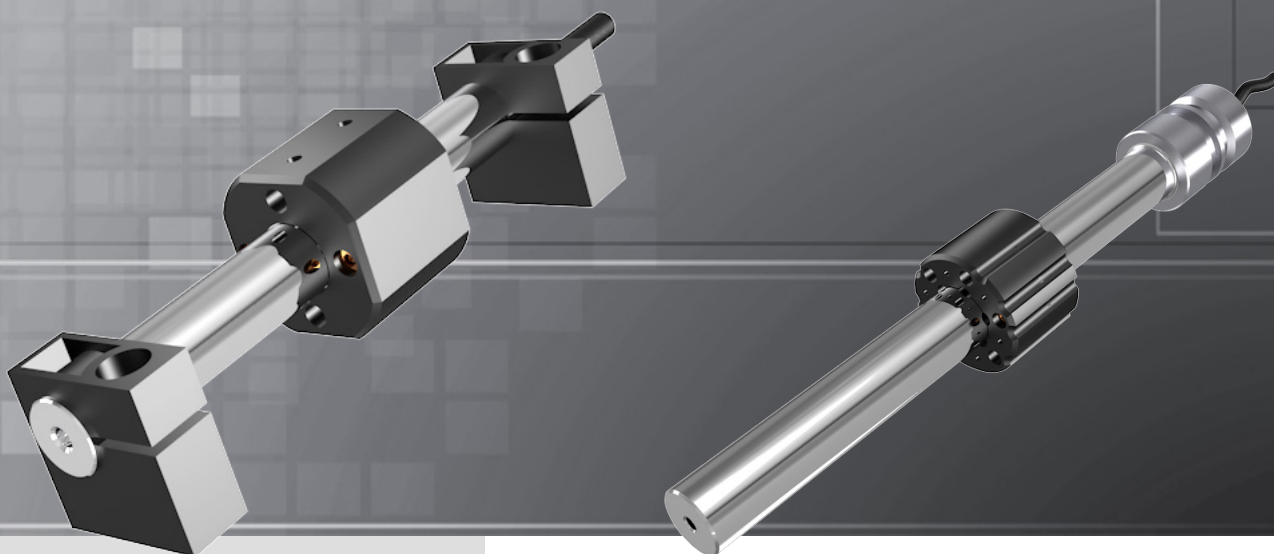


# LINEAR POTENTIOMETER



## Series LME12 and LMI12

### Key-Features:

- Linear displacement transducer with magnetic cursor drag
- Suitable for harsh environment applications (IP67)
- LME12: for pneumatic cylinders up to 20 bar
- LMI12: for hydraulic cylinders up to 250 bar
- Measurement ranges from 50 up to 1000 mm
- Displacement speed  $\leq 5$  m/s
- Linearity up to  $\pm 0.05$  %
- Working temperature  $-30...+100$  °C
- Life cycle  $> 25 \times 10^6$  meter or  $100 \times 10^6$  operations, whichever is less
- Simple apparatus according to the EN 60079-11 standard

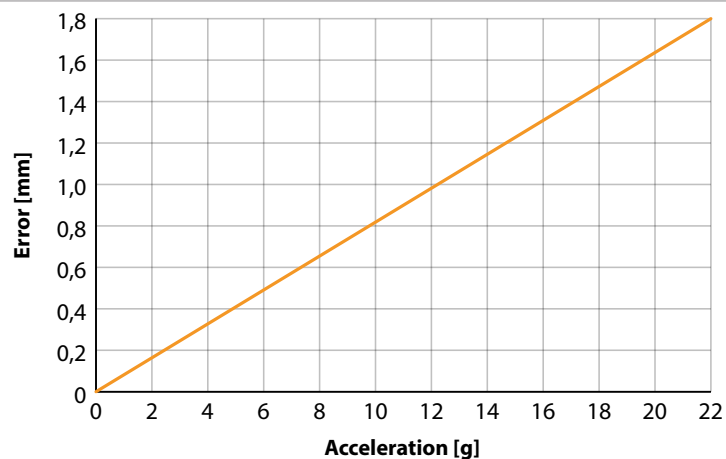
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## TECHNICAL DATA

