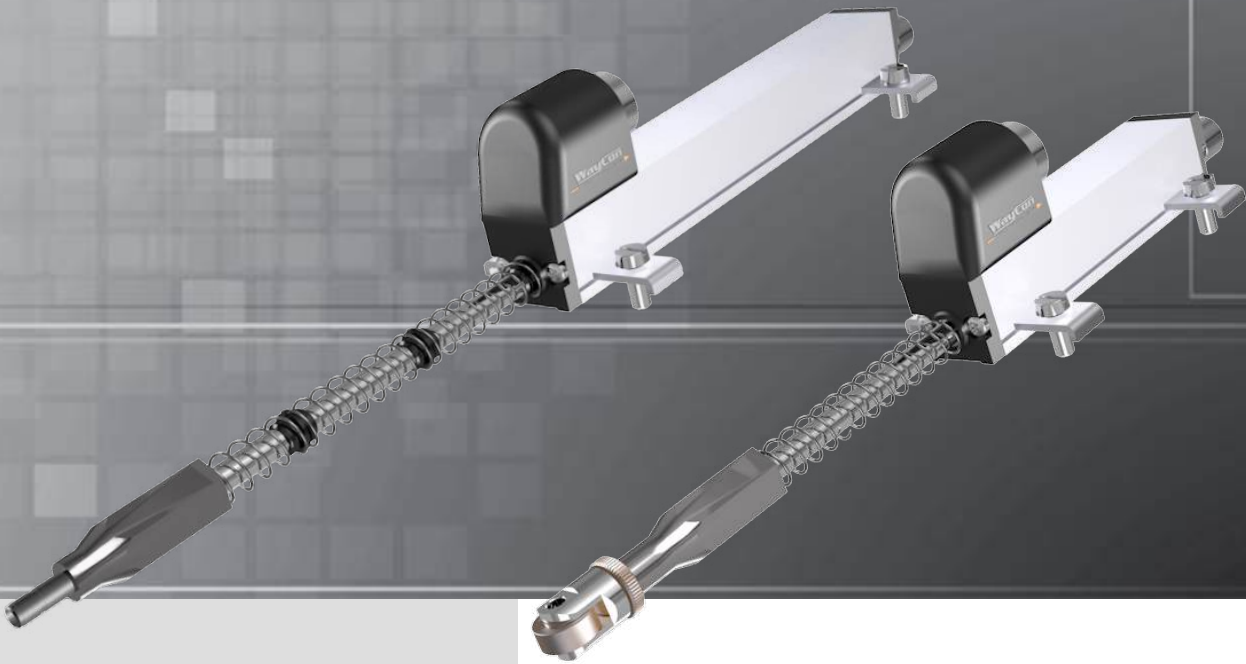


LINEAR POTENTIOMETER



Series LRW2 and LRW3

Key-Features:

- LRW2 with ball tip, measurement ranges up to 150 mm
- LRW3 with roller tip, measurement ranges up to 100 mm
- Double rod support and return spring
- Inhibited rotation of the rod (LRW3)
- Displacement speed ≤ 10 m/s
- Linearity up to ± 0.05 %
- 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

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Technical Drawing2
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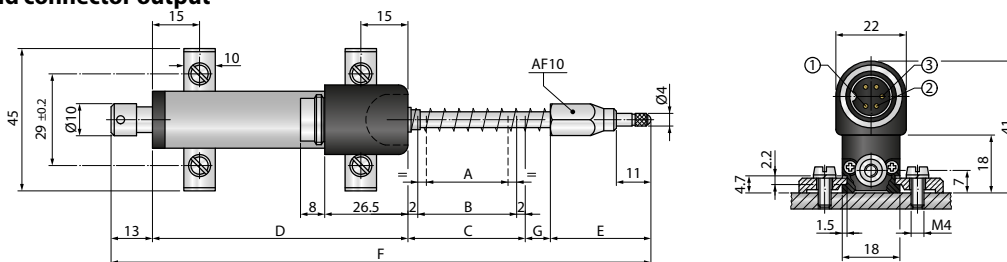
TECHNICAL DATA

