

Model 3130-131

Tension/Compression Canister Load Cell



DESCRIPTION

The Model 3130-131 fatigue-resistant load cells are extremely resistant to extraneous bending and side loading forces. The structure virtually eliminates bending strains at the strain gage,

minimizing the primary cause of load cell failure. Dual bridge option available for feedback control and redundancy.

FEATURES

- Optional dual bridge (not shown)
- Metric threads
- Resist fatigue failure
- Multi-beam structure design
- Capacities to 5000000 N
- Bending moment resistance up to 6110000 lb inches
- Up to 180000 lb of shear resistance
- Flexible mounting configurations

Model 3130-131

PERFORMANCE SPECIFICATIONS

| Characteristic | Measure |
|-------------------------|---------------------------------|
| Load range ¹ | 2M, 3.5M, 5M N |
| Non-linearity | ±0.2 % of rated output |
| Hysteresis | ±0.2 % of rated output |
| Repeatability | ±0.05 % of rated output |
| Output @ rated capacity | ±2 mV/V (nominal) |
| Operation | Tension/compression |
| Resolution | Infinite |
| Standard calibration | Tension (+) and compression (-) |

ENVIRONMENTAL SPECIFICATIONS

| Characteristic | Measure |
|----------------------------|------------------------------------|
| Temperature, operating | -54 °C to 93 °C [-65 °F to 200 °F] |
| Temperature, compensated | 21 °C to 77 °C [70 °F to 170 °F] |
| Temperature effect, zero | ±0.003 % of rated output/°F |
| Temperature effect, output | ±0.003 % of reading/°F |

ELECTRICAL SPECIFICATIONS

| Characteristic | Measure |
|-------------------------------|----------------------|
| Strain gage type | Foil |
| Excitation (maximum) | 20 Vdc or Vac RMS |
| Insulation resistance | > 5000 mOhm @ 50 Vdc |
| Bridge resistance (tolerance) | 700 ohm |
| Number of bridges | 1 or 2 |
| Zero balance | ±1.0 % |
| Electrical termination | MS-3102E-14S-5P |

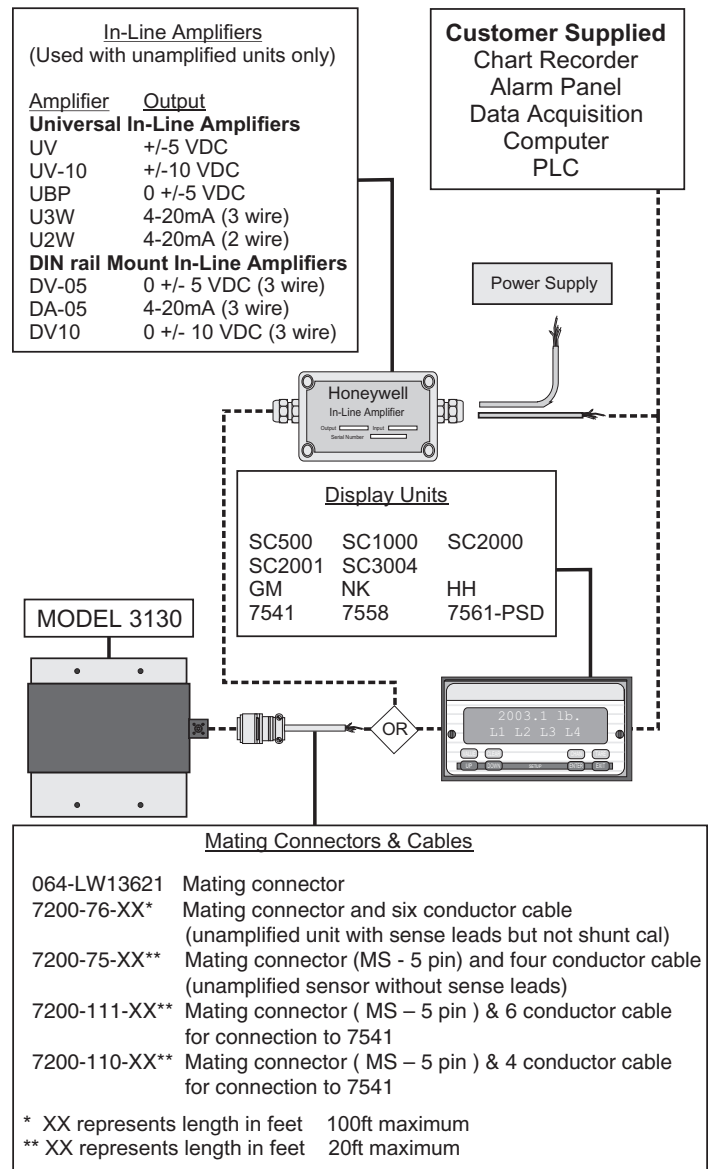
MECHANICAL SPECIFICATIONS

| Characteristic | Measure |
|--|------------------------------|
| Static overload capacity | 150 % of nominal capacity |
| Material | Carbon steel |
| Fatigue life (0 to full fatigue load) | 100 x 10 ⁶ cycles |
| Fatigue life (full fatigue tension to compression) | 50 x 10 ⁶ cycles |
| Natural frequency | See table |

