

### MAIN CHARACTERISTICS

EMSPB is an absolute linear magnetostrictive transducer with analogue interface. Thanks to the absence of electrical contact on the enclosure there is no issue of wear and deterioration during working life. Magnetostrictive technology guarantees great performances of speed and precision. High reliability and simple installation even for applications with mechanical stresses, shocks or high contamination are assured by the compact size and the rugged enclosure.

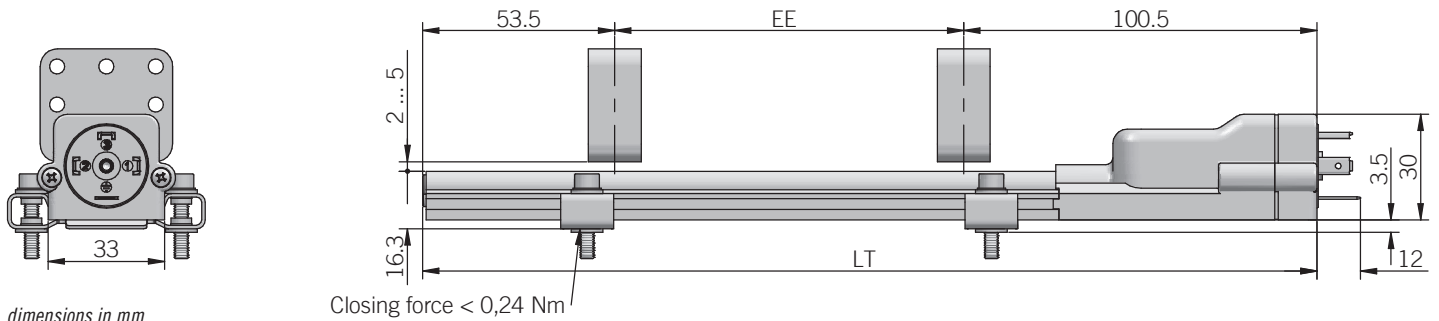


### ORDERING CODE

EMSPB 1000 S 10S 10 C4 A

<b>SERIES</b> linear magnetostrictive transducer with analogue output <b>EMSPB</b>						
<b>STROKE</b> mm from 50 to 1500 <i>see table for stroke availability</i>						
<b>ENCLOSURE RATING</b> IP 65 <b>S</b>						
<b>OUTPUT SIGNAL</b> 0,1 ... 10,1 VDC / 1 cursor (standard) <b>10S</b> 4 ... 20 mA / 1 cursor <b>20S</b>						
<b>TRAVEL SPEED</b> max speed 10 m/s <b>10</b>						
<b>OUTPUT TYPE</b> DIN 43650-A 4 pin connector <b>C4</b> M12 5 pin connector <b>S5</b>						
<b>OUTPUT DIRECTION</b> axial <b>A</b>						

EMSPB



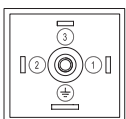
dimensions in mm  
 · brackets, cursors and female connector not included, for ordering P/N please refer to Accessories section

MECHANICAL SPECIFICATIONS	
Stroke	50 - 100 - 150 - 200 - 225 - 300 - 350 - 400 - 450 - 500 - 600 - 700 - 800 - 900 - 1000 - 1100 - 1200 - 1300 - 1400 - 1500 mm
Electric stroke (EE)	see model (mm)
Overall dimension (LT)	EE + 154 mm
Enclosure rating	IP 65 (IEC 60529)
Detected measurement	displacement
Travel speed	10 m/s max
Acceleration	100 m/s <sup>2</sup> max
Shock	100 G, 11 ms, single shot (IEC 68000-2-27)
Vibration	12 G, 10 ... 2000 Hz (IEC 68000-2-6)
Housing material	anodized aluminium / Nylon 66 G 25
Cursor type	floating cursor
Temperature coefficient	≤ 0,01 % FS / °C (min. 0,015 mm / °C)
Operating temperature	-20° ... +75°C (-4° ... +167°F)
Storage temperature	-40° ... +100°C (-40° ... +212°F)

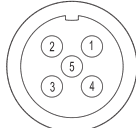
ELECTRICAL SPECIFICATIONS		
Resolution	virtually infinite	
Output signal	0,1 ... 10,1 VDC	4 ... 20 mA
Output alarm value	10,5 V DC	21 mA
Output value max	12 V DC	30 mA
Power supply	19,2 ... 28,8 VDC	
Power ripple	1 Vpp max	
Current consumption	35 mA max	60 mA max
Output load	≥ 10 kΩ	50 ... 500 Ω
Independent linearity	± 0,04% FS max (min ± 0,09 mm)	
Repeatability	≤ 0,01 mm	
Hysteresis	≤ 0,02 mm	
Sampling time	1 ms (50 ... 600) 1,5 ms (650 ... 900) 2 ms (1000 ... 1300) 3 ms (1400 ... 1500)	
Protection against overvoltage	yes	
Protection against polarity inversion	yes	
Protection against power supply on output	yes	
Electrical insulation	50 VDC	
Electromagnetic compatibility	according to 2014/30/EU directive	

CONNECTIONS		
Function	C4 4 pin connector	S5 M12 5 pin connector
+V DC	3	5
0 V	1	4
Output	2	1
OV output	/	2
⊖	shield	/

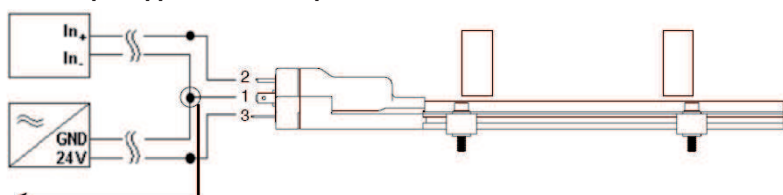
C4 connector (4 pin)  
 DIN 43650-A  
 solder side view FV



M12 connector (5 pin)  
 M12 A coded  
 solder side view FV



Current output application example



Note: connect as close as possible to transducer

Installation notes

For multi-cursor model, the cursors have to work in the same conditions of distance and temperature. Cursors must be installed on a support made of non-magnetic material (like brass, aluminium or AISI316 stainless steel). The installation kit provides two screws, two nuts and two washers (all made of brass). The cursor must be installed with maximum attention to horizontal alignment with the transducer axis (maximum tolerance is ± 2 mm), distance from the transducer surface has to be within the range from 2 to 5 mm.