

# MAGNETOSTRICTIVE TRANSDUCER



## MAP Series

### Key-Features:

- Available measurement ranges 50 to 1500 mm
- Sliding, or floating magnetic cursor
- Contactless measurement without wear
- Displacement speed up to 10 m/s
- Linearity  $< \pm 0.04\%$  of full scale (min.  $\pm 0.09$  mm)
- Working temperature  $-20...+75$  °C
- Protection class IP65
- Analog output signal

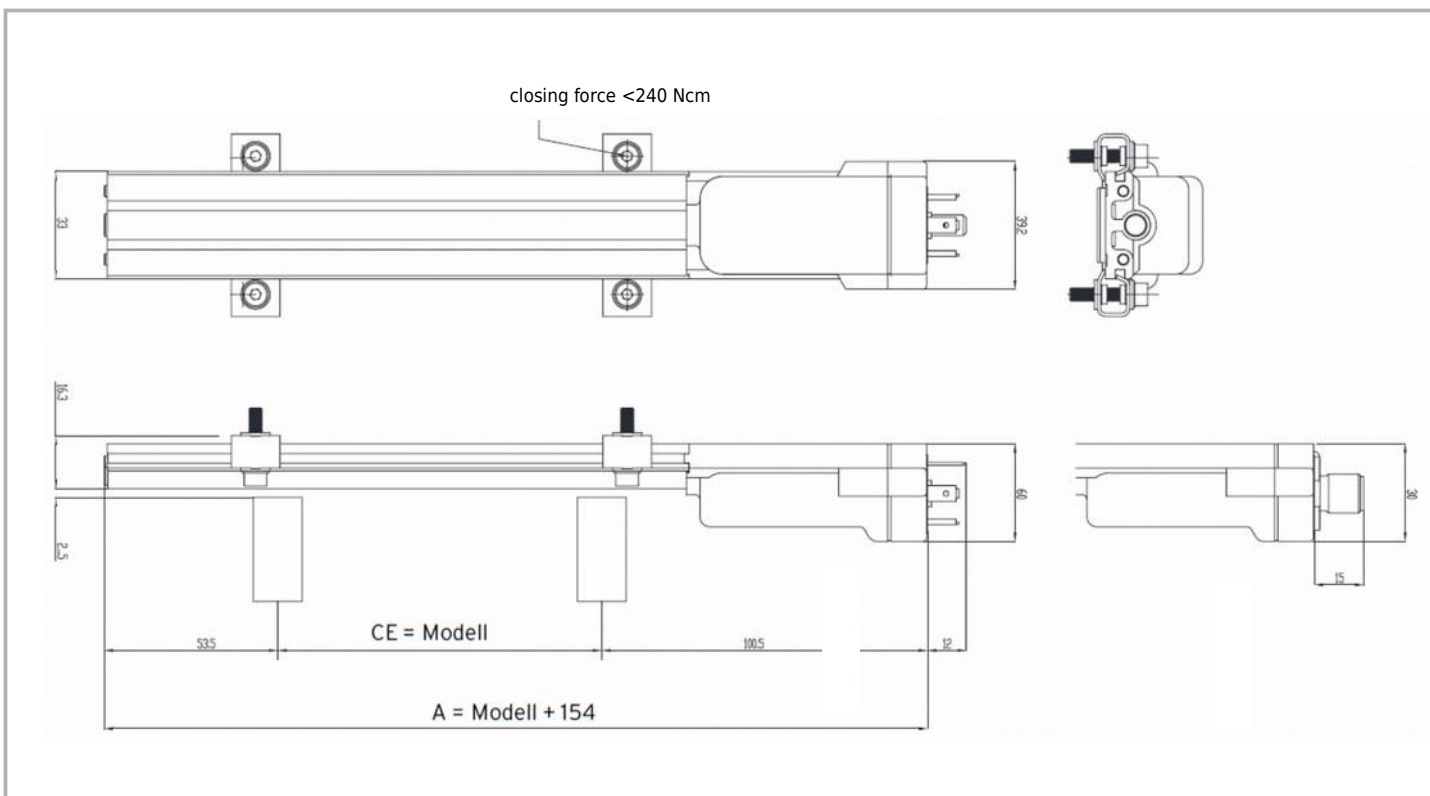
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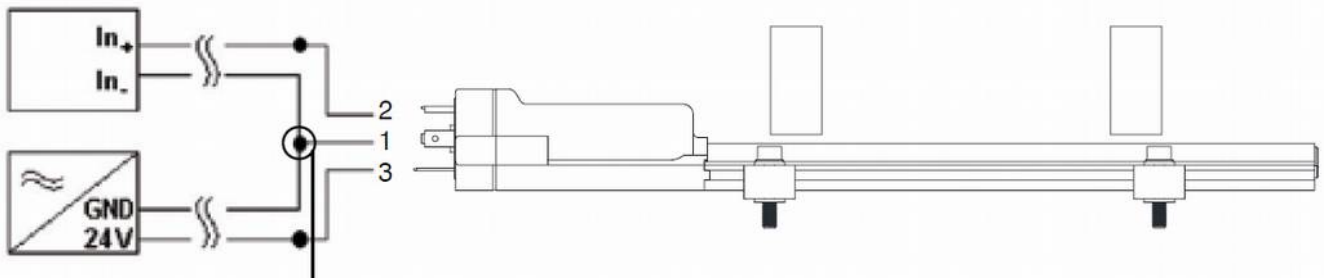
## TECHNICAL DATA

