

IK4S (with ONDA technology)

CONTACTLESS MAGNETOSTRICTIVE LINEAR POSITION
TRANSDUCER (SYNCHRONOUS SERIAL OUTPUT)



Main characteristics

- ONDA technology
- Optimized mechanical structure
- Strokes from 50 to 4000 mm
- Wide range of connectors for the electrical connection
- Rod, nipple, exagonal flange AISI 316
- Power supply 10...32 Vdc
- Resistance to vibration (DIN IEC68T2/6 12g)
- Protection IP67
- Work temperature: -30°...+90°C
- Synchronous Serial Interface direct to controllers
- Output data resolution available from 1 to 40µm
- Data format: binary or Gray code; incremental/decremental

Contactless linear position transducer with ONDA magnetostrictive technology with RS422-SSI digital output interface.

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	Displacement
Position read sampling time (typical)	1 ms
Shock test DIN IEC68T2-27	100g - 11ms - single shock
Vibrations DIN IEC68T2-6	12g / 10...2000Hz
Displacement speed	≤ 10 m/s
Max acceleration	≤ 100 m/s ² displacement
Output data resolution available	1,2,5,10,20,40 µm
Cursor (see note)	Floating magnet
Working temperature	-30...+90°C
Storage temperature	-40...+100°C
Coefficient of temperature	20ppm F.S./°C
Protection	IP67
Operative pressure	350 bar (pic max. 500 bar)

ELECTRICAL DATA

Output signal	Synchronous Serial (SSI); Binary/Gray; Incremental/Decremental
Data length	24 - 25 bit
Nominal power supply	10... 32 Vdc
Max. power ripple	1Vpp
Max. input	50mA
Output load	RS422/485 standard
Electrical isolation	500 V (*) (D.C. supply / earth)
Protection against polarity inversion	Yes
Protection against overvoltage	Yes
Self-resetting internal fuse	Yes

(*) it includes a 50V 2J voltage suppressor

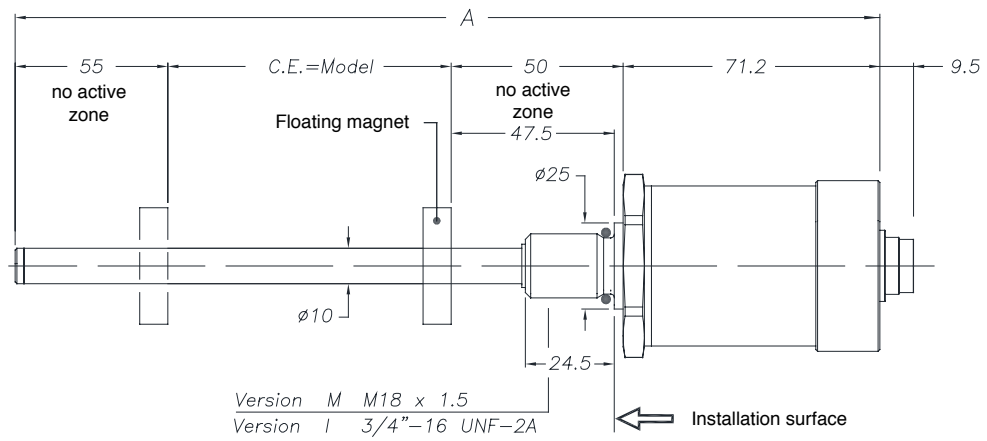
Note: For multi-cursor versions, the cursors have to work under the same distance and temperature conditions

ELECTRICAL / MECHANICAL DATA

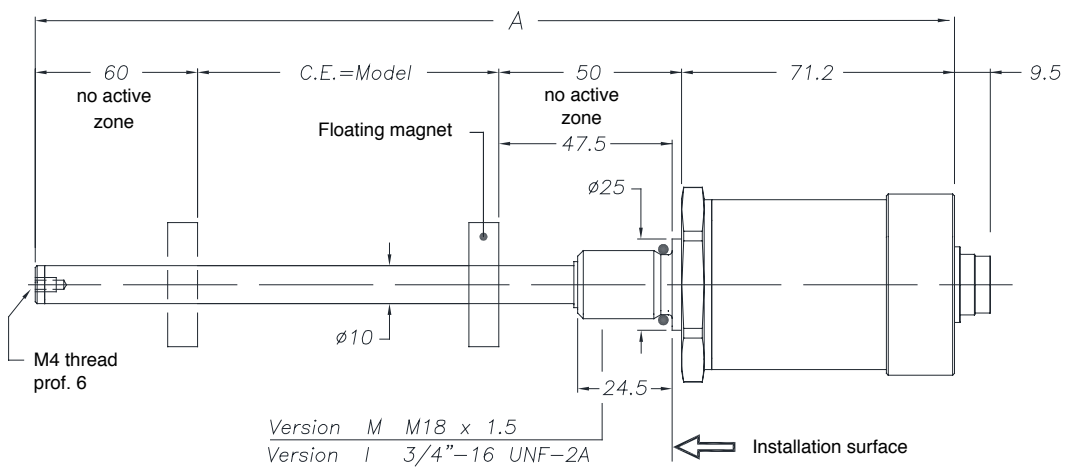
Model		50	75	100	130	150	175	200	225	250	300	350	360	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200	1250	1300	1400	1500					
																						1750	2000	2250	2500	2750	3000	3250	3500	3750	4000						
Electrical stroke (E.S)	mm	Model																																			
Independent linearity	± %F.S.	≤ ± 0,02 %FS (min ± 0,060mm)																																			
Max. dimensions (A)	mm	Model + 154 mm																																			
Repeatability	mm	< 0,01 (limited by the resolution of the output value)																																			
Hysteresis		< ± 0,005% FS (min 0,010 mm)																																			
Sampling time	ms	1 (for stroke from 1000) 2 (for stroke from 1100 to 2000) 4 (for stroke >2000)																																			

