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Product Name :

Search Coil

Product Code :

SLE/EAM/25



Description :

The **Search Coil** (Product Code: SLE/EAM/25) is a hand-held probe for investigating changing magnetic fields: a 3300 turn, 25mm diameter coil mounted on a plastic handle. When the field through the coil changes, an EMF is induced in its many turns, and connecting the coil to an AC millivoltmeter or oscilloscope turns that EMF into a reading students can compare from place to place. Manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, it is a compact addition to any electromagnetic induction kit in India for senior school and college physics.

Specifications

Parameter	Detail
Coil	3300 turns
Coil diameter	25mm
Handle	Plastic
Connection	4mm flying leads
Read with	AC millivoltmeter or oscilloscope
Application	Investigating changing magnetic fields

Typical Use

A search coil only responds to a field that is changing, so it is normally used near a coil, solenoid or transformer carrying alternating current. Students hold the probe by its handle, move it around the source and watch the induced signal on the meter or oscilloscope trace. Rotating the coil until the reading peaks shows the field direction at that point, while stepping it away from the source shows how quickly the field strength falls with distance. Because the induced EMF is proportional to the rate of change of flux, doubling the supply frequency at the same current also makes a neat demonstration of Faraday's law.

The large number of turns gives a usable signal even from modest fields, so the probe works well in ordinary physics lab equipment set-ups without special amplifiers. Keep the flying leads twisted together to reduce pick-up, and hold the coil steady while a reading is taken.

Manufacturer

Jain Scientific Equipments Private Limited manufactures this probe under its ScienceLab trading name in Ambala, Haryana, where it produces induction, magnetism and circuit apparatus for classrooms. The company profile describes the business in more detail.

Related Electricity and Magnetism Equipment

Field sources and instruments that complete a search-coil investigation:

- Oscilloscope, Dual Trace — displays the induced emf so it can be measured with the
- Solenoid — a long coil that produces a uniform field for the probe to map
- Transformer — a source of alternating magnetic field for the probe to detect