

# Disconnectors

and Earthing Switches

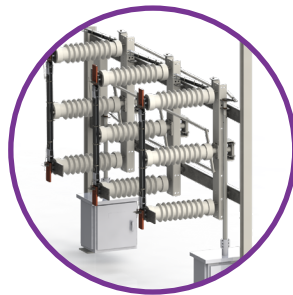
12kV to 145kV

Insulect Disconnectors are designed to accommodate each customer’s needs and the layout of each substation. For over two decades, our disconnector and earthing switches have been 100% locally designed, built and serviced to ensure the best possible solution tailored to the needs of our customers.



### Standard Design

Our disconnector range is based on a rotary double break design, with or without integrated Earthing Switch.



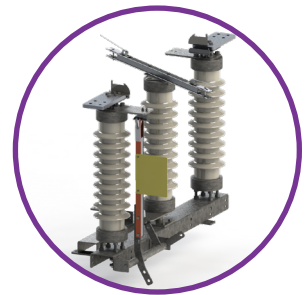
### Horizontal or Vertical

Designed for horizontal or vertical applications, and may be mounted on steel structures or pole mounted.



### Manual or Motor Operated

Disconnectors are built for either manual operation or with a motor operated mechanism, for local or remote operation.



### Earthing Switches

Independent single or double earthing switches can be supplied with the disconnectors.

## Features & Options

### Contacts

All contact surfaces are silver plated copper. Copper components other than the contact surfaces are tin plated as standard.

### Flickers

The moving blades are supplied with a spring loaded flicker to quickly extinguish residual current arcing when the switch is opened live.

### Custom footprint

Insulect disconnectors can be customised to suit specific substation layouts, configurations and structure types.

### Insulators

A variety of insulator types can be accommodated for each voltage level, including electrical and mechanical ratings and pollution levels.

## Earthing Switches

**Each disconnector can be fitted with independent earth switches where required.**

Earth switches can be supplied for one or both sides of the switch.

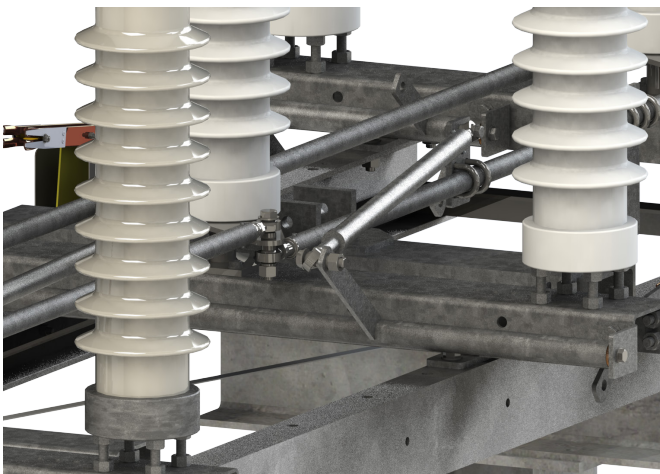


## Interlocks

**Mechanical or electrical interlocks can be provided for all disconnector models.**

Mechanical interlocks prevent the earth switch operating when the disconnector is in the 'closed' position and vice-versa.

Electrical interlocks can be provided for disconnectors and earth switches that are fitted with a motor drive. It prevents the motor drive from engaging unless it is safe to do so.



