Online data sheet

DKV60-A2K01000

DKV60

MEASURING WHEEL ENCODERS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	Part no.
DKV60-A2K01000	1035045

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

Detailed technical data

Performance

Pulses per revolution	1,000
Resolution in pulses/mm	5
Measuring increment (resolution in mm/pulse)	0.2
Error limits	± 0.4 mm/m, subject to the measuring wheel (wheel + surface)
Initialization time	40 s

Electrical data

Communication interface	Incremental
Communication Interface detail	TTL / RS-422
Supply voltage	4.5 V ... 5.5 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	–
Short-circuit protection of the outputs	✓ [1]
MTTFd: mean time to dangerous failure	600 years (EN ISO 13849-1) [2]

[1] Short-circuit opposite to another channel, US or GND permissable for maximum 30 s.

[2] This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40 °C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

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

[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.

Encoder material	
Shaft	Stainless steel
Flange	Zinc cast
Housing	Zinc cast
Cable	PUR
Spring arm mechanism material	
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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Ambient data

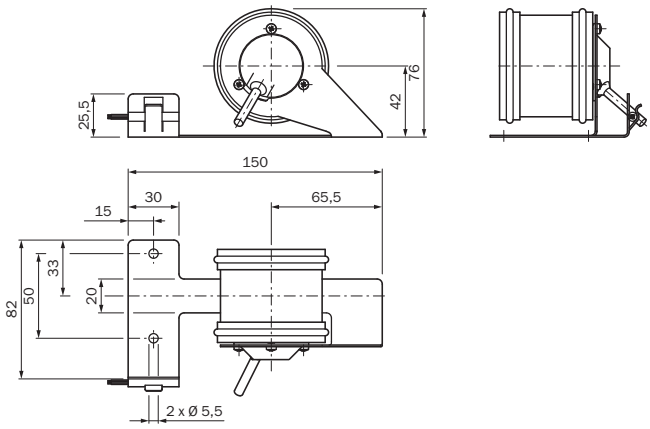
EMC	According to EN 61000-6-2 and EN 61000-6-3
Permissible relative humidity	90 % (condensation of the optical scanning not permitted)
Operating temperature range	–10 °C ... +60 °C
Storage temperature range	–40 °C ... +70 °C, without package

Classifications

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

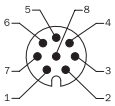
Dimensional drawing (Dimensions in mm (inch))

Measuring drum, O-ring surface



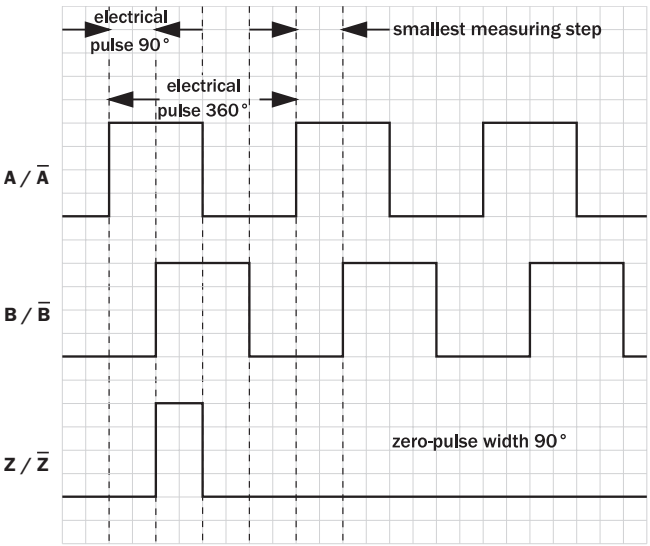
PIN assignment

View of the connector side of housing



PIN, 8-pin, connector M12	Color of wires	Signal TTL, HTL	Explanation
1	Brown	$\overline{A}$	Signal line
2	White	A	Signal line
3	Black	$\overline{B}$	Signal line
4	Pink	B	Signal line
5	Yellow	$\overline{Z}$	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

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.”

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