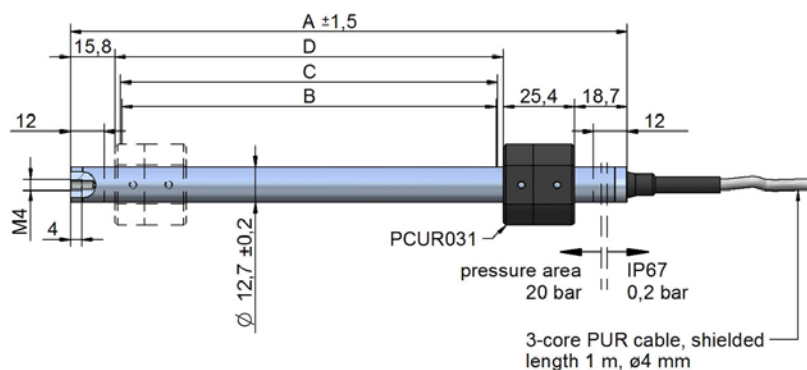
		LME12	LMI12
Measurement range	[mm]	50 / 100 / 150 / 200 / 250 / 300 / 350 / 400 / 450 / 500 / 550 / 600 / 650 / 700 / 750 / 800 / 850 / 900 / 950 / 1000	
Linearity	[%]	Measurement ranges up to 100 mm: $\pm 0.1$ Measurement ranges above 150 mm: $\pm 0.05$	
Repeatability	[mm]	$\leq 0.08$	
Resolution		depends on the signal quality of the reference voltage respectively supply voltage	
Displacement sensitivity	[mm]	0.05...0.1 (hysteresis not considered)	
Hysteresis	[mm]	$< 0.25$	
Cursor dragging force	[N]	$\leq 0.5$	
Displacement speed	[m/s]	$\leq 5$	
Acceleration max.	[m/s <sup>2</sup> ]	$\leq 10$	
Resistance	[k $\Omega$ ]	Measurement ranges up to 300 mm: 5 Measurement ranges 350 to 600 mm: 10 Measurement ranges above 650 mm: 20	
Tolerance on resistance	[%]	$\pm 20$	
Dissipation at 40 °C (0 W at 120 °C)	[W]	Measurement range 50 mm: 1 Measurement range 100 mm: 2 Measurement ranges above 150 mm: 3	
Applicable voltage max.	[V]	Measurement range 50 mm: 40 Measurement ranges above 100 mm: 60	
Recommended cursor current	[ $\mu$ A]	$< 0.1$	
Permitted dissipation max.	[mA]	10	
Cursor current in case of bad performances max.	[mA]	10	
Electrical isolation		$> 100 \text{ M}\Omega$ at 500 V = 1 bar, 2 s	
Dielectric strength		$< 100 \mu\text{A}$ at 500 V ~ 1 bar, 2 s	
Protection class		IP67	
Operating temperature	[°C]	$-30 \dots +100$	
Storage temperature	[°C]	$-50 \dots +120$	
Temperature coefficient of resistance	[ppm/°C]	$\pm 200$	
Temperature coefficient of output voltage	[ppm/°C]	$< 5$	
Operating pressure max.	[bar]	20	250
Vibration DIN IEC68T2-6		12 g, 10...2000 Hz	
Shock DIN IEC68T2-27		50 g, 11 ms, single shock	
Housing		anodised aluminium, PSU	high grade steel AISI 316
Mounting		brackets	flange

## TRACKING ERROR



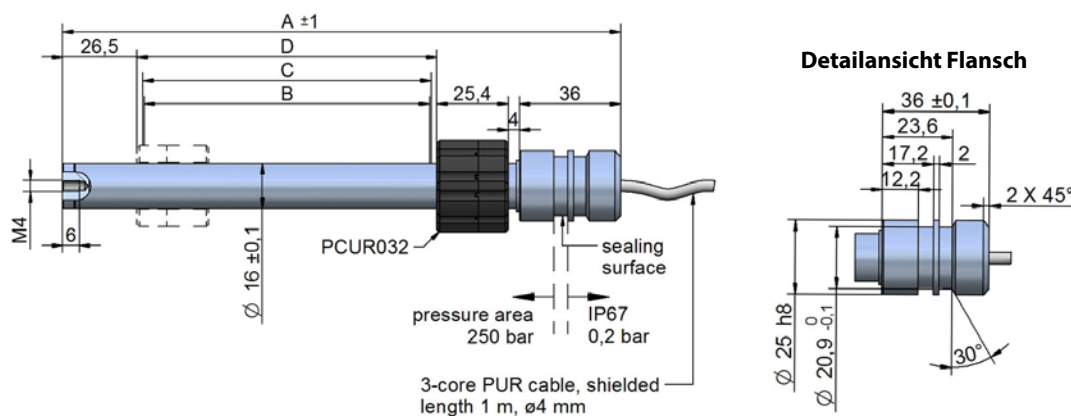
## TECHNICAL DRAWING

### LME12



A	Housing length	B + 65 mm
B	Measurement range / useful electrical stroke	see „Technical Data“
C	Theoretical electrical stroke	B + 1 mm
D	Mechanical stroke	B + 5 mm

