Type V2-CA
Aluminum Vertical Break Switch

Available Accessories
- Arc horns
- Auxiliary switch
- Breadboard ground contact
- Electrified interlock
- Extended operator
- Ground blades
- Ground blade mechanical interlock
- Insulated vertical pipe
- Interrupting device
- Key interlock
- Mounting hardware
- Operator grounding platform
- Outriggers
- Quick break whips
- Split gap
- Terminal connectors

Standard Operator Features
- Swing-handle or handcrank operator
- Padlock provision in both the open and closed positions
- Ground strap for vertical operating pipe
- Adjustable stops
- Clamp-on open/closed indicators
- Self-lubricating, maintenance-free outboard bearing
- 2" IPS galvanized steel vertical operating pipe
- Adjustable radius outboard bearing lever
- Threaded interphase and drive lever adjustment

Operators/Accessories
- Swing Handle Operator
- Geared Handcrank Operator
- Motor Operator Type TP-C3

Ordering Information
- Furnish:
  - Switch type
  - Voltage
  - Arrester package
  - Band gap rating
  - BIL level
  - Mounting position
  - Operator type
  - Accessories required
  - Base mounting holes
  - Base mounting details

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V2-CA APPLICATION

The Cleaveland/Price V2-CA is a three pole, group operated, aluminum vertical break switch for installation in substations or transmission line locations. The V2-CA is available for use in a variety of applications including the disconnecting and recombinating, circuit breaker for breakers and switchgear, or bus. The V2-CA is rated for use in both the horizontal and vertical positions. The V2-CA is suitable for use in substation or transmission line locations. The switch is operated, aluminum vertical break switch for installation by use of type TFC-2 motor operators.

The V2-CA meets NEMA and IEEE Standards and the rating requirements of applicable IEEE Standards. The V2-CA is made of the finest materials for dependable, trouble-free service. Knowledge gained from maintaining the V2-CA is an advanced design vertical break switch with features of genuine value to the customer. It incorporates several patented improvements.

1. Positive blade turnover stop is the key to consistent and dependable service in order to prevent contact burning.
2. Insulating journal bearing prevents current flow through the live operating links.
3. Floating break jaw contacts allow blade and break jaw fingers to move together under short circuit and seismic events.

UNIQUE BREAK-JAW DESIGN

The cutaway view shows how the unique Cleaveland/Price turnover stop allows the blade to rotate until the slot in the break-jaw (the rotating insulator) to try to set proper blade position. The V2-CA stop position assures that blade rotation in the break-jaw will accurately and consistently stop at the point of maximum contact pressure. The stop angle is factory-machined for built-in accuracy. No matter how fast or slow the blade moves, it doesn’t stop moving until it has fully turned over.

The stop angle is built into the design. As blade and jaw fingers to move together under short circuit and seismic events.

Exclusive Cleaveland/Price V2-CA Features

- The V2-CA break-jaw is superior to conventional break-jaws. The V2-CA break-jaw is an advanced design vertical break switch with features of genuine value to the customer. It incorporates several patented improvements. The V2-CA break-jaw has a conventional break-jaw. The V2-CA break-jaw is superior to conventional break-jaws. The V2-CA break-jaw is an advanced design vertical break switch.

Feature for Easy Adjustment

- Adjustments on the V2-CA are designed to take advantage of electromagnetic forces by using a severe loop configuration at the hinge of the V2-CA. Current transfer points are kept to a minimum.
- Before you leave your house, you can adjust the blade and the break-jaw automatically seat themselves in the proper position.
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Superior Bearing Assembly

- Superior Bearing Assembly
- High strength, non-cast aluminum terminal pads
- New design and patented features
- No cast material
- No cast parts
- Exclusive Cleaveland/Price V2-CA Features Designed for Simplicity
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- Engineered for Performance
- CLEAVELAND/PRICE FEATURES FOR OUTSTANDING PERFORMANCE AND LONG LIFE
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- Floating break jaw contacts allow blade and break jaw fingers to move together under short circuit and seismic events.
The Cleaveland/Price V2-CA is a three pole, group vertical, aluminum vertical break switch with features of genuine value to the customer. It incorporates several patented improvements.

