

LINEAR POTENTIOMETER



Series LRW

Key-Features:

- Rectangular housing with push rod and thread M6
- Measurement ranges from 50 to 900 mm
- Linearity ± 0.05 %
- Displacement speed up to 10 m/s
- Protection class up to IP67
- Operating temperature $-30...+100$ °C
- Life cycle $>25 \times 10^6$ m or $>100 \times 10^6$ operations, whichever is less
- Simple apparatus according to EN 60079-11 standard

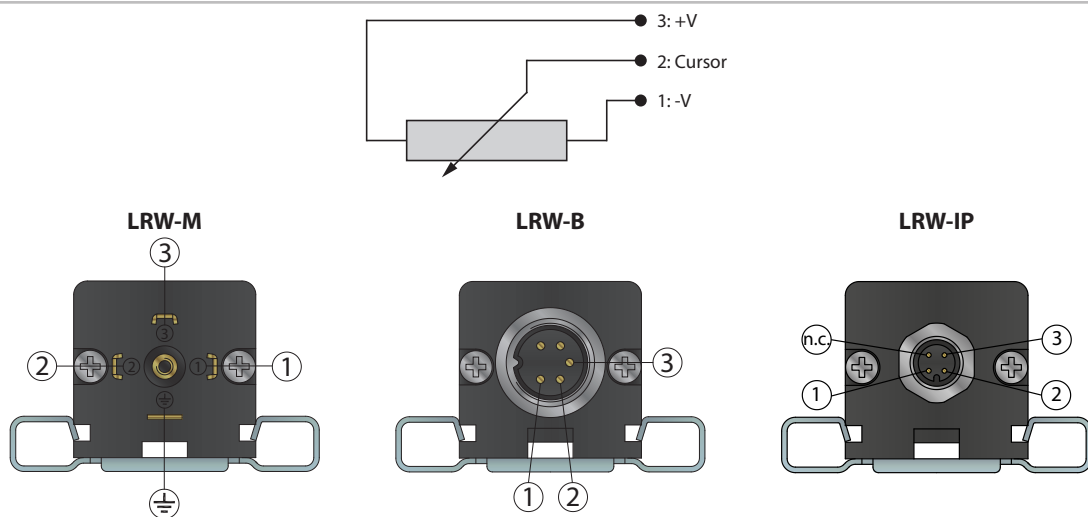
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TECHNICAL DATA

		LRW-...-S	LRW-...-P	LRW-IP-...
Measurement range MR	[mm]	50 / 75 / 100 / 130 / 150 / 175 / 200 / 225 / 275 / 300 / 350 / 400 / 450 / 500 / 600 / 650 / 750 / 900		
Linearity	[%]	±0.05		
Repeatability	[mm]	0.01		
Resolution		theoretical infinite, depends on the signal quality of the reference respectively supply voltage		
Displacement force typical	[N]	3.5	15	≤20
Displacement speed	[m/s]	≤10		≤3
Acceleration max.		200 m/s ² (20 g)		
Resistance	[kΩ]	MR ≤650 mm: 5 MR ≥750 mm: 10		
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		IP60	IP65	IP67
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 4 pins or 5 pins		connector M12, 4 pins
Rod		stainless steel AISI 303		C45 chrome steel 20 μm
Housing		anodised aluminium, Nylon 66 G		
Mounting		brackets or groove		

