Section 2 - OVERHEAD DISTRIBUTION SWITCHES

• OVERHEAD DISTRIBUTION SWITCHES.................................. 2.0

- LineBOSS™ 15 kV - 38 kV Sidebreak Type, Unitized GOAB Distribution Switch ................................................................. 2.10
  - LineBOSS™ Selection Guide (15 kV - 38 kV) ........................................... 2.10.1
  - LineBOSS™ Standard Configurations ................................................. 2.10.1

- LineBOSS™ 15 kV - 38 kV Distribution Switch
  Request for Quotations ........................................................................... 2.11

- Air-Break Disconnect Switch Attachment
  Selection Information .................................................................................. 2.12

- LineBOSS™ 15 kV - 38 kV, 600 - 1200 A Sidebreak Style Switch
  Features & Benefits ..................................................................................... 2.13

- LineBOSS™ 15 kV - 38 kV, 600 - 1200 A Sidebreak Style Switch
  Specification Elements .................................................................................. 2.14

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

  Configuration Drawings
    • 9225M LBS, 15 kV - 38 kV SINGLE-PHASE dimensions .......................... 2.17
    • 9226M LBS, 15 kV - 38 kV HORIZONTAL dimensions ............................ 2.18
    • 9241M LBS, 15 kV - 38 kV HORIZONTAL, Underarm dimensions .......... 2.19
    • 9241-1M LBS, 15-38 kV HORIZONTAL, Underarm Construction
      Applications ............................................................................................. 2.19.1
    • 9185M LBS, 15 kV - 38 kV RISER dimensions ......................................... 2.20
    • 9184M LBS, 15 kV - 38 kV, VERTICAL (phase-over-phase) dimensions ... 2.21
    • 9239M LBS, 15-38 kV, TAP SWITCH (1, 2 & 3-way) dimensions ............ 2.22
    • 9227M LBS, 15-38 kV DELTA (pole top), dimensions ............................. 2.23
    • 9298M Hook-stick Operating Mechanism, Crossarm mounted ................ 2.24
    • 9374M LBS, 15 kV - 38 kV, VERTICAL (tiered outboard) dimensions ....... 2.25
    • 9661-28M LBS, 15-38 kV, HORIZONTAL, Substation Mounted dimensions 2.26
    • 9661-32M LBS, 15-35 kV, RISER, Substation Mounted dimensions .......... 2.27
    • 9688-13M LBS, 15-35 kV, RISER, Substation Mounted dimensions .......... 2.28
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:**

<table>
<thead>
<tr>
<th>Crossarm</th>
<th>Material</th>
<th>Dead End Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galvanized</td>
<td>(standard duty)</td>
<td>2000 lbs/phase</td>
</tr>
<tr>
<td>Aluminum</td>
<td>(standard duty)</td>
<td>1500 lbs/phase</td>
</tr>
<tr>
<td>Fiberglass</td>
<td>(standard duty)</td>
<td>1000 lbs/phase</td>
</tr>
</tbody>
</table>

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.
LineBOSS™ Selection Guide (15 kV - 38 kV)

**LineBOSS™ Unitized Sidebreak Switch**
- **Armorgail®** = 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 = 9
- 900 A = 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

**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 = U
- Vertical (Phase over Phase) = V
- Tap Switch = 1-way = 1W
- 2-way = 2W
- 3-way = 3W
- Add "G" for 36" Climbing Space

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

**Control Rod Type:**
- Reciprocating = Q
  - 1 3/4" square fiberglass = 1
  - 1" round fiberglass = 2
  - 3/4" galvanized pipe = 3
  - 1" galvanized pipe = 4
  - Torsional (U) = 5
  - 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 (3) = 1
- Torsional handle (U) = 2
- Hookstick bell crank = 3
- Motorized Operator = M

---

**LineBOSS™ Standard Configurations**

---

*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™ 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 1. Voltage Class ______kV  Continuous current rating: _______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):

- HORIZONTAL Upright Underarm
- HORIZONTAL Center mount
- TAP SWITCH 1-Way 2-Way 3-Way
- Delta, Triangular/Pole top
- Vertical Phase-over-phase
- Vertical Tiered outboard

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): ________

---

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.
Step 9. Select control rod:
- Galvanized pipe: ¾” 1” 1½” other________
- Fiberglass: 1” round 1¾” square other________

Step 10. Select control rod length:
- 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 Arrester brackets: Set of 3 arrester brackets Set of 6 arrester 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.

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.
**AmpRupter™**

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’**

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**

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.
### 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.

