Honeywell

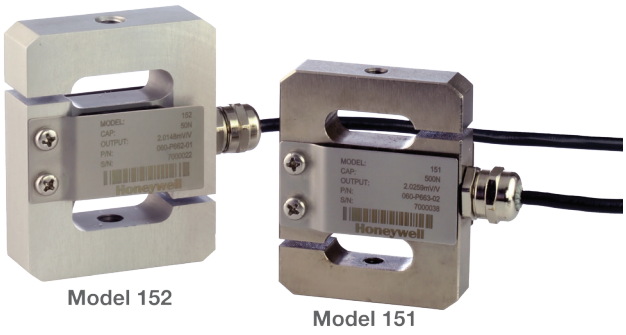
S-Beam Tension and Compression Load Cells

Models 151 and 152

32314675

Issue 1

Datasheet



DESCRIPTION

Honeywell Models 151/152 S-Beam Load Cells combine compact structure with enhanced precision and rigorous testing to form a reliable and durable tension and compression force transducer. The one-piece design achieves an accuracy of ±0.03 % full scale. The lower capacity (50 N and 100 N) Models 152 (Order Code CA152) are constructed from aluminum; whereas higher capacity load cells Models 151 (250 N to 50K N) are made with alloy steel (Order Code CA151). (See page 3 for Order Guide information.)

Models 151/152 load cells help keep equipment and specimens safe, as well as minimize test time and maintenance through reliable force measurement.

VALUE TO CUSTOMERS

- Wide capacity range: 50 N to 50K N
- Standard accuracy of ±0.03 %FS
- 5-points calibration in tension and compression

DIFFERENTIATION

- Tension and compression calibration
- 5-points calibration data
- Mechanical shock tested 50 g peak to IEC 60068-2-27
- Vibration tested to IEC 60068-2-6

FEATURES

- Tension and compression load/force measurement
- Wide capacity range: 50 N to 50K N
- Accuracy: ±0.03 %FS
- Metric thread
- One-piece, nickel-plated alloy steel or aluminum construction
- Overload capacity: 150 %FS
- IP67 sealing
- Integrated cable: 1,5 m [4.92 ft]

POTENTIAL APPLICATIONS

- Medical
  - Needle and syringe testing
- Industrial
  - Universal test machine
  - Material test machine

PORTFOLIO

Honeywell offers a wide portfolio of load cell platform designs constructed of stainless steel, carbon steel, or aluminum. These platforms include low profile/pancake, miniature and subminiature, fatigue rated, canister, donut thru-hole style, rod-end, beam style, and loadpin load cells.

Table 1. Electrical Specifications

Characteristic	Parameter
Strain gage type	Bonded foil
Excitation voltage (acceptable)	5 V ~10 V
Insulation resistance	>5,000 MΩ @ 50 Vdc
Bridge resistance (input)	≥385 Ω
Bridge resistance (output)	350 ±3 Ω
Zero balance	±1 %FS
Cable length	1,5 m [4.92 ft]

Table 2. Performance Specifications

Characteristic	Parameter
Rated capacity	50 N ~ 50K N
Non-linearity (typ.)	±0.03 %FS
Hysteresis (typ.)	±0.03 %FS
Non-repeatability	±0.03 %FS
Zero balance	±1 %FS
Output @ rated capacity (FS)	2.0 mV/V ±1.0 %
Operation	Tension and compression
Standard calibration	Tension (+) and compression (-)
Calibration report	5-points calibration data
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Safe overload	150 % of rated capacity

Table 3. Environmental Specifications

Characteristic	Parameter
Temperature, operating	-20 °C to 80 °C [-4 °F to 176 °F]
Temperature, compensated	-10 °C to 40 °C [14 °F to 104 °F]
Temperature effect, zero	±0.003 %FS/°C
Temperature effect, span	±0.003 %reading/°C
Protection level	IP67

Table 4. Mechanical Specifications

Characteristic	Parameter
Static overload capacity	150 % of rated capacity
Material (order code)	Alloy steel (CA151) or aluminum (CA152)

Table 5. Wiring Color/Codes

Color	Designation
Red	(+) Excitation
Black	(-) Excitation
Green	(+) Output
White	(-) Output
Brown	Shield drain