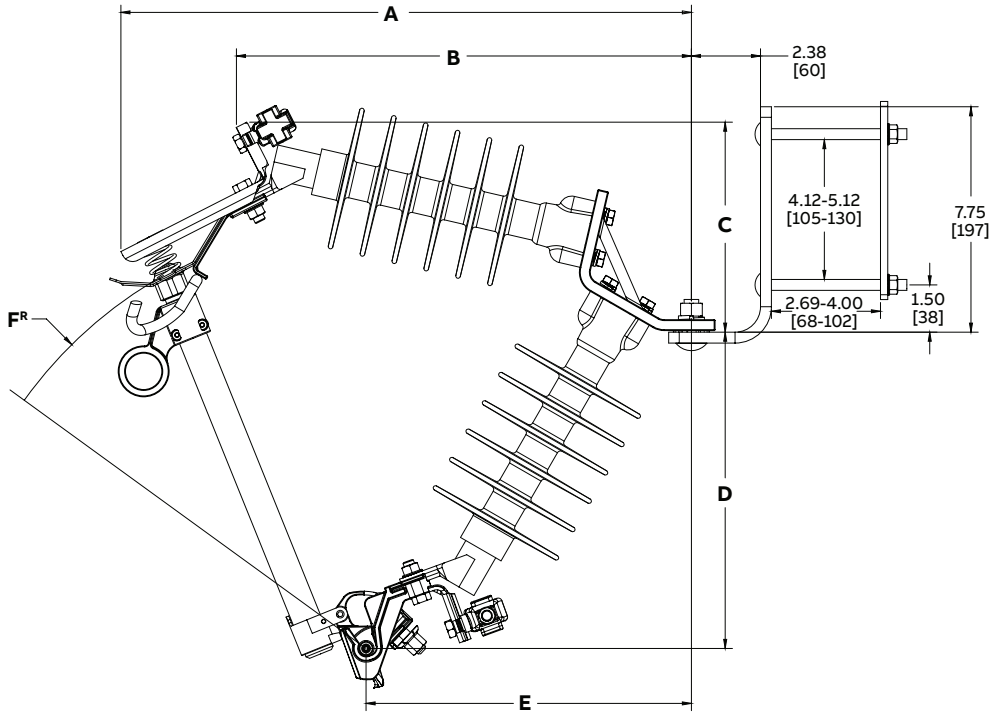


kV Class	BIL (kV)	Unit dimensions (in)						Creep (in)		
		A	B	C	D	E	F ^R	Porcelain	Silicone	Polymer concrete
7.8 or 15	110	12.79	7.33	6.50	8.55	6.60	11.41	9.1	14.96	8.5
15/27 or 27	125	13.30	7.84	8.17	10.25	6.08	14.88	12.8	18.90	12.0
27 or 38	150	13.30	7.84	8.17	10.25	6.08	14.88	17.0	18.90	-
27 or 38	150	13.30	7.84	8.17	10.25	6.08	14.88	-	23.62	-
27 or 38	170	13.96	8.51	10.42	13.00	5.27	18.36	26.2	-	-

kV Class	BIL (kV)	Unit dimensions (mm)						Creep (mm)		
		A	B	C	D	E	F ^R	Porcelain	Silicone	Polymer concrete
7.8 or 15	110	325	186	165	217	168	290	231	380	216
15/27 or 27	125	338	199	208	260	154	378	325	480	305
27 or 38	150	338	199	208	260	154	378	432	480	-
27 or 38	150	338	199	208	260	154	378	-	600	-
27 or 38	170	356	216	265	330	134	466	665	-	-

kV Class	BIL (kV)	Weight					
		Porcelain		Silicone		Polymer concrete	
		(lb)	(kg)	(lb)	(kg)	(lb)	(kg)
7.8 or 15	110	14.0	6.4	9.3	4.2	11.8	5.4
15/27 or 27	125	20.0	9.0	9.5	4.3	14.0	6.4
27 or 38	150	26.5	12.0	10.2	4.6	-	-
27 or 38	150	-	-	10.5	4.8	-	-
27 or 38	170	35.5	16.1	-	-	-	-

