

KAB Force Transducer

Applications

- Mechanical engineering
- Measurement of bending forces



Features

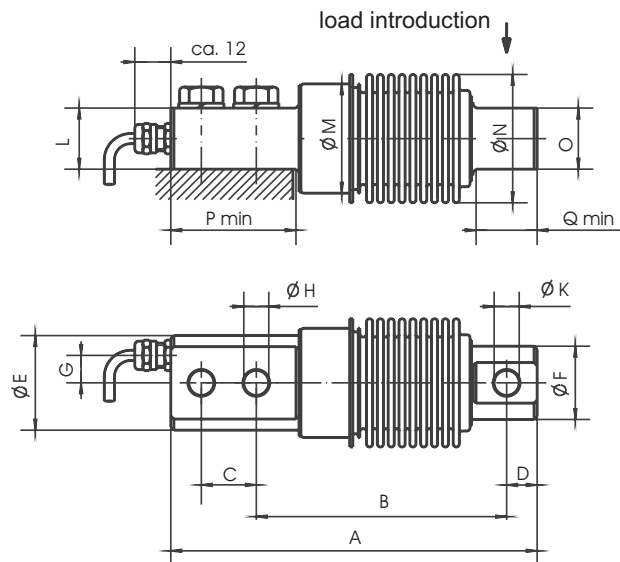
- 100N up to 10kN
- Made from stainless steel
- Hermetically sealed enclosure (IP 67)



Options

- Integrated amplifier with standard signal
- CANopen interface
- ATEX-Certificate
(not with integrated amplifier)

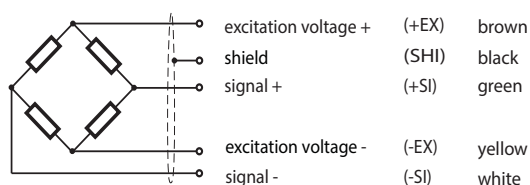
Dimensions (mm)



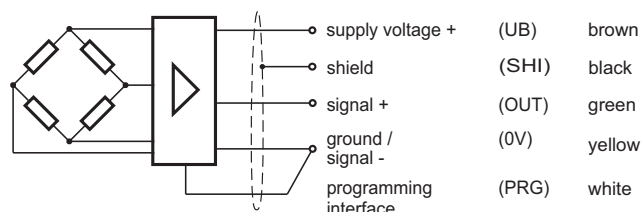
Rated Force	A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	Rated display / mm	Weight
100N ... 500N																0.3	
1kN	120	82±0.1	18±0.1	10	∅31	∅24	9	∅8.2	∅8.2 _{0.1}	20	∅35.8	∅42±0.5	20	41	20	0.24	0.6 kg
2kN																0.28	
5kN	210	133±0.1	40±0.1	22	∅48	∅34	15	∅13	∅11±0.1	40	∅55	∅55±0.6	25	68.5	42.5	0.4	2.3 kg
10kN																0.6	

Wiring Code

Cable length 3m



Compressive load is positive change of signal.



with integrated amplifier
(0V and PRG to be connected by the customer)

Specification

Accuracy Class	% F _{nom}	0.1	0.05	0.2 ¹⁾ with Integrated Amplifier
Rated force (F _{nom})	kN	0.1/ 0.2/ 0.5/ 1/ 2/ 5/ 10		0.1/ 0.2/ 0.5/ 1/ 2/ 5/ 10
Maximum operating force (F _G)	% F _{nom}	150		150
Breaking force (F _B)	% F _{nom}	> 300		> 300
Lateral force limit (F _Q)	% F _{nom}	100		100
Rated characteristic value (C _{nom})	mV/V	2.000 ± 0.002		
Relative deviation of zero signal	%	≤ 1		
Reference excitation voltage (U _{ref})	VDC	10		
Input resistance (R _e)	Ω	380 ± 30		
Output resistance (R _a)	Ω	352 ± 1.5		
Insulation resistance (R _{is})	Ω	> 5 x 10 ⁹		
Relative linearity error (d _{lin}) ¹⁾	%	≤ 0.1	≤ 0.05	0.1
Relative reversibility error (v) ¹⁾	%	≤ 0.1	≤ 0.05	
Temperature effect on zero signal (TK ₀)	%/10K	≤ 0.05	≤ 0.025	0.2
Temperature effect on characterist. value (TK _c)	%/10K	≤ 0.10	≤ 0.05	
TK output signal under load	%/10K			0.1
Relative creep over 30 minutes (d _{cr, F+E})	%	≤ 0.10	≤ 0.05	0.2
Tolerance of output signal	%			0.1
Tolerance of zero signal	%			≤ 1
Reference temperature (T _{ref})	°C	+23		+23
Rated temperature range (B _{T, nom})	°C	-20 ... +60		-20 ... +60
Operating temperature range (B _{T, G})	°C	-30 ... +70		-30 ... +70
Storage temperature range (B _{T, s})	°C	-40 ... +70		-40 ... +70
Environmental protection (EN 60529)		IP 67		IP 67
Supply voltage	VDC			19 ... 28
Input current	mA			35 (at 24V)
Output signal for compression force (0...F _N)				11 ... 15
Alternatively:				20 (at 12V)
- Voltage output (max. load: 5mA)	V			0 ... 10
- Current output (max. resistance)	mA			4 ... 20 (300 Ω)
Output signal for tension or pressure force (-F _N ...F _N)				4 ... 20 (100 Ω)
- Voltage output	V			-10 ... +10
				-5 ... +5

All data according to VDI/VDE/DKD 2638

1) Accuracy class 0.1% on request

Order Example

Type Code	Description
KAB-E/1kN/0.2/24V/0 ... 10V	Force transducer 1kN with 0.2% accuracy and integrated amplifier
	Output signal
	Supply voltage
	Accuracy class
	Rated force
	E = Integrated amplifier
	Model