inertia
ENGINEERING

Distribution Switches

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ENGINEERING
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Section 2 - Overhead Distribution Switches

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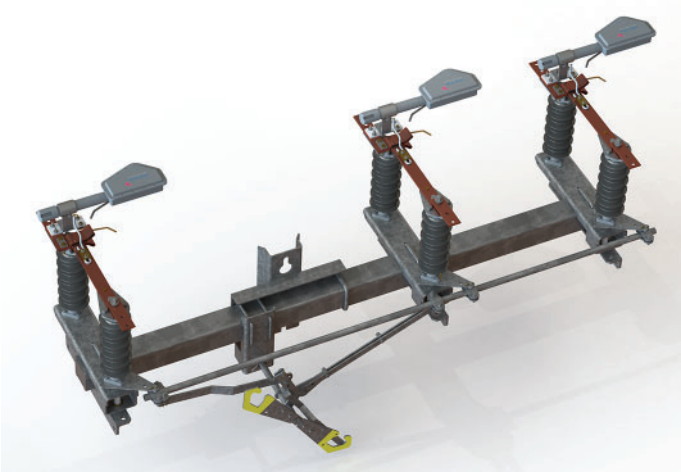
LineBOSS™

15 kV - 38 kV Sidebreak Type, Unitized GOAB

Distribution Switch

The **LineBOSS**™ Sidebreak switch is the most robust, yet elegant sidebreak switch in the market today. Every **LineBOSS**™ component brings meaningful operator benefits for years to come. Features such as 1/4 inch steel phase base, stainless steel to brass bearings, silver plated copper reverse loop contacts and busbar blades mean efficient and smooth operation over a long life even in hostile environments where dust, humidity corrosives and other industrial or natural contaminants play havoc with most. You'll be amazed with how much switch you can buy for the money. The LBS is RUS accepted.

Inertia: moving power with passion and innovation!



SPECIFICATIONS

Switch Ratings:

Voltage Class:	15.5 kV, 25.8 kV & 38 kV	
Continuous Current Class:	600, 900, 1200 Amps	
Fault Close:	15 kA rms-asym: 5 X manual operation 20 kA rms-asym: 3 X manual operation 30 kA rms-asym: 2 X manual operation	
Momentary current:	600 A:	40,000 A rms 10 cycles 25,000 A rms 3 seconds
	900 A:	51,000 A rms 10 cycles 32,000 A rms 3 seconds
	1200 A:	70,000 A rms 10 cycles 44,000 A rms 3 seconds
Ice breaking:	3/4" (manual operation)	
Mechanical:	5000 cycles (open/close)	

ACCC Designation DO6 Loadability factor 1.22 at 25 Deg. C.

Meets or Exceeds All Applicable NEMA, IEEE, ANSI, and IEC Standards.

LOADBREAK DEVICES:

Arc Horns
ArcWhip Attachments
AmpRupter™ Load Break
AmpVac™ Load Break

*See data sheet "Air-break Disconnect Switch Attachment Selection Information" for loadbreak descriptions and specifications

CROSSARM RATINGS:

Crossarm	Material	Dead End Loading
Galvanized Steel	(standard duty)	2000 lbs/phase
Aluminum	(standard duty)	1500 lbs/phase
Fiberglass	(standard duty)	1000 lbs/phase

All materials: equal loading, each side of switch is 12,000 lbs. max.
Ratings shown are for 25 kV switch

STANDARD FEATURES

- Resilient, higher BIL silicone rubber insulators
- Reverse loop silver plated copper jaw contacts
- Maintenance free stainless steel/brass bearings
- Unitized construction: aluminum, steel or fiberglass
- Factory adjusted, ready to mount
- Meets all applicable NEMA and ANSI standards
- All ferrous components are hot dip galvanized
- Tinned copper terminal pads
- ArmorGalv™ (Thermal Diffusion Galvanized) coated
- ferrous components available for increased corrosion resistance.

STANDARD CONFIGURATIONS

- Horizontal (upright)
- Horizontal (underarm)
- Horizontal (center mount)
- Riser
- Vertical (tiered outboard)
- Delta (pole top)
- Vertical (phase over phase)
- Tap Switch (1,2, & 3 way)
- Triangular (Delta)
- Twin Circuit

See opposite side of this page for illustrations and selection guide.

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LineBOSS™ Selection Guide (15 kV - 38 kV)

L16SLSH1123

LineBOSS™ Unitized Sidebreak Switch
ARMORGALV® = LT

Voltage Class:
15.5 kV (110 kV BIL) = 1
25.8 kV (150 kV BIL) = 2
38.0 kV (200 kV BIL) = 3

Current Rating:
600 A = 6
900 A[1] = 6
900 A[2] = 9
1200 A = 1

Insulator Type:
Polymeric Silicone (3.0" BC) = S
Porcelain (3.0" BC) = P
For Increase insulator creepage:
Add "1" for +1 voltage class
Add "2" for +2 voltage class

Interrupter Type:
ArcWhip, Quick-break = Q
Amprupter, Loadbreak = L
AmpVac, Vacuum = V
NO Interrupter = X

Crossarm Type:
Aluminum = A
Fiberglass = F
Galv. Steel = S
No Xarm = X
Customer specified loading (call factory)

Mounting Configuration:
Vertical (Tiered Outboard) = B
Horizontal Center Mount = C
Delta (Pole Top) = D
Horizontal Upright = H
Vertical (Inline) = L
Riser = R
Twin Circuit = T
Underarm Horizontal[3] = U
Vertical (Phase over Phase) = V
Tap Switch[4]: 1-way = 1W
2-way = 2W
3-way = 3W
Add "G" for 36" Climbing Space
Add "S" for Substation (H-Frame) See Substation/H-Frame Chart.

Control Rod Length:
30 feet (standard) = 3
Specify (10' Sections) = __
See Options Chart For Insulated Section.

Control Rod Type:
Reciprocating (⇧⇩)
1 3/4" square fiberglass = 1
1" round fiberglass = 2
3/4" galvanized pipe = 3
1" galvanized pipe = 4
Torsional (↻)
1 1/2" galvanized pipe = 6

Control Location:
Specify the quadrant by number, where the control is to be located.
See Control Options Chart.

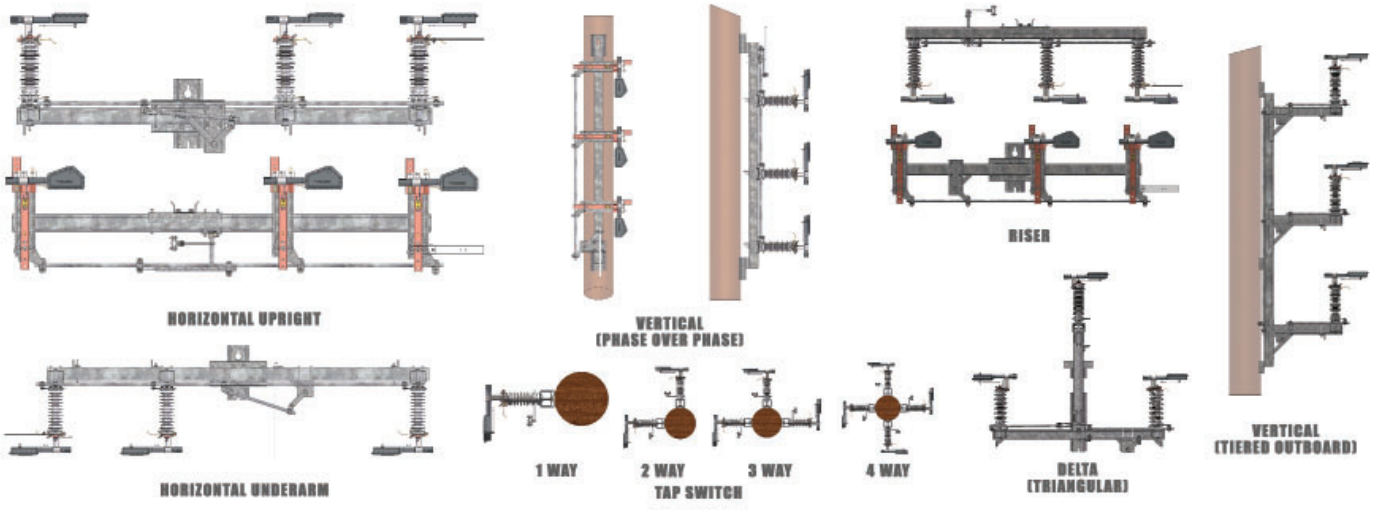
Control Mechanism:
Reciprocating handle (⇧⇩) = 1
Torsional handle (↻) = 2
Hookstick bellcrank = 3
Motorized Operator = M

[1] 900 A (Temp Rise: 30°C Momentary: 40 kA)
[2] 900 A (Temp Rise: 30°C Momentary: 51 kA ANSI)
[3] Avian Protection.
[4] Consult Factory for Unitized Switch.

*Note: Not all configurations are possible. Some design limitations may apply. Please contact us to see if your specific design configuration(s) is available.

ENG-2019 DISTRIBUTION SELECTION GUIDE REV 3 RELEASE DATE: 4/29/2020

LineBOSS™ Standard Configurations



LineBOSS™

15 kV - 38 kV Distribution Switch

Request For Quotation

E-MAIL: sales@inertiaworks.com | FAX: (209) 931-8186

Company Name	Contact Name
Address 1	Telephone Number
Address 2	Facsimile Number
City State Zip code	E-mail address

Make copies of this form to transmit your switch requirements. If you have a standard's drawing, please send it along with this fax form.

