

# Model 3911/3991

## Single-ended Bending Beam Load Cell with Bellow Protection



**SENSOR**

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, the load cell has bellow protection and sealed to high grade IP 68, so as to fit strict operating conditions.

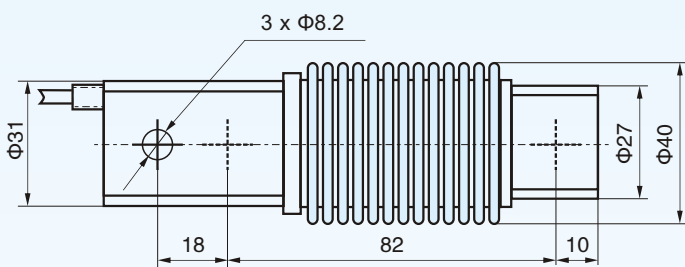
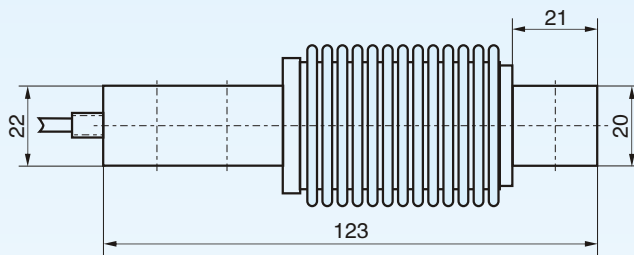
Based on BCM advanced metal-foil strain gauges technology, model 3911/3991 load cell features a high accuracy of 0.02%fso (fso = full scale output) and low temperature coefficient, which make the load cells are widely used for electrical belt scales, hopper scales or some areas need to measure beam bending loads.

Model 3911/3991 load cell has load capacities of 0~5 kg to 0~500 kg, the load cells feature simple construction, excellent performance, easy installation and replacement, the load cells can also be designed by customer requirements.

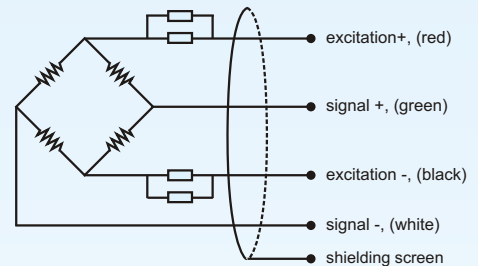


**type:** single ended bending beam load cell  
**material:** alloy steel (3911) / stainless steel (3991)  
**surface:** nickel plated treatment (for 3911 only)  
**protection:** IP 67, IP 68 (laser welded sealing)  
**application:** belt scales and hopper scales

### Dimensions:



### Electrical connection:



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### Specifications:

capacity	kg	5, 10, 20, 30, 50, 100, 200, 300, 500
rated output	mV/V	2.0 ± 0.004
combined error	%FSO	0.02
zero unbalance	%FSO	± 1.0
non-linearity	%FSO	± 0.02
hysteresis	%FSO	± 0.02
repeatability	%FSO	± 0.02
creep	%FSO/30min	± 0.02
temperature coefficient of SPAN	%FSO/10°C	± 0.02
temperature coefficient of ZERO	%FSO/10°C	± 0.03
input resistance	Ω	360 ± 10
output resistance	Ω	350 ± 10
insulation resistance	MΩ	5000
excitation voltage	V	10
maximum excitation	V	15
compensated temperature range	°C	-10 ~ +55
operating temperature range	°C	-35 ~ +70
safe overload	%FS	150
ultimate overload	%FS	300
cable length	m	3.5 (4-conductor shielded PVC skin, Ø 5.7 mm)

The listed specifications are subject to change without prior notice.

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### BCM load cell ordering codes system:

(The items in GRAY in the following table mean that, those items can be requested by the customer on his order sheet once those requested items have been confirmed already in writing by BCM sales people.)

example: 3991 - L6 - O3 - A2 - E4 - R1 - P6 - C\*

code	model
3911	3911 alloy steel
3991	3991 stainless steel

code	capacity
L2	5 kg
L3	10 kg
L4	20 kg
L5	30 kg
L6	50 kg
L7	100 kg
L8	200 kg
L9	300 kg
L10	500 kg

code	output sensitivity
O2	1.5 mV/V
O3	2 mV/V
O4	3 mV/V

code	combined error
A2	0.02 %fso
A3	0.03 %fso
A4	0.1 %fso
A5	0.25 %fso
A6	0.5 %fso

code	customer especially requested item
C*	This is a customized code given by the customer, who can use this code to define his desired or wished specification for the sensor to be ordered. This code starts with a "C" followed by a "**".  Once the customer-wished specification is confirmed by BCM sales people, the customer can use this code "C*" as part of his ordering code to define his wished specification for the sensor on his order sheet.  If the customer does not have such special request, the C* can be omit.

code	environment protection
P6	IP 66
P7	IP 67
P8	IP 68

code	nominal output resistance
R1	350 Ω
R2	700 Ω
R3	1000 Ω

code	electrical connection
E4	cable (4-conductor shielded PVC skin, Φ5.7 mm, length 3.5 m)
E5	4-pin connector, plus mating connector with 4-conductor shielded PVC skin cable (Φ5.7 mm, length 3.5 m)
E6	cable (6-conductor shielded PVC skin, Φ6.3 mm, length 3.5 m)
E7	6-pin connector, plus mating connector with 6-conductor shielded PVC skin cable (Φ6.3 mm, length 3.5 m)

### Ordering Code Example: 3991 - L6 - O3 - A2 - E4 - R1 - P6 - C\*

#### Explanations of the Ordering Code

Model 3991 load cell for 50 kg load capacity applications, the load cell has 2 mV/V output sensitivity and combined error of 0.02%fso, the electrical connection for the load cell is cable of 4-conductor shielded PVC skin, Φ5.7 mm, 3.5 m length, the nominal output resistance of load cell is 350 Ω, environment protection grade for the load cell is IP 66. The customer has indicated his wished specification on his order sheet for the ordered 3991, and this customer-wished specifications has to be confirmed by BCM sales people on <<Order Confirmation>>.



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