Measurement range	[mm]	50, 75, 100, 130, 150, 175, 200, 225, 250, 300, 350, 360, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900 950, 1000, 1100, 1200, 1250, 1300, 1400, 1500
Measured dimension		position
Protection class		IP65
Displacement speed	[m/s]	≤10
Maximum acceleration	[m/s <sup>2</sup> ]	≤100
Linearity	[%]	≤ ±0.04 (min. ±0.09 mm)
Resolution	[µm]	theoretically unlimited (limited by the quality of the power supply)
Repeatability	[mm]	≤ 0.01 (typ.)
Hysteresis	[mm]	≤ ±0.02 % (typ.)
Shock test DIN IEC68T2-27		100 g, 11 ms, single shock
Vibrations DIN IEC68T2-6		12 g, 10...2000 Hz
Coefficient of temperature		≤ 0.01 %/°C (min. 0.015 mm/°C)
Protection against polarity inversion		yes
Sampling time	[ms]	50...600: 1 / 650...900: 1.5 / 950...1300: 2 / 1400...1500: 3
Dimensions max.	[mm]	full scale + 154
Max. power ripple	[Vpp]	max. 1
Electric isolation	[VDC]	50
Working temperature	[°C]	-20...+75
Storage temperature	[°C]	-40...+100
Magnetic cursor		sliding or floating magnetic cursor
Power supply	[VDC]	24, ±20 %
Connection		4 pole connector output or 5 pole M12 connector output
Output signal		0.1...10.1 V
Output current consumption	[mA]	35
Output load		≥ 10 kOhm
Max. output value		12 V
Alarm output value		10.5 V

## TECHNICAL DRAWING

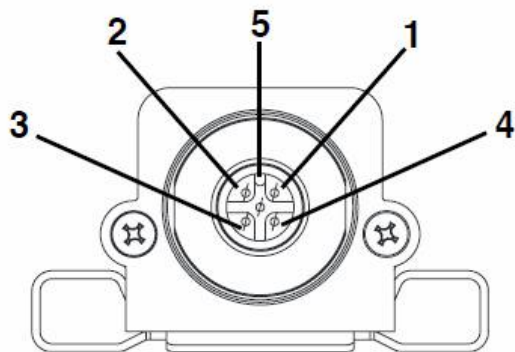


## ELECTRICAL CONNECTION



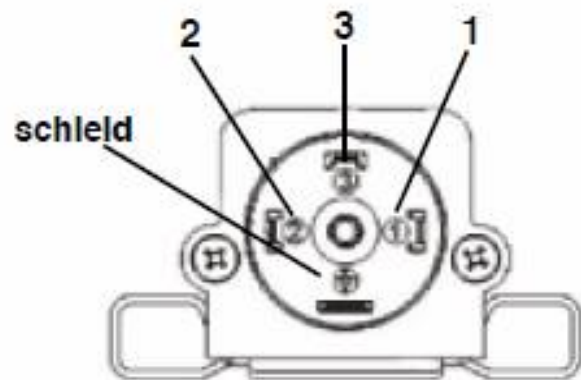
Note: Make the connection as close as possible to transducer

