

### Main characteristics

- Absolute type transducer
- Displacements from 50 to 4000mm
- Digital output RS422 Start/Stop or PWM (Pulse Width Modulated)
- Multi-cursor management (minimum distance: 75mm)
- Working temperature range: -30...+75°C
- Vibration resistant (DIN IEC68T2/6 12g)
- IP67 Protection
- Power supply 24Vdc ±20%
- Improved internal structure with security set screws

Contactless linear position transducer with magnetostrictive technology with Start/Stop or PWM 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 <sup>2</sup> displacement
Resolution	≤10 μm
Type of magnet (see note)	Floating separate cursor sliding cursor
Working temperature	-30...+75°C
Storage temperature	-40...+100°C
Coefficient of temperature	20ppm FS / °C
Protection	IP67

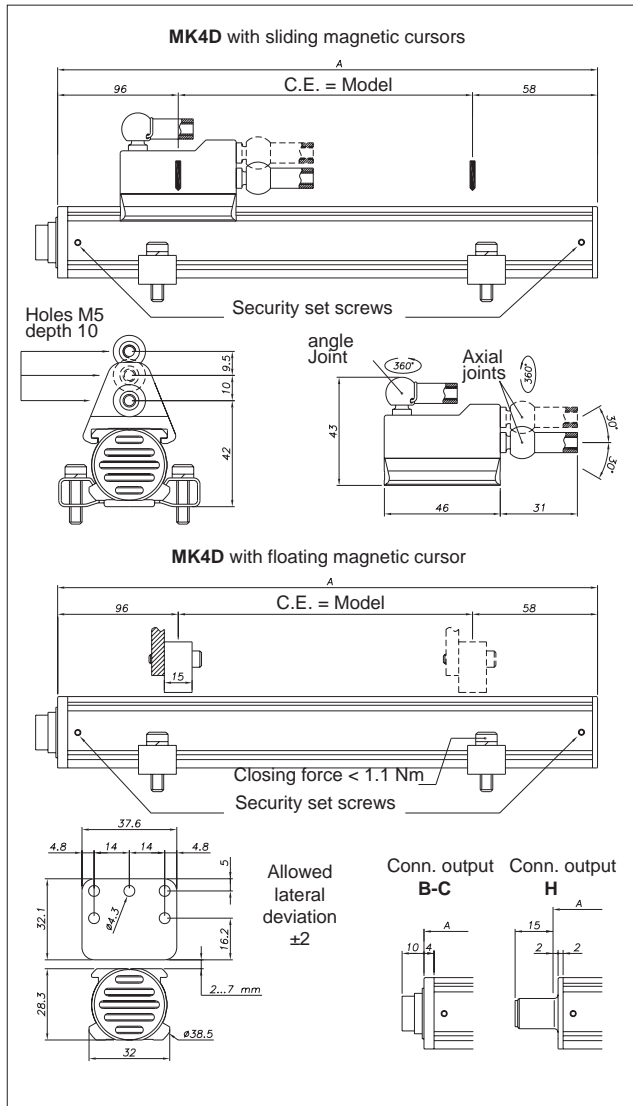
Note

- 1) For strokes > 2500 mt 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

### ELECTRICAL DATA

Output signal (respect to connection side)	Start/Stop (S), (T) PWM (P), (W)
Nominal power supply	24 Vdc ±20%
Max. power ripple	1Vpp
Max. input	90mA (60Ω load)
Min. output load	60Ω
Electrical isolation	500 V (D.C. power supply/ground)
Protection against polarity inversion	Yes
Protection against overvoltage	Yes
Self-resetting internal fuse	Yes