Measurement range	[mm]	10	25	50	75	100	125	150		
Probe tip		ball tip (LRW2) or roller tip (LRW3)						ball tip (LRW2)		
Linearity	[%]	±0.3	±0.2	LRW2: ±0.1 LRW3: ±0.07	±0.1	LRW2: ±0.07 LRW3: ±0.1	±0.05			
Resolution		theoretical infinite, depends on the signal quality of the reference respectively supply voltage								
Displacement force	[N]								≤4	
Displacement speed	[m/s]								≤10	
Resistance	[kΩ]	1				5				
Tolerance on resistance	[%]								±20	
Dissipation at 40 °C (0 W at 120 °C)	[W]	0.2	0.6	1.2	1.8	2.4	3	3.6		
Applicable voltage max.	[V]	14	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 resistance	[ppm/°C]								±200	
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 ⁶ m or >100 x 10 ⁶ 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) ¹⁾ / optional: PKIT006 (2 large brackets)								

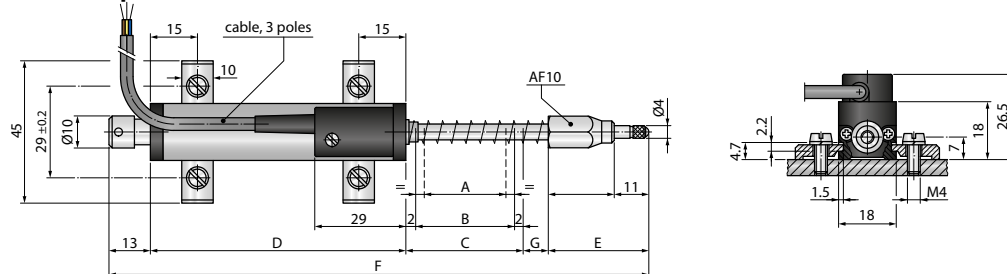
¹⁾ included in scope of delivery. PKIT005 includes 4 small brackets, screws M4x10 and growers

TECHNICAL DRAWING

LRW2-C: ball tip and connector output



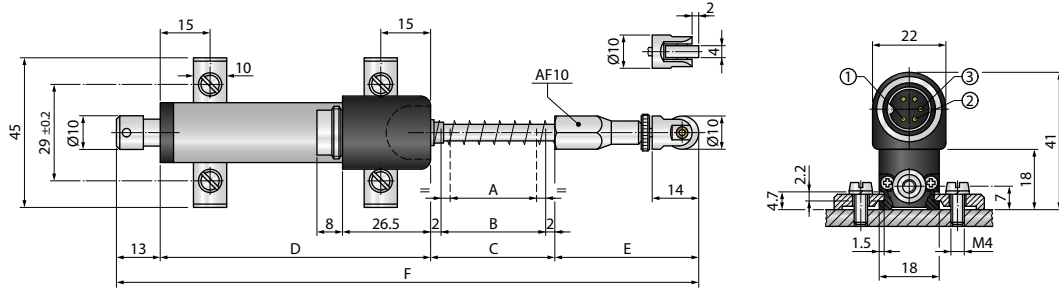
LRW2-F: ball tip and cable output



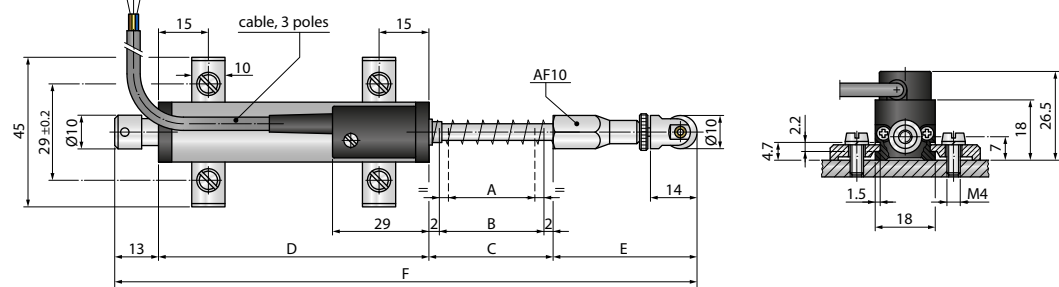
Measurement range / useful electrical stroke +1/-0	A	10	25	50	75	100	125	150	
Theoretical electrical stroke ±1	B	11	26	51	76	101	126	151	
Mechanical stroke	C	15	30	55	80	105	130	155	
Housing length	D	48	63	88	113	138	163	188	
Length of probe tip	E	32				40			
Overall length	F	108	138	196	251	307	364	426	
Part of push rod not retractable into housing	G	-				5	11	18	31

