

# LINEAR POTENTIOMETER



## Series LZW2

### Key-Features:

- Housing diameter 19 mm
- Flexible mounting with brackets, rod end bearings or flange
- Available measurement ranges from 25 to 300 mm
- Linearity up to  $\pm 0.05\%$
- Displacement speed  $\leq 10$  m/s
- Protection class IP60
- Working temperature  $-30\dots+100$  °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

### Content:

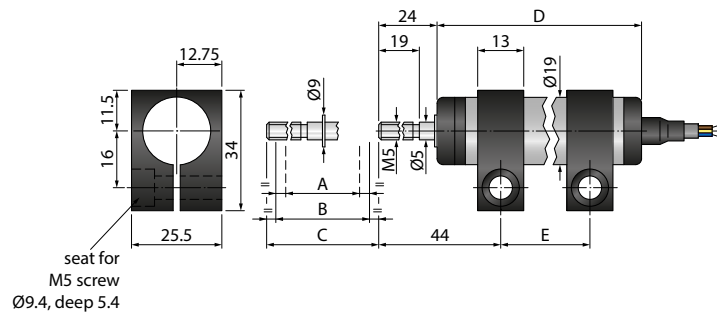
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## TECHNICAL DATA

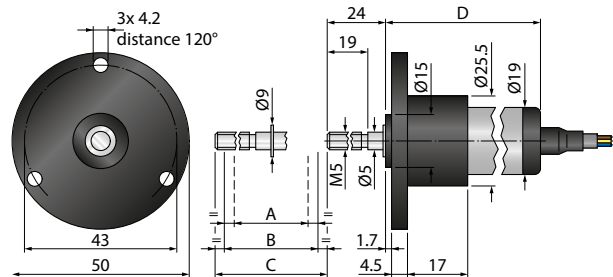
Measurement range	[mm]	25	50	75	100	125	150	175	200	250	300	
Linearity	[%]	±0.2	±0.1			±0.05						
Resolution		theoretical infinite, depends on the signal quality of the reference respectively supply voltage										
Displacement force	[N]	≤0.5										
Displacement speed	[m/s]	≤10										
Resistance	[kΩ]	1	2	3	4	5	6	7	8	10	12	
Tolerance on resistance	[%]	±20										
Dissipation at 40 °C (0 W at 120 °C)	[W]	0.8	1.6	2.6	3							
Applicable voltage max.	[V]	20	40	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										
Operating temperature	[°C]	-30...+100										
Storage temperature	[°C]	-50...+120										
Temperature coefficient output voltage	[ppm/°C]	<1.5										
Vibration resistance		5...2000 Hz, A <sub>max</sub> = 0.75 mm, a <sub>max</sub> = 20 g										
Shock resistance		50 g, 11 ms										
Life cycle		>25 x 10 <sup>6</sup> m or >100 x 10 <sup>6</sup> operations (whichever is less)										
Connection		cable output (1 m), 3 poles										
Rod		stainless steel, ASIS 303										
Housing		anodised aluminium, Nylon 66 G 25										
Mounting		brackets (LZW2-S), rod end bearings (LZW2-A) or flange (LZW2-F)										
Weight	LZW2-S	[g]	90	105	130	160	175	190	205	215	245	275
	LZW2-F		100	115	140	170	185	200	215	225	255	280
	LZW2-A		110	125	150	180	195	210	225	235	260	285

## TECHNICAL DRAWING

### LZW2-S



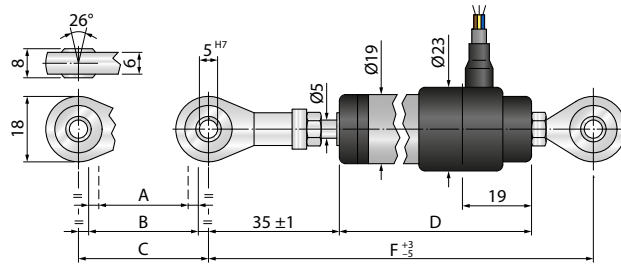
### LZW2-F



<b>Measurement range / useful electrical stroke +1/-0</b>	<b>A</b>	25	50	75	100	125	150	175	200	250	300
<b>Theoretical electrical stroke ±1</b>	<b>B</b>	26	51	76	101	126	151	176	201	251	301
<b>Mechanical stroke</b>	<b>C</b>	30	55	80	105	130	155	180	205	255	305
<b>Housing length LZW1-S, LZW1-F</b>	<b>D</b>	83.5	108.5	133.5	158.5	183.5	208.5	233.5	258.5	308.5	358.5
<b>Recommended distance between brackets LZW1-S</b>	<b>E</b>	47	72	97	122	147	172	197	222	272	322

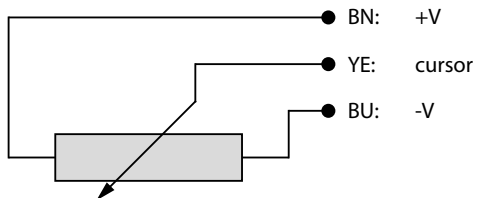
## TECHNICAL DRAWING

### LZW2-A



<b>Measurement range / useful electrical stroke +1/-0</b>	<b>A</b>	25	50	75	100	125	150	175	200	250	300
<b>Theoretical electrical stroke ±1</b>	<b>B</b>	26	51	76	101	126	151	176	201	251	301
<b>Mechanical stroke</b>	<b>C</b>	30	55	80	105	130	155	180	205	255	305
<b>Housing length LZW1-A</b>	<b>D</b>	110	135	160	185	210	235	260	285	335	385
<b>Minimum distance between rod end bearings</b>	<b>F</b>	163	188	213	238	263	288	313	338	388	438

## 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

### 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 please refer to the [PMX-24 data sheet](#).



## ORDER CODE

LZW2 - [ ] - [ ] - [ ]

**Version**

Installation with brackets  
 Installation with rod end bearings  
 Installation with flange

S  
 A  
 F

-  
 10M

**Cable length**

Standard 1 m  
 Optional 10 m

**Measurement range [mm]**

25 / 50 / 75 / 100 / 125 /  
 150 / 175 / 200 / 250 / 300

## ACCESSORIES

**Mounting accessories**

STA075 <sup>1)</sup> bracket for LZW2-S  
 SND004 <sup>2)</sup> rod end bearing with M4 external thread, housing side  
 SND005 <sup>2)</sup> rod end bearing with M4 internal thread, rod side

**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](#).

<sup>1)</sup> LZW2-S: 2 pcs. included in delivery

<sup>2)</sup> LZW2-A: 1 pc. each included in delivery

**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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