

# FlexiForce<sup>®</sup>

## Economical Load and Force Measurement (ELF<sup>™</sup>)



The ELF System is a user-friendly, cost-effective load measurement system. This system combines 3 FlexiForce B201 sensors, USB-interface electronics, and Windows-compatible software\*, turning your PC or laptop into a force measurement instrument. This system is capable of multi-point sensing and available in a high-speed version.

\* Compatible with Windows 7, 8, 8.1, 10, XP, and Vista

\* Software v 4.3 and above is not compatible with previous wired handles starting with serial#125 (see back of handle)

### KEY FEATURES

- Real-time data capture
- ASCII output to data analysis software
- Simple and storable calibration
- Adjustable sensitivity
- Multiple handle capability available
- Displays in strip chart, column graph, or digital readout
- Movie recording & saving
- Multi-point calibration
- Capability to tare a load
- Internal load triggering
- Sampling rates up to 200 Hz
- High-Speed version available, up to 6000 Hz
- Includes 3 FlexiForce B201 sensors
- ELF is compatible with all FlexiForce sensor models using the ELF adapter tab
- Additional handles available for purchase

### SYSTEM PERFORMANCE

| ELF System | Sampling Rate  | Max. # of Handles | Includes:   |
|------------|----------------|-------------------|---|
| Standard   | Up to 200 Hz   | Up to 16          | <ul style="list-style-type: none"> <li>• (1) Handle</li> <li>• (3) B201 Sensors</li> <li>• ELF Software</li> </ul>            |
| High-Speed | Up to 6,000 Hz | Up to 16          | <ul style="list-style-type: none"> <li>• (1) Handle</li> <li>• (3) B201 Sensors</li> <li>• High-Speed ELF Software</li> </ul> |

## PHYSICAL PROPERTIES OF B201 SENSOR

|              |   |
|--------------|---|
| Thickness    | 0.203 mm (0.008 in.)  |
| Length       | 228.6 mm (9 in.) End-to-end   |
| Width        | 14 mm (.55 in.)   |
| Sensing Area | 9.53 mm (0.375 in.) diameter  |
| Connector    | Interface to ELF™ data acquisition system handle<br>(handle connects to USB port) |
| Substrate    | Polyester (ex: Mylar)   |

The ELF system is compatible with all FlexiForce sensor models using the ELF adapter tab.

✓ ROHS COMPLIANT

## RECOMMENDED MAXIMUM FORCE (variable gain feature of the ELF System enables adjustable force ranges)

| Sensor | High Gain<br>Maximum Force | Low Gain<br>Maximum Force |
|--------|----------------------------|---------------------------|
| B201-L | 4.4 N (0 - 1 lb)           | 111 N (0 - 25 lb)         |
| B201-M | 111 N (0 - 25 lb)          | 667 N (0 - 150 lb)        |
| B201-H | 667 N (0 - 150 lb)         | 4448 N (0 - 1,000 lb)     |

|                       | Typical Performance             | Evaluation Conditions                         |
|-----------------------|---------------------------------|---|
| Linearity (Error)     | < ±3%                           | Line drawn from 0 to 50% load                 |
| Repeatability         | < ±2.5% of full scale           | Conditioned sensor, 80% of full force applied |
| Hysteresis            | < 4.5 % of full scale           | Conditioned sensor, 80% of full force applied |
| Drift                 | < 5% per logarithmic time scale | Constant load of 111 N (25 lb)                |
| Operating Temperature | -40°C - 60°C (-40°F - 140°F)    |   |

- Force reading change per degree of temperature change = ±0.36%/°C (0.2%/°F)

