

## IK4 CONTACTLESS MAGNETOSTRICTIVE LINEAR TRANSDUCER (ANALOG OUTPUT)



### Main characteristics

- Absolute measurement of position and speed
- Strokes from 50 to 4000 mm
- Wide range of connectors for the electrical connection
- Rod, nipple, exagonal flange AISI 316
- Work temperature:  $-30^{\circ}\dots+75^{\circ}\text{C}$
- Resistance to vibrations (DIN IEC68T2/6 12g)
- Conforms to EC directives (EN 50081-2 50082-1)
- Power supply 24Vdc  $\pm 20\%$
- Protection IP67

Contactless linear position transducer with magnetostrictive technology.

The analog interface, available with various output ranges in voltage or in current, guarantees simpler installation and easier adaptation to existing systems.

The absence of electrical contact on the cursor eliminates all wear and guarantees almost unlimited life

The IK4 line's new mechanical structure offers improved features for in-cylinder use, including a series of new multi-connector models, free rotation of the connector head, and replacement of internal electronics without removal of the transducer.

### TECHNICAL DATA

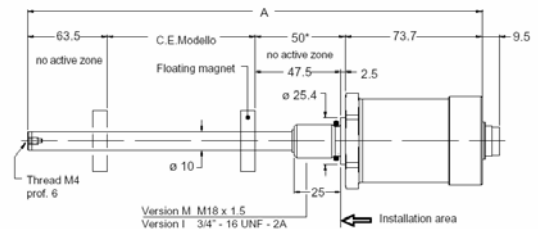
Model	from 50 to 4000 mm
Measurement taken	position
Position read sampling time	1 ms (depending on length)
Shock test DIN IEC68T2-27	100g - 11ms - singolo colpo
Vibration DIN IEC68T2-6	12g / 10...2000Hz
Shift speed	$\leq 10$ m/s
Max. acceleration	$\leq 100$ m/s <sup>2</sup> shift
Resolution	infinite
Cursor	Floating magnet
Work temperature	$-30\dots+75^{\circ}\text{C}$
Storage temperature	$-40\dots+100^{\circ}\text{C}$
Coefficient of temperature	$\leq 0,01\%$ F.S./ $^{\circ}\text{C}$
Protection	IP67

### ELECTRICAL DATA

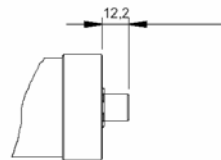
Output signal (connection side)	Voltage	0...+10 Vdc o +10...0 Vdc
	Current	4...20 mA o 20...4 mA
	Current	0...20 mA o 20...0 mA
Nominal power supply	24 Vdc $\pm 20\%$	
Max. power ripple	1 Vpp	
Max. input	Voltage	45 mA typical
	Current	70 mA typical
Load on output	Voltage	$\geq 5\text{K}\Omega$
	Current	$\leq 500 \Omega$
Electrical isolation	500 V (D.C. power supply/ground)	
Protection against polarity inversion	Yes	
Protection against overvoltage	Yes	

### MECHANICAL DIMENSIONS

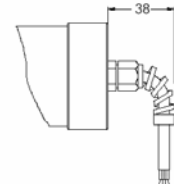
Version IK4A B



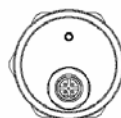
Version IK4A-A



Version IK4A-F/R



Version IK4-A-A



Version IK4-A-B



Version IK4-A-F/R



## ELECTRICAL / MECHANICAL DATA

Model		50	100	130	150	200	225	300	400	450	500	600	700	750	800	900	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000
Electrical stroke (E.S.)	mm	<b>Model</b>																											
Independent linearity	± %F.S.	Typical 0,02 (Max. 0,04)																											
Max. dimensions (A)	mm	<b>Model + 187.20</b>																											
Repeatability	mm	< 0,01																											
Hysteresis	mm	< 0,01																											
Sampling time	ms	<b>1</b> for stroke from 0 to 1200mm; <b>2</b> for stroke from 1200 to 2400mm; <b>4</b> for stroke from > 2400mm																											

## ELECTRICAL CONNECTIONS

Output **IK4-A-A**

Output **IK4-A-B**

Output **IK4-A-F/R**

Fonction	CONNECTORS		CABLES	OPTIONAL CABLES
	IK4-A-A	IK4-A-B	IK4-A-F/R	CABLE1_/CABLE2_
	5 pin M12	6 pin M16	Standard cables	pre-assembled 5 pin for IK4A-A
<b>Output 1 (position)</b> 0...10V 4...20mA 0...20mA	<b>1</b>	<b>1</b>	<b>Grey</b>	<b>Brown</b>
<b>GND Output 1</b> (0V)	<b>2</b>	<b>2</b>	<b>Pink</b>	<b>White</b>
<b>Output 2 (inverse position)</b> 10...0V 20...4mA 20...0mA	<b>3</b>	<b>3</b>	<b>Yellow</b>	<b>Blue</b>
<b>GND Output 2</b> (0V)	<b>2</b>	<b>4</b>	<b>Green</b>	<b>White</b>
<b>Power supply +</b>	<b>5</b>	<b>5</b>	<b>Brown</b>	<b>Grey</b>
<b>Power supply GND</b>	<b>4</b>	<b>6</b>	<b>White</b>	<b>Black</b>
<b>n.c.</b>	-	-	-	-
<b>n.c.</b>	-	-	-	-

## ANALOG OUTPUT

0...10V  
 10...1V  
 4...20mA  
 20...4mA  
 0...20mA  
 20...0mA

The magnetostrictive transducers of the IK4 series supply a direct analogue output in voltage (0...10Vdc) and current (4...20mA and 0...20mA).

All the outputs can have reverse action (10...0Vdc; 20...4ma; 20...0mA).

The outputs are direct, no signal conditioning is required if they are interfaced with a controller or measuring instrument.