GAV

Aluminium Vertical Break Ground Switch

161 to 500 kV / 40,63 or 75 kV

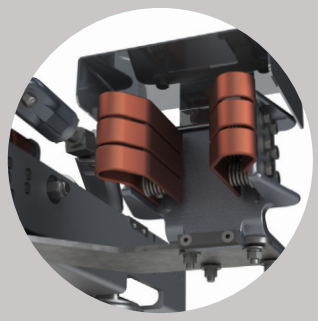
MindCore Technologies

ANSI C37 / IEEE 693 / IEC 62271 / SN-29.3a

PRODUCT FEATURES

- Aluminum current carrying parts design
- Silver-to-silver self-wiping contacts
- Reversed loop design on jaw side
- Flexible braid current transfer at hinge end
- Rotating blade principle for high and constant
- Contact pressure
- Parallel or perpendicular installation
- Combined to main switch or standalone version
- Full copper version available up to 245kV

MindCore Technologies GAV is a station class vertical break ground switch, designed to utilize the high strength and lightweight characteristics of aluminum alloys, combined with time-tested silver coated copper contacts that are highly visible and easily replaceable. The blade can be adjusted for an opening angle of 90˚ to 95˚ with very minimal forces due to well designed counter balance devices. The current carrying path is exempt of any rotating points or braid ensuring maximum conductivity over time. Copper contacts are tinned at attach point to aluminum surfaces to prevent galvanic corrosion and are further protected by an inhibitor on the aluminum surfaces



APPLICATION

The vertical break ground switch is typically used to give a visible ground point. This allows for a secure environment for workers to perform maintenance, service or any other task required on nearby equipment. The GAV switch can be used in substations with high short-circuit requirements, since it's rated up to 75 kA rms (3s). Stand alone or combined with a vertical, center or double break switch is available.

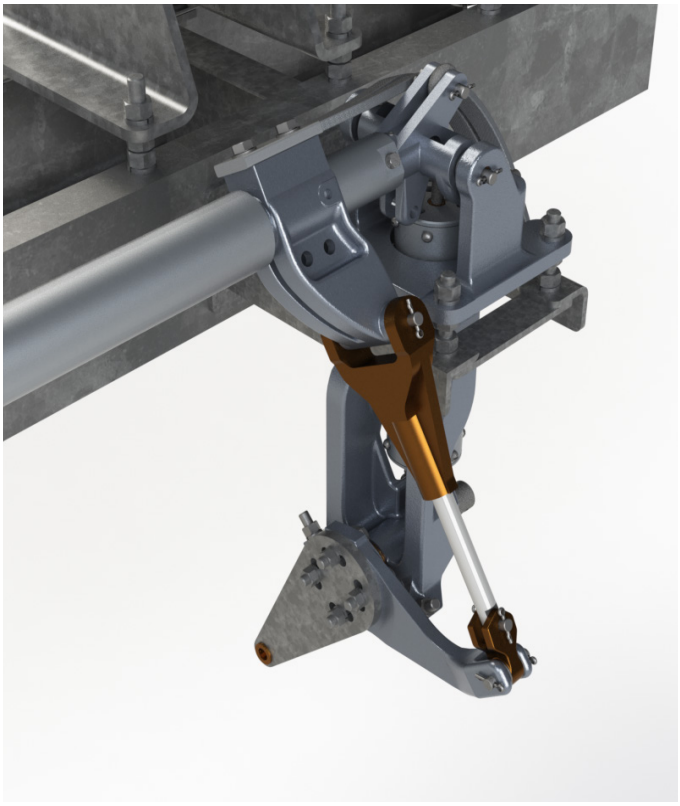
CONTACT

Current transfer at the jaw end is via silver-to-silver hard drawn self wiping copper contacts. The 'reverse loop' configuration exploits the magnetic field generated by short circuit currents to provide increased contact pressure under fault conditions. Normal contact pressure is maintained by insulated stainless steel compression springs. Female contacts are of high conductivity, hard-drawn copper, and the contact support is a high conductivity aluminum alloy. The male contacts are of silvered high conductivity copper that is secured to the blade contact seat.