### 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.

### Vacuum Bottle Interrupter Applications:

<table>
<thead>
<tr>
<th>Type of Switching:</th>
<th>AmpVac™ ‘V’</th>
<th>V4</th>
<th>V7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage Rating:</td>
<td>15.5 kV, 25 kV, 38 kV*</td>
<td>48.0 kV</td>
<td>72.5 kV</td>
</tr>
<tr>
<td>Loadbreak, 70% PF</td>
<td>2000 A</td>
<td>2000 A</td>
<td>2000 A</td>
</tr>
<tr>
<td>Parallel Break &lt; 30% PF</td>
<td>1500 A</td>
<td>2000 A</td>
<td>2000 A</td>
</tr>
<tr>
<td>Cable Charging</td>
<td>40 A</td>
<td>10 A</td>
<td>10 A</td>
</tr>
<tr>
<td>Magnetizing</td>
<td>21 A</td>
<td>70 A</td>
<td>70 A</td>
</tr>
<tr>
<td>Capacitor Bank, (grnd. neut.)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Recovery voltage between source and load must be less than 38 kV, immediately.

### Interrupter Attachment Device Application:

<table>
<thead>
<tr>
<th>Type of Switching:</th>
<th>ArcHorn</th>
<th>ArcWhip</th>
<th>AmpRupter™</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loadbreak, 70% PF</td>
<td>N/A</td>
<td>N/A</td>
<td>15 kV : 900 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23 kV : 900 A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>34 kV : 600 A</td>
</tr>
<tr>
<td>Parallel Break &lt; 30% PF</td>
<td>N/A</td>
<td>N/A</td>
<td>5 kV : 900 A</td>
</tr>
<tr>
<td>Cable Charging</td>
<td>N/A</td>
<td>≤ 72.5 kV : 15 A</td>
<td>27 kV : 26 A</td>
</tr>
<tr>
<td>Line Charging</td>
<td>N/A</td>
<td>≤ 72.5 kV : 3500kVA</td>
<td>23 kV : 6.2 A</td>
</tr>
<tr>
<td>Magnetizing</td>
<td>N/A</td>
<td>N/A</td>
<td>27 kV : 2.7 A</td>
</tr>
</tbody>
</table>
Inertia’s switches are comprised of quality components to ensure longer service-life.

**FEATURE**

Stainless steel/brass bearings in the bellcrank

**BENEFITS**

Bearing 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.

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.

Sealed stainless steel ball bearings on rotating stacks

**FEATURE**

ANSI TR2xx series, 3” bolt circle station post insulators are provided in silicone or porcelain.

**BENEFITS**

These insulators have superior mechanical characteristics over 2¼” BC insulators. Silicone insulators have additional BIL, leakage and weatherability ratings over either porcelain or epoxy insulators.

<table>
<thead>
<tr>
<th>Insulator Type (25 kV example)</th>
<th>Load Ratings:</th>
<th>B.I.L. Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cantilever</td>
<td>Torsion</td>
</tr>
<tr>
<td>3” BC silicone</td>
<td>1,200 lbs.</td>
<td>6,000 lbs.</td>
</tr>
<tr>
<td>3” BC porcelain</td>
<td>2,000 lbs.</td>
<td>7,000 lbs.</td>
</tr>
<tr>
<td>2⅛” BC porcelain</td>
<td>1,000 lbs.</td>
<td>3,000 lbs.</td>
</tr>
<tr>
<td>2⅛” BC epoxy</td>
<td>1,200 lbs.</td>
<td>5,000 lbs.</td>
</tr>
</tbody>
</table>

Busbar grade copper contact components.

**FEATURE**

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).

**BENEFITS**

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).

Busbar grade copper contact components.

**FEATURE**

Formed interphase rod clamps with two-bolt clamping.

**BENEFITS**

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.
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.
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 tripping 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
900 A: 51,000 A-rms 9000 A-rms 3 seconds
1200 A: 70,000 A-rms 10 cycles
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

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.

Nominal Voltage Rating

<table>
<thead>
<tr>
<th>Dim:</th>
<th>15 kV</th>
<th>25 kV</th>
<th>38 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>19.375&quot;</td>
<td>23.375&quot;</td>
<td>27.375&quot;</td>
</tr>
<tr>
<td>B</td>
<td>13.500&quot;</td>
<td>17.500&quot;</td>
<td>21.500&quot;</td>
</tr>
<tr>
<td>C</td>
<td>13.188&quot;</td>
<td>16.188&quot;</td>
<td>21.188&quot;</td>
</tr>
<tr>
<td>D</td>
<td>14.250&quot;</td>
<td>18.250&quot;</td>
<td>22.250&quot;</td>
</tr>
<tr>
<td>E</td>
<td>6.563&quot;</td>
<td>9.563&quot;</td>
<td>16.375&quot;</td>
</tr>
</tbody>
</table>

