

LINEAR POTENTIOMETER



LZW Series

Key-Features:

- Two models with protection class IP65 and IP67
- Available measurement ranges from 50 to 750 mm
- Self-aligning rod end bearings
- Displacement speed up to 5 m/s
- Linearity up to $\pm 0.05\%$
- Working temperature $-30...+100\text{ }^{\circ}\text{C}$
- 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

Content:

Technical Data2
Dimensions & Electrical Data2
Technical Drawing2
Connection & Accessories3
Order Code4
Options & Accessories4

TECHNICAL DATA

Model		LZW-M	LZW-B	LZW-IP
Measurement range *	[mm]	50 / 100 / 130 / 150 / 175 / 200 / 225 / 275 / 300 / 375 / 400 / 450 / 500 / 600 / 750 / 900		
Protection class		IP65	IP65	IP67
Displacement speed	[m/s]	≤5	≤5	≤3
Displacement force	[N]	≤10	≤10	≤30
Linearity	[%]	±0.05	±0.05	±0.05, ±0.075 for measuring range <150 mm
Resolution		Resolution depends on the signal quality of the reference voltage respectively supply voltage.		
Repeatability	[mm]		0.01	
Tolerance on resistance	[%]		±20	
Recommended cursor current	[µA]		<0.1	
Maximum cursor current	[mA]		10	
Dissipation at 40 °C	[W]		3	
Maximum applicable voltage	[V]		60	
Temperature coefficient of resistance	[ppm/°C]		±200	
Temperature coefficient of output voltage	[ppm/°C]		<1.5, for LZW-IP <5	
Electrical isolation			>100 MOhm at 500 V~, 1 bar, 2 s	
Dielectric strength			<100 µA bei 500 V~ at 50 Hz, 1 bar, 2 s	
Working temperature	[°C]		-30...+100	
Storage temperature	[°C]		-50...+100	
Life cycle			>25 x 10 ⁶ m or >100 x 10 ⁶ operations (whichever is less)	
Electrical connection		4-pole connector, DIN 43650	5-pole connector	4-pole M12-Connector
Rod material		Stainless steel, AISI 303	Stainless steel, AISI 303	C45 steel, chrome-plated 20 µm
Housing material		Anodised aluminium, Nylon 66 G25	Anodised aluminium, Nylon 66 G25	Anodised aluminium

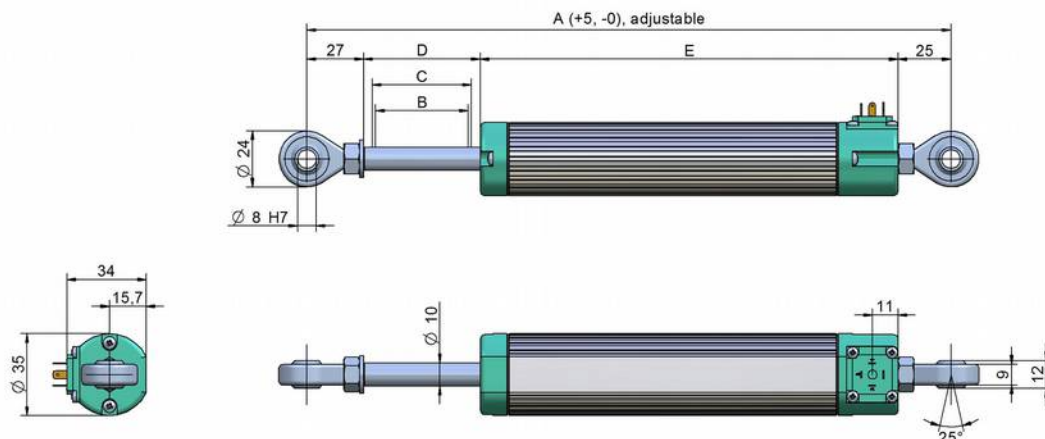
* additional measurement ranges on request

DIMENSIONS AND ELECTRICAL DATA

Useful electrical stroke (B) +3/-0	[mm]	50	100	130	150	175	200	225	275	300	360	375	400	450	500	600	750
Theoretical electrical stroke (C) ±1	[mm]	B + 3			B + 4			364			380	406	457	508	609	762	
Resistance	[kOhm]	5															
Mechanical stroke (D) LZW-M, LZW-B	[mm]	B + 9			B + 10			370			386	412	463	518	619	772	
Mechanical stroke (D) LZW-IP	[mm]	B + 9			B + 10			386			412	463	518	619	772		
Housing length (E) LZW-M, LZW-B	[mm]	B + 129			B + 130			496			512	538	589	664	765	918	
Housing length (E) LZW-IP	[mm]	B + 148			B + 149			515			531	557	608	683	784	937	
Minimum distance (A) LZW-M, LZW-B	[mm]	B + 177			B + 178			544			560	586	637	712	813	966	
Minimum distance (A) LZW-IP	[mm]	B + 196			B + 197			563			579	605	656	731	832	985	

