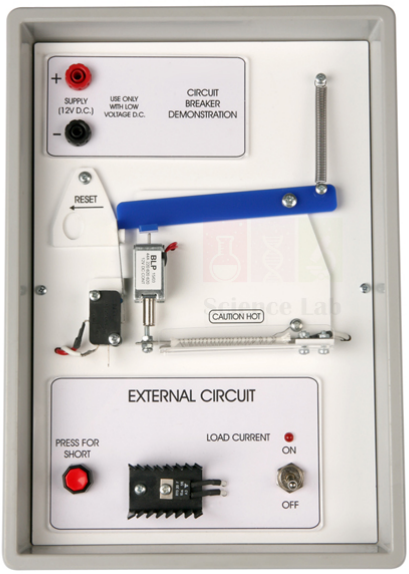
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Product Name :

Circuit Breaker

Product Code :

SLE/EAM/11



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Description :

Circuit Breaker (Product Code: SLE/EAM/11) is a demonstration unit that shows, on safe low-voltage DC, how a modern domestic circuit breaker protects a circuit in two different ways: a thermal trip that responds to a slow overload and a solenoid trip that reacts to a sudden current surge. By combining a solenoid experiment with a bi-metal strip demonstration, it links two textbook topics to a device students see in every home. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, India.

Key Details

Parameter	Detail
Type	Circuit breaker demonstration apparatus
Slow overload protection	Thermal trip using a bi-metal strip
Surge overload protection	Solenoid (electromagnetic) trip
Supply required	12 V DC, safe low voltage
Connections	4 mm sockets
Housing	Robust tray with acrylic protective cover
Teaching focus	Applications of solenoids and bi-metal strips; key principles of the domestic circuit breaker

Typical Use

A lesson usually starts with the slow overload. As the current is held above normal, the bi-metal strip warms, bends and eventually releases the contacts, and students can relate the delay to an overloaded extension board that gets hot before anything trips. The contrasting surge overload makes the solenoid pull in almost at once, showing why a real breaker needs a fast electromagnetic response for short circuits as well as a slower thermal one for sustained overloads.

Because everything runs from 12 V DC and sits under a clear acrylic cover, students can watch both mechanisms at close range without any exposure to mains wiring. The unit works well as a capstone electricity experiment after separate lessons on electromagnets and thermal expansion, and it opens a natural discussion about how breakers differ from fuses in household safety.

Manufacturer

Jain Scientific Equipments Private Limited, whose products carry the ScienceLab name, manufactures electrical demonstration apparatus like this unit in Ambala, Haryana, for classrooms in India and international markets. Find out more on the company profile page.

Related Electricity and Magnetism Equipment

Buyers of this demonstrator often add these items to power it or extend the safety topic:

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