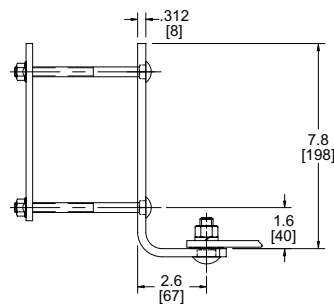
V silicone ICX unit dimensions and weight



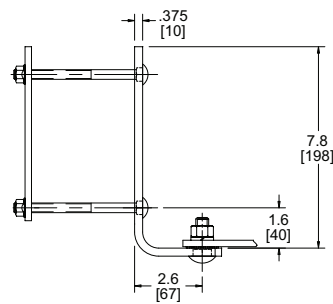
kV Class	BIL (kV)	Unit dimensions (in)						Creep (in)	Weight (lb)
		A	B	C	D	E	FR		
27 (V silicone only)	180	19.63	15.63	7.25	10.87	11.19	14.88	29.52	10.5

kV Class	BIL (kV)	Unit dimensions (mm)						Creep (mm)	Weight (kg)
		A	B	C	D	E	FR		
27 (V silicone only)	180	498	397	184	276	284	378	750	5

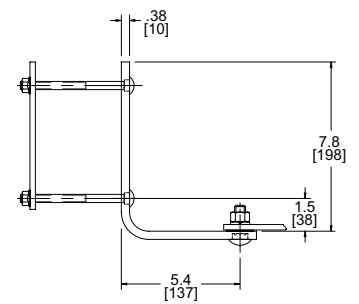
Bracket dimensions



NEMA A



NEMA B



Extended

Ordering instructions

New ICX design (with IEEE 2016 certification)

Digit	Description	Code	Definition
1	Product family	A	ICX
		J	Silicone
2	Fuse support material	O	No insulator (only fuse support)
		1	15 kV
3	Rated voltage	2	27 kV
		1	110 kV
4	Rated BIL	5	150 kV
		T	Standard
5	Environment	S	Enhanced inland
		C	Coastal
		C	Clamshell
		E	Eyebolt
		R	Rotatable (bottom terminal)
6	Terminal connection	D	Bottom terminal rotated 90°
		N	None
		N	No bracket
		1	NEMA A
		2	NEMA B
7	Bracket	3	NEMA B with 6" bolts
		5	Extended
8	Special options	N	None
		N	No fuse holder
9	Load current	1	100 A
		N	No fuseholder
		1	8 kA
		2	10 kA
		3	12 kA
10	Interrupting current	4	16 kA
		N	None
11	Additional options	K	Kickout spring
12	Reserved for future use	0	-

ICX cutout arrester combination

Digit	Description	Code	Definition
1	ICX cutout arrester combination	C	Combo
		1	15 kV
		2	27 kV
2	Voltage level	3	38 kV (use 150 kV BIL insulator)
		1	110 kV BIL
		2	125 kV BIL
3	Insulator BIL	5	150 kV BIL
		S	100 A solid cap
		L	100 A link extender
4	Cutout cap	T	200 A solid cap
		M	200 A link extender
5	Bracket	U	Standard combo (contact factory for other options)
		C	Polymer normal duty
		H	Polymer heavy duty
6	Arrester type	R	Polymer riser pole
		03	3 kV
		06	6 kV
		09	9 kV
		10	10 kV
		12	12 kV
		15	15 kV
		18	18 kV
		21	21 kV
		24	24 kV
		7-8	Arrester voltage
1	Clamshell		
9	Cutout terminals	2	Eyebolt
		1	None
		8	12" lead
		B	Arrester bird guard
10	Special options	S	Seacoast cutout
		X	No arrester but in combo box
		Blank	Porcelain
		J	Silicone
11	Cutout insulator material	Z	Polymer concrete (110 and 125 kV BIL only)

