

Shear beam load cell

0...500 kg up to 0...10.000 kg

Model F3831

Applications

- Floor scales
- Weigh feeders
- Batching scales
- Industrial weighing systems

Special features

- Measurement ranges 0...500 kg up to 0...10.000 kg
- Shear beam load cell made of alloy steel/stainless steel
- High long-term stability
- High side load tolerance

Description

Shear beam load cells are designed for static and dynamic measurement tasks. They determine the shear forces in a wide scope of applications.

These shear beam load cells are used in industrial weighing and laboratory as well as in the process industry.

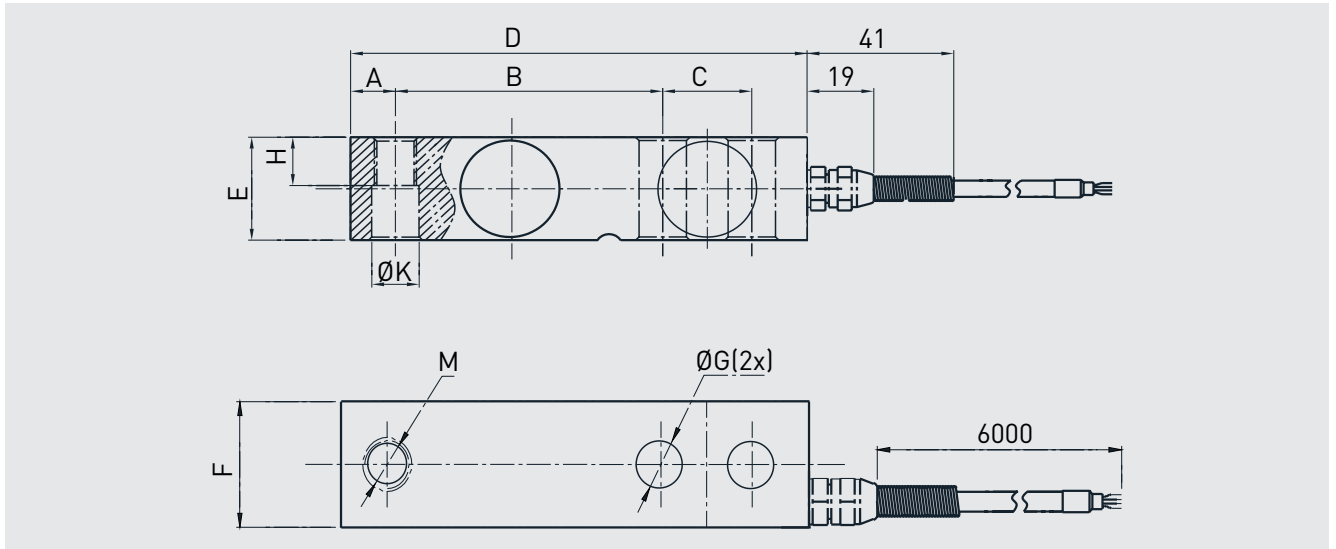


The load cells of the F3831 series are made of steel or stainless steel, which are particularly suitable for the application areas. The output signal is a mV/V signal.

Specifications in accordance with VDI/VDE/DKD 2638

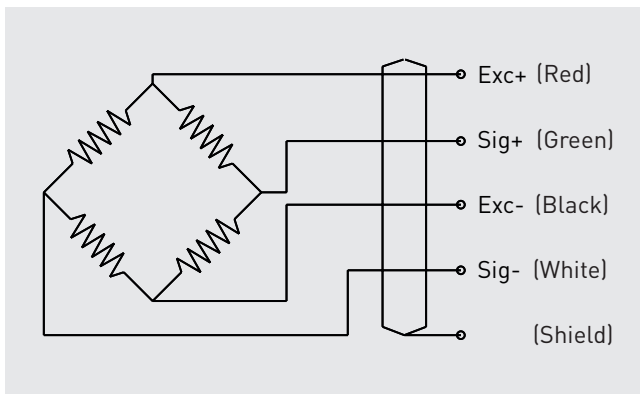
Model series	Symbol	Unit	F3831												
Measurement range															
Nominal load	F_{nom}	kg	500	750	1,000	1,500	2,000	2,500	3,000	5,000	7,500	10,000			
Accuracy and stability															
Relative linearity error	d_{lin}	$x\%F_{nom}$	±0.03												
Relative reversibility	v	$x\%F_{nom}$	±0.03												
Relative repeatability error in unchanged mounting position	b_{rg}	$x\%F_{nom}$	±0.03												
Relative deviation of zero signal	$d_{s,0}$	$x\%F_{nom}$	±2												
Relative creep, 30 at min.		$x\%F_{nom}$	±0.03												
Temperature effect on zero signal	TK_0	$\%/10\text{ }^\circ\text{C}$	≤ ±0.025												
Temperature effect on characteristic value	TK_C	$\%/10\text{ }^\circ\text{C}$	≤ ±0.025												
Mechanical characteristics															
Force limit	F_L	$x\%F_{nom}$	150												
Breaking force	F_B	$x\%F_{nom}$	200												
Material			Steel, stainless steel												
Temperature ranges															
Rated temperature range	$B_{T,nom}$	$^\circ\text{C}$	-10...60												
Operating temperature range	$B_{T,G}$	$^\circ\text{C}$	-20...80												
Electrical characteristics															
Output signal (rated output)	C_{nom}	mV/V	2.0 ± 1 % (3.0 ± 1% optional)												
Input resistance	R_e	Ω	385 ± 10												
Output resistance	R_a	Ω	350 ± 5												
Insulation resistance	R_{is}	M Ω	± 5,000/DC 100 V												
Recommended excitation voltage		V	10												
Maximum excitation voltage		V	15												
Electrical connection			Cable \varnothing 5 x 6,000 mm												
General data															
Protection (acc. to EN/IEC 60529)			IP65 (< 500 kg) IP67 (≥ 500 kg)												
Weight		kg	1 (500 up to 2,500 kg) 1,9 (3,000 up to 5,000 kg) 4,5 (7,5000 up to 10,000 kg)												

Dimensions in mm



Nominal load in kg	Dimensions in mm									
	A	B	C	D	E	F	G	H	K	M
500, 750, 1,000, 1,500, 2,000, 2,500	12.7	76.2	25.4	130	31.8	31.8	13	15.7	13.5	M12 x 1.75
3,000, 5,000	19	95.3	38.1	171.5	38.1	38.1	20	26	20	M18 x 1.5
7,500, 10,000	25.3	124	50.8	225.5	50.8	50.8	27	25.4	26.2	M24 x 2

Pin assignment



Electrical connection

Excitation voltage (+)	Red
Excitation voltage (-)	Black
Signal (+)	Green
Signal (-)	White
Screen	Screen

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We reserve the right to make modifications to the specifications and materials.