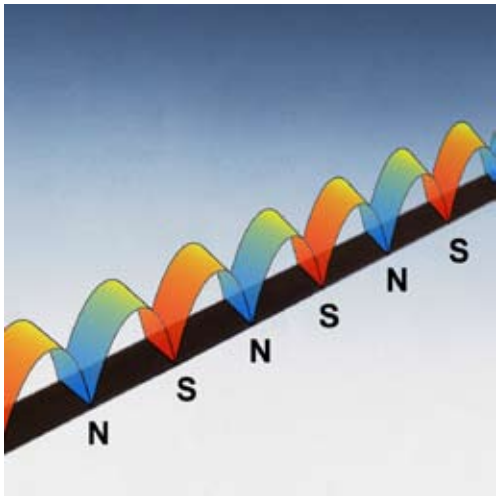
PMIB3 POSIMAG®
Magnetic Scale



Magnetic scale PMIB3 for Position Sensor PMIS3

- **Easy splicing**
- **Resistant to moisture and many fluids**
- **Extensive ruggedness against dust etc.**
- **High temperature durability**
- **Magnetic scale with stainless steel base**

The magnetic material is magnetised in defined and even distances and works as a solid measure. Reference marks can be user defined in 4 mm resp. 10 mm steps. The magnetic scale retains its firmness by means of a spring steel base (stainless steel strip CrNi 17 7).

Specifications

Solid measure		Plastic bonded flexible permanent magnet	
Base material		Stainless steel CrNi 17 7 / elastomer	
Masking tape		Stainless steel (non magnetic)	
Measurement ranges		e.g. 100 ... 2500 mm (up to 50 m on request)	
Width		10 mm +0.1 mm / -0.2 mm	
Thickness (w/o masking tape)		1.4 mm +0.1 mm / -0.2 mm	
Thickness (with masking tape)		1.6 mm +0.1 mm / -0.2 mm	
Magnetic period		2 mm	5 mm
Linearity at 25°C	up to 30 m up to 50 m	±40 µm/m ±80 µm/m	±40 µm/m ±80 µm/m
Reference mark (reference pulse)		max. every 4 mm	max. every 10 mm
Measurement range		must be divisible by 4	must be divisible by 10
Linear thermal expansion coefficient		17 x 10^{-6} / K	
Operating temperature		-40 ...+100°C	

An unmagnetic masking tape made of stainless steel is available (accessories). The magnetic scale is flexible and can be glued to the surface of a cylinder with a minimum radius of 100 mm and used for angular measurements.

Order code PMIB3

PMIB3 – □ – □ – □ – □ – □

Model name

Magnetic period
20 = 2 mm / 50 = 5 mm

Mounting of the magnetic scale
N = adhesive taping

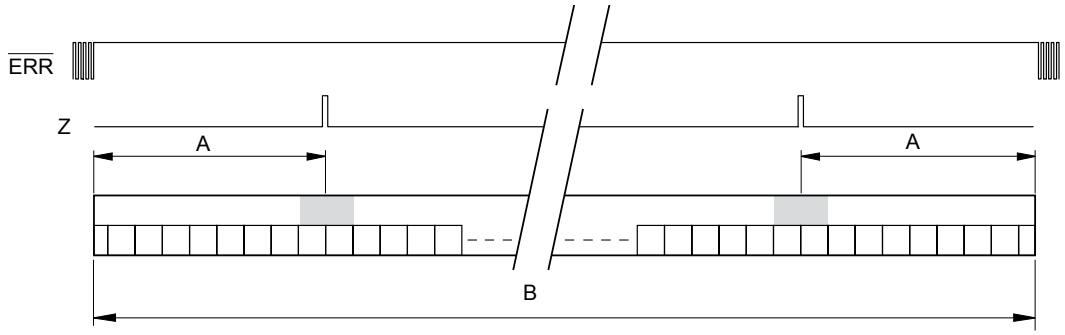
Measurement range (total length = range + X mm, refer to the table on page 10)
e.g. 100, 500, 1000 ... 2500 mm (up to 50 m on request)
Measurement ranges must be divisible by 4 (resp. by 10)

Reference marks/end position marks (optional)
R1 = reference mark on the left / R2 = on the right
E1 = end position mark on the left / E2 = on the right
Additional reference marks every 4 mm (period 2 mm) resp. 10 mm (period 5 mm) from the left

Options
FP = magnetic scale in flat profile
HP = magnetic scale in high profile
AB = masking tape (only with FP + HP)

Order example: PMIB3 - 50 - N - 1500 - R1

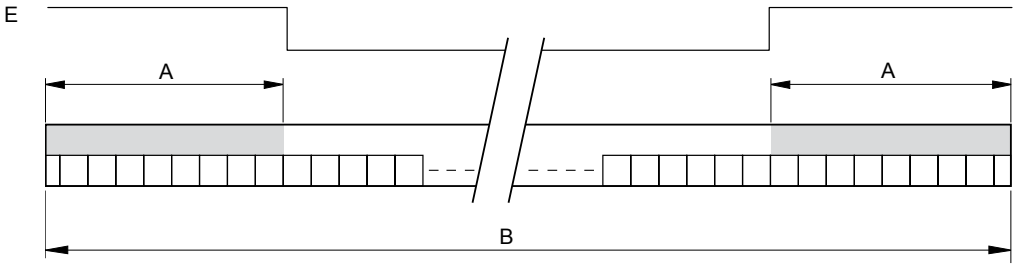
Position of the standard reference marks



Dimensions reference	Magnetic period	Switching position A	Total length B
	2 mm	20.0 ±1 mm	measurement range + 40 mm
	5 mm		
	2 mm with high profile	60.0 ±1 mm	measurement range + 120 mm
	5 mm with high profile		

Additional reference marks every 4 mm (period 2 mm) resp. 10 mm (period 5 mm) from the left h. s.