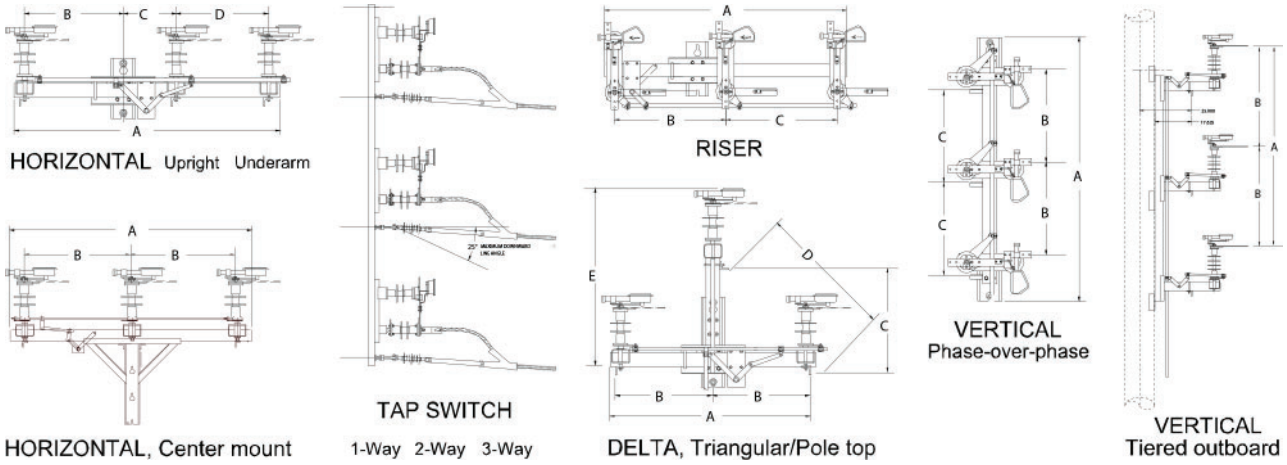
Step1. Voltage Class _____kV Continuous current rating[1]: _____A Momentary current_____kA

Step 2. Insulator type: ☐ Silicone ☐ Porcelain ☐ One BIL class higher?_____

Step 3. Interrupter type: ☐ ArcHorn ☐ ArcWhip ☐ AmpRupter™ ☐ AmpVac™ 'V'

Step 4. Crossarm type: ☐ Galvanized steel ☐ Fiberglass ☐ Aluminum

Step 5. Select the configuration (circle one):



Step 6. Select Spacing:

☐ Standard ☐ Custom (Fill in Spacing Dimensions below using configurations in Step 5.)

A" _____ "B" _____ "C" _____ "D" _____ "E"_____

Step 7. Select the control mechanism:

☐ Hookstick ☐ Reciprocating (⇧⇩) ☐ Torsional (↻) *Clockwise or Counterclockwise to open; viewed looking down on the handle.*

*Note: Torsional control mechanisms are not available in all configurations. Please contact us to see if your specific design configuration(s) is available.

Step 8. Select control mechanism quadrant (see fig. 1): _____

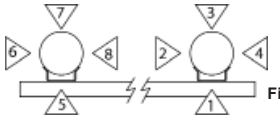


Figure 1: Control Quadrants

[1] **LineBOSS**™ switches are ANSI rated switches. The **LineBOSS**™ Lx6xxxxx is rated 600 Amps continuous current per the ANSI C37.30 temperature rise test requirements, and for 900 Amp continuous current per the IEEE 1247 temperature rise test requirements. The **LineBOSS**™ Lx9xxxxx is rated 900 Amps continuous current per the ANSI C37.30 temperature rise test requirements. The **LineBOSS**™ Lx1xxxxx is rated 1200 Amps continuous current per the ANSI C37.30 temperature rise test requirements.
Momentary current ratings (10 cycle) are: 600 A (ANSI C37.30) = 40 kA 900 A (ANSI C37.30) = 51 kA 1200 A(ANSI C37.30) = 70 kA

Step 9. Select control rod[2]: ☐ Galvanized pipe: ¾" 1" 1½" other_____

☐ Fiberglass: 1" round 1¾" square other_____

Step 10. Select control rod length[3]: ☐ 30 ft. ☐ 40 ft. ☐ other _____

Step 11. Select additional accessories and modifications (check off and write in)

☐ Provision for Neutral (4-wire)

☐ Pole mounting bands; Specify _____

☐ Substation mounting: Specify base mounting dimensions or furnish drawing.

☐ Surge Arrestor brackets: ☐ Set of 3 arrestor brackets ☐ Set of 6 arrestor brackets

☐ Extension links (package qty. of 6): ☐ 6" Length EA ☐ 14" Length EA

☐ Terminals: ☐ Terminal paddle for fired wedge connectors _____(specify size)

☐ Terminals, 2-hole copper NEMA pad #2-500 kcmil (600 & 900 A switch) Specify:_____

☐ Terminals, 4-hole copper NEMA pad 500-750 kcmil (1200 A switch) Specify: _____

☐ Terminals, other; _____(specify size)

☐ Sensor Brackets: 1 set of 3 brackets

☐ Current/Voltage Sensors: 3 each of . . . . ☐ Current ☐ Voltage ☐ Current/Voltage

☐ Fiberglass section in pipe control rod: ☐ 1" round fiberglass ☐ 1¾" square fiberglass

☐ Station post insulator in control rod section

☐ Intermediate control rod guides: ☐ Oval-eye Nuts ☐ Swing-arm type

☐ Bonded handle: ☐ Grounding connector on crossarm _____ AWG range

☐ Key Interlock - single key for circuit switching safety ("locked open")

☐ Crossarm Braces: ☐ Galvanized Steel ☐ Fiberglass

☐ Double Lifting Point. *(Switches come standard with a single lifting point).*

☐ ArmorGalv® AG3000 (Thermal Diffusion Galvanizing) ferrous component coating[4].

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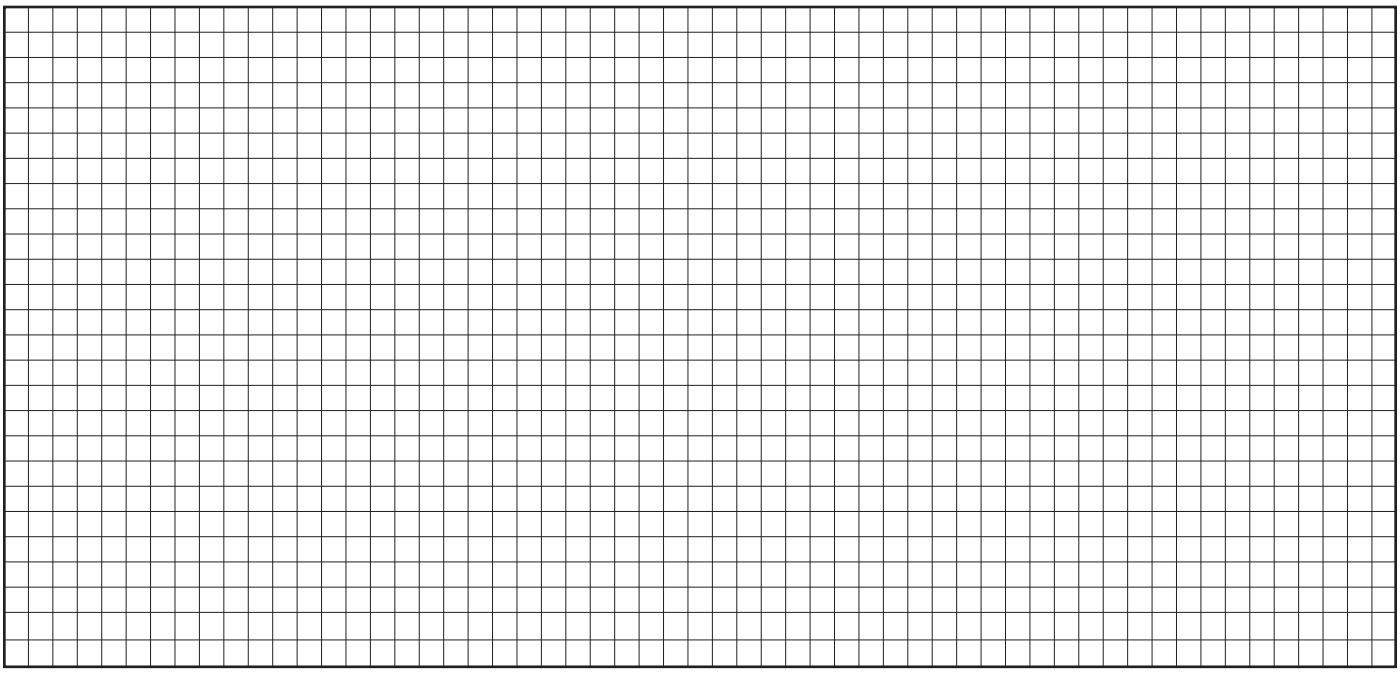
[2] Torsional control rods available in 1-1/2" Galvanized Pipe Only.

[3] Torsional: N.T.E 50' max.

[4] Ferrous components come Hot Dipped Galvanized (HDG) standard. Armorgalv AG3000 Thermal Diffusion Galvanizing (TDG) offers increased corrosion resistance.



LineBOSS™

Air-Break Disconnect Switch Attachment

Selection Information

AmpRupter™

LineBOSS™ Selection Guide suffix "L"

The Inertia AmpRupter utilizes expulsion tube interrupter technology to break current loads up to 900 amps at 27 kV. It is used for load-break, loop break, line charging and cable charging switching operations. The AmpRupter was tested to IEEE 1247 Standard for Interrupting Switches for Alternating Current Rated Above 1000 Volts. The mechanical life of the AmpRupter is 2,500 operations. The electrical life of the AmpRupter is dependent on the amount of load interrupted.

AmpRupter load interruption occurs as the switch blade leaves the contact clip; making contact with the catch arm. At this point, current is shunted through the actuator arm, through the contacts to the load side. As the blade continues towards its open position, the internal spring powered mechanism trips; breaking the internal contacts.

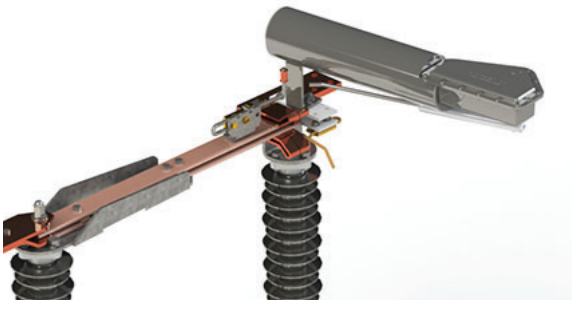
This action evolves a pressurized non-conductive gas that extinguishes the arc. This process occurs within one half cycle (first zero crossing), and will not "chop" the current upon circuit interruption. The speed of the AmpRupter mechanism is not dependent on the switch operating speed, insuring that the load breaking capabilities are consistent regardless of switch opening speed. The AmpRupter automatically resets for the next operation. The AmpRupter is not in the current path during the switch closing operation, and has no fault closing capabilities. The AmpRupter is in the current path **during the switch opening operation only**.

AmpVac™ 'V'

LineBOSS™ Selection Guide suffix "V"

The AmpVac is an enclosed vacuum bottle interrupter where no gases are vented to the atmosphere. The AmpVac interrupter has much higher interruption capabilities than other load break devices. Single contact AmpVac interrupters break loads up to 1500 amps at 38 kV. Single vacuum bottle interrupters may be used at increased voltages for parallel or loop switching applications as long as the peak recovery voltage does not exceed 38 kV. The AmpVac is rated for 5000 operations. The AmpVac was tested to IEEE 1247.