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
15 kV - 38 kV Horizontal Dimensions

Nominal Voltage Rating

<table>
<thead>
<tr>
<th>DIM</th>
<th>15 kV</th>
<th>25 kV</th>
<th>38 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>76&quot;</td>
<td>87&quot;</td>
<td>120&quot;</td>
</tr>
<tr>
<td>B</td>
<td>26&quot;</td>
<td>30&quot;</td>
<td>48&quot;</td>
</tr>
<tr>
<td>C</td>
<td>18&quot;</td>
<td>18&quot;</td>
<td>21&quot;</td>
</tr>
<tr>
<td>D</td>
<td>26&quot;</td>
<td>33&quot;</td>
<td>45&quot;</td>
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<td>E</td>
<td>13&quot;</td>
<td>16&quot;</td>
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<td>F</td>
<td>6.875&quot;</td>
<td>13.875&quot;</td>
<td>19.250&quot;</td>
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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.
15 kV - 38 kV Horizontal Underarm Switch
Construction Applications

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
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.

**Nominal Voltage Rating**

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<thead>
<tr>
<th>DIM</th>
<th>15 kV</th>
<th>25 kV</th>
<th>38 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>76&quot;</td>
<td>87&quot;</td>
<td>102&quot;</td>
</tr>
<tr>
<td>B</td>
<td>44&quot;</td>
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<tr>
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<td>33&quot;</td>
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### Nominal Voltage Rating

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<th>DIM</th>
<th>15 kV</th>
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<th>38 kV</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>93&quot;</td>
<td>108&quot;</td>
<td>135&quot;</td>
</tr>
<tr>
<td>B</td>
<td>26&quot;</td>
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</tr>
<tr>
<td>C</td>
<td>26&quot;</td>
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<td>45&quot;</td>
</tr>
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</table>

**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
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.
15 kV - 38 kV Triangular Pole Top Dimensions

Nominal Voltage Rating

<table>
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<th>DIM</th>
<th>15 kV</th>
<th>25 kV</th>
<th>38 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>76&quot;</td>
<td>76&quot;</td>
<td>76&quot;</td>
</tr>
<tr>
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<td>35&quot;</td>
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</tr>
<tr>
<td>C</td>
<td>39.5&quot;</td>
<td>39.5&quot;</td>
<td>39.5&quot;</td>
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<tr>
<td>D</td>
<td>73&quot;</td>
<td>77&quot;</td>
<td>81&quot;</td>
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Hook-Stick Operating Mechanism, Crossarm Mounted

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

INERTIA Engineering & Machine Works, Inc.
6665 Hardaway Road • Stockton, CA 95215
Tel: 800-791-9997 | Fax: 209-931-8186
E-mail: sales@inertiaworks.com

2.24
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.

<table>
<thead>
<tr>
<th>Materials:</th>
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<tbody>
<tr>
<td>Finish:</td>
<td>N/A</td>
<td>25 kV Tiered Outboard, Armless Unitized</td>
</tr>
<tr>
<td>Scale:</td>
<td>NTS</td>
<td>LineBOSS™ Sidebreak GOAB Switch</td>
</tr>
<tr>
<td>Drawn By:</td>
<td>N/A</td>
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</tr>
<tr>
<td>Date:</td>
<td>12/19/16</td>
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</table>

Drawing No.: 9374M  Revision: 00
15-38 kV Horizontal Substation H-Frame Dimensions

MINIMUM PHASE SPACING

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<th>Nominal Voltage Rating</th>
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<tbody>
<tr>
<td>DIM: 15 kV</td>
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<tr>
<td>A</td>
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</tbody>
</table>

NOTE: MINIMUM PHASE SPACING SHOWN. ALTERNATE SPACING IS AVAILABLE. TORSIONAL “SWING” HANDLE CONTROL MECHANISM SHOWN. RECIPROCATING 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.
15 kV - 38 kV Riser Substation H-Frame Dimensions

MINIMUM PHASE SPACING

<table>
<thead>
<tr>
<th>Nominal Voltage Rating</th>
<th>15 kV</th>
<th>25 kV</th>
<th>38 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIM:</td>
<td>30&quot;</td>
<td>36&quot;</td>
<td>48&quot;</td>
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</tbody>
</table>

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, Riser Switch, Substation H-Frame Mounted, Recip. Control

Drawing No.: 9661-32M
Revision: 00
15 kV - 38 kV Riser Substation H-Frame Dimensions

MINIMUM PHASE SPACING

<table>
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<tr>
<th>Nominal Voltage Rating</th>
<th>15 kV</th>
<th>25 kV</th>
<th>38 kV</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>30&quot;</td>
<td>36&quot;</td>
<td>48&quot;</td>
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