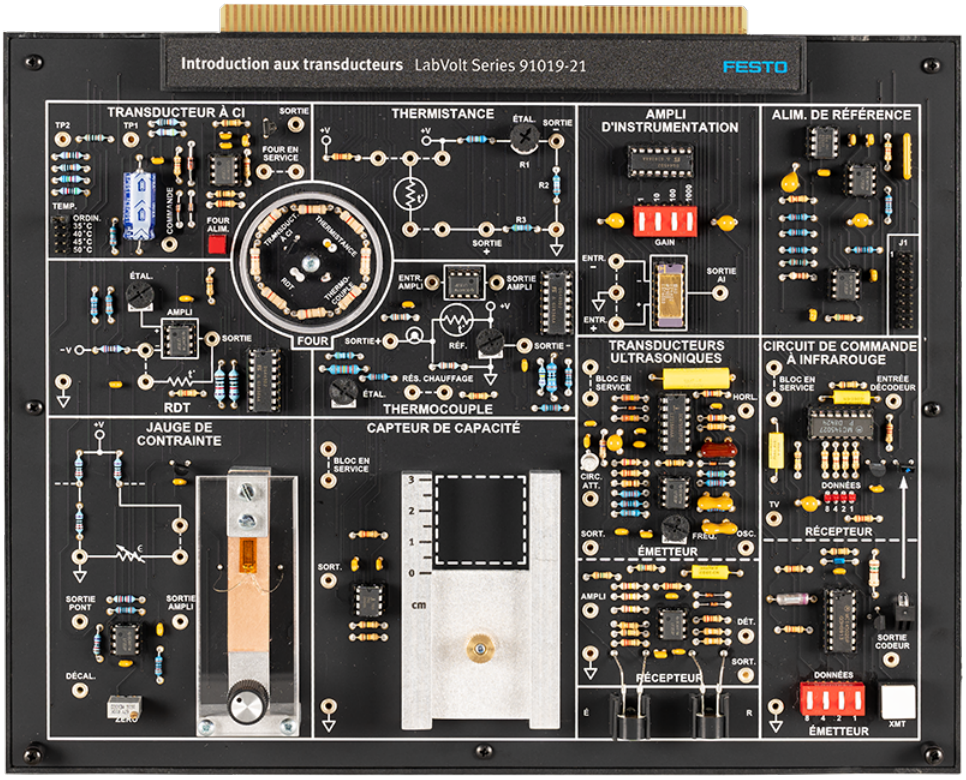
Transducer Fundamentals FACET Board
581096 (91019-20)

LabVolt Series

Datasheet



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General Description

The Transducer Fundamentals circuit board guides the trainee through the circuits and devices used to interface computer and control circuits to the outside world. The circuit board includes eight transducer circuit blocks, an oven for demonstrating temperature transducers, an instrumentation amplifier with selectable gain, and a Reference Supply circuit block with computer interface.

Students learn the principles of input and output transducers and how physical quantities, such as heat, position, proximity and force, are converted to electrical signals for detection and processing by computer and control systems.

The circuits found on this module include:

- IC Transducer

- Thermistor

- RTD

- Thermocouple

- Strain Gauge

- Capacitance Sensor

- Ultrasonic Transducers (Transmission/Reception)

- Infrared Controller (Transmission/Reception)

This circuit board can be interfaced with the optional 32-Bit Microprocessor board to demonstrate the principles of data acquisition and microprocessor control of external devices in process control and automation applications.

Topic Coverage

- Introduction to Transducers and the Circuit Board
- Temperature Measurement, Control, RTD, Thermocouple
- Capacitance Sensor, Touch and Position Sensing
- Strain Gauge Characteristics
- Bending Beam Load Cell (Strain Gauge)
- Ultrasonic Principles, Distance Measurement
- Infrared Transmission/Reception, IR Remote Control
- Force Measurement
- Computerized Temperature Control and Measurement (Requires the Optional 32-Bit Microprocessor Module (91017), plus these accessories: 9 V Power Supply (91730) and Flat Ribbon Cable (91627).)
- Computerized Force Measurement (Requires the Optional 32-Bit Microprocessor Module (91017), plus these accessories: 9 V Power Supply (91730) and Flat Ribbon Cable (91627).)
- Troubleshooting Transducer Circuits

Features & Benefits

- Reference supply
- Temperature-controlled oven
- Instrumentation amplifier with selectable gain
- Mechanical fixture to demonstrate compressive and tensile strain measurement with a strain gauge
- Separate ultrasonic transmitter and receiver
- Infrared transmission/reception and data link

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

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