

# LINEAR POTENTIOMETER



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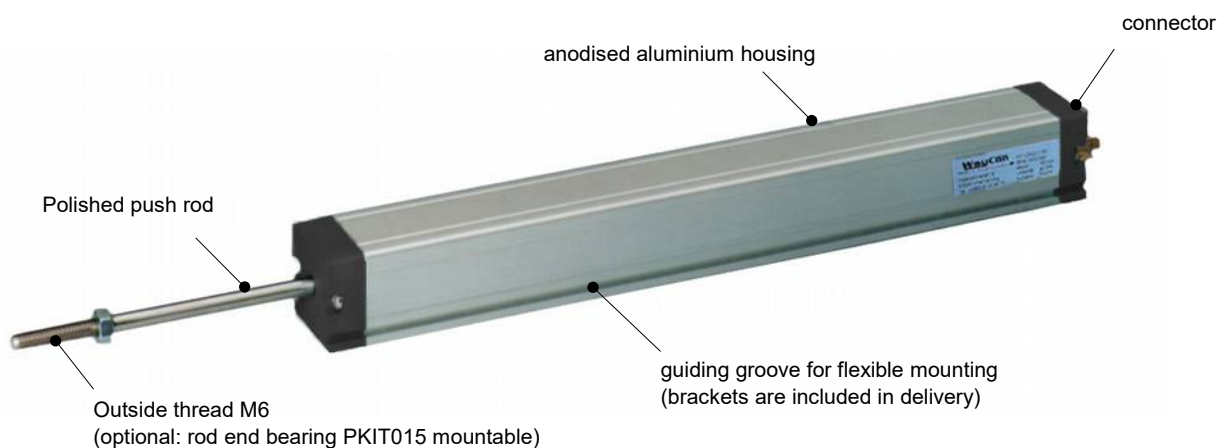
## LRW Series

### Key-Features:

- Rectangular housing with push rod and external thread M6
- Available measurement ranges from 50 to 900 mm
- Protection class up to IP67
- Displacement speed up to 10 m/s
- Linearity up to  $\pm 0.05\%$
- Working temperature  $-30\dots+100\text{ }^{\circ}\text{C}$
- Life cycle  $>25 \times 10^6$  m or  $>100 \times 10^6$  operations, whichever is less
- Simple apparatus according to the EN 60079-11 standard

## TECHNICAL DATA

Measurement range	50 / 75 / 100 / 130 / 150 / 175 / 200 / 225 / 275 / 300 / 350 / 375 / 400 / 450 / 500 / 600 / 650 / 750 / 900 mm
Protection class	IP60, optional IP65 and IP67
Displacement speed	≤10 m/s (IP60/IP65), ≤3 m/s (IP67)
Displacement force	≤3.5 N (IP60), ≤25 N (IP65/IP67)
Linearity	±0.05 %
Resolution	Resolution depends on the signal quality of the reference voltage respectively supply voltage.
Repeatability	0.01 mm
Tolerance on resistance	±20 %
Recommended cursor current	<0.1 µA
Maximum cursor current	10 mA
Dissipation at 40 °C	3 W
Maximum applicable voltage	60 V
Temperature coefficient of resistance	±200 ppm/°C
Temperature coefficient of the output voltage	≤5 ppm/°C
Electrical isolation	>100 MOhm at 500 V <sub>rms</sub> , 1 bar, 1 s
Dielectric strength	<100 µA at 500 V <sub>rms</sub> , 50 Hz, 2 s, 1 bar
Working temperature	-30...+100 °C
Storage temperature	-50...+120 °C
Rod material	high grade steel, AISI 303 (IP60/IP65), C45 chrome steel 20µm (IP67)
Housing material	anodised aluminium, Nylon 66 G 25
Mounting	adjustable brackets, or groove mounting

