

MAGNETOSTRICTIVE TRANSDUCER

Links to further documents for this series:
[Installation guide](#)



MAZ SERIES

Key-Features:

- Measurement ranges from 50 to 2500 mm
- Magnetic cursor, or floating cursor for liquids
- Displacement speed up to 10 m/s
- Linearity up to $\pm 0.02\%$
- Operating pressure up to 350 bar
- Operating temperature $-30...+90\text{ }^{\circ}\text{C}$
- Protection class IP67
- Output signals: analog, SSI

Content

Technical Data	2
Sampling Time and Dimensions.....	2
Technical Drawing	3
Electrical Connection.....	4
Grounding.....	5
Magnetic Cursors.....	5
Order Code.....	6
Accessories.....	7

TECHNICAL DATA

		MAZ-A			MAZ-S
Measurement range	[mm]	50 / 100 / 130 / 150 / 200 / 225 / 300 / 400 / 450 / 500 / 600 / 700 / 750 / 800 / 900 / 1000 / 1250 / 1500 / 1750 / 2000 / 2250 / 2500			
Linearity	[%]	±0.02 (min. ±0.06 mm)			
Resolution		16 bit (noise max. 5 mVpp)			5 µm (2 µm on request)
Repeatability	[mm]	<0.01			
Hysteresis		<0.01 mm			≤±0.005 %
Sampling time position (table below)	[ms]	0.5 to 2			1 to 4
Displacement speed	[m/s]	≤10			
Acceleration max.	[m/s ²]	≤100			
Output signal		0...10 V	4...20 mA	0...20 mA	SSI: Binary/Gray, 24/25 bit
Output value max.		12 V	30 mA		-
Current consumption max.	[mA]	70	90		50
Output load max.		5 kΩ	<0.5 kΩ		RS422/485 standard
Power supply	[VDC]	24 ±20 %			10...32
Protection against polarity inversion		yes			
Protection against overvoltage		yes			
Operating temperature	[°C]	-30...+75			-30...+90
Storage temperature	[°C]	-40...+100			
Temperature coefficient		≤0.01 %/°C			20 ppm/°C
Operating pressure	[bar]	350			
Protection class		IP67			
Shock resistance acc. DIN IEC68T2-27		100 g - 11 ms - single shock			
Vibration resistance acc. DIN IEC68T2-6		12 g / 10...2000 Hz			15 g / 10...2000 Hz
Electrical connection		connector M12/M16 or cable			connector M16 or cable
Housing material		stainless steel AISI 316			

SAMPLING TIME AND DIMENSIONS

MAZ-A

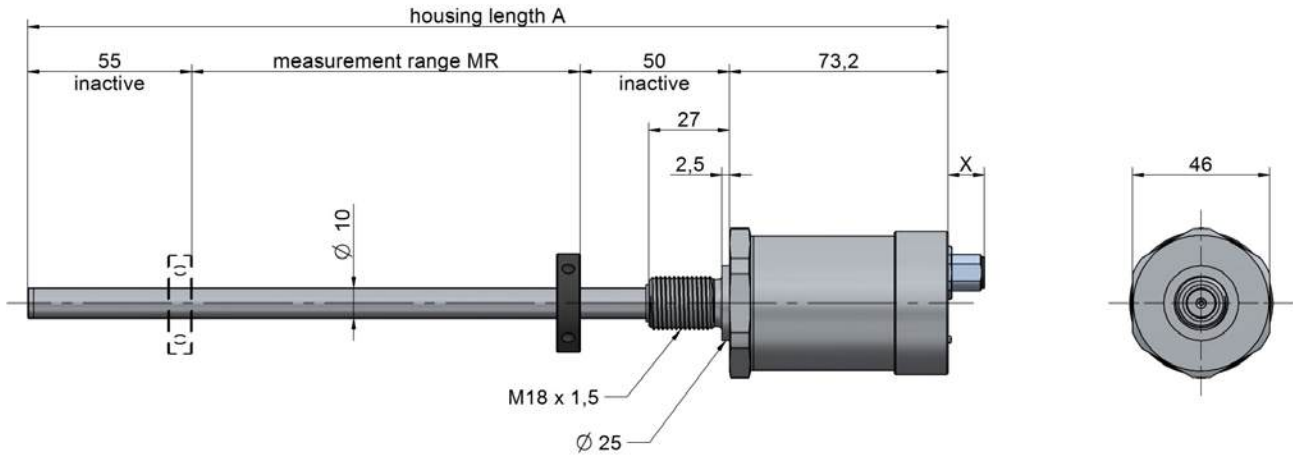
Measurement range	[mm]	up to 300	400 to 1000	1250 to 2000	2250 to 2500
Sampling time	[ms]	0.5	1	1.5	2
Overall housing length A	[mm]	measurement range + 178.2		measurement range + 183.2	