V4 & V7



LineBOSS™ 48.0 - 72.5 kV Selection Guide suffix "V4" and "V7"

The V4 and V7 vacuum interrupters are single-gap load-breaking devices that utilize vacuum bottle technology, where no gases are vented to the atmosphere. The new single vacuum bottle design can break loads up to 2000 Amps at 48.0 kV, and 72.5 kV; where it now replaces the original V2 and V3 multi-vacuum bottle designs. Vacuum bottle interrupters are not in the current path during the switch closing operation, and have no fault closing capabilities. The V4 and V7 vacuum interrupter is rated for 5000 operations.

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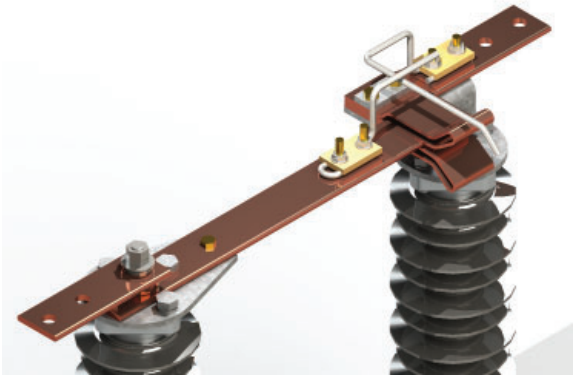
ArcWhip

The ArcWhip has a small interrupting rating of between 10 and 20 amps. The ArcWhip can clear arcs from residual energy stored in capacitor banks, transformers or conductors. ArcWhips are only in the current path during switch opening operations, and have an average life of 150 open operations.

LineBOSS™ Selection Guide suffix "Q"

ArcHorn

(Not an interrupter)



The ArcHorn is not an interrupter and has no ratings. It is used as an arc deflecting mechanism to save the life of switch blades and contact clips. The ArcHorn, also known as "sacrificial arcing horn", is the first point of contact during switch closing operations. The initial making current during a closing operation creates small arcs; pitting the arc horns. This "sacrificial" mechanism helps prevent degradation of the main contacts. The ArcHorn is used to redirect the arc resulting from residual or stored charge left after a down-line circuit is opened. ArcHorns will not prevent damage from the inadvertent opening of a loaded switch.

LineBOSS™ Selection Guide suffix "A"

Vacuum Bottle Interrupter Applications:

Type of Switching:	AmpVac™ 'V'	V4	V7
Voltage Rating:	15.5 kV, 25 kV, 38 kV*	48.0 kV	72.5 kV
Loadbreak, 70% PF	2000 A	2000 A	2000 A
Parallel Break < 30% PF	1500 A	2000 A	2000 A
Cable Charging	40 A	10 A	10 A
Magnetizing	21 A	70 A	70 A
Capacitor Bank, (grnd. neut.)	N/A	N/A	N/A
* Recovery voltage between source and load must be less than 38 kV, immediately.			

Interrupter Attachment Device Application:

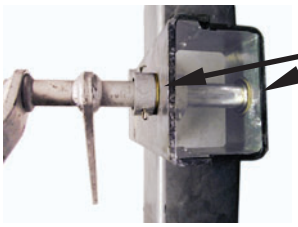
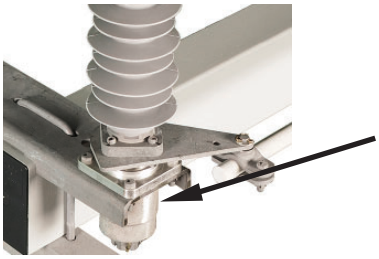
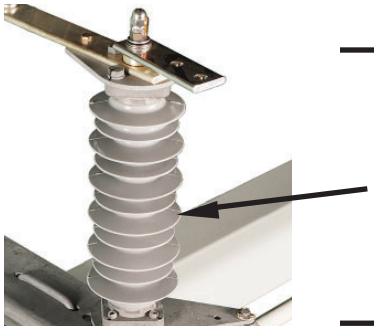
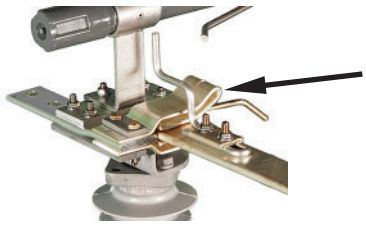
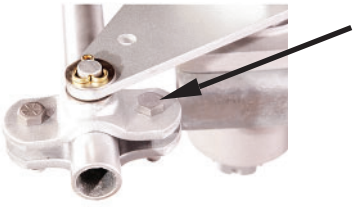
Type of Switching:	ArcHorn	ArcWhip	AmpRupter™
Loadbreak, 70% PF	N/A	N/A	15 kV : 900 A 23 kV : 900 A 34 kV : 600 A
Parallel Break < 30% PF	N/A	N/A	5 kV : 900 A
Cable Charging	N/A	≤ 72.5 kV : 15 A	27 kV : 26 A
Line Charging	N/A	≤ 72.5 kV : 3500kVA	23 kV : 6.2 A
Magnetizing	N/A	N/A	27 kV : 2.7 A

LineBOSS™

15 kV - 38 kV, 600 - 1200 A
Sidebreak Style Switch

Features and Benefits

Inertia's switches are comprised of quality components to ensure longer service-life.

	FEATURE	BENEFITS
	**Stainless steel/ brass bearings in the bellcrank**	Bearings in the bellcrank reduce the force required to operate the switch and eliminate corrosion due to plated metal-to-metal wear. Many manufacturers use rotating insulator spindles and bearings that are supported solely on the 3/16" thick phase base surface that can flex during normal operation, causing blade-to-clip misalignment. The spindle and its bearing should be supported at both the phase base surface and the end of the spindle opposite the blade.
	**Sealed stainless steel ball bearings on rotating stacks**	Rotating insulator spindles that are made of zinc chromate plated steel which can rust. Others use cast aluminum which is inexpensive, but has poor wear characteristics and does not have the strength of steel. Switches can come out of contact adjustment if a spindle bearing fails. Inertia rotating insulators pivot on double sealed stainless steel ball bearings at both the top and bottom of the phase providing smooth maintenance-free operation of the switch throughout its life. Benefit: Total operating cost of the switch is reduced as less site visits are required for maintenance.
	**ANSI TR2xx series, 3" bolt circle station post insulators are provided in silicone or porcelain.**	These insulators have superior mechanical characteristics over 2¼" BC insulators. Silicone insulators have additional BIL, leakage and weatherabilty ratings over either porcelain or epoxy insulators.
	**Busbar grade copper contact components.**	Busbar grade copper contact components are structurally superior with greater conductivity than cast contact material. Cast aluminum and copper bronze contact castings are 34-36% conductive and often contain unseen surface irregularities and voids that create 'hot spots'. Busbar grade C110 copper is 99% conductive and is many times smoother to provide better terminal connection surfaces and is not subject to unseen porosity. With this contact system, the **LineBOSS™** has achieved the highest momentary and fault close ratings in the industry. Momentary: to 70 kA for 10 cycles and 44 kA for 3 seconds. Fault close: 30 kA (2X)
	**Formed interphase rod clamps with two-bolt clamping.**	Often, switch manufacturers use cast clamps to connect the interphase rod to the rotating stacks. This clamping method has one fixed side and only one open side to pinch the interphase rod. The interphase rod clamp is the device that assures uniform operation of the three switch phases. Any slippage results in an improperly adjusted switch, with not all phases fully closed into the contacts. The **LineBOSS™** uses formed two-piece clamps to compress the interphase rod surface with significantly more distributed pressure. This helps to maintain uniform operation of all three phases throughout the life of the switch.

Insulator Type (25 kV example)	Load Ratings: Cantilever	Load Ratings: Torsion	B.I.L. Rating Peak
3" BC silicone	1,200 lbs.	6,000 lbs	165 kV
3" BC porcelain	2,000 lbs.	7,000 lbs.	150 kV
2¼" BC porcelain	1,000 lbs.	3,000 lbs.	150 kV
2¼" BC epoxy	1,200 lbs.	5,000 lbs.	150 kV

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LineBOSS™

15 kV - 38 kV, 600 - 1200 A
Sidebreak Style Switch

Specification Elements

Part Description:

15 kV (15.5 kV max.) to 35 kV (38 kV max.) GANG OPERATED LOADBREAK OVERHEAD SWITCHES
Horizontal Upright | Horizontal Center Mount | Horizontal Underarm | Avian/Wildlife Protection | Riser | Triangle (Pole Top)
Vertical (Phase-over-phase) | Vertical (Tiered Outboard) | Tap (1,2, 3 way) | Twin Tap Riser

Design Specifications:

1. Nominal voltage: (15 kV, 25 kV or 38 kV)
2. Insulators: Silicone rubber station post; BIL rating (15 kV: 130 kV, 25 kV: 175 kV, 38 kV: 240 kV
3. Switch bearings: Stainless steel to brass on all rotating insulators and switch operating shafts.
4. Loadbreak shall be capable of: 900 A load breaking, 25 A cable charging, 900 A parallel switching.
5. Contacts: Copper busbar blade and reverse loop contacts are to be silver-plated, N.E.M.A. terminal pads shall be tin-plated copper busbar with a surface finish of 32 minimum.
6. The switch shall provide means to attach line current/voltage sensors.
7. All ferrous components shall be hot dip galvanized.
8. Loadbreak shall be self-resetting; where the trip ping speed of the loadbreak shall be independent of switch operating speed. No component of the loadbreak shall make contact with the closing switch blade prior to main switch contact engagement. All actuating mechanism components of the loadbreak device must be stainless steel or non-corrosive parts.
9. Switch base (crossarm) is to be: (hot dip galvanized steel, fiberglass or aluminum) see **LineBOSS**™ switch selection guide for dead-end loading specifications. Specify pole clearance spacing i.e. 24", GO95.
10. Operating rod: specify type and length of control rod, and if an insulated section is required (see **LineBOSS**™ selection guide).
11. The gang operated sidebreak style switch shall be capable of seamless automation with a torsional or reciprocating motor operator as dictated by the switch type. It shall be available with the motorized switch operator replacing the manual handle.
12. Meets or Exceeds All Applicable NEMA, IEEE, ANSI, and IEC Standards as applicable for 12 kV, 21 kV or 34.5 kV (system voltage).

