

LINEAR POTENTIOMETER



Series LSW

Key-Features:

- Rodless rectangular housing with slide (M5 thread)
- Measurement ranges from 100 to 2000 mm
- Linearity $\pm 0.05\%$
- Displacement speed up to 10 m/s
- Working temperature $-30\text{...}+100\text{ }^{\circ}\text{C}$
- Life cycle $>25 \times 10^6$ meter or 100×10^6 operations, whichever is less
- Simple apparatus according to the EN 60079-11 standard

Content:

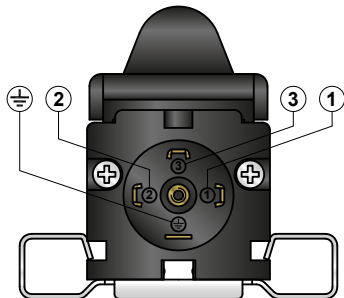
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TECHNICAL DATA

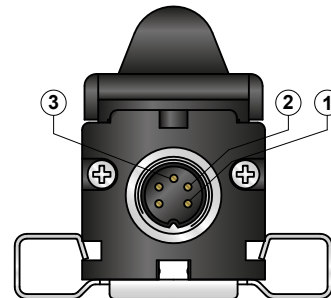
Measurement range MR	[mm]	100 / 130 / 150 / 175 / 200 / 225 / 250 / 300 / 400 / 450 / 500 / 600 / 750 / 900 / 1000 / 1250 / 1500 / 1750 / 2000
Linearity	[%]	±0.05
Repeatability	[mm]	0.01
Resolution		theoretical infinite, depends on the signal quality of the reference respectively supply voltage
Displacement force	[N]	≤1.2
Displacement speed	[m/s]	≤10
Acceleration max.		200 m/s ² (20 g)
Resistance		MR ≤300 mm: 5 kΩ MR 400...1000 mm: 10 kΩ MR ≥1250 mm: 20 kΩ
Tolerance on resistance	[%]	±20
Dissipation at 40 °C (0 W at 120 °C)	[W]	3
Applicable voltage max.	[V]	60
Recommended cursor current	[μA]	<0.1
Cursor current max.	[mA]	10
Electrical isolation		>100 MΩ at 500 VDC, 2 s, 1 bar
Dielectric strength		<100 μA at 500 VAC, 50 Hz, 2 s, 1 bar
Protection class		IP40
Operating temperature	[°C]	-30...+100
Storage temperature	[°C]	-50...+120
Temperature coefficient resistance	[ppm/°C]	±200
Temperature coefficient output voltage	[ppm/°C]	≤5
Vibration resistance		5...2000 Hz, A _{max} = 0.75 mm, a _{max} = 20 g
Shock resistance		50 g, 11 ms
Connection		connector DIN43650, 4 pin or connector DIN43322, 5 pin
Housing		anodised aluminium, Nylon 66 G 25
Mounting		brackets or groove

