LINEAR POTENTIOMETER

LMI12-SL / LMI12-SE Series

Key-Features:

- *Linear displacement transducer with magnetic ring cursor*
- *Working pressure up to 250 bar (hydraulic cylinders)*
- *Pressure sealed high grade steel housing (IP67)*
- *Displacement speed ≤5 m/s*
- *Linearity up to ±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 x 10^6 meter or 100 x 10^6 operations, whichever is less*
- *Simple Apparatus according to the EN 60079-11 Standard (LMI-SL)*

Content:

24.11.17

WayCon
Positionsmesstechnik

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/s²]	≤10	
Resolution		Resolution depends on the signal quality of the reference voltage respectively supply voltage	
Repeatability	[mm]	≤0.08	
Displacement sensitivity (hysteresis not considere	[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 output		shielded cable, 3-pole, PUR, length 1 meter	

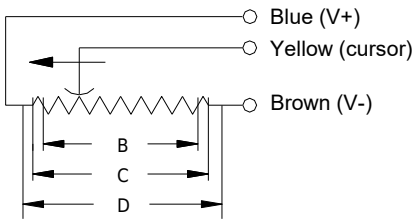
* Output signal: 4...20 mA
Zero point (4 mA) between 1% and 3% of useful electrical stroke (B)
End point (20 mA) between 96% and 99% of useful electrical stroke (B)

ELECTRICAL AND MECHANICAL DATA

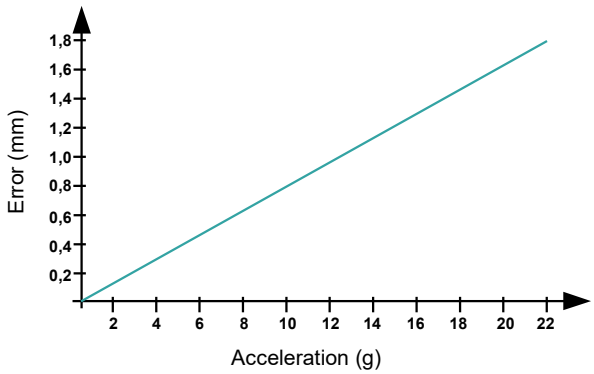
Measurement range/Useful electrical stroke (B) +1/0	[mm]	50	100	150	200	250	300	350	400	450	500	550	600	750	800	850	900	950	1000
Theoretical electrical stroke (C)	[mm]	B + 1																	
Resistance (LMI12-SL)	[kOhm]	5						10						20					
Linearity	[±%]	0.35																	
Dissipation at 40°C (LMI12-SL)	[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

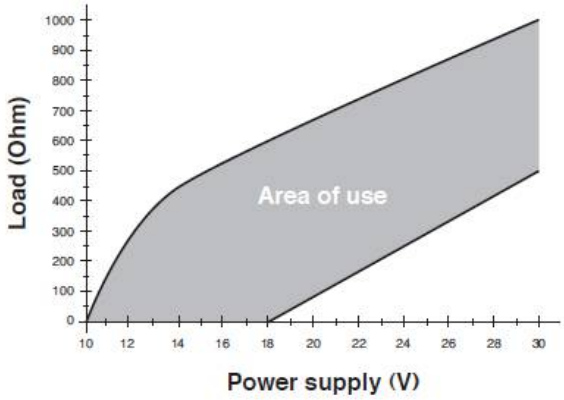


Electrical Connection LMI12-SE

Signal	Color
supply +	brown
supply -	blue
output -	blue
output +	yellow

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

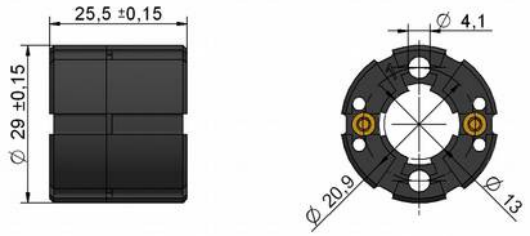
Load diagram LMI12-SE



Installation Note: 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
(included in delivery)



