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Product Name :

Thermoelectric Converter

Product Code :

SLE/PHY/310



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Description :

Thermoelectric Converter (Product Code: SLE/PHY/310) is a demonstration device used to show that a temperature difference across semiconductor junctions generates electricity, and that electricity can create a temperature difference, in school and college physics lessons. Its semiconducting junction plates sit between two aluminium heat-conducting plates, and a switch connects them either to a small motor fan or to a pair of 4 mm sockets. For heat energy science lessons, it is supplied by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India.

Key Details

Parameter	Detail
Junctions	Series of semiconducting junction plates
Heat-conducting plates	2 aluminium plates, one on each side of the junctions
Visual indicator	Small motor fan driven by the generated current
Selector switch	Connects the junction plates to the motor fan or to a pair of 4 mm sockets
Reverse (heat-pump) mode	5 V DC applied at the 4 mm sockets creates a temperature difference, conducted by the aluminium plates
Product code	SLE/PHY/310
Supplied by	Jain Scientific Equipments Pvt Ltd (ScienceLab), Ambala, India

What Is the Thermoelectric Converter Used For?

In generator mode, set the switch to the fan and create a temperature difference between the two aluminium plates, for example by standing one side on a container of warm water and keeping the other cool. Current generated at the semiconductor junctions spins the little fan, a direct and visible example of the Seebeck effect turning heat energy into electrical and then kinetic energy. A larger temperature difference usually gives a livelier fan, which makes a good prompt for discussion.

Switch to the 4 mm sockets and drive them with 5 V DC to reverse the process: the junctions now pump heat, so one plate becomes warmer and the other cooler, which is the Peltier effect used in small electronic coolers. Use only moderate temperatures unless we have confirmed the limits for your unit, and let the plates return to room temperature before touching them.

Supplier

Jain Scientific Equipments Private Limited, which trades as ScienceLab, supplies the Thermoelectric Converter from Ambala, Haryana, India to schools, colleges and dealers in India and international markets. The device is sourced for our heat and energy teaching range, and we confirm its operating details with each quotation. See our company profile for more about the company.

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