

LINEAR POTENTIOMETER



LMI12-SL / LMI12-SE Series

Key-Features:

- Up to 250 bar for hydraulic cylinders
- Linear displacement transducer with magnetic ring cursor
- Pressure sealed high grade steel housing (IP67)
- Displacement speed ≤ 5 m/s
- Linearity up to $\pm 0,35$ %
- Analog output signal 4...20 mA (LMI-SE)
- Working temperature $-30...+100$ °C (LMI-SL)
- Working temperature $-30...+80$ °C (LMI-SE)
- Life cycle $>25 \times 10^6$ meter or 100×10^6 operations, whichever is less
- Simple Apparatus according to the EN 60079-11 Standard (LMI-SL)

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TECHNICAL DATA

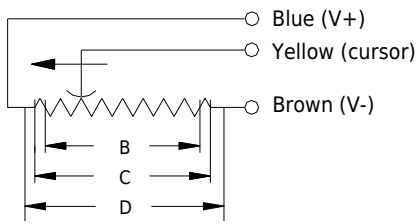
		LMI12-SL	LMI12-SE
Measurement range	[mm]	50 / 100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 550 / 600 / 750 / 800 / 850 / 900 / 950 / 1000	
Cursor dragging force	[N]	≤0.5	
Displacement speed	[m/s]	≤5	
Maximum acceleration	[m/s ²]	≤10	
Resolution		Resolution depends on the signal quality of the reference voltage respectively supply voltage	
Repeatability	[mm]	≤0.08	
Displacement sensitivity (hysteresis not considered)	[mm]	from 0.05 to 0.1	
Hysteresis	[µm]	<250	
Recommended cursor current	[µA]	<0,1	-
Max. cursor current	[mA]	10	-
Max. cursor current in case of bad performances	[mA]	10	-
Tolerance on resistance	[%]	±20	-
Temperature coefficient of the resistance	[ppm/°C]	±200	-
Temperature coefficient of the output voltage	[ppm/°C]	<5	-
Electrical isolation		>100 MOhm at 500 V~, 1 bar, 2 s	>100 MOhm at 45 V~, 1 bar, 2 s
Dielectric strength		<100 µA at 500 V~, 1 bar, 2 s	
Max. current consumption	[mA]		35
Sampling time	[ms]	-	≤1
Noise on output		-	<0,08% FS RMS
Zero and FSO temperature drift		-	<0,02% FS/°C
Polarity inversion protection		-	yes
Working temperature	[°C]	-30...+100	-30...+80
Storage temperature	[°C]	-50...+120	-40...+100
Housing material		high grade steel AISI 304	
Mounting		flange, threaded flange M24x1.5	
DIN vibration IEC68T2-6		20 g, 5...2000 Hz	
Shock test DIN IEC68T2-27		50 g, 11 ms	
Protection class		IP67	
Working pressure	[bar]	250, peek 400	
Output signal		potential divider	4...20 mA

ELECTRICAL AND MECHANICAL DATA

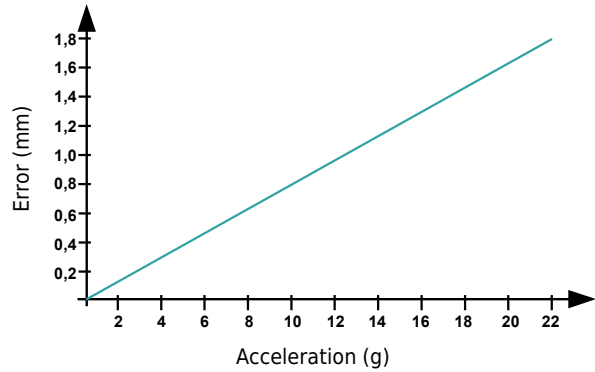
Measurement range/Useful electrical stroke (B) +1/0	[mm]	50	100	150	200	250	300	350	400	450	500	550	600	750	800	850	900	950	1000	
Theoretical electrical stroke (C)	[mm]	B + 1																		
Resistance (LMI12-SL)	[kOhm]	5					10					20								
Linearity	[±%]	0.35																		
Dissipation at 40°C (LMI12-SL)	[W]	1	2	3																
Maximum applicable voltage (LMI12-SL)	[V]	40	60																	
Power supply (see Load diagram)	[V]	10 to 30																		
Mechanical stroke (D)	[mm]	B + 5																		
Case length (A) LMI12-SL	[mm]	B + 94.7																		
Case length (A) LMI12-SE	[mm]	B + 100.2																		

ELECTRICAL CONNECTION

Electrical Connection LMI12-SL



Tracking Error LMI12-SE, LMI12-SL

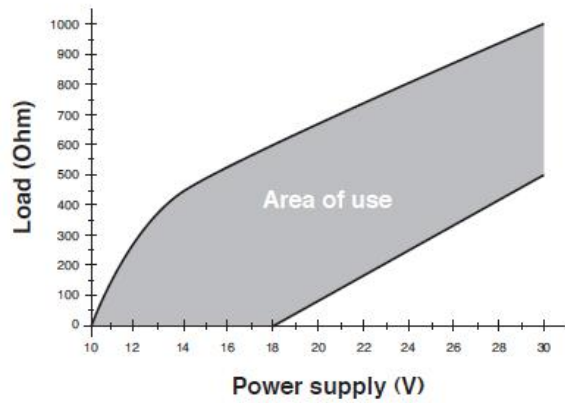


Electrical Connection LMI12-SE

supply +	brown
supply -	blue
output -	blue
output +	yellow

Connect GND to the transducer's housing
(do not connect GND to the panel side)

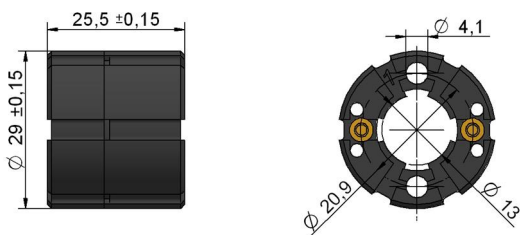
Load diagram LMI12-SE



When calibrating the transducer, be careful to set the stroke so that the output does not drop below 1% or rise beyond 99% of the output.

