

De-ion

Type AB Circuit Breakers

INSTRUCTIONS



FIG. 1—SINGLE-POLE BREAKER

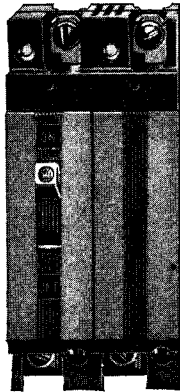


FIG. 2—DOUBLE-POLE BREAKER

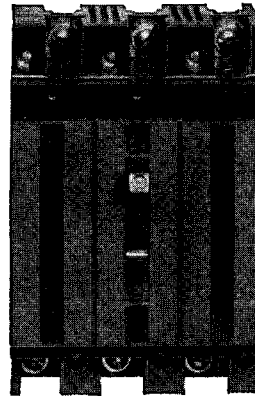


FIG. 3—THREE-POLE BREAKER

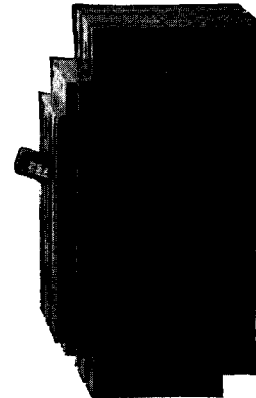


FIG. 4—SIDE-VIEW

GENERAL

The type "AB" De-ion Breakers with thermal overload trip as used on Westinghouse tap changer equipment are intended to protect the auxiliary transformer windings that supply power for the control from overloads. The mechanism is completely enclosed in a sealed case and requires no maintenance.

CONSTRUCTION AND OPERATION

The case baffles, which resist entrance of dust into the mechanism and also the operating lever are moulded from insulating material. The breaker is dead front, only the terminals being exposed, and it is not necessary to open the sealed case to make connections.

Figs. 1-2-3 show the front views of the single, double and three pole breakers. Fig. 4 shows a side view.

The butt type contacts are operated by a spring toggle which snaps them either open or closed with a quick make and break action. When released due

to overload, the toggle is trip free from the handle so that it is impossible to hold the contacts closed on a fault.

The contacts open in front of a De-ion grid stack and the proper magnetic circuit is set up by the current to move the arc off the contacts and into the grid. The De-ion grid divides the arc into a series of short arcs and on the first current zero, the arc is extinguished by the action of a large number of cathodes in series.

When De-ion Breakers are mounted in the transformer oil they have openings in the case opposite the De-ion grids to allow free circulation of oil.

The breaker is tripped on overload by a bi-metal latch which is calibrated to carry full load continuously but to trip eventually on 125% load. On high overloads, the bi-metal has inverse time characteristics which make it almost instantaneous on short circuits.

When the breaker trips from overload, the handle moves to a mid-position which gives a visible indication that the breaker has tripped. Before the breaker can be closed again, it has to be

reset by pushing the operating handle downward and then close by raising handle. On multipole units, the separate bi-metal trip mechanisms are connected by an insulated common trip bar so that an overload on one element will trip all elements.

MAINTENANCE

The entire mechanism is enclosed in its moulded case and sealed at the factory against tampering and to insure permanent calibration of the bi-metals. As the contacts are protected by the de-ion chamber against burning no maintenance is necessary.

RENEWAL PARTS

In case the breaker should become inoperative or damaged a new one should be ordered from the nearest Westinghouse Electric Corporation Office or directly from the Sharon, Pa. Works giving serial and stock order number as stamped on the transformer nameplate and style number and rating of breaker.

Westinghouse Electric Corporation

Sharon, Pa.