

## Model MBL

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### Minigram Beam Load Cell



#### DESCRIPTION

Models MBL Minigram Beam Load Cells are engineered to measure very low bending forces and still achieve an impressive 0.1 % full scale non-linearity and hysteresis. Built-in overload stops are incorporated to provide additional reliability. Miniature

dimensions allow easy unit integration into existing systems. Model MBL uses semiconductor gages and is available for load ranges from 25 to 1000 grams.

#### FEATURES

- 25 g to 1000 g
- Miniature size
- 0.1 % linearity
- Small diameter
- Integral cable
- Calibrated in compression only

# Model MBL

## PERFORMANCE SPECIFICATIONS

| Characteristic           | Measure                            |
|--------------------------|------------------------------------|
| Load ranges <sup>4</sup> | 25, 50, 100, 150, 250, 500, 1000 g |
| Linearity (max.)         | ±0.1 % full scale                  |
| Hysteresis (max.)        | ±0.1 % full scale                  |
| Non-repeatability (max.) | ±0.03 % full scale                 |
| Output (tolerance)       | 20 mV/V (nominal)                  |
| Operation                | Tension/compression <sup>1</sup>   |
| Resolution               | Infinite                           |

## ENVIRONMENTAL SPECIFICATIONS

| Characteristic           | Measure                             |
|--------------------------|-------------------------------------|
| Temperature, operating   | -18 °C to 93 °C [0 °F to 200 °F]    |
| Temperature, compensated | 15 °C to 71 °C [60 °F to 160 °F]    |
| Temperature, storage     | -73 °C to 93 °C [-100 °F to 200 °F] |
| Temperature effect, zero | 0.015 % full scale/°F               |
| Temperature effect, span | 0.02 % full scale/°F                |

## ELECTRICAL SPECIFICATIONS

| Characteristic               | Measure              |
|------------------------------|----------------------|
| Strain gage type             | Bonded semiconductor |
| Excitation (calibration)     | 5 Vdc                |
| Insulation resistance        | 5000 mOhm @ 50 Vdc   |
| Bridge resistance            | 500 ohm              |
| Zero balance                 | ±5 % full scale      |
| Electrical termination (std) | Cable 1,83 m [5 ft]  |

## MECHANICAL SPECIFICATIONS

| Characteristic         | Measure               |
|------------------------|-----------------------|
| Maximum allowable load | 400 % FS <sup>2</sup> |
| Weight                 | 50 g                  |
| Material               | Aluminum              |

## WIRING CODES

| Cable | Unamplified    |
|-------|----------------|
| Red   | (+) excitation |
| Black | (-) excitation |
| Green | (-) output     |
| White | (+) output     |

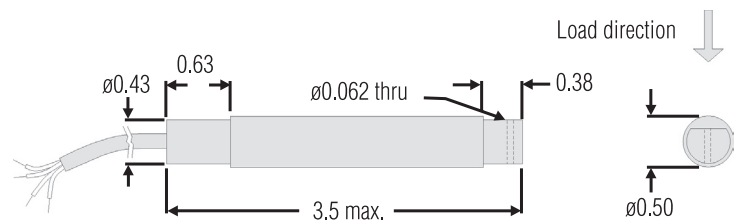
## RANGE CODES

| Range Codes | Range  |
|-------------|--------|
| AH          | 25 g   |
| AJ          | 50 g   |
| AK          | 100 g  |
| AL          | 150 g  |
| AN          | 250 g  |
| AP          | 500 g  |
| AR          | 1000 g |

## OPTION CODES

|                                 |   |
|---------------------------------|---|
|                                 | <b>Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see <a href="http://sensing.honeywell.com/TMsensor-ship">http://sensing.honeywell.com/TMsensor-ship</a> for updated listings.</b> |
| <b>Load range</b>               | 25, 50, 100, 150, 250, 500, 1000 g  |
| <b>Temperature compensation</b> | 1a. 60 °F to 160 °F<br>1b. 30 °F to 130 °F<br>1c. 0 °F to 185 °F  |
| <b>Internal amplifiers</b>      | 2u. Unamplified, mV/V output  |
| <b>Electrical termination</b>   | 6e. Integral cable: Teflon<br>6d. Microtec DR-4S-4H four-pin  |
| <b>Special calibration</b>      | 9a. 10 point (5 up/5 down) 20 % increments @ 70 °F  |

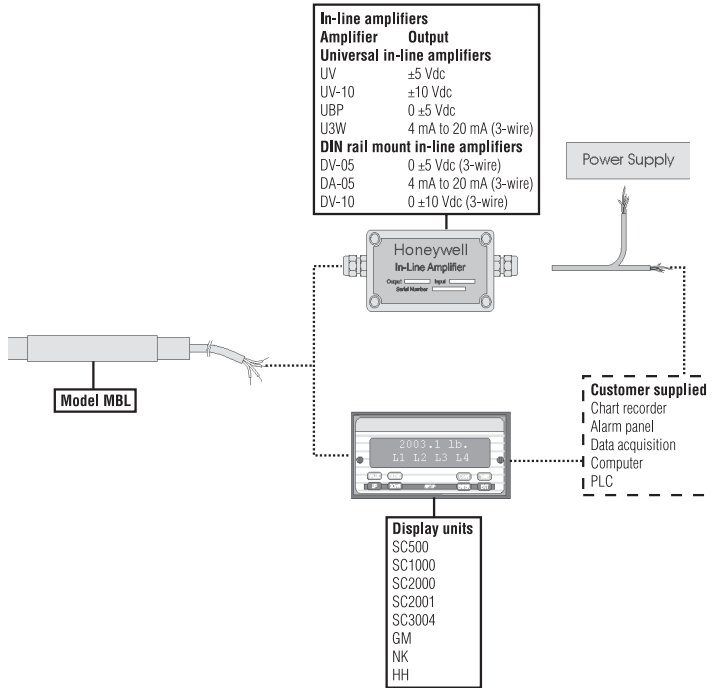
## MOUNTING DIMENSIONS



## NOTES

1. Positive in compression; calibrated in compression only.
2. Allowable maximum loads – maximum load to be applied without damage.<sup>3</sup>
3. Without damage - loading to this level will not cause excessive zero shift or performance degradation. The user must consider fatigue life for long term use and structural integrity. All structurally critical applications (overhead loading, etc.) should always be designed with safety redundant load paths.
4. This unit calibrated to Imperial (non-Metric) units.

## TYPICAL SYSTEM DIAGRAM



**Warranty.** Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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Email inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

### **WARNING** **PERSONAL INJURY**

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARNING** **MISUSE OF DOCUMENTATION**

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**