

Model 166Z/169Z Single Point Load Cells

Features

- parallel bending beam
- low profile
- capacity: 30, ..., 100 kg (166Z); 50, ..., 200 kg (169Z)
- accuracy: 0.02 %fs
- recommended platform size: 180 X 180 mm
- aluminum construction with surface anodized (166Z)
17-4PH construction (169Z)
- environment protection class: IP 65



Applications

- kitchen scales
- postage scales
- portable scales

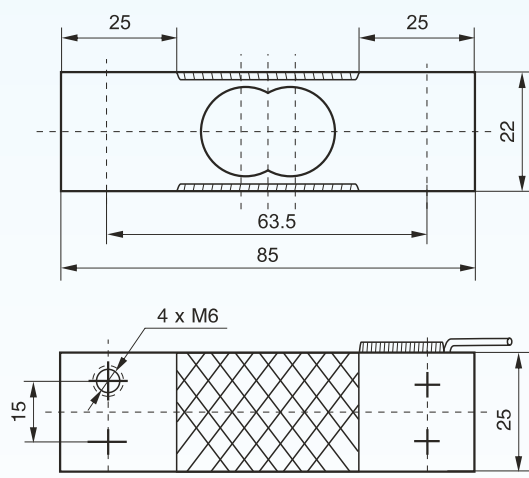
Description

The "single point" load cells are made of parallel bending beam working principle. Only one unit is sufficient to build up a scale. These load cells are moment insensitive. That is, when installed in a platform scale, it reads the same regardless of the position of the load applied to the upper platform.

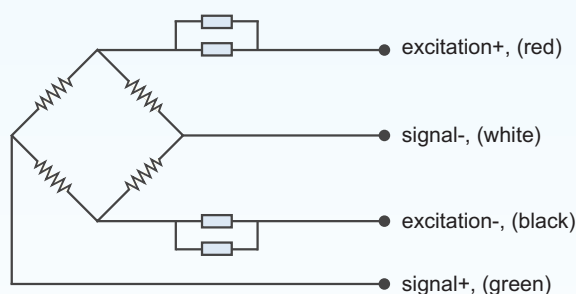
Model 166Z/169Z load cells are designed to this "single point" type. 166Z load cells are manufactured from high quality aluminum alloy of aviation standard, while 169Z load cells are made from 17-4PH stainless steel. 166Z load cells can be used to measure loads ranging from 30 kg to 200 kg with the measuring accuracy of 0.02%fs (fs = full scale).

166Z/169Z load cells are widely used to manufacture postage scales, kitchen scales, portable scales and other platform scales.

Dimensions



Electrical connection



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Technical Data

| parameters | units | specifications | |
|----------------------------------|--------|--|------------------------|
| model | | 166Z | 169Z |
| capacity | kg | 30, 50, 70, 100 | 50, 70, 100, 200 |
| safe load limit | %fs | 150 | |
| ultimate overload | %fs | 300 | 200 |
| output sensitivity at fs | mV/V | 2.0 ± 0.2 | 2.0 ± 0.2 |
| zero unbalance | %fso | ± 5 | ± 1.5 |
| non-linearity | %fs | ± 0.02 | |
| hysteresis | %fs | ± 0.02 | |
| repeatability | %fs | ± 0.02 | |
| creep error (30 min.) | %fs | ± 0.02 | |
| excitation (supply voltage) | Vdc | 5, ..., 10 | |
| max. excitation voltage | Vdc | 15 | |
| input resistance | Ω | 410 ± 10 | |
| output resistance | Ω | 350 ± 10 | |
| insulation resistance | MΩ | ≥ 2000@50 Vdc | |
| storage temp. range | °C | -35 ~ +80 | |
| operating temp. range | °C | -20 ~ +60 | |
| compensated temp. range | °C | -10 ~ +50 | |
| temp. coefficient of sensitivity | %fs/°C | ± 0.002 | |
| temp. coefficient of zero | %fs/°C | ± 0.003 | |
| load cell body material | | aluminum alloy | 17-4PH stainless steel |
| sealing | | potted | |
| mechanical interface | | refer to the dimensions on the datasheets | |
| electrical interface | | 4-color PVC isolated flying wires, 0.45 m length | |
| environment protection | | IP 65 | |
| unit weight | | ~50 | |

The listed specifications are subject to change without prior notice.

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Ordering Information

| | | | | | | | | | |
|---|--------|--------|--------|--------|-----------|--------|--------|--------|---------|
| position (pos.) 1: model | | | | | | | | | |
| 166Z: made from aluminum alloy 169Z: made from 17-4PH stainless steel | | | | | | | | | |
| pos. 2: capacities | | | | | | | | | |
| for 166Z | | | | | for 169Z: | | | | |
| 30 kg | | | | | 50 kg | | | | |
| 50 kg | | | | | 70 kg | | | | |
| 70 kg | | | | | 100 kg | | | | |
| 100 kg | | | | | 200 kg | | | | |
| pos. 3: output sensitivity | | | | | | | | | |
| 2 mV/V (for 169G) | | | | | | | | | |
| pos. 4: non-linearity or accuracy class | | | | | | | | | |
| 0.02 %fs | | | | | | | | | |
| pos. 5: bridge resistance | | | | | | | | | |
| 350 Ω (R _{in} = 410±10 Ω, R _{out} = 350±10 Ω) | | | | | | | | | |
| pos. 6: threads (live end/fixed end) | | | | | | | | | |
| 2xM6/2xM6 : two M6 threads at the live end, two M6 threads at the fixed end | | | | | | | | | |
| pos. 7: electrical interface | | | | | | | | | |
| 4F/PVC/0.45: 4-color PVC isolated flying wires, 0.45* m length | | | | | | | | | |
| pos. 8: environment protection | | | | | | | | | |
| IP 65 | | | | | | | | | |
| pos. 9: accessories for installation | | | | | | | | | |
| 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: 169Z-70kg-2mV/V-0.02%fs-350Ω-2xM6/2xM6-4F/PVC/0.45-IP65-C



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