

Force Measurement Bolt KMB-IO

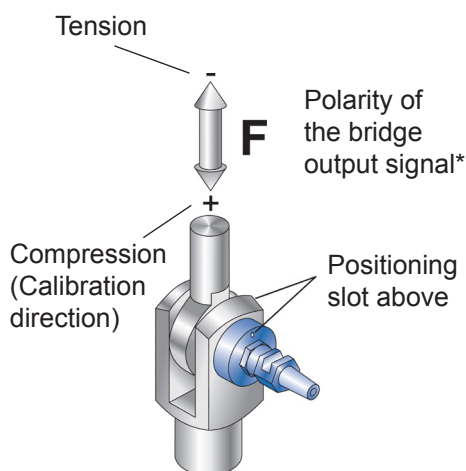
With integrated IO-Link amplifier

Simple mounting even in confined spaces

Easy retrofitted into existing machinery

Measuring range from 6,3 to 63 kN

Installation instruction



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

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



Application example



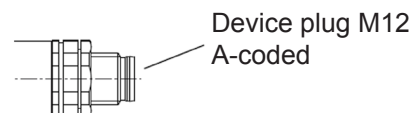
**Made in
Germany**

FORCE MEASUREMENT BOLT

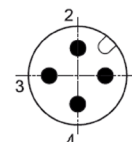
The force measurement bolt **KMB-IO** was specifically developed to capture tension and compression forces in machine parts equipped with standard fork heads, e.g. in conjunction with pneumatic and hydraulic cylinders.

The **KMB-IO** 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-IO** make it especially suitable for up-grading existing equipment.

CONNECTION



1	24 V
2	NC
3	0 V
4	IO-Link Signal (C/Q)



When installing the amplifier a potential equalization with a sufficient diameter is necessary.

ORDERING EXAMPLE

KMB-IO 20-10k

Typ

Output signal

Diameter $\varnothing$

Nominal force

SCOPE OF DELIVERY

Force sensor with IO-Link output signal

ADDITIONALLY AVAILABLE

Preassembled IO-Link
standard cable with M12

cable plug and socket in 5, 10 or 15 m length for connection to the master

Spring cotter for axial lock



Parametrierung über Device Tool

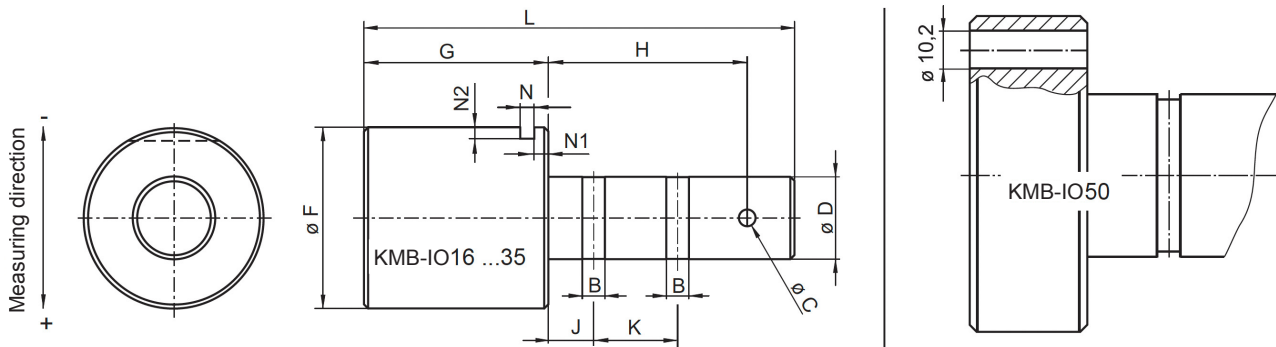
The screenshot displays the VMware Workstation interface. At the top, the title bar reads 'VMware Workstation - BSPMIRE3_CAD'. Below the title bar, the menu bar includes 'File', 'Edit', 'View', 'Player', 'Window', 'Help', and 'Tools'. The main toolbar contains icons for opening files, saving, undo, redo, and other VM operations. The central pane shows the 'Summary' tab for the virtual machine 'BSPMIRE3_CAD'. The 'Hardware' section lists components with their status: CPU (100%), Memory (10240 MB), Hard Disk (100 GB), Network (VMXNET3), and Sound (Intel HDA). The 'Software' section shows the installed operating system as Windows 10. The bottom status bar indicates the VM is powered on.

Technical Data Sensor	Values (%) based on nominal force												
Nominal force [kN]	ø 16		ø 20			ø 35					ø 50		
	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	0 ... +60 °C												
Weight	<0,5 kg		<0,75 kg			< 2 kg					3,7 kg		
Standard protection class	IP 67												



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KMB-IO-SERIES



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

KMB-IO	øD	øF	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 IO-Link-Verstärker		
Power supply	Voltage	24 V DC, 18 V ... 30 V
	Typical current requirements with standard wiring	ca. 20 mA
Signal	- 160% ... 0 ... + 160% $\hat{=}$ 8000...0000...7FFF	
Sampling rate	1 ms	
Resolution	16 bit	
Data width	1 Word	
IO-Link specification		
IO-Link revision	1.1	
Transmission type	COM2 / 38,4 kBit/s	
Min. Cycle time	3 ms	
SIO mode	No	
Required master port class	A	

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