MAZ-S

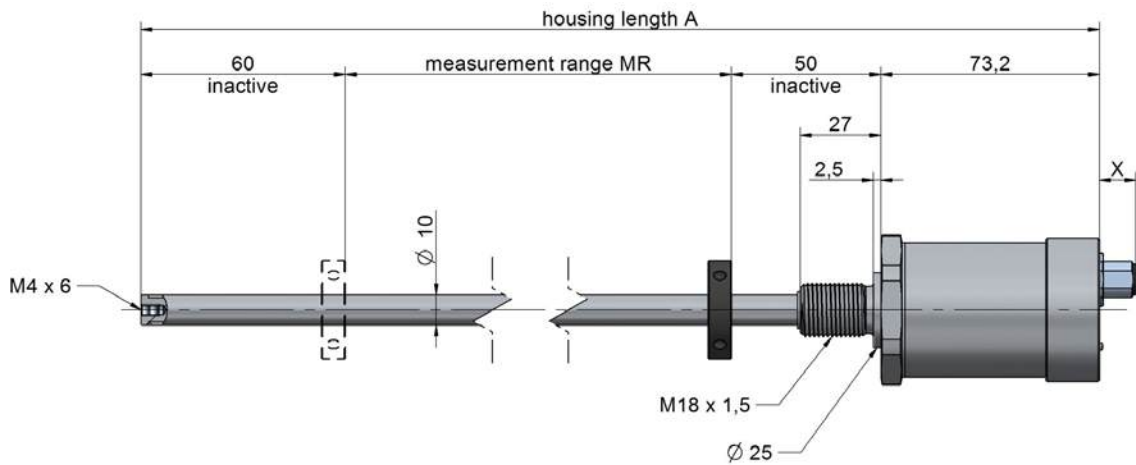
Measurement range	[mm]	up to 1000	1250 to 2000	2250 to 2500
Sampling time	[ms]	1	2	4
Overall housing length A	[mm]	measurement range + 178.2	measurement range + 183.2	

TECHNICAL DRAWING

Measurement ranges 50 to 1000 mm

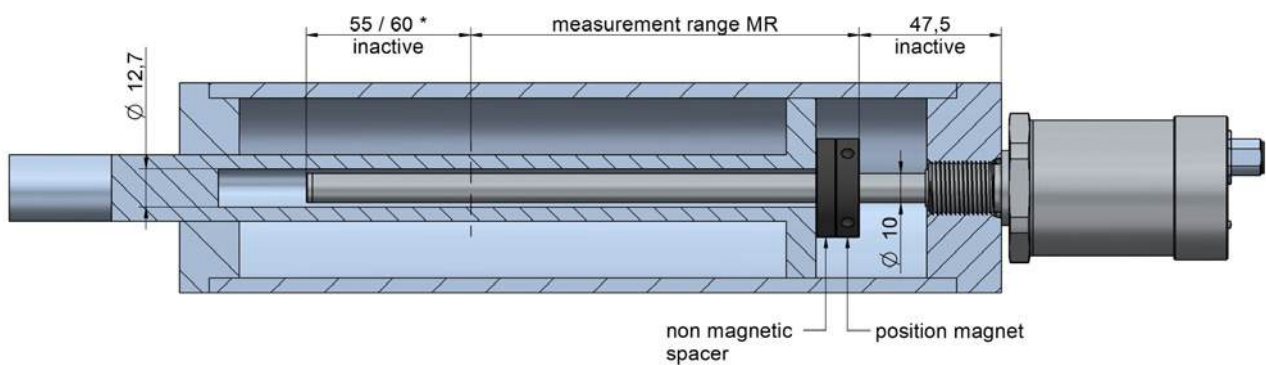


Measurement ranges 1250 to 2500 mm



Version	X	A (measurement ranges up to 1000 mm)	A (measurement ranges from 1000 mm)
MAZ-A/S-A	12.2 mm	measurement range + 178.2	measurement range + 183.2
MAZ-A/S-B	9.5 mm	measurement range + 178.2	measurement range + 183.2

