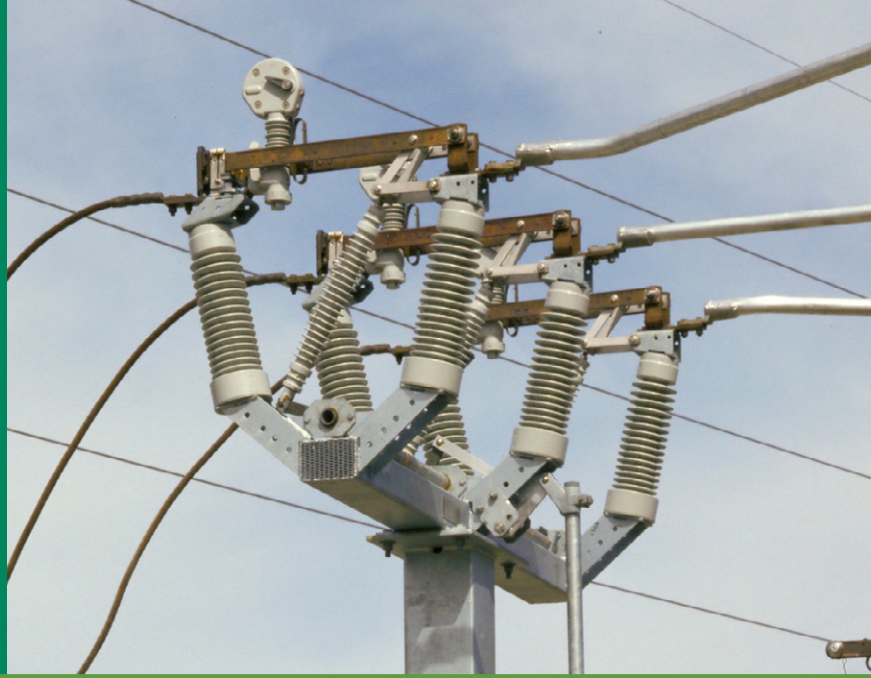


ALDUTI-RUPTER® SWITCHES

OUTDOOR DISTRIBUTION,
14 KV THROUGH 69 KV



CONTENTS

Application	2
Distribution Feeder Applications	2
Distribution Substation Applications	4
Full-Load Switching—for Vastly Simplified Switching Practices	5
Power Operation	5
Recommended Phase Spacings	6
Construction and Operation	8
Direct Drive of Interrupter Contact	8
Interrupter Sequence of Operation	8
Typical Construction	10
Choosing the Right Style and Mounting Configuration	21
Wide Range of Optional Features	22
Connectors Workable with Hot-Line Tools	23
Exhaustively Tested, Utility Proven	24

Introduction

With changing power demands and outage tolerances, utilities are looking to meet a more dynamic distribution grid with three-phase sectionalizing to reduce the size and duration of customer outages. However, while feeder loads are increasing, available space is also constricted. Customers need switches that have flexible designs to fit their space constraints.

Alduti-Rupter Switches offer a unique design for compact and challenging spaces that will simplify live switching in higher-current, distribution-feeder, or sub-transmission applications. Alduti-Rupter Switches can be mounted on virtually any existing infrastructure with several configurations that will greatly reduce the time and cost for installation and ensure dependable, long-term operation without frequent maintenance.



Application

S&C Alduti-Rupter® Switches, rated 14.4 kV through 69 kV, 600 amperes or 1200 amperes continuous and live-switching, provide no-external-arc circuit interruption of overhead distribution feeders and outdoor distribution substations. These time-proven, reliable switches are specially designed for live-switching duties, including:

- ◆ **Line switching**—Load-splitting (parallel or loop switching), load-dropping, and associated charging currents
- ◆ **Transformer switching**—Load currents and associated magnetizing currents
- ◆ **Cable switching**—Load-splitting (parallel or loop switching), load-dropping, and associated charging currents

Alduti-Rupter Switches are available in seven rugged three-pole group-operated styles that can be tailored to suit any configuration and mount on any structure. An unparalleled selection of standard mounting arrangements simplifies application engineering and ordering, reducing lead time and cost and facilitating stocking. For installations where simultaneous three-phase switching isn't needed, single-pole switches are available, too.

Vertical-break and double-break styles feature heavy-duty designs that are ideal for distribution substations or feeders. Side-Break Heavy-Duty, Side-break heavy-duty, side-break standard-duty, and single-pole styles are also excellent choices for feeder applications.

Side-break integer, vertical-break integer, and double-break integer styles are pre-engineered

and preassembled, with necessary phase-to-phase and phase-to-ground electrical clearances built-in, for the ultimate in installation simplicity. The interphase drive is factory-adjusted to ensure proper operation. These switches are the most cost-effective choice for old or new line configurations. Vertical-break integer and double-break integer styles can be furnished with S&C Mounting Pedestals, perfect for substation applications.

For complete specifications on all Alduti-Rupter Switches, including ratings, dimensions, weights, and ordering information, refer to S&C Specification Bulletin 761-31. For details on standard mounting arrangements, refer to S&C Information Bulletin 761-80.

DISTRIBUTION FEEDER APPLICATIONS

Increasing load densities and expanding demand for electricity have resulted in greater load per mile of distribution line and increased numbers of interconnections, lateral feeders, and branches.

More and more sectionalizing devices are required to simplify switching procedures, reduce the size and duration of outages, and provide points for cold-load pickup. Ordinary disconnects aren't adequate for this duty because they have only limited switching capabilities. But with their no-external-arc interrupting performance and full 600- or 1200-ampere live-switching capabilities, Alduti-Rupter Switches are well-suited to the task.

For most applications where simultaneous three-phase switching is required to avoid single-phasing issues (for example, where improper operation of ground relays would result), a side-break or vertical-break Alduti-Rupter Switch is ideal. Selection of a side-break heavy-duty, side-break standard-duty, or side-break integer style is primarily a matter of matching the switch to the economics of the application. Side-break standard-duty and integer styles feature simplified interphase drive mechanisms, bearings, supports, and mounting arrangements appropriate for distribution feeders.

Cost savings are realized with integer styles through factory-assembly and elimination of individual switch bases. There's no do-it-yourself kit of individual switch poles and parts to be assembled in the field. Integer-style switches have a one-piece steel or insulated base that supports the insulators of all three poles.