WIRING CODES

| Wire | |
|-------|----------------|
| Red | (+) excitation |
| Black | (-) excitation |
| Green | (+) output |
| White | (-) output |

TYPICAL SYSTEM DIAGRAM



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NATURAL FREQUENCY

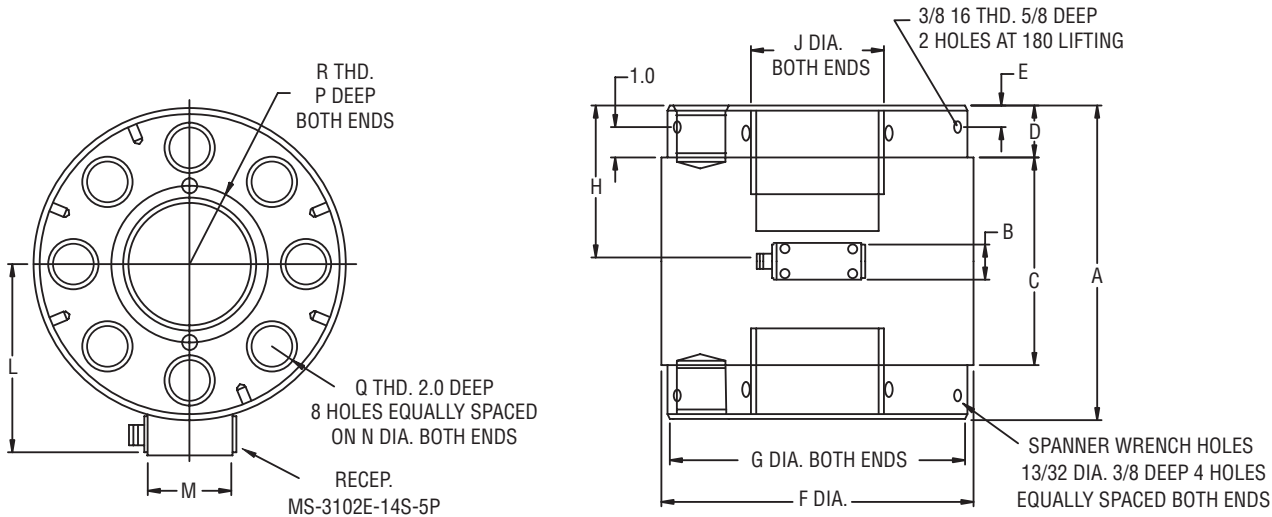
| Nominal load limit capacity F_z | | Static extraneous load limits | | | | | | |
|-----------------------------------|------|--|--|---------------------------|--------------------------------|----------------------|---------------------------------------|-------------------------|
| lb | N | Static overload capacity (% of nominal capacity) | Fatigue capacity (% of nominal capacity) | Shear F_x or F_y (lb) | Bending M_x or M_y (lb-in) | Torque M_z (lb-in) | Deflection at nominal load limit (in) | Ringling frequency (Hz) |
| 500K | 2M | 150 | 50 | 94K | 4530K | 820K | 0.006 | 2500 |
| 800K | 3.5M | 150 | 50 | 180K | 5450K | 1050K | 0.006 | 3100 |
| 1000K | 5M | 150 | 50 | 180K | 6110K | 1100K | 0.006 | 3600 |

MOUNTING DIMENSIONS

| Model | A cm [in] | B cm [in] | C cm [in] | D cm [in] | E cm [in] | F cm [in] | G cm [in] |
|-------|---------------|-------------|-------------|------------|-------------|---------------|---------------|
| 3130 | 31,75 [12.50] | 3,81 [1.50] | 17,78 [7.0] | 5,08 [2.0] | 1,91 [0.75] | 32,29 [12.75] | 31,12 [12.25] |

| H cm [in] | J cm [in] | K cm [in] | L cm [in] | M cm [in] | N cm [in] | P cm [in] | *Q cm [in] | *R cm [in] |
|--------------|--------------|------------|--------------|-------------|--------------|-------------|-----------------|--------------|
| 15,88 [6.25] | 13,34 [5.25] | 2,54 [1.0] | 19,86 [7.82] | 6,35 [2.50] | 24,15 [9.50] | 8,89 [3.50] | M42-3 [1.75-12] | M125-4 [5-8] |

* 3130-131 • Q and R are metric thread measures
 * 3130 standard • Q and R are English thread measures



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NOTES

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

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.

For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847

Email inquiries to 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.

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