## Motor Drive

**For many applications it is desirable to operate switches remotely.**

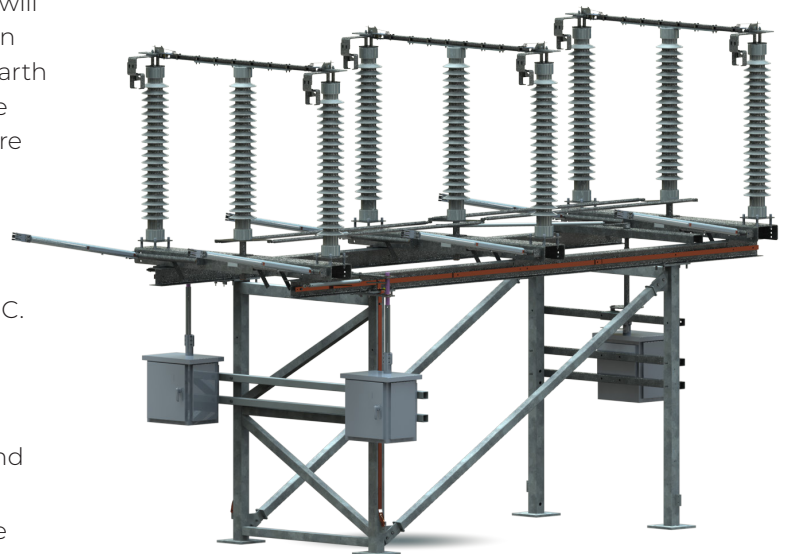
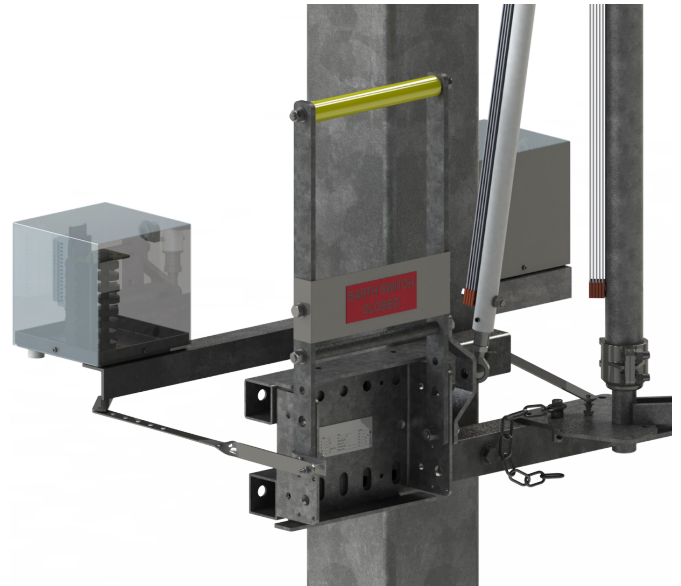
A motor drive eliminates the need for manual operation of disconnectors and earth switches and will enable operation when it is not safe to have a man in the switch yard. It also enables disconnectors and earth switches located at remote or unmanned sites to be operated from a remote control room when there are no local personnel available.

- ✓ IP65 rated stainless steel cabinet.
- ✓ Variable speed DC motor.
- ✓ The control voltage can be specified as AC or DC.
- ✓ Limit switches coupled with mechanical stops prevent the output shaft over-rotating and damaging the contacts.
- ✓ Protection is provided for the motor by fuses and thermal overload devices.
- ✓ An anti-condensation heater prevents moisture build-up inside the cabinet.
- ✓ Positioning and mounting of motor drive components can be customised to suit user requirements.

## Auxiliary Switches

**The mechanism for each switch can be fitted with Auxiliary Switches to enable a substation control system to monitor the state of the disconnectors and earth switches.**

Auxiliary switches can be supplied with more than 12 poles, depending on the control information required.



## Installation Services

**Insulect offers a complete service for new disconnectors to get them into your network and operational.**

We can customise these services to suit your network requirements, including:

- ✍ fully assembled or kit form.
- ✍ storage and delivery.
- ✍ switchyard install and test.
- ✍ staff operational training.

Contact our team for more information on how we can tailor a service package to your needs.

## Refurbishment Services

**Insulect's switchgear team provide support services for asset management of disconnectors.**

We assist customers in maintaining their disconnector fleet with a range of services and expert advice, to keep their fleet performing optimally.

- ✍ Site assessments.
- ✍ Customer site repair and refurbishment.
- ✍ Insulect service centre refurbishment.

The refurbishment services return aged disconnectors to correct operating condition, replacing all corroded, worn or damaged components.

All services are covered by warranty. Available for Insulect and AKPS branded product, as well as other manufacturer brands.

## Technical Specifications

**Rating**, according to IEC 60694

Rated Voltage (kV rms)	Rated Lightning Impulse Withstand Voltage kV (peak)		Rated 1 Min Power Frequency Withstand Voltage kV (rms)	
	To Earth and between Poles (Common Value)	Across the insulating distance	To Earth and between Poles (Common Value)	Across the insulating distance
12	75	85	28	32
24	125	145	50	60
36	170	195	70	80
72.5	325	375	140	160
145	650	750	275	315

**Normal/Short Circuit Current Rating**, according to AS62271-102 / IEC62271-102

Rated Voltage (kV rms)	Current Rating Continuous (A)	Short Circuit Withstand Current and Duration (A/sec)	LIWV (kVp) BIL
12 / 24	600 - 2500	Up to 31.5 kA/3sec	125 kV
36	600 - 2500	Up to 31.5 kA/3sec	170 kV
72.5	600 - 2500	Up to 40.0 kA/3sec	325 kV
145	600 - 2500	Up to 50.0 kA/3sec	650 kV

### Associated Earth Switch Ratings

Voltage	Short Circuit Withstand Current	LIWV (kVp) BIL
12 / 24	Up to 31.5 kA/3sec	125 kV
36	Up to 31.5 kA/3sec	170 kV
72.5	Up to 40.0 kA/3sec	325 kV
145	Up to 50.0 kA/3sec	650 kV

## Mechanical Endurance Class

AKPS Disconnectors are built and tested to M1 class mechanical endurance suitable for operating cycles of 2000 operations, as per AS 62271.102-2005 & AS 2650-2005.



For more information contact your Hiko Power Engineering representative. Hiko Power Engineering reserve the right to amend product details without notice. DS0126