**MAP-A-A**  
5 pole M12 connector output



PIN	Function
1	output
2	GND output
3	n. c.
4	power supply -
5	power supply +

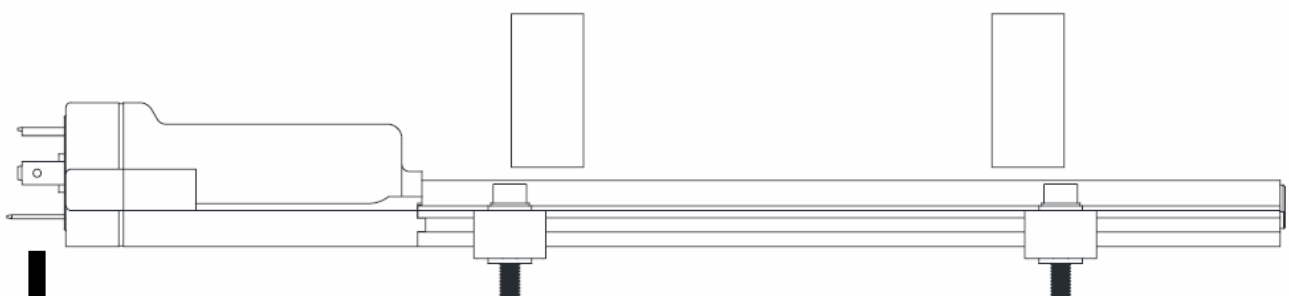
**MAP-A-M**  
4 pole connector output EN175301-803 Form A



PIN	Function
1	power supply +
2	output
3	power supply -
4	cable shield (must be connected to the panel side)

## ANALOG OUTPUT

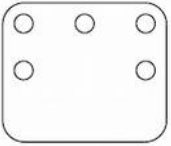
The MAP magnetostrictive transducers provide a direct voltage or current analog output proportional to the magnetic cursor's position. Since the output is direct, no signal electronic processing is required if interfaced with controllers or measurement instruments.



