

# MAG200

## MAGNETOSTRICTIVE

Measuring length absolute up to 3 m linear position transducer



DATASHEET - Rev.3.1 - 27092018



### CHARACTERISTICS

- Measuring range from 100 to 3000mm
- High Resistance to shock and vibration
- Working pressures up to 350bars
- Customizable cursor
- Absolute output



### ADVANTAGES

- Absolute Contactless linear position measurement
- High Resolution, High Linearity
- Without null zone
- Unlimited mechanical life
- Rod, nipple and flange AISI 316
- Easy in-field installation and replacement
- Position, speed and acceleration measured values



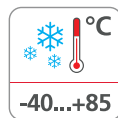
High protection level



Shock/vibration resistant



Reverse polarity protection



Wide range temperature



Analog output



Directive 2011/65/EU



EU conformity

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### PRODUCT DESCRIPTION

MAG200 is a magnetostrictive position transducer designed for use with hydraulic cylinders in mobile application. Its unique design, plus a wide range of cursor configurations, ensures easy installation and total compatibility with cylinder manufacturer specifications.

Working temperature from -40 to +85°C, working pressures up to 350 bars, high resistance to vibration and shock give the sensor the indispensable strength needed for heavy-duty use. High performance in terms of transduction of measurement defined as linearity, hysteresis and repeatability. The signal is Analog output.



### PRODUCT CODE

MAG200. a . b . c . d . e ◀ ORDER CODE

a	Power supply
2	◀ = 10 ... 30 VDC

c	Sensor Output
2	◀ = 0,5...4,5 VDC
33	◀ = 4,5...0,5 VDC
32	◀ = 0,25...4,75 VDC
34	◀ = 4,75...0,25 VDC
7	◀ = 4...20 mA
35	◀ = 20...4 mA

d	Type of connection
25	◀ = Male flange connector M12, 4-pin
27	◀ = Male flange connector M12, 8-pin

b	Measuring length
XXXX	◀ = mm (steps of 0100 mm)

e	Cursor
X	◀ = none
0	◀ = Custom cursor
1	◀ = Standard cursor

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### TECHNICAL SPECIFICATION

Measuring range	0,1...3 m
Magnetostrictive resolution	0.1 mm
Magnetostrictive Linearity	±0.04 % (F.S)
Magnetostrictive Repeatability	±0.005 % (F.S)
Operating Pressure	350 bars (peak max ... 500 bars)
Type of connection	Male flange connector M12, 4-pin
Protection	IP67
Temperature range head	-40°C ... +85°C [-40°F ...+185°F]
Temperature Operating Rod	-40°C ... 125°C [-40°F ...+257°F]
Temperature Coefficient	±0.005 % (F.S)/°C
Material	stainless steel AISI316
Rod Diameter	10 mm
Nipples Thread	M18 x 1,5mm
Shock resistance	acc. to EN 60068-2-27 30 G, 11 ms
Vibration resistance	acc. to EN 60068-2-6 10 ... 500 Hz

### OPERATING PRINCIPLE

The magnetostrictive effect on metallic wire or rod creates a change in length or volume of the wire or rod in the presence of a magnetic field. Ferromagnetic metals can have negative or positive magnetostrictive properties, for example they can shrink or stretch which in turn decreases or increases its volume. This effect is used in our magnetostrictive linear position sensors.

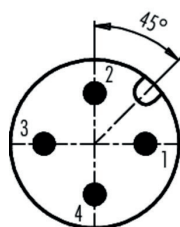


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### ELECTRICAL CHARACTERISTICS

Power supply	10 ... 30 V DC
Reverse polarity	YES
Electromagnetic compatibility	acc. to EN 61326-1, EN 61326-3-1
CE compliant	acc. to EMC guideline 2014/30/EU RoHS guideline 2011/65/EU

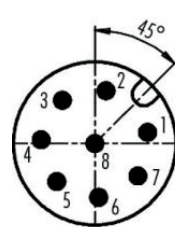
### ELECTRICAL CONNECTION M12 X 4 PINS



Pinout

1	+Vin
2	n.c.
3	GND
4	V / I out

### ELECTRICAL CONNECTION M12 X 8 PINS



Pinout

1	V / I out	5	n.c.
2	Signal GND	6	GND
3	n.c.	7	+Vin
4	n.c.	8	n.c.

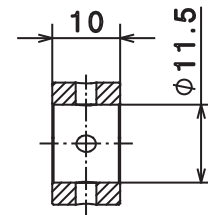
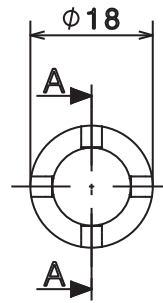
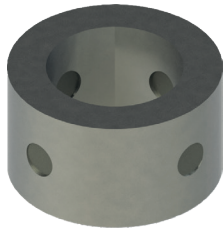
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### TYPE OF MAGNET