Switch Ratings:

Voltage Class: 15.5 kV, 25.8 kV and 38.0 kV

Current Class: 600, 900 and 1200 A continuous

Fault Close: 15 kA rms-asym: 5 X Manual Operation
20 kA rms-asym: 3 X Manual Operation
30 kA rms-asym: 2 X Manual Operation

Momentary current: 600 A: 40,000 A-rms 10 cycles
25,000 A-rms 3 seconds
900 A: 51,000 A-rms 10 cycles
32,000 A-rms 3 seconds
1200 A: 70,000 A-rms 10 cycles
44,000 A-rms 3 seconds

Ice breaking: ¾" (manual operation)

Mechanical: 5000 Open/Close cycles

ACCC Designation DO6
Loadability factor 1.22 at 25 Deg. C.
(Not applicable to loadbreak devices)

Loadbreak Device Ratings:

AmpVac Loadbreak: 12 kV through 38 kV

Load Current:	1500 A-rms
Parallel Current:	1500 A-rms
Cable Charging:	600 A-rms
Magnetizing Current:	600 A-rms

AmpRupter Loadbreak:

Load Current:	900 A-rms @ 23 kV
Parallel Current:	900 A-rms @ 5 kV
Cable Charging:	26 A-rms @ 27 kV
Magnetizing Current:	2.7 A-rms @ 27 kV

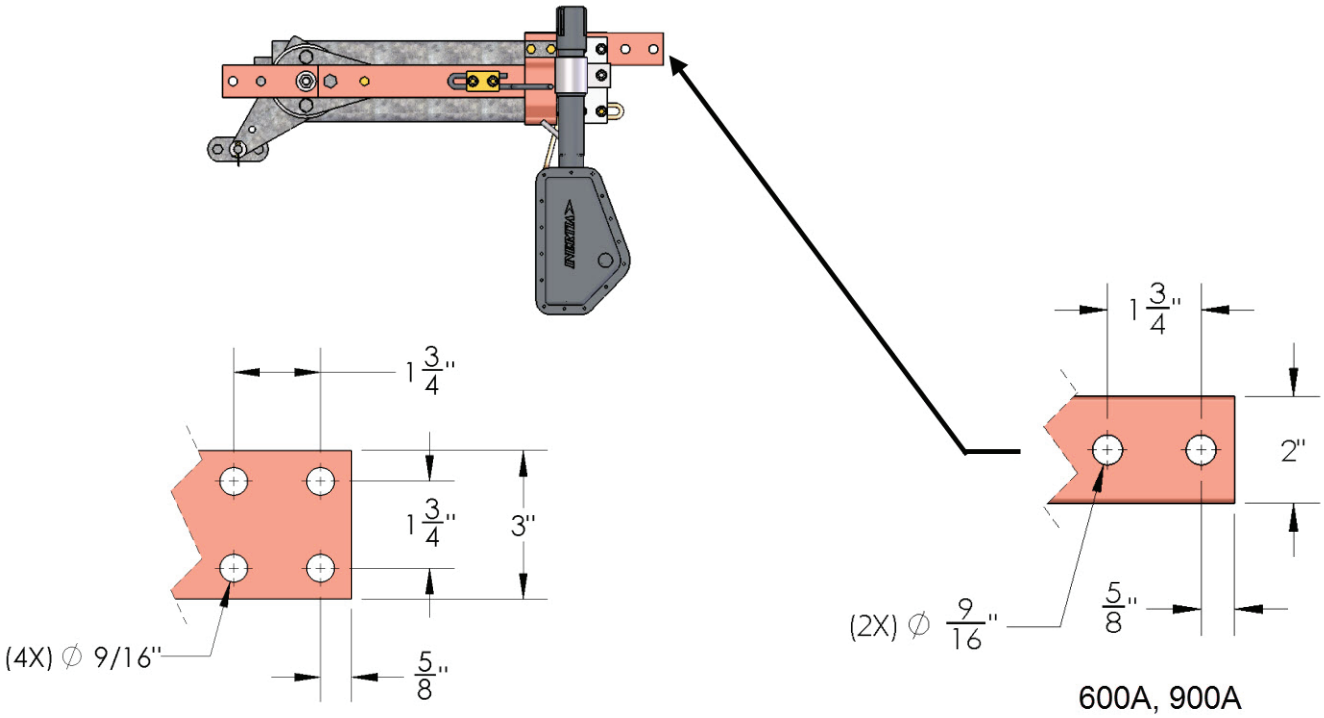
ArcWhip Ratings:

Voltage (nominal)	≤ 72.5 kV
Cable Charging:	15 A-rms
Line Charging:	3500 kVA

Quick Break Whip Ratings:

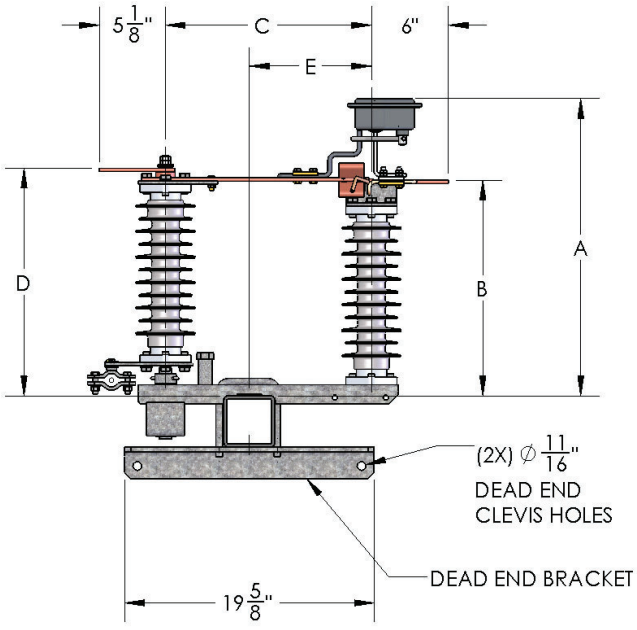
Voltage (nominal)	15 kV - 35 kV
Cable Charging	15 A-rms
Line Charging	3500 kVA

15 kV - 38 kV Single Phase Dimensions



1200A
NEMA PADS

600A, 900A
NEMA PADS



Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	19.375”	23.375”	27.375”
B	13.500”	17.500”	21.500”
C	13.188”	16.188”	22.188”
D	14.250”	18.250”	22.250”
E	6.563”	9.563”	16.375”

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description: LBS, 15 kV - 38 kV, SINGLE PHASE, Dimensions

Drawing No.: 9225M

Revision: 00

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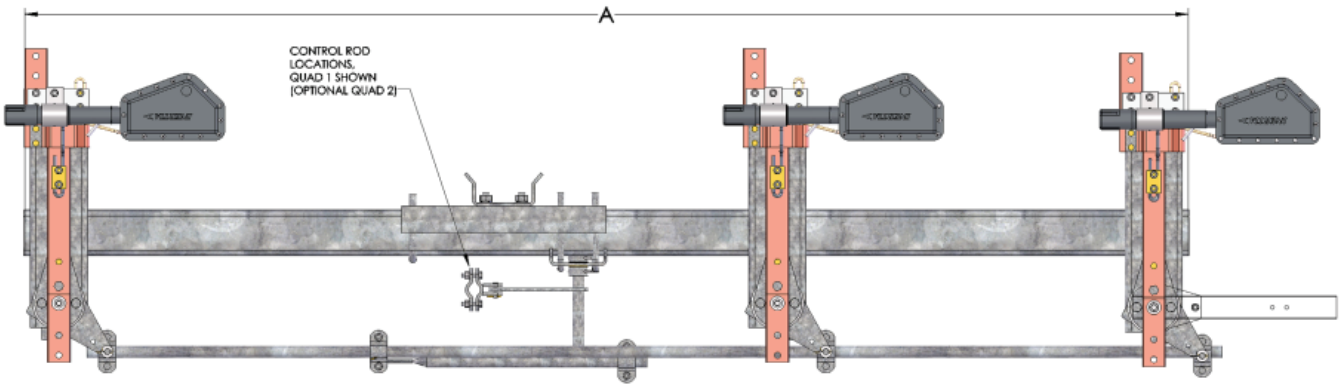
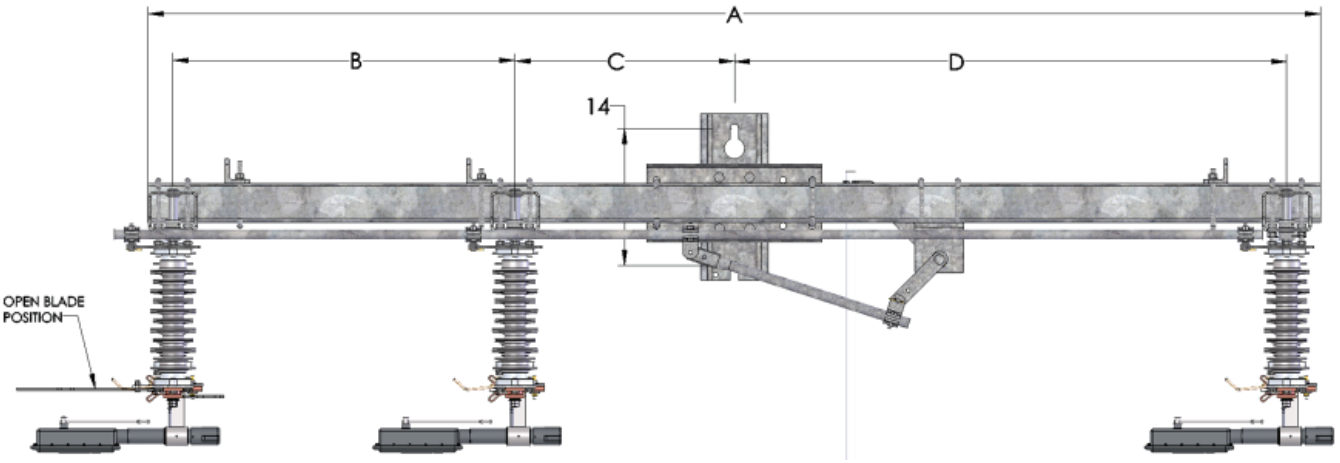
E-mail: sales@inertiaworks.com

15 kV - 38 kV Horizontal Dimensions



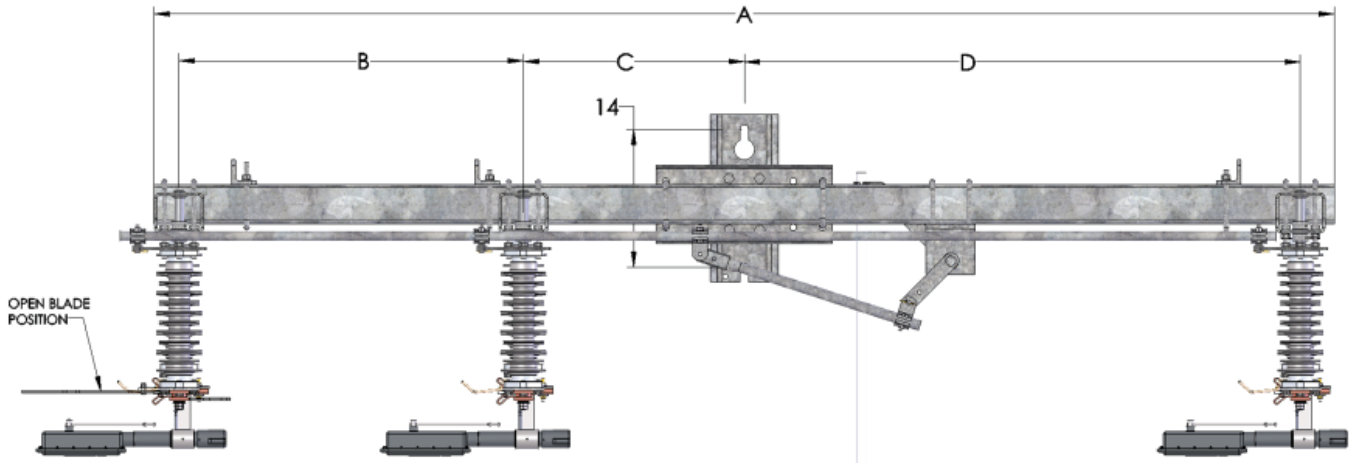


Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	76”	87”	120”
B	26”	30”	48”
C	18”	18”	21”
D	26”	33”	45”
E	13”	16”	22”
F	6.875”	13.875”	19.250”

