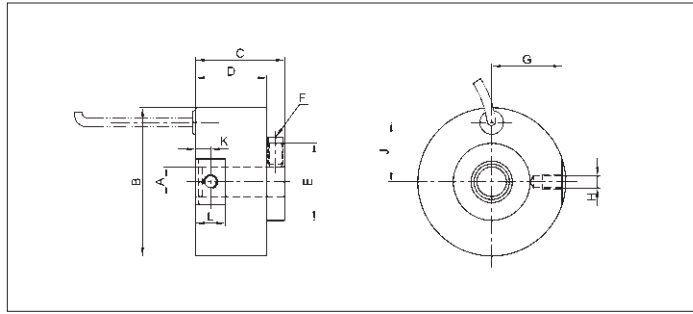
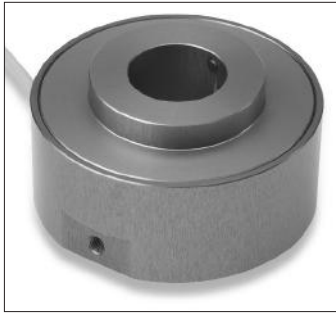


**Hollow-Shaft
Conductive Plastic
Potentiometric
Sensors**

GL Series



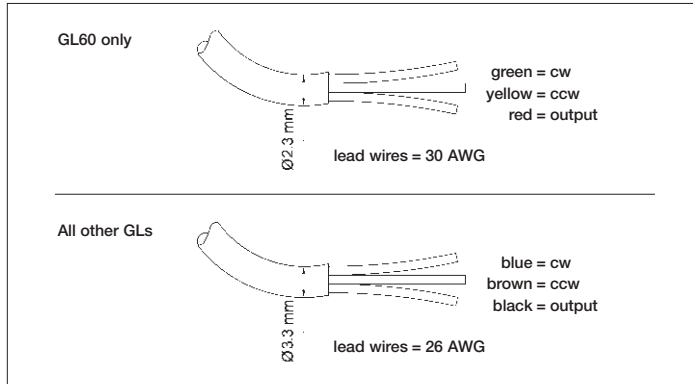
Special features

- hollow shaft
- drill hole \varnothing 6 - 30 mm
- 10×10^6 movements
- excellent linearity
- very high resolution – better than 0.1°

Novotechnik hollow-shaft precision potentiometer angle sensors are designed for easy installation.

Careful selection of materials and high-quality components ensure a constant and accurate angle measurement throughout the entire service life of the sensor.

Special designs with custom shaft dimensions and angular ranges are available on request.



| Description | |
|------------------------|-----------------------------------|
| Dimensions | see drawing |
| Case | anodized aluminum |
| Drill hole | 6; 10; 20; 30; mm/ISO H9 |
| Bearings | slotted ball bearing |
| Resistance element | conductive plastic |
| Wiper assembly | precious metal multi-finger wiper |
| Electrical connections | cabl 1 m PUR |

Recommended accessories
MAP process-control indicators and display. MUP signal conditioner for standardized output signals.

Important
All values given for this series – including linearity, lifetime, micro-linearity, resistance to external disturbances and temperature coefficient in voltage dividing mode – are quoted for the device operating with the wiper voltage driving an operational amplifier working as a voltage follower where virtually no load is applied to the wiper ($I_e \leq 1 \mu A$).

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| Type designations | GL60 | GL100 | GL200 | GL300 | | | |
|--|--|--------------------|--------------------|-----------------|-----------------|---------|--------------------|
| Mechanical Data | | | | | | | |
| Dimensions | see drawing | | | | | | |
| A | 6 | 10 | 20 | 30 | mm | | |
| B | 31 | 50 | 60 | 74 | mm | | |
| C | 17.5 | 30 | 31 | 32 | mm | | |
| D | 13 | 24 | 25 | 26 | mm | | |
| E | 18 | 26 | 36 | 46 | mm | | |
| F | M3 | M4 | M4 | M4 | | | |
| G | 14.7 | 23.8 | 28.8 | 35.8 | mm | | |
| H | M3 | M4 | M4 | M4 | | | |
| J | 11.2 | 20 | 25 | 31 | mm | | |
| K | 2.5 | 5 | 5 | 5 | mm | | |
| L | 5 | 10 | 10 | 10 | mm | | |
| Mounting | 1 socket screw | | | | | | |
| Mechanical travel | continuous | 348 | 346 | 348 | ° | | |
| Cable | 3x0.07 | 3x0.14 | 3x0.14 | 3x0.14 | mm ² | | |
| Permitted shaft loading (axial and radial) static or dynamic force | 10 | | | | N | | |
| Torque | ≤ 0.5 | ≤ 1.5 | ≤ 6.0 | ≤ 6.0 | Ncm | | |
| Maximum operational speed | 230 | 200 | 165 | 130 | RPM | | |
| Weight | 32 | 120 | 178 | 260 | g | | |
| Electrical Data | | | | | | | |
| Actual electrical travel | 150; 354 | 140; 340 | 150; 340 | 340 | (±2°) | | |
| Available resistance values | 5; 10 | 5; 10 | 5; 10 | 20 | kΩ | | |
| Resistance tolerance | ±20 | | | | % | | |
| Repeatability | 0.07; 0.03 (=0.1°) | 0.07; 0.03 (=0.1°) | 0.07; 0.03 (=0.1°) | 0.03 (=0.1°) | % | | |
| Effective temperature coefficient of the output-to-applied voltage ratio | 5 (typical) | | | | ppm/K | | |
| Independent linearity | ±0.25 | | | | % | | |
| Max. permissible applied voltage | 42 | | | | V | | |
| Recommended operating wiper current | ≤ 1 | | | | μA | | |
| Max. wiper current in case of malfunction | 10 | | | | mA | | |
| Insulation resistance (500 VDC, 1 bar, 2 s) | ≥ 10,000 | | | | MΩ | | |
| Dielectric strength (AC, 50 Hz, 1 min, 1 bar) | 1,000 | | | | V | | |
| Environmental Data | | | | | | | |
| Temperature range | -25...+75 | | | | °C | | |
| Vibration | 30...500 A _{max} = 0.75 a _{max} = 10 | | | | Hz mm g | | |
| Life | 10 million | | | | movements | | |
| Shock (DIN IEC 68 T2-27) | 50 7 | | | | g ms | | |
| Protection class (DIN 40050) | IP 63 | | | | | | |
| Order designations | | | | | | | |
| Type | Art. no. | R in kΩ | electr. angle in ° | Type | Art. no. | R in kΩ | electr. angle in ° |
| GL60 5K0 M150 | 82347 | 5 | 150 | GL60 10K0 M354 | 70011 | 10 | 354 |
| GL100 5K0 M150 | 82026 | 5 | 150 | GL100 10K0 M340 | 82027 | 10 | 340 |
| GL200 5K0 M150 | 82028 | 5 | 150 | GL200 10K0 M340 | 82029 | 10 | 340 |
| | | | | GL300 20K0 M340 | 82031 | 20 | 340 |

Subject to changes

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