### MECHANICAL DIMENSIONS

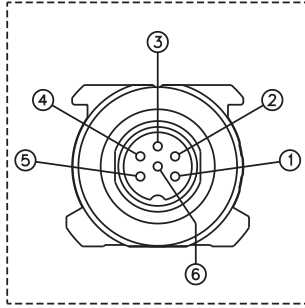


## ELECTRICAL / MECHANICAL DATA

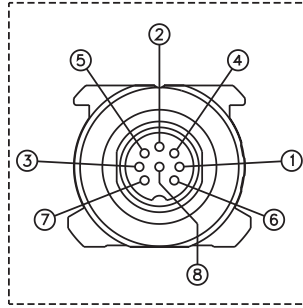
Model	50 75 100 130 150 175 200 225 250 300 350 360 400 450 500 550 600 650 700 750 800 850 900 950 1000 1100 1200 1250 1300 1400 1500																			
	1750 2000 2250 2500 2750 3000 3250 3500 3750 4000																			
Electrical stroke (E.S.)	mm	<b>Model</b>																		
Independent linearity	± % FS	typical 0,02 (Max. 0,04)																		
Max. dimensions (A)	mm	<b>Model + 154</b>																		
Repeatability	mm	< 0,01																		
Hysteresis	mm	< 0,01																		
Sampling time	ms	<b>0,5 (1 for stroke from 300 to 1100) (1,5 for stroke from 1100 to 2000) (2 for stroke &gt;2000) (3 for stroke &gt;3000)</b>																		

## ELECTRICAL CONNECTIONS

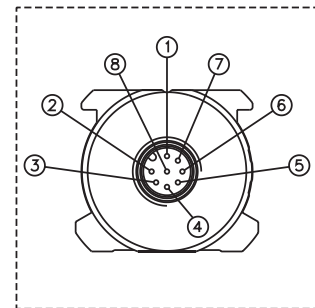
**OUTPUT MK4D B**



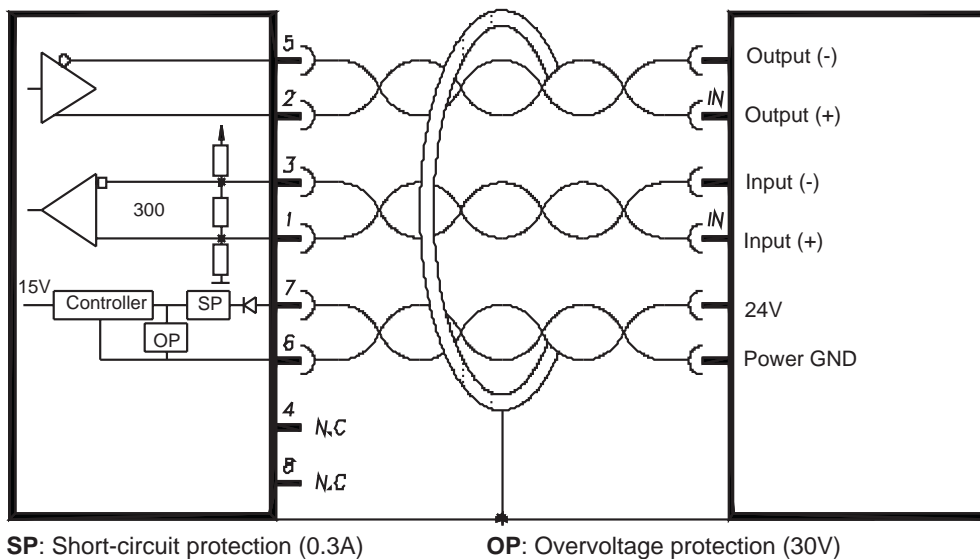
**OUTPUT MK4D C**



**OUTPUT MK4D H**



Function	MK4D B	MK4D C	MK4D H
<b>Output (+)</b>	2	2	2
<b>Output (-)</b>	1	5	5
<b>Input (+)</b>	3	1	1
<b>Input (-)</b>	4	3	3
<b>Power supply +</b>	5	7	7
<b>Power supply GND</b>	6	6	6
<b>n.c.</b>	-	4	4
<b>n.c.</b>	-	8	8

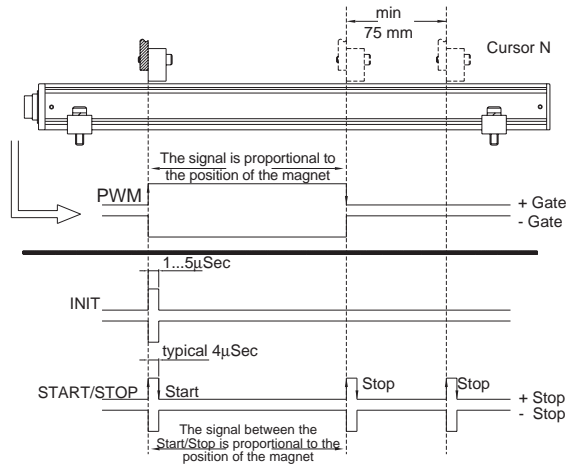


The transducer case must be grounded only on the control system side by means of the cable sheathing.