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A	Description: LBS, 15 kV - 38 kV HORIZONTAL, Dimensions	
Finish:	N/A		
Scale:	NTS	Drawing No.: 9226M	Revision: 01
Drawn By:	N/A		
Date:	12/19/16		

15 kV - 38 kV Horizontal Underarm Dimensions



MINIMUM PHASE SPACING

Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	102” [2591 mm]	120” [3048 mm]	129” [3277 mm]
B	26” [660 mm]	33” [838 mm]	48” [1219 mm]
C	24” [610 mm]	24” [610 mm]	24” [610 mm]
D	46” [1168 mm]	57” [1448 mm]	51” [1295 mm]
E	10” [178 mm]	14” [356 mm]	23” [737 mm]

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description: LBS, 15 kV - 38 kV HORIZONTAL, underarm Dimensions

Drawing No.: 9241M

Revision: 00

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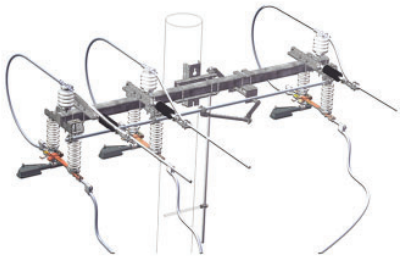
E-mail: sales@inertiaworks.com

15 kV - 38 kV Horizontal Underarm Switch
Construction Applications

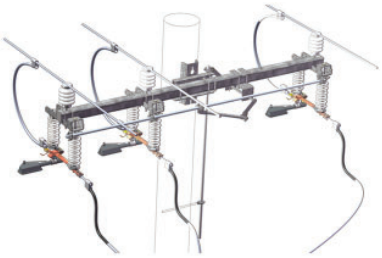
3-WIRE ALLEY ARM

3-WIRE ANGLE



3-WIRE DEADEND RISER

3-WIRE TANGENT ALTERNATE



3-WIRE TANGENT RISER

3-WIRE TANGENT

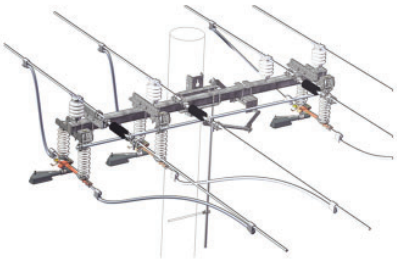
4-WIRE ALLEY ARM

4-WIRE ANGLE

4-WIRE DEADEND RISER

4-WIRE TANGENT ALTERNATE

4-WIRE TANGENT RISER



4-WIRE TANGENT

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description:
LBS, 15 kV - 38 kV HORIZONTAL, Underarm Construction Applications

Drawing No.: 9241-1M

Revision: 00

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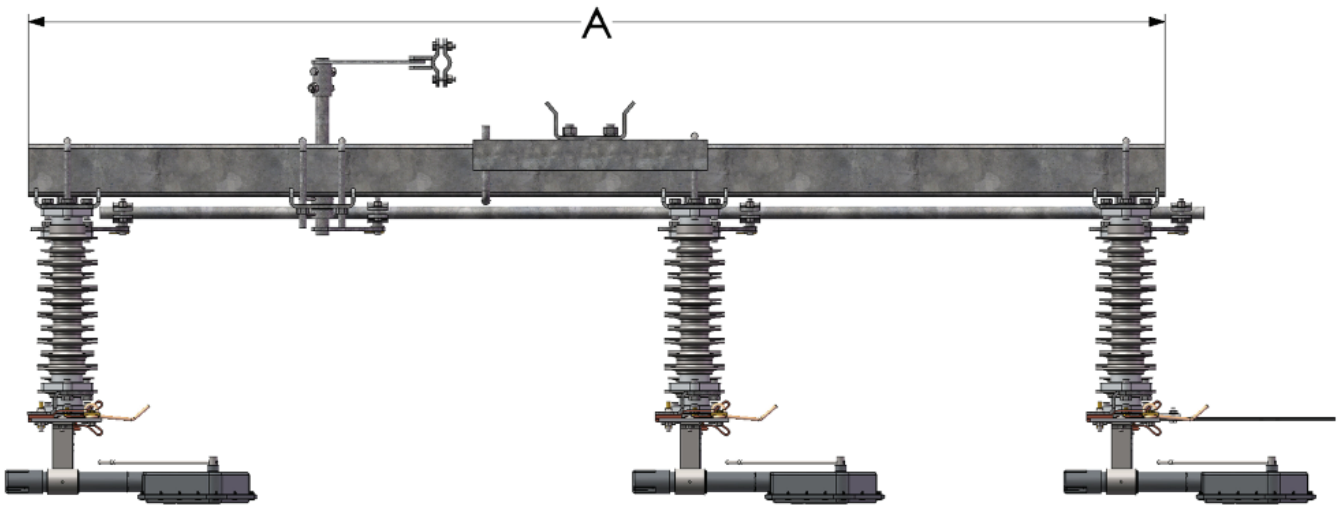
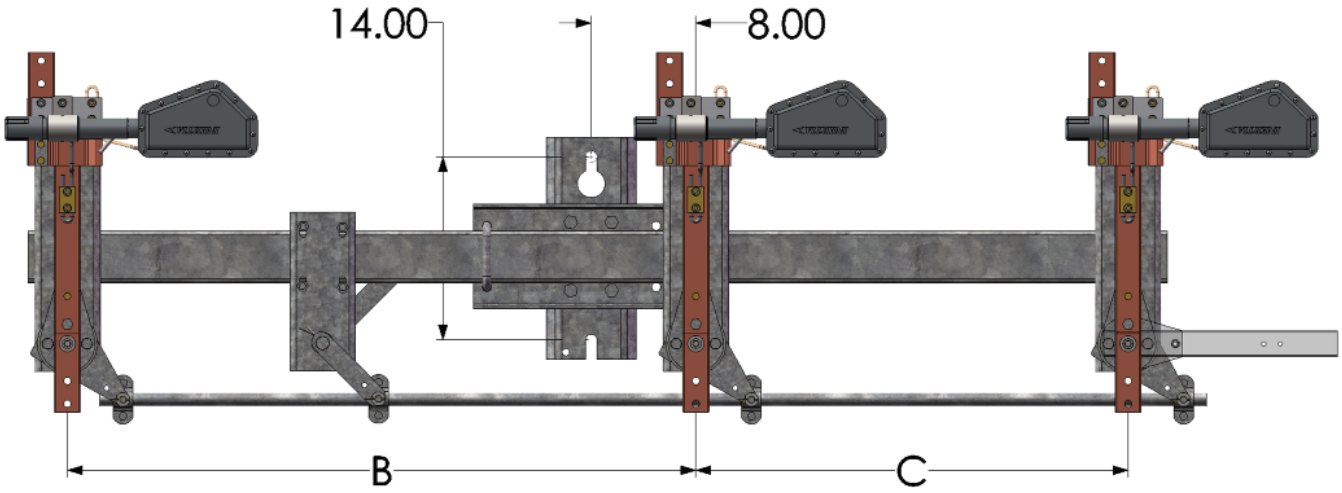
15 kV - 38 kV Riser Dimensions





Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	76”	87”	102”
B	44”	48”	48”
C	26”	33”	48”

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A	Description: LBS, 15 kV - 38 kV RISER, Dimensions	
Finish:	N/A		
Scale:	NTS		
Drawn By:	N/A	Drawing No.: 9185M	Revision: 02
Date:	12/19/16		

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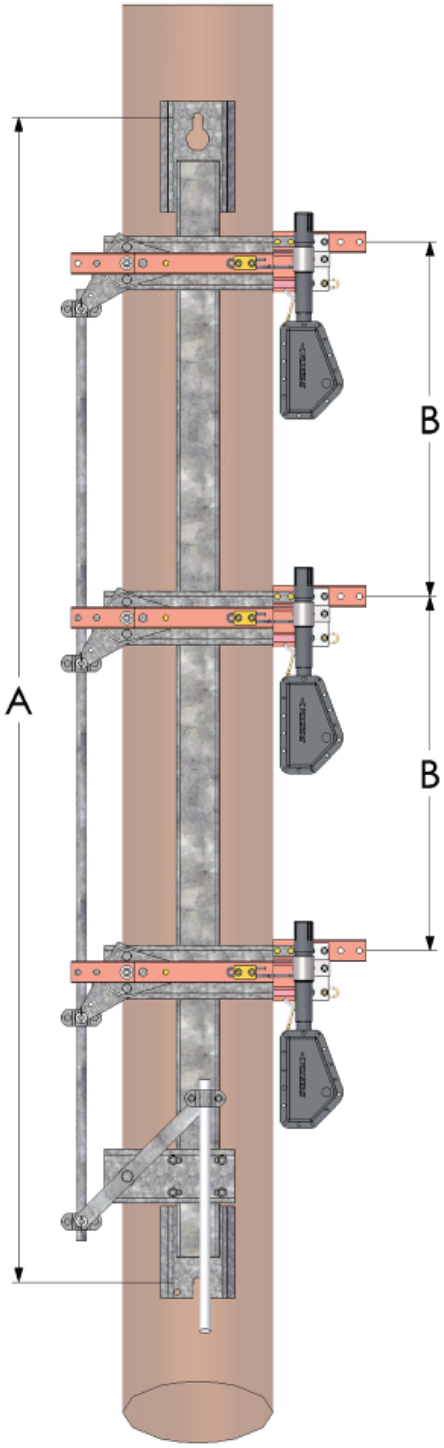
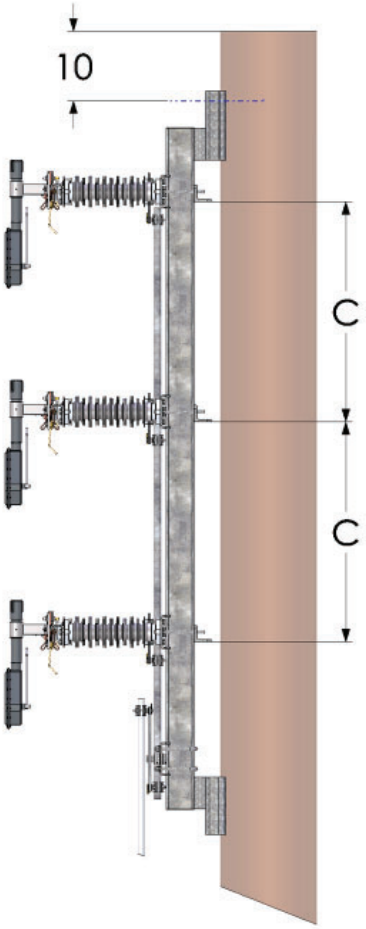
15 kV - 38 kV Vertical Dimensions





Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	93”	108”	135”
B	26”	33”	45”
C	26”	33”	45”

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description: LBS, 15 kV - 38 kV, VERTICAL, (Phase-over-phase) Dimensions

Drawing No.: 9184M

Revision: 01

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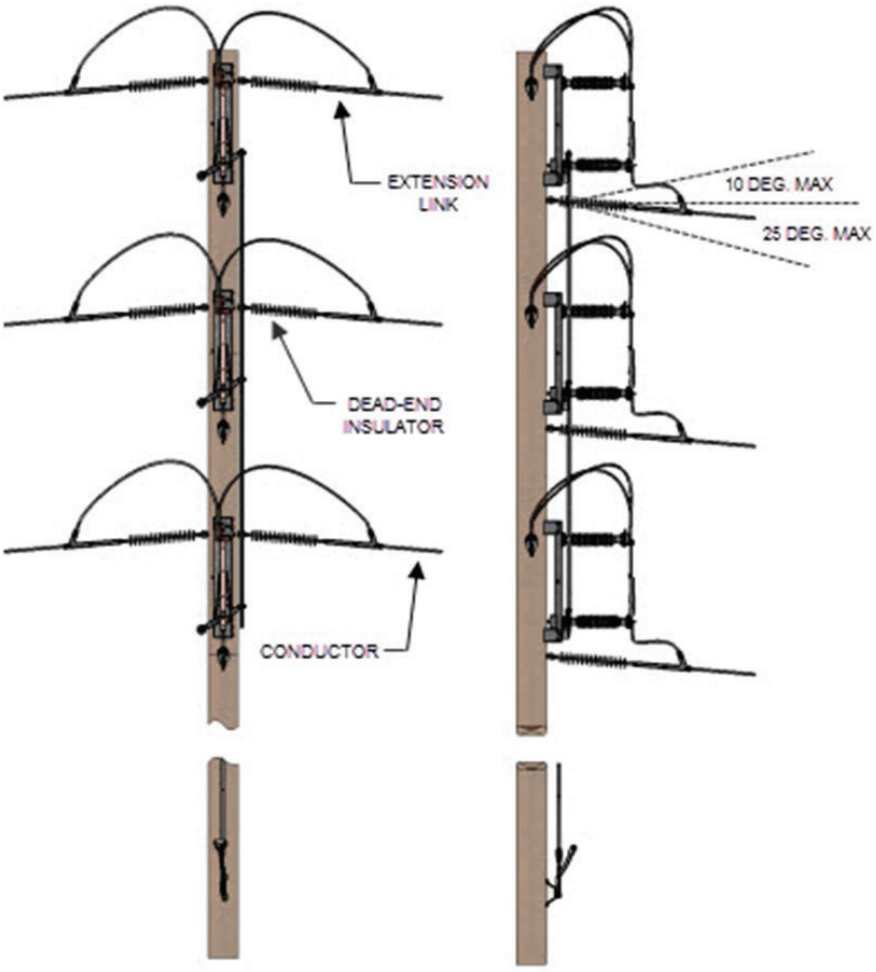
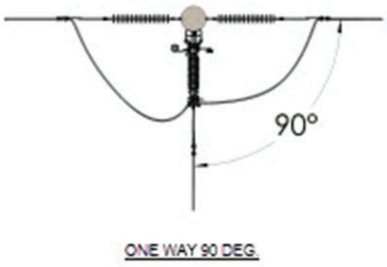
15 kV - 38 kV Tap Switch Dimensions





ONE WAY 90 DEG.


ONE WAY IN-LINE


TWO WAY


THREE WAY


THREE WAY

THE VERTICALLY MOUNTED TAP SWITCH IS A GANG OPERATED POLE MOUNTED SWITCH WHICH CAN BE USED IN VARIOUS CONSTRUCTION APPLICATIONS. RIGHT HAND (SHOWN) AND LEFT HAND OPERATING MODELS ARE ADAPTABLE TO EXTREME HORIZONTAL AND VERTICAL LINE ANGLES. TIN PLATED COPPER BUSS “TEES” AND BOLTED CONDUCTORS CLAMPS ARE AVAILABLE FOR CONNECTING TWO AND THREE-WAY SWITCH CONFIGURATIONS.

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description: LBS 15 kV - 38 kV, LineBOSS™ Tap Switches Dimensions

Drawing No.: 9239M

Revision: 00

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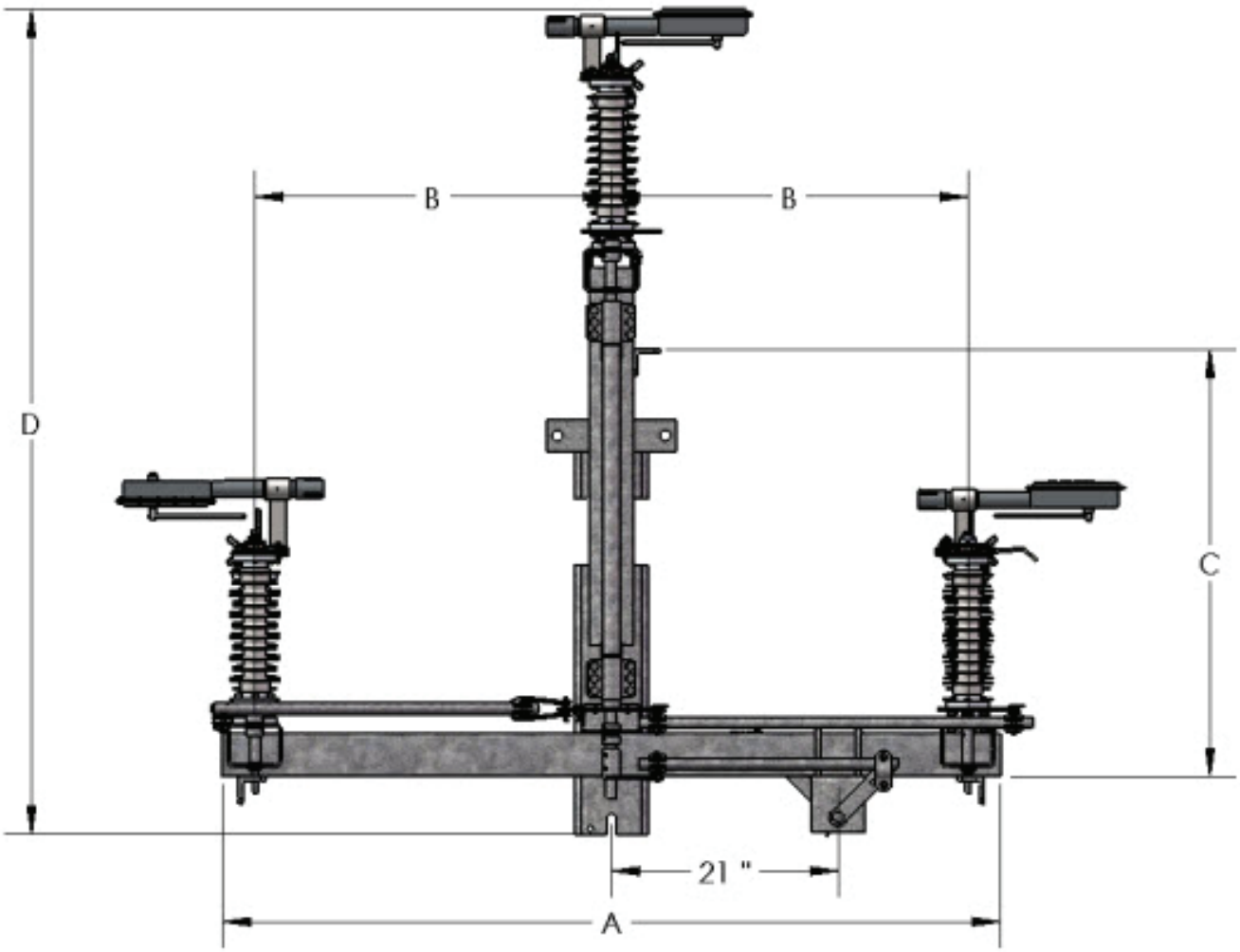
15 kV - 38 kV Triangular Pole Top Dimensions



Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	76”	76”	76”
B	35”	35”	35”
C	39.5”	39.5”	39.5”
D	73”	77”	81”

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description: LBS, 15 kV - 38 kV Triangular (Pole Top) Dimensions