Position of the end position marks



Dimensions end positions	Magnetic period	Switching position A	Total length B
	2 mm	21.0 ±1 mm	measurement range + 50 mm
	5 mm	22.5 ±1 mm	measurement range + 50 mm
	2 mm with high profile	61.0 ±1 mm	measurement range + 130 mm
	5 mm with high profile	62.5 ±1 mm	measurement range + 130 mm

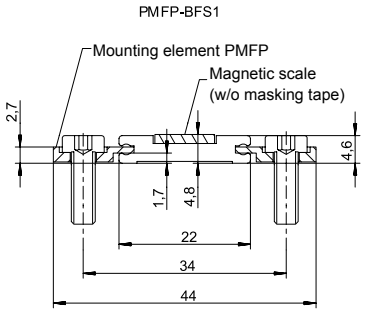
Masking tape PMAB:

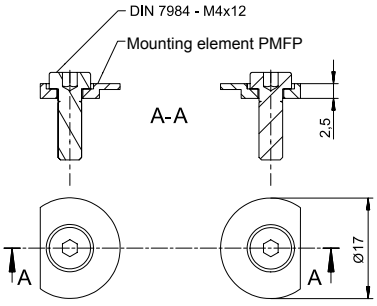
Masking tape made of stainless steel for POSIMAG magnetic scale PMIB3, width 10 mm, thickness 0.2 mm

Order code: PMAB — 10MM — □

Length in mm

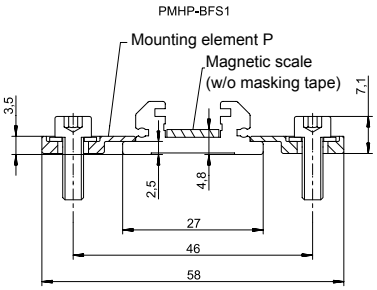
Outline drawing flat profile PMFP

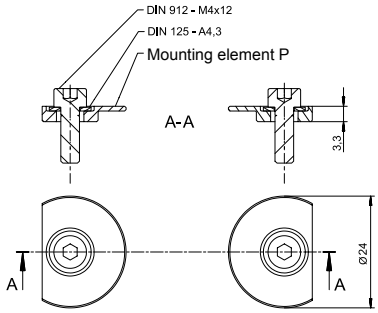




Mounting set PMFP-BFS1

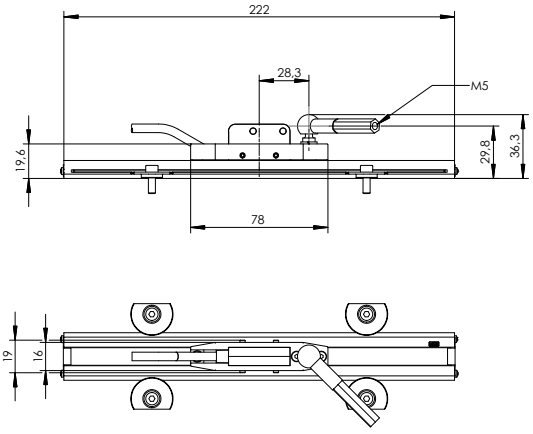
Outline drawing high profile PMHP

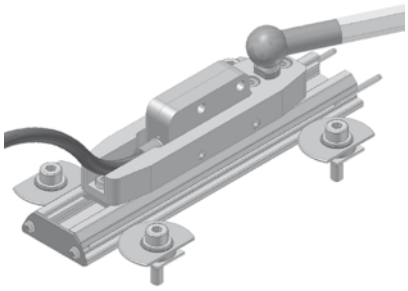




Mounting set PMHP-BFS1

Slider for high profile PMGW3





Dimensions informative only. For guaranteed dimensions consult factory.

Magnetic Scales – Technical Information

Types of magnetic scales / Application recommendation

Type	Stainless steel elastomer scale PMIB3
base strip	CrNi 17 7 stainless steel
magnetic scale	Elastomer magnetic scale
environmental conditions	very difficult
corrosion resistance	high
temperature resistance	high
media resistance	high

Chemical durability – Elastomer magnetic scales (PMIB3)

no / little influence	weak / middle influence	strong influence
motor oils gear oils ATF (automatic transmission fluid) hydraulic fluid kerosene antifreeze agent purifying agent turpentine water sea water/salt water	JP-4 fuel (Jet fuel) gasoline/petrol heptane alcohol	aromatic hydrocarbon (benzene, toluene, xylene) ketone anorganic acids (HCl, H_2SO_4)

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