### LMI12

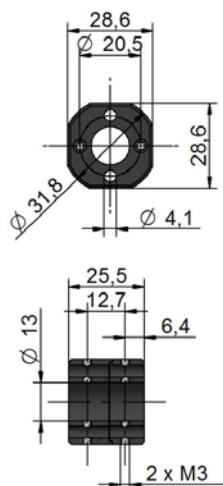


A	Housing length	B + 97 mm
B	Measurement range / useful electrical stroke	see „Technical Data“
C	Theoretical electrical stroke	B + 1 mm
D	Mechanical stroke	B + 5 mm

## TECHNICAL DRAWING ACCESSORIES

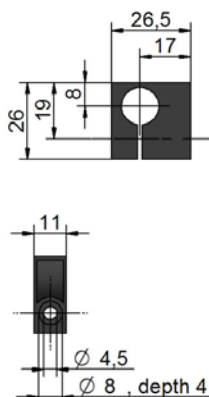
### Magnetic cursor PCUR031 for LME12

(1 pc. included in delivery)



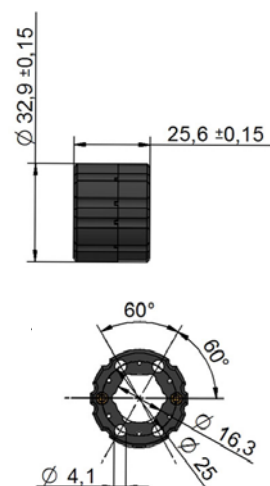
### Bracket STA001 for LME12

(2 pcs. included in delivery)

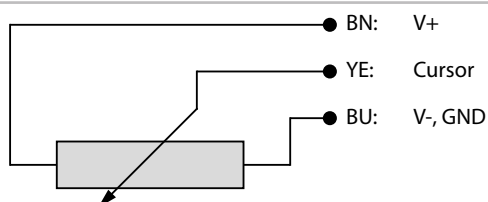


### Magnetic cursor PCUR032 for LMI12

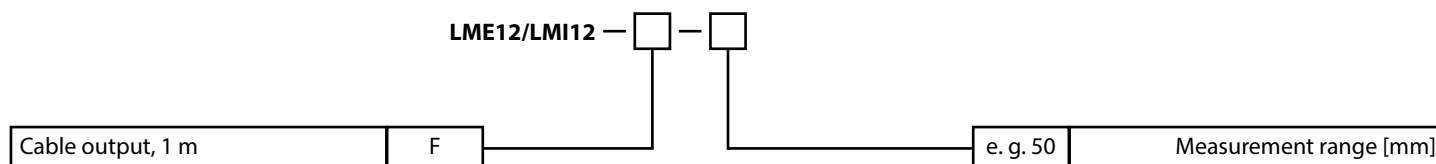
(1 pc. included in delivery)



## ELECTRICAL CONNECTION



- Sensor is to be used as voltage divider only, using a maximum cursor current of  $I_c \leq 0.1 \mu A$ . Do **NOT** use the sensor as variable resistance!
- When calibrating the transducer, be careful to set the stroke so that the output does not drop below 1% or rise above 99% of the voltage level.

**ORDER CODE**

**Scope of delivery:**

LME12: Sensor, 2 brackets STA001, 1 magnetic cursor PCUR0321

LMI12: Sensor, 1 magnetic cursor PCUR032

## ACCESSORIES

## Magnetic cursors and brackets

STA001	1 bracket for LME12
PCUR031	1 magnetic cursor for LME12
PCUR032	1 magnetic cursor for LMI12

### Signal conditioner

PMX-24      Output signals: 4...20 mA, 0...10 V, 0...5 V,  $\pm 10$  V,  $\pm 5$  V

For more information and options please refer to the [PMX-24 data sheet](#).

### Digital displays for sensors with analog output, 2 channel

WAY-AX-S	touch screen, supply: 18...30 VDC
WAY-AX-S-AC	touch screen, supply: 115...230 VAC

For more information and options please refer to the [WAY-AX data sheet](#).

**Teléfonos / Phone number**

**Mex: +52 (33)-3854-5975**

**+52 (33)-3823-4349**

**USA: +1 (619) 619-7350**

## Página Web / Website

**tienda.logicbus.com.mx**

logicbus.com

**Correo electrónico / E-mail**

**ventas@logicbus.com**

**sales@logicbus.com**

**Dirección / Address**

**Av. Fray Antonio Alcalde 1822**

Miraflores, 44270

Guadalajara, Jal



8280 Clairemont Mesa Blvd

## Suite 122

**San Diego, CA 92111**