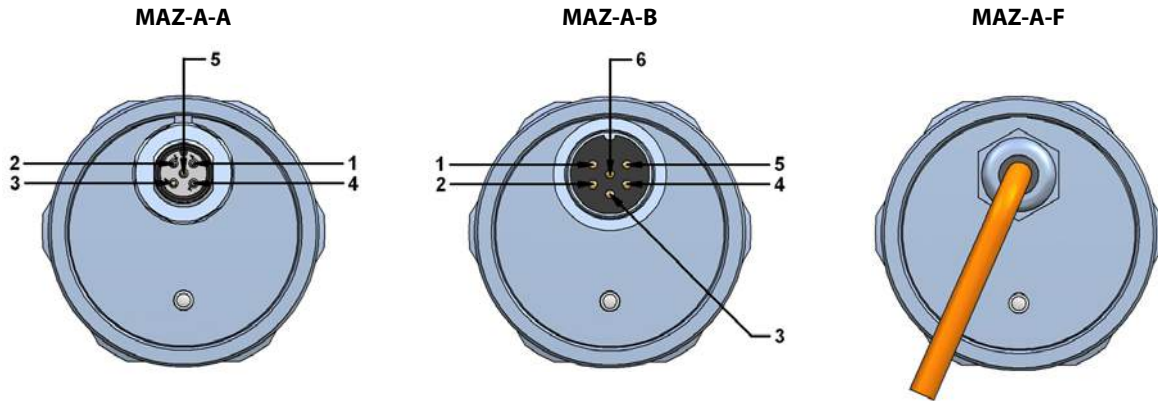
Mounting inside a cylinder



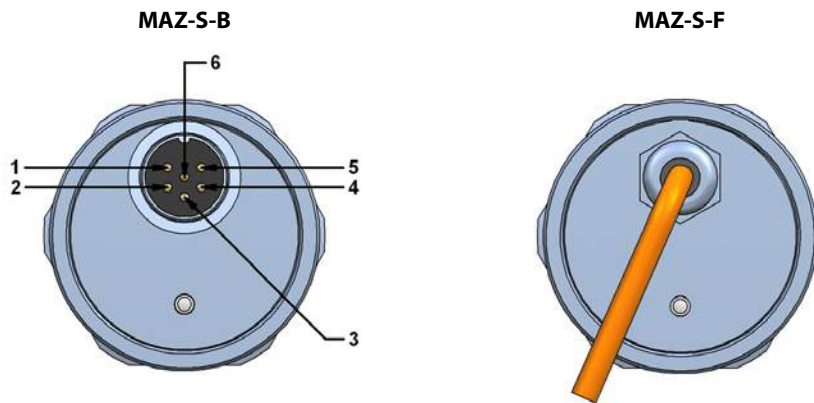
* for strokes over 1000 mm, the non-active zone (55 mm) increases to 60 mm because the tip includes a M4 threaded hole.

ELECTRICAL CONNECTION

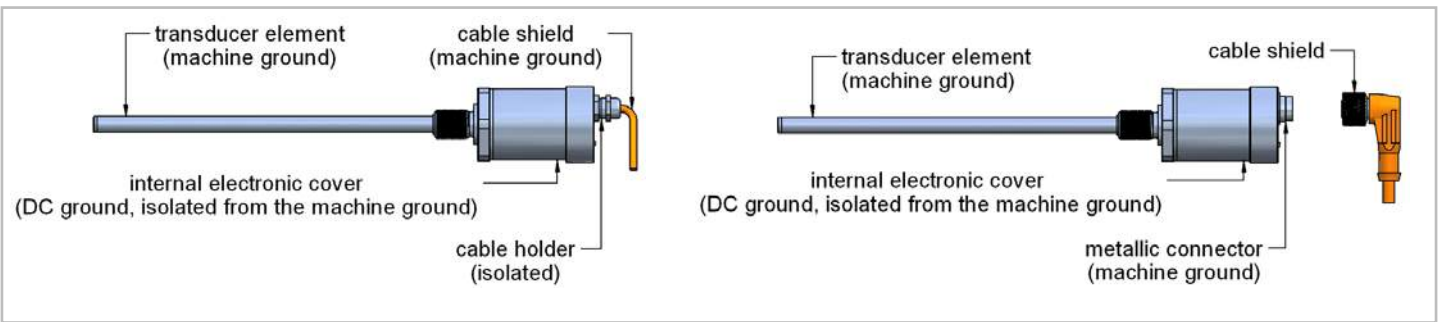
Function	MAZ-A-A connector M12	MAZ-A-B connector M16	MAZ-A-F cable output	Accessory cable for MAZ-A-A: K5P...
Output 1: 0...10 V, 4...20 mA, 0...20 mA	1	1	GY	BN
Output 1: GND	2	2	PK	WH
Output 2: 10...0 V, 20...4 mA, 20...0 mA	3	3	YE	BU
Output 2: GND	2	4	GN	WH
Supply +	5	5	BN	GY
Supply GND	4	6	WH	BK



Function	MAZ-S-B connector M16	MAZ-S-F cable output
Data -	1	OG
Data +	2	OG / WH
Clock +	3	GN / WH
Clock -	4	GN
Supply +	5	BU / WH
Supply GND	6	BU



