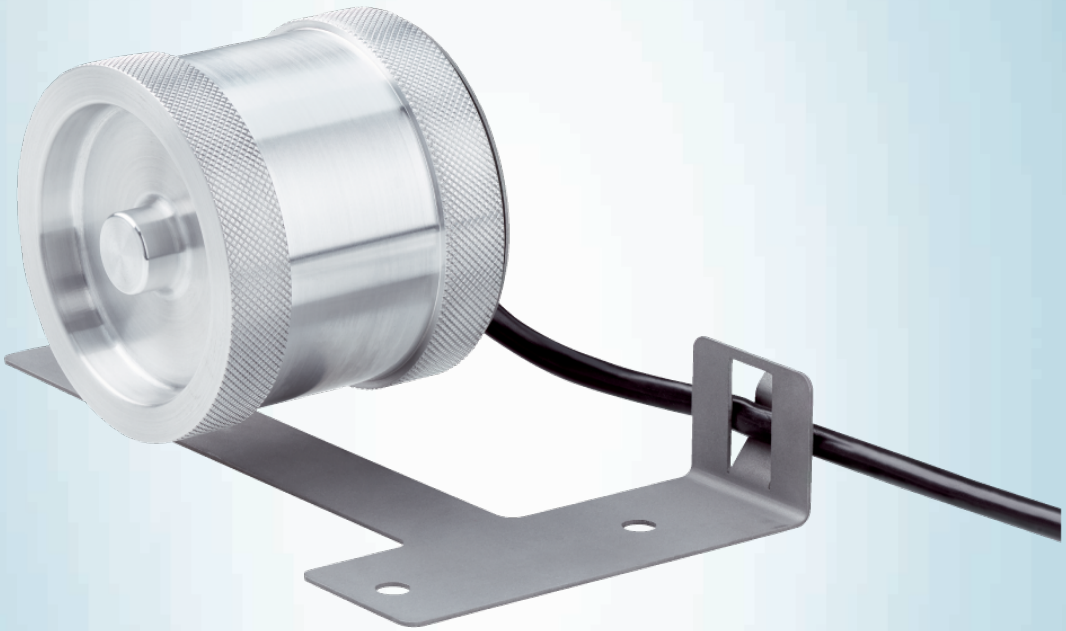
Product data sheet



DKV60E-21EZA0S14

DKV60

MEASURING WHEEL ENCODERS

SICK
Sensor Intelligence.

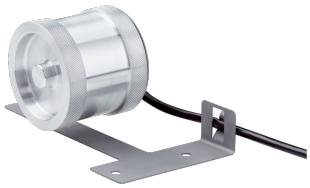


Illustration may differ

Ordering information

Type	Part no.
DKV60E-21EZA0S14	1129844

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

Detailed technical data

Features

Special device	✓
Specialty	Cable, 8-wire, universal, 3 m with connector M12, 5-pin Z signals are not connected 3 pulses per revolution
Standard reference device	DKV60E-21EPA0004

Performance

Pulses per revolution	3
Resolution in pulses/mm	0.015
Measuring increment (resolution in mm/pulse)	66.67
Error limits	± 0.5 mm/m, subject to the measuring wheel (wheel + surface)
Initialization time	40 s

Interfaces

Communication interface	Incremental
Communication Interface detail	HTL / Push pull

Electrical data

Connection type	Cable, 8-wire, with male connector, M12, 5-pin, universal, 3 m
Supply voltage	10 V ... 30 V
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	Cross knurled aluminium [1]
Spring arm design	69.5 mm spring arm
Mass	0.42 kg
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)
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

[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.