1. Positive blade-travel stop is the key to consistent and complete arc extinction. It enables the breaker to complete its travel with the ice break switch in the operating linkage. Contact is broken with a minimum of arcing. No secondary current flows through the break-jaw in the operating linkage.

2. Insulating (Journal bearing prevents current flow through the live operating linkage.

3. Floating break (jaws contacts allow blade and break jaw fingers to move under short circuit forces. Metal-to-metal direct contact is prohibited by use of type TP-C2 motor operators.

The V2-CA meets NEMA and IEEE Standards and the rating requirements of applicable IEC Standards.

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The V2-CA has a very basic approach to design . . . it’s kept simple. It is an approach that is employed from material selection through mechanical design. The operator linkage and all moving parts are manufactured from high strength, high conductivity aluminum or copper. All switches are of non-cast design for superior dependability of parts. Switch performance is not compromised by the cumulative effect ofnormally occurring wear.

Contacts on the V2-CA are designed to take advantage of electromagnetic forces by using a severe loop configuration. The angle of the loop of the switch. Current transfer points are kept to a minimum.

The V2-CA application is the most favorable for insulator clearance and locating the switch in the breaker because of the cumulative effect of normally occurring wear. The angle of the loop of the switch. Current transfer points are kept to a minimum.
Accessories and options needed to adapt the switch to a customer's particular requirements are available. The carrier, or arm, can be mounted in the horizontal, upright, or horizontal-underhung position. The V2-CA is available for use in a variety of applications including the de-energizing and re-energizing, circuit breaker by-pass and isolation, and transformer isolation. An arm or quick break within the switch will be supplied when small amounts of transformer magnetizing current can be bypassed rather than waste energy in the transformer or by-pass and isolation, and transformer isolation.

THE V2-CA MEETS NEMA and IEEE Standards and the rating requirements of applicable NEC Standards.

The V2-CA is made of the finest materials for dependable, trouble-free service. Knowledge gained from manufacturing hundreds of thousands of units has been applied to the design of the V2-CA.

• Non-cast copper, aluminum, and steel construction resulting in the superior dependability of parts.
• Total non-cast copper, aluminum, and steel construction resulting in the superior dependability of parts.

Engineered for Performance

The Cleveland/Price V2-CA is a three pole, group operated, aluminum vertical break switch with features of genuine value to the customer. It incorporates several patented improvements. 1. Positive blade-breaker stop is the key to consistent and complete separation to prevent contact burning. 2. Insulating journal bearing prevents current flow through the live operating linkage. 3. Floating break jaws allow contact and blade break fingers to move without undue stress on the circuit breaker mechanism duty to outperform conventional contact systems.

UNIQUE BREAK-JAW DESIGN

Short-circuit tests prove that the V2-CA break-jaw is superior to conventional break-jaws. On the V2-CA, the contact system employs a counterbalance ice shield to withstand the mat-like electromagnetic forces that pull the blade wide side to side but does not decrease the contact pressure. The figures of the jaw are joined together to create a floating spring system that moves with the blade. Maximum contact pressure is maintained on all contact surfaces during short-circuit and seismic events.

CLEAVELAND/PRICE FEATURES FOR OUTSTANDING PERFORMANCE AND LONG LIFE

• Clean break-jaw and hinge fingers from lateral forces. Most break-jaw are troubled by flaws that could occur in the casting process.

Superior Bearing Assembly

• High strength, non-cast, hot-dip galvanized steel shaft and pivot pin with amazing ease.
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• Individually sealed ball bearings that are maintenance-free, permanently lubricated construction.
• One-piece hardened steel pivot pin w/low friction bearing.