Vertical-break integer and side-break integer switches rated 25/34.5 kV and 34.5 kV have a one-time duty-cycle fault-closing rating when power-operated by an S&C Switch Operator (or fault-closing capability when manually operated).

FIGURE 1. Insulated-base 34.5-kV side-break integer style Alduti-Rupter Switch.



With integer-style switches, the complete assembly, including operating mechanism and all mounting hardware, arrives at the job site in a single shipment. Stocking problems are minimized, and there's no chance of misplacing components. Mounting the switch is easy, so operating personnel save time.

Pole-mounted switches require only two through-bolts and one or two pole bands and lag screws for stable support. Pedestal-mounted switches are secured with four bolts. Simple addition of the handle and the vertical pipe sections completes the installation. Integer-style Alduti-Rupter Switches are engineered to be trouble-free.

Single-pole S&C Alduti-Rupter Switches are an excellent choice where simultaneous three-phase switching isn't required. With their no-external-arc interrupting performance, they can be mounted inverted and be operated with a conventional hookstick. (The external arcing of ordinary disconnects demands upright positioning, making group operation mandatory.) You save the cost of a three-pole operating mechanism and its installation.

DISTRIBUTION SUBSTATION APPLICATIONS

The rate of load growth and the trend to higher distribution voltages have presented switching problems at distribution substations, too.

On the secondary side, there are more feeders, more heavily loaded lines, and longer lines. Alduti-Rupter Switches are up to the task. They can split load and drop lines or cables, even the entire load in an emergency. Their no-external-arc interrupting performance is especially important in substations, where close phase spacings rule out use of arc-producing disconnects.

On the primary side, Alduti-Rupter Switches meet all requirements for transformer switching: load-dropping, parallel switching, and magnetizing current switching. Here again, their no-external-arc

interrupting performance is an asset, permitting phase spacings of only 48 inches (122 cm) at 46 kV.

Vertical-break integer and side-break integer switches are an excellent choice for distribution substation applications. These economical, highly reliable switches are available in a wide variety of mounting configurations, including low-profile pedestal mounting. Vertical-break integer models rated 25/34.5 kV and 34.5 kV have a one-time duty-cycle fault-closing rating when power-operated by an S&C Switch Operator (or fault-closing capability when manually operated).

Double-break switches, which use two interrupters per phase, are offered at voltage of 34.5 kV through 69 kV. Double-break integer switches are also offered at 46 kV and have a two-time duty-cycle fault-closing rating when power-operated by an S&C Switch Operator (or fault-closing capability when manually operated).

With their no-external-arc interrupting performance, Alduti-Rupter Switches can be furnished in upright, vertical, and inverted mounting configurations, permitting extremely compact substation designs. This is an increasingly important consideration with the dwindling availability of space in urban applications.

FULL-LOAD SWITCHING—FOR VASTLY SIMPLIFIED SWITCHING PRACTICES

Alduti-Rupter Switches perform interrupting duties positively, with no external arc. They also provide foolproof isolation of a visible air gap. They offer the utmost flexibility in distribution system switching practices. Here are a few examples:

- ◆ **Lines may be extended and additional load accommodated** (within the rating of the switch) without affecting switching ability.
- ◆ **Interlocking isn't required**, for example, in transformer applications, between the primary switch and the secondary breaker.
- ◆ **A loaded circuit can be dropped inadvertently** (through error or misunderstanding) with no hazard to the operator or to the system.
- ◆ **In an emergency, Alduti-Rupter Switches can drop the entire connected load** without complicated breaker-and-switch sequencing. There's no need to drop individual loads as a preliminary operation.

POWER OPERATION

Because Alduti-Rupter Switches can switch loaded or unloaded lines, transformers, and cables, they're ideally suited for remote supervisory control or fully automatic operation when equipped with an S&C Switch Operator.

Type **AS-1A Switch Operators** provide power operation of switches with rotating-type operating mechanisms and have operating times not exceeding 0.75 seconds maximum.

Type **AS-10 Switch Operators** provide power operation of switches with reciprocating-type operating mechanisms and have operating times not exceeding 1.2 seconds maximum.

Advanced, microprocessor-based **M Series® Switch Operators** provide power operation of switches with rotating- or reciprocating-type operating mechanisms and have an operating time not exceeding 0.5 seconds maximum.

The high operating speed of these switch operators provides sufficient moving-contact velocity in the interrupters to ensure full interrupting capability and long operating life. High operating speed also provides adequate closing velocity, permitting the assignment of the following duty-cycle fault-closing ratings:

- ◆ 25/34.5-kV and 34.5-kV side-break integer: 15,000 amperes, RMS, asymmetrical, one-time duty cycle
- ◆ 25/34.5-kV and 34.5-kV, 600-ampere vertical-break integer: 20,000 amperes, RMS, asymmetrical, one-time duty cycle
- ◆ 25/34.5-kV and 34.5-kV, 1200-ampere vertical-break integer: 30,000 amperes, RMS, asymmetrical, one-time duty cycle

- ◆ 46-kV double-break integer: 18,000 amperes, RMS, asymmetrical, one-time duty-cycle, when driven by a Type AS-1A or Type AS-10 Switch Operator; 16,000 amperes, RMS, asymmetrical, one-time duty-cycle, when driven by an M Series Switch Operator

FIGURE 2. 46-kV double-break integer style Alduti-Rupter Switch with an M Series Switch Operator.



For more information on Type AS-1A and Type AS-10 Switch Operators, see Descriptive Bulletin 769-30 and Specification Bulletin 769-31. For more information on M Series Switch Operators, see S&C Descriptive Bulletin 1051-30 and Specification Bulletin 1051-31.

RECOMMENDED PHASE SPACINGS

The no-external-arc interrupting performance of Alduti-Rupter Switches allows significantly smaller phase spacings than horn-gap switches. **Table 1 on page 7** shows recommended Alduti-Rupter Switch phase spacings on feeders and in substations, compared to industry-standard phase spacings.

