

LINEAR POTENTIOMETER



Series LMS18

Key-Features:

- Self-aligning, linear position transducer with magnetic cursor
- Measurement ranges from 50 to 1000 mm
- Linearity up to $\pm 0.05\%$
- Displacement speed up to ≤ 5 m/s
- Protection class IP67
- Operating temperature $-30\dots+100\text{ }^{\circ}\text{C}$
- Life cycle $>25 \times 10^6$ meter or 100×10^6 operations, whichever is less
- Simple apparatus according to the EN 60079-11 standard

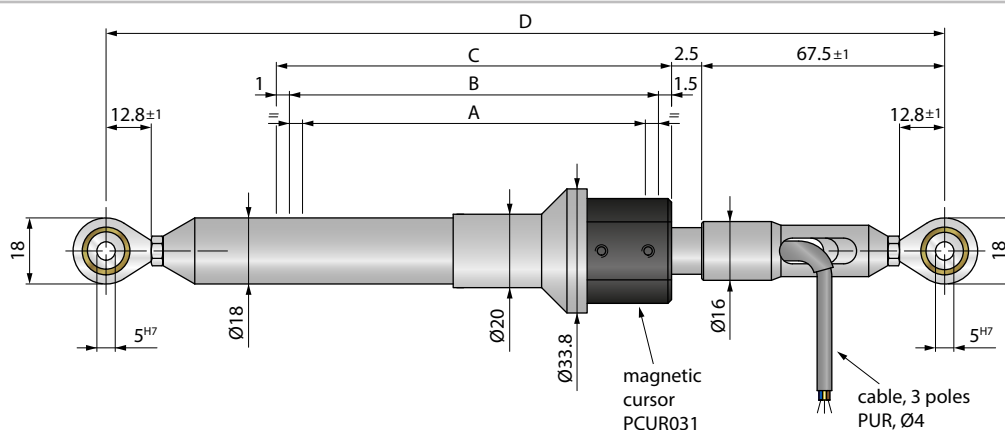
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TECHNICAL DATA

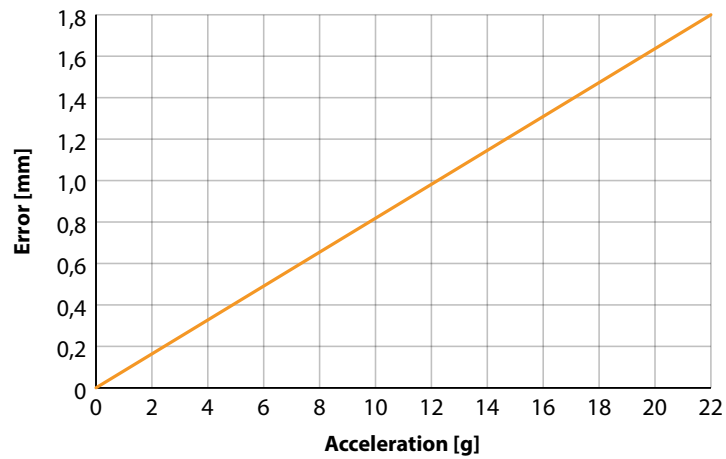
Measurement range	[mm]	50	100	150 200 250 300	350 400 450 500 550 600	650 700 750 800 850 900 950 1000	
Linearity	[%]	±0.1		±0.05			
Repeatability	[mm]						≤0.08
Resolution							theoretical infinite, depends on the signal quality of the reference respectively supply voltage
Sensitivity (without hysteresis)	[mm]						0.05...0.1
Hysteresis	[mm]						≤0.25
Displacement force	[N]						≤0.5
Displacement speed	[m/s]						≤5
Acceleration max.	[m/s ²]						≤10
Resistance	[kΩ]			5	10	20	
Tolerance on resistance	[%]						±20
Dissipation at 40 °C (0 W at 120 °C)	[W]	1	2				3
Applicable voltage max.	[V]	40					60
Recommended cursor current	[μA]						<0.1
Cursor current max.	[mA]						10
Electrical isolation							>100 MΩ at 500 VDC, 1 bar, 2 s
Dielectric strength							<100 μA at 500 VAC, 1 bar, 2 s
Protection class							IP67
Operating temperature	[°C]						-30...+100
Storage temperature	[°C]						-50...+120
Temperature coefficient resistance							±200 ppm/°C
Temperature coefficient output voltage							≤5 ppm/°C
Vibration resistance							5...2000 Hz, A _{max} = 0.75 mm, a _{max} = 20 g
Shock resistance							50 g, 11 ms
Life cycle							>25 x 10 ⁶ m or >100 x 10 ⁶ operations (whichever is less)
Connection							cable output (1 m), 3 poles
Housing							anodised aluminium, PSU
Cursor							POM
Mounting							rod end bearings

TECHNICAL DRAWING

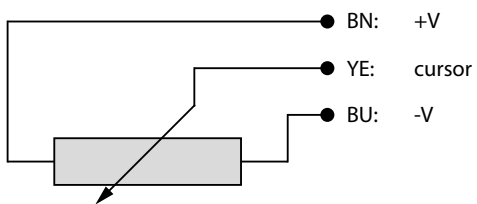


Useful electrical stroke +3/-0	A	=measurement range
Theoretical electrical stroke ±1	B	measurement range +1
Mechanical stroke	C	measurement range +3.5
Min. distance ball-joint +3/-5	D	measurement range +155

MAXIMAL TRACKING ERROR



ELECTRICAL CONNECTION



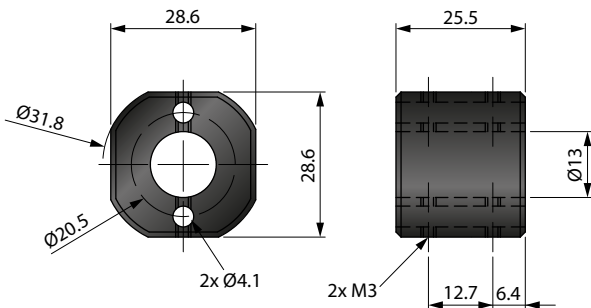
Installation notes:

- Do **NOT** use the sensor as a variable resistor!
- While calibrating the sensor set the stroke so that the output signal does not drop below 1 % or exceed 99 % of the supply voltage.

ACCESSORIES

Magnetic cursor PCUR031

(1 pc. included in delivery)



Signal conditioner PMX-24

- Converts potentiometer signals into analog output signals: 4...20 mA, 0...10 V, 0...5 V, ± 10 V, ± 5 V
- Input: potentiometer 1...20 k Ω
- Configurable output
- DIN-rail-mounting with face-side connector
- For more information please refer to the [PMX-24 data sheet](#).



ORDER CODE

LMS18-G - -

Measurement range [mm]
see technical data

e. g. 50

Cable length
Standard 1 m
Optional 10 m

-
10M

ACCESSORIES

Cursor

PCUR031 1 pc. included in delivery

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](#).

Signal conditioner

PMX-24 Output signals: 4...20 mA, 0...10 V, 0...5 V, ±10 V, ±5 V

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

Subject to change without prior notice.

WayCon Positionsmesstechnik GmbH

email: info@waycon.de

internet: www.waycon.biz

WayCon

Positionsmesstechnik

Head Office

Mehlbeerenstr. 4

82024 Taufkirchen

Tel. +49 (0)89 67 97 13-0

Fax +49 (0)89 67 97 13-250

Office Köln

Auf der Pehle 1

50321 Brühl

Tel. +49 (0)2232 56 79 44

Fax +49 (0)2232 56 79 45