

Main characteristics

- Strokes from 50 to 4000 mm
- Fast installation by mean of steel brackets
- Sliding or floating magnetic cursor
- Synchronous Serial Interface direct to controllers
- Output data resolution available from 1 to 40 μm
- Data format: binary or Gray code; incremental/ decremental
- Work temperature: $-30...+90^{\circ}\text{C}$
- Resistance to vibration (DIN IEC68T2/6 12g)
- IP67 protection
- Nominal power supply 24Vdc $\pm 20\%$
- Improved internal structure with security set screws

Contactless magnetostriuctive linear position transducer with RS422-SSI digital output interface.

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

Compact size for simple installation.

Full protection against outside agents for use in harsh environments with high contamination and presence of dust.

Excellent linearity, repeatability, resistance to mechanical vibrations and shocks.

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)	Sliding cursor Floating separate cursor
Working temperature	$-30...+90^{\circ}\text{C}$
Storage temperature	$-40...+100^{\circ}\text{C}$
Coefficient of temperature	20 ppm FS / $^{\circ}\text{C}$
Protection	IP67

Note

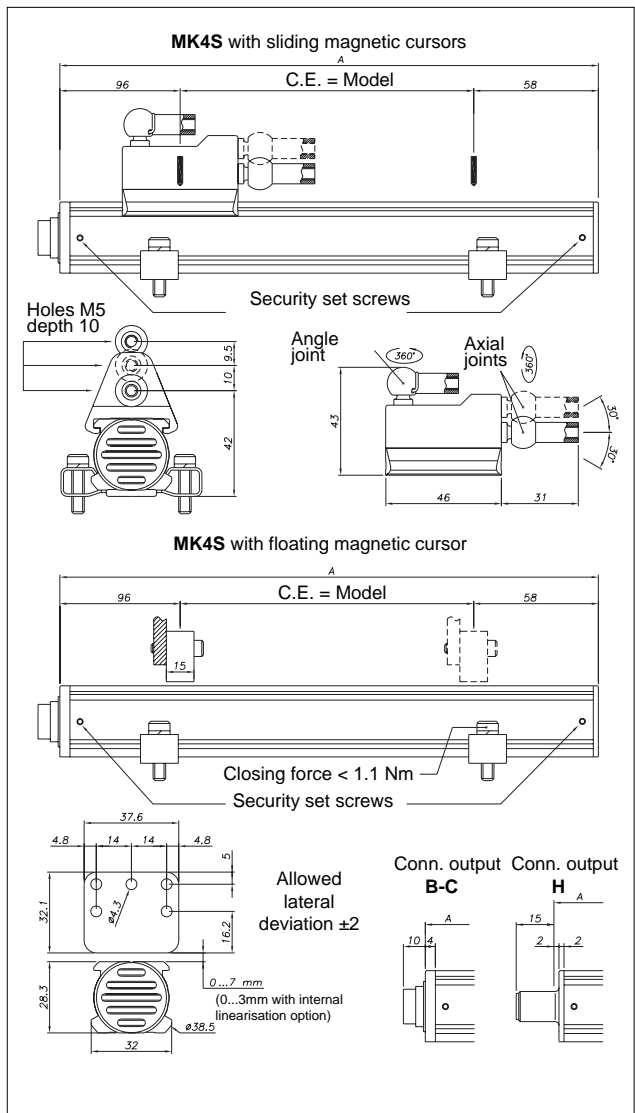
- 1) For stroke > 2500mm use sliding or floating cursors with max. distance of 4mm
- 2) For multi-cursor versions, the cursors have to work under the same distance and temperature conditions
- 3) For internal linearisation versions, use sliding or floating cursors with max. distance of 4mm.

ELECTRICAL DATA

Output signal	Synchronous Serial (SSI); Binary/Gray; Incremental/Decremental
Data length	24 - 25 bit
Nominal power supply	24 Vdc $\pm 20\%$
Max. power ripple	1Vpp
Max. input	50mA
Output load	RS422/485 standard
Electrical isolation	500V (*) (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

