

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.

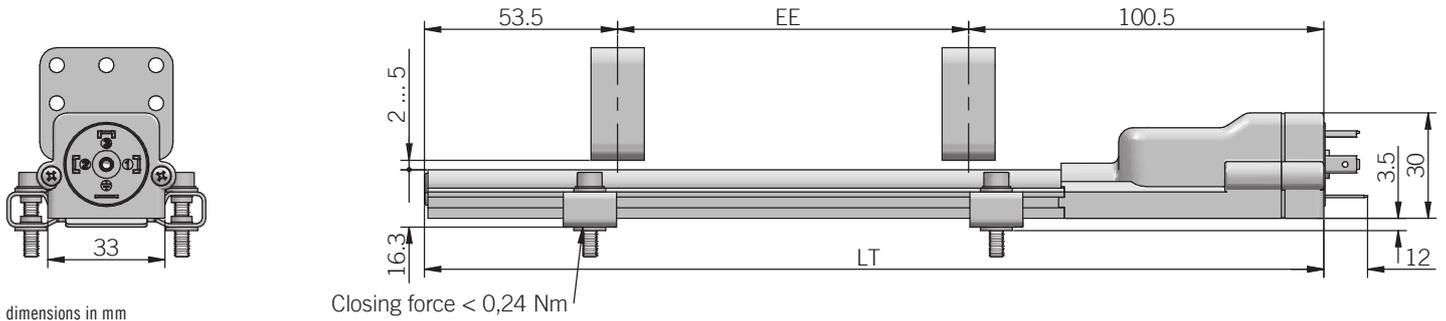


ORDERING CODE

EMSPB 1000 S 10S 10 C4 A

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

EMSPB



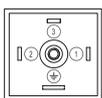
dimensions in mm

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

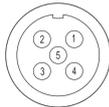
MECHANICAL SPECIFICATIONS	
Stroke	50 - 100 - 150 - 200 - 225 - 300 - 350 - 400 - 450 - 500 - 600 - 700 - 800 - 900 - 1000 - 1100 - 1200 - 1300 - 1400 - 1500 mm
Electric stroke (EE)	see model (mm)
Overall dimension (LT)	EE + 154 mm
Enclosure rating	IP 65 (IEC 60529)
Detected measurement	displacement
Travel speed	10 m/s max
Acceleration	100 m/s ² 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	$\leq 0,01 \%$ FS / °C (min. 0,015 mm / °C)
Operating temperature ^{2,3}	-20° ... +75°C (-4° ... +167°F)
Storage temperature ³	-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
0 V output	/	2
⏏	shield	/

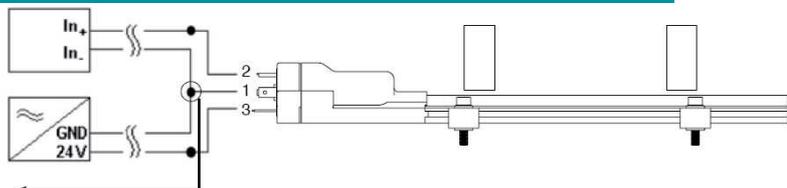
C4 connector (4 pin)
DIN 43650-A
solder side view FV



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



APPLICATION EXAMPLE (CURRENT OUTPUT)



Note: connect as close as possible to transducer

ELECTRICAL SPECIFICATIONS		
Resolution	virtually infinite	
Output signal	0,1 ... 10,1 V DC	4 ... 20 mA
Output alarm value	10,5 V DC	21 mA
Output value max	12 V DC	30 mA
Power supply ¹	19,2 ... 28,8 V DC	
Power ripple	1 Vpp max	
Current consumption	35 mA max	60 mA max
Output load	$\geq 10 \text{ k}\Omega$	50 ... 500 Ω
Independent linearity	$\pm 0,04 \%$ FS max (min $\pm 0,09 \text{ mm}$)	
Repeatability	$\leq 0,01 \text{ mm}$	
Hysteresis	$\leq 0,02 \text{ mm}$	
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 V DC	
Electromagnetic compatibility	according to 2014/30/EU directive	
RoHS	according to 2015/863/EU directive	

¹ as measured at the transducer without cable influences

² measured on transducer

⁴ condensation not allowed

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 $\pm 2 \text{ mm}$), distance from the transducer surface has to be within the range from 2 to 5 mm.