Earthing switch US 72,5 kV / 123 kV

APPLICATION

Earthing switches are used to earth the disconnected sections of substations. The earthing switches are devices to be installed outdoors. They can be supplied as a single-column stand-alone devices used for grounding or as the earthing switches mounted on the base of the ONE type disconnectors. Universal design of the earthing switches US type also allows you to mount them to the disconnectors located on the a substation.



TECHNICAL DATA

PARAMETER	VALUE	
Rated operating voltage	72,5 kV	123 kV
Peak current	125 kA	
Short-circuit current 1 s.	31,5 kA	
Test voltage for insulation of 50 Hz	140 kV	230 kV
Mechanical durability	2000 cycles	
Weight	76 kg	100 kg
Drive: manual motor	NSO 110 NRO 110	

CONSTRUCTION

Carrying element of the earthing switch is the supporting base, which through the mounting plate the post insulator is attached. It maintains the main contact of the earthing switch and high-voltage terminals, suitable for flat or bolt connections (optional). The earthing switch's arm is permanentlyconnected to the grounded frame by flexible connection. In the open position of the earthing switch's blade is positioned along the support frame. All components are protected against atmospheric conditions: the steel parts that could corrode are hot galvanized.

OPERATION

The earthing switch may be driven individually or in a set of three of the earthing switches. The construction of the drive pull rods are formed such that a dead point is achieved before the mechanism achives the end position. This prevents accidental opening or closing of the device (eg. during the vibration

caused by the earthquake, short circuits, etc.).

The energy required to close the earthing switch is transmitted to the shaft of the earthing switch through the string, causing the contacts of earthing switch going up. In the closed position the contact's fingers rest with initial tension on the limiter.

DRIVE

Three-pole earthing switch needs one drive - manual or motor. The drive is fixed to the supporting structure to which it is mounted the earthing switch.

For higher installed units, it is possible to mount the drive with the relevant driving shaft so as to be accessible from the ground level.

Locks

The drive motor can be locked electrically. The drive motor can be locked electrically. If necessary, the drive can be equipped with a locking solenoid that prevents any operation of manual drive or contingency start of the motor drive without a signal from the control room. This enables central supervision over all the manual operations of the earthing switches in the whole substation.

MAINTENANCE

Due to the careful selection of materials and constant lubrication the earthing switches practically do not need conservation. Inspections are mainly limited to the check of elements exposed to the influence of the atmosphere. Under normal climatic conditions the inspection is performed once every 5 years.

COMPLIANCE WITH THE STANDARDS

The earthing switches type US comply with the standards IEC 62271-102; IEC 60694.

TECHNICAL DRAWINGS





Dimensions of earthing switch US



Dimensions of manual drive to US earthing switch