Honeywell

Model 103

Load Cell



DESCRIPTION

Model 103 load cell is engineered to measure bending forces and still achieve an impressive 0.02% full scale accuracy. Small dimensions allow easy unit integration into existing systems. Model 103 uses foil gages and is available for load ranges from 100 kg to 10000 kg.

FEATURES

- Low cost
- 100 kg to 10000 kg range
- ±0.02 % accuracy
- Integral cable
- Cost efficient
- One-piece, nickel-plated alloy steel construction

Model 103

PERFORMANCE SPECIFICATIONS

| Characteristic | Measure | | | | |
|--------------------------|--|--|--|--|--|
| Load ranges ³ | 100, 200, 300, 500, 1000, 2000, 3000, 5000, 10000 kg | | | | |
| Accuracy | ±0.02 % full scale | | | | |
| Output | 2 mV/V (nominal) | | | | |
| Creep (max.) | ±0.02 % full scale (30 minutes) | | | | |

ENVIRONMENTAL SPECIFICATIONS

| Characteristic | Measure | | | | |
|--------------------------|------------------------------------|--|--|--|--|
| Temperature, operating | -30 °C to 70 °C [-22 °F to 158 °F] | | | | |
| Temperature, compensated | -20 °C to 55 °C [-4 °F to 130 °F] | | | | |
| Temperature effect, zero | ±0.02 % full scale/10 °C | | | | |
| Temperature effect, span | ±0.02 % full scale/10 °C | | | | |

ELECTRICAL SPECIFICATIONS

| Characteristic | Measure | | | | | |
|--|---------------------------|--|--|--|--|--|
| Strain gage type | Bonded foil | | | | | |
| Excitation (calibration) | 10 Vdc to 12 Vdc | | | | | |
| Excitation (max.) | 15 Vdc | | | | | |
| Insulation resistance | ≥5000 mOhm | | | | | |
| Bridge resistance (tolerance) - input resistance | 400 ohm ±10 ohm (nominal) | | | | | |
| Bridge resistance (tolerance) - output resistance | 352 ohm ±2 ohm (nominal) | | | | | |
| Zero balance (tolerance) | ±1 % full scale | | | | | |
| Electrical termination (std) 100 kg to 300 kg | 3 m flying leads | | | | | |
| Electrical termination (std) 1000 kg to 5000 kg | 5 m flying leads | | | | | |
| Electrical termination (std) 10000 kg | 8 m flying leads | | | | | |

MECHANICAL SPECIFICATIONS

| Characteristic | Measure | | | | | |
|------------------------|-------------------------------|--|--|--|--|--|
| Maximum allowable load | 150 % full scale ¹ | | | | | |
| Material | Nickel plated alloy steel | | | | | |
| Deflection | ≤ 1,5 mm | | | | | |

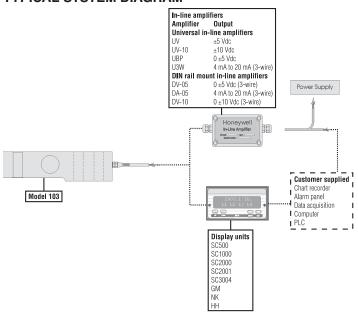
WIRING CODES

| Cable | |
|-------------|------------|
| Red | (+) supply |
| Black | (-) supply |
| Green | (+) output |
| White | (-) output |
| Large black | shield |

RANGE CODES

| Range Codes | Range |
|-------------|----------|
| LH | 100 kg |
| LL | 250 kg |
| LM | 300 kg |
| LN | 500 kg |
| LQ | 1000 kg |
| LS | 2000 kg |
| LU | 5000 kg |
| LW | 10000 kg |

TYPICAL SYSTEM DIAGRAM

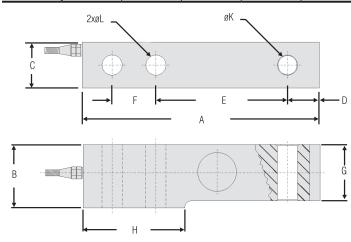


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MOUNTING DIMENSIONS

| Load (kg) | A mm [in] | B mm [in] | C mm [in] | D mm [in] | E mm [in] | F mm [in] | G mm [in] | H mm [in] | L mm [in] | M mm [in] | Recom- mended bolt torque (N-m) |
|----------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------|---|
| 100 to 300 | 135 [5.31] | 36 [1.42] | 26 [1.02] | 18 [0.71] | 75 [2.95] | 25 [1.0] | 32 [1.26] | 58 [2.28] | 11,5 [0.45] | 11,5 [0.45] | 60 |
| 500 to 2000 | 135 [5.31] | 38 [1.5] | 30 [1.18] | 18 [0.71] | 75 [2.95] | 25 [1.0] | 34 [1.34] | 58 [2.28] | 13,5 [0.53] | 13,5 [0.53] | 100 |
| 300 to 5000 | 170 [6.69] | 48 [1.89] | 38 [1.5] | 20 [0.79] | 85 [3.35] | 50 [2.0] | 39 [1.54] | 79 [3.11] | 18 [0.71] | 18,5 [0.73] | 255 |
| 10000 | 263 [10.35] | 60 [2.36] | 60 [2.36] | 30 [1.18] | 118 [4.65] | 90 [3.54] | 52 [2.05] | 134 [5.28] | 26 [1.02] | 26 [1.02] | 860 |



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NOTES

 Allowable maximum loads – maximum load to be applied without damage².

 Without damage - loading to this level will not cause excessive zero shift of 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.

3. This unit is calibrated to Metric (non-Imperial) units.

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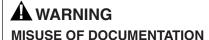
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