MAGNETIC CURSOR

PCUR010



SIGNAL CONDITIONER

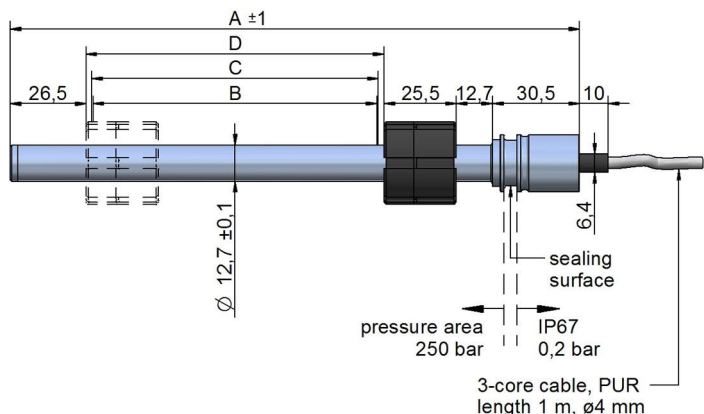
PMX-24

- Converts potentiometer signals into analog output signals
- Input: potentiometer 1...20 kΩ
- Configurable output
- DIN-rail-mounting with face-side connector
- For further information please contact WayCon or [download](#) the data sheet.

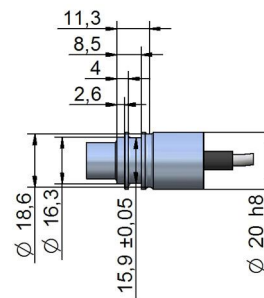


TECHNICAL DRAWINGS

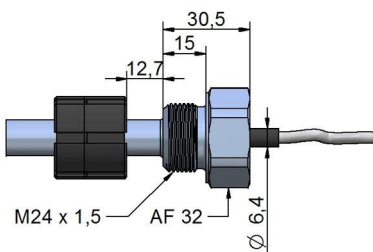
LMI12-SE with standard flange



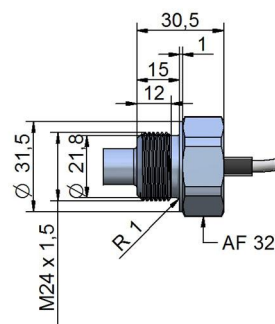
Detail drawing standard flange



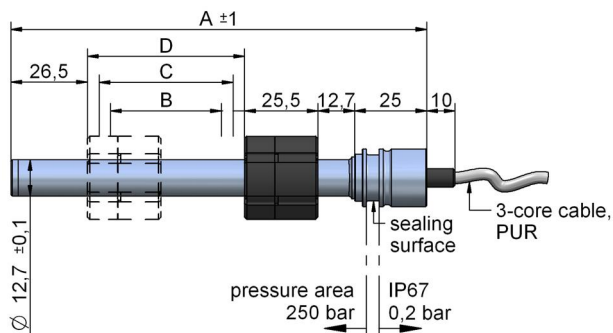
LMI12-SE-M with threaded flange



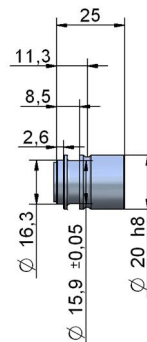
Detail drawing threaded flange



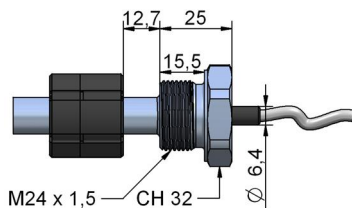
LMI12-SL with standard flange



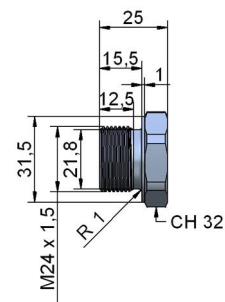
Detail drawing standard flange



LMI12-SL-M with threaded flange



Detail drawing threaded flange



Instruction for installation: After the installation of the sensor, the ring magnet has to be placed onto the sensor rod. In order to link the magnet to the sensor element, the magnet has to be pushed once fully to the end of the sensor rod (up to flange/cable connection).

ORDER CODE

LMI12-SL / LMI12-SE — □ — □

Measurement range [mm]

e. g. 50

-
M

Standard flange
Threaded flange

OPTIONS & ACCESSORIES

Options

M Threaded flange M24x1,5

Accessories

PCUR010 Magnetic cursor (included in delivery)

Signal Conditioner

PMX-24 different analog output signals in one device

For further information please contact WayCon or [download](#) the data sheet.



Subject to change without prior notice.

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