Drawing No.: 9227M

Revision: 00

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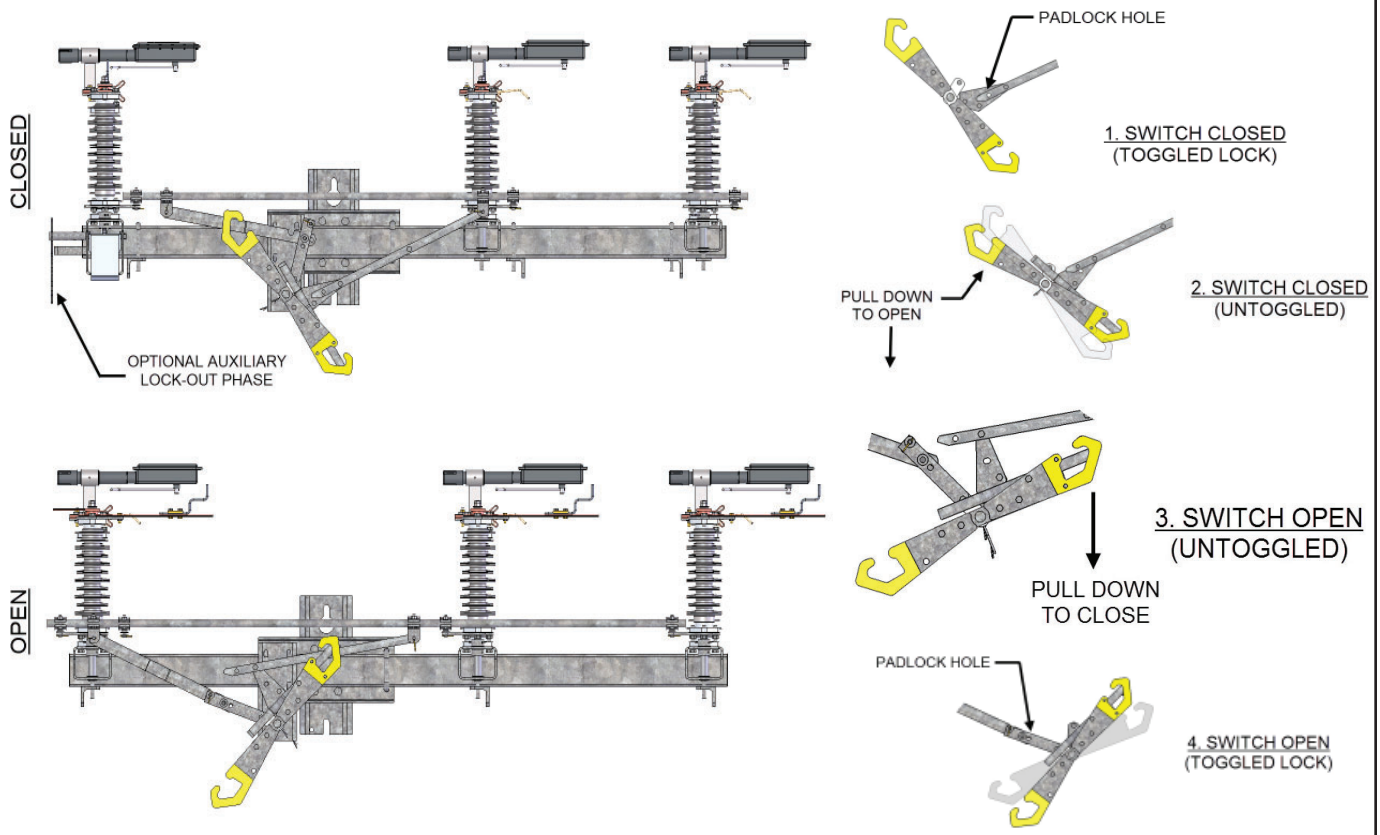
Hook-Stick Operating Mechanism, Crossarm Mounted



MOUNT IT! WIRE IT! OPERATE IT!

Fast, Easy Installation The Inertia hookstick operated switch eliminates the need for a control rod, so there is no need for any field adjustment of the switch. Compression of the blades into the clips and interrupter timing are factory set. Without lower controls; pole clutter is reduced.

Versatile Hookstick operating mechanisms are available on Horizontal, Underarm horizontal, Riser, Vertical (Phase-over-phase) and Delta (triangular) configurations.

Safe Operation The Inertia Hookstick safety features include:

1. Hookstick mechanism is located below the xarm, away from hot parts.
2. No springs that could be affected by ice.
3. The switch bell crank has built0in toggle-over in both the open and closed positions, which in conjunction to the lock-out bar feature, prevents inadvertent operation of the switch from either positions by perching wildlife.
4. For night and inclement weather operation, the “hook” positions are high-lighted with a high visibility, yellow reflective surface.

Easy Operation The Inertia Hookstick bellcrank and rotating stacks have stainless steel-to-brass shaft bearings. Consider the savings in restrictive losses when the control rods, guides and handle are no longer a factor! This makes the inertia hookstick operated switch the easiest switch to operate, High leverage cam action ensures properly closed switch and reduced operating force.

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description: Hook-Stick Operating Mechanism, Crossarm Mounted

Drawing No.: 9298M

Revision: 00

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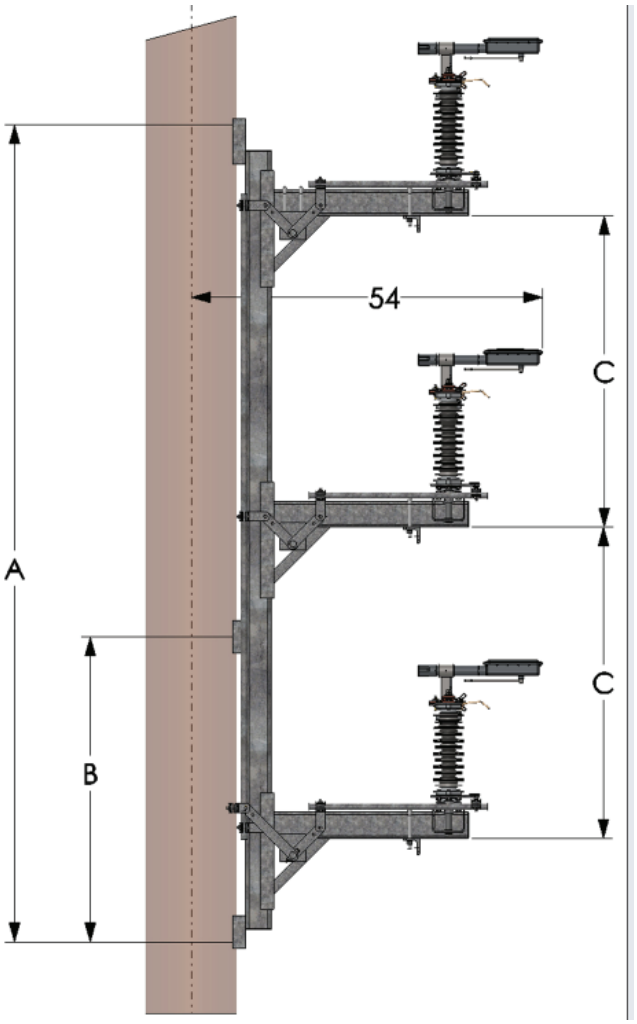
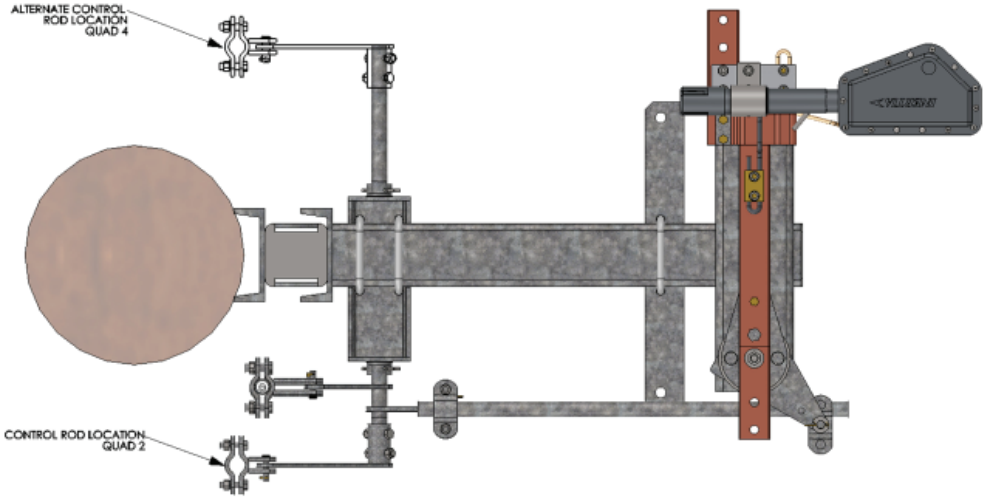
E-mail: sales@inertiaworks.com

15 kV - 38 kV Vertical Tiered Outboard Dimensions



NOTE: MINIMUM PHASE SPACING SHOWN. ALTERNATE SPACING IS AVAILABLE



This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description:
25 kV Tiered Outboard, Armless Unitized LineBOSS™ Sidebreak GOAB Switch

Drawing No.: 9374M

Revision: 00

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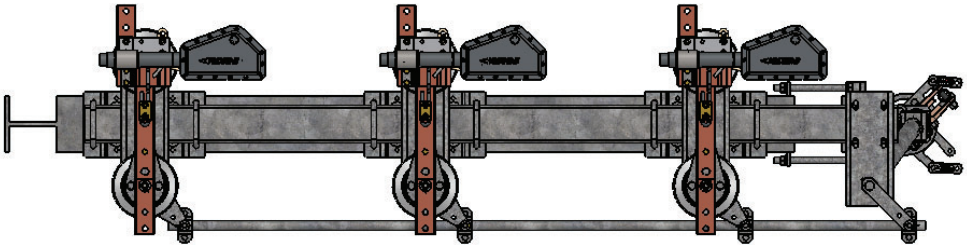
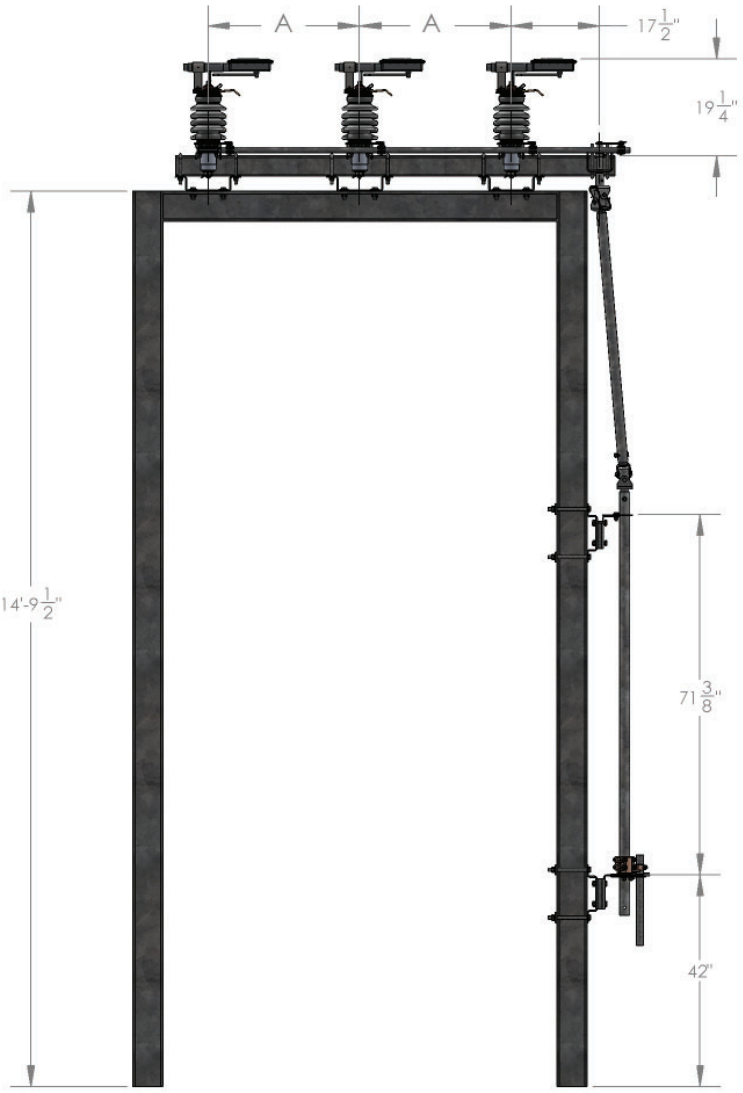
E-mail: sales@inertiaworks.com

