

Model 3911/3991

Bending Beam Load Cells



Features

- with bellow protection
- capacity from 5kg to 500kg
- accuracy of 0.02%fs
- mild steel construction with nickel plated treatment (3911)
17-4PH construction (3991)
- environment protection up to IP68



Applications

- tank and hopper scales
- electrical belt scales

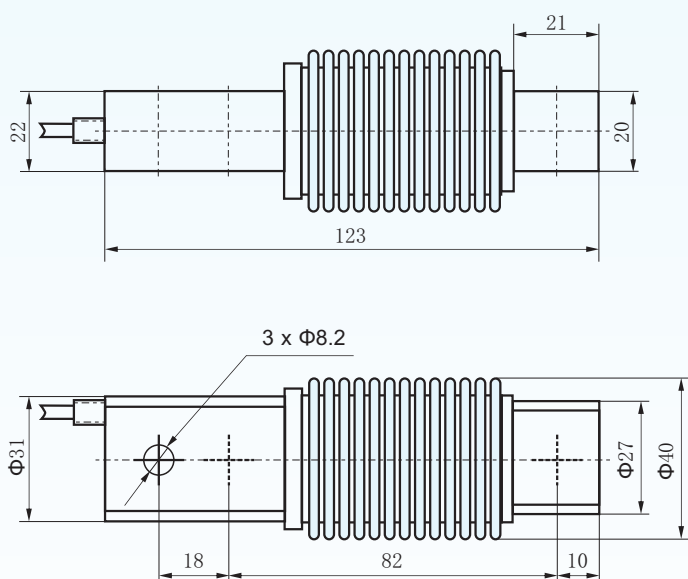
Description

Based on BCM advanced metal-foil strain gauge technology, model 3911/3991 load cells are made of single-ended bending beam working principle and made from high strength alloy steel (3911) or stainless steel (3991) materials. These load cells feature simple construction, excellent performance, and the design can also be tailored to meet customer's requirements.

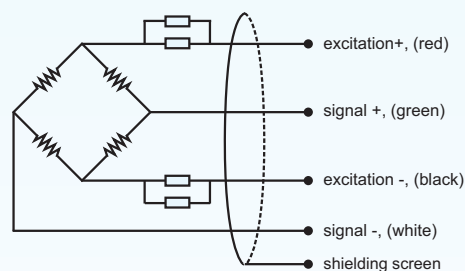
The capacities of 3911/3991 load cells range from 5kg to 500kg with an accuracy of 0.02%fs (fs = full scale). These load cells have a bellow protection and can be sealed to high protection grade of IP68, so as to fit harsh operating conditions.

Typical applications of 3911/3991 load cells include electrical belt scales and hopper scales.

Dimensions



Electrical connection



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Technical Data

Parameter	Units	Specifications	Notes
capacity	kg	5, 7, 10, 20, 30, 50, 70, 100, 200, 300, 500	
safe load limit	%fs	150	1
ultimate overload	%fs	200	
output sensitivity at fs	mV/V	2.0 \pm 0.02	
zero unbalance	%fso	$\leq \pm 1$	
non-linearity	%fs	$\leq \pm 0.02$	
hysteresis	%fs	$\leq \pm 0.02$	
repeatability	%fs	$\leq \pm 0.01$	
creep error (30 min.)	%fs	$\leq \pm 0.02$	
excitation (supply voltage)	Vdc	10	
max. excitation voltage	Vdc	15	
input resistance	Ω	360 \pm 10	
output resistance	Ω	350 \pm 10	
insulation resistance	M Ω	$\geq 5000@50$ Vdc	
storage temp. range	$^{\circ}\text{C}$	-35 ~ +80	
operating temp. range	$^{\circ}\text{C}$	-35 ~ +80	
compensated temp. range	$^{\circ}\text{C}$	-10 ~ +40	
temp. coefficient of span	%fso/ $^{\circ}\text{C}$	$\leq \pm 0.002$	2
temp. coefficient of zero	%fso/ $^{\circ}\text{C}$	$\leq \pm 0.003$	2
load cell body material		mild steel (3911), 17-4PH stainless steel (3991)	
sealing		welded protection bellow	
mechanical interface		refer to the dimensions drawing	
electrical interface		$\Phi 5.7\text{mm}$, 4-conductor shielded PVC cable, 3.5m	
environment protection		IP66 (standard), IP67, IP68	3
unit weight	kg	~ 0.6	

- Notes:
1. "fs" refers to full scale pressure.
 2. Calculated as a rate of output change between -10°C and $+40^{\circ}\text{C}$, and normalized by the output at room temperature (25°C).
 3. In case IP68 is selected, one must specify the following test conditions for the transducer in the purchasing order:
 - 1) How deep under water will the installed transducer be located?
 - 2) How long will the installed transducer continuously stay under water of that depth?

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Ordering Information

position (pos.) 1: model								
3911 3991								
pos. 2: capacities								
5kg 50kg 500kg 7kg 70kg 10kg 100kg 20kg 200kg 30kg 300kg								
pos. 3: output sensitivity								
2mV/V								
pos. 4: non-linearity or accuracy class								
0.02%fs								
pos. 5: bridge resistance								
350Ω (Rin = 360±10Ω, Rout = 350±10Ω)								
pos. 6: threads (live end/fixed end)								
1xΦ8.2 / 2xΦ8.2								
pos. 7: electrical interface								
5.7/4/PVC/3.5 = Φ5.7mm, 4-conductor shielded PVC cable, cable length = 3.5m(#). #: Cable length can be customized on request.								
pos. 8: environment protection								
IP66 (standard) IP67 IP68								
pos. 9: customized spec's								
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.								
pos.1	pos. 2	pos. 3	pos. 4	pos. 5	pos. 6	pos. 7	pos. 8	pos. 9

example: 3911-200kg-2mV/V-0.02%fs-350Ω-1xΦ8.2/2xΦ8.2-5.7/4/PVC/3.5-IP66

The listed dimensions, specifications and ordering information are subject to change without prior notice.

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