

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

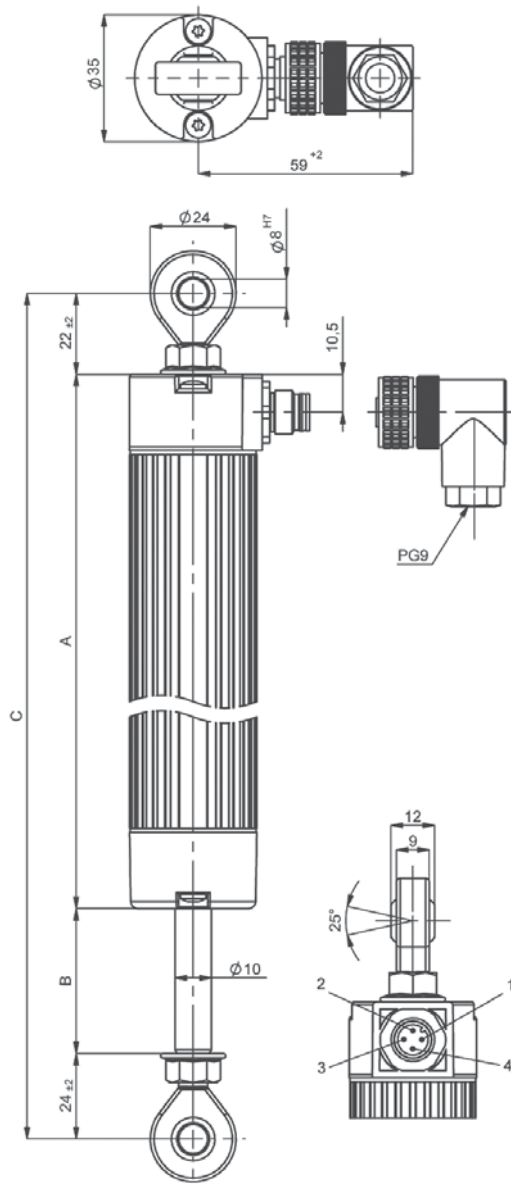
| Model | | LWG75 | LWG100 | LWG150 | LWG225 |
|--|------------|-------------|--------|--------|--------|
| Electrical Data | | | | | |
| Defined electrical range | mm | 75 | 100 | 150 | 225 |
| Nominal resistance | k Ω | 3 | 3 | 5 | 5 |
| Linearity, independent | $\pm\%$ | 0,1 | 0,1 | 0,08 | 0,07 |
| Repeatability | mm | 0,01 | | | |
| Max. permissible applied voltage | V | 42 | | | |
| Recommended operating wiper current | < μ A | 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) | \leq N | 3,6 | 3,7 | 4,0 | 4,5 |
| (vertical) | \leq N | 7,4 | 7,6 | 8,0 | 8,7 |
| Environmental Data | | | | | |
| Temperature range | $^\circ$ 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 |
| Nominal resistance | kΩ | 5 | 5 | 5 | 5 | 10 |
| 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)

- | | |
|--|-------------|
| • Connecting cable for CoMo Net®/View®/Sys | 1200A155Asp |
| • Connecting cable for DMF-P family | 1200A155Bsp |
| • Connecting cable for maXYmo family | 1200A155Csp |
| • Connecting cable for SigMo Sys | 1200A155Dsp |

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