15 kV, 110 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	15 kV, 110 kV BIL
2	Insulator BIL	1	110 kV BIL
		N	Porcelain
		J	Silicone
		Z	Polymer concrete
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		AM11	100 A, 10 kA asym, solid cap
		LM11	100 A, 16 kA asym, link extender
		KA21	200 A, 10 kA asym, link extender
		PA21	200 A, 12 kA asym, link extender (7.8 kV)
		CA31	300 A, solid blade
7-10	Fuseholder	0000	Fuse support only (no tube)
		K	Kick-out spring on fuse tube
		S	Seacoast design silicone
11	Additional options	C	Seacoast silicone and kickout spring

—
27 kV, 125 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	27 kV, 125 kV BIL
2	Insulator BIL	2	125 kV BIL
		N	Porcelain
		J	Silicone
		Z	Polymer concrete (125 kV BIL)
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		AM12	100 A, 8 kA asym, solid cap
		MM12	100 A, 12 kA asym, link extender
		BA22	200 A, 10 kA asym, solid cap (15 kV)
		DA32	300 A, solid blade
		WA22	200 A, 10 kA asym, link extender (15/25 kV)
		VA22	200 A, 12 kA asym, link extender
7-10	Fuseholder	0000	Fuse support only (no tube)
		K	Kick-out spring on fuse tube
		S	Seacoast design silicone
11	Additional options	C	Seacoast silicone and kickout spring

27 kV, 150 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	27 kV, 150 kV BIL
		4	150 kV BIL, 600 mm creep (silicone only)
2	Insulator BIL	5	150 kV BIL
		N	Porcelain
		J	Silicone
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		AM12	100 A, 8 kA asym, solid cap
		MM12	100 A, 12 kA asym, link extender
		BA22	200 A, 10 kA asym, solid cap (15 kV)
		DA32	300 A, solid blade
		VA22	200 A, 12 kA asym, link extender
7-10	Fuseholder	0000	Fuse support only (no tube)
		K	Kick-out spring on fuse tube
		S	Seacoast design silicone
11	Additional options	C	Seacoast silicone and kickout spring

38 kV, 150 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	38 kV, 150 kV BIL
		4	150 kV BIL, 600 mm creep (silicone only)
2	Insulator BIL	5	150 kV BIL
		N	Porcelain
		J	Silicone
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
7-10	Fuseholder	TM12	100 A, 10 kA asym, link extender
		K	Kick-out spring on fuse tube (100 A only)
		S	Seacoast design silicone
11	Additional options	C	Seacoast silicone and kickout spring

—
15 kV, 27 kV, 38 kV, 150 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	15 kV, 27 kV, 38 kV, 150 kV BIL
2	Insulator BIL	6	150 kV BIL, 20" creep
		N	Porcelain
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		AM12	100 A, 8 kA asym, solid cap (27 kV)
		MM12	100 A, 12 kA asym, link extender (27 kV)
		BA22	200 A, 10 kA asym, solid cap (15 kV)
		DA32	300 A, solid blade (27 kV)
		VA22	200 A, 12 kA asym, link extender (27 kV)
		TM12	100 A, 10 kA asym, link extender (38 kV)
7-10	Fuseholder	0000	Fuse support only (no tube)
11	Additional options	K	Kick-out spring on fuse tube (100 A only)

—
27 kV, 180 kV BIL, V silicone insulator

Digit	Description	Code	Definition
1	ICX cutout	X	27 kV, 180 kV BIL, V silicone insulator
2	Insulator BIL	8	150 kV BIL, 20" creep
3	Fuse supports	J	Silicone
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		MM12	100 A, 12 kA asym, link extender
		DA32	300 A, solid blade
		AM12	100 A, 8 kA asym, solid cap
		TM12	100 A, 10 kA asym, solid cap (38 kV)
7-10	Fuseholder	0000	Fuse support only (no tube)
		K	Kick-out spring on fuse tube
		S	Seacoast design silicone
11	Additional options	C	Seacoast silicone and kickout spring

