

# KAB Force Transducer

## Applications

- Mechanical engineering
- Measurement of bending forces



## Features

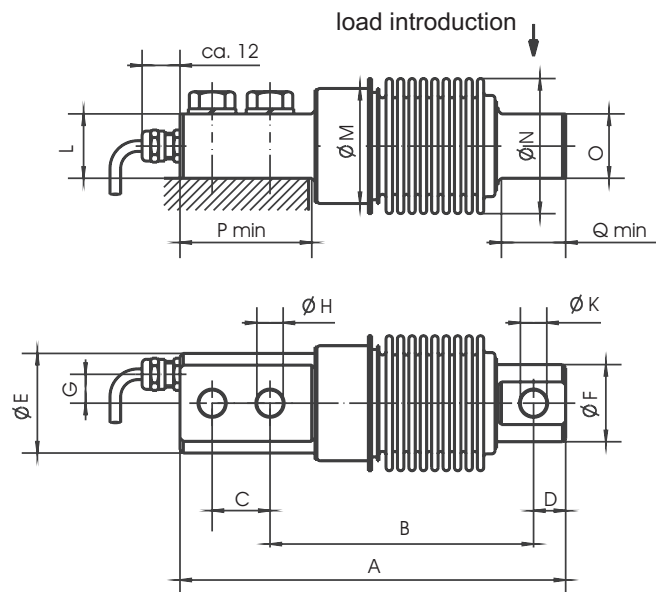
- 50N up to 10kN
- Made from stainless steel
- Hermetically sealed enclosure (IP 67)



## Options

- Integrated amplifier with standard signal
- CANopen interface
- ATEX-Certificate

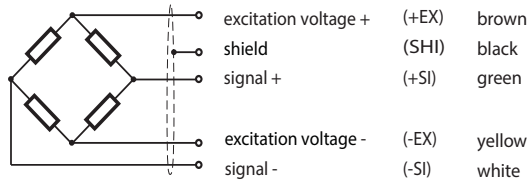
## Dimensions (mm)



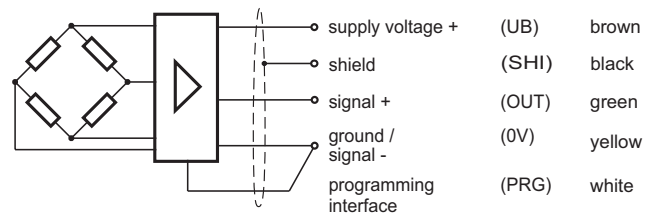
Rated Force	A	B	C	D	E	F	G	H	K	L	M	N	O	P	Q	Rated display / mm	Weight
50N ... 500N																0.3	
1kN	120	82±0.1	18±0.1	10	Ø31	Ø24	9	Ø8.2	Ø8.2 <sub>0.1</sub>	20	Ø35.8	Ø42±0.5	20	41	20	0.24	0.6 kg
2kN																0.28	
5kN	210	133±0.1	40±0.1	22	Ø48	Ø34	15	Ø13	Ø11±0.1	40	Ø55	Ø55±0.6	25	68.5	42.5	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 <sub>nom</sub>	0.1	0.05	0.2 <sup>1)</sup> with Integrated Amplifier
Rated force (F <sub>nom</sub> )	kN	0.05/ 0.1/ 0.2/ 0.5/ 1/ 2/ 5/ 10		
Maximum operating force (F <sub>G</sub> )	% F <sub>nom</sub>	150		
Breaking force (F <sub>B</sub> )	% F <sub>nom</sub>	> 300		
Lateral force limit (F <sub>Q</sub> )	% F <sub>nom</sub>	100		
Rated characteristic value (C <sub>nom</sub> )	mV/V	2.000 ± 0.002		
Relative deviation of zero signal	%	≤ 1		
Reference excitation voltage (U <sub>ref</sub> )	VDC	10		
Input resistance (R <sub>e</sub> )	Ω	380 ± 30		
Output resistance (R <sub>a</sub> )	Ω	352 ± 1.5		
Insulation resistance (R <sub>is</sub> )	Ω	> 5 × 10 <sup>9</sup>		
Relative linearity error (d <sub>lin</sub> ) <sup>1)</sup>	%	≤ 0.1	≤ 0.05	0.1
Relative reversibility error (v) <sup>1)</sup>	%	≤ 0.1	≤ 0.05	
Temperature effect on zero signal (TK <sub>0</sub> )	%/10K	≤ 0.05	≤ 0.025	0.2
Temperature effect on characterist. value (TK <sub>c</sub> )	%/10K	≤ 0.10	≤ 0.05	
TK output signal under load	%/10K			0.1
Relative creep over 30 minutes (d <sub>cr,F+E</sub> )	%	≤ 0.10	≤ 0.05	0.2
Tolerance of output signal	%			0.1
Tolerance of zero signal	%			≤ 1
Reference temperature (T <sub>ref</sub> )	°C	+23		
Rated temperature range (B <sub>T, nom</sub> )	°C	-20 ... +60		
Operating temperature range (B <sub>T, G</sub> )	°C	-30 ... +70		
Storage temperature range (B <sub>T, S</sub> )	°C	-40 ... +70		
Environmental protection (EN 60529)		IP 67		
Supply voltage	VDC	19 ... 28		
Input current	mA	35 (at 24V)		
Output signal for compression force (0...F <sub>N</sub> )				
Alternatively:				
- 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 <sub>N</sub> ...F <sub>N</sub> )				
- Voltage output	V	-10 ... +10		

