



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°...+75°C
- Resistance to vibrations (DIN IEC68T2/6 12g)
- Power supply 24Vdc ± 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

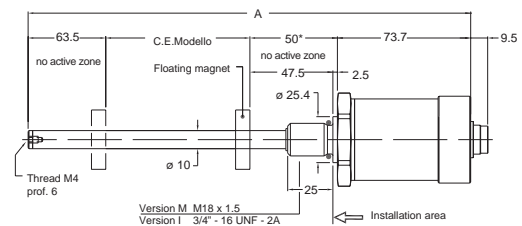
Model	from 50 to 4000 mm
Measurement taken	position
Position read sampling time	1 ms (depending on length)
Shock test DIN IEC68T2-27	100g - 11ms - singolo colpo
Vibration DIN IEC68T2-6	12g / 10...2000Hz
Shift speed	≤ 10 m/s
Max. acceleration	≤ 100 m/s ² shift
Resolution	infinite
Cursor	Floating magnet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

ELECTRICAL DATA

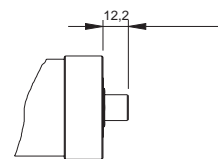
Output signal (connection side)	Voltage	0...+10 Vdc o +10...0 Vdc
	Current	4...20 mA o 20...4 mA
	Current	0...20 mA o 20...0 mA
Nominal power supply		24 Vdc ± 20%
Max. power ripple		1 Vpp
Max. input	Voltage	45 mA typical
	Current	70 mA typical
Load on output	Voltage	≥ 5KΩ
	Current	≤ 500 Ω
Electrical isolation		500 V (D.C. power supply/ground)
Protection against polarity inversion		Yes
Protection against overvoltage		Yes

MECHANICAL DIMENSIONS

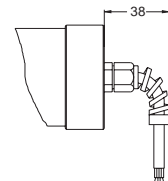
Version IK4A B



Version IK4A-A



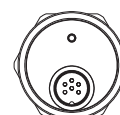
Version IK4A-F/R



Version IK4A-A



Version IK4A-B



Version IK4A-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	Model																											
Independent linearity	± %F.S.	Typical 0,02 (Max. 0,04)																											
Max. dimensions (A)	mm	Model + 187.20																											
Repeatability	mm	< 0,01																											
Hysteresis	mm	< 0,01																											
Sampling time	ms	1 for stroke from 0 to 1200mm; 2 for stroke from 1200 to 2400mm; 4 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	IK4A-F/R	CABLE1_/CABLE2_
	5 pin M12	6 pin M16	Standard cables	pre-assembled 5 pin for IK4A-A
Output 1 (position) 0...10V 4...20mA 0...20mA	1	1	Grey	Brown
GND Output 1 (0V)	2	2	Pink	White
Output 2 (inverse position) 10...0V 20...4mA 20...0mA	3	3	Yellow	Blue
GND Output 2 (0V)	2	4	Green	White
Power supply +	5	5	Brown	Grey
Power supply GND	4	6	White	Black
n.c.	-	-	-	-
n.c.	-	-	-	-

