

Bending beam

Up to 500 kg

Model F3833

WIKA data sheet FO 51.22

EAC

Applications

- Gravimetric level measurement
- Hopper scales, industrial scales
- Gravimetric feeder
- Laboratory technology
- Process industry

Special features

- Measuring ranges 0 ... 5 kg to 0 ... 500 kg
[0 ... 11 lbs to 0 ... 1,102 lbs]
- Completely welded bellows
- Ingress protection IP68



Bending beam, model F3833

Description

Bending beams are designed for static and dynamic measurement tasks. They determine the forces or the weight in a wide scope of applications.

These load cells are used in industrial weighing and laboratory as well as in the process industry. They are also used for gravimetric level measurement of vessels such as silo or tanks.

The bending beams of model F3833 are made of stainless steel, which are particularly suitable for the application areas of scales, process industry and laboratory.

The output signal is a mV/V signal.

Specifications in accordance with VDI/VDE/DKD 2638

Model F3833														
Nominal load F_{nom} kg	5	10	20	30	40	50	75	100	150	200	250	300	500	
Nominal load F_{nom} lbs	11	22	44	66	88	110	165	221	331	441	551	661	1,102	
Relative linearity error d_{lin} ¹⁾	$\pm 0.02 \% F_{nom}$													
Relative creep, 30 min.	$\pm 0.03 \% F_{nom}$													
Relative reversibility v	$\leq \pm 0.02 \% F_{nom}$													
Relative deviation of zero signal $d_{S,0}$	$\pm 2 \% F_{nom}$													
Temperature effect on zero signal TK_0	$\leq \pm 0.03 \%/10^\circ K$													
Temperature effect on characteristic value TK_C	$\leq \pm 0.03 \%/10^\circ K$													
Force limit F_L	150 % F_{nom}													
Breaking force F_B	200 % F_{nom}													
Material	Stainless steel													
Rated temperature range $B_{T, nom}$	-10 ... +40 °C [14 ... +104 °F]													
Operating temperature range $B_{T, G}$	-20 ... +80 °C [-4 ... +176 °F]													
Input resistance R_e	385 \pm 10 Ω													
Output resistance R_a	350 \pm 5 Ω													
Insulation resistance R_{is}	\geq 5,000 M Ω /DC 100 V													
Output signal (rated output) C_{nom}	2.0 \pm 0.02 mV/V													
Electrical connection	Cable \varnothing 5 x 3,000 mm [\varnothing 0.2 x 118 in]													
Rated range of excitation voltage $B_{U, nom}$	DC 10 V (max. 15 V)													
Ingress protection (acc. to IEC/EN 60529)	IP68													
Weight	0.6 kg [1.3 lbs]													

1) Relative linearity error is specified in accordance with guideline VDI/VDE/DKD 2638 chap. 3.2.6.

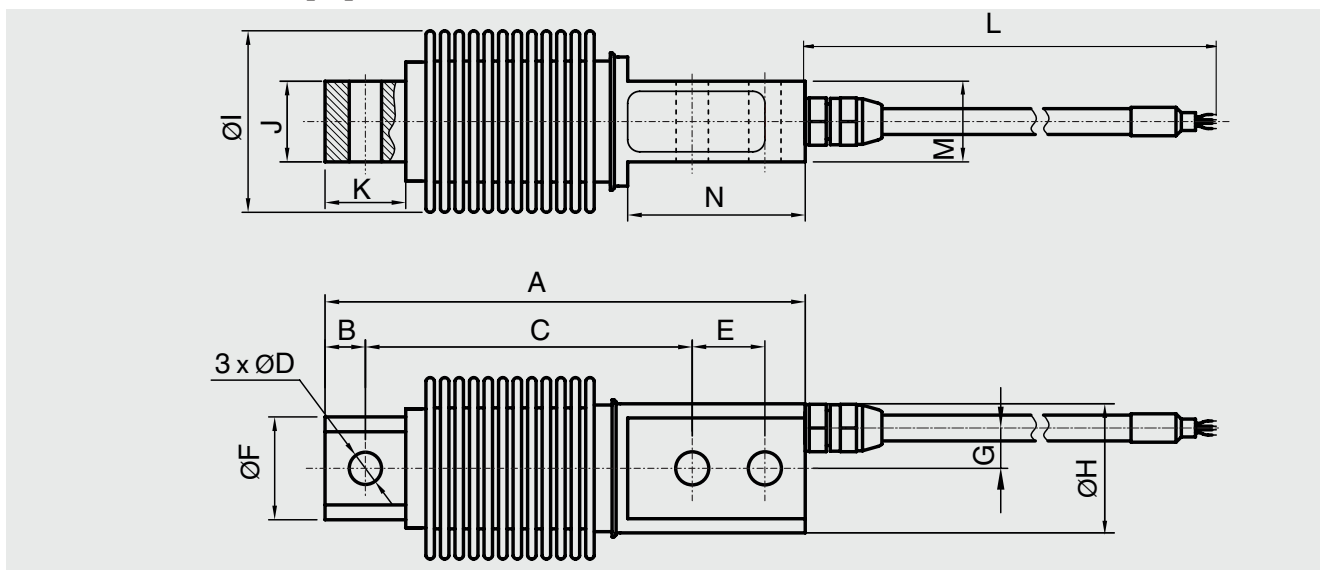
Approvals

Logo	Description	Region
	EU declaration of conformity RoHS directive	European Union
	UKCA RoHS directive	United Kingdom

Optional approval

Logo	Description	Region
	EAC	Eurasian Economic Community

Dimensions in mm [in]