TABLE 1. Recommended Phase Spacings

Alduti-Rupter Switches Style	Alduti-Rupter Switches Rating, kV, Nom.	Alduti-Rupter Switches Recommended Phase Spacing, Inches (cm)	Minimum Phase Spacing, Inches (cm), Per ANSI C37.32-2002 Horn-Gap Switches	Minimum Phase Spacing, Inches (cm), Per ANSI C37.32-2002 Side-Break (Horizontal-Break) Disconnects	Minimum Phase Spacing, Inches (cm), Per ANSI C37.32-2002 Vertical-Break Disconnects and Bus Supports
Single-pole or three-pole vertical-break	14.4	24 (61)	36 (91)	30 (76)	24 (61)
Single-pole or three-pole vertical-break	25	30 (76)	48 (122)	36 (91)	30 (76)
Single-pole or three-pole vertical-break	25/34.5	25 (64)	48 (122)	36 (91)	30 (76)
Single-pole or three-pole vertical-break	34.5	36 (91)	60 (152)	48 (122)	36 (91)
Three-pole side-break heavy-duty or standard-duty	14.4	32 (81)	36 (91)	30 (76)	24 (61)
Three-Pole side-break heavy-duty or standard-duty	25	39 (99)	48 (122)	36 (91)	30 (76)
Three-Pole side-break heavy-duty or standard-duty	34.5	47 (119)	60 (152)	48 (122)	36 (91)
Three-pole double-break	34.5	36 (91)	60 (152)	48 (122)	36 (91)
Three-pole double-break	46	48 (122)	72 (183)	60 (152)	48 (122)
Three-pole double-break	69	72 (183)	84 (213)	72 (183)	60 (152)

Construction and Operation

DIRECT DRIVE OF INTERRUPTER CONTACT

Alduti-Rupter Switches don't rely on moving probes, "mousetrap" actuating schemes, or internal latches for tripping. Operation is simple and straightforward.

Each interrupter is direct-powered by the opening or closing movement of its blade. They can't get out of sequence. There's no reliance on springs for contact separation; springs are used only for positive open-closed detents.

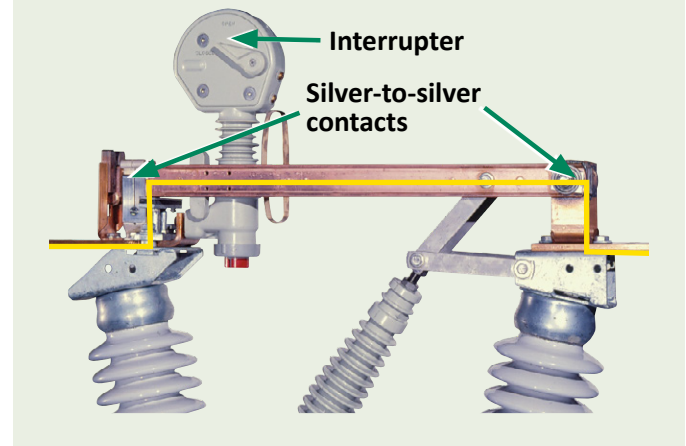
A speed-multiplying straight-line linkage within the interrupter provides high-speed motion of the interrupter contact. For every position of the blade, there's a predetermined interrupter contact position so the external gap between the line and load sides of the switch always exceeds the gap within the interrupter at the time of circuit interruption.

Coordination of the interrupter's dynamic internal dielectric strength with its generous external leakage distance and striking distances, plus programmed blade position, eliminates any chance of flashover.

INTERRUPTER SEQUENCE OF OPERATION

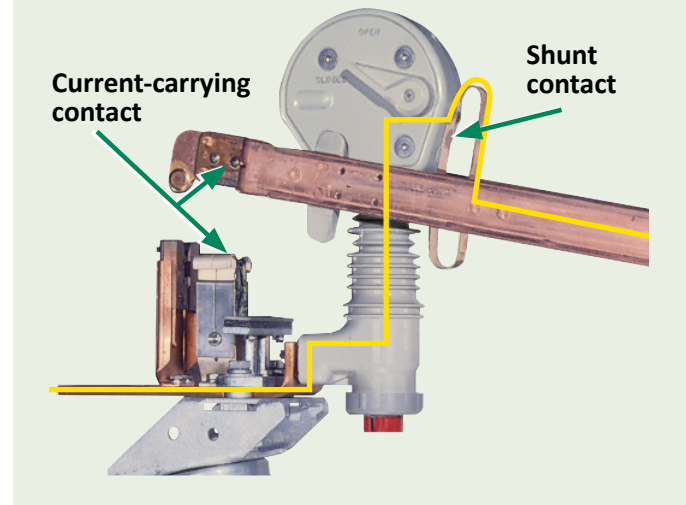
With the switch blade in the fully Closed position, the interrupter contact is isolated from the circuit. The current path is solely through the copper switch blade and the silver-to-silver contacts. See **Figure 3**.

FIGURE 3. Alduti-Rupter Switch in a fully Closed position.



As the switch blade opens, current is transferred to the interrupter by positive wiping action of the spring-tempered, phosphor-bronze shunt contact before the current-carrying contact parts. There's no external arcing. See **Figure 4**.

FIGURE 4. Alduti-Rupter Switch in a partially Open position.

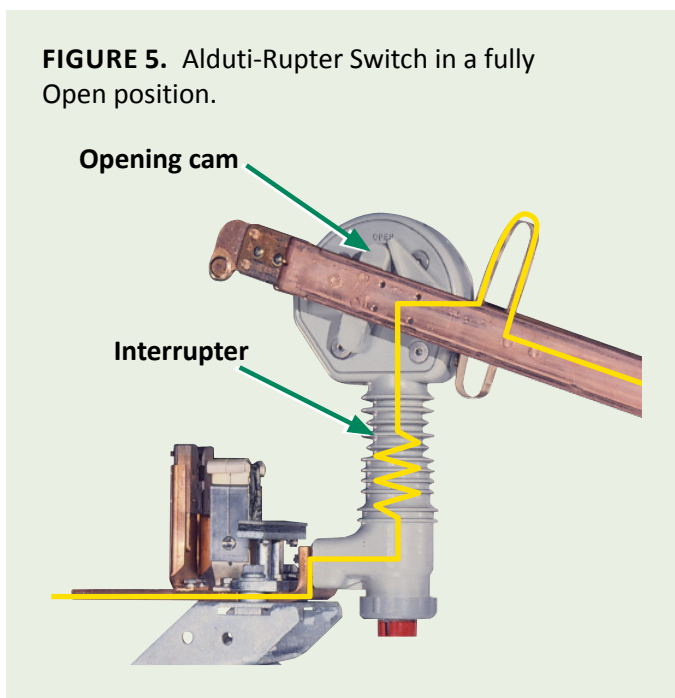


Construction and Operation (continued)

As the switch blade continues to open, the opening cam on the switch blade direct-drives the interrupter contact open. Circuit interruption occurs internally using the deionizing gases generated by thermal action of the arc on S&C's special trailer and liner material formulations. There's no external arc or flame. Exhaust is quietly vented through a labyrinthine muffler. See **Figure 5**.

