

#### 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
- EMI CE compatible (EN 50081-2 50082-1)
- Power supply 24Vdc  $\pm 20\%$
- 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	$\leq 10$ m/s
Max. acceleration	$\leq 100$ m/s <sup>2</sup> displacement
Resolution	$\leq 10$ $\mu$ m
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

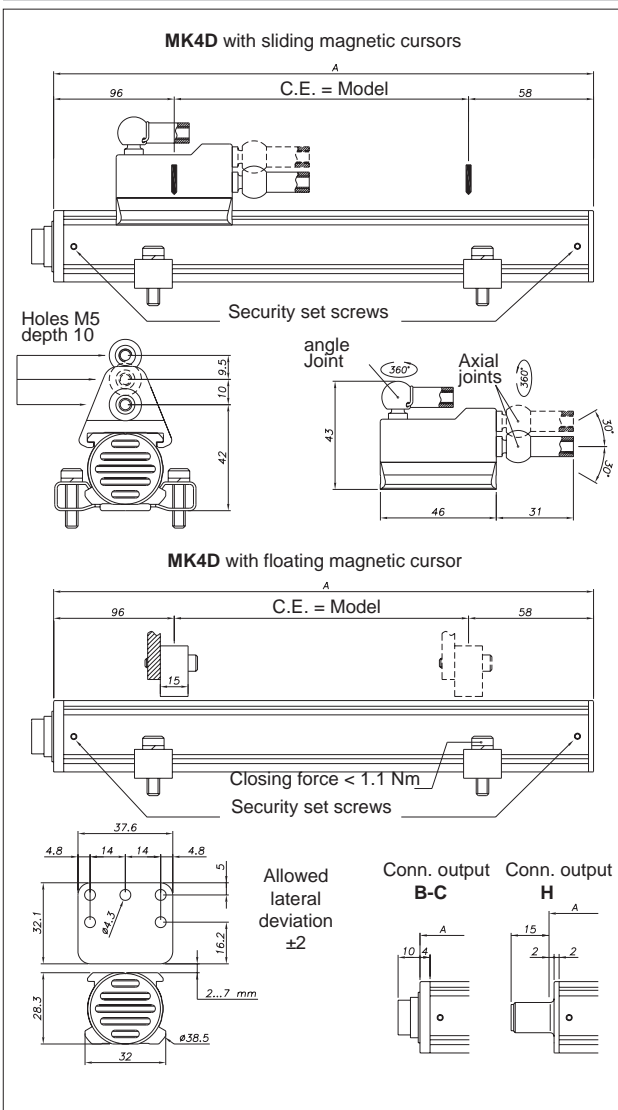
#### Note

- 1) For strokes > 2500 mm 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 $\pm 20\%$
Max. power ripple	1Vpp
Max. input	90mA (60 $\Omega$ load)
Min. output load	60 $\Omega$
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

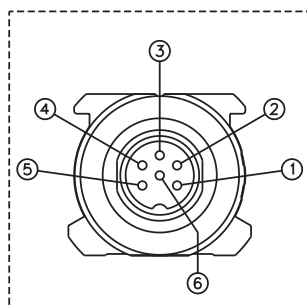


## ELECTRICAL / MECHANICAL DATA

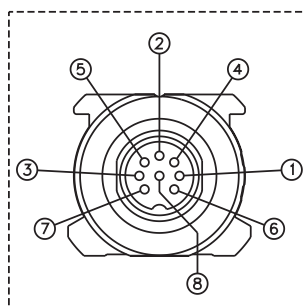
Model		50	75	100	130	150	175	200	225	250	300	350	360	400	450	500	550	600	650	700	750	800	850	900	950	1000	1100	1200	1250	1300	1400	1500					
																						1750	2000	2250	2500	2750	3000	3250	3500	3750	4000						
Electrical stroke (E.S.)	mm	Model																																			
Independent linearity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

