

### MAIN CHARACTERISTICS

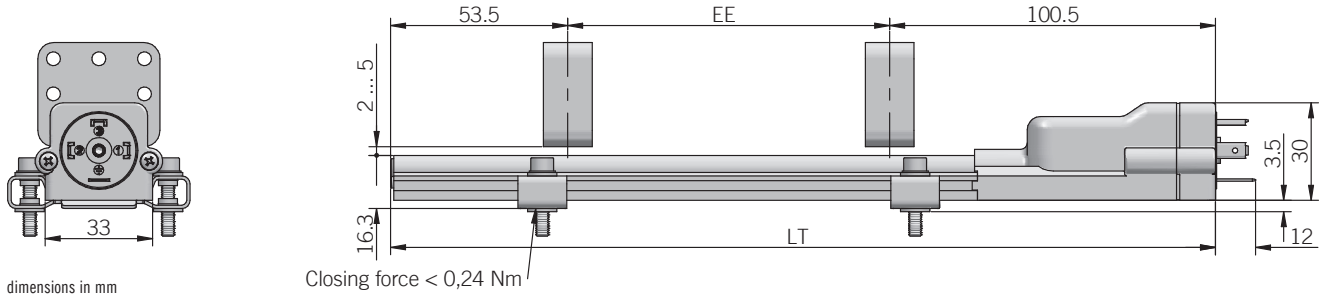
EMSPB is an absolute linear magnetostrictive transducer with analogue interface.  
 Thanks to the absence of electrical contact on the enclosure there is no issue of wear and deterioration during working life.  
 Magnetostrictive technology guarantees great performances of speed and precision.  
 High 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 <b>50</b> to <b>1500</b> see table for stroke availability						
<b>ENCLOSURE RATING</b> IP 65 <b>S</b>						
<b>OUTPUT SIGNAL</b> 0,1 ... 10,1 V DC / 1 cursor (standard) <b>10S</b> 4 ... 20 mA / 1 cursor <b>20S</b>						
<b>TRAVEL SPEED</b> max 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

Closing force < 0,24 Nm

· brackets, cursors and female connector not included, please refer to Accessories section

MECHANICAL SPECIFICATIONS

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

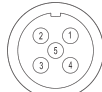
CONNECTIONS

Function	4 pin C4	M12 5 pin S5
+V DC	3	5
0 V	1	4
Output	2	1
0V 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



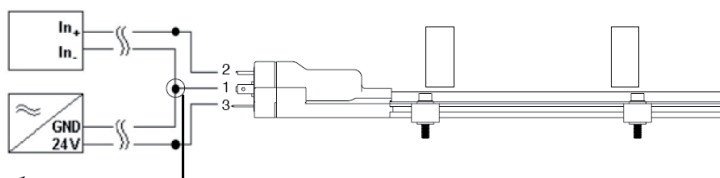
ELECTRICAL SPECIFICATIONS

<b>Resolution</b>	virtually infinite	
<b>Output signal</b>	0,1 ... 10,1 V DC	4 ... 20 mA
<b>Output alarm value</b>	10,5 V DC	21 mA
<b>Output value max</b>	12 V DC	30 mA
<b>Power supply</b>	19,2 ... 28,8 V DC	
<b>Power ripple</b>	1 Vpp max	
<b>Current consumption</b>	35 mA max	60 mA max
<b>Output load</b>	≥ 10 kΩ	50 ... 500 Ω
<b>Independent linearity</b>	± 0,04 % FS max (min ± 0,09 mm)	
<b>Repeatability</b>	≤ 0,01 mm	
<b>Hysteresis</b>	≤ 0,02 mm	
<b>Sampling time</b>	1 ms (50 ... 600) 1,5 ms (650 ... 900) 2 ms (1000 ... 1300) 3 ms (1400 ... 1500)	
<b>Protection against overvoltage</b>	yes	
<b>Protection against polarity inversion</b>	yes	
<b>Protection against power supply on output</b>	yes	
<b>Electrical insulation</b>	50 V DC	
<b>Electromagnetic compatibility</b>	according to 2014/30/EU directive	
<b>RoHS</b>	according to 2011/65/EU directive	

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.

Current output application example



Note: connect as close as possible to transducer