

Model 156K/151K/159K

Miniature Single-bending-beam Load Cells



Features

- single bending beam working principle
- reverse beam installation
- aluminum alloy construction with anodized treatment (156K)
mild steel construction with nickle plated treatment (151K)
17-4PH stainless steel construction (159K)
- range from 7 kg to 20 kg
- accuracy of 0.05%fs



Applications

- postage scales
- kitchen scales
- small sized portable scales

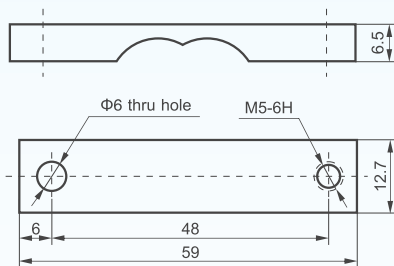
Description

Based on BCM advanced strain gauge technology, model 156K/151K/159K force sensors are designed to measure vertical force or load employing single-bending-beam working principle.

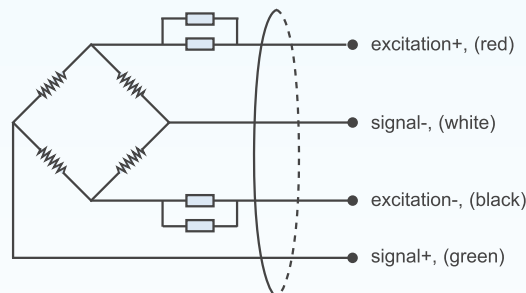
The capacities of 156K/151K/159K force sensors range from 7 kg to 20 kg with a measuring accuracy of 0.05 %fs (fs = full scale).

Featuring low profile, 156K/151K/159K force sensors are widely used to build postage scales, kitchen scales, and other small-sized portable scales.

Dimensions



Electrical Connection



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Technical Data

| parameters | units | specifications |
|----------------------------------|--------|---|
| capacity | kg | 7, 10, 15, 20 |
| safe load limit | %fs | 120 |
| ultimate overload | %fs | 150 |
| output sensitivity at fs | mV/V | 2.0 ± 0.2 |
| zero unbalance | %fso | ± 1 |
| non-linearity | %fs | ± 0.05 |
| hysteresis | %fs | ± 0.05 |
| repeatability | %fs | ± 0.03 |
| creep error (30 min.) | %fs | ± 0.05 |
| excitation (supply voltage) | Vdc | 6 |
| max. excitation voltage | Vdc | 10 |
| input resistance | Ω | 1100 ± 100 |
| output resistance | Ω | 1100 ± 100 |
| insulation resistance | MΩ | ≥ 2000@50 Vdc |
| storage temp. range | °C | -35 ~ +80 |
| operating temp. range | °C | -20 ~ +65 |
| compensated temp. range | °C | -10 ~ +40 |
| temp. coefficient of sensitivity | %fs/°C | ± 0.02 |
| temp. coefficient of zero | %fs/°C | ± 0.03 |
| load cell body material | | aluminum alloy (156K), mild steel (151K), 17-4PH stainless steel (159K) |
| sealing | | potted |
| mechanical interface | | refer to the dimensions on the datasheets |
| electrical interface | | Φ0.8mm, 4-color PVC isolated flying wires, 0.3 m |
| environment protection | | IP 65 |
| unit weight | g | ~ 10 |

The listed specifications are subject to change without prior notice.



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Ordering Information

| | | | | | | | | | |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|
| position (pos.) 1: model | | | | | | | | | |
| 151K: made from mild steel 156K: made from aluminum alloy 159K: made from 17-4PH stainless steel | | | | | | | | | |
| pos. 2: capacities | | | | | | | | | |
| 7 kg 10 kg 15 kg 20 kg | | | | | | | | | |
| pos. 3: output sensitivity | | | | | | | | | |
| 2 mV/V | | | | | | | | | |
| pos. 4: non-linearity or accuracy class | | | | | | | | | |
| 0.05 %fs | | | | | | | | | |
| pos. 5: bridge resistance | | | | | | | | | |
| 1100 Ω (Rin = 1100±100 Ω, Rout = 1100±100 Ω) | | | | | | | | | |
| pos. 6: mechanical interface | | | | | | | | | |
| Refer to the dimensions on the datasheets. Pos. 6 can be omitted from the ordering code. | | | | | | | | | |
| pos. 7: electrical interface | | | | | | | | | |
| 0.8/4F/PVC/0.3 = Φ0.8mm, 4-color flying wires, PVC isolated, length = 0.3*m | | | | | | | | | |
| pos. 8: environment protection | | | | | | | | | |
| IP 65 | | | | | | | | | |
| pos. 9: accessories for installation | | | | | | | | | |
| N = NA**. In case of "NA", pos.9 can be omitted. | | | | | | | | | |
| pos. 10: customized spec's | | | | | | | | | |
| <p>When any customized spec's are required, the customer needs to add "C" as the last parameter in the ordering code, and specifies the wished spec's on his order clearly.</p> <p>The customized spec's needs to be confirmed in advance by BCM's sales representative.</p> <p>Code "C" can be omitted if no customized spec's are required.</p> | | | | | | | | | |
| pos.1 | pos. 2 | pos. 3 | pos. 4 | pos. 5 | pos. 6 | pos. 7 | pos. 8 | pos. 9 | pos. 10 |

*: This value can also be a customized value.

** : NA = not available or not applicable

example: 159K-10kg-2mV/V-0.05%fs-1100Ω-0.8/4F/PVC/0.3-IP65-C



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