MECHANICAL DIMENSIONS

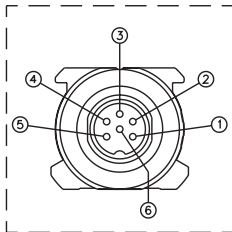


ELECTRICAL / MECHANICAL DATA

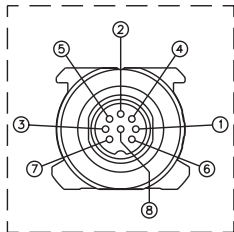
Model	mm	50	75	100	130	150	175	200	225	250	300	350	360	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200	1250	1300	1400	1500
		Model																														
Electrical stroke (E.S.)	mm	Model																														
Independent linearity		< ± 0,02% F.S. (minimum ± 0,060mm) Internal linearisation factor (option): x4 (however minimum ±0,015mm)																														
Max. dimensions (A)	mm	Model + 154																														
Repeatability	mm	< 0,01																														
Hysteresis		< ± 0,005% F.S.																														
Sampling time	ms	1 (for stroke from 1000) 2 (for stroke from 1100 to 2000) 4 (for stroke >2000)																														

ELECTRICAL CONNECTIONS

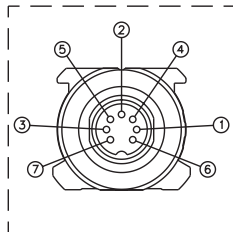
OUTPUT MK4S B



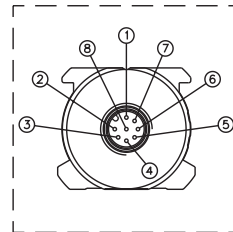
OUTPUT MK4S C



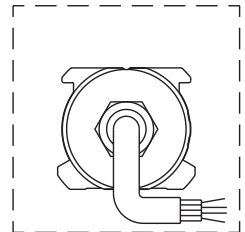
OUTPUT MK4S D



OUTPUT MK4S H



OUTPUT MK4S F/R



Function	MK4S B	MK4S C	MK4S D	MK4S H	MK4S F	MK4S R	CAV00X
	6-pin M16	8-pin M16	7-pin M16	8-pin M12	Cable output	PUR cable output	Optional 8-pin cable
Data -	1	5	5	5	Orange	Pink	Green
Data +	2	2	2	2	Orange / White	Blue	Gray
Clock +	3	1	1	3	Green / White	Gray	Pink
Clock -	4	3	3	1	Green	Yellow	Yellow
Power supply +	5	7	7	7	Blue / White	Green	Brown
Power supply GND	6	6	6	6	Blue	Brown	Blue
n.c.	-	8	4	8	-	-	White
n.c.	-	4	-	4	-	-	Red

The transducer case must be grounded with the cable sheathing on the control system side only.

ORDER CODE

Position transducer **M** **K** **4** **S** **B**

0 **0** **0** **0** **X** **X** **X** **X** **0** **X** **X**

SSI digital output **S**

Connector

DIN45322 6-pin connector output **B**

Available on request

DIN45326 8-pin connector output **C**

DIN45329 7-pin connector output **D**

M12 8-pin connector output **H**

Cable output PVC 6-pin (1 meter) **F**

Cable output PUR high flexibility 7-pin 7x0,14 **R**

Model

Output

Binary data code output **B**
Gray data code output **G**

Data length

Data length 24 bit **3**
Data length 25 bit **4**
Data length 21+1 bit (FM357) **5**

Data resolution

0.002 mm **0**
0.005 mm (standard) **1**
0.010 mm **2**
0.020 mm **3**
0.040 mm **4**
0.001 mm **5**

Scale orientation

Ascending (standard) **1**
Descending **2**
Ascending (over sampling refresh output 4 KHz) **4**
Ascending Internal linearisation **6**
Ascending Internal linearisation (over sampling refresh output 4 KHz) **8**

Outputs

B, C, H Outputs **00**

F outputs cables length

1 meter (standard) **00**
2 meters **02**
3 meters **03**
4 meters **04**
5 meters **05**
10 meters **10**
15 meters **15**

(*) = See supplemental data

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

Ex.: **MK4-S-B-0400-B-3, 0000-X-X-1-1-X-00-X-0-XX**

Transducer model MK4, SSI output, connector B, model 400, binary data code output, data length 24 bit, system resolution 0.005mm, scale orientation ascending.