ELECTRICAL CONNECTION

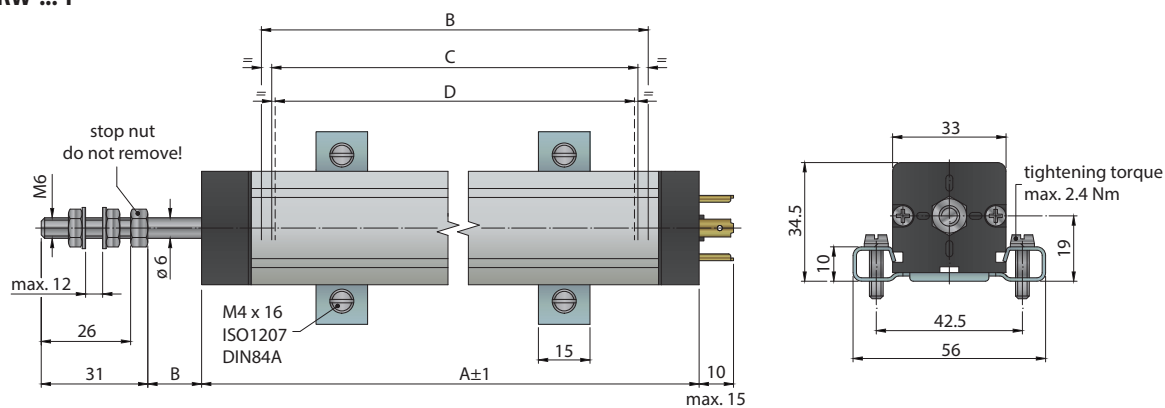


Notes:

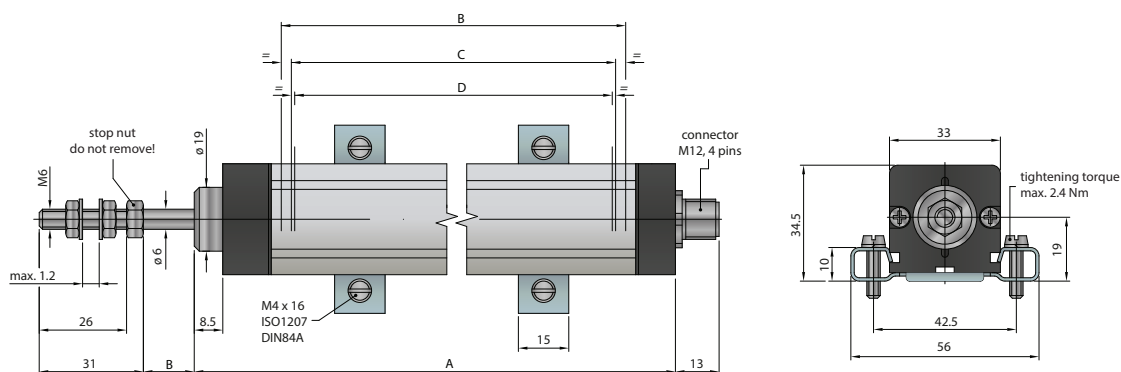
- Do **NOT** use the sensor as a variable resistor!
- While calibrating the sensor set the stroke so that the output signal does not drop below 1 % or exceed 99 % of the supply voltage.

TECHNICAL DRAWING

LRW-...-S, LRW-...-P

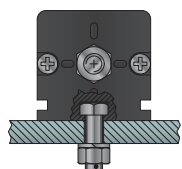


LRW-IP-...

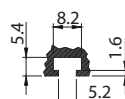


Useful electrical stroke +3/-0	D	50...175	200...300	350 / 375	400	450	500	600	650	750	900
Theoretical electrical stroke ±1	C	D + 3	D + 4	D + 5	406	457	508	609	660	762	914
Mechanical stroke	B	D + 9	D + 10	D + 11	412	463	518	619	670	772	924
Housing length LRW-...-S, LRW-...-P	A	D + 63	D + 64	D + 65	466	517	572	673	725	826	978
Housing length LRW-IP-...	A	D + 71.5	D + 72.5	D + 73.5	474.5	525.5	580.5	681.5	733.5	834.5	986.5