## ELECTRICAL CONNECTIONS

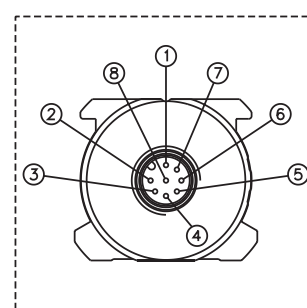
OUTPUT MK4D B



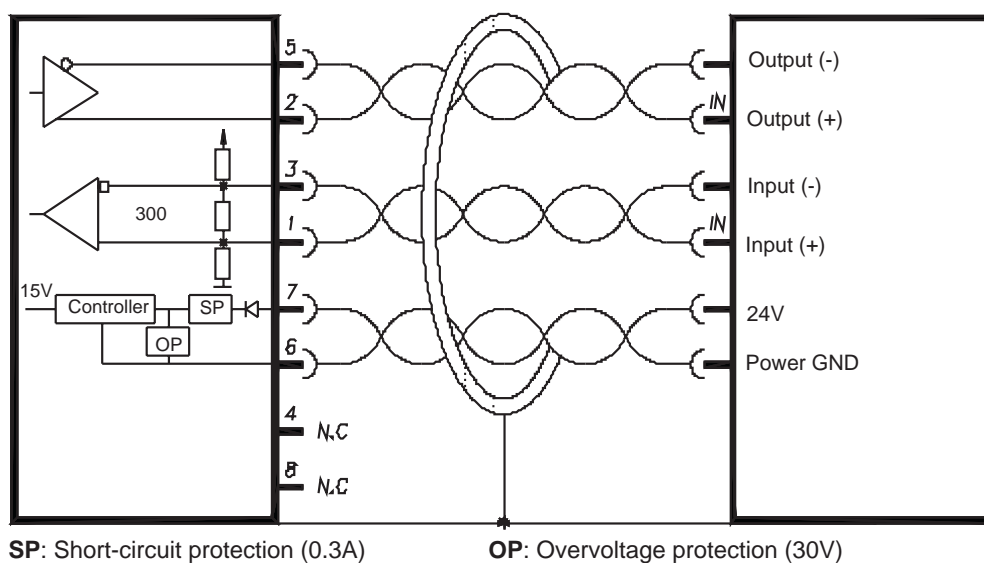
OUTPUT MK4D C



OUTPUT MK4D H



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

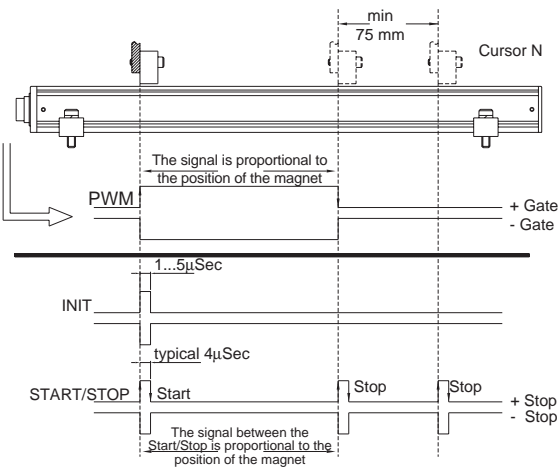


The transducer case must be grounded only on the control system side by means of the cable sheathing.

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>B</b>
Available on request	
M16 DIN45326 8-pin connector output	<b>C</b>
M12 8-pin connector output	<b>H</b>

Model

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

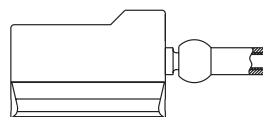
P C U R    0 1

### Cursors

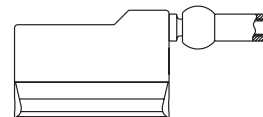
Sliding cursor , axial joint (low) (STANDARD)	035
Sliding cursor, axial joint (high)	036
Sliding cursor, angled joint	037
Floating Cursor	034

Number of cursors

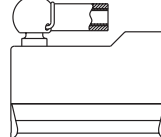
PCUR035



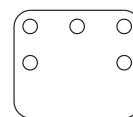
PCUR036



PCUR037



PCUR034



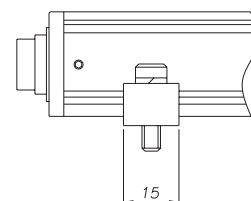
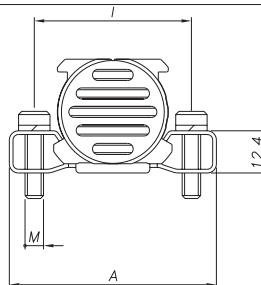
## BRACKET S ON REQUEST



P K I T

### Brackets (2 brackets for every kit)

Bracket in steel, interaxis 42.5mm	090
Bracket in steel, interaxis 50mm	091



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

## OPTIONAL FEMALE CONNECTORS

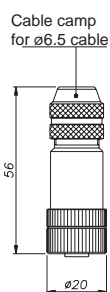
For H outputs, M12 thread connector

Code: **CON035** for 8-pin output (MK4D H)  
**CON042** for 8-pin output (MK4D H)

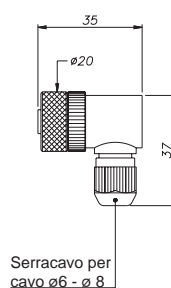
For B-C outputs, M16 thread connector

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)

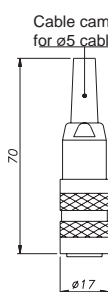
Connector extraction length: 10mm



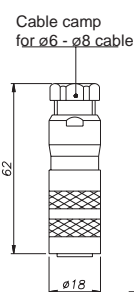
CON035  
IP67 - IEC 48B



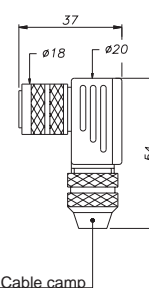
CON042  
IP67



CON021  
CON026  
IP40 - EMC

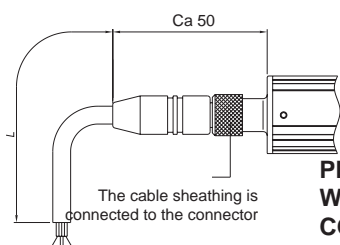


CON022  
CON027  
IP67 - EMC

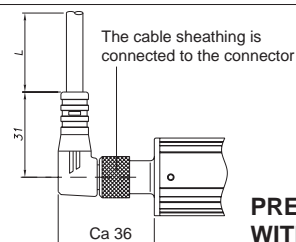


CON023  
CON028  
IP67 - EMC

## 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	CAV002	CAV005
5	mt	CAV003	CAV006
10	mt	CAV004	CAV007
15	mt	CAV009	CAV008