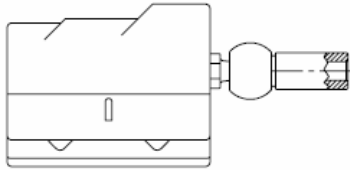
0,1...10,1 V d.c.  
4...20 mA

# MAGNETIC CURSOR

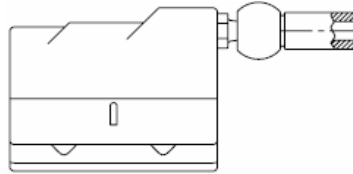
**PCUR068**  
Floating cursor



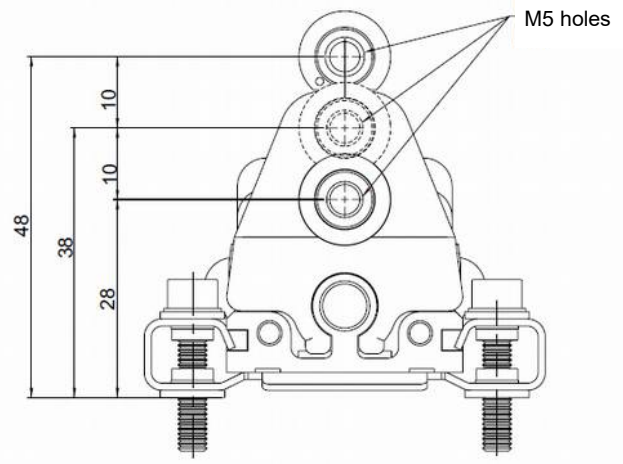
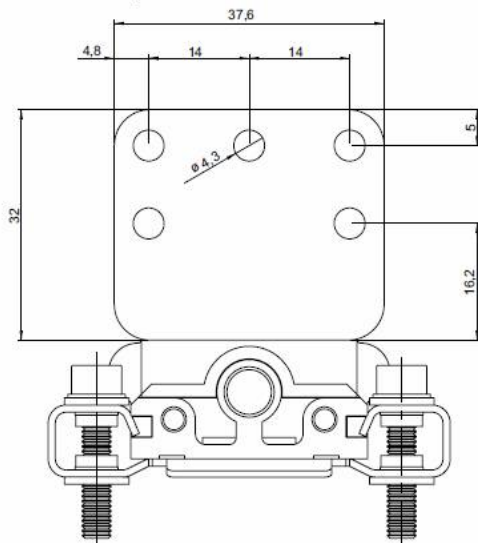
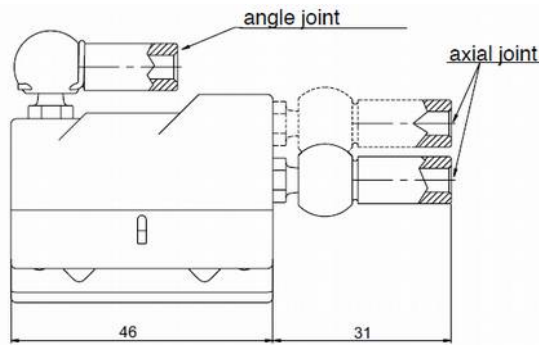
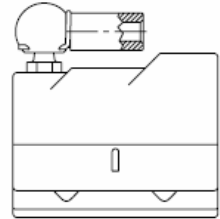
**PCUR235**  
Sliding cursor  
Axial joint low



**PCUR236**  
Sliding cursor  
Axial joint high



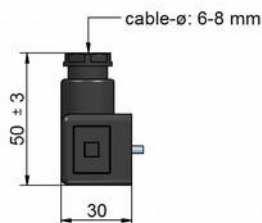
**PCUR237**  
Sliding cursor  
Axial joint angle



## ACCESSORIES

### Mating connector for MAP-A-M

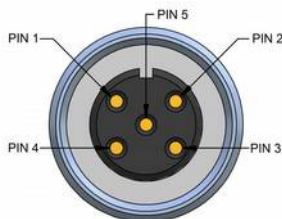
**CON006:** mating connector for self assembly, IP40, 4 pole, PG9 cable gland



### Connection cable for MAP-A-A

#### Cable with M12 connector, 5 pole, shielded, IP67

K5P2M-S-M12	2 m, M12 connector straight
K5P5M-S-M12	5 m, M12 connector straight
K5P10M-S-M12	10 m, M12 connector straight
K5P2M-SW-M12	2 m, M12 connector angular
K5P5M-SW-M12	5 m, M12 connector angular
K5P10M-SW-M12	10 m, M12 connector angular



PIN	cable colour
1	brown
2	white
3	blue
4	black
5	grey

#### Mating Connector M12, 5 poles, shielded

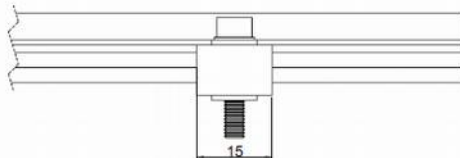
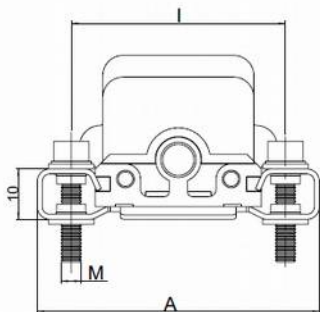
D5-G-M12-S	straight, M12 for self assembly
D5-W-M12-S	angular, M12 for self assembly
protection class: IP67	
temperature: -25...+90 °C	
cable passage: ø 4...8 mm	
wire cross-section: 0.14...0.34 mm <sup>2</sup>	
mode of connection: spring cage	