## DIGITAL OUTPUT MK4D

Series MK4D magnetostrictive transducers supply digital outputs in START/STOP or PWM (Pulse Width Modulated) format via RS422 differential serial transmission, which is highly resistant to interference and guarantees data transmission at distances up to 500 meters.

The output can be connected to various brands of controllers, such as Siemens, Schleicher, B&R, Bosch, Mitsubishi, Schiele, Parker, Esitron, Wago, etc.



## ORDER CODE

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

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

Digital output **D**

### Connector

M16 DIN45322 6-pin connector output **B**

### Available on request

M16 DIN45326 8-pin connector output **C**

M12 8-pin connector output **H**

Model

### Output

Start/Stop (*)	Start/Stop interface, external inquire	<b>S</b>
PWM	PWM interface, internal inquire	<b>P</b>
<i>Available on request</i>		
Start/Stop (*)	Start/Stop interface, internal inquire	<b>T</b>
PWM	PWM interface, external inquire	<b>W</b>

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

(\*) For multiple cursors versions the shortest available stroke (C.E.U.) is 360mm

**Ex.: MK4-D-B-0400-S**

Transducer model MK4, digital output, 6-pin connector, model 400, Start/Stop output

## CURSORS ON REQUEST

P C U R         0 1

Cursors	
Sliding cursor , axial joint (low) (STANDARD)	<b>035</b>
Sliding cursor, axial joint (high)	<b>036</b>
Sliding cursor, angled joint	<b>037</b>
Floating Cursor	<b>034</b>
Number of cursors	

**PCUR035**

**PCUR036**

**PCUR037**

**PCUR034**

## BRACKET S ON REQUEST

P K I T        

Brackets (2 brackets for every kit)	
Bracket in steel, interaxis 42.5mm	<b>090</b>
Bracket in steel, interaxis 50mm	<b>091</b>

Brackets code	Interaxis (i)	Screw (V)	Dimension (A)
PKIT090	42.5	<b>M4</b>	<b>56</b>
PKIT091	50	<b>M5</b>	<b>63.5</b>

## OPTIONAL FEMALE CONNECTORS

For H outputs, M12 thread connector  
Code: **CON035** for 8-pin output (MK4D H)  
**CON042** for 8-pin output (MK4D H)

For B-C outputs, M16 thread connector  
Code: **CON021** for 6-pin output (MK4D B)  
**CON022** for 6-pin output (MK4D B)  
**CON023** for 6-pin output (MK4D B)  
**CON026** for 8-pin output (MK4D C)  
**CON027** for 8-pin output (MK4D C)  
**CON028** for 8-pin output (MK4D C)

Connector extraction length: 10mm

CON035  
IP67 - IEC 48B

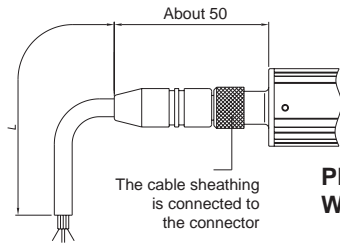
CON042  
IP67

CON021  
CON026  
IP40 - EMC

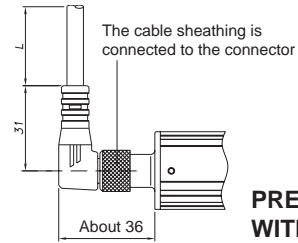
CON022  
CON027  
IP67 - EMC

CON023  
CON028  
IP67 - EMC

## OPTIONAL CABLES OUTPUT



**PRE-ASSEMBLED CABLE  
WITH STRAIGHT CONNECTOR**



**PRE-ASSEMBLED CABLE  
WITH 90° CONNECTOR**

8-pin cable code		MK4D - H	
Lenght "L"		CODE	
		straight cable	Cable to 90°
2	mt	<b>CAV002</b>	<b>CAV005</b>
5	mt	<b>CAV003</b>	<b>CAV006</b>
10	mt	<b>CAV004</b>	<b>CAV007</b>
15	mt	<b>CAV009</b>	<b>CAV008</b>

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](http://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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