Data sheet

DKV60E-22EZZ0S12

DKV60

MEASURING WHEEL ENCODERS

SICK
Sensor Intelligence.

Illustration may differ

Ordering information

Type	part no.
DKV60E-22EZZ0S12	1126075

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

Detailed technical data

Features

Special device	✓
Specialty	Customized spring arm [1)] Cable, 8-wire, 1.5 m with Molex pin housing, 8-pin Molex pin contacts Customized mounting bracket design
Standard reference device	DKV60-E2P00200, 1037803

[1)] MOLEX-Housing part number: 39012081, MOLEX-Pin part number: 39000049 (loose), 39000048 (chain).

Performance

Pulses per revolution	200
Resolution in pulses/mm	0.95
Measuring increment (resolution in mm/pulse)	1.05
Error limits	± 4 mm/m, subject to the measuring wheel (wheel + surface) [1)]
Initialization time	< 3 ms

[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.

Interfaces

Communication interface	Incremental
Communication Interface detail	HTL / Push pull

Electronics

Connection type	Special version
Connection type Detail	Cable, 8-wire, 1.5 m with Molex pin housing, 8-pin Molex pin contacts
Supply voltage	7 V ... 30 V
Load current max.	30 mA
Maximum output frequency	≤ 300 kHz
Reference signal, number	1
Reference signal, position	90°, electric, logically gated with A and B
Reverse polarity protection	–

Mechanics

Measuring wheel circumference	210 mm
Measuring wheel surface	O ring EPDM [1]
Spring arm design	69.5 mm spring arm
Mass	950 g
Encoder material	
Shaft	Stainless steel
Flange	Zinc cast
Housing	Zinc cast
Cable	PVC
Spring arm mechanism material	
Spring element	Spring steel, anti-corrosive
Measuring wheel core	Aluminum
Start up torque	0.9 Ncm (at 20 °C)
Operating torque	0.6 Ncm (at 20 °C)
Operating speed	≤ 1,000 min^{-1}
Maximum 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 (class A)
Enclosure rating	IP65
Operating temperature range	–35 °C ... +60 °C
Storage temperature range	–40 °C ... +70 °C, without package
Resistance to shocks	50 g, 7 ms (DIN/EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz ... 2,000 Hz (EN 60068-2-6)

Classifications

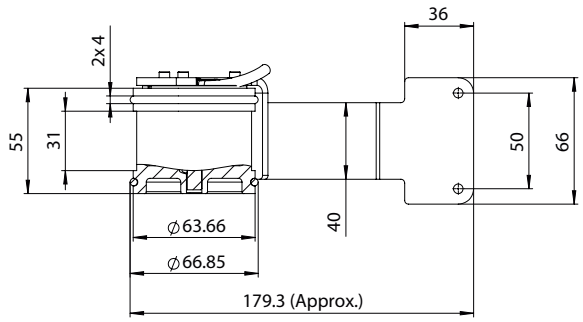
ECLASS 5.0	27270501
ECLASS 5.1.4	27270501
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270501
ECLASS 8.0	27270501
ECLASS 8.1	27270501

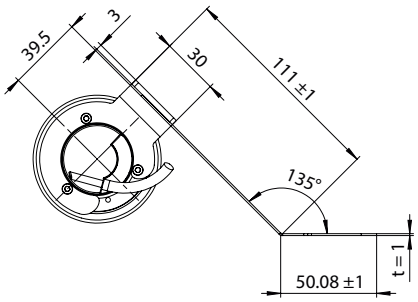
ECLASS 9.0	27270501
ECLASS 10.0	27270790
ECLASS 11.0	27270707
ECLASS 12.0	27270504
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

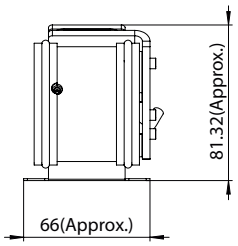
Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Dimensional drawing







Spring steel (additional information)

Material: SUS301 FH

Hardness	**Tensile strength** (N/mm²)	**Yield strength** (N/mm)	**Elongation** (%)
430-490	≥1320	≥1030	-
457	1387	1164	12

Tensile strength test: Method in accordance with GB/T228-2002

Hardness test: Method in accordance with GB/T4340.1-1999

Chemical composition (in %)							
C ≤0,15	Si ≤1,00	Mn ≤2,00	P ≤0,045	S ≤0,030	Cr 16-18	Ni 6,0-8,0	Mo
0,138	0,561	1,37	0,032	0,005	16,97	6,08	-

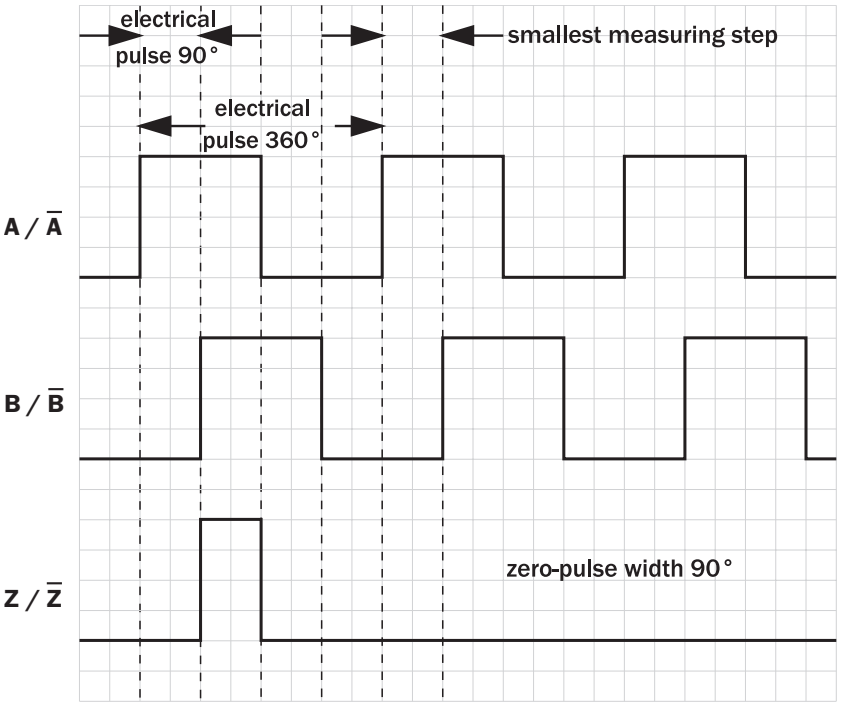
Dimensions in mm (inch)

Anschlussbelegung

Farbe der Adern	Signal bei HTL	Erklärung	Pin
Braun	A_	Signalleitung	1
Weiß	A	Signalleitung	2
Schwarz	B_	Signalleitung	3
Rosa	B	Signalleitung	4
Gelb	Z_	Signalleitung	5
Lila	Z	Signalleitung	6
Blau	GND	Masseanschluss des Encoders	7
Rot	+ U_S	Versorgungsspannung [1]	8
N.C.	N.C.	Schirm [2]	

[1] Potentialfrei zum Gehäuse
[2] auf Kundenwunsch sind die Schirmlitze und das Schirmgeflecht bündig mit dem Kabelmantelende abgeschnitten.

Diagrams



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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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