MECHANICAL DIMENSIONS

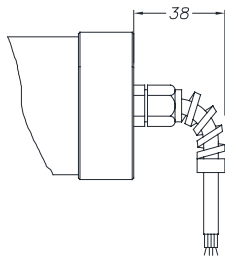
Strokes from 50 to 1000 mm



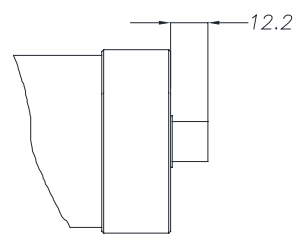
Strokes from 1250 to 4000 mm



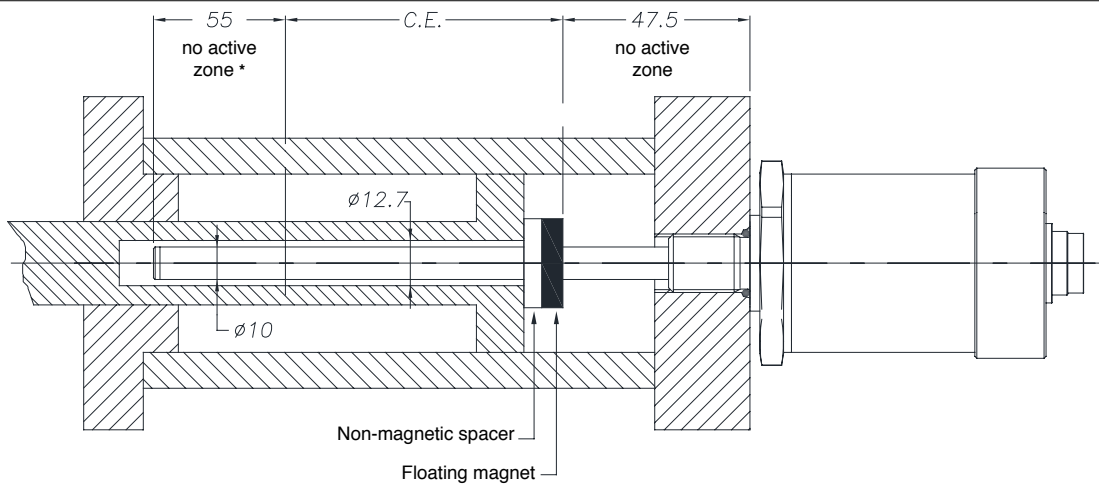
IK4-S-F/R cable output



IK4-S-B/D connector output



MOUNTING INSIDE A CYLINDER

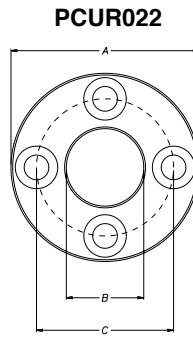


* for stroke up to 1000 mm (included) – over 1000 mm, the non-active zone becomes 60 mm because the tip includes a M4 threaded hole

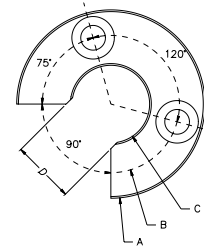
FLOATING CURSOR



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



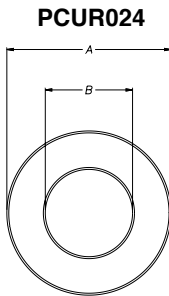
PCUR023



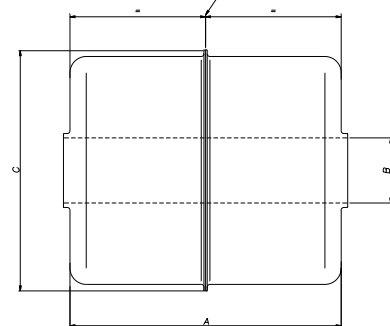
The **PCUR022** is supplied with: The **PCUR023** is supplied with:

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



HEIGHT DETECTION POSITION



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

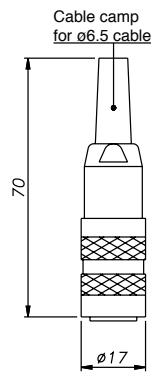
Note:
PCUR026 and **PCUR027** is supplied with kit **PKIT036** for Floating cursor for liquids.

OPTIONAL CONNECTORS

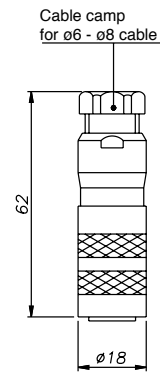
For **IK4-S-B** M16 thread connector

Codes: **CON021** 6-pin
CON022 6-pin
CON023 6-pin

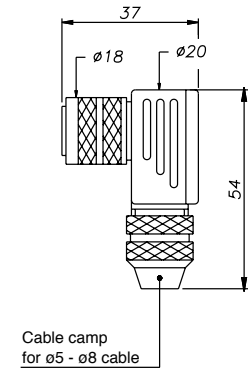
Connector extraction length: 10mm



CON021
 IP40 - EMC



CON022
 IP67 - EMC



CON023
 IP67 - EMC

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 reserves the right to make aesthetic or functional changes at any time and without notice