Student Strain Gage Data Acquisition Device

FEATURES
- Single-channel strain gage data acquisition
- Hardware and software support for full-bridge, half-bridge, and quarter-bridge circuits
- Built-in bridge completion
- 3-wire strain gage connection
- 80-Hz data rate
- Fixed excitation of 2.5 V
- Input range of ±16,000 με
- Powered via the USB interface
- Intuitive, user-friendly software
- No calibration is required

DESCRIPTION
The Student Data Acquisition Device is a single-channel, USB-powered measurement device for use with resistive strain gages. Internal bridge completion supports full-, half-, and quarter-bridge configurations.

This device is designed for use in applications where a convenient, low-cost, easy-to-use strain gage measurement is required. It is ideal for classroom environments or gage installation verification.

Operation of the StudentDAQ is performed with commands sent via a USB connection. User-friendly application software is provided to control the StudentDAQ with a Microsoft® Windows®-based personal computer. Complete source code, written in National Instruments® LabVIEW® is provided. A .NET interface is also included.

SPECIFICATIONS
Input Connections
- Type: RJ-45 Modular
- Quantity: 1

Bridge Configurations
- Types: Quarter, half, and full bridges
- Internal bridge completion:
  - Quarter bridge: 120 Ω, 350 Ω, 1000 Ω
  - Half bridge: 1000 Ω

Data Conversion
- A/D converter: 24-bit delta-sigma with a low-noise amplifier (gain of 50)

Measurement Range
- Strain range: ±16,000 με at GF=2.000
- Resolution: 1με (GF = 2.000)
- Accuracy: 1% of reading (GF = 2.000)

Balance Control
- Type: Software
- Control: Manual

Bridge Excitation
- Value: 2.5 VDC nominal
- Control: Fixed

Communication Interface
- Universal serial bus (USB)

Case material: Plastic

Size and Weight:
- 1.0 W x 1.0 H x 3.5 L inches (25.4 x 25.4 x 88.9 mm)
- 0.05 lb (0.023 kg)

<table>
<thead>
<tr>
<th>Model</th>
<th>3-Wire Quarter Bridge</th>
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<tbody>
<tr>
<td>MM01-120</td>
<td>120 Ω</td>
</tr>
<tr>
<td>MM01-350</td>
<td>350 Ω</td>
</tr>
<tr>
<td>MM01-1K</td>
<td>1000 Ω</td>
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</tbody>
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Block Diagram

For technical questions, contact mm@vpgsensors.com
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