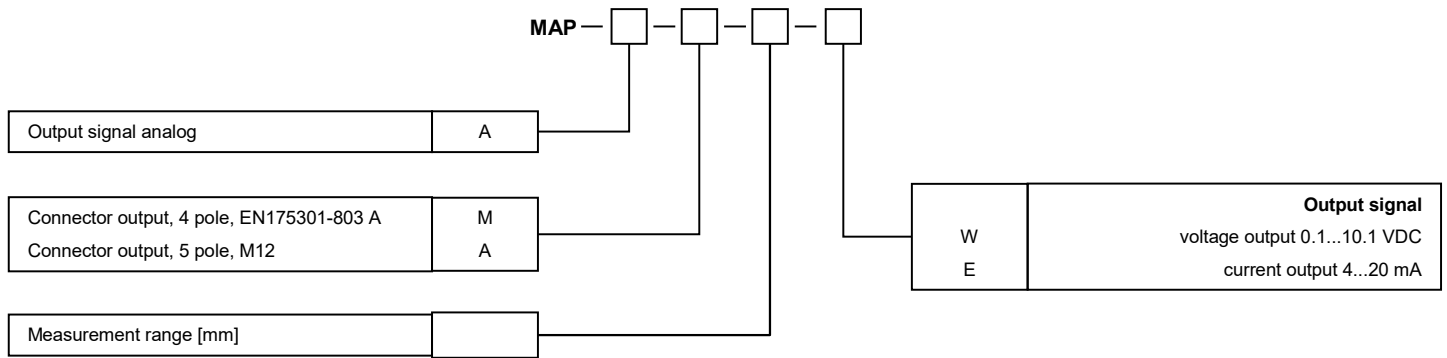
### Brackets (not included in delivery)

1 set includes 2 brackets.

Code	Interaxis I	Screw M	Dimension A	Material
PKIT590	42.5 mm	M4	56,0	steel
PKIT591	50 mm	M5	63.5	steel



## ORDER CODE



## OVERVIEW

MAP-A..-50-..	50 mm	MAP-A..-600-..	600 mm
MAP-A..-75-..	75 mm	MAP-A..-650-..	650 mm
MAP-A..-100-..	100 mm	MAP-A..-700-..	700 mm
MAP-A..-130-..	130 mm	MAP-A..-750-..	750 mm
MAP-A..-150-..	150 mm	MAP-A..-800-..	800 mm
MAP-A..-175-..	175 mm	MAP-A..-850-..	850 mm
MAP-A..-200-..	200 mm	MAP-A..-900-..	900 mm
MAP-A..-225-..	225 mm	MAP-A..-950-..	950 mm
MAP-A..-250-..	250 mm	MAP-A..-1000-..	1000 mm
MAP-A..-300-..	300 mm	MAP-A..-1100-..	1100 mm
MAP-A..-350-..	350 mm	MAP-A..-1200-..	1200 mm
MAP-A..-360-..	360 mm	MAP-A..-1250-..	1250 mm
MAP-A..-400-..	400 mm	MAP-A..-1300-..	1300 mm
MAP-A..-450-..	450 mm	MAP-A..-1400-..	1400 mm
MAP-A..-500-..	500 mm	MAP-A..-1500-..	1500 mm
MAP-A..-550-..	550 mm		

## ACCESSORIES

### Magnetic cursor

PCUR068	Floating cursor
PCUR235	Sliding cursor, axial joint low
PCUR236	Sliding cursor, axial joint high
PCUR237	Sliding cursor, axial joint angle

### Mating connector

CON006	4 pole, angular for MAP-A-M
D5-G-M12-S	5 pole, M12, for cable Ø4...8 mm for MAP-A-A
D5-W-M12-S	5 pole, angular, M12, for cable Ø4...8 mm for MAP-A-A

### Cable for analog output, 5 pole, shielded for MAP-A-A

K5P2M-S-M12	2 m, M12 connector, straight
K5P5M-S-M12	5 m, M12 connector, straight
K5P10M-S-M12	10 m, M12 connector, straight
K5P2M-SW-M12	2 m, M12 connector, angular
K5P5M-SW-M12	5 m, M12 connector, angular
K5P10M-SW-M12	10 m, M12 connector, angular

### Mounting Sets

PKIT590	2 brackets, bore distance 42.5 mm
PKIT591	2 brackets, bore distance 50.0 mm

Subject to chance without prior notice.

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