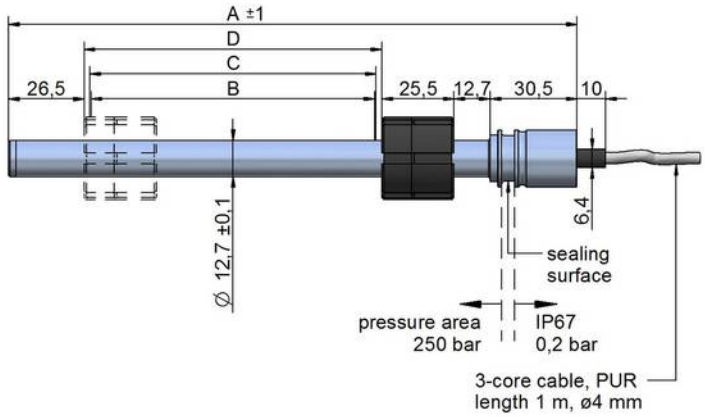
SIGNAL CONDITIONER

PMX-24

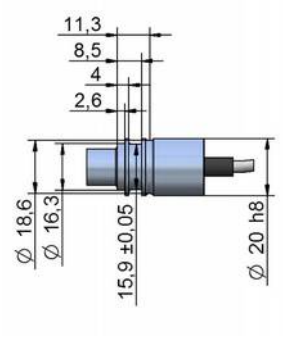
- Converts potentiometer signals into analog output signals
- Input: potentiometer 1...20 kΩ
- Configurable output
- DIN-rail-mounting with face-side connector
- For further information please contact WayCon or download the data sheet.

TECHNICAL DRAWING

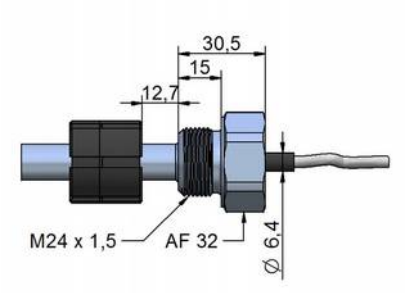
LMI12-SE with standard flange



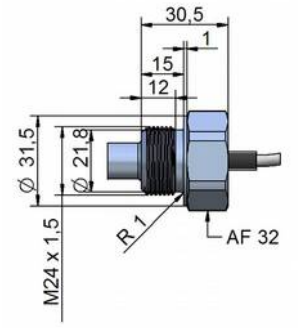
Detail drawing standard flange



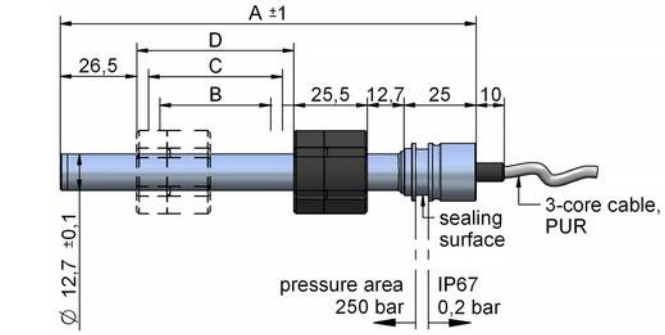
LMI12-SE-M with threaded flange



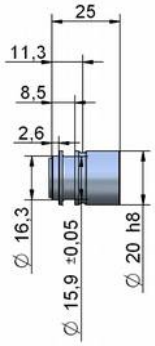
Detail drawing threaded flange



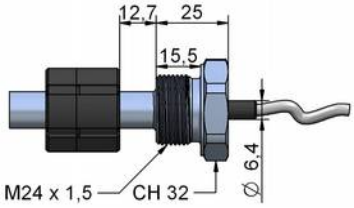
LMI12-SL with standard flange



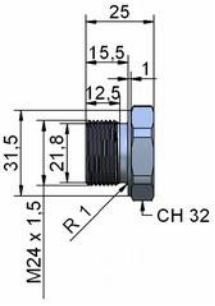
Detail drawing standard flange



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-F — □ — □

Measurement range [mm]	e. g. 50

-	Standard flange
M	Threaded flange

OPTIONS & ACCESSORIES

Options	
M	Threaded flange M24x1,5

Accessories	
PCUR010	Magnetic cursor (included in delivery)

Signal Conditioner	for LMI12-SL
PMX-24	converts the potentiometer signal into an analog output

For further information please contact WayCon or download the data sheet.

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