

7c., 7d

## Discharge Rods (Non Linear Carbon Resistor Type)

Non Linear Carbon Discharge Resistor Type Discharge Rods are used to discharge dead system having limited fault levels and also to discharge the static & induced charges in the dead system or equipment, particularly in transmission lines, cables, transformers, reactors, large bus bar systems, switch-gears etc. The earthing lead is made up of special highly flexible braided copper cable with transparent sheath. Copper Hook of 4" dia of 1/2" thick copper rod & Earth End Clamp of special alloy are provided.

**MAIN INSULATION** : 'F' Class to IS, BS & IEC Specifications

For Dimensions of Insulated Rods please refer Specifications of Insulated Sticks in the beginning of Electrical Safety Equipment Section.

### ACCESSORIES

- Discharge Head fitted in the Discharge Rod
- Extension handles to extend the length
- 4" Dia Copper Hook for Bus Bars
- Special Waterproof carrying cases

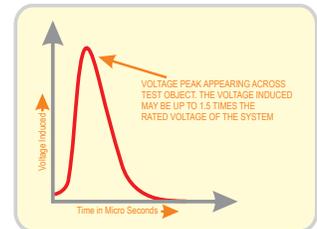
### Theory for Controlled Discharging

When discharging inductive apparatus (transformers, reactors etc.) controlled discharging must be used. We provide non linear carbon discharge resistor for this purpose which prevents the lightning impulses appearing across the equipment being discharged. While discharging inductive loads the emf induced across the object is directly proportional to rate of change of flux i.e.

$$\text{E.m.f. Induced} \propto L \frac{d\phi}{dt}$$

Since L (inductance) is usually large and the discharging takes place in microseconds, a huge impulse voltage resembling a 1.2/50µsec pulse appears across the object (a typical waveform is shown in Fig), thus subjecting the equipment under discharging to a lightning impulse voltage.

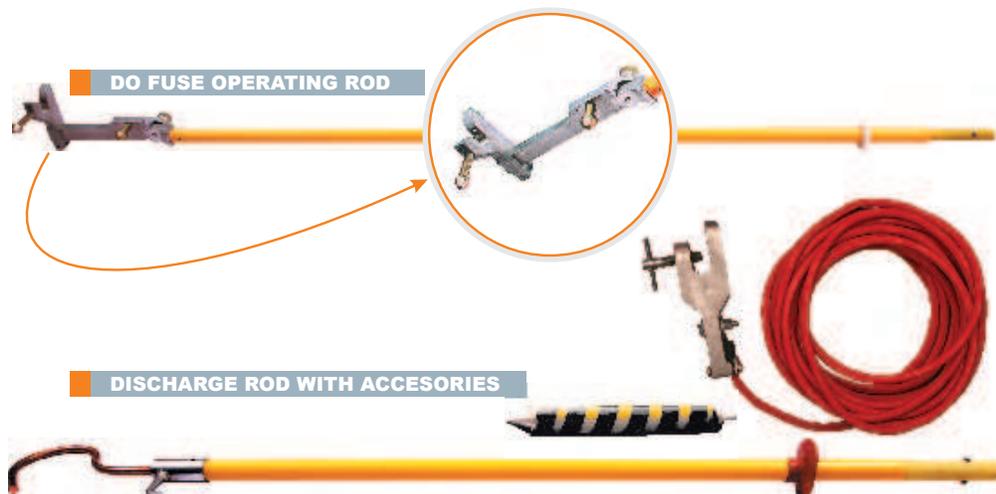
To overcome this non linear carbon discharge resistor is employed. The reverse temperature coefficient of carbon facilitates controlled discharging. As the current flows through the carbon resistance, this increases the temperature and by virtue of reverse temperature coefficient, the resistance falls. Therefore as the current is flowing, voltage is reducing and since resistance is also reducing a controlled discharging takes place



## Drop Out (DO) Fuse Operating Rods

The DO Fuse operating rods has an innovative design for fitting, removing & changing Drop Out Fuses. The DO Fuse Operating Rods has a spring loaded Fuse Jaw which accepts the DO fuses easily and ensures that it does not fall while fitting or removing. The entire operation is carried out from ground level comfortably.

This method saves considerable amount of time and effort for fuse replacement and provides extremely safe procedure as compared to the conventional procedures.



For Detailed Equipment Specifications please contact us.