

# DKV60-E1K02000

DKV60

MEASURING WHEEL ENCODERS

**SICK**  
Sensor Intelligence.

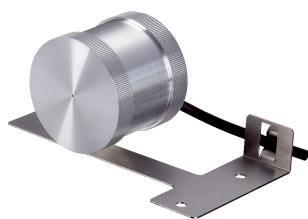


Illustration may differ



### Ordering information

Type	Part no.
DKV60-E1K02000	1035050

Other models and accessories → [www.sick.com/DKV60](http://www.sick.com/DKV60)

### Detailed technical data

#### Performance

<b>Pulses per revolution</b>	2,000
<b>Resolution in pulses/mm</b>	10
<b>Measuring increment (resolution in mm/pulse)</b>	0.1
<b>Error limits</b>	± 0.5 mm/m, subject to the measuring wheel (wheel + surface)
<b>Initialization time</b>	40 s

#### Electrical data

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

#### Mechanical data

<b>Measuring wheel circumference</b>	200 mm
<b>Measuring wheel surface</b>	Knurled <sup>1)</sup>
<b>Spring arm design</b>	69.5 mm spring arm
<b>Mass</b>	420 g
<b>Encoder material</b>	
Shaft	Stainless steel
Flange	Zinc cast
Housing	Zinc cast
Cable	PUR

<sup>1)</sup> 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.

<sup>2)</sup> When measured from the top of the measuring surface.

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

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<sup>2)</sup> When measured from the top of the measuring surface.

#### Ambient data

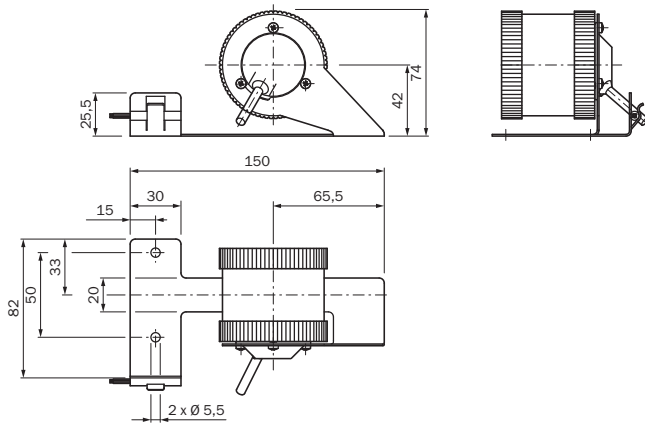
<b>EMC</b>	EN 61000-6-3
<b>Operating temperature range</b>	-10 °C ... +60 °C
<b>Storage temperature range</b>	-40 °C ... +70 °C, without package

#### Classifications

<b>ECI@ss 5.0</b>	27270501
<b>ECI@ss 5.1.4</b>	27270501
<b>ECI@ss 6.0</b>	27270590
<b>ECI@ss 6.2</b>	27270590
<b>ECI@ss 7.0</b>	27270501
<b>ECI@ss 8.0</b>	27270501
<b>ECI@ss 8.1</b>	27270501
<b>ECI@ss 9.0</b>	27270501
<b>ETIM 5.0</b>	EC001486
<b>ETIM 6.0</b>	EC001486
<b>UNSPSC 16.0901</b>	41112113

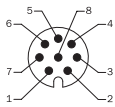
### Dimensional drawing (Dimensions in mm (inch))

### Measuring drum, knurled surface



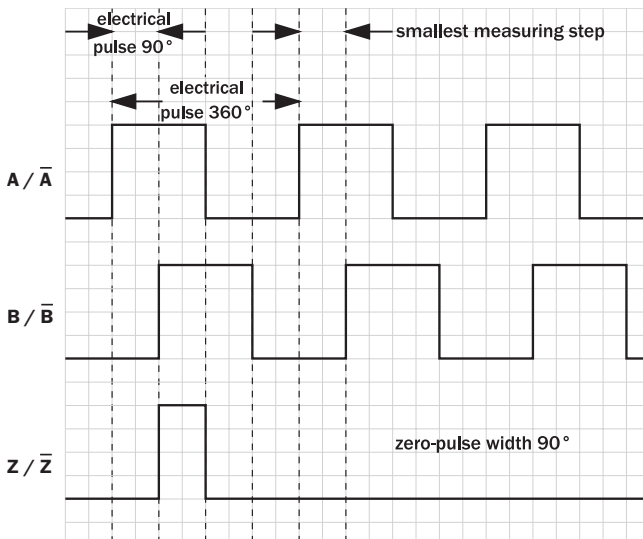
## PIN assignment

View of the connector side of housing



PIN, 8-pin, connector M12	Color of wires	Signal TTL, HTL	Explanation
1	Brown	$\bar{A}$	Signal line
2	White	A	Signal line
3	Black	$\bar{B}$	Signal line
4	Pink	B	Signal line
5	Yellow	$\bar{Z}$	Signal line
6	Lilac	Z	Signal line
7	Blue	GND	Ground connection of the encoder
8	Red	+U <sub>s</sub>	Supply voltage, potential free to the housing
Screen	Screen	Screen	Screen connected to encoder housing

## Signal outputs



## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)