Groove mounting



mounting with M5 screw
ISO4017-DIN933

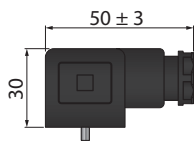


dimensions of
screw head groove

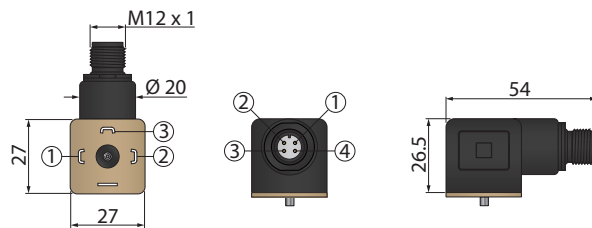
ACCESSORIES

CON006: mating connector for LRW-M

for self assembly, IP65, 4 pins,
PG9 cable gland, cable diameter Ø 6...8 mm



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



CON011: mating connector for LRW-B

for self assembly, IP40, 5 pins, cable diameter Ø 4...6 mm



CON012: mating connector for LRW-B

for self assembly, IP67, 5 pins, cable diameter Ø 4...6 mm



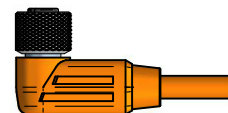
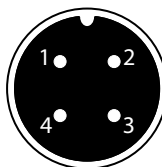
K4P...: connection cable for LRW-IP and CON006-M12

Cable with mating connector M12 (female), 4 poles, IP67

K4PXM-S-M12 X m, straight connector, shielded

K4PXM-SW-M12 X m, angular connector, shielded

Pin	1	2	3	4
Cable colour	BN	WH	BU	BK

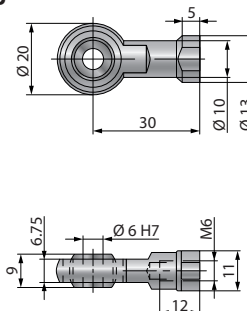


PKIT009: mounting brackets

2 pcs. + screws included in delivery



PKIT015: eye bearing

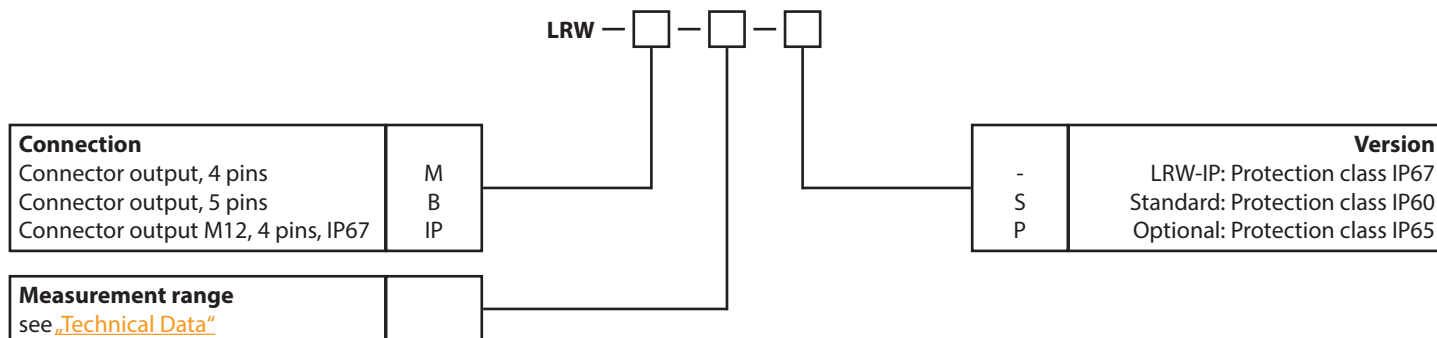


Signal conditioner PMX-24

- 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



ACCESSORIES

Cable with mating connector for LRW-IP, M12, female, 4 pins, IP67

K4P2M-S-M12	2 m, connector straight, shielded
K4P5M-S-M12	5 m, connector straight, shielded
K4P10M-S-M12	10 m, connector straight, shielded
K4P2M-SW-M12	2 m, connector angular, shielded
K4P5M-SW-M12	5 m, connector angular, shielded
K4P10M-SW-M12	10 m, connector angular, shielded

Mating connector for self assembly

CON006	4 pins, IP65, for LRW-M
CON006-M12	Adapter to M12 for LRW-M
CON011	5 pins, IP40, for LRW-B
CON012	5 pins, IP67, for LRW-B
D4-G-M12-S	connector straight, M12, 4 pins, IP67, for LRW-IP
D4-W-M12-S	connector angular, M12, 4 pins, IP67, for LRW-IP

Mounting accessories

PKIT015	eye bearing
PKIT009	mounting set: 2 brackets + screws

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](#).

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