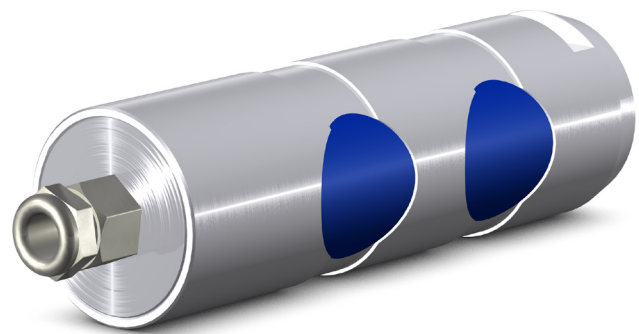


Load pin **MB**



For tension and compression loads
Nominal loads up to 100t
Design pursuant to customer requirements

Overload protection for lifts and cranes
Load limiting on work platforms
Weighing applications

Designed,
developed and
made in Germany

Our load pins measure static and dynamic tensile and compression loads. They are designed as bearing pins and can be simply exchanged for a standard pin. They are particularly suitable for measuring high loads in mechanical engineering applications. We manufacture load pins in various diameters and lengths according to

your specifications. These load pins can be used to replace pins in existing systems. For long transmission paths, load pins can be equipped with an integrated measuring amplifier. When installing a load pin, it is important that all the forces to be measured act perpendicular to the pin axis. A stop plate prevents the load pin rotating.

A force measurement pin should fit in its mounting bores with almost no clearance.

Technical data

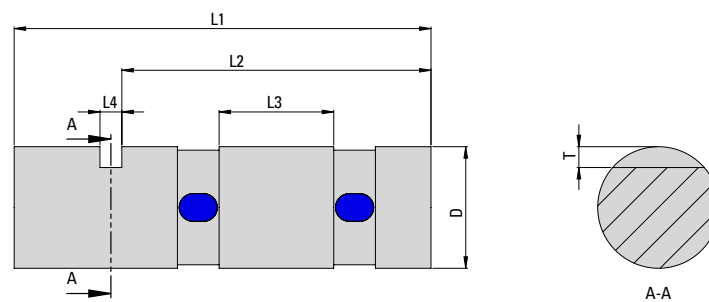
- » Nominal load up to 100 t
- » Material Aluminium or Steel
- » Maximum working load*, limit load*, breaking load* following consultation
- » Accuracy $\pm 0.5\%$ to $\pm 2\%$ f.s.** (under tension or compression)
- » Reference temperature 20°C
- » Nominal temperature range -10°C to +50°C
- » Working temperature range -30°C to +80°C
- » Temperature coefficient of gain $< 0.1\%$ f.s.**/10 K
- » Temperature coefficient of zero $< 0.2\%$ f.s.**/10 K
- » Degree of protection IP 67

* * The sum of the dynamic and static load is decisive

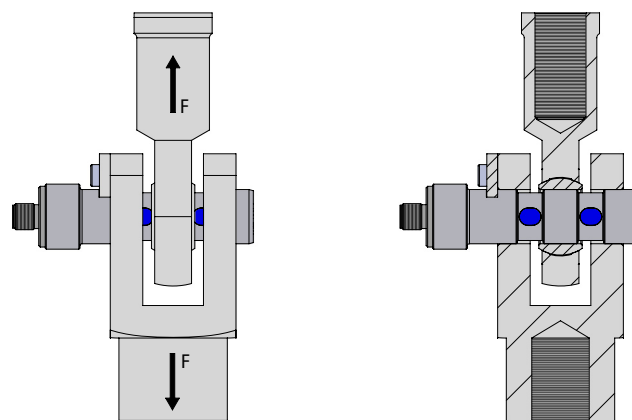
** f.s. = full scale value

Dimensions

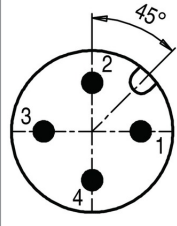
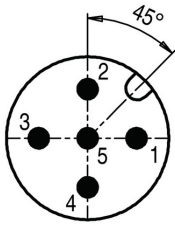
The following dimensions are defined pursuant to customer requirements



Installation drawing with force application



Output variants without measuring amplifiers / with integrated measuring amplifiers

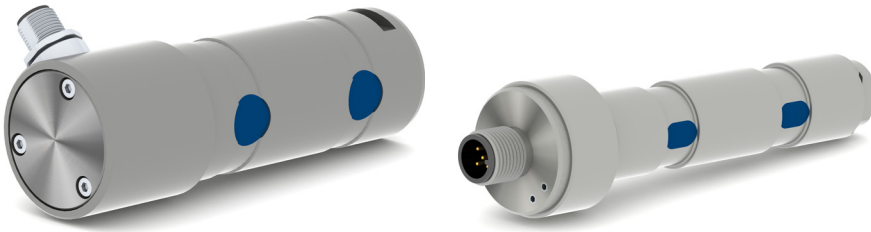
Version	Without measuring amplifier*		Measuring amplifier with current output				Measuring amplifier with voltage output	
			3-conductor		2-conductor			
Output signal Sig	≈ 2 mV/V		1...9 mA 4...20 mA 12 ± 8 mA		4...20 mA 12 ± 8 mA		0...5 V 2.5 ± 2.5 V 0...10 V 5 ± 5 V	
Supply U _b [V]	< 10		10...30		10...30		6...30 11...30	
Resolution [bit]	–		11				11	
Measuring rate	–		1000 (optional 30...2000) Hz					
Insulation resistance	> 1 GΩ		> 1 GΩ					
Load	–		< (U _b – 6V) / Sig _{max}		< (U _b – 8V) / Sig _{max}		> 10 000 Ω	
Max. power consumption	40 mA		40 mA					
Electrical protection	Reverse voltage, overvoltage and short circuit protection						Reverse voltage and overvoltage protection	
Cable type (if provided)	FDCCP plus, 4 x 0.25 mm ² , length 5 m							
Connection variants	Cable	M 12 x 1 4-pole	Cable	M 12 x 1 5-pole	Cable	M 12 x 1 5-pole	Cable	M 12 x 1 5-pole
	U _b	BN	1	BN	1	BN	1	BN
Sig(+)	GN	4	GN	4	BN	1	GN	4
GND	WH	3	WH	3	WH	3	WH	3
Sig-	YE	2						
A								
B								
Shield	BK	Housing	BK	Housing	BK	Housing	BK	Housing
not connected				2, 5		2, 4, 5		2,5
Pole assignment								

* Input bridge resistor ≈ 400 Ω | Output bridge resistor ≈ 350 Ω

Options

- » Output available with test signal on request
- » Redundant version

Design examples



Installation examples