Nominal load in kg	Dimensions in mm													
	A	B	C	ØD	E	F	G	ØH	ØI	J	K	L	M	N
5 / 10 / 20 / 30 / 40 / 50 / 75 100 / 150 / 200 / 250	120	10	82	8.2	18	25.5	10	32	42	20	20	3,000	20	44
300 / 500	120	10	82	10.2	18	25.5	10	32	42	20	20	3,000	20	44

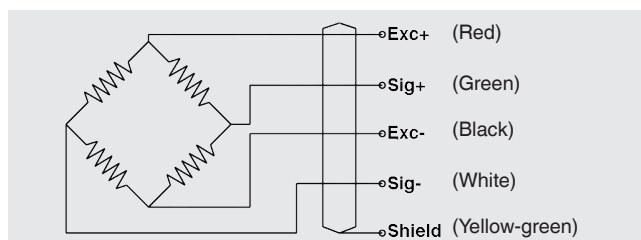
Nominal load in lbs	Dimensions in inch													
	A	B	C	ØD	E	F	G	ØH	ØI	J	K	L	M	N
11 / 22 / 44 / 66 / 88 / 110 / 165 221 / 331 / 441 / 551	4.72	0.4	3.23	0.32	0.71	1	0.39	1.26	1.65	0.79	0.79	118	0.79	1.73
661 / 1,102	4.72	0.4	3.23	0.39	0.71	1	0.39	1.26	1.65	0.79	0.79	118	0.79	1.73

Note

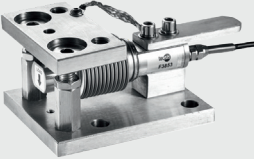
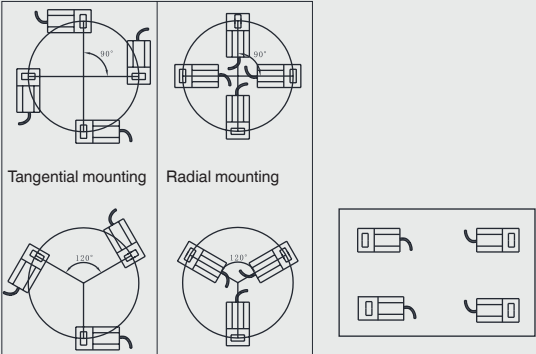
In order to avoid overloading, it is advantageous to connect the load cell electrically during installation and to monitor the measured value. The force to be measured must be applied concentrically and free of transverse force. The bending beams are to be mounted on a level surface.

Pin assignment

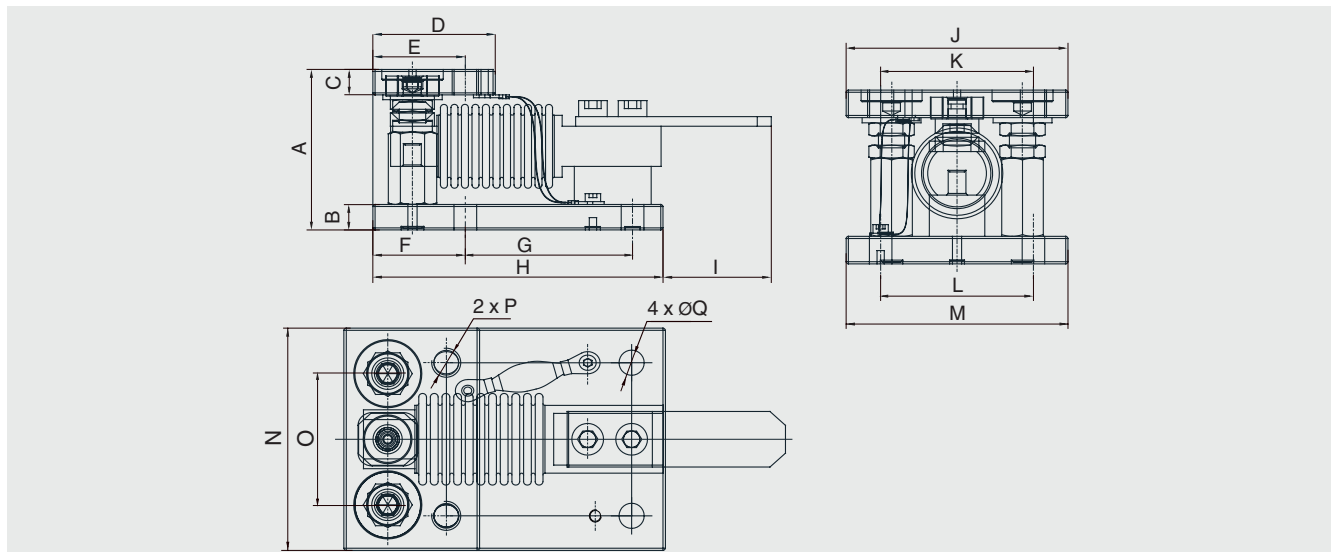
Electrical connection		
Supply voltage+	Exc+	Red
Supply voltage-	Exc-	Black
Signal+	Sig+	Green
Signal-	Sig-	White
Shield ⊕	Shield	Yellow-green



Accessory

	Description	Order no.
	<p>Installation kit</p> <ul style="list-style-type: none"> ■ Material stainless steel ■ Weight 2.4 kg [5.29 lbs] <p>Mounting options</p>  <p>Note: Junction box is required for trimming of a signal.</p>	AZK03

Dimensions in mm [in]



Dimensions in mm

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	ØQ
80	13	13	56	42	42	76	132	46	102	70	70	102	102	70	M10	11

Dimensions in inch

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	ØQ
3.15	0.51	0.51	2.2	1.65	1.65	2.99	5.2	1.81	4.02	2.75	2.75	4.02	4.02	2.75	M10	0.43

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