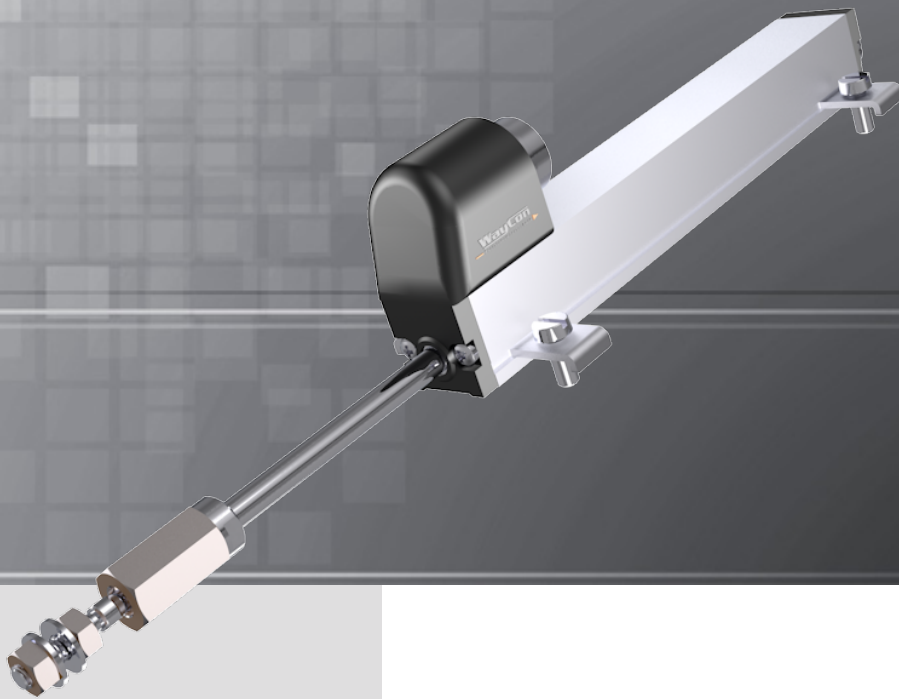


# LINEAR POTENTIOMETER



## Content:

<b>Technical Data</b>	<b>....2</b>
<b>Technical Drawing</b>	<b>....3</b>
<b>Electrical Connection</b>	<b>....3</b>
<b>Accessories</b>	<b>....4</b>
<b>Order Code</b>	<b>....4</b>

## Series LRW1

### Key-Features:

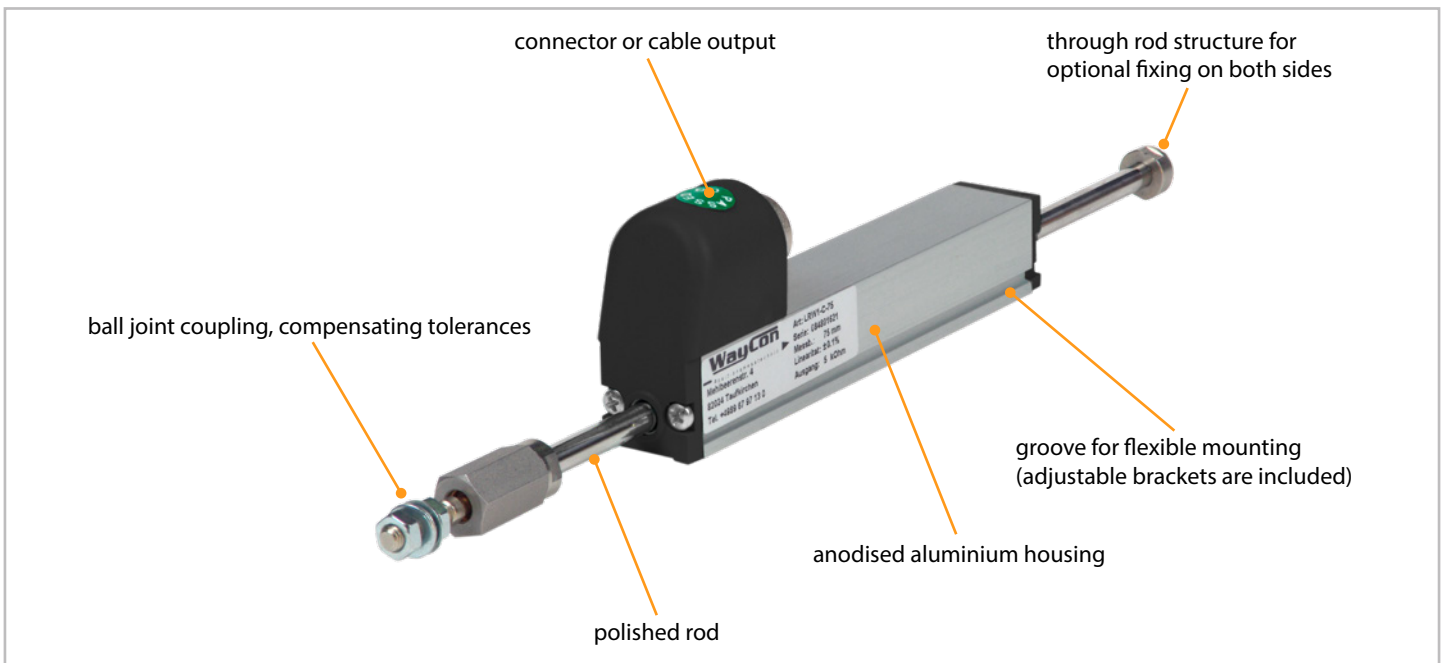
- Compact rectilinear displacement transducer
- Available measurement ranges from 25 to 150 mm
- Through-rod structure with double rod support, guaranteeing greater overall strength of the sensor
- Displacement speed up to 10 m/s
- Linearity up to  $\pm 0.05\%$
- Working temperature  $-30\dots+100\text{ }^{\circ}\text{C}$
- Life cycle  $>25 \times 10^6 \text{ m}$ , or  $>100 \times 10^6$  operations, whichever is less
- Simple apparatus according to the EN 60079-11