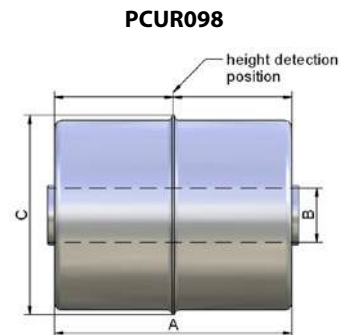
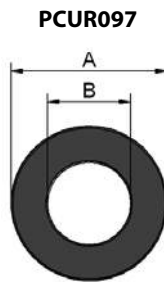
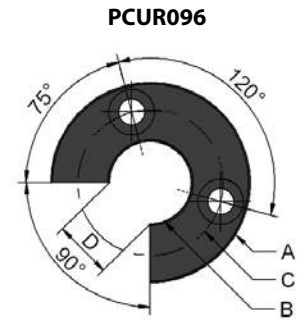
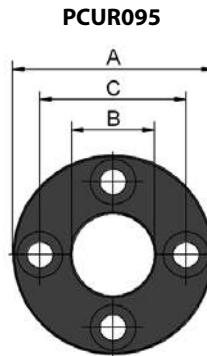
GROUNDING



MAGNETIC CURSORS

Magnet	A [mm]	B [mm]	C [mm]	D [mm]	thickness [mm]
PCUR095	32.8	13.5	23.9	-	7.9
PCUR096	32.8	13.5	23.9	11	7.9
PCUR097	25.4	13.5	-	-	7.9
PCUR098	52.4	12	44	-	-

Magnetic cursor	Scope of delivery
PCUR095	<ul style="list-style-type: none"> • N° 8 brass nuts M4 • N° 8 brass washers D4 • N° 4 brass screws M4x25
PCUR096	<ul style="list-style-type: none"> • N° 4 brass nuts M4 • N° 4 brass washers D4 • N° 2 brass screws M4x25
PCUR098	<ul style="list-style-type: none"> • stopper sets (PKIT036)



ORDER CODE ANALOG OUTPUT

MAZ - - - - -

Output type Analog output	A
-------------------------------------	---

Connection Connector M12, 5 pins Connector M16, 6 pins Cable output, 7 wires, PVC	A B F
---	-------------

Measurement range [mm] see „ Technical Data “	z. B. 50
---	----------

00 02 05 10	Cable length for connection F 1 m 2 m 5 m 10 m
----------------------	---

A E G	Output signal 0...10 V, 10...0 V 4...20 mA, 20...4 mA 0...20 mA, 20...0 mA
-------------	--

Note: Magnetic cursors and brackets must be ordered separately!

ORDER CODE DIGITAL ABSOLUTE SSI

MAZ - - - - - - -

Output type Digital absolute SSI	S
--	---

Connection Connector M16, 6 pins Cable output, 6 wires, PVC	B F
--	--------

Measurement range [mm] see „ Technical Data “	z. B. 50
---	----------

00 02 05 10	Cable length for connection F 1 m 2 m 5 m 10 m
----------------------	---

3 4	Data length 24 Bit 25 Bit
--------	--

B G	Output code Binary Gray
--------	--------------------------------------

Note: Magnetic cursors and brackets must be ordered separately!

ACCESSORIES

Magnetic cursors

PCUR095	magnetic cursor Ø32.8 mm
PCUR096	magnetic cursor Ø32.8 mm, slit 90°
PCUR097	magnetic cursor Ø25.4 mm
PCUR098	floating cursor, hole Ø12 mm
CUR022	non-magnetic spacer for PCUR095

Cable with mating connector M12 (female) for analog output

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

Connector (female) for self assembly

CON022	straight connector M16, 6 pins, IP67
CON023	angular connector M16, 6 pins, IP67

Digital displays for sensors with analog output, 2 channel

WAY-AX-S	touch screen, supply: 18...30 VDC
WAY-AX-AC	touch screen, supply: 115...230 VAC

For more information and options please refer to the [WAY-AX data sheet](#).

Connector (female) for self assembly

D5-G-M12-S	straight connector M12, 5 pins, IP67
D5-W-M12-S	angular connector M12, 5 pins, IP67

Digital displays for sensors with SSI output, 2 channel

WAY-SX-S	touch screen, supply: 18...30 VDC
WAY-SX-AC	touch screen, supply: 115...230 VAC

For more information and options please refer to the [WAY-SX data sheet](#).

Subject to change without prior notice.

WayCon Positionsmesstechnik GmbH

E-Mail: info@waycon.de

Internet: www.waycon.de

WayCon

Positionsmesstechnik

Stammstz München

Siemensstr. 5

85521 Ottobrunn

Tel. +49 (0)89 67 97 13-0

Niederlassung Köln

Auf der Pehle 1

50321 Brühl

Tel. +49 (0)89 67 97 13-100