

# Vertical Break Switch Product Specification

## Description

Vertical break disconnect switches are electrical devices used to isolate parts of an electrical circuit for maintenance or safety purposes. These switches operate by physically separating the contacts in a vertical motion, which provides a clear and secure disconnection of the electrical path. When the switch is in the open (off) position, the vertical break ensures that the contacts are fully separated, preventing electrical flow and reducing the risk of electrical arcing or faults.

Typically used in high-voltage applications such as power substations, industrial plants, and utility systems, vertical break disconnect switches are designed for robust performance, durability, and ease of operation. Their vertical design helps to facilitate smoother and more effective contact separation compared to horizontal counterparts, making them especially suitable for environments where space and accessibility may be limited.

Key features of vertical break disconnect switches include:

1. **Vertical Contact Separation:** The contacts move in a vertical direction to break the electrical connection.
2. **High-Voltage Capability:** Ideal for handling high-voltage circuits in substations and power grids.
3. **Durability:** Built to withstand harsh weather conditions and operational stresses.
4. **Safety:** Provides a visible gap between the contacts, indicating that the circuit is safely de-energized.
5. **Maintenance-Friendly:** Designed to be easily operated and maintained in industrial and power utility environments.

These switches are essential for ensuring safe isolation of electrical circuits, providing protection for personnel and equipment during maintenance or fault conditions.

## Application

In substations, vertical break disconnect switches play a critical role in ensuring the safe and reliable operation of the electrical grid. These switches are used to isolate portions of the power system for maintenance, fault isolation, or during system reconfiguration. By providing a clear and visible break in the circuit through a vertical motion of the contacts, these disconnect switches enable operators to safely de-energize specific sections of the substation, reducing the risk of electrical shock or equipment damage during maintenance procedures. Their design is well-suited for high-voltage applications, offering robust performance even in harsh environmental conditions. Vertical break disconnect switches are crucial in preventing electrical

faults from spreading throughout the system, improving overall safety and ensuring continuous, reliable power delivery in substations.

## Construction

The construction of substation vertical break disconnect switches involves robust materials and precision engineering to withstand the high-voltage and harsh environmental conditions typical of power substations. These switches are typically constructed with a heavy-duty metal frame that supports the contact mechanism, which operates by moving vertically to separate the electrical contacts. The contacts themselves are made from durable materials such as copper or silver-alloy to ensure minimal wear and reliable conductivity. Insulation components, often made from porcelain or composite materials, are used to prevent electrical arcing and provide safe separation. The switch mechanism is designed for smooth operation and long service life, often incorporating corrosion-resistant coatings and weatherproof seals to ensure functionality in outdoor environments. Additionally, the switches are equipped with visible indicators to confirm the open or closed position of the contacts, enhancing operator safety and ease of maintenance. The entire assembly is engineered to comply with strict industry standards for electrical safety and reliability.

## Offerings

<b>kV</b>	<b>BIL kV</b>	<b>AMP cont</b>	<b>Mom kA</b>
<b>15</b>	110	2000	100
		3000	120
<b>23</b>	150	2000	100
		3000	120
<b>34</b>	200	2000	100
		3000	120
<b>46</b>	250	2000	100
		3000	120
<b>69</b>	350	2000	100
		3000	120
<b>115</b>	550	2000	100
		3000	120
<b>138</b>	650	2000	100
		3000	120
<b>161</b>	750	2000	100
		3000	120
<b>230</b>	900	2000	100
		3000	120
<b>500</b>	1050	2000	100
		3000	120

<b>800</b>	1200	2000	100
		300	120