All data according to VDI/VDE/DKD 2638

1) Accuracy class 0.1% on request

## Order Example

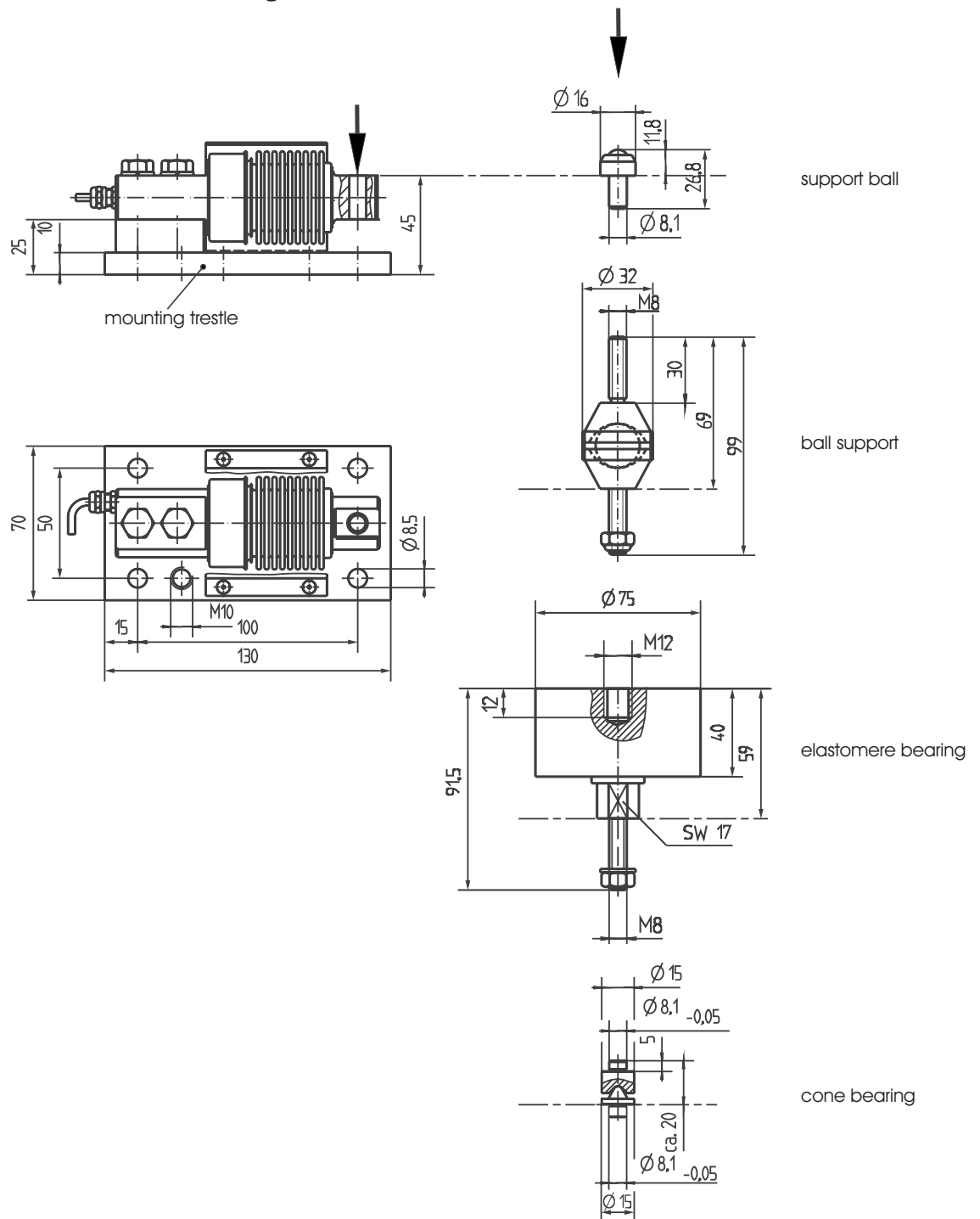
Type Code	Description
KAB-E/1kN/0.2/24V/0...10V	Force transducer 1kN with 0.2% accuracy and integrated amplifier
	Output signal
	Supply voltage
	Accuracy class
	Rated force
	E = Integrated amplifier
	Model

