

EMSPS

LINEAR MAGNETOSTRICTIVE TRANSDUCER WITH SSI OUTPUT



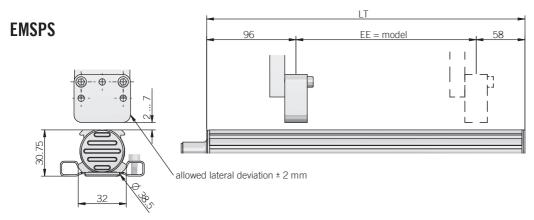
Specifications

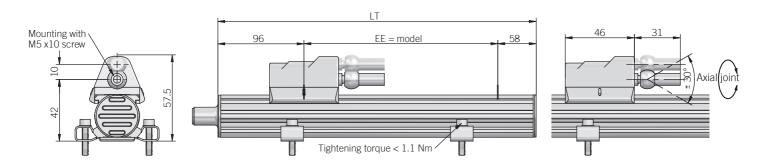
EMSPS is an absolute linear magnetostrictive transducer featuring a digital RS-422 SSI compliant output. The main characteristic of magnetostrictive transducers is the absence of electric contact on the enclosure there is no issue of wear and deterioration during working life guaranteeing high displacement 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	EM	SPS	500	S	25	G	10	R5	Р	A
	linear magnetostrictive transducer with SSI output E	rom 50 oke ava	NCLOSURI	M357) 21-	A LENGTH +1 bit 21 24 bit 24 25 bit 25 CO	DDE TYPE binary B gray G TRAVI ax speed 1	EL SPEED 10 m/s 10 RES 0,00 0,010 0,020 0,040 cable (stant-15322 M16 15326 M16	OLUTION 2 mm R2 5 mm R5 mm R10 mm R20 mm R40 OUTP dard lengtl 6 pin conno 8 pin conno 8 pin conno	ector C6 ector C8	
										axial A







ELECTRICAL SPECIFICATIONS				
Resolution	2 - 5 - 10 - 20 - 40 μm			
	\leq ± 0,01% FS (min ± 0,060 mm) typical			
Indipendent linearity	with sliding cursor			
	\leq \pm 0,02% FS typical with floating cursor			
Repeatability	< 0,01 mm			
Hysteresis	≤ ± 0,005% FS (min 0,010 mm)			
Power supply	10 32 VDC			
Power ripple	1 Vpp max			
Max load current	50 mA max			
Output type	RS-422			
SSI output code	binary or gray			
Clock frequency	50 kHz 1 MHz			
SSI monostable time (Tm)	16 µs			
SSI frame	21 / 24 / 25 bit data lenght			
Counting direction	increase			
Protection against overvoltage	yes			
Protection against				
polarity inversion	yes			
Self-resetting internal fuse	yes			
Electrical insulation	500 VDC (+VDC / earth)			
Electromagnetic				

MECHANICAL SPECIFICATIONS					
Stroke	50 - 100 - 150 - 200 - 250 - 300 - 350 - 400 -450 - 500 - 600 - 700 - 800 - 900 - 1000				
	-1100 - 1200 - 1300 - 1400 - 1500 mm				
Electric stroke (EE)	see model (mm)				
Overall dimensions (LT)	EE + 154 mm				
Enclosure rating	IP 67 (IEC 60529)				
Detected measurement	displacement				
Scale orientation	increasing				
Travel speed	10 m/s max				
Acceleration	100 m/s² 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	sliding or floating cursor				
Temperature coefficient	20 ppm FS / °C				
Operating temperature	-30° +90°C (-22° +194°F)				



CONNECTIONS							
Function	Cable output	S8 8 pin M12 connector	C6 6 pin M16 connector	C8 8 pin M16 connector			
+ V DC	blue / white	7	5	7			
0V	blue	6	6	6			
data +	orange / white	2	2	2			
data -	orange	5	1	5			
clock +	green / white	3	3	1			
clock -	green	1	4	3			

The transducer enclosure and cable shield have to be connected to ground on both sides.

S8 connector (8 pin) M12 A coded solder side view FV

C6 connector (6 pin) DIN 45322 solder side view FV

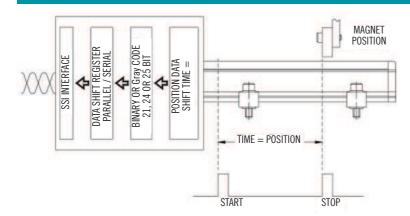
C8 connector (8 pin) DIN 45326 solder side view FV







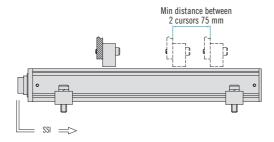
SSI BLOCK DIAGRAM



SSI output goes to 0 if the echo is absent (magnet out of measurement range or internal device error)

SSI CABLE LENGHT					
Cable lenght	< 3 m	< 50 m	< 100 m	< 200 m	< 400 m
Baud rate	1 Mbaud	400 kbaud	300 kbaud	200 kbaud	100 kbaud

Installation example with two cursors



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 AlSl316 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 7 mm.