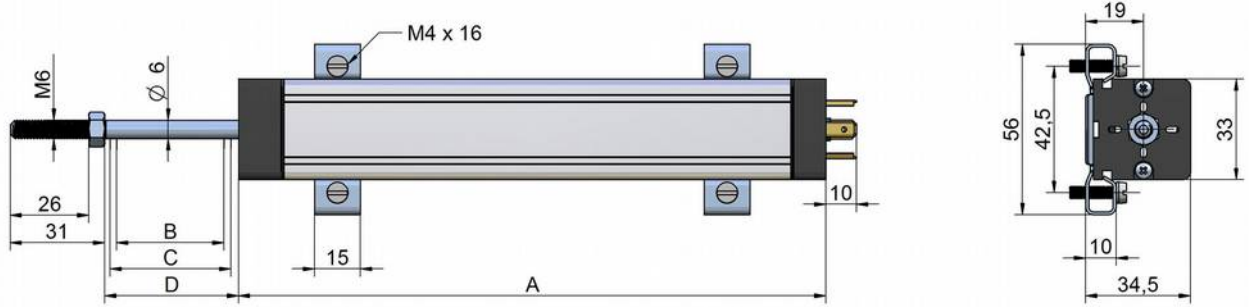


## DIMENSIONS AND ELECTRICAL DATA

Useful electrical stroke (B) +3/-0	[mm]	50	75	100	130	150	175	200	225	275	300	350	375	400	450	500	600	650	750	900
Theoretical electrical stroke (C) ±1	[mm]	B + 3						B + 4				355	380	406	457	508	609	660	762	914
Resistance	[kOhm]	5						5				5	5	5	5	5	5	5	5	10
Mechanical stroke (D)	[mm]	B + 9						B + 10				361	386	412	463	518	619	670	772	924
Housing length (A)	[mm]	B + 63						B + 64				415	440	466	517	572	673	725	826	978
Housing length (A) for type LRW-IP	[mm]	B + 71.5						B + 72.5				424	448.5	474.5	525.5	580.5	681.5	733.5	834.5	986.5

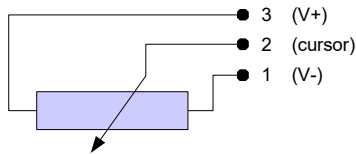
# TECHNICAL DRAWING

## LRW-M



# ELECTRICAL CONNECTION

## Electrical Connection LRW



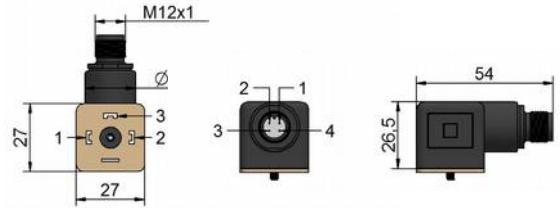
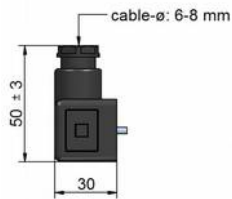
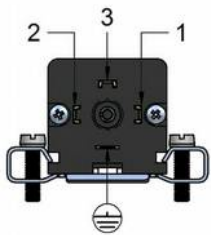
### Installation instructions

- Please pay attention that the sensor is not used as a variable resistor.
- Please be careful while calibrating the sensor to set the stroke so that the output signal does not drop below 1 % or exceed 99 % of the supply voltage.

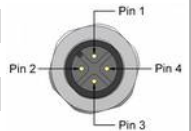
## Output LRW-M

**CON006:** mating connector for self assembly, IP40, 4 pole, PG9 cable gland

**CON006-M12:** mating connector, adapter to M12

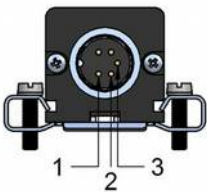


Signal	Pin	Cable colour K4P...
V-	1	brown
cursor	2	white
V+	4	black



## Output LRW-B

**CON011:** mating connector for self assembly IP40, 5 pole, cable diameter 4...6 mm



## Output LRW-IP

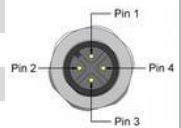
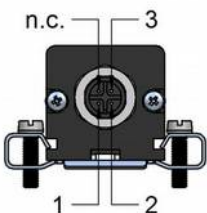
**Cable with connector M12, 4 poles, shielded, IP67**