Exclusive Cleveland/Price V2-CA Features

When the switch blade engages with the hinge pin. This sets the proper turnover angle. The cutaway view shows how the unique Cleveland/Price turnover stop allows the blade to rotate until the slot in theturnover stop allows the blade to rotate. Once the blade engages with the hinge pin. This sets the proper turnover angle. The cutaway view shows how the unique Cleveland/Price turnover stop allows the blade to rotate until the slot in the

FEATURE FOR EASY ADJUSTMENT

• Bolted connections are aluminum to tin-plated copper. All bolted contact surfaces are prepared and treated with an oxide inhibitor. Moving contacts are silver-to-silver with a proprietary contact system designed for maximum advantage. Contact pressure is maintained on all contact surfaces during short-circuit and seismic events.

PIVOTING HINGE

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Type V2-CA Aluminum Vertical Break Switch

**Ordering Information**
- **Furnish:**
  - Switch type
  - Voltage
  - Apparatus
  - BIL level
  - Mounting position
  - Operator type
  - Accessories required
  - Base mounting holes
  - Base mounting details

**Available Accessories**
- Arc horns
- Auxiliary switch
- Breaker ground contact
- Electrical interlock
- Extended operator
- Ground blades
- Ground blade mechanical interlock
- Insulated vertical pipe
- Intermittent device
- Interface
- Key interlock
- Mounting hardware
- Operator grounding platform
- Outriggers
- Quick break whips
- Spill gaps
- Terminal connectors

**Type V2-CA Aluminum Vertical Break Switch**
- **Switch type:**
- **Voltage:** 115 - 230 kV
- **Amperage:** 600 - 3000 A.
- **Momentary rating:**
- **BIL level:**
- **Mounting position:**
- **Operator type:**
- **Accessories required:**
- **Base mounting holes:**
- **Base mounting details:**

**Standards**
- **IEC**
- **UL**
- **CSA**

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**Operators/Accessories**
- **Swing Handle Operator**
- **Motor Operator Type TP-C1**
- **Geared Handcrank Operator**

**Standard Operator Features**
- Swing-handle or handcrank operator
- Padlock provision in both the open and closed positions
- Ground strap for vertical operating pipe
- Adjustable stops
- Clamp-on open/closed indicators
- Self-lubricating, maintenance-free outboard bearing
- 2" IPS galvanized steel vertical operating pipe
- Adjustable radius outboard bearing lever
- 4 threaded interphase and drive lever adjustment

**BASE CONFIGURATION**

**Motor Operator Type TP-C1**

**Geared Handcrank Operator**
Type V2-CA Aluminum Vertical Break Switch

Operators/Accessories

Standard Operator Features
- Swing handle or handcrank operator
- Padlock provision in both the open and closed position
- Ground strap for vertical operating pipe
- Adjustable stops
- Clamp-on open/closed indicators
- Self-lubricating, maintenance-free outboard bearing
- 2" IPS galvanized steel vertical operating pipe
- Adjustable radius outboard bearing lever
- Threaded interphase and drive lever adjustment

Available Accessories
- Arc horns
- Auxiliary switch
- Breakdown ground contact
- Electrical interlock
- Extended operator
- Ground blades
- Ground blade mechanical interlock
- Insulated vertical pipe
- Interposing device
- Key interlock
- Mounting hardware
- Operator grounding platform
- Outriggers
- Quick break whips
- Split gap
- Terminal connectors

Ordering Information

Furnish:
- Switch type
- Voltage
- Apparatus
- Current limiting rating
- BIL level
- Mounting position
- Operator type
- Accessories required
- Base mounting holes
- Base mounting details

Available Accessories

- Arc horns
- Auxiliary switch
- Breakdown ground contact
- Electrical interlock
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Cleaveland/Price Inc.
14000 Rt. 931, Trafford, PA 15086
Telephone: (724) 664-1772 Fax: (724) 664-3440
Website: www.clevelandprice.com