## TECHNICAL DATA

Measurement range MR	[mm]	25	50	75	100	150
Linearity	[%]	±0.2	±0.1		±0.07	±0.05
Resolution		theoretical infinite, depends on the signal quality of the reference respectively supply voltage				
Displacement force typical	[N]	<0.3				
Displacement speed	[m/s]	≤10				
Resistance	[kΩ]	1	5			
Tolerance on resistance	[%]	±20				
Dissipation at 40 °C (0 W at 120 °C)	[W]	0.6	1.2	1.8	2.5	3.6
Applicable voltage max.	[V]	25	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 output voltage	[ppm/°C]	<1.5				
Vibration resistance		5...2000 Hz, $A_{max} = 0.75$ mm, $a_{max} = 20$ 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, 3 poles or connector output, 5 pins				
Rod		stainless steel, ASIS 303				
Housing		anodised aluminium, Nylon 66 G 25				
Mounting		PKIT005 (4 small brackets) <sup>1)</sup> / optional: PKIT006 (2 large brackets)				

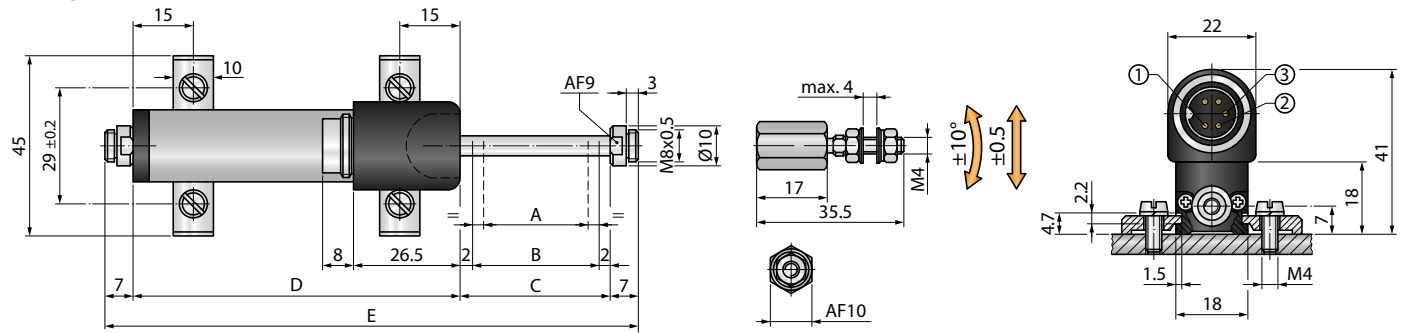
<sup>1)</sup> included in scope of delivery. PKIT005 includes 4 small brackets, screws M4x10 and growers

