



OUTDOOR DISCONNECTORS  
A division of ACTOM (Pty) Ltd

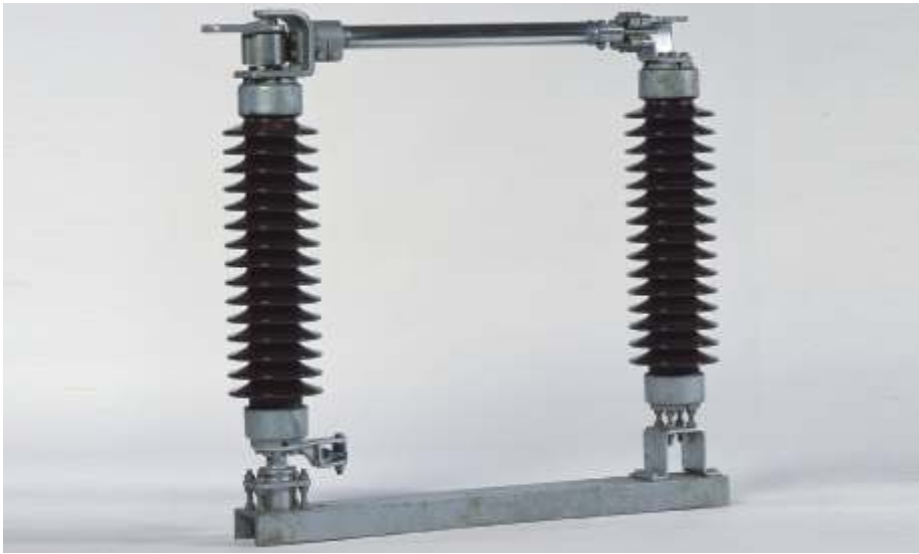
ACTOM

Formerly ALSTOM South Africa

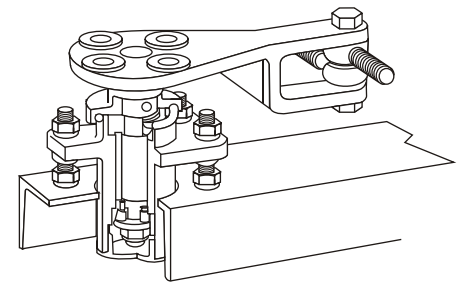


# ACTOM OUTDOOR DISCONNECTORS

## Single Side Break (SSB) Disconnecter 22-132 kV, 800-1600 A, 25 kA - 3s



Voltage range 11 kV to 132 kV current rating up to 1 600 amps with relevant through fault current rating up to 25 kA.



Typical bearing assembly.

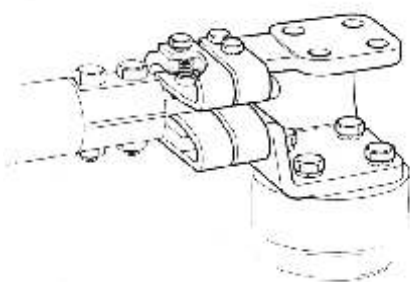
- Our simple yet robust design enables easy inexpensive installation, maintenance and operation. All pivots are bushed with self lubricating or graphite nylon bearings. The main swivel bearing incorporates twin taper roller bearings, grease filled and sealed for life. Only switch contacts require the usual lubrication, therefore maintenance is reduced to a minimum. The single break disconnecter and operating mechanism drives are fully universal and thus are

suitable for horizontal, vertical or inverted mounting on a concrete or steel support structure.

- Reverse loop design fixed contact fingers of HD HC copper with silver plated contact area. Each finger is backed by a stainless steel compression spring to ensure positive contact pressure, the springs being insulated from the current path.
- Interchangeable moving contacts of HC extruded copper section, the profile designed for high density current and multi-point contact. A wiping cleaning action is produced by the opening and closing operations.
- Aluminium main blade tube wall thickness to suit current rating clamped into hinge contact assembly.
- Terminal pads of aluminium or copper alloy with standard BS or NEMA four-hole fixings as required. Terminal connectors can be provided if required.
- Base section of galvanised steel

channel, with insulator levelling/fixing screw on each post. Fixing holes on centre line positioned to suit customer requirements (refer to table of dimensions).