Ambient data

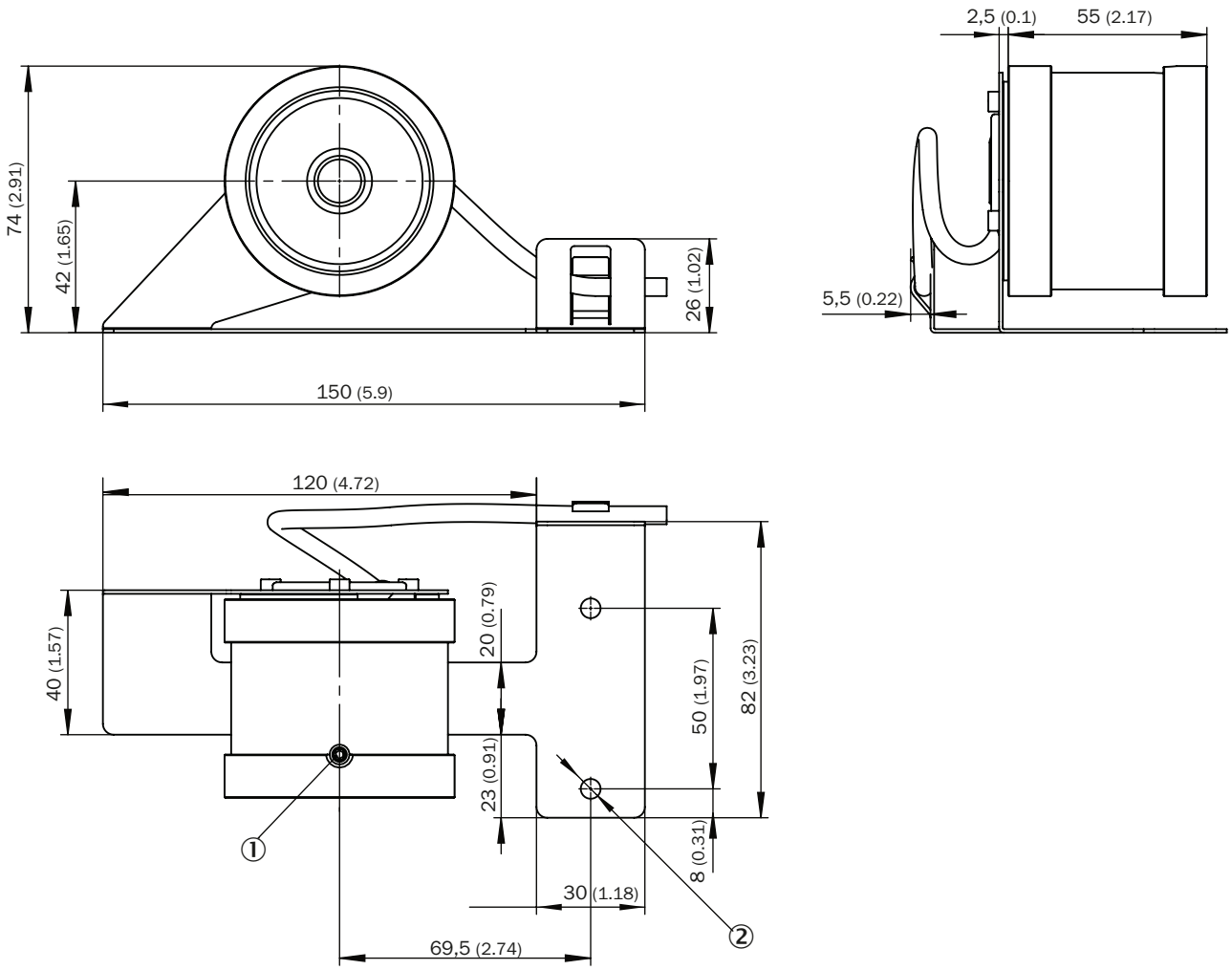
EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP65
Permissible relative humidity	90 % (Condensation not permitted)
Operating temperature range	–10 °C ... +60 °C
Storage temperature range	–40 °C ... +70 °C, without package

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
eCl@ss 10.0	27270790

eCl@ss 11.0	27270707
eCl@ss 12.0	27270504
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

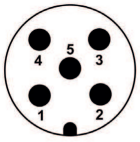


① M4 x 20 set screw
② 2 x Ø 5.5

PIN assignment

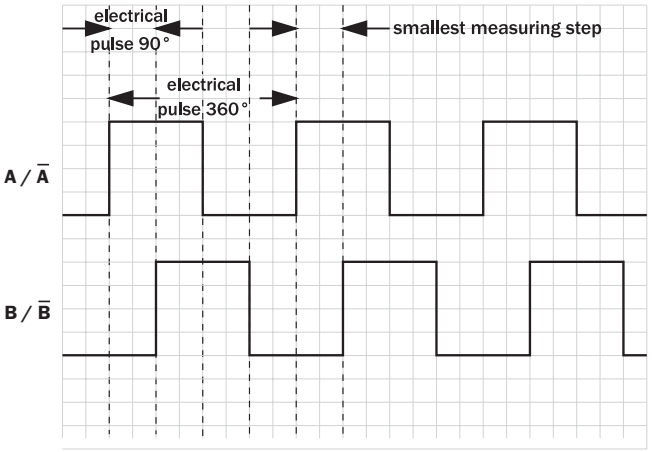
PIN	Signal	Explanation
1	Us	Supply voltage [1]
2	A	Signal line
3	GND	Ground connection of the encoder
4	B	Signal line
5	Z	not connected

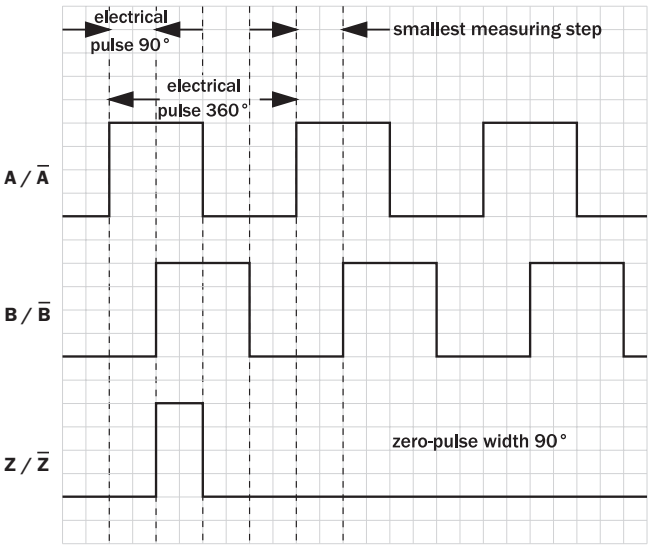
[1] Potential free to housing



View to the male connector fitted to the encoder body

Diagrams





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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