

Model 159B

Miniature Single-bending-beam Force Sensors



Features

- single bending beam working principle
- 17-4PH stainless steel construction
- range from 0.5 kg to 30 kg
- accuracy of 0.1 %fs



Applications

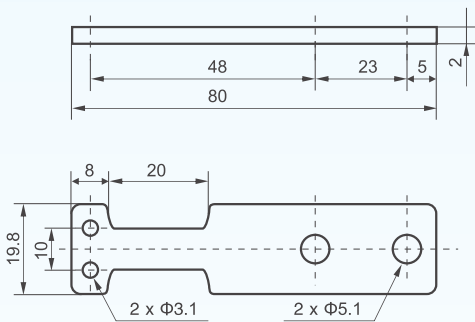
- postage scales
- kitchen scales
- small sized portable scales

Description

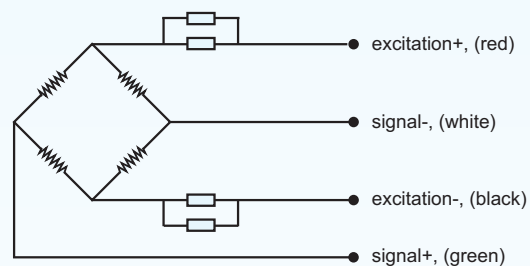
Based on BCM advanced strain gauge technology, model 159B miniature force sensors are designed to measure vertical force or load employing single-bending-beam working principle. These force sensors are made from 17-4PH stainless steel.

The capacities of 159B force sensors range from 0.5 kg to 50 kg with a measuring accuracy of 0.1 %fs. Featuring low profile, 159B 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	0.5, 0.7, 1, 2, 3, 5, 7, 10, 20, 30
safe load limit	%fs	120
ultimate overload	%fs	150
output sensitivity at fs	mV/V	0.6 ± 0.1
zero unbalance	%fso	± 1.5
non-linearity	%fs	± 0.1
hysteresis	%fs	± 0.1
repeatability	%fs	± 0.1
creep error (30 min.)	%fs	± 0.07
excitation (supply voltage)	Vdc	5
max. excitation voltage	Vdc	6
input resistance	Ω	1000 ± 100 (standard), 350 ± 50
output resistance	Ω	1000 ± 100 (standard), 350 ± 50
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	± 0.02
load cell body material		17-4PH stainless steel
sealing		potted
mechanical interface		refer to the dimensions on the datasheets
electrical interface		3-color PVC isolated flying wires, 0.35 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									
159B: made from 17-4PH stainless steel									
pos. 2: capacities									
0.5 kg 1 kg 10 kg 0.7 kg 2 kg 20 kg 3 kg 30 kg 5 kg 7 kg									
pos. 3: output sensitivity									
0.6 mV/V									
pos. 4: non-linearity or accuracy class									
0.1 %fs									
pos. 5: bridge resistance									
1000 Ω (R _{in} = 1000±100 Ω, R _{out} = 1000±100 Ω), standard 350 Ω (R _{in} = 350±50 Ω, R _{out} = 350±50 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									
3F/PVC/0.35 = 3-color PVC isolated flying wires, length = 0.35m									
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									
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: 159B-10kg-0.6mV/V-0.1%fs-350Ω-3F/PVC/0.35-IP65-C



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