- Rotating post main bearing assembly incorporating well spaced double taper roller bearings, preloaded to compensate for heavy high voltage insulators. The housing is packed with grease on assembly and is sealed for life, thus eliminating further maintenance.
- Galvanised steel nominal bore pipe phase coupling and vertical drive rods with left hand and right hand inserts at each end and screwed eyebolts providing 50 mm length adjustment by simply rotating the rods clockwise or anti-clockwise. This feature allows wide tolerances on dimensions regarding mounting and erection, also enabling easy alignment for synchronised gang operation of all three phase units.
- Hinge contact assembly allowing rotation of the blade and insulator column, whilst the terminal pad can remain stationary. The continuous current path



Fixed contact support showing springs and insulating cap.

maintained across the hinge point by means of tinned copper laminations bolted to the main support and the terminal pad casting.

Alternatively, an enclosed hinge contact assembly incorporating a copper alloy terminal stem as opposed to a terminal pad. point contact. A wiping cleaning action is produced by the opening and closing operations.



Open hinge unit.



Enclosed hinge unit.

## Single Side Break (SSB) Disconnecter 22-132 kV, 800-1600 A, 25 kA - 3s



Voltage range up to 132 kV current rating up to 2 500 amps with relevant through fault current rating up to 40 kA.

The DSB disconnecter is installed for sectionalising and isolating various circuits and equipment in substation systems. The double break operation is electrically superior to the single break insofar as phase spacing is concerned,

because two breaks in the series per phase are achieved. This produces a neutral potential switch blade and permits minimum phase centre mounting.

The double break disconnecter and manual operating mechanism drives are fully universal and therefore are suitable for horizontal or vertical mounting.

The DSB features the following:

- Reverse loop contact fingers made from silver plated HD HC copper. Each contact finger is backed by a stainless steel insulated compression spring to give positive contact pressure.
- Interchangeable moving contacts of HC extruded copper section, the profile designed for high density current and multi-point contact. A wiping cleaning action is produced by the opening and closing operations.
- Aluminium main blade to suit current rating is directly bolted to the rotating centre post.
- Terminal pads of aluminium or copper alloy with standard BS or NEMA four-hole fixings are required. All copper components are heavily tinned over areas in contact with aluminium.

- Base section of galvanised steel channel with insulator levelling/fixing bolts.
- Rotating centre post main bearing assembly incorporating well spaced double taper roller bearings preloaded to compensate for heavy high voltage insulators. The housing is packed with grease on assembly and sealed for life, eliminating the need for any further maintenance.
- Adjustable phase coupling and vertical drive rods allow for wide tolerances on dimensions of mounting structure. Also allows easy alignment for synchronised gang operation of all three-phase units.



A 132 kV/1 600 A, 650 kV double side break motorised disconnecter.

#### Options

- Integral earth blades with mechanical key interlocks.
- Motor operating mechanism

which can also be fully mechanically interlocked with other substation devices such as circuit breakers.

- Remote control via radio telemetry units.
- Vertical or inverted mounting.

## Assisted Entry Blade (AEB) earth switch 33-132 kV

Earth blade type AEB is either supplied as a triple pole gang operated unit for integral mounting with all types of disconnecter or as a triple or single phase assembly for use as a separately mounted earth switch. When supplied for integral mounting with disconnecters, an integrated interlock is always provided to ensure that the switch cannot be closed while the main disconnecter is closed, and vice versa.

In the case of a separately mounted earth switch, key interlocks can be fitted to the operating mechanism as required to provide interlocking with other equipment. Please refer to separate leaflet for mechanism used with type DEB earth blade.

- Reverse loop design fixed contact fingers of HD HC copper with silver plated contact area. Each finger is backed by a stainless steel compression spring to ensure positive contact pressure, the springs being insulated from the current path. One or two pairs of fingers fitted dependent on the through fault current rating.
- Interchangeable moving contacts of HC extruded copper section, the profile designed for high density current and multi-point contact. A wiping cleaning action is produced by the opening and closing operations.
- Aluminium blade.
- Adjustable blade enabling "over top dead centre" positioning of blade locking and driver levers.
- Tinned copper laminated

flexible shunt conductors bolted to the main blade and to a terminal pad for earth mat connection.



Voltage range 66 kV to 132 kV through fault current rating up to 40 kA.



# Manual torque operating mechanism Type MT

## Torque mechanism

The torque operating mechanism is designed for manual gang operation of all rotating post disconnectors.