ANALOG OUTPUT

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

The signal is proportional to the position of the magnet

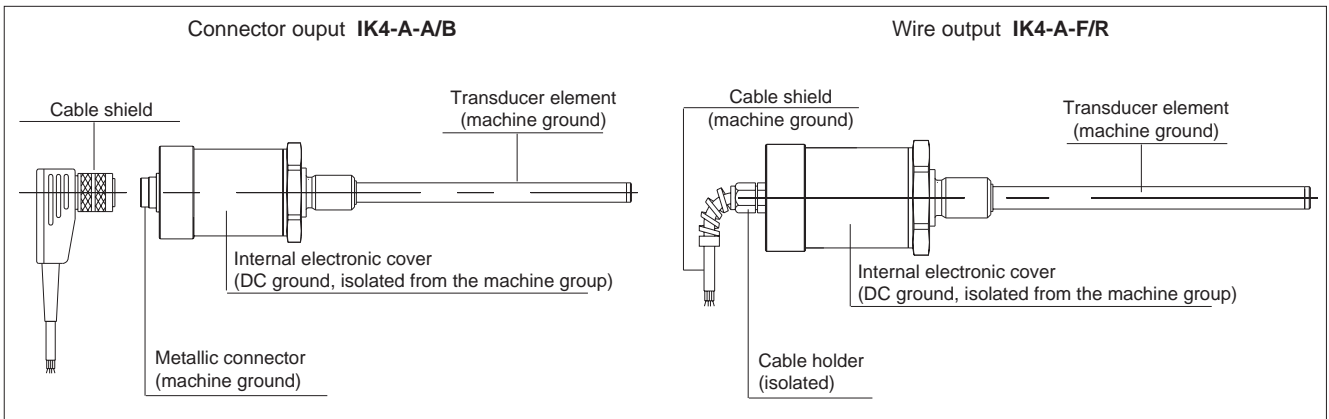
max U/I
0 mm

The magnetostrictive transducers of the IK4A series supply a direct analogue output in voltage (0...10Vdc) and current (4...20mA and 0...20mA).

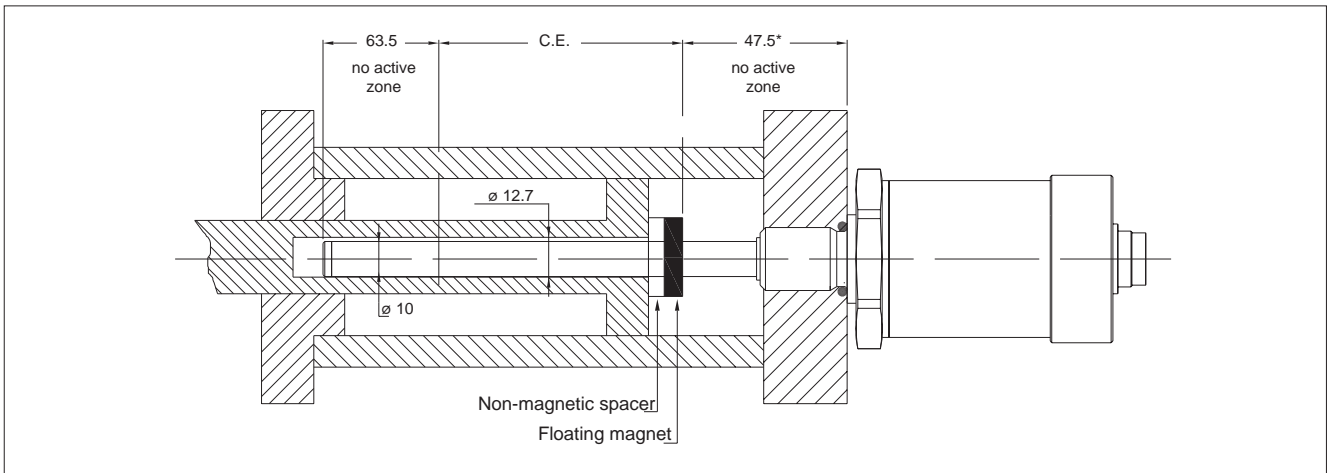
All the outputs can have reverse action (10...0Vdc; 20...4ma; 20...0mA).

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

GROUNDING IK4



MOUNTING INSIDE A CYLINDER



ORDER CODE

Position transducer

I K 4 A [] [] [] [] [] [] 1

Analog output	A
Output Connector	
M12 5 pin output connector	A
6 pin DIN 45322 output connector	B
PVC 7 pin 7x0,25 output cable	F
PUR 7 poli 7x0,14 output cable high flexibility	R

MODEL

Output	
0...10, 10...0 Vcc	A
4...20, 20...4 mA	E
0...20, 20...0 mA	G
on request another models	

0 0 0 0 X X X X S [] [] [] 0 X X

Cable lengths	
Output F/R	
1mt	00
2mt	02
3mt	03
4mt	04
5mt	05
10mt	10
15mt	15
Output A/B/C	
	00

Thread	
M 18x1.5 (standard)	M
3/4" - 16UNF	I

► Included in the supply

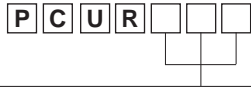
- Series IK position transducer
- OR 15.4 x 2.1 thread M18 x 1.5 code: **GUA064**
- OR 16.36 x 2.21 thread 3/4" -16 UNF code: **GUA065**

► Magnetic cursors must be ordered separately

Ex.: **IK4-A-B-0400-A-1 0000XXXXS00M0XX**
 Transducer model IK4, analog output, B connector, model 400mm,
 0...10Vdc output, thread M18x1,5

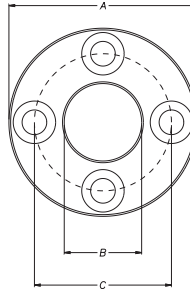
Mechanical and/or electrical characteristics differing from those in the standard version may be arranged on request.