CURSORS ON REQUEST

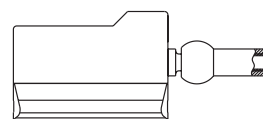
P **C** **U** **R** **0** **1**

Cursors

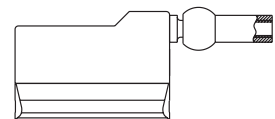
Sliding cursor, axial joint (low) (STANDARD) **035**
Sliding cursor, axial joint (high) **036**
Sliding cursor, angle joint **037**
Floating cursor **034**

Number of cursors

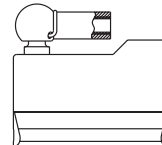
PCUR035



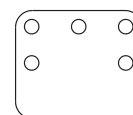
PCUR036



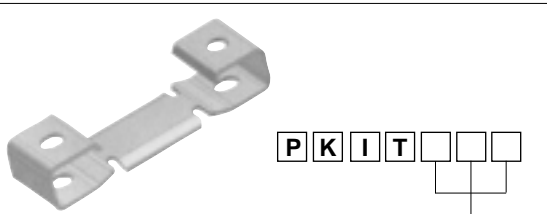
PCUR037



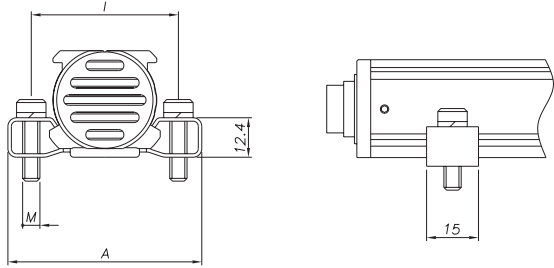
PCUR034



BRACKETS ON REQUEST



Brackets (2 brackets for every kit)	
Steel bracket, center distance 42.5mm	090
Steel bracket, center distance 50mm	091



Brackets code	Center distance (i)	Screw (V)	Dimensions (A)
PKIT090	42.5	M4	56
PKIT091	50	M5	63.5

OPTIONAL CONNECTORS

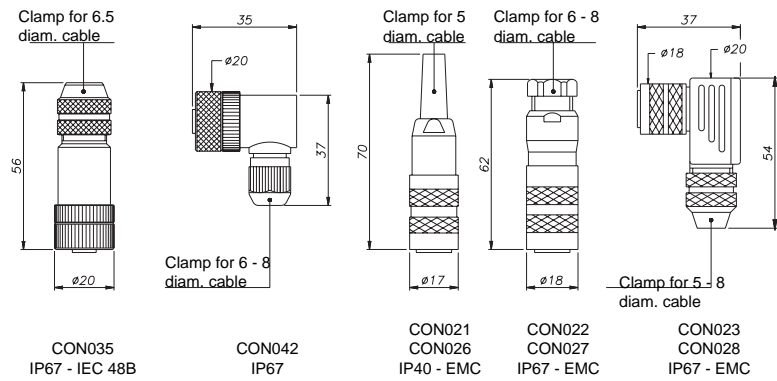
For output H, M12 connector thread

Codes: **CON035** for 8-pin output (MK4S H)
CON042 for 8-pin output (MK4S H)

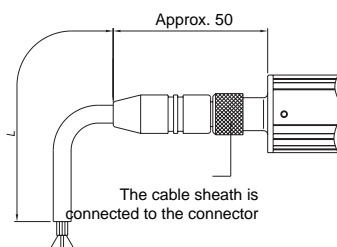
For outputs B-C-D, M16 connector thread

Codes: **CON021** for 6-pin output (MK4S B)
CON022 for 6-pin output (MK4S B)
CON023 for 6-pin output (MK4S B)
CON026 for 8-pin output (MK4S /D)
CON027 for 8-pin output (MK4S /D)
CON028 for 8-pin output (MK4S /D)

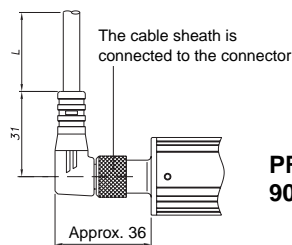
Connector extraction length 10 mm



OPTIONAL CABLES OUTPUT H



PREWIRED CABLE WITH STRAIGHT CONNECTOR



PREWIRED CABLE WITH 90° CONNECTOR

Code for 8-pin cable		MK4S - H	
Length "L"		CODE	
		Straight cable	90° cable
2	mt	CAV002	CAV005
5	mt	CAV003	CAV006
10	mt	CAV004	CAV007
15	mt	CAV009	CAV008

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

GEFRAN

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