

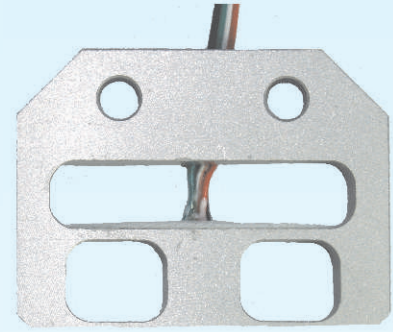
Model UF

Compression and Tension Force Sensors



Features

- double bending beam working principle
- low profile
- range from 1 kg to 2500 N
- conditioned output signal available on request
- accuracy up to 0.1%fs
- aluminum alloy construction with anodized treatment (< 1000 N)
17-4PH stainless steel construction (≥ 1000 N)
- protection grade of IP 65



Applications

- hanging scales
- force testers

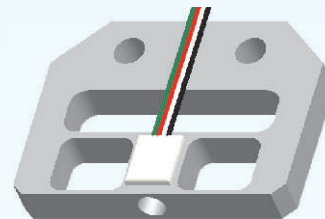
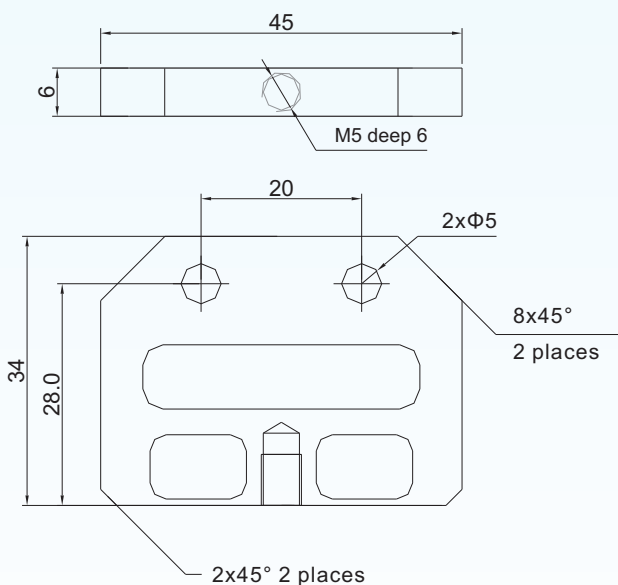
Description

UF-series force sensors are designed for applications such as hanging scales and force testers, where either compression or tension force is measured. These sensors are made of double bending beam working principle. A Full Wheatstone bridge circuit is applied in these sensors.

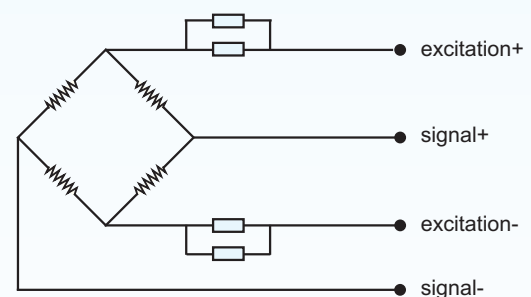
UF-series force sensors are made to have a wide capacity range from 1 N to 2500 N. The standard output signal is millivolt signal (2 mV/V) from the Wheatstone bridge circuit. Output signals of 4~20 mA or 0.5~4.5 V are available on request. An accuracy up to 0.1 %fs can be achieved.

UF-series force sensors are cost effective, easy to install and simple to replace. They are manufactured from high quality aluminum alloy (capacity < 1000 N) and stainless steel (capacity = 1000 N, 2500 N). The low profile design makes them ideal to be used in applications under limited space.

Dimensions



Electrical Connection



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Model UF

Compression and Tension Force Sensors



Technical Data

parameters	units	specifications			
capacity	N	1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000, 2500			
safe load limit	%fs	120			
ultimate overload	%fs	150			
output sensitivity at fs	mV/V	2.0 ± 0.1 (standard); option: 4~20 mA or 0.5~4.5 V (ratiometric)			
zero unbalance	%fso	± 1.5			
non-linearity	%fs	± 0.1	± 0.25	± 0.5	± 1
hysteresis	%fs	± 0.1	± 0.25	± 0.5	± 1
repeatability	%fs	± 0.1	± 0.2	± 0.2	± 0.5
creep error (30 min.)	%fs	± 0.1	± 0.2	± 0.5	± 1
excitation (supply voltage)	Vdc	10			
max. excitation voltage	Vdc	15			
input resistance	Ω	1060± 20			
output resistance	Ω	1000± 10			
insulation resistance	MΩ	≥ 5000@50 Vdc			
storage temp. range	°C	-35 ~ +80			
operating temp. range	°C	-35 ~ +65			
compensated temp. range	°C	-10 ~ +40			
temp. coefficient of sensitivity	%fs/°C	± 0.01			
temp. coefficient of zero	%fs/°C	± 0.01			
load cell body material		aluminum alloy (cap. <1000 N), 17-4PH stainless steel (cap. ≥1000 N)			
sealing		potted			
mechanical interface		refer to the dimensions on the datasheets			
electrical interface		Φ0.6 mm, 4-color PVC isolated flying wires, 0.2 m			
environment protection		IP 65			
unit weight	g	~20			

The listed specifications are subject to change without prior notice.



BCM SENSOR TECHNOLOGIES BVBA

ISO9001 Certified Company

Model UF

Compression and Tension Force Sensors



Ordering Information

position (pos.) 1: model									
UF: made from aluminum alloy (cap.< 1000N), made from 17-4PH stainless steel (cap. ≥1000 N)									
pos. 2: capacities									
1 N		10 N		100 N		1000 N			
2.5 N		25 N		250 N		2500 N			
5 N		50 N		500 N					
pos. 3: output sensitivity									
2 mV/V*									
pos. 4: non-linearity or accuracy class									
0.1 %fs 0.25 %fs (standard) 0.5 %fs 1 %fs									
pos. 5: bridge resistance									
1000 Ω (Rin = 1060±20 Ω, Rout = 1000±10 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									
0.6/4F/PVC/0.2 = Φ0.6 mm, 4-color PVC isolated flying wires, length = 0.2**m									
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

*: On request, conditioned output signals such as 4~20 mA and 0.5~4.5 V are available on request.

** : This value can also be a customized value.

***: NA = not available or not applicable

example: UF-200N-2mV/V-0.1%fs-1000Ω-0.6/4F/PVC/0.2-IP65-C



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