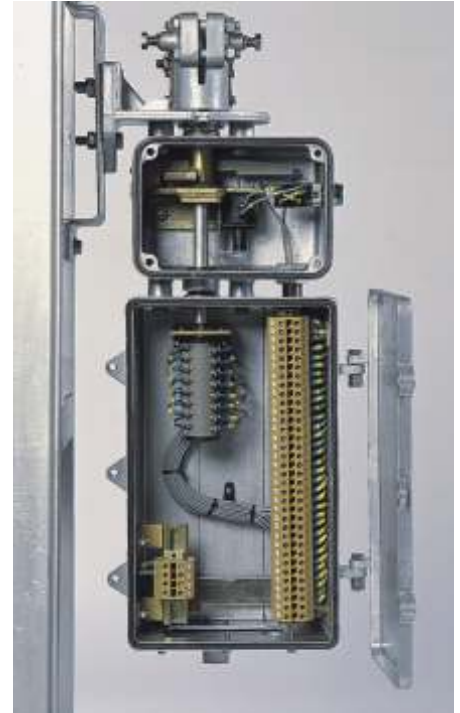
The operating handle is of a lift up/walk round type with a 180° angle of operation. The vertical operating rod position is fully adjustable by the clamping and piercing screw feature on the mechanism output coupling.

Padlocking facilities for both fully open and fully closed positions are incorporated and up to four key interlocks can be fitted to allow any sequence of interlocked operation.

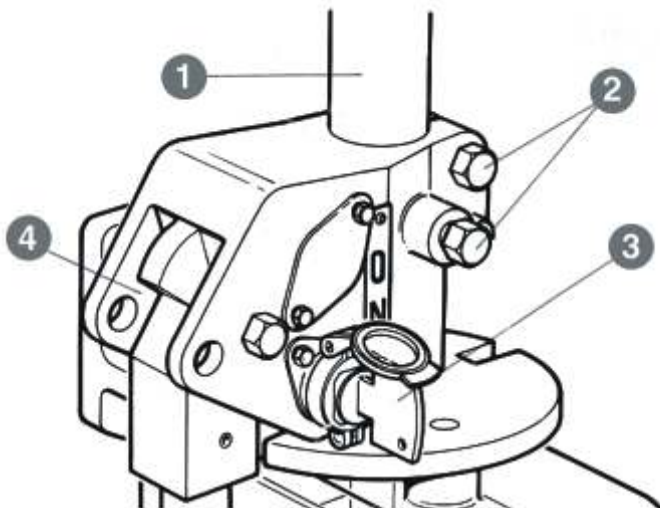
In addition, an integral mounted auxiliary switch assembly is available with normally open/normally closed circuits arranged as required.



