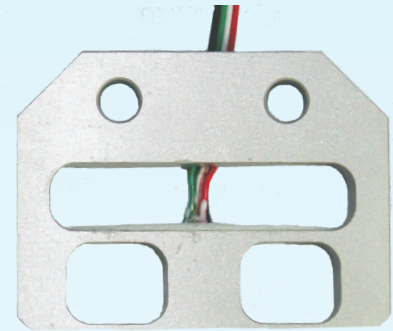


Model UF61/UF91 Force Transducers

Features

- double bending beam working principle
- low profile
- capacity from 1N to 500N (UF61), from 1000N to 2500N (UF91)
- conditioned output signal available on request
- accuracy up to 0.1%fs
- aluminum alloy construction with anodized treatment (UF61)
17-4ph stainless steel construction (UF91)
- protection grade of IP65



Applications

- force testers
- portable hanging scales
- hardness testing machines

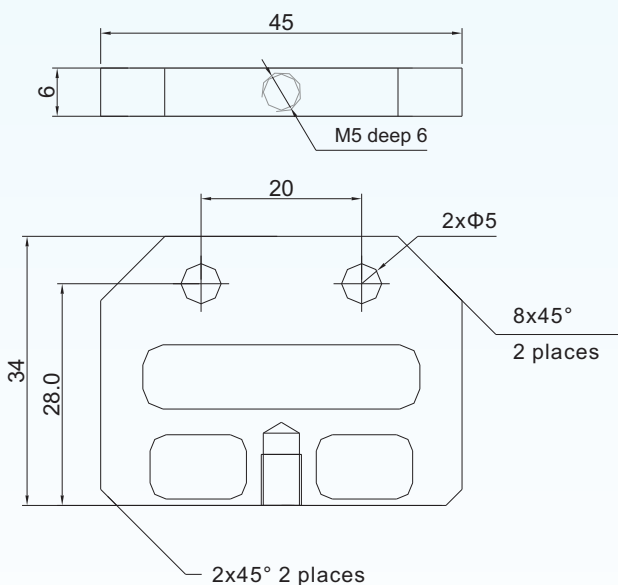
Description

The UF-series force transducers are designed for measurements of either compression or tension force. This series features low profile which makes it ideal for applications of limited space. The UF-series transducers also can be easily installed onto and dismantled from the system.

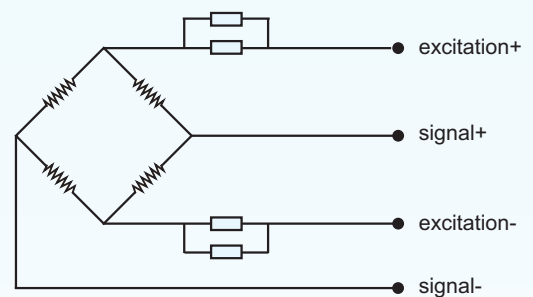
This transducer employs double bending beam working principle. The standard output sensitivity is 2mV/V. Its output signal of 4~20mA or 0.5~4.5V is available on request. Its nonlinearity can achieve up to 0.1%fs.

The UF-series can be made from either aluminum alloy (model UF61) or stainless steel (model UF91) so as to have a wide capacity range from 1N to 2500N.

Dimensions



Electrical Connection



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Model UF61/UF91 Force Transducers



Technical Data

Parameter	Units	Specifications		
capacity	N	Uf61: 1, 2.5, 5, 10, 25, 50, 100, 250, 500; UF91: 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	≤ ± 0.2	≤ ± 0.5
hysteresis	%fs	≤ ± 0.1	≤ ± 0.25	≤ ± 0.5
repeatability	%fs	≤ ± 0.1	≤ ± 0.2	≤ ± 0.2
creep error (30min.)	%fs	≤ ± 0.1	≤ ± 0.2	≤ ± 0.5
excitation (supply voltage)	Vdc	10		
max. excitation voltage	Vdc	15		
input resistance	Ω	1060±20		
output resistance	Ω	1000±10		
insulation resistance	MΩ	≥ 5000 @50Vdc		
storage temp. range	°C	-35 ~ +80		
operating temp. range	°C	-35 ~ +65		
compensated temp. range	°C	-10 ~ +40		
temp. coefficient of sensitivity	%fso/°C	≤ ± 0.01		
temp. coefficient of zero	%fso/°C	≤ ± 0.01		
load cell body material		aluminum alloy (UF61), 17-4ph SS (UF91)		
sealing		potted		
mechanical interface		refer to the dimensions on the datasheets		
electrical interface		Φ0.6mm, 4-color PVC isolated flying wires, 0.2m		
environment protection		IP65		
unit weight	g	~20		

The listed specifications are subject to change without prior notice.

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Model UF61/UF91 Force Transducers



Ordering Information

position (pos.) 1: model								
UF61: made from aluminum alloy			UF91: made from 17-4ph SS					
pos. 2: capacity								
UF61: 1 N 10 N 100 N			UF91: 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								
pos. 5: bridge resistance								
1000Ω (Rin = 1060±20Ω, Rout = 1000±10Ω)								
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 = Φ0.6mm, 4-color PVC isolated flying wires, length = 0.2m**								
pos. 8: environment protection								
IP65								
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

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

** : The cable length can be customized on request.

Examples of Ordering Code

- standard force transducer:

UF61-250N-2mV/V-0.1%fs-1000Ω-0.6/4F/PVC/0.2-IP65

- customized force transducer:

UF61-200N-4/20mA-0.1%fs-1000Ω-0.6/4F/PVC/0.2-IP65-(*)

- (*): - Customized capacity = 200N;
- Customized output = 4/20mA.

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