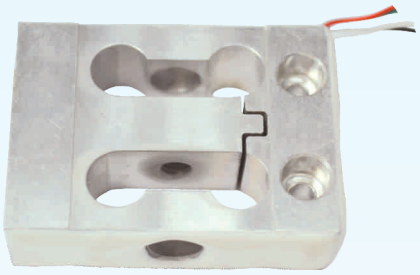
Model UG61/UG91
Force Transducers with Overload Protection

Description

UG-series force transducers feature an overload-protected structure which are developed to measure the forces where the overloading is inevitable in applications.

Based on the precision strain gauge technology from BCM SENSOR, the UG-series force transducer works on bending beam principle with measuring capacity from 3N to maximum 2000N. The transducers can be made from either aluminum alloy (model UG61) or 17-4ph stainless steel (model UG91).

The UG-series force transducer is developed as a counterpart of the BCM UF-series force transducer which has no overload-protection. The two series can be installed either vertically or horizontally. When the transducer is installed in its vertically position the bending beam can be either pulled down or pulled up, depending on the direction of force to measure. Therefore both the UF-series and UG-series are designed to symmetrical force transducers and are able to measure, after installation, the two directional forces in application.



Features

- double bending beam
- overload protected
- customized mechanical interface
- capacity: 3N, ..., 300N (UG61);
  500N, ..., 2000N (UG91)
- transducer body material: aluminum alloy (UG61),
  17-4ph SS (UG91)

Applications

- hanging scales
- force teasters

BCM SENSOR TECHNOLOGIES BVBA

Industriepark Zone 4, Brechtsebaan 2
B-2900 Schoten - Antwerpen, BELGIUM

Tel.: +32-3-238 6469
Fax: +32-3-238 4171

website: www.bcmsensor.com
email: sales@bcmsensor.com

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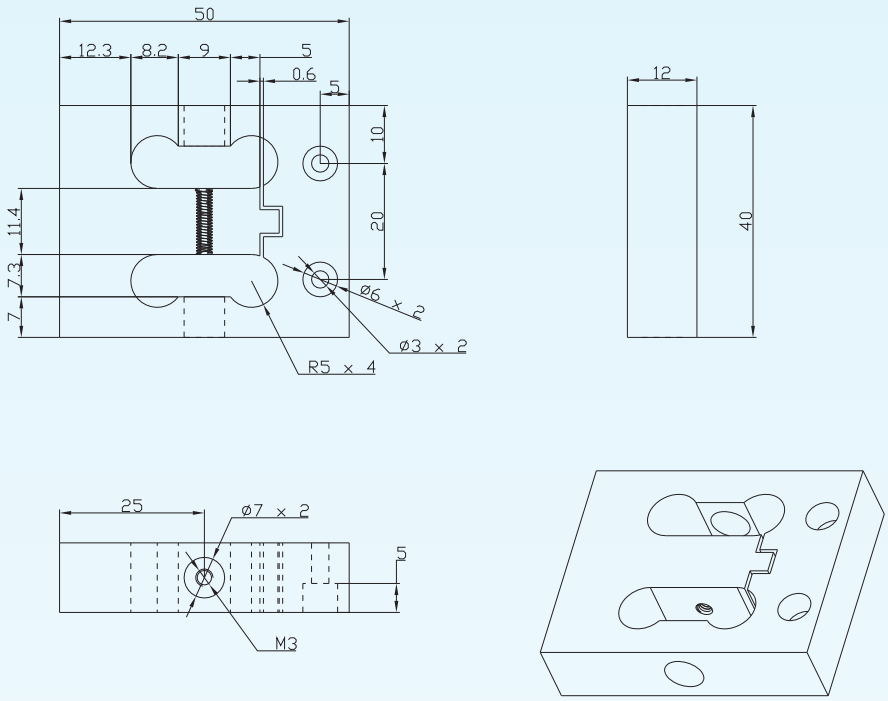
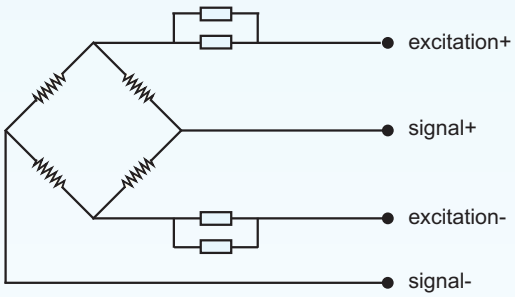
Dimensions



Notes: All dimensions are in mm.

Electrical Connection



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Technical Data

Parameters		Units	Specifications	Notes
capacity		Newton	UG61: 3, 5, 10, 25, 50, 100, 250, 300 UG91: 500, 1000, 2000	1
overload		%fs	overload protected	2
output signal	output sensitivity (standard)	mV/V	1 for capacities ⩽ 5N, 2 for capacities > 5N	
	amplified-signal output		4~20mA, 0.5~5V, 0.5~4.5V ratiometric	
zero unbalance		%fso	⩽ ±1.5	
accuracy		%fs	⩽ ±0.1,⩽ ±0.2 (standard),⩽ ±0.5	3
excitation		Vdc	10	
bridge resistance		kΩ	1	
insulation resistance		MΩ	500 @50Vdc	
compensated temperature range		°C	-10 ~ +40	
operating temperature range		°C	-35 ~ +65	
storage temperature range		°C	-35 ~ +80	
temperature coefficient of zero		%fso/°C	⩽ ±0.01	
temperature coefficient of span		%fso/°C	⩽ ±0.01	
load cell body material			aluminum alloy	
seal			potted	
mechanical interface			M3 threads	
electrical interface			Φ0.9mm, 4-color PVC flying wires, wire length = 0.2m	
environment protection			IP65	
net weight			~25	

Notes: 1. For customized capacity, consult BCM..

2. “fs” refers to full scale pressure or rated pressure.

3. Including non-linearity, hysteresis and repeatability.

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

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Ordering Information

position (pos.) 1: model					
UG6 / UG91					
	pos. 2: capacity				
	UG61: 3N, 5N, 10N, 25N, 50N, 100N, 250N, 300N; UG91: 500N, 1000N, 2000N				
		pos. 3: output signal			
		standard: 1mV/V (for capacities ≤ 5N); 2mV/V (for capacities > 5N); options: 4/20mA, 0.5/4.5V (ratiometric), 0.5/5V			
			pos. 4: accuracy		
			0.1%fs; 0.2%fs (standard); 0.5%fs		
				pos. 5: electrical interface	
				FW(0.2m): Φ0.9mm, 4-color PVC flying wires, wire length = 0.2m* *: wire length can be customized on request.	
					pos. 6: customized specifications
					"(*)" 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

Examples of Ordering Code

- standard force transducer:

  UG61-50N-2mV/V-0.2%fs-FW(0.2m)

- customized force transducer:

  UG91-700N-0.5/4.5V-0.2%fs-FW(0.5m)-(*)

  (*): Customized capacity = 700N;
  Customized output = 0.5~4.5V ratiometric.

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