## OVERVIEW OF FEATURES

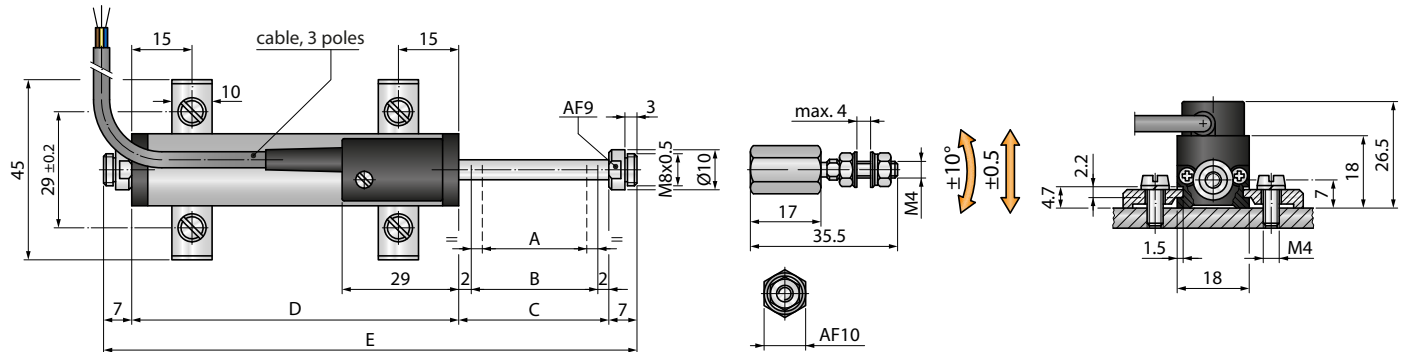


## TECHNICAL DRAWING

### LRW1-C

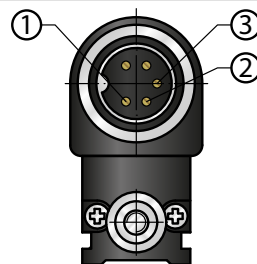
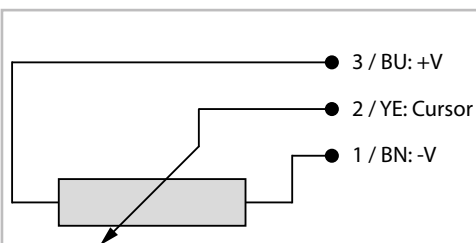


### LRW1-F



<b>Measurement range / useful electrical stroke +3/-0</b>	<b>A</b>	25	50	75	100	150
<b>Theoretical electrical stroke ±1</b>	<b>B</b>	26	51	76	101	151
<b>Mechanical stroke</b>	<b>C</b>	30	55	80	105	155
<b>Housing length</b>	<b>D</b>	63	88	113	138	188
<b>Overall length</b>	<b>E</b>	107	157	207	257	357

## ELECTRICAL CONNECTION



**CON011: Mating connector for LRW1-C**  
for self assembly, IP40, 5 poles,  
cable diameter Ø 4...6 mm



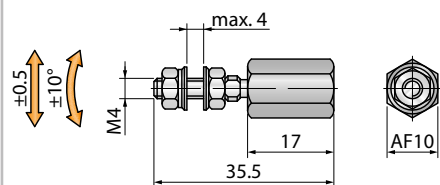
### Installation notes:

- 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

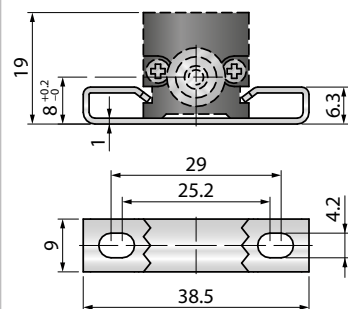
### PKIT020: joint coupling

1 pc. included in delivery



### PKIT006: mounting brackets

2 pcs. + screws and growers



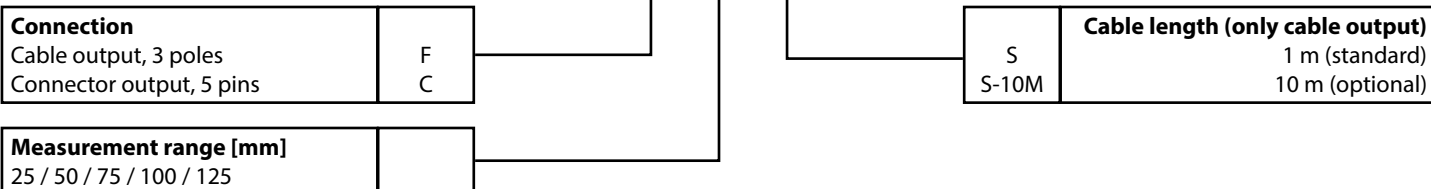
### Signal conditioner PMX-24

- 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

LRW1 - [ ] - [ ] - [ ]



## ACCESSORIES

### Mounting accessories

- PKIT005 <sup>1)</sup> Mounting set: 4 x small brackets, screws, growers
- PKIT006 Mounting set: 2 x large brackets, screws, growers
- PKIT020 <sup>1)</sup> Joint coupling

### 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> PKIT005 and PKIT020 are included in sensor scope of delivery.

### Mating connector for self assembly for LRW1-C

- CON011 5 poles, IP40, for cable diameter 4...6 mm

### 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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