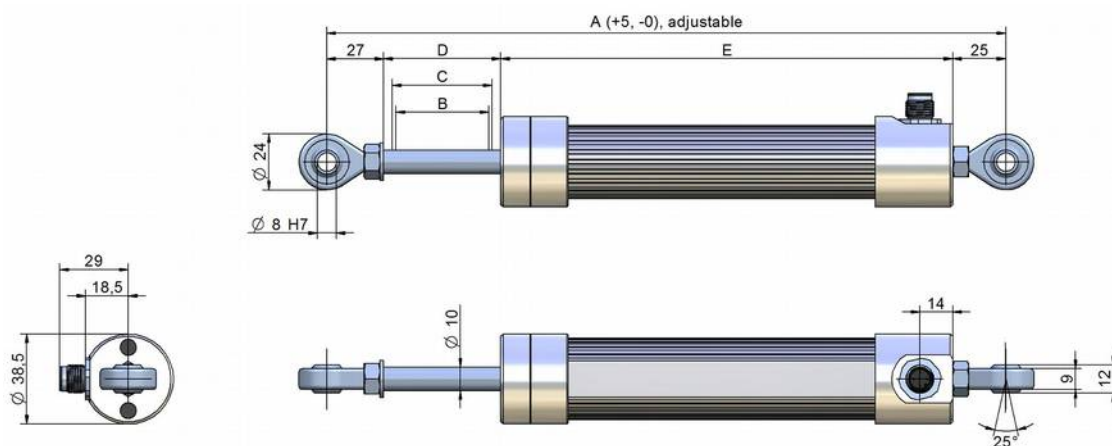
TECHNICAL DRAWING

LZW-M / LZW-B



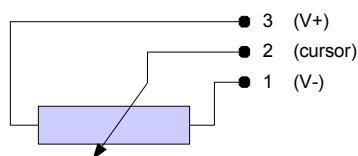
TECHNICAL DRAWING

LZW-IP



ELECTRICAL CONNECTION AND ACCESSORIES

Electrical connection

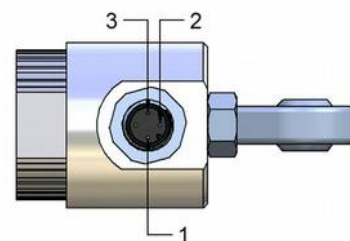


Installation instructions

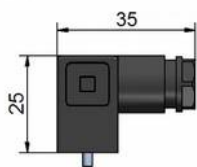
- Please pay attention that the sensor is not used as a variable resistor.
- Please be careful while calibrating the sensor to set the stroke so that the output signal does not drop below 1 % or exceed 99 % of the supply voltage.

Output LZW-IP (IP67)

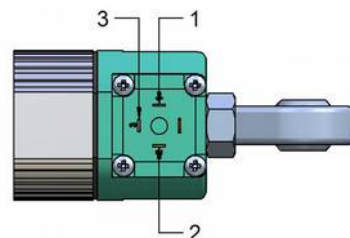
Cable with connector M12, 4 poles, shielded	Signal	Cable colour K4P...
K4P2M-S-M12 2 m, connector straight, IP67	V+	brown
K4P5M-S-M12 5 m, connector straight, IP67	cursor	white
K4P10M-S-M12 10 m, connector straight, IP67	V-	blue
Mating Connector M12, 4 poles, shielded		
K4P2M-SW-M12 2 m, connector angular, IP67	D4-G-M12-S	straight, IP67
K4P5M-SW-M12 5 m, connector angular, IP67	D4-W-M12-S	angular, IP67
K4P10M-SW-M12 10 m, connector angular, IP67		



Output LZW-M (IP65)



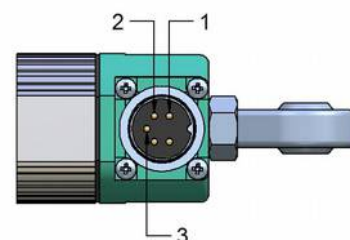
CON008: mating connector, angular for self assembly
IP40, 4 pole, PG9 cable gland, cable Ø 6...8 mm



Output LZW-B (IP65)



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



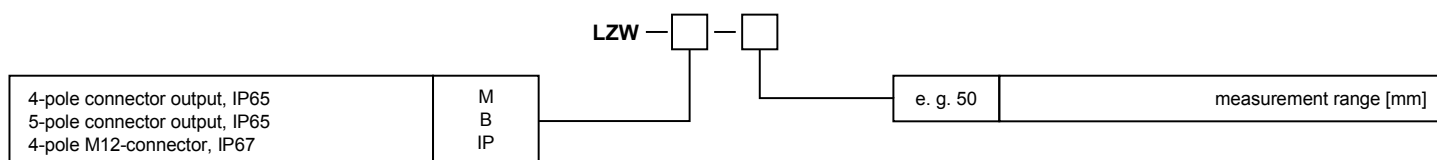
SIGNAL CONDITIONER

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.



ORDER CODE



OPTIONS AND ACCESSORIES

Options with additional charge

LZW-B	5-pole connector
LZW-IP	protection class IP67

Connection cables for LZW-IP, 4-pole, shielded, IP67

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

Mating Connectors

CON008	4-pole, for LZW-M
CON011	5-pole, for LZW-B
D4-G-M12-S	M12 straight, 4-pole, for LZW-IP
D4-W-M12-S	M12 angular, 4-pole, for LZW-IP

Signal Conditioner

PMX-24	different analog output signals in one device
For further information please contact WayCon or download the data sheet.	

Subject to change without prior notice

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