

## Force Measurement Bolt KMB-A

### Scope of Supply

Force sensor with 5 m cable (PVC) with amplifier output C (current output 4...20 mA) and connection variant T: cable gland, straight

### Variants

U: Voltage output  $\pm 0 - 10 \text{ V}$   
 S2: Plug connection, right-angled, M12, moulded

### Additional Accessories

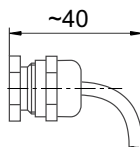
Spring cotter for axial lock



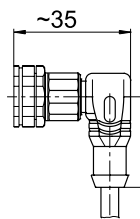
Picture similar

### Connections

Variant T



Variant S2



### Accessories

Spring cotter for axial lock



Fit in commercially available standard fork heads

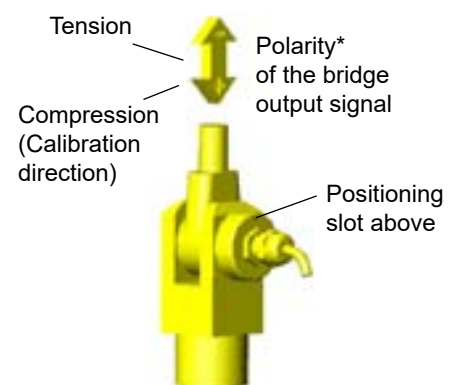


### Special Features

- With integrated amplifier
- Simple mounting even in confined spaces
- Easy retrofitted into existing machinery
- Measuring range from 6,3 to 63 kN

The force measurement bolt KMB-A was specifically developed to capture tension and compression forces in machine parts equipped with standard fork heads, e.g. in conjunction with pneumatic and hydraulic cylinders.

The KMB-A can be used in all applications where such fork heads are either already available or can be easily retrofitted. Simple and cost effective mounting of the KMB-A make it especially suitable for up-grading existing equipment.



**Attention!**

### Installation instruction

\*Align positioning slot according to action line of the measuring direction. In order to obtain reverse polarity turn the KMB by 180° (positioning slot is at the bottom).

Select „voltage version U“ for sensors with negative preload, as the variation C can process only positive loads.

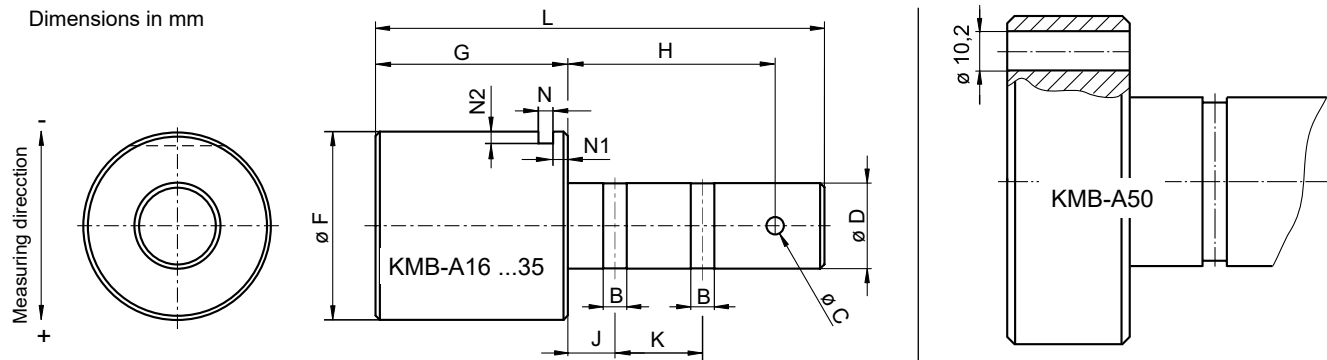
A potential equalization cable with sufficient cross section has to be provided, when mounting the amplifier to grounded machine parts.

### Ordering Example

**KMB-AC20-10k-T**

Typ	
Output signal	
Diameter	
Nominal force	
Variants	

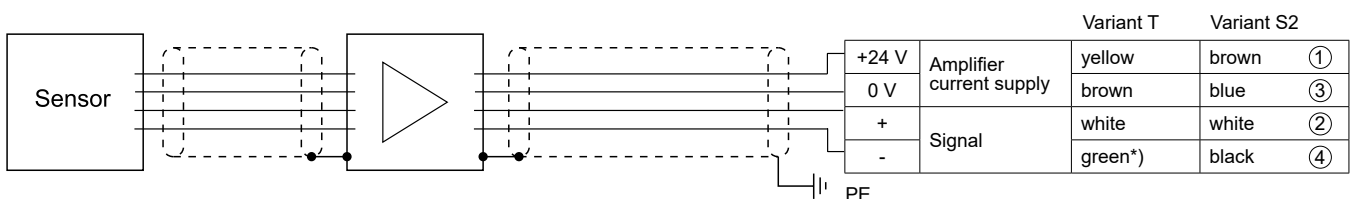
Technical Data Sensor	Values (%) based on nominal force												
	ø 16		ø 20			ø 35					ø 50		
Nominal force [kN]	6,3	10	6,3	10	16	10	16	25	40	63	100	160	250
Max. operating force	160 %												
Absolute max. force	300 %												
Lateral force	100 %												
Fracture force	400 %												
Combined error	1 %												
Nominal temperature range	+10 ... +60 °C												
Operational temperature range	-10 ... +70 °C (applications with fix mounted cable)												
Connecting cable standard	PVC, grey, 4 x 0,34 mm <sup>2</sup>												
Weight	<0,5 kg		<0,75 kg			<2 kg					3,7 kg		
Standard protection class	IP 67												



Standard: Calibration in positiv measuring range, KMB12 ...KMB35 are calibrated to tension, KMB50 to compression load

KMB-A	ø D	ø F	G	N	N1	N2	C	H	L	J	K	B
16	16h7	40	55	4	4	3	3	35,5	95	8	16	6
20	20f7	40	55	4	4	4	4	42	103	9,75	20,5	5,5
35	35g6	45	55	4	4	4	5	77,5	140	17,5	35	8
50	50g6	100	37	-	-	-	6	101	145	23	50	9

Technical Data Amplifier		
Signal output	Variant U	Voltage ± 10 V min. load resistance 5 kΩ
	Variant C	Current 4...20 mA max. load resistance 1 kΩ
	Band width	DC to 1 kHz
Power supply	Voltage	min. 14 V typ. 24 V ±3 V max. 27 V
	Typ. current consumption	approx. 22 mA



\*) With variant U this line is not in use. The reference potential of the signal is 0 V of the amplifier supply