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Product Name :

Instrumentation Amplifier

Product Code :

SLE/EAM/20



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Description :

The **Instrumentation Amplifier** (Product Code: SLE/EAM/20) is a switched-gain precision op-amp unit that boosts the very small signals produced by sensors such as strain gauges, pressure gauges, thermocouples and platinum resistance thermometers until they can be read on an ordinary multimeter. Physics teachers, electronics tutors and engineering instructors use it to turn a sensor experiment into a clear voltage reading. It is produced by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, as part of its range of test and measurement instruments in India for teaching laboratories.

Specifications

Parameter	Detail
Type	Switched-gain precision op-amp
Gain settings	5, 10, 30, 100, 300 and 1000
Sensor input	Telephone type data socket that interfaces with the flying lead of dedicated sensor units
Input monitoring	4mm sockets for monitoring the input signal
Output reading	Output voltage measured with a standard multimeter
Auxiliary lines	0V and +9V lines on the front panel for user-designed circuitry
Suitable sensors	Strain gauges, pressure gauges, thermocouples, platinum resistance thermometers and similar
Dimensions	190 x 110 x 65mm overall

Typical Use

Many transducers change their resistance or output voltage by only a tiny amount, far below what a school meter can resolve. The sensor’s flying lead plugs into the data socket, the gain switch is set, and the amplified output is read on a multimeter. A sensible routine is to start on a low gain, confirm the reading is stable, then step up through 30, 100 and beyond until the change of interest is comfortably visible without saturating the output. The 4mm input sockets let students compare the raw signal with the amplified one and work out the actual gain for themselves.

In advanced school physics, polytechnic and first-year engineering classes the unit supports loading experiments with a strain gauge, temperature measurement with thermocouples or resistance thermometers, and pressure sensing. The 0V and +9V lines on the front panel also allow students to build and power small circuits of their own design, which makes the amplifier a flexible choice among lab equipments for technical institutes.

Manufacturer

This amplifier comes from **Jain Scientific Equipments Private Limited**, trading as ScienceLab, which designs and manufactures physics and electronics teaching apparatus in Ambala, Harya and its ex he DGF