FLOATING CURSOR

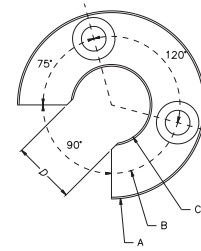


Cursors	
Cursor Diameter 32.8	022
Cursor Diameter 32.8 with 90° slit	023
Cursor Diameter 25.4	024
Floating cursor for liquids with hole diameter 12	026
Floating cursor for liquids with hole diameter 15	027

PCUR022



PCUR023



The **PCUR022** is supplied with: The **PCUR023** is supplied with:

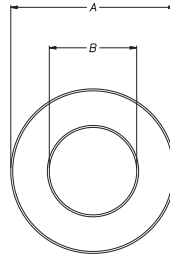
N° 8 Brass nuts M4
N° 8 Brass washers D4
N° 4 Brass screws M4x25

N° 4 Brass nuts M4
N° 4 Brass washers D4
N° 2 Brass screws M4x25

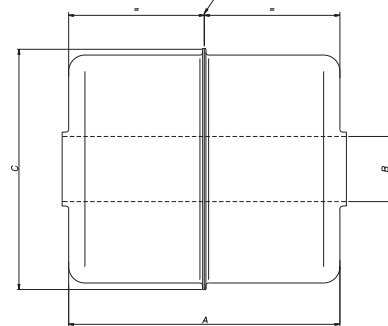
Dimensions	A	B	C	Thickness
PCUR022	32.8	13.5	23.9	7.9
PCUR023				
PCUR024	25.4	13.5	-	

Model		PCUR026	PCUR027
Length A	mm	52.4	
Diameter B (hole)	mm	12	15
Diameter C	mm	42	
Material		AISI 316	

PCUR024



HEIGHT DETECTION POSITION



Note: **PCUR026** and **PCUR027** is supplied with kit **PKIT036** for floating cursor for liquids.

OPTIONAL CONNECTORS

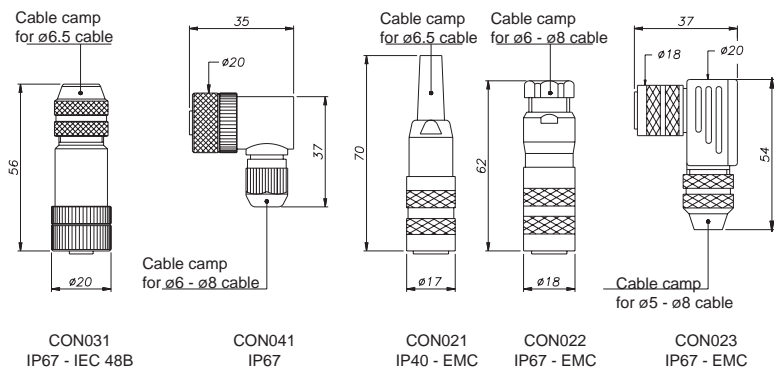
For **IK4-A-A** M12 thread connector

Code: **CON031** 5 pin
CON041 5 pin

For **IK4-A-B/Y** M16 thread connector

Code: **CON021** 6 pin
CON022 6 pin
CON023 6 pin

Connector extraction length: 10mm



OPTIONAL CABLES OUTPUT

For **IK4-A-A**, cable with connector (straight or 90°) with M12 thread

Length "L"		CODE	
		Straight cable	Cable to 90°
2	mt	CAV011	CAV021
5	mt	CAV012	CAV022
10	mt	CAV013	CAV023
15	mt	CAV015	CAV024

ACCESSORIES (to order separately)

on-magnetic spacer for mounting PCUR022 cursor

Sensors are manufactured in compliance with:

- EMC 2004/108/CE compatibility directive
- RoHS 2002/95/CE directive

Electrical installation requirements and Conformity certificate are available on our web site: www.gefran.com

GEFRAN spa reserved the right to make aesthetic or functional changes at any time and without notice.

GEFRAN

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DTS_IK4A_0709_ENG