1 Mechanism box plus magnetic bolt interlock in the same housing.



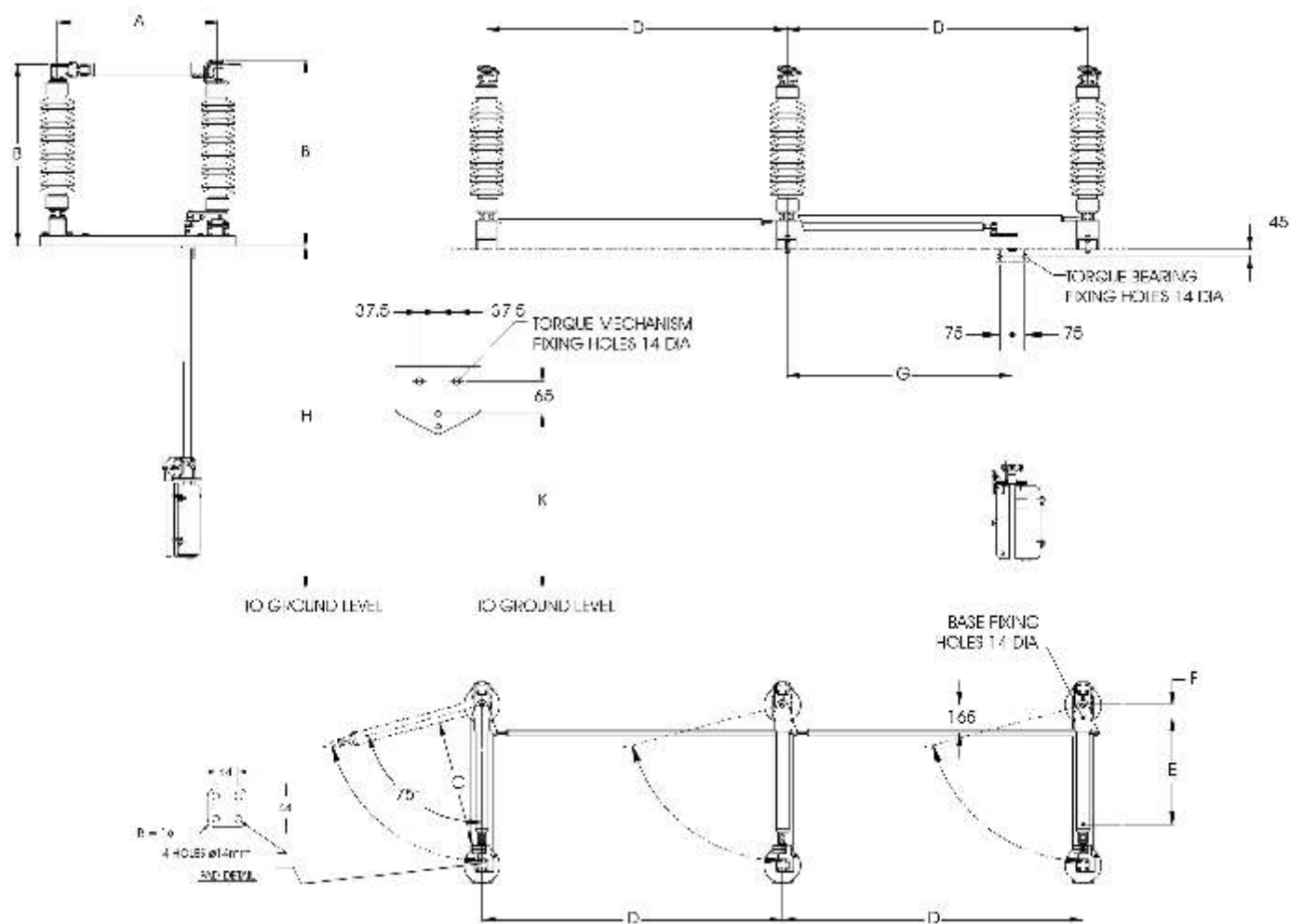
Mechanism box plus magnetic bolt interlock in a separate housing.



1 Mechanism housing showing interlock keys.  
 1. Vertical operating rod  
 2. Clamping and piercing screws  
 3. Key interlocks  
 4. Padlocking facility