Due to the shape of the contact surfaces, with the blade closed, the contact pressure remains unchanged with normal variations in alignment or adjustment. Both male and female contacts are easily replaceable.

BLADE AND OPERATING MECHANISM

Linkage causes the blade to raise, lower and rotate. The switch mechanism is designed to provide a high mechanical advantage for closing into, or opening out of, the contacts. The blade velocity, on closing, is initially high, reducing to a low velocity as it reaches the insulated stop. The male contact enters the jaw vertically, then the blade rotates 90 degree to make contact, thus assuring positive entrance of the blade even when the contacts are heavily iced.



TERMINAL PADS

In standalone application, terminal pads have holes spacing in accordance with NEMA standards and are machined flat to ensure low contact resistance. All switches can be supplied with either vertical or horizontal terminal pad. The other end of the switch is connected directly to the base frame via a tinned copper braid.

SWITCH BASE

A rigid base is essential to optimal switch operation. The galvanized base frame design is chosen adequately to suit the voltage and current level of the switch application.

HINGE ASSEMBLIES

In order to assure smooth operation enclosed compression springs are used and rotating blade principal is assured by oilite bearings. Thus minimising maintenance need and providing durability.

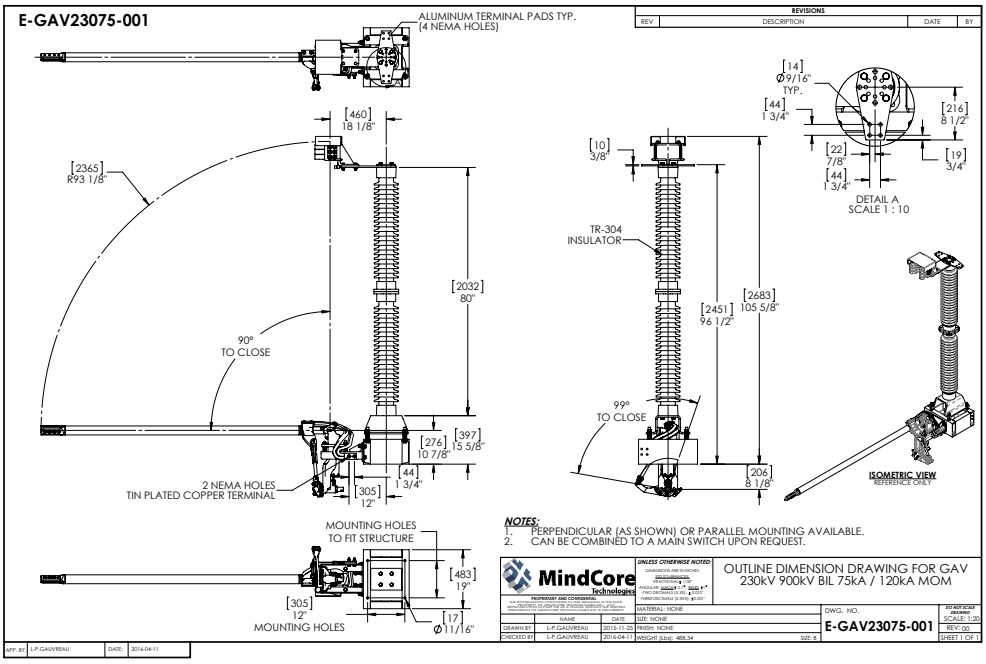
OPERATORS

- Manual torsion handle
- Manual worm gear
- Manual hand wheel
- Motor operator 180 degree (MSO1/2)
- Motor operator multi-revolution (MSO5)

OPTIONNAL FEATURES

- Painted blade for extra visual confirmation
- Key interlock hardware provision
- Mechanical interlock hardware provision
- Electrical interlock
- Seismic rated support structure
- Any specific customer requirement

TECHNICAL DRAWING



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