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

Signal	Pin No.	Cable colour K4P...
V-	1	brown
cursor	2	white
V+	3	blue

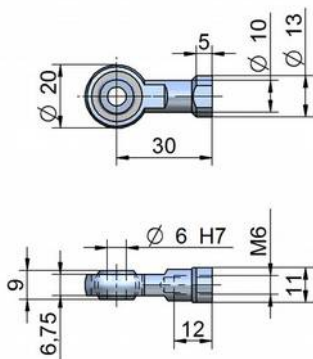
**Mating Connector M12, 4 poles, shielded**

D4-G-M12-S	straight, IP67
D4-W-M12-S	angular, IP67



## ACCESSORIES

### Rod eye bearing PKIT015



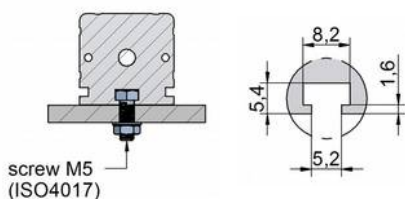
### PMX-24 Signal Conditioner

- 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.



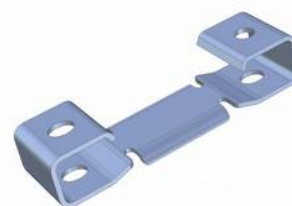
## FIXATION

### Groove mounting

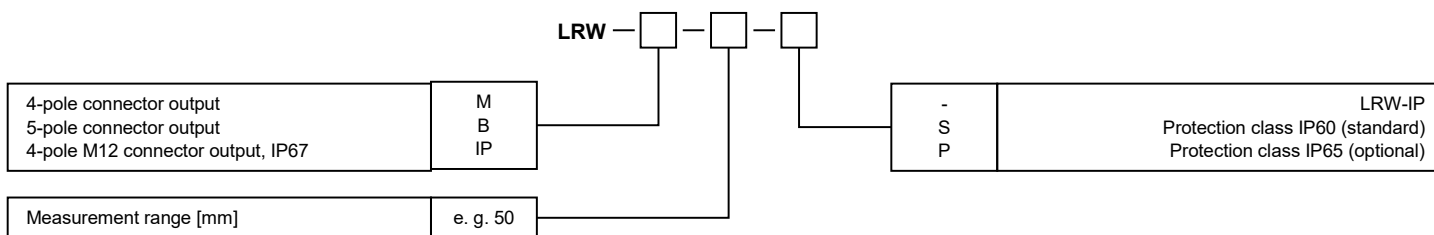


### Mounting with brackets

included in delivery: 2 pieces, screws  
As accessory: PKIT009



## ORDER CODE



## ACCESSORIES

### Connection cables for LRW-IP, 4-pole, shielded, IP67

K4P2M-S-M12	2 m, M12-connector straight, for LRW-IP
K4P5M-S-M12	5 m, M12-connector straight, for LRW-IP
K4P10M-S-M12	10 m, M12-connector straight, for LRW-IP
K4P2M-SW-M12	2 m, M12-connector angular, for LRW-IP
K4P5M-SW-M12	5 m, M12-connector angular, for LRW-IP
K4P10M-SW-M12	10 m, M12-connector angular, for LRW-IP

### Connectors

CON006	4-pole, for LRW-M
CON006-M12	Adapter on M12 for LRW-M
CON011	5-pole, for LRW-B
D4-G-M12-S	M12 straight, 4-pole, shielded, IP67 for LRW-IP
D4-W-M12-S	M12 angular, 4-pole, shielded, IP67 for LRW-IP

### Signal Conditioner

PMX-24 converts the potentiometer signal into an analog output  
For further information please contact WayCon or [download](#) the data sheet.

### Accessories

PKIT009	Mounting Kit (included in delivery)
PKIT015	Rod eye bearing (not included in delivery)

Subject to change without prior notice.

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