

# 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

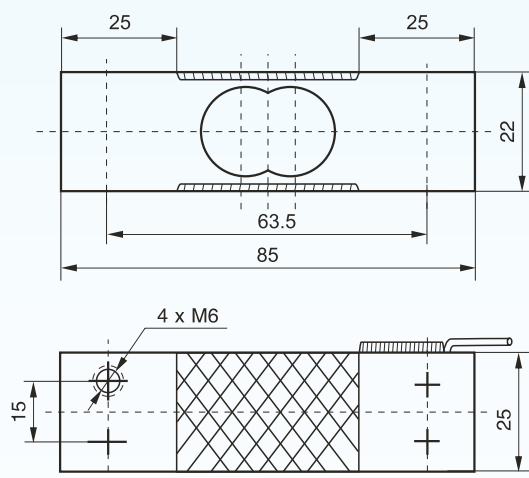
## Description

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.

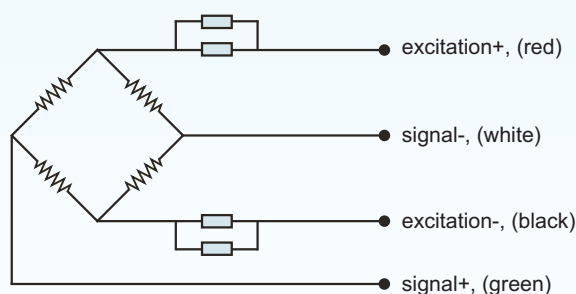
Model 166Z/169Z load cells are designed to this "single point" type. 166Z load cells are manufactured from high quality aluminum alloy of aviation standard, while 169Z load cells are made from 17-4PH stainless steel. 166Z load cells can be used to measure loads ranging from 30 kg to 200 kg with the measuring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

## Single Point Load Cells



### 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	≥ 1.8 (typically 2mV/V)	≥ 1.8 (typically 2mV/V)
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 @50Vdc	
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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# Model 166Z/169Z Single Point Load Cells



## 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 (Rin = 410±10 Ω, Rout = 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									
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.  The customized spec's needs to be confirmed in advance by BCM's sales representative.  Code "C" can be omitted if no customized spec's are required.									
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-350 $\Omega$ -2xM6/2xM6-4F/PVC/0.45-IP65-C

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