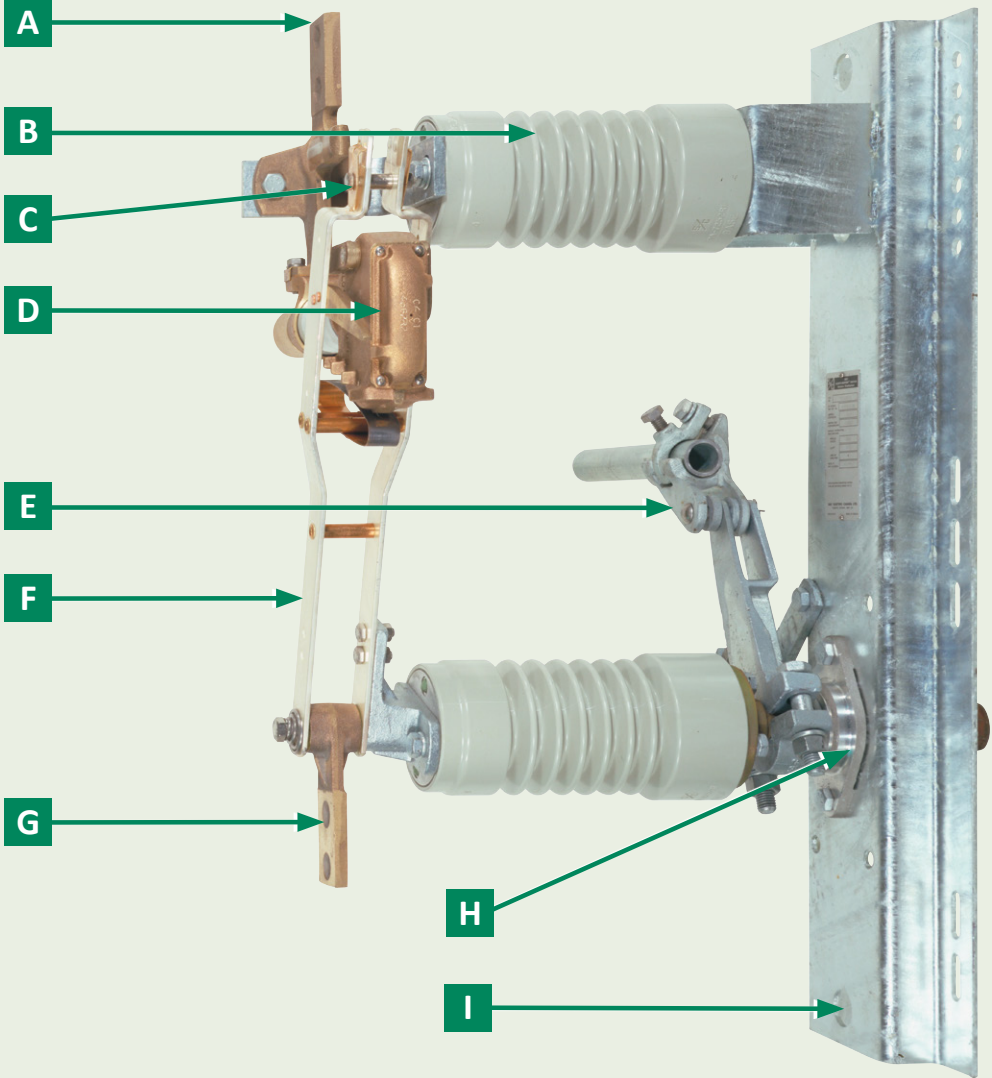
In the closing sequence (not shown), the closing cam on the switch blade direct-drives the interrupter contact closed, ready for the next programmed opening after engagement of the current-carrying contact. There are no arcing horns, buggy whips, or interrupter-pickup probes on the blade to compromise dielectric coordination of the interrupter.

FIGURE 5. Alduti-Rupter Switch in a fully Open position.



Typical Construction

FIGURE 6. One pole-unit of 14.4-kV three-pole side-break heavy-duty style Alduti-Rupter Switch, 600 amperes continuous.

