



DKV60-E2K00020

DKV60

MEASURING WHEEL ENCODERS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Type | Part no. |
|----------------|----------|
| DKV60-E2K00020 | 1035051 |

Other models and accessories → www.sick.com/DKV60



Detailed technical data

Performance

| | |
|---|--|
| Pulses per revolution | 20 |
| Resolution in pulses/mm | 0.1 |
| Measuring increment (resolution in mm/pulse) | 10 |
| Error limits | ± 0.5 mm/m, subject to the measuring wheel (wheel + surface) |
| Initialization time | 40 s |

Electrical data

| | |
|---------------------------------------|---|
| Communication interface | Incremental |
| Communication Interface detail | HTL / Push pull |
| Supply voltage | 10 V ... 30 V |
| Connection type | Cable, 8-wire, universal, 1.5 m |
| Load current max. | 30 mA |
| Maximum output frequency | ≤ 200 kHz |
| Reference signal, number | 1 |
| Reference signal, position | 90°, electric, logically gated with A and B |
| Reverse polarity protection | - |

Mechanical data

| | |
|--------------------------------------|---------------------------|
| Measuring wheel circumference | 200 mm |
| Measuring wheel surface | O ring EPDM ¹⁾ |
| Spring arm design | 69.5 mm spring arm |
| Mass | 420 g |
| Encoder material | |
| Shaft | Stainless steel |
| Flange | Zinc cast |
| Housing | Zinc cast |
| Cable | PUR |
| Spring arm mechanism material | |

¹⁾ The surface of a measuring wheel is subject to wear. This depends on contact pressure, acceleration behavior in the application, traversing speed, measurement surface, mechanical alignment of the measuring wheel, temperature, and ambient conditions. We recommend you regularly check the condition of the measuring wheel and replace as required.

²⁾ When measured from the top of the measuring surface.

| | |
|--|--------------------------------------|
| Spring element | Spring steel, anti-corrosive |
| Measuring wheel, spring arm | Aluminum |
| Start up torque | 0.6 Ncm (at 20 °C) |
| Operating torque | 0.4 Ncm (at 20 °C) |
| Maximum operating speed | 1,000 min ⁻¹ |
| Operating speed | 1,500 min ⁻¹ |
| Bearing lifetime | 2 x 10 ⁹ revolutions |
| Maximum travel/deflection of spring arm | 8 mm At 14 N spring travel |
| Recommended pretension | 8 N At 4 mm deflection ²⁾ |
| Max. permissible working area for the spring (continuous operation) | ± 1.5 mm |
| Recommended spring deflection | 2 mm ... 8 mm |

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²⁾ When measured from the top of the measuring surface.

Ambient data

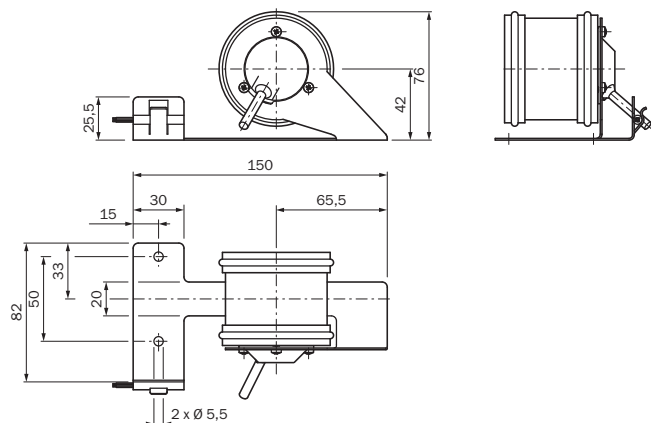
| | |
|------------------------------------|------------------------------------|
| EMC | EN 61000-6-3 |
| Operating temperature range | -10 °C ... +60 °C |
| Storage temperature range | -40 °C ... +70 °C, without package |

Classifications

| | |
|-----------------------|----------|
| ECI@ss 5.0 | 27270501 |
| ECI@ss 5.1.4 | 27270501 |
| ECI@ss 6.0 | 27270590 |
| ECI@ss 6.2 | 27270590 |
| ECI@ss 7.0 | 27270501 |
| ECI@ss 8.0 | 27270501 |
| ECI@ss 8.1 | 27270501 |
| ECI@ss 9.0 | 27270501 |
| ETIM 5.0 | EC001486 |
| ETIM 6.0 | EC001486 |
| UNSPSC 16.0901 | 41112113 |

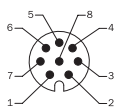
Dimensional drawing (Dimensions in mm (inch))

Measuring drum, O-ring surface



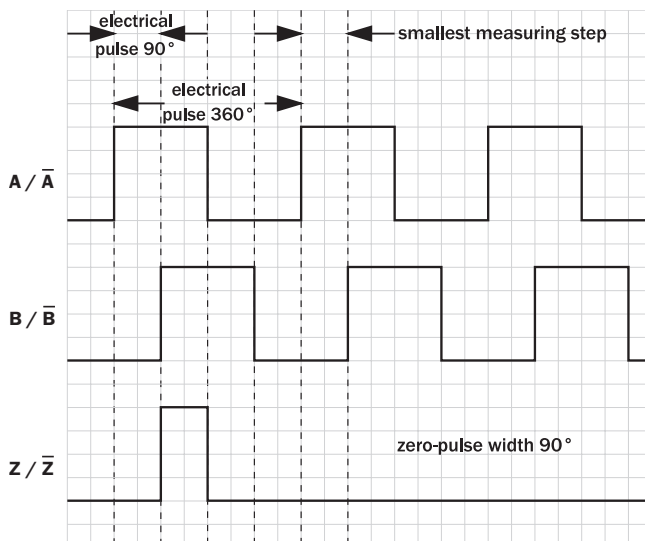
PIN assignment

View of the connector side of housing



| PIN, 8-pin, connector M12 | Color or wires | Signal TTL, HTL | Explanation |
|---------------------------|----------------|-----------------|---|
| 1 | Brown | ~A | Signal line |
| 2 | White | A | Signal line |
| 3 | Black | ~B | Signal line |
| 4 | Pink | B | Signal line |
| 5 | Yellow | ~Z | Signal line |
| 6 | Lilac | Z | Signal line |
| 7 | Blue | GND | Ground connection of the encoder |
| 8 | Red | +U _s | Supply voltage, potential free to the housing |
| Screen | Screen | Screen | Screen connected to encoder housing |

Signal outputs



SICK AT A GLANCE

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

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