—
15 kV, 170 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	15 kV, 170 kV BIL
2	Insulator BIL	7	170 kV BIL
		N	Porcelain
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		XA26	200 A, 8 kA sym, link extender
		YM16	100 A, 8 kA sym, link extender
		SA24	200 A, 10 kA asym, link extender (15/27 kV)
7-10	Fuseholder	0000	Fuse support only (no tube)
11	Additional options	K	Kick-out spring on fuse tube

—
27 kV, 170 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	27 kV, 170 kV BIL
2	Insulator BIL	7	170 kV BIL
		N	Porcelain
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		RM14	100 A, 12 kA asym, link extender
		FA34	300 A, disconnect
7-10	Fuseholder	0000	Fuse support only (no tube)
11	Additional options	K	Kick-out spring on fuse tube

—
38 kV, 170 kV BIL

Digit	Description	Code	Definition
1	ICX cutout	X	38 kV, 170 kV BIL
2	Insulator BIL	7	170 kV BIL
		N	Porcelain
3	Fuse supports	S	Seacoast design porcelain
		C	Clamshell
		E	Eyebolt
4	Terminal connectors	R	Rotatable (button terminal)
		N	No bracket
		A	NEMA A
		B	NEMA B
		F	NEMA with 6" carriage bolts
5	Bracket	L	Extended
		N	None
		F	Wildlife guard
6	Special options	D	Bottom terminal rotated 90°
		RM15	100 A, 10 kA asym, link extender
		FA35	300 A, disconnect
		ZM15	100 A, 8 kA sym, link extender
7-10	Fuseholder	0000	Fuse support only (no tube)
11	Additional options	K	Kick-out spring on fuse tube

Replacement fuseholders

Style number	Voltage rating (kV)	BIL (kV)	Current rating (A)	Interrupting rating (kAIC)	Cap type	Corresponding cutout*
7194C60G01MP	15	110	100	10	Solid	AM11
7194C60G02MP	15	110	100	16	Link extender	LM11
7194C60G03	7.8	110	200	12	Link extender	PA21
7194C60G19	15	110	200	10	Link extender	KA21
7194C60G04	15	110	300	-	Solid disconnect blade	CA31
7194C60G05MP	27	125 or 150	100	8	Solid	AM12
7194C60G06MP	27	125, 150, or 180	100	12	Link extender	MM12
7194C60G07	15	125 or 150	200	10	Solid	BA22
7194C60G08	27	125 or 150	300	-	Solid disconnect blade	DA32
7194C60G08	38	150	300	-	Solid disconnect blade	DA32
7194C60G11MP	27	170	100	12	Link extender	RM14
7194C60G12	38	170	300	-	Solid disconnect blade	FA34
7194C60G26	27	125 or 150	200	12	Link extender	VA22
7194C60G29	38	170	100	10	Link extender	RM15

* Used with ICX cutouts having the following characters in digit positions 7-10 of the ABB cutout style number.

Replacement fuseholder caps

Style number	Voltage rating (kV)	BIL (kV)	Current rating (A)	Interrupting rating (kAIC)	Cap type
3A31186A01	15	110	100	10	Solid
9861A62A05	15	110	100	16	Link extender
9861A62A08	7.8	110	200	12	Link extender
3A31187A01	15/27	125 or 150	200	10	Solid
3A31186A01	27	125 or 150	100	8	Solid
9861A62A06	27	125, 150, or 180	100	12	Link extender
9861A62A07	27	170	100	12	Link extender
9861A62A11	38	170	100	10	Link extender

Brackets

Style number	Bracket type
366C723A05	NEMA A
403A101A03	NEMA B
367C802A04	Extended

Notes

ABB Inc.
3022 NC 43 North
Pinetops, NC 27864
Phone: +1 252 827 3212

abb.com/mediumvoltage

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB inc.
Copyright© 2020 ABB
All rights reserved