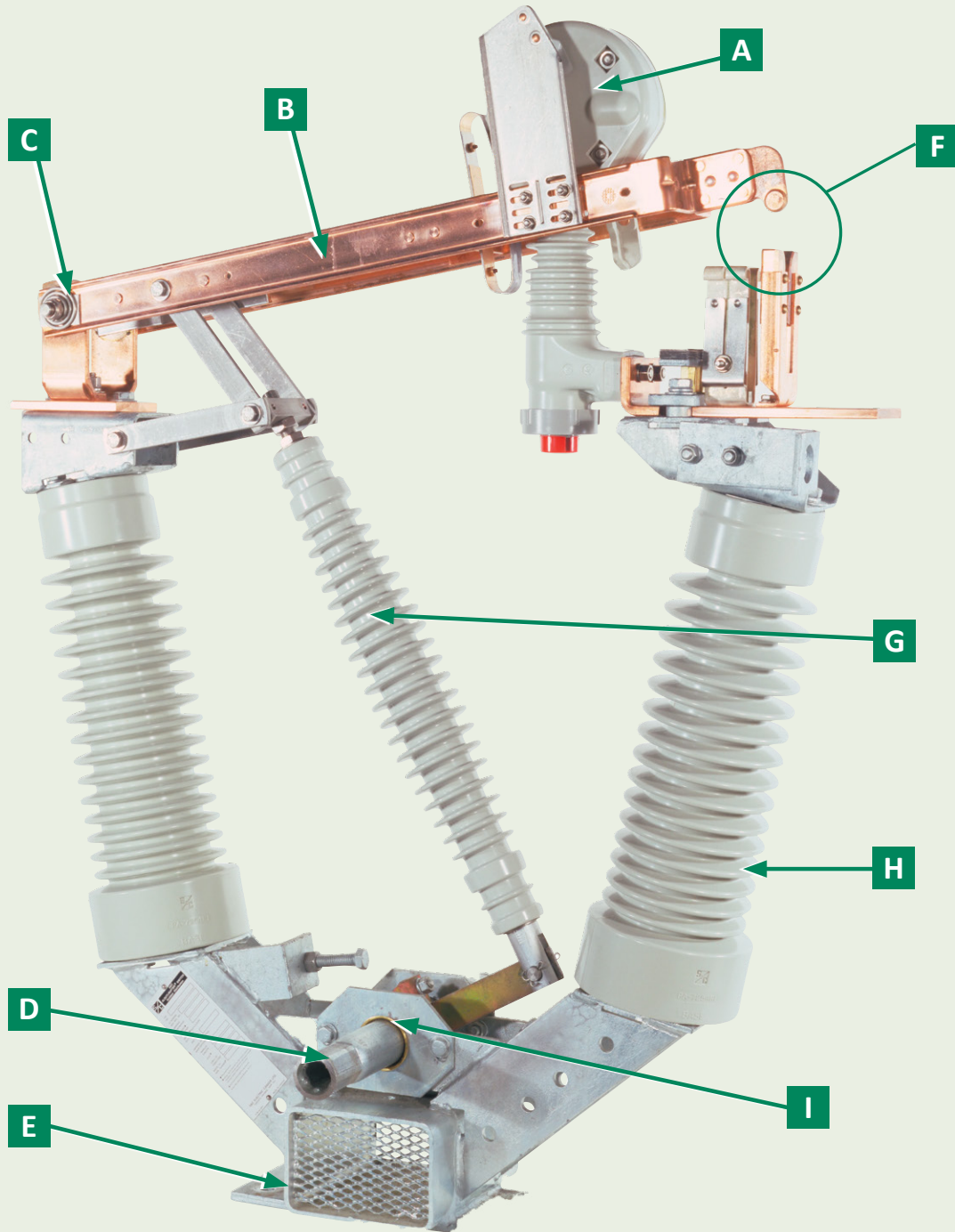


Typical Construction (continued)

- A** Stationary contact features a thermally sprayed pure silver contact surface, coined for hardness, contour, and low porosity.
- B** S&C Cypoxy station post insulators (Also available with porcelain station post insulators.)
- C** Spring-backed silver-nickel multifinger blade contacts provide four independent points of contact for optimum performance and contact pressure, minimizing possibility for hot spots.
- D** No-external-arc interrupter, where the interrupter contacts and blade are synchronized to coordinate dynamic internal dielectric strength with interrupter's external striking distance, eliminating any chance for flashover.
- E** Articulated-drive operating mechanism accommodates a wide selection of mounting arrangements.
- F** Double-member, hard-drawn copper blades are formed and trussed for extra rigidity, and they're permanently aligned for trouble-free switching.
- G** Hinge contacts feature embossed contact surfaces, nickel plated and flash coated with silver, plus a silver-clad hinge pivot. The stainless steel loading spring is engineered to optimize contact pressure, operating ease, and blade stability.
- H** Corrosion-resistant zinc-nickel plated bearing provides smooth performance. Bearing elements are packed in special MIL-spec grease.
- I** Formed channel base— $\frac{3}{16}$ -inch (5-mm) galvanized steel. Numerous mounting holes suit any structure.

Typical Construction (continued)

FIGURE 7. One pole-unit of 34.5-kV three-pole vertical-break style Alduti-Rupter Switch, 1200 amperes continuous.

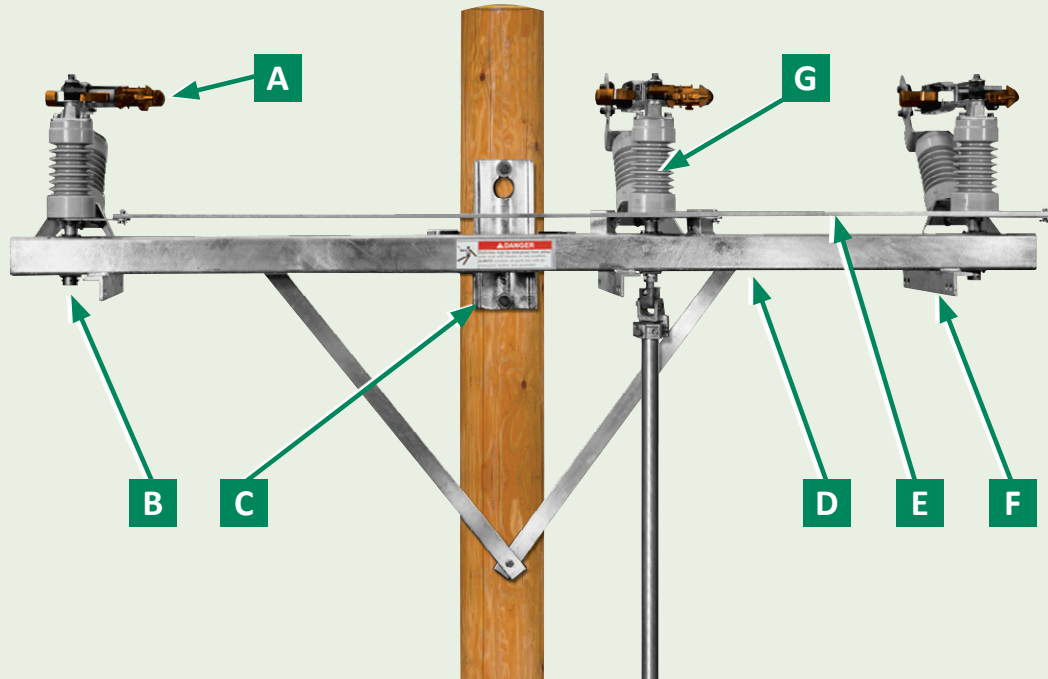


Typical Construction (continued)

- A** Circuit interruption takes place within the interrupter, without external arc or flame. Interrupter contacts and blade are synchronized to coordinate dynamic internal dielectric strength with interrupter's external striking distance, eliminating any chance for flashover.
- B** Double-member, hard-drawn copper blades are formed and trussed for extra rigidity. They're permanently aligned for trouble-free switching.
- C** Four silver-nickel contact rivets on switch blade, plus silver-clad blade support ensure efficient current transfer and velvet-smooth action at the hinge. Stainless steel hinge loading springs, truss members, spacer, and equalizer bar are engineered for optimal contact pressure, operating ease, and stability.
- D** Hex-crimped, galvanized-steel-pipe operating shaft.
- E** Rectangular-section, heavy-gauge, galvanized steel base.
- F** Fault-closing contacts feature copper-tungsten disks silver-brazed to copper blade-tongue, and carbon-block (600-A switch) or copper-tungsten-block (1200-A switch) jaw. Current-carrying contacts consist of four silver-nickel contact rivets on copper blade-tongue and self-aligning, four-finger, spring-loaded, silver-clad copper jaw. Contacts are graphite impregnated, eliminating need for periodic lubrication.
- G** Low-inertia Cypoxy operating rod permits high-speed operation. No heavy rotating or rocking insulators to accelerate or decelerate. Withstands all dynamic tensile and compressive forces. Advanced skirt configuration provides generous leakage distance, more than enough for contaminated environments.
- H** S&C Cypoxy station post insulators (Also available with porcelain station post insulators.)
- I** Corrosion-resistant brass guide bearing provides smooth performance

