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Product Name :

E-Field Detector

Product Code :

SLE/EAM/01



Science Lab
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Description :

E-Field Detector (Product Code: SLE/EAM/01) is an electronic charge detector for electrostatics teaching. Its LED array shows not only whether a charge is positive or negative but also howlarge it is, and external voltmeter sockets allow quantitative measurements. It can pick up verysmall charges and their polarity, and detect charge at a distance, so physics teachers can showclearly which way electrons have moved when an object is charged. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India.

Specifications

Parameter	Detail
Indicator	LED array showing polarity and size of charge
Display range	Hi sensitivity 6 – 125pC; Lo sensitivity 0.6 – 12.5nC
Display resolution	Hi sensitivity min. resolution 6pC; Lo sensitivity min. resolution 0.6nC
Socket output range	0 – 4.7V, equivalent to Hi sensitivity 0 – 470pC; Lo sensitivity 0 – 47nC
Input voltage	24V DC
Power adapter	24V AC-DC adapter included
Current draw	50mA
Weight	252g
Dimensions (L x W x H)	145 x 100 x 50mm
Instructions	Comprehensive instructions covering traditional electrostatics experiments and newer ways to investigate charge

Typical Use

School electrostatics has usually relied on attraction-and-repulsion experiments or a delicate gold leaf electroscope, which show that a charge is present but not its sign. With the E-Field Detector the class sees straight away whether rubbing a rod has left it positive or negative, and therefore in which direction electrons have moved. Typical activities include charging different materials by friction, charging by induction, sharing charge with a proof plane, and detecting a charged object held some distance away — turning abstract ideas into observations students can record.

For quantitative work, connect a voltmeter to the output sockets: 0 – 4.7V corresponds to 0 – 470pC on Hi sensitivity or 0 – 47nC on Lo, so results can be tabulated and graphed. Set-up is quick and simple, which helps specialist and non-specialist teachers alike, and the controls are easy enough for students to gather data themselves. Use Hi sensitivity for small charges and Lo for larger ones, and power the unit from the supplied 24V adapter. As physics lab equipment for secondary and college electrostatics, it complements rather than replaces the traditional apparatus.

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