ELECTRICAL CONNECTION

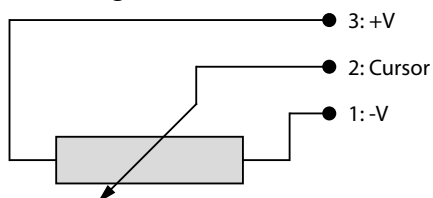
LSW-M



LSW-B



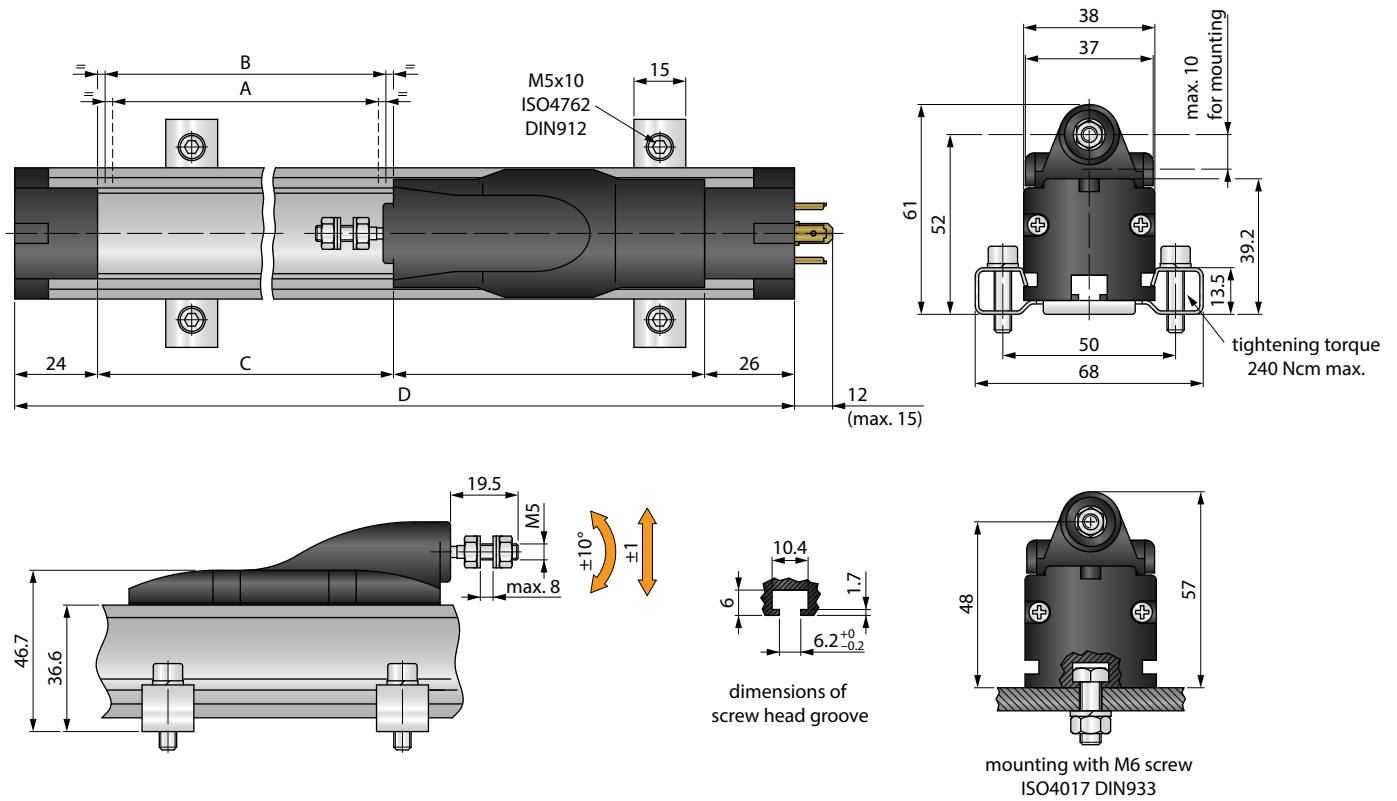
Circuit diagram



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.

TECHNICAL DRAWING

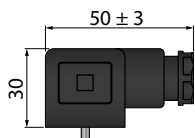


Useful electrical stroke +3/-0	A	100	130	150	175	200	225	250	300	400	450
Theoretical electrical stroke ±1	B	103	133	153	178	204	229	254	305	406	458
Mechanical stroke	C	113	143	163	188	214	239	264	315	416	468
Housing length	D	253	283	303	328	354	379	404	455	556	608

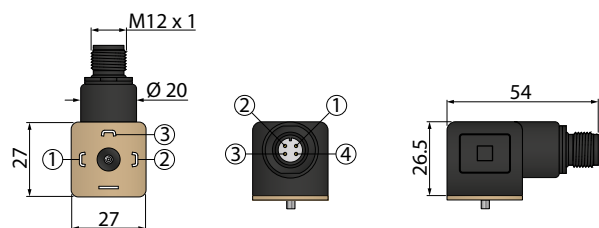
Useful electrical stroke +3/-0	A	500	600	750	900	1000	1250	1500	1750	2000
Theoretical electrical stroke ±1	B	509	611	763	915	1017	1271	1521	1771	2021
Mechanical stroke	C	519	621	773	925	1027	1281	1531	1781	2031
Housing length	D	659	761	913	1065	1167	1421	1671	1921	2171

ACCESSORIES

CON006: mating connector for LSW-M
for self assembly, IP65, 4 pins,
PG9 cable gland, cable diameter Ø 6...8 mm



CON006-M12: mating connector adapter to M12 for LSW-M



CON011: mating connector for LSW-B
for self assembly, IP40, 5 pins, cable diameter Ø 4...6 mm



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 kΩ
- Configurable output
- DIN-rail-mounting with face-side connector
- For more information and options please refer to the [PMX-24 data sheet](#).



ORDER CODE

LSW – □ – □

Connection

Connector output, 4 pins
 Connector output, 5 pins

M
 B

Measurement range [mm]see „[Technical Data](#)“

ACCESSORIES

Mating connector for self assembly

CON006 4 pins, IP65, for LSW-M
 CON006-M12 Adapter to M12 for LSW-M
 CON011 5 pins, IP40, for LSW-B

Mounting accessories (included in delivery)

PKIT059 for ranges ≤ 900 mm: 2 brackets + screws
 PKIT061 for ranges ≥ 1000 mm: 3 brackets + screws

Digital displays for sensors with analog output, 2 channel

WAY-AX-S touch screen, supply: 18...30 VDC
 WAY-AX-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.

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