## Options

	Typschlüssel	Bezeichnung
ATEX-Certificate	KAB-EX KAB-E-EX	for 100N, 200N, 500N, 1kN, 2kN, 5kN, 10kN. Please not ATEX data sheet! for 50N ... 10kN, Please note data sheet "ATEX with integrated amplifier"!
CANopen interface	KAB-DI	for 50N bis 10kN, Please note data sheet „Force Transducer with CANopen Interface“!

## Appliances for Installation and Mounting

KAB 50N ... 2kN



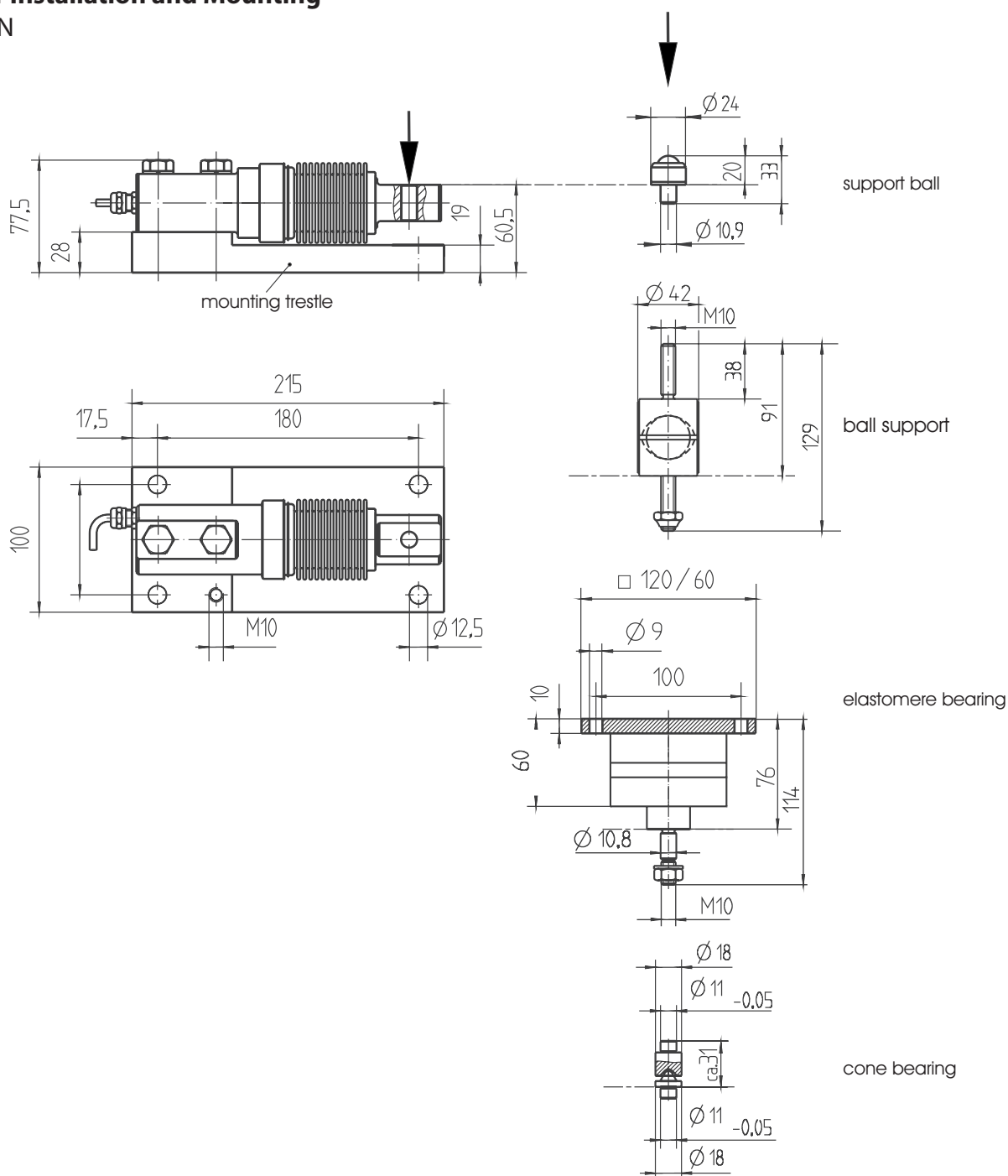
## Accessoires / Options

	Type Code	Description	
Mounting trestle	XKM 001	for 50N ... 2kN	
Support ball	XKM 106.01	for 50N ... 2kN	
Ball support	XKM 102	for 50N ... 2kN	
Elastomere bearing	XKM 053.01 <sup>2)</sup> XKM 053.03 <sup>2)</sup>	for 100N/ 200N/ 500N for 1kN/ 2kN	transverse stiffness 70N/mm transverse stiffness 300N/mm
Cone bearing	XKM 060	for 50N...2kN	
Protective cable	XKC 009.01	für 50N ... 2kN	

2) for platform size (1000x1000) mm with 4 force transducers

## Appliances for Installation and Mounting

KAB 5kN ... 10kN



## Accessoires / Options

	Type Code	Description	
Mounting trestle	XKM 005	for 5kN/ 10kN	
Support ball	XKM 107.01	for 5kN/ 10kN	
Ball support	XKM 103	for 5kN/ 10kN	
Elastomere bearing	XKM 051.01 <sup>3)</sup> XKM 051.02 <sup>3)</sup>	for 5kN for 10kN	transverse stiffness 1200N/mm transverse stiffness 3000N/mm
Cone bearing	XKM 061	for 5kN/ 10kN	
Protective cable	XKC 009.02	for 5kN/ 10kN	

3) for platform size (1500 x 1500) mm with 4 force transducers