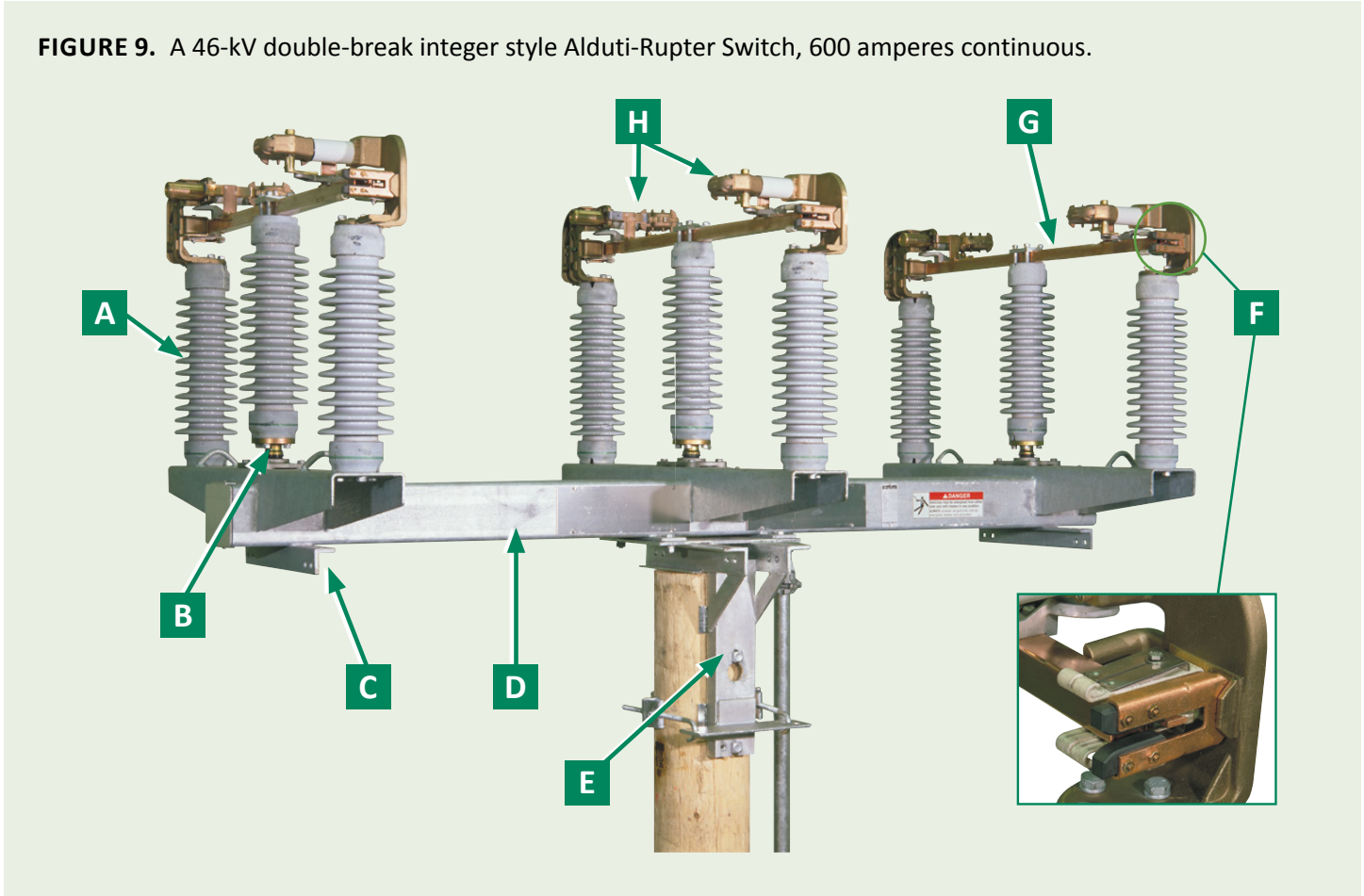
Typical Construction (continued)

FIGURE 8. A 14.4-kV three-pole side-break integer style Alduti-Rupter Switch, 1200 amperes continuous.



- A** Interrupters provide no-external-arc interruption.
- B** Corrosion-resistant, stainless-steel sleeved journals and bronze bearings provide smooth switching action, even after years of service.
- C** Pole-mounting plate with two through-bolts, lag screws, and a pole band securely attach switch.
- D** One-piece, rectangular section, heavy-gauge galvanized steel base (Also available with fiberglass-reinforced pultruded structural tube base, polyurethane-coated for weathering and UV protection.)
- E** One-piece interphase rod factory-adjusted for close three-phase switching simultaneity
- F** Convenient dead-ending angle brackets
- G** S&C Cypoxy station post insulators (Also available with porcelain station post insulators.)

FIGURE 9. A 46-kV double-break integer style Alduti-Rupter Switch, 600 amperes continuous.



A Available with porcelain station post or S&C Cyproxy station post insulators

B Dual tapered roller bearings, totally sealed

C Convenient dead-ending angle brackets

D One-piece rectangular section, heavy-gauge galvanized steel base encloses factory-adjusted interphase drive

E Easy-to-install switch mounting bracket with two through bolts, lag screws, and pole bands securely attach switch

Typical Construction (continued)

F Fault-closing contacts feature silver-tungsten disks silver-brazed to copper blade-tongue, and carbon-block jaw. Dual interrupters provide no-external-arc interruption brazed-on silver-nickel buttons on copper blade-tongue, and self-aligning, four-finger, spring-loaded, silver-clad copper jaw. Contacts are graphite impregnated, no need to lubricate. Current-carrying contacts consist of four brazed-on silver-nickel buttons on copper blade-tongue, and self-aligning, four-finger, spring-loaded, silver-clad copper jaw. Contacts are graphite impregnated, no need to lubricate.