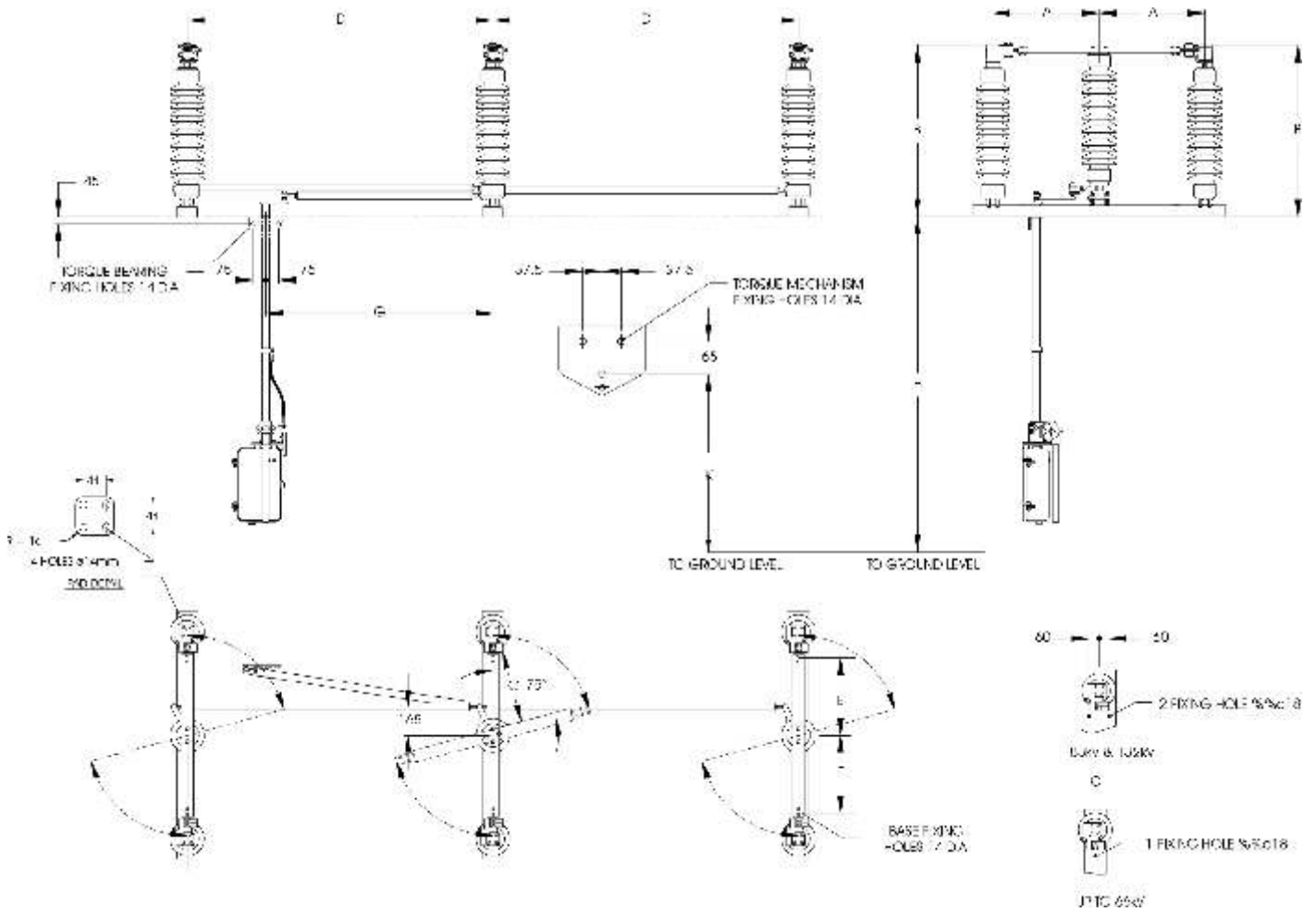
Mechanism box with lid closed.



### SSB STANDARD DIMENSIONS (mm)

		A	B	C	D*	E*	F*	G*	H*	K*
Nominal working voltage	Impulse withstand voltage	Post centres	Terminal pad height	Isolating distance	Minimum phase centres	Standard base fixing centres		Minimum dimension	Mounting height	Operating mechanism height
22 kV	150 kV	530	630	320	900	330	80	600	As req'd	1 100
33 kV	200 kV	640	760	440	1 100	440	80	600	As req'd	1 100
44 kV	250 kV	710	870	500	1 250	510	80	600	As req'd	1 100
66 kV	350 kV	960	1 070	760	1 700	760	80	600	As req'd	1 100
88 kV	380 kV	1 230	1 280		2 400	914	100	1 762	2 438	1 100
132 kV	550 kV	1 550	1 646		3 000	1 066	100	2 376	2 500	1 100

\*Actual dimensions required at the time of an order.



DSB STANDARD DIMENSIONS (mm)

Rated voltage	Impulse withstand test	A Post centres	B Terminal pad height	C Isolating distance	D* Minimum phase centres	E* Standard base fixing centres	F* Standard base fixing centres	G* Minimum dimension	H* Mounting height	K Operating mechanism height
22 kV	150 kV	375	600	320	800	As req'd	As req'd	600	As req'd	1 100
33 kV	200 kV	430	720	480	800	As req'd	As req'd	600	As req'd	1 100
44 kV	250 kV	475	820	570	900	As req'd	As req'd	600	As req'd	1 100
66 kV	350 kV	610	1 030	840	1 100	As req'd	As req'd	600	As req'd	1 100
88 kV	450 kV	710	1 240	1 040	1 200	As req'd	As req'd	600	As req'd	1 100
132 kV	550 kV	850	1 460	1 300	1 400	As req'd	As req'd	600	As req'd	1 100
132 kV	650 kV	1 200	1 740	1 495	1 600	As req'd	As req'd	600	As req'd	1 100

\*Actual dimensions required at the time of an order.

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