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Product Name :

Piezo Transducer

Product Code :

SLE/EAM/18



Description :

Piezo Transducer (Product Code: SLE/EAM/18) is a 15 mm diameter ceramic piezoelectric element, protected by an integral press-stud, that turns a sharp mechanical tap into a voltage pulse of up to 20 V. Working the other way, it converts an electrical signal into sound, so a single small device shows energy conversion in both directions. It makes a handy addition to STEM science kit activities on energy transfer and is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, a physics instruments supplier in India.

Specifications

Parameter	Detail
Element	Ceramic, 15 mm diameter
Protection	Integral protective press-stud
Output	Voltage pulses of up to 20 V when given a sharp tap
Output shown on	Voltmeter, data-logger or oscilloscope
Reverse effect	Connected to a signal generator, converts the electrical signal to sound waves

Typical Use

For the direct effect, connect the transducer to an oscilloscope or data-logger and tap the press-stud sharply: a tall, narrow spike appears on the trace, and students can compare light and firm taps to show that more mechanical input produces a larger pulse. A voltmeter can be used too, but because each pulse lasts only a moment the display may just flicker, so an oscilloscope or logger gives the clearest record. The same principle drives the spark in a piezo gas lighter, a link students recognise at once.

For the reverse effect, connect the transducer to a signal generator from the electronics lab and it becomes a small loudspeaker, turning the electrical signal into sound waves. Varying the generator frequency lets the class hear the pitch change, which makes the unit useful in a sound wave experiment as well as in energy-conversion lessons. Always tap the protective stud rather than the edge of the ceramic, which is brittle.

Manufacturer

ScienceLab is the trading identity of Jain Scientific Equipments Private Limited, a maker of physics and electronics teaching apparatus located in Ambala, Haryana, with customers in India and international markets. Company details are on the profile page.

Related Electricity and Magnetism Equipment

These items show the transducer's output or drive its reverse effect:

- Oscilloscope Dual Trace — captures the shape and height of each voltage pulse.
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