G Square cross-section copper extrusion blades are permanently aligned

H Dual interrupters provide no-external-arc interruption

Typical Construction (continued)

TABLE 2. Styles, Ratings, and Configurations for Three-Pole, Group-Operated—Factory-Assembled and Adjusted, 50/60-Hz Ratings

Style	kV Nom.	kV Max	kV BIL	Amperes, RMS Cont	Amperes, RMS Mom., Asym	Available Mounting Configurations
Side break integer	14.4	17.0	110	1200	40 000	Vertical, upright, tiered outboard, triangular
Side break integer	25	27	150	1200	40 000	Vertical, upright, tiered outboard, triangular
Side break integer	25/34.5	38	150	600	40 000	Vertical, upright, tiered outboard, triangular
Side break integer	34.5	38	200	600	40 000	Vertical, upright, tiered outboard, triangular
Vertical break integer	14.4	17.0	200	2400 ¹	40 000	Vertical, upright, tiered outboard, triangular, pedestal, pole-top
Vertical break integer	25/34.5	38	150	600	40 000	Vertical, upright, tiered outboard, triangular, pedestal, pole-top
Vertical break integer	25/34.5	38	150	1200	40 000	Vertical, upright, tiered outboard, triangular, pedestal, pole-top
Vertical break integer	34.5	38	200	600	40 000	Vertical, upright, tiered outboard, triangular, pedestal, pole-top
Vertical break integer	34.5	38	200	1200	40 000	Vertical, upright, tiered outboard, triangular, pedestal, pole-top
Double break integer	46	48.3	250	600	40 000	Vertical, upright, tiered outboard pedestal, pole-top

¹ 1600 amperes, RMS, load interrupting. This model is specially designed for switching the secondary of single- or double-transformer substations.

Typical Construction (continued)

TABLE 3. Styles, Ratings, and Configurations for Three-Pole, Group-Operated—Field-Assembled, 50/60-Hz Ratings

Style	kV Nom.	kV Max	kV BIL	Amperes, RMS Cont	Amperes, RMS Mom., Asym	Available Mounting Configurations
Side break	14.4	17.0	110	600	40 000	Vertical, upright, triangular upright
Side break	25	27	150	600	40 000	Vertical, upright, triangular upright
Side break	34.5	38	200	600	40 000	Vertical, upright, triangular upright
Vertical break	14.4	17.0	110	600	40 000	Vertical, upright
Vertical break	14.4	17.0	110	1200	61 000	Vertical, upright
Vertical break	14.4	17.0	200	2400 ¹	40 000	Vertical, upright
Vertical break	25	27	150	600	40 000	Vertical, upright
Vertical break	25	27	150	1200	61 000	Vertical, upright
Vertical break	25/34.5	38	150	1200	40 000	Vertical, upright
Vertical break	34.5	38	200	600	40 000	Vertical, upright
Vertical break	34.5	38	200	1200	40 000	Vertical, upright
Double break	34.5	38	200	600	40 000	Vertical, upright, triangular upright, tiered upright, tiered outboard, inverted
Double break	46	48.3	250	600	40 000	Vertical, upright, triangular upright, tiered upright, tiered outboard, inverted
Double break	69	72.5	350	1200 ²	40 000	Upright, tiered upright

1 1600 amperes, RMS, load interrupting. This model is specially designed for switching the secondary of single- or double-transformer substations.

2 600 amperes, RMS, load interrupting. This model is specifically designed for load splitting (parallel or loop switching)

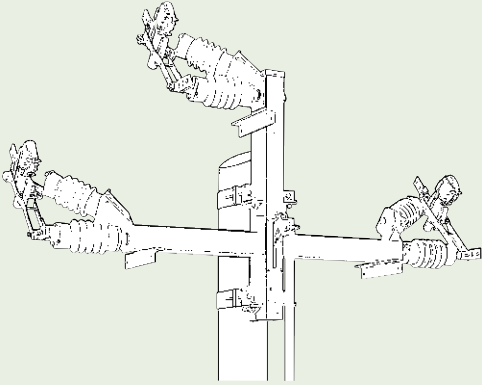
Typical Construction (continued)

TABLE 4. Styles, Ratings, and Configurations for Single Pole—50/60-Hz Ratings

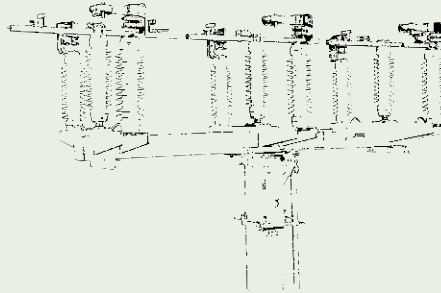
Style	kV Nom.	kV Max	kV BIL	Amperes, RMS Cont	Amperes, RMS Mom., Asym	Available Mounting Configurations
Single pole	14.4	17.0	110	600	40 000	Vertical, inverted
Single pole	14.4	17.0	110	1200	61 000	Vertical, inverted
Single pole	25	27	150	600	40 000	Vertical, inverted
Single pole	25	27	150	1200	61 000	Vertical, inverted

Typical Construction (continued)

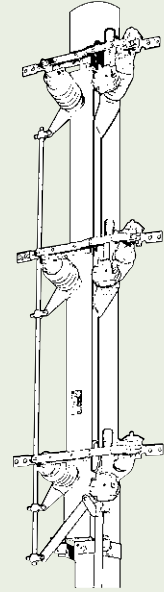
FIGURE 10. Alduti-Rupter Switch Mounting Configurations



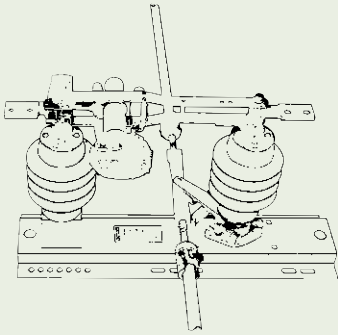
Side-break integer Alduti-Rupter Switch, triangular mounting



