

Position Sensor Model LWG

Type 2121A...

for displacement, tolerance measurements and continuous position sensing

Accurate measurement with a resistance element made of conductive plastic, on a glassfibre reinforced substrate.

- Twin-bearing actuating rod
- Mountable over back-lash free pivot heads with a large angle of free movement (up to $\pm 12,5^\circ$)
- Outstanding linearity
- Resolution better than 0,01 mm
- Life (depending on application) up to 50 million movements
- Protection class IP65

Description

The wiper system is mounted on the actuating rod and is coupled free of backlash; this guarantees the highest accuracy and the longest lifetime. The series can be used in a wide range of applications in mechanical and vehicle engineering industries as well as in automation and robotics technologies, combining remarkable robustness with high accuracy.



Housing	Aluminium, anodized
Actuator	Stainless steel, rotatable
Resistance element	Conductive plastic
Wiper assembly	Precious metal multi-finger wiper, elastomer damped
Electrical connection	4 pin round connector, M12x1, IP67 for suitable cables diameters of 6 ... 8 mm, max. 0,75 mm ² , 3 pin cable, shielded 1 m long

Technical data

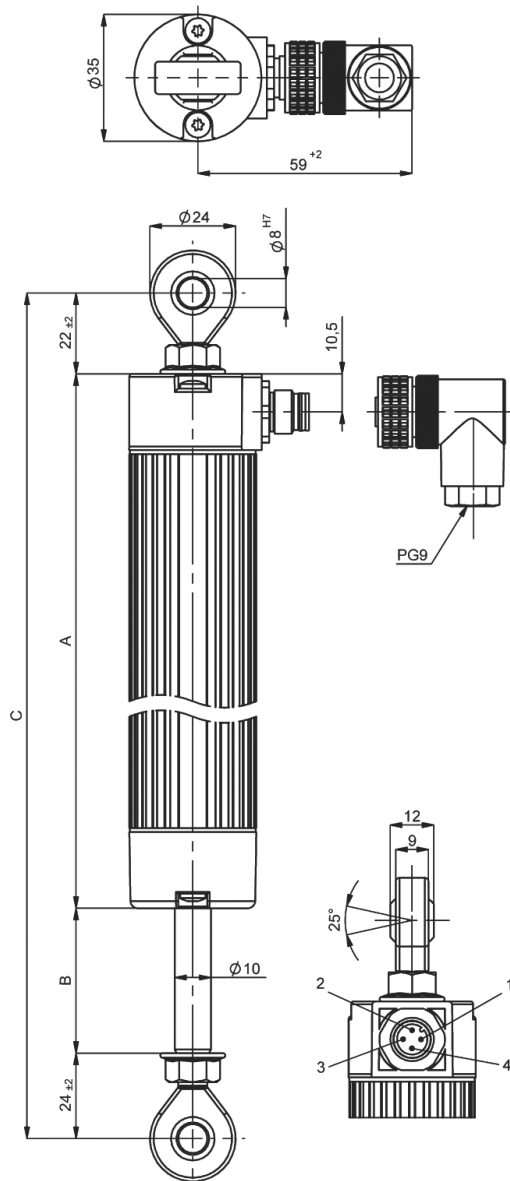
Model		LWG75	LWG100	LWG150	LWG225
Electrical data					
Defined electrical range	mm	75	100	150	225
Electrical range	mm	77	102	152	229
Nominal resistance	kΩ	3	3	5	5
Resistance tolerance	±%	20			
Linearity, independent	±%	0.1	0.1	0.08	0.07
Repeatability	mm	0.01			
Max. permissible applied voltage	V	42			
Recommended operating wiper current	<μA	1			
Max. wiper current in case of malfunction	mA	10			
Mechanical data					
Overall length (dimension A ^{+1 mm})	mm	201	227	277	354
Mechanical stroke (dim. B ^{+1,5 mm})	mm	79	105	155	231
Weight	g	397	437	518	639
Operating force (horizontal)	≤N	3.6	3.7	4.0	4.5
(vertical)	≤N	7.4	7.6	8.0	8.7
Environmental data					
Temperature range	°C	-30 ... 100			
Vibration	Hz	5 ... 2,000			
Shock	g/ms	50/11			
Protection class (EN 60529)	IP	65			

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Model		LWG300	LWG360	LWG450	LWG500	LWG750
Electrical data						
Defined electrical range	mm	300	360	450	500	750
Electrical range	mm	305	366	457	508	762
Nominal resistance	kΩ	5	5	5	5	10
Resistance tolerance	±%	20				
Linearity, independent	±%	0.06	0.05	0.05	0.05	0.04
Repeatability	mm	0.01				
Max. permissible applied voltage	V	42				
Recommended operating wiper current	<μA	1				
Max. wiper current in case of malfunction	mA	10				
Mechanical data						
Overall length (dimension A ^{+1 mm})	mm	430	505	619	684	994
Mechanical stroke (dimension B ^{+1.5 mm})	mm	307	368	460	510	764
Weight	g	760	878	1,057	1,157	1,655
Operating force (horizontal)	≤N	4.9	5.2	5.7	6.0	7.5
	(vertical)	≤N	9.3	9.8	10.6	11.0
Environmental data						
Temperature range	°C	-30 ... 100				
Vibration	Hz	5 ... 2,000				
Shock	g/ms	50/11				
Operating speed (max.)	m/s	5				
Protection class (EN 60529)	IP	65				

Important: All values specified in this data sheet for linearity, lifetime and temperature coefficient are only valid for a sensor used as a voltage divider with virtually no load applied to the wiper (I_e ≤ 0,1 μA).

Dimensions



Included accessories

- 1 round connector, Art. No. 515532

Accessories (optional)

- Connection cable for maXYmo family, Type 1200A155C5
- L = 5 m
- Connection cable for maXYmo family, Type 1200A155CSP
- L = sp
- Extension cable for maXYmo family, Type 18025475
- L = sp

Ordering key

Position Sensor LWG

75 mm	75
100 mm	100
150 mm	150
225 mm	225
300 mm	300
360 mm	360
450 mm	450
500 mm	500
750 mm	750

Type 2121A

Schematic