#### 1] Cursor STD



Section A-A

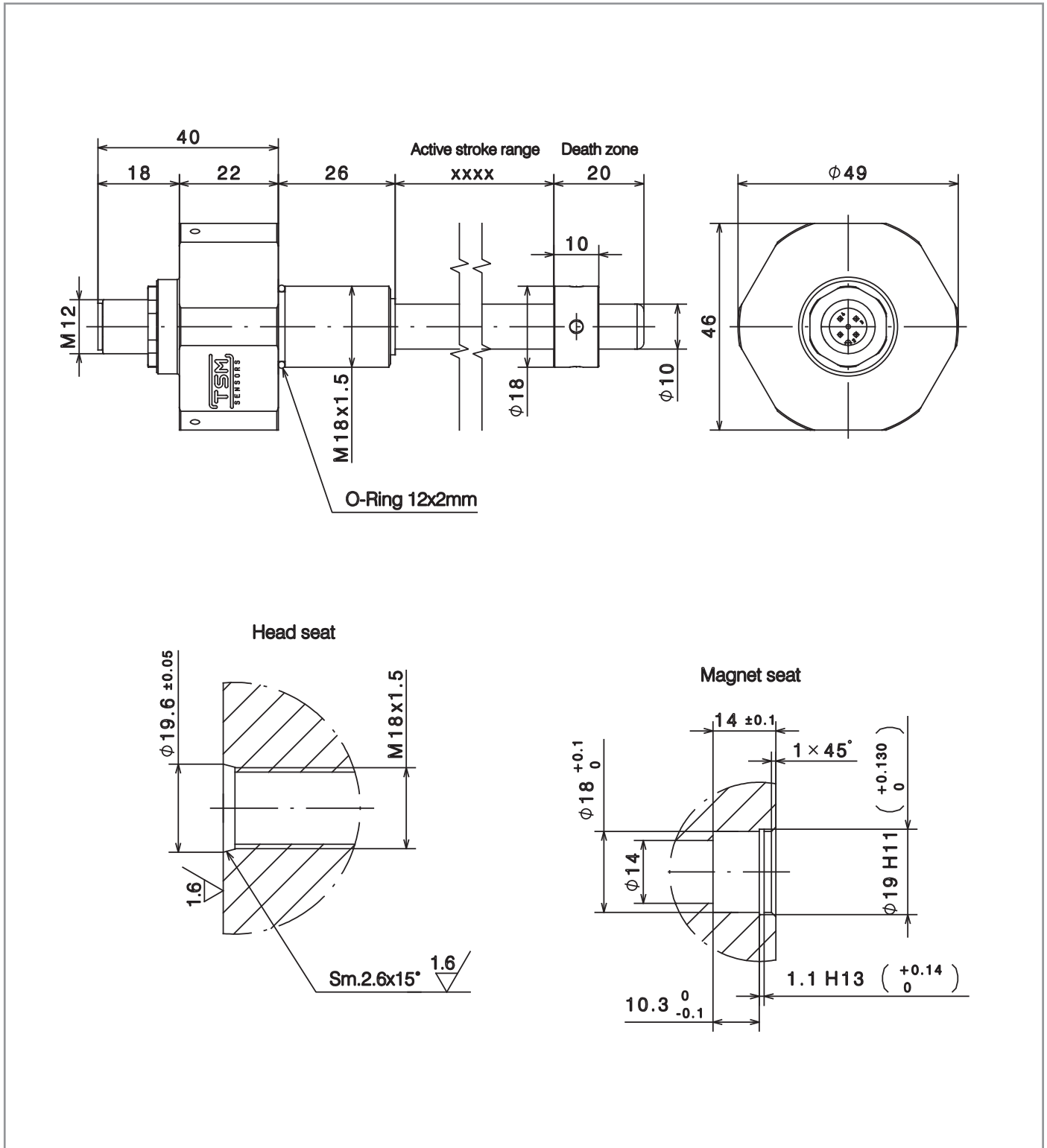
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### DIMENSIONS [mm]



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