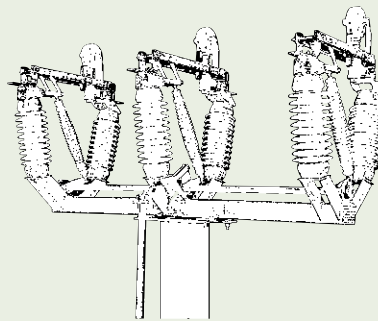
Double-break integer Alduti-Rupter Switch, pole-top mounting



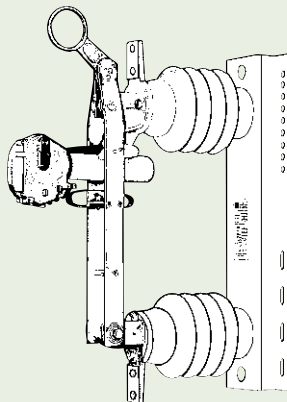
Side-break integer Alduti-Rupter Switch, tiered outboard mounting



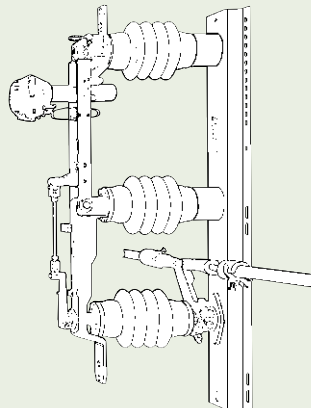
Side-break Alduti-Rupter Switch, upright mounting



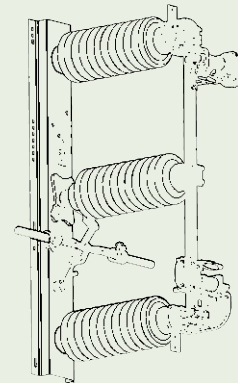
Vertical-break integer Alduti-Rupter Switch, pedestal mounting



Single-pole Alduti-Rupter Switch, vertical mounting



Vertical-break Alduti-Rupter Switch, vertical mounting



Double-break Alduti-Rupter Switch, vertical mounting

Choosing the Right Style and Mounting Configuration

To select the right style and mounting configuration Alduti-Rupter Switch for a particular application, ask yourself:

- ◆ What's the application? And line configuration? For cable risers and transformer tap-offs, the vertical mounting configuration is likely the best choice. For horizontal crossarm line construction, the upright mounting configuration is appropriate. For vertical (phase-over-phase) line construction, the tiered-outboard mounting configuration should be considered. For low-profile substation installations or service entrance applications, the pedestal mounting configuration is a great choice. And for installations with congested underbuilds, the pole-top mounting configuration should be considered. It often permits voltage upgrades without the need for pole extension or replacement.
- ◆ How will the switch be mounted? For mounting directly on or atop a pole or pedestal, a factory-assembled and adjusted side-break integer or vertical-break integer switch is the most economical choice. For mounting on a

crossarm(s) or structure, or if special phase spacing is required, a field-assembled-and-adjusted side-break or vertical-break switch may be appropriate. And for substation applications, where heavy-duty construction is essential, a vertical-break, vertical-break integer, double-break, or double-break integer switch is likely the right answer.

Steel-base side-break integer, vertical-break integer, and double-break integer switches offer a maximum dead-end loading of 8000 pounds (3629 kg) per conductor where equal pull-off forces are applied to each side of the switch. Lower values apply to insulated-base side-break integer switches and instances where dead-end forces are applied on only one side of the switch.

All Alduti-Rupter Switches reflect S&C's high standards of design excellence to provide years of trouble-free service. Full 40,000- or 61,000-ampere momentary ratings apply, with corresponding three-second ratings of 25,000 and 40,000 amperes respectively. And impulse-withstand (BIL) ratings match those of station apparatus.

Wide Range of Optional Features

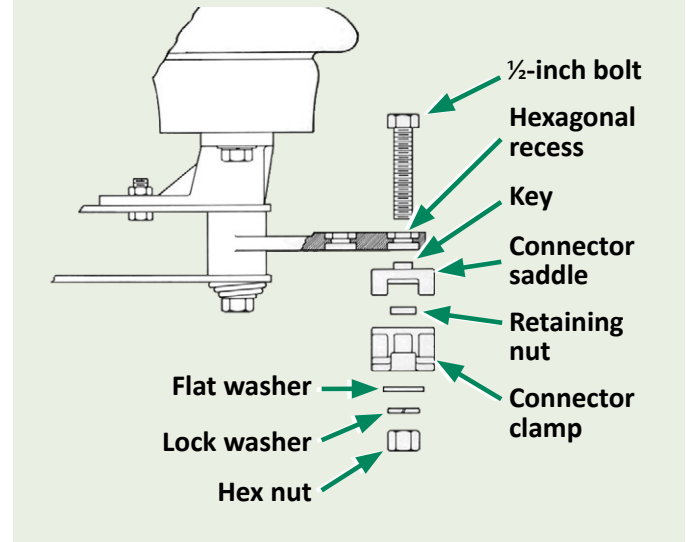
Alduti-Rupter Switches can be furnished with a variety of optional features, including:

- ◆ An insulator or fiberglass section in the operating rod
- ◆ Heavy-duty operating rod
- ◆ Key interlocks
- ◆ Ice shields
- ◆ Provisions for surge arresters
- ◆ Dead-ending provisions
- ◆ Extension-link assemblies
- ◆ Current sensors

Connectors Workable with Hot-Line Tools

Most Alduti-Rupter Switches¹ are designed for easy connector handling with hot-line tools. A hexagonal recess in the terminal pad prevents the connector attachment bolt from turning. The connector saddle is held against, and loosely keyed to, the terminal pad by the retaining nut. And the clamp is, in turn, keyed to the saddle. The connector can be easily loosened and tightened by means of the hex nut, without either connector member turning in place.

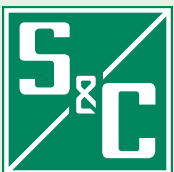
FIGURE 11. Connector part elements.



¹ Exceptions: Vertical-break, vertical-break integer, and side-break integer rated 25/34.5 kV and 34.5 kV.

Exhaustively Tested, Utility Proven

Every Alduti-Rupter Switch rating is based on full-scale testing: load-splitting, load-dropping, line and cable switching, all at maximum voltages and rated currents and with test circuits tuned to duplicate the most severe transient recovery voltages likely to be encountered in service. Rated performance is assured for all live-switching duties. The validity of S&C's testing has been confirmed by nearly 60 years of reliable operation of S&C switches on utility systems worldwide.



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