TECHNICAL DRAWING

LRW3-C: roller tip and connector output (inhibited rotation of the rod)

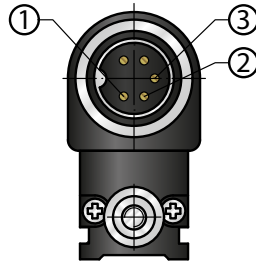
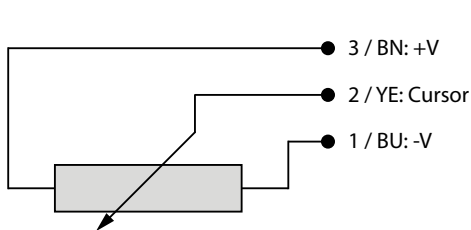


LRW3-F: roller tip and cable output (inhibited rotation of the rod)



Measurement range / useful electrical stroke +1/-0	A	10	25	50	75	100
Theoretical electrical stroke ±1	B	11	26	51	76	101
Mechanical stroke	C	15	30	55	80	105
Housing length	D	48	63	88	113	138
Length of probe tip	E	43		51		
Overall length	F	119	149	207	262	318

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

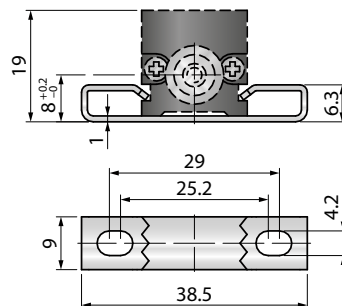
CON011: Mating connector

- for self assembly
- 5 poles
- IP40
- cable diameter Ø 4...6 mm



PKIT006: mounting brackets

2 pcs. + screws and growlers

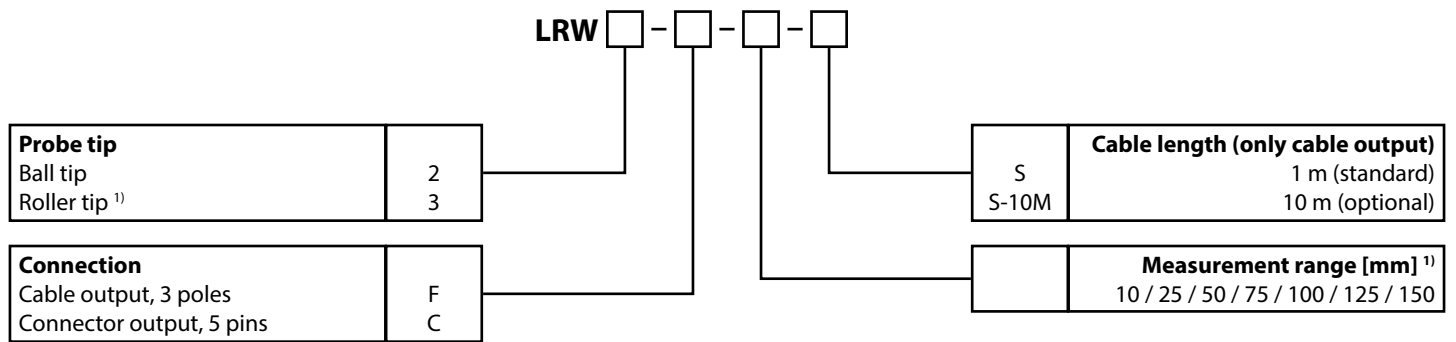


Signal conditioner PMX-24

- 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



¹⁾ Measurement ranges 125 and 150 not combinable with roller tip

ACCESSORIES

Mounting accessories and probe tips

PKIT005 ¹⁾	Mounting set: 4 x small brackets, screws, growers
PKIT006	Mounting set: 2 x large brackets, screws, growers
PTAS000 ¹⁾	Ball tip
PTAS001 ¹⁾	Roller tip

Digital displays for sensors with analog output, 2 channel

WAY-AX-S	touch screen, supply: 18...30 VDC
WAY-AX-AC	touch screen, supply: 115...230 VAC

For more information and options please refer to the [WAY-AX data sheet](#).

¹⁾ PKIT005 and PTAS000 (LRW2) or PTAS001 (LRW3) 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
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Signal conditioner

PMX-24	Output signals: 4...20 mA, 0...10 V, 0...5 V, ±10 V, ±5 V
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For more information and options please refer to the [PMX-24 data sheet](#).

Subject to change without prior notice.

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