

Search Coil - Instructions



The IRWIN search coil is designed to detect and measure a.c. magnetic fields. It is composed of a 3,200 turn coil on a 20mm former. The coil is mounted on a Perspex tube handle and the connections are terminated with 4mm plugs. The axis of the coil is parallel to the handle. The coil should be orientated so that the direction of the field to be measured passes through the coil i.e. up through the handle.

The search coil does not react to steady magnetic fields, for example from a bar magnet. The coil has an air core to minimise distortion of the measured field. The coil is designed to be used with either an oscilloscope, set to about 200mV a.c. vertical deflection or a multimeter set to 200mV a.c.

Should you wish to use a d.c. meter then this can be achieved by connecting a diode in series with one of the leads. However, the sensitivity will be reduced if this method is employed. The search coil may be used to demonstrate transformer action (the coil is essentially one half of a transformer) as well as measurement and shape of magnetic fields.