15-38 kV Horizontal Substation H-Frame Dimensions

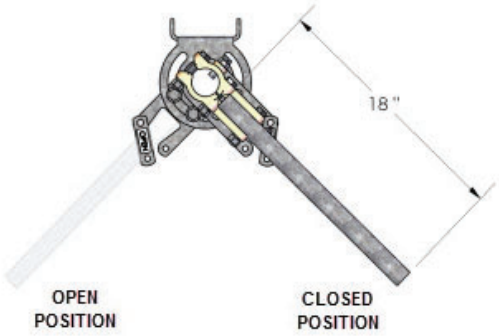




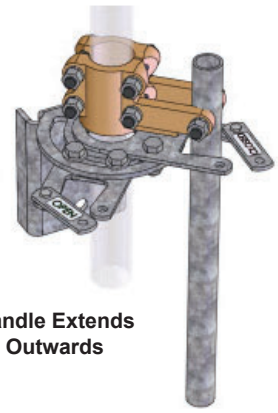
MINIMUM PHASE SPACING

Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	30”	36”	48”

NOTE: MINIMUM PHASE SPACING SHOWN. ALTERNATE SPACING IS AVAILABLE. TORSIONAL “SWING” HANDLE CONTROL MECHANISM SHOWN. RECIPROCATING CONTROLS ARE AVAILABLE.



TOP VIEW
TORSIONAL CONTROL
(HANDLE EXTENDED)



Handle Extends Outwards

This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A	Description: 15-38 kV, Horizontal Switch, Substation H-Frame Mounted, Torsional Control	
Finish:	N/A		
Scale:	NTS	Drawing No.: 9661-28M	Revision: 00
Drawn By:	N/A		
Date:	12/19/16		

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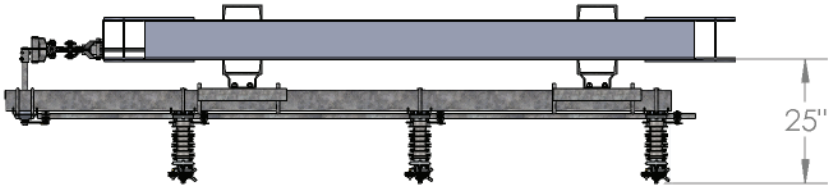
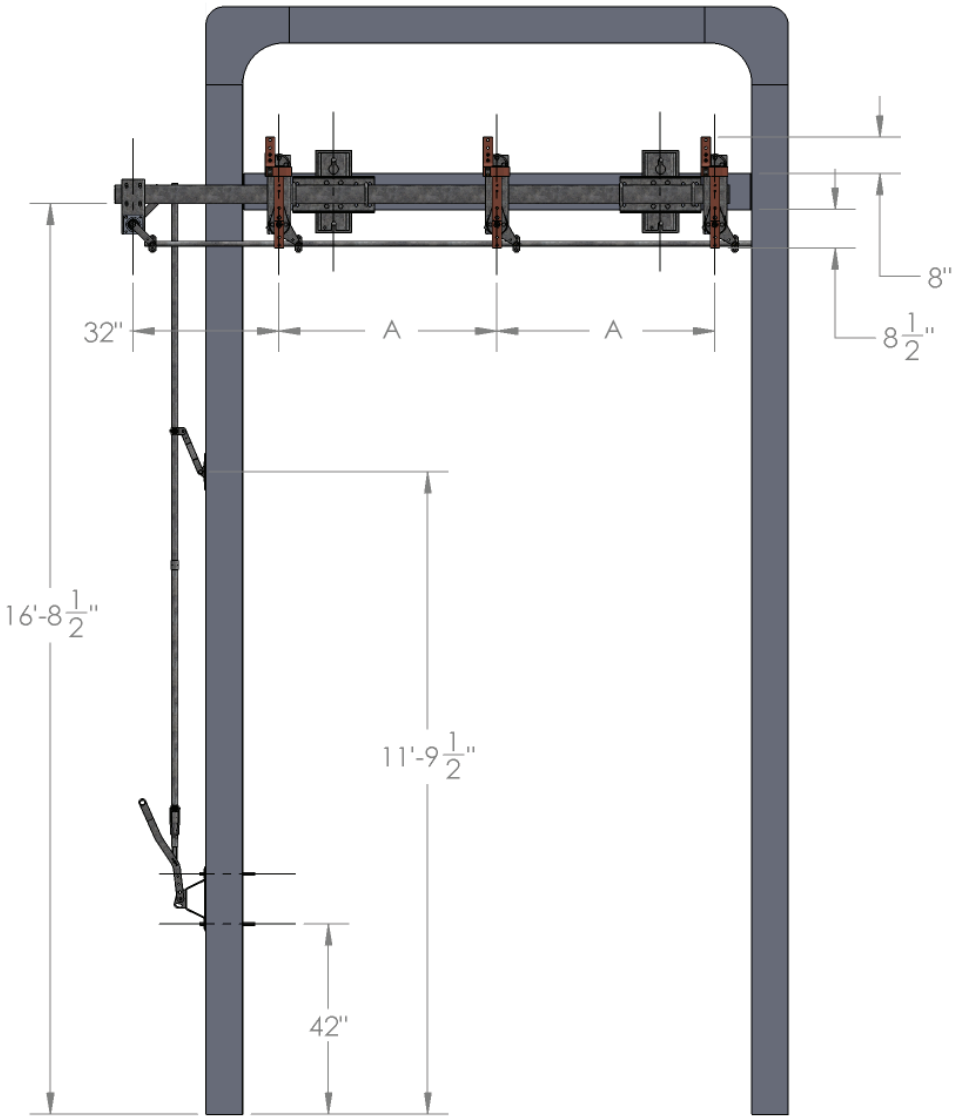
15 kV - 38 kV Riser Substation H-Frame Dimensions



MINIMUM PHASE SPACING

Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	30”	36”	48”

NOTE: MINIMUM PHASE SPACING SHOWN. ALTERNATE SPACING IS AVAILABLE.
RECIPROCATING HANDLE CONTROL MECHANISM SHOWN. TORSIONAL “SWING” CONTROLS ARE AVAILABLE.



This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

inertia ENGINEERING	Materials:	N/A	Description: 15-38 kV, Riser Switch, Substation H-Frame Mounted, Recip. Control
	Finish:	N/A	
	Scale:	NTS	
	Drawn By:	N/A	Drawing No.: 9661-32M
	Date:	12/19/16	Revision: 00

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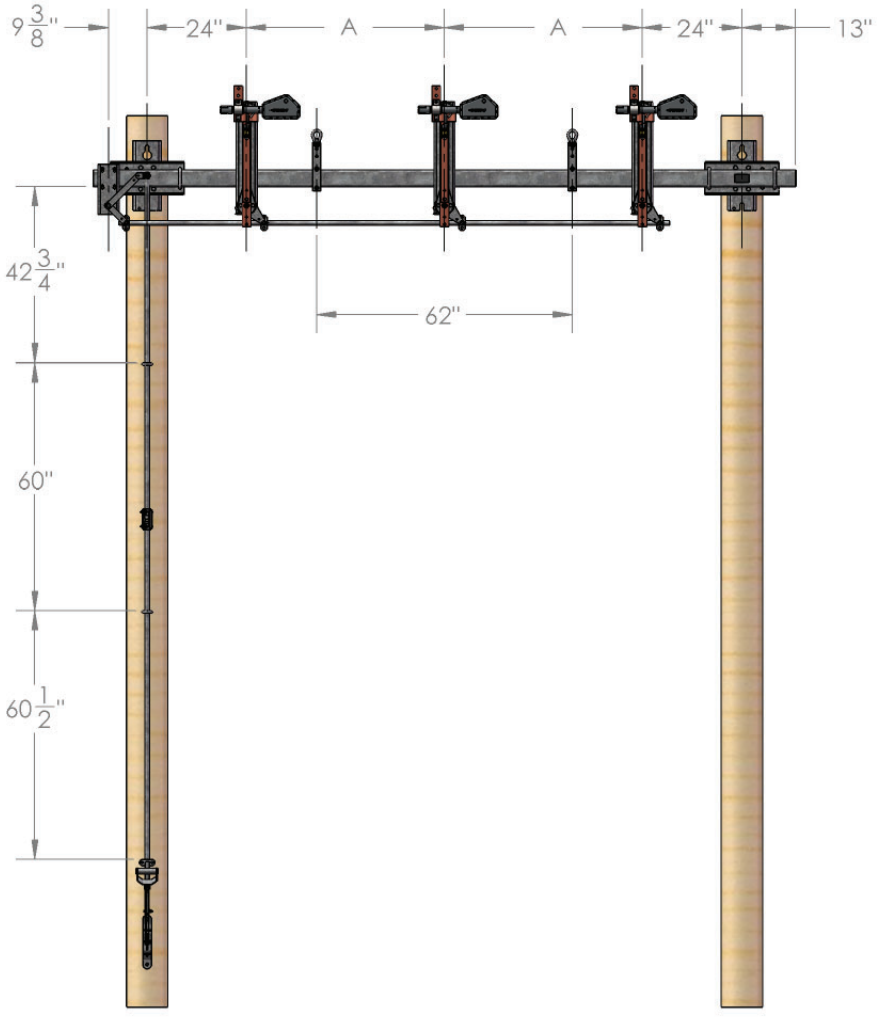
E-mail: sales@inertiaworks.com

15 kV - 38 kV Riser Substation H-Frame Dimensions

MINIMUM PHASE SPACING

Nominal Voltage Rating			
DIM:	15 kV	25 kV	38 kV
A	30”	36”	48”

NOTE: MINIMUM PHASE SPACING SHOWN. ALTERNATE SPACING IS AVAILABLE.
RECIPROCATING HANDLE CONTROL MECHANISM SHOWN. TORSIONAL “SWING” CONTROLS ARE AVAILABLE.



This drawing is for illustrative purposes only and therefore; may, or may not reflect the current revision of this drawing. Please request the current revision from the factory upon quote.

Materials:	N/A
Finish:	N/A
Scale:	NTS
Drawn By:	N/A
Date:	12/19/16

Description: 15-38 kV, H-Frame, Riser Switch, Substation Mounted, Recip. Control

Drawing No.: 9688-13M

Revision: 00

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