

## DIRECT-READING VARIABLE INDUCTORS



THE usefulness of any variable reactor or resistor is greatly increased if it is direct-reading. Reference to a calibration chart is always time-consuming and frequently leads to errors.

During recent years a number of direct-reading instruments have been announced by the General Radio Co. The five TYPE 107 Variable Inductors now join this continually lengthening list.

The general appearance of the calibrated dial is shown above. While the scale is not uniform, it is sufficiently linear to allow an accuracy of reading of 1% of the full scale reading.

The terminals of the rotor and stator coils are brought out separately to two pairs of posts on the upper left corner of the panel, which are distinct from the

terminal posts on the upper right corner. The two coils may be placed either in series or in parallel by means of two links. The engraved plate at the top edge of the panel specifies the positions of these links. The scale marked on the dial is for the series connection of the coils, as indicated on the dial.

The inductance of the coils when connected in parallel is one-quarter that for the series connection to an accuracy of better than 0.1%. The existence of circulating currents in these coils for this connection has been minimized by making their separate inductances equal.

When the rotor and stator coils are at right angles, their mutual inductance is zero. The value of their self-inductance at which this occurs is given on the engraved plate in the lower left corner of the panel. For any other position of the coils their mutual inductance is one-half the difference between this zero mutual value and the scale reading. These formulae, together with the nominal d-c resistance and current-carrying capacity of the inductor, are also given on this plate.

There are five sizes of TYPE 107 Variable Inductors as shown in the following table.

| Type  | Self-Inductance |                  | Mutual Inductance |
|-------|-----------------|------------------|-------------------|
|       | Series          | Parallel         |                   |
| 107-J | 6- 50 $\mu$ h   | 1.5-12.5 $\mu$ h | 0-12.5 $\mu$ h    |
| 107-K | 50-500 $\mu$ h  | 13-125 $\mu$ h   | 0-125 $\mu$ h     |
| 107-L | .5- 5 mh        | .13-1.25 mh      | 0-1.25 mh         |
| 107-M | 5- 50 mh        | 1.3-12.5 mh      | 0-12.5 mh         |
| 107-N | 50-500 mh       | 13-125 mh        | 0-125 mh          |

The price of the three smallest inductors is \$35.00, that of the two larger, \$40.00.



GENERAL RADIO COMPANY

30 State Street - Cambridge A, Massachusetts



PRINTED  
U.S.A.