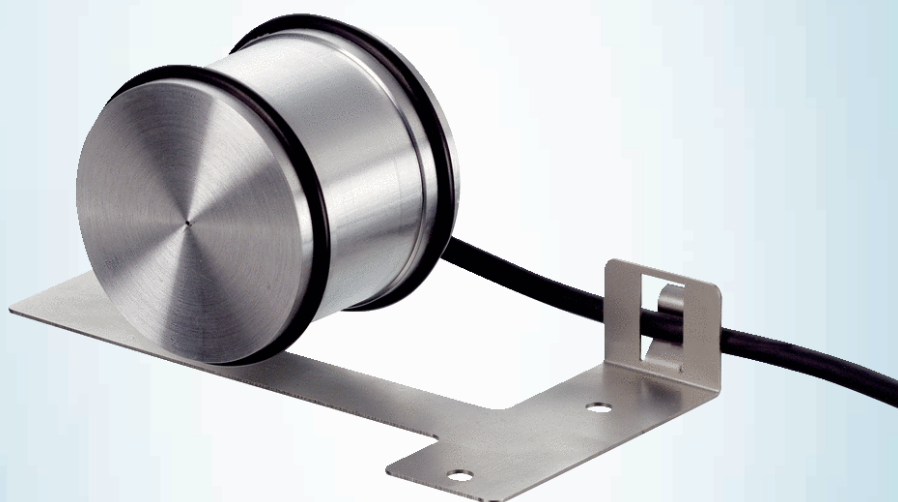




DKV60-E2P00004

DKV60

MEASURING WHEEL ENCODERS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	part no.
DKV60-E2P00004	1071886

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

Detailed technical data

Performance

Pulses per revolution	4
Resolution in pulses/mm	0.02
Measuring increment (resolution in mm/pulse)	50
Error limits	± 4 mm/m, subject to the measuring wheel (wheel + surface)
Initialization time	40 s

Interfaces

Communication interface	Incremental
Communication Interface detail	HTL / Push pull

Electronics

Connection type	Cable, 8-wire, with male connector, M12, 8-pin, universal, 1.5 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	–

Mechanics

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)
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.

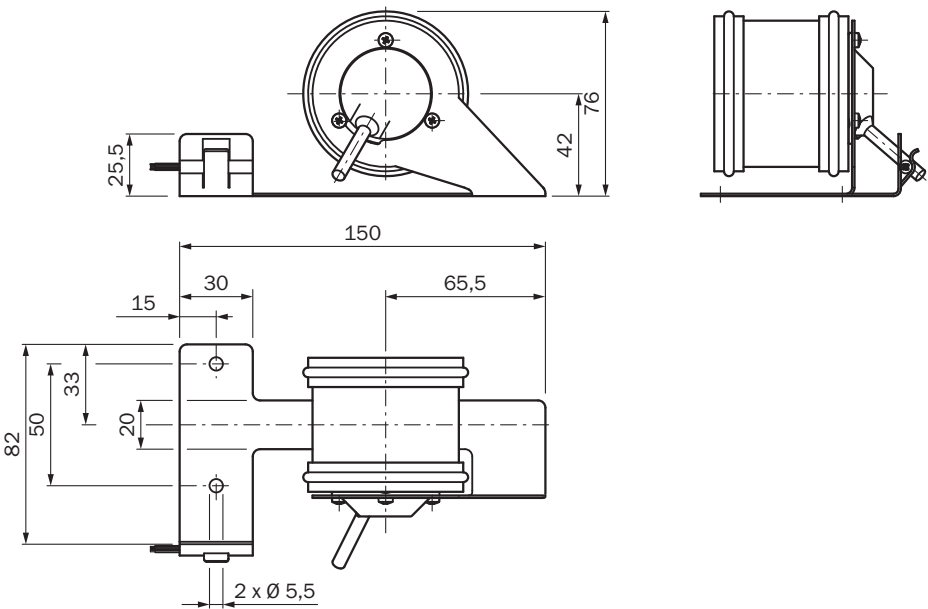
Ambient data

EMC	EN 61000-6-3
Enclosure rating	IP65
Operating temperature range	-10 °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

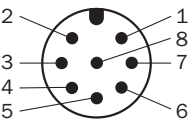
ECLASS 5.0	27270501
ECLASS 5.1.4	27270501
ECLASS 6.0	27270590
ECLASS 6.2	27270590
ECLASS 7.0	27270501
ECLASS 8.0	27270501
ECLASS 8.1	27270501
ECLASS 9.0	27270501
ECLASS 10.0	27270790
ECLASS 11.0	27270707
ECLASS 12.0	27270504
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
ETIM 8.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing Measuring drum, O-ring surface



Dimensions in mm (inch)

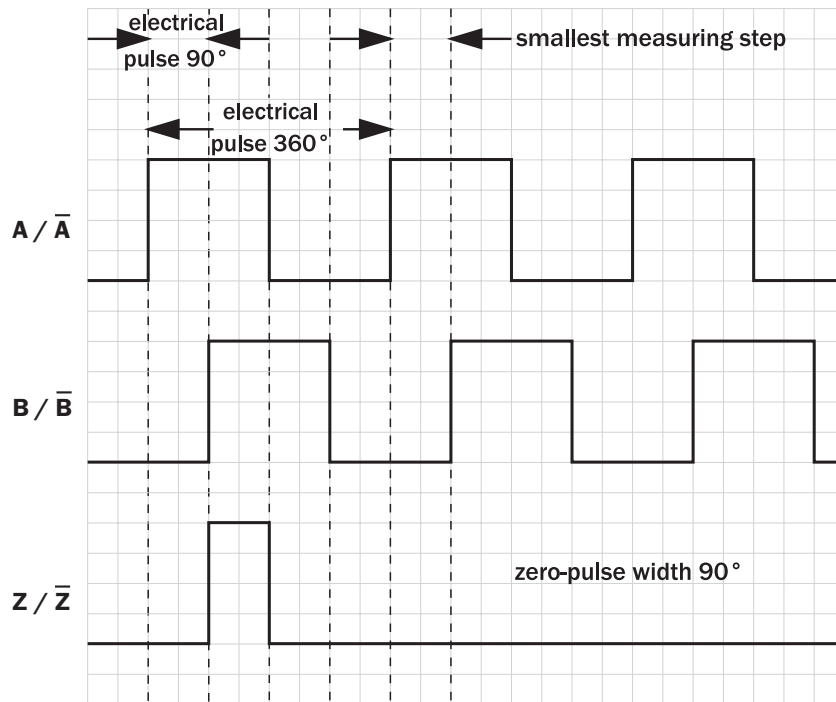
Anschlussbelegung



view of M12 male device connector on cable / housing

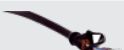
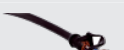
Wire colors (cable connection)	Male connector M12, 8-pin	TTL/HTL 6-channel signal	Explanation
Brown	1	A-	Signal cable
White	2	A	Signal cable
Black	3	B-	Signal cable
Pink	4	B	Signal cable
Yellow	5	Z-	Signal cable
Purple	6	Z	Signal cable
Blue	7	GND	Ground connection
Red	8	+U _s	Supply voltage
Shielding	Shielding	Shielding	Screen connected to encoder housing

Diagrams



Recommended accessories

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

	Brief description	Type	part no.
connectors and cables			
	Connection type head A: Female connector, JST, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental, SSI Items supplied: JST including sealing Cable: 0.5 m, 8-wire, PUR, halogen-free Description: Incremental, shielded, SSI	DOL-0J08-G0M5AA3	2046873
	Connection type head A: Female connector, JST, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental Items supplied: JST including sealing Cable: 1.5 m, 8-wire, PUR, halogen-free Description: Incremental, shielded	DOL-0J08-G1M5AA3	2046874
	Connection type head A: Female connector, JST, 8-pin, straight Connection type head B: Flying leads Signal type: SSI, Incremental Items supplied: JST including sealing Cable: 1.5 m, 8-wire, PUR, halogen-free Description: SSI, shielded, Incremental	DOL-0J08-G1M5AA6	2048590
	Connection type head A: Female connector, JST, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental, SSI Items supplied: JST including sealing Cable: 10 m, 8-wire, PUR, halogen-free Description: Incremental, shielded, SSI	DOL-0J08-G10MAA3	2046877
	Connection type head A: Female connector, JST, 8-pin, straight Connection type head B: Flying leads Signal type: SSI, Incremental Items supplied: JST including sealing Cable: 3 m, 8-wire, PUR, halogen-free Description: SSI, shielded, Incremental	DOL-0J08-G3M0AA6	2048591
	Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental, SSI Cable: 2 m, 8-wire, PUR, halogen-free Description: Incremental, shielded, SSI Connection systems: Flying leads	DOL-1208-G02MAC1	6032866
	Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental, SSI Cable: 5 m, 8-wire, PUR, halogen-free Description: Incremental, shielded, SSI Connection systems: Flying leads	DOL-1208-G05MAC1	6032867
	Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental, SSI Cable: 10 m, 8-wire, PUR, halogen-free Description: Incremental, shielded, SSI Connection systems: Flying leads	DOL-1208-G10MAC1	6032868
	Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental, SSI Cable: 20 m, 8-wire, PUR, halogen-free Description: Incremental, shielded, SSI Connection systems: Flying leads	DOL-1208-G20MAC1	6032869
	Connection type head A: Female connector, M12, 8-pin, straight Connection type head B: Flying leads Signal type: Incremental, SSI Cable: 25 m, 8-wire, PUR, halogen-free Description: Incremental, shielded, SSI Connection systems: Flying leads	DOL-1208-G25MAC1	6067859
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 2 m, 11-wire, PUR	DOL-2312-G02MLA3	2030682

	Brief description	Type	part no.
	Description: Incremental, shielded Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 3 m, 12-wire, PUR, halogen-free Description: Incremental, shielded	DOL-2312-G03MMA3	2029213
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 5 m, 12-wire, PUR, halogen-free Description: Incremental, shielded	DOL-2312-G05MMA3	2029214
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 7 m, 11-wire, PUR Description: Incremental, shielded	DOL-2312-G07MLA3	2030685
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 1.5 m, 12-wire, PUR, halogen-free Description: Incremental, shielded	DOL-2312-G1M5MA3	2029212
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 10 m, 11-wire, PUR Description: Incremental, shielded	DOL-2312-G10MLA3	2030688
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 10 m, 12-wire, PUR, halogen-free Description: Incremental, shielded	DOL-2312-G10MMA3	2029215
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 15 m, 11-wire, PUR Description: Incremental, shielded	DOL-2312-G15MLA3	2030692
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 20 m, 11-wire, PUR Description: Incremental, shielded	DOL-2312-G20MLA3	2030695
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 20 m, 12-wire, PUR, halogen-free Description: Incremental, shielded	DOL-2312-G20MMA3	2029216
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 25 m, 11-wire, PUR Description: Incremental, shielded	DOL-2312-G25MLA3	2030699
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 30 m, 11-wire, PUR Description: Incremental, shielded	DOL-2312-G30MLA3	2030702
	Connection type head A: Female connector, M23, 12-pin, straight Connection type head B: Flying leads Signal type: Incremental Cable: 30 m, 12-wire, PUR, halogen-